4.3 **Trench 3** (Figures 16, 17, Plate 8)

The location of Trench 3 was determined by the requirement to investigate a dry dock noted on a number of mid - late 19th century maps. The basal limits of the trench represented the maximum reach of the mechanical excavator. It should be noted that the effect of the tide was apparent within the base of Trench 3. At low tide the trench was dry, at high tide the water rose to a level in excess of 1.70m AOD.

The earliest deposit encountered in Trench 3 was context 3003, in the north-eastern side of the excavation. The uppermost parts of this occurred at a height of 3.64m AOD (1.37m BGL). The upper parts of this deposit were fairly level and extended northwards beyond the limits of excavation. By contrast, the southern side of this material dropped sharply to run behind later deposits. 3003 was composed of light brownish yellow, firm, silty clay, that contained moderate amounts of angular sandstone, generally of a size 0.02m-0.20m, together with occasional pockets of dark brown silt. The bulk of this material bore many of the characteristics of "natural" materials observed elsewhere at the site, particularly that of Trench 4. The pockets of dark silt however, clearly indicate that this material represents re-deposited natural rather than in-situ natural. It is likely that this material was originally deposited as land reclamation in-fill. Unfortunately, no finds material was observed within 3003 that could date this episode.

Part of the north-eastern limits of a steep sided cut, context 3007, truncated 3003. That part of the cut visible within the trench followed a north-west – south-east axis. Butting hard against cut 3007 was a thin ribbon of light pinkish red, plastic, clay, generally around 0.05m-0.10m wide, context 3004. In turn butting up to the south-western side of this was context 3005. This deposit consisted of a mass of yellow sandstone rubble ranging in size from 0.10m - 0.70m, numerous voids being present between the individual pieces. The bulk of this stone was angular or sub-angular, none of which displayed any tool-marks or indications of having been worked. Bounding the south-western limits of 3005 was context 3010, a stone wall of stepped profile, the uppermost parts of which survived at a height of 1.73m AOD (3.32m BGL). Three courses of 3010 were visible within the confined depth of the trench each of which had a height of around 0.29m. The stepped off-set of each course, one from the other, was around 0.14m. Although no tool marks were readily apparent upon the individual blocks of 3010 each was finely shaped and displayed a rounded profile on its upper southern edge. This stonework continued beyond the basal limits of the trench.

It is clear that collectively contexts 3007, 3004, 3005 and 3010 represent the remnants of a dry dock. 3007 can be seen as a construction cut sliced through the earlier deposited land reclamation fill 3003. The fine stonework of 3010 represents the well built interior walling of the dock whilst behind this the rubble 3005 forms infill between the construction cut and the inner facing. The function of the thin ribbon of clay 3004 may have been to form a watertight lining between the dry-dock and surrounding ground. Given that the full depth of the dock was likely to have been quite considerable and that construction took some time it is probable that the key constructional elements, 3004, 3005 and 3010 were each laid at the same time in sequences or stages as the work progressed.

The dry dock is surveyed in some detail on the 1st edition OS map, 1852 (Fig. 6), and is shown with two sets of steps, dock gates and two sets of pumps towards the river. The 2nd edition Ordnance Survey map, 1893 (Fig. 9) shows the dry dock lengthened by c. 16m to a total of c.

64m by c. 14m indicating some modification during the 2nd part of the 19th century to accommodate larger ships (see Figure 12). It may be reasonable to assume that when the dry dock was extended additional stone lining was simply added to its south-eastern parts. If so, the excavated remains would belong to the earlier work.

The demise of the dry-dock was represented by contexts 3009, 3008 and 3006. The former of these formed an irregular profiled robbing cut that had facilitated the removal of the uppermost of the fine blocks of the interior facing 3010. These reclaimed blocks presumably being put to some other structural use in the locality. By necessity this robbing had also involved the removal of an amount of the infilling stone rubble 3005, though to a higher level. That 3005 was not robbed to the same depth is likely to reflect its comparative lack of worth and indeed whether this rubble was actually removed from the dock or merely cast down into the base is not known. The process of robbing also caused some disturbance to the dock construction cut 3007 which resulted in a slightly irregular profile. Some of this was due to slumping, context 3008, of this cut and the material through which it had originally been cut. The final component in the demise of the dock was represented by its backfilling. The material used in this process, context 3006, was essentially a mid to dark reddish brown, silty clay that contained occasional fragments of sandstone up to 0.20m in size. Occasional lenses of darker silt, together with a small quantity of artefactual material, namely nails of iron and copper, an iron bar and a fragment of lead sheet, were also present within 3006. The clean appearance of the bulk of this material however, suggests the likelihood of its having been re-deposited "natural". Quite why such a material was used is uncertain though it may relate to an absence of other waste materials, to the presence of contemporary on-going ground works in the locality or to a requirement for compact, solid backfilling. A precise date for the infilling of the dry dock has not been ascertained, but is likely to have been soon after the shipyard closed in 1902, and was before 1908 (see section 3). The 1913 Ordnance Survey map (Figure 10) shows the dock area filled in.

A sequence of deposits containing modern materials sealed the backfilled dry-dock. The earliest of these, context 3002, consisted largely of brick and stone rubble, together with quantities of concrete within a dark sandy silt matrix. This material may represent a levelled demolition layer, presumably relating to later 19th and earlier 20th century structures. A layer of dark greyish brown clayey silt, containing moderate amounts of sandstone and brick fragments, context 3001, overlay 3002.

A single modern service, a plastic piped sewer, context 3012, within a narrow vertically sided cut, context 3013, clipped the north-east corner of the trench and penetrated only as deep as the upper parts of 3002. The latest deposit in the area of Trench 3 was a thin surface layer of limestone chippings intermingled with much lesser quantities of small concrete and brick fragments. This material forms the extant surface across the bulk of the former shipyard.

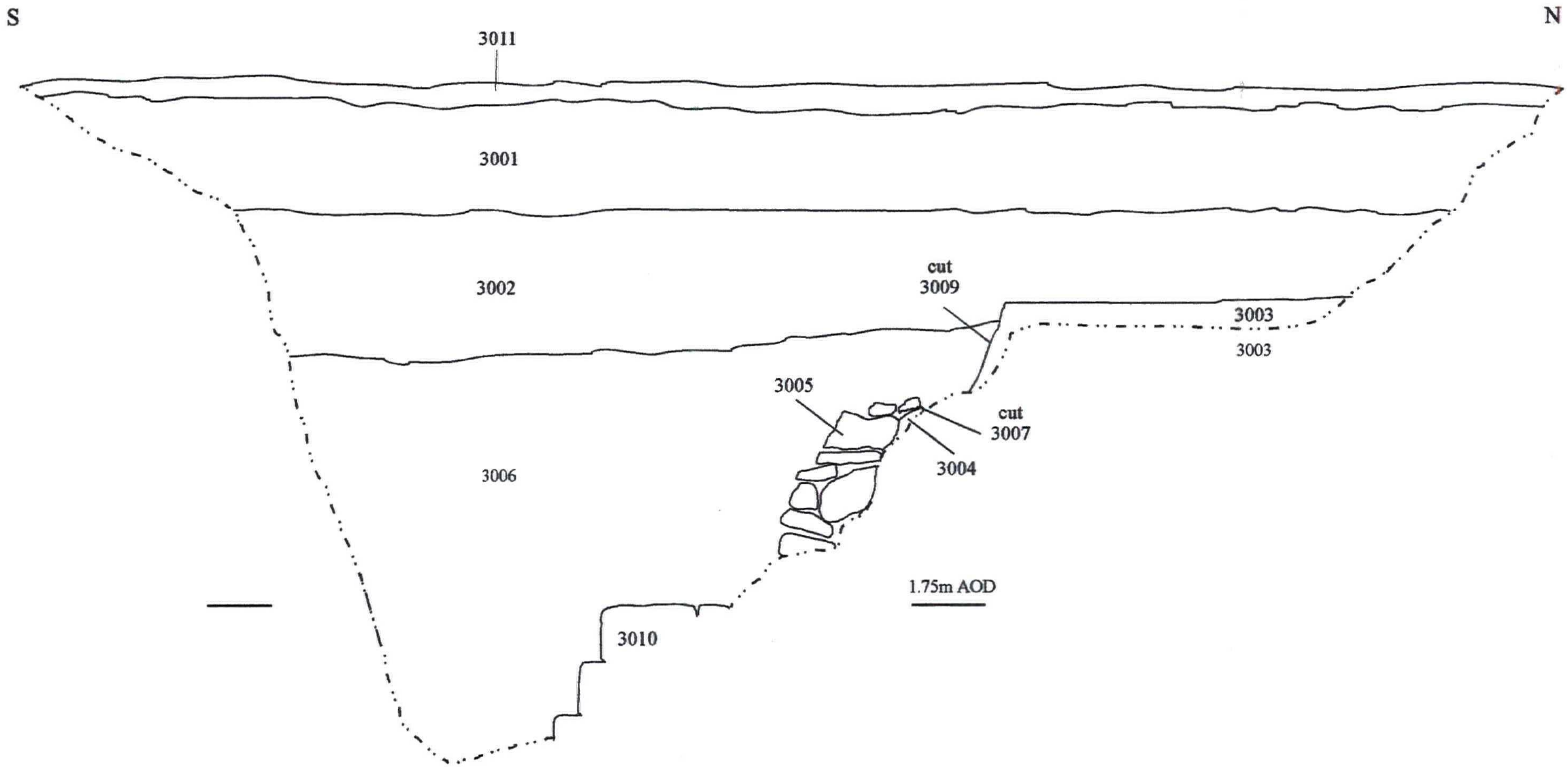

Figure 16. Trench 3 south-east facing section

Plate 8. Trench 3, looking north-east, showing dry dock facing stone 3010, rubble backing 3005 behind with clay lining 3004 (cracked). Robbing slumping 3008 to right, dry dock infill 3006 to left and right foreground

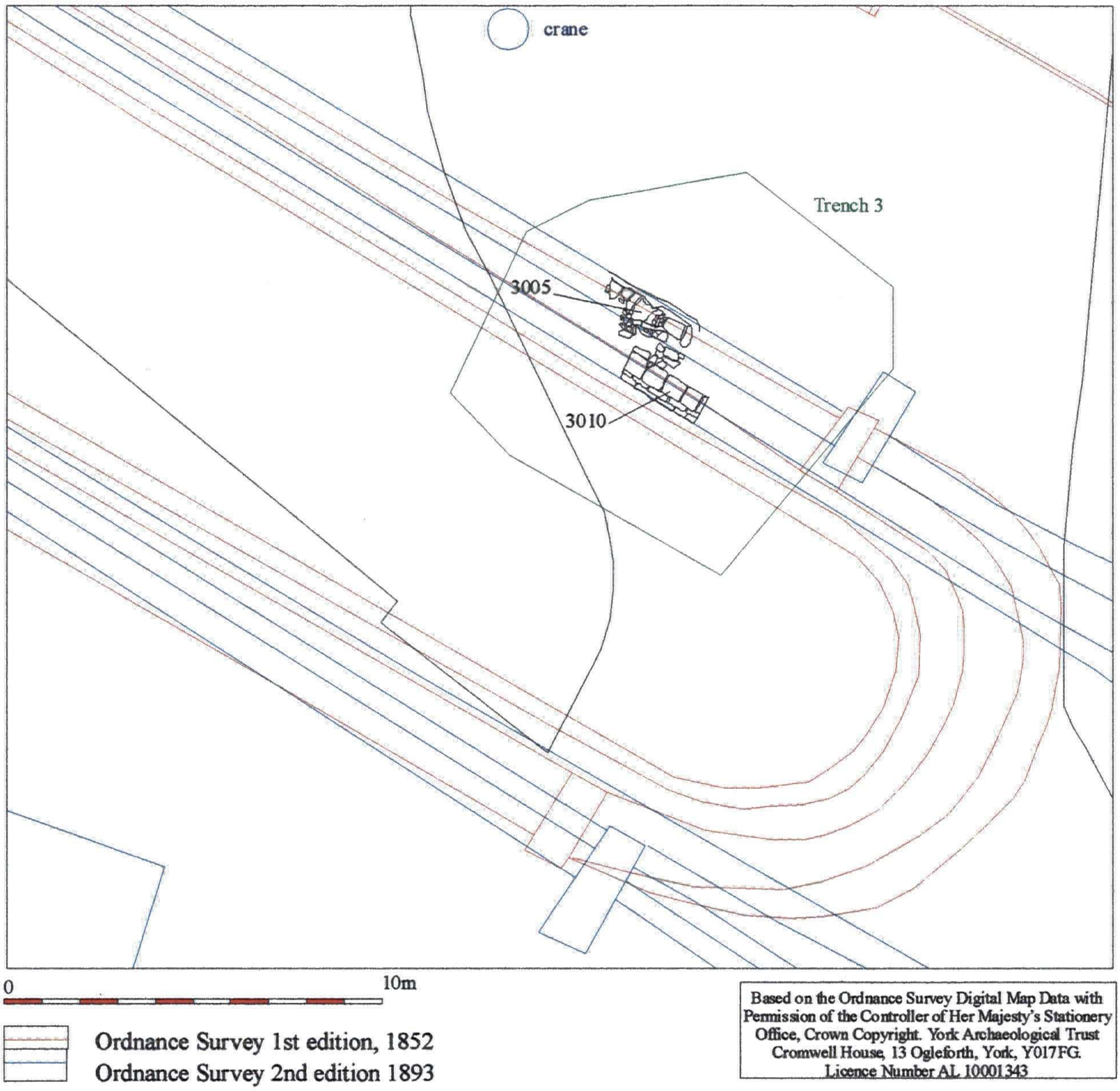

Figure 17. Excavated structures in Trench 3 in relation to features shown on historic maps

4.4 Trench 4 (Figures 18, 19, Plate 9)

This trench was located to intercept parts of one, or two, north-west - south-east aligned structural features seemingly indicated on the 2nd edition Ordnance Survey map, 1893 (Fig. 12). Earlier excavations (NAA 1998) had interpreted a feature nearby as one of the two features shown on the 2nd edition Ordnance Survey map, 1893 (Fig. 9). Both features are shown to terminate with pointed south-eastern ends that appear at least partially to cut into the ground. The presence of an early feature at the extreme north-west of the trench necessitated the extension of Trench 4 to the west. The features encountered within this trench appear to mirror the shipyard area formed by walls, with steps as shown on the 1st edition Ordnance Survey map, 1852 (see Fig. 12 and 18).

"Natural", context 4012, was exposed in substantial areas of the trench at between 2.38 and 5.75m AOD. Generally falling quite sharply in an east to west direction, 4012 was present within less than 0.50m of the ground surface in the eastern corner area of the trench. The material itself was predominantly a slightly yellowish very pale grey, weak/soft, mudstone permeated by numerous thin orangey brown veins of unidentified material. At the lower western end of the trench 4012 was a mid-dark grey, soft, shale.

The earliest feature identified in Trench 3, context 4026, or rather parts of its south-eastern edge, was located in the deeper western corner area of excavation, the uppermost parts occurring at a height of 3.05m AOD (2.90m BGL). The visible edge of this feature was almost straight and upon excavation proved to drop sharply (at approximately 70 degrees) to a flattish base some 0.65m-0.70m below the upper level of the south-eastern edge. The bulk of 4026 was occupied by context 4025. This material was primarily a light to mid grey, moist, slightly sandy, clayey silt. Around 10% of this fill however, was composed of wood fragments mostly of a size 0.02m-0.08m. Occasional pebbles, fragments of sandstone and small patches of sand were also noted within 4025. Examination of an environmental sample of this material indicates that the wood fragments range from sawdust to chips and chunks, probably derived from wood-working. Part of at least one wooden peg were recovered from this context. A much smaller fill, context 4024 occupied parts of the upper south-eastern part of 4026. This was a dark greyish brown silty clay that contained a lesser quantity of larger wood fragments and was chiefly differentiated from 4025 by its comparative dryness.

Since only a small portion of what must clearly be a cut feature of some size, was examined, its original function must remain a matter of speculation. Given that it was subsequently overlain by presumed ship building features, it may be that 4026 represents part of an earlier shipbuilding feature or slipway, though it could equally well, for example, represent part of a timber soaking pit. The only readily datable material from 4025 were two sherds of pottery of 16th-18th century origin.

Parts of a well preserved structure terraced into natural 4012 and comprised of a number of component parts overlay feature 4026. The major of these components consisted of upper and lower curvilinear walls connected at their western ends by a series of stone steps. The upper wall occupied cut 4008 that terraced into natural 4012. The wall itself, context 4006, was built of well and tightly coursed blocks of sandstone (maximum block size 0.82m x 0.23m x 0.32m) bonded only with a dark clayey silt that stood three courses tall at the north-west and for six courses at the south. Apparently only one block wide the stonework was heavily coarse picked, with just two blocks being tooled in herringbone pattern. A yellowish brown, silty clay containing large amounts of sandstone rubble together with a clay pipe fragment and an iron nail, context 4007, formed a backfill between the rear side of wall 4006 and its construction cut 4008. Aligned parallel to wall 4006 at a distance of some 2.20m to the west and at a lower level, was wall 4009. This wall occupied cut 4011, identical in all respects to cut 4008. Wall 4009 which stood uniformly four courses tall, was again constructed of coarsely picked sandstone blocks of similar size to 4006 and bonded with a dark silty clay. A yellowish brown silty clay backfill containing large amounts of sandstone fragments, context 4010, occupied the space between the rear of wall 4009 and construction cut 4011. A number of finds including 19th century glass, clay pipe, nails and fragments of both copper alloy and iron were recovered from 4010. The natural material between the upper and lower walls had been cut to provide a level surface between the two. To the north of walls 4006 and 4009 a large amount of dumped infill material, context 4021, occupied the lower ground against the sharply falling natural ground slope. This material, which at the extreme northern corner of the trench was in excess of 1.30m deep, was composed predominantly of angular fragments of sandstone up to 0.42m in size in a matrix of orangey brown silty clay that contained lenses and pockets of mid greyish brown silt. Finds from this material were of 19th century date. It is assumed that the purpose of this deposit was to extend the arc of higher ground retained by walls 4006 and 4009 to the north-west, as indeed is indicated on the 1852 Ordnance Survey map. A thin compact layer of dark greyish brown, clayey silt containing large quantities of cinder, generally only 0.05m-0.08m thick overlay the upper horizon of 4021. This material is likely to have formed a contemporary ground surface, probably one derived largely from the scatter of waste debris and trample. A series of four stone block steps, context 4013 was laid over 4021 at the northern limit of wall 4009 providing access from the lower level of 4009 to the flat ground between the upper and lower walls. Extending from the upper southern side of the steps to the lower northern limit of the upper wall, and therefore lying at the interface of natural 4012 and infill 4021, was a single course of un-bonded and un-worked sandstone blocks, context 4027. Serving no readily apparent function, the purpose of this stonework is not known. The final components of this complex were four post-holes, contexts 4014/4015, 4016/4017, 4022/4023 and 4018/4019, spaced nearly equidistantly below the upper wall 4006. These post-holes were all sub-circular in shape and had diameters ranging from 0.13m-0.18m and depths ranging from 0.24m-0.41m. In each case a slight angling from east down to west was noted for the post-holes. The fills were each a dark greyish brown, silty clay that contained occasional pebbles and small stones but no obvious large packing pieces. A few fragments of metal, slag and clay pipe were recovered from these fills. The absence of any rotted timber remains may suggest an eventual withdrawal of the posts. Very slight indentations were present in wall 4006 immediately adjacent to the post-holes indicating that the posts contained therein originally butted hard against the upper wall. Whether the posts were intended to ensure the structural integrity of the wall, or else relate to their use as scaffolding around a ship is uncertain. Remnants of a floor surface, context 4020, were apparent in the area surrounded by the lower wall. These remains, which directly overlay the early feature 4026, (and elsewhere sat over natural 4012) consisted of a 0.10m-0.16m thick layer of mid grey clayey silt intermingled with re-deposited natural mudstone. Small quantities of timber were present within this deposit. Most of these were small fragments typically >0.10m, with a smaller number of considerably larger, shaped, pieces. All these latter were sampled and proved for the most part to be tangentially faced planks. It is probable that the latter once formed components of a timber base or floor. This rather churned up deposit, 4020, would appear to represent the largely robbed remains of a working floor.

The structural sequence detailed above appears to correlate best with parts of the curved walls defining part of the shipyard with steps shown on the 1st edition Ordnance Survey map, 1852 rather than with the south-eastern end of the southern of the two pointed features on the 2nd edition Ordnance Survey map, 1893 (see Fig. 12). The recovered evidence suggests that the area was used for the construction of ships. Within such an area the natural topography was utilised and enhanced by the off-set curvilinear walls which would have provided access at different heights to the sides of a ship which may have rested upon a timber lined base. Access from this floor to the intermediate level was provided by the stone steps.

The demise of the probable ship-building feature was marked by the robbing of the timber floor and the earliest of the backfills. The lowest of these fills, context 4005, occupied only the lowest part of the feature to a height approximating to the top of the lower wall. Fill 4005 was of a somewhat mixed nature being comprised in large part of re-deposited yellowish brown mudstone together with lesser amounts of mid brown silty sand and lenses and pockets of dark greyish brown silt, ash and clinker. The only artefact recovered from this fill was a single piece of clay pipe. Further mixed infilling, context 4004, overlay 4005. 4004 was essentially a dark brown sandy silt, in many places in excess of 1.0m deep, that contained quantities of brick rubble, ash, clinker, a small amount of re-deposited natural mudstone and sand, together with iron fragments and late 19th century pottery. Some partially decayed wood fragments were also present within this material. This deposit totally sealed all remnants of the putative ship-building feature. Both 4005 and 4006 are thought to be of 19th century origin.

Further deposits of more recent date overlay the earlier fills. The lowest of these was a discontinuous layer of concrete slab fragments, context 4003. This was in turn overlain by context 4002, a thick deposit of mid to dark brown, sandy silt that contained brick, concrete and sandstone rubble, partially decayed fragments of wood (mostly tree branches) and other modern materials including plastic as well as 19th century pottery. This deposit may represent 20th century levelling in the area. The uppermost deposit, context 4001, was a mixture of limestone chippings and gravel laid in a thin spread that formed the extant ground surface. This material is likely to relate to surfacing works of the 1990's when the site was used as a compound.

Plate 9. Trench 4 looking south-east, showing walls 4006 and 4009, steps 4013. Infill 4021 to left foreground, natural 4012 at base of trench elsewhere. Early fill 4025 visible in lower right foreground

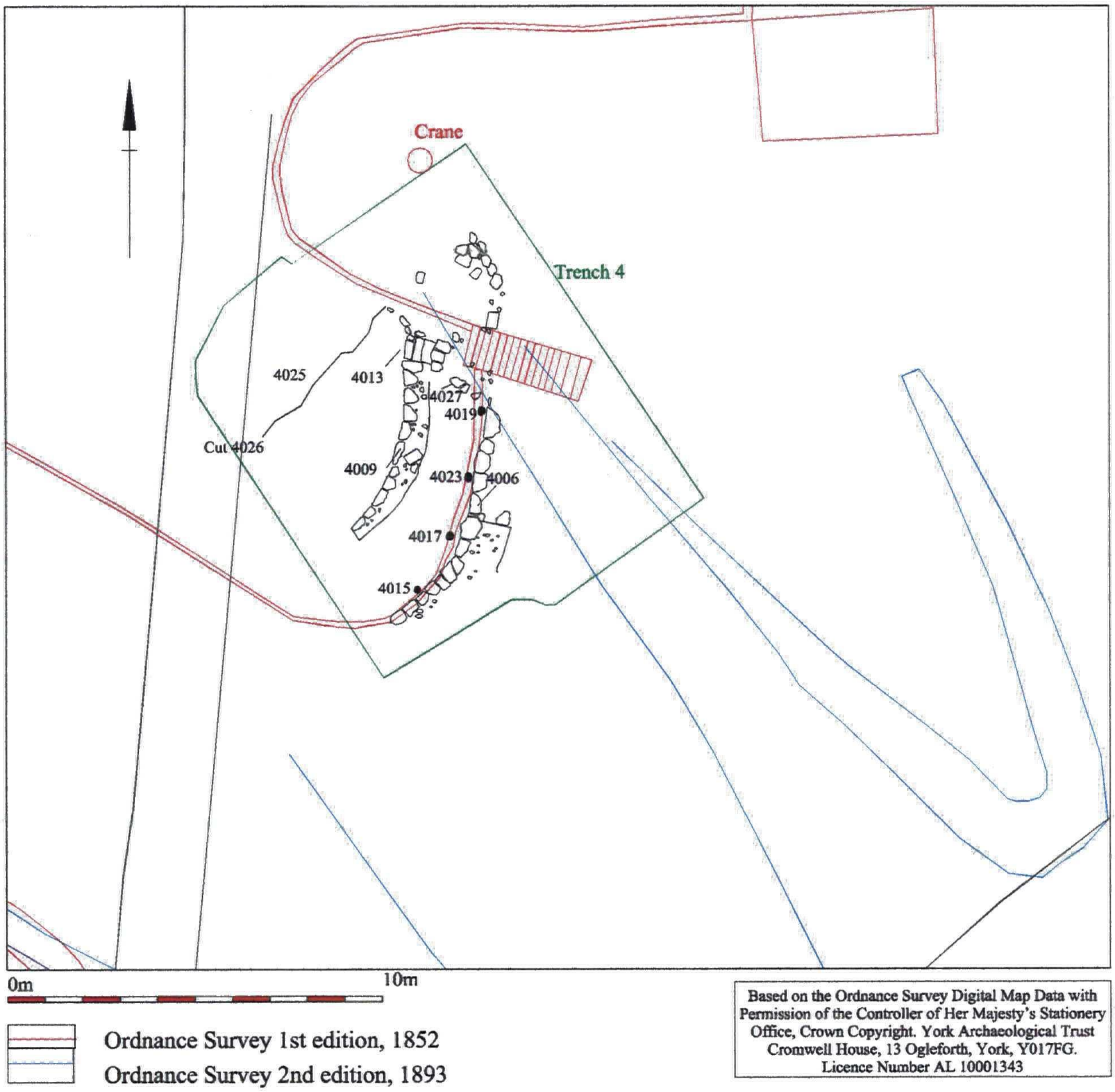

Figure 18. Excavated structures in Trench 4 in relation to features shown on historic maps

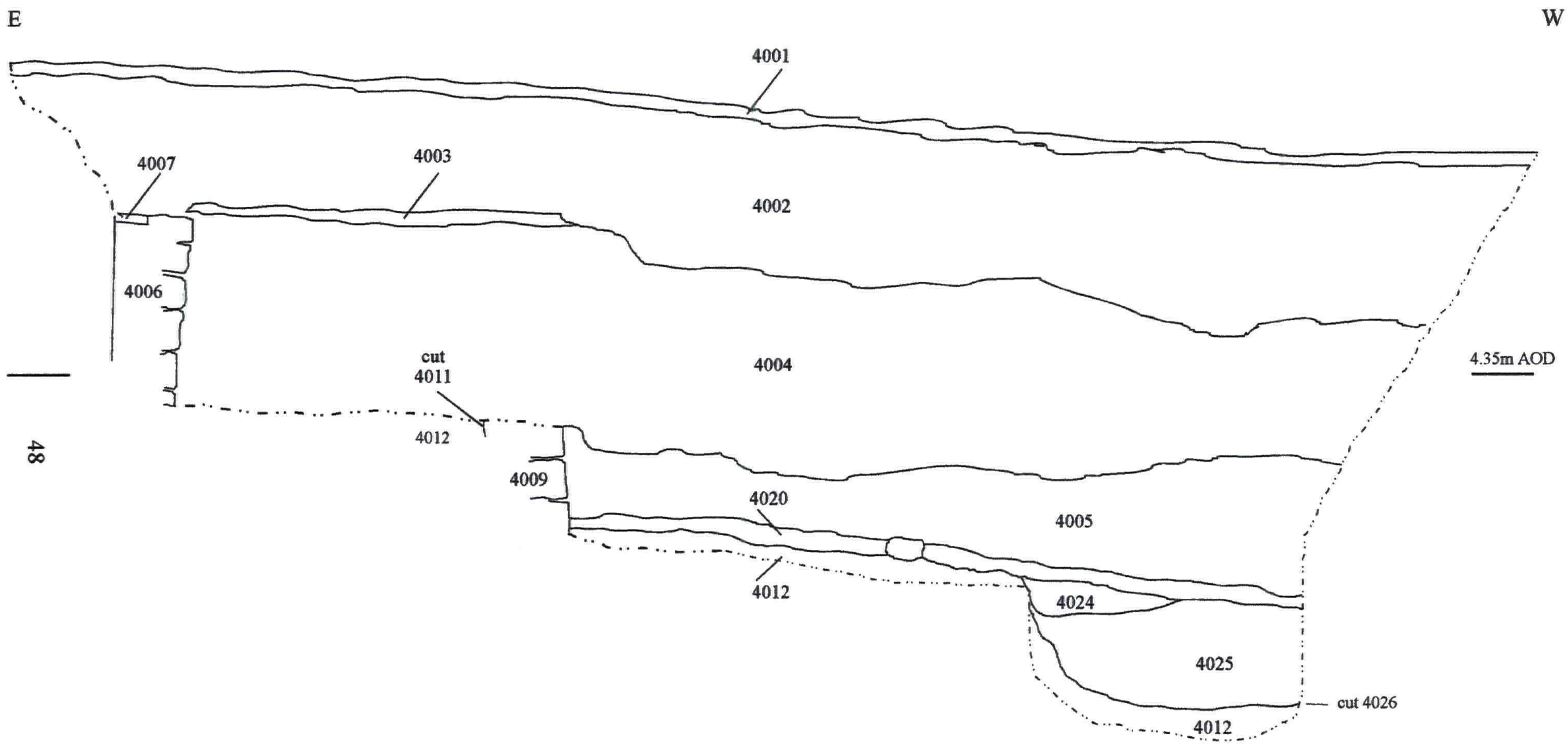

Figure 19. Trench 4 north-east facing section

4.5 Trench 5 (Figures 20, 21, Plate 10)

A number of 20th century concrete features in the area of Trench 5 were surveyed and recorded prior to the excavation of the trench (see section 5, Observation of Standing Remains). These consisted of three square settings (possibly the bases of lifting equipment) and a concrete slab cast in rectangular segments and separated from one another by thin strips of wood. It was necessary to remove this slab to excavate the trench. The relatively small size of Trench 5 was determined by the need to keep a safe distance away from the sail loft building and to avoid electricity and sewer services. Upon excavation stone walls were present along two sides of the trench and rather than batter the edges it was considered appropriate to excavate within these to a safe depth. Excavation subsequent to this was restricted to a smaller area in the middle part of the trench at a safe distance from the walls.

The lowest deposit revealed in Trench 5 was context 5011 at 1.38m AOD. This material was composed primarily of sandstone fragments and pebbles of a size 0.02m-0.12m together with a much lesser quantity of dark brown clayey silt. For reasons of safety this deposit could not be examined below its surface level, nor the relationship to the walls, 5007 and 5008, some distance away established. The function and origin of 5011 can only be speculated on but it may have been deposited with the intention of forming a stable base for construction.

Due to safety reasons excavation did not continue to the base of walls 5007 and 5008 and therefore the full detail of their construction was not revealed. 5007 formed part of the northern wall and 5008 part of the western wall of a stone structure (Fig. 20). Although the walls were numbered separately they are of a continuous build and form part and parcel of the same structure. Together they formed a wider than 90 degree corner which is similar to the angle of the present day river wall some 8m west from this structure. Both areas of walling were seen to extend beyond the trench limits in a southerly and eastern direction. Wall 5007 was constructed of sandstone, both shaped blocks and angular fragments, of a size generally around 0.38m x 0.17m x 0.17m. Some light tooling was present on certain of the blocks though none of this was of herringbone pattern. Whilst crude coursing of the blocks was apparent this may be described as "irregular". Mortar bonding was present in only isolated areas of the wall, elsewhere some dark brown clayey silt was present between the blocks, whilst in many places jointing voids suggests partial laying "dry". The attributes of wall 5008 were more or less identical to those of 5007 though up to nine courses were seen above the level of deposit 5009. Additionally, two fragments of brick were noted within the wall. Whether these were original features or later repairs is uncertain. Two fragments of tile, probably course levelling pieces, together with a single moulded stone were also present. The moulded stone, possibly of 15th century date, was clearly a re-used fragment, (C. Briden, pers. comm.). In the case of both walls each displayed an internal step out, thereby increasing its width, approximately half way down their visible height. Both walls extended beyond the base of the trench, though their full depth is not known. It is probable that these walls represent part of a building as the stonework is of too small a size for a river wall.

Infilling the walls and sealing 5011 was a deposit approximately 1.0m deep, context 5009. This was a light orange/brown, silty sand containing occasional fragments of sandstone and rounded pebbles together with occasional lenses of darker silt. Very occasional fragments of brick and tile together with a single sherd of very abraded pottery were recovered from this context. Although this sherd could be medieval in date this artefactual evidence is insufficient to date this deposit. The brick and tile appears to be of 16th-18th century date. This deposit was seen to extend fully to adjacent areas of walling. The absence of any construction cut through this material suggests the probability that 5009 was deposited against these walls (i.e. the deposit post-dates their construction). Given its deep, extensive nature and lenses of silt deposit 5009 would appear to represent deliberate infilling within the area defined by walls 5007 and 5008. It can be conjectured that in order to build on this site, where the underlying deposits are likely to be soft, the method of construction had in effect to incorporate land reclamation. Walls were constructed with a broad base and firm clay deposits were used to infill behind the walls up to the "ground" floor.

Directly overlaying 5009 was further dumped material , 5006, infilling within the area defined by the two walls. 5006 measured up to 0.60m deep from the base of a brick buttress 5002. It was seen to be a compact mixed red/brown and yellow/brown clay with lenses of brown silty sand and charcoal and ash together with a few pieces of brick – probably of 16^{th}-18^{th} century date. It included sandstone fragments, some of which were very large, occasional small burnt timber fragments and tile and brick fragments. This deposit contained a few sherds of pottery of 18^{th} century date. An environmental sample from 5006 did not prove very informative.

A brick buttress, context 5002, bonded with creamy coloured lime mortar, aligned north-south was constructed with its base resting on 5006. No construction cut through the infill material was visible, although only the western side of the buttress was visible within the trench. Surviving to a height of 0.74m, a length of 1.21m and 0.59m wide this buttress had been built as an internal support of wall 5007, which, in its current state exhibited instability with some movement and tumble of stone immediately to the east of the buttress. Built of red bricks measuring 0.26m x 0.12m x 0.06m, it has been suggested that these are likely to be of a mid 18^{th} century date, (C. Briden, pers. comm.). This buttress clearly post-dates the original sequence of in-filling dump deposits detailed above and marks a stage of structural repair although further infill deposits were also encountered.

Context 5005 sealed 5006. This context was primarily a mixed deposit of compact brown clay together with friable/loose brown sandy silt which also contained moderate tile and sandstone fragments but smaller isolated dumps of material were also present within it. Towards the south-east corner area of the trench this deposit included a very large piece of sandstone (5016) measuring 2.53m x. 0.80m x 0.42m and lying horizontally. Deeply incised pick tooling was visible on this massive sandstone block (which was left in situ within the west facing section). Parts of the upper surface of 5016 were worn very smooth and slightly concave. This wear pattern raises the possibility that this stone may have functioned at one time as a threshold. While the limits of the excavation make it difficult to be certain, from the evidence within the trench it did not appear to be in situ and was a part of the infill material which had been dumped together with other large sandstone fragments within 5005, some up to c. 1.50m x 1m. Animal bone and 18^{th} century pottery were recovered from this material. Analysis of the animal bone indicates that it may include material resulting from tanning. This material may have derived from the "old tanning pits" shown by 1^{st} edition Ordnance Survey (Fig. 6) in the area immediately north of Dog Lane.

5004 was a mixed brown/yellow compact clay and sandstone and brick fragments with occasional tile fragments and pebbles. This material which infilled walls 5007 and 5008 and against buttress 5002 measured up to 0.25m deep and included a sherd of 18^{th} century pottery. This in turn was overlain by context 5003 a dump of loose brown sand and mortar with brick rubble which overlay buttress 5002.

A deposit of friable dark brown silty sand containing fragments and pieces of brick, tile, iron, sandstone and limestone, context 5001, that measured c. 0.40m deep, overlay 5003. This material contained finds of 19th century date and appears likely to have formed levelling for the casting of the concrete slab base, context 5018, that formed the uppermost deposit in the area of Trench 5. This modern feature together with the noted concrete blocks is likely to relate to 20th century shipbuilding in the immediate vicinity.

Only parts of one deposit were visible exterior to the walls, context 5010, in the extreme north-west corner of the trench. This material was a light orange/brown, silty sand containing occasional pebbles. This material clearly forms made ground, probably of 19th century deposition.

The understanding of the deposits within Trench 5 is not as comprehensive as may be wished; this is due to a number of factors. Firstly, parts of two walls, as opposed to the entirety of the structure were revealed. Furthermore, given that the depth of these walls and the horizon at which they were cut is not known, the earlier of the infilling deposits cannot be fully related to the structure. Do those parts of the walls revealed relate, for example, to a basement or ground floor within a building or do the offset courses represent revetment walls/foundations which enclosed an area enabling ground to be reclaimed from the river with the above ground walls of the building continuing up from this base. The later structural component in the trench sequence, the buttress, points towards subsequent development/alteration though again occuring only partially within the trench. The structural elements within the trench lack substantial connection one with the other and although wall 5007 is on the same east-west alignment as part of the standing Sail Loft it cannot be related with certainty to this larger structure. Nevertheless a broad overall interpretation can be attempted.

Within such a framework it is assumed, given the absence of a visible construction cut for walls 5007 and 5008 at the upper horizon of 5009, that these walls were founded at or around the level of deposit 5011, which may itself represent material deposited with the intention of stabilising the underlying mud and silts. It is further assumed that the walls relate to a building and not for example to a boundary wall - though this again cannot be conclusively proven. Buttress 5002 presumably indicates later consolidation of this structure. Deposits 5005, 5004, and 5003 were further infilling deposits to the surviving height of the top of the buttress. These deposits may have been used as infilling while the building was standing or alternatively they could represent a levelling of the area following the demolition of the walls to this level. The latest deposits, 5012 and 5018 are both of more recent date. The former is likely to have been levelling make-up for the latter, a concrete slab surface. Much of the above hinges on acceptance of walls 5007 and 5008 as part of a building and not some other structure. Some support for this can be found in the observations that the stonework appears too small for usage as a waterfront structure or quay and that the line of wall 5007 follows squarely the course of the earliest part of the sail loft building immediately to the east suggesting that they may once have formed part of the same structure. The wider than 90 degree angle which the excavated walls form, unusual for a building, appears to mirror the shape and angle of a building shown on Wooler's 1740 map (Fig. 2) standing on this foreshore site.

Plate 10. **Trench 5 looking north, showing walls 5007 and 5008 with buttress 5002 to right. Stone 5016 at extreme right. Base of trench at upper horizon of 5009**

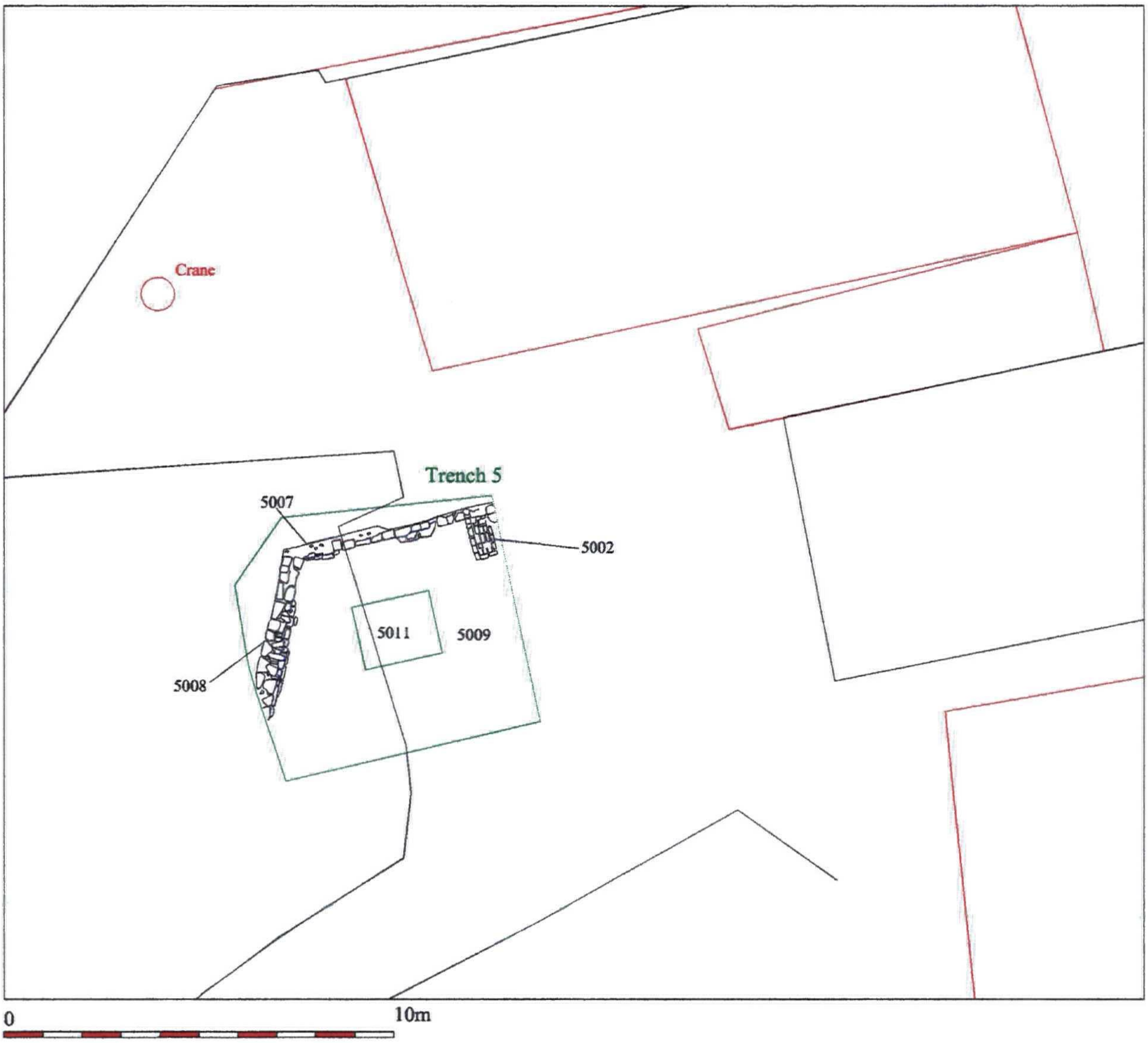

Figure 20. Excavated structures in Trench 5 in relation to features shown on historic maps

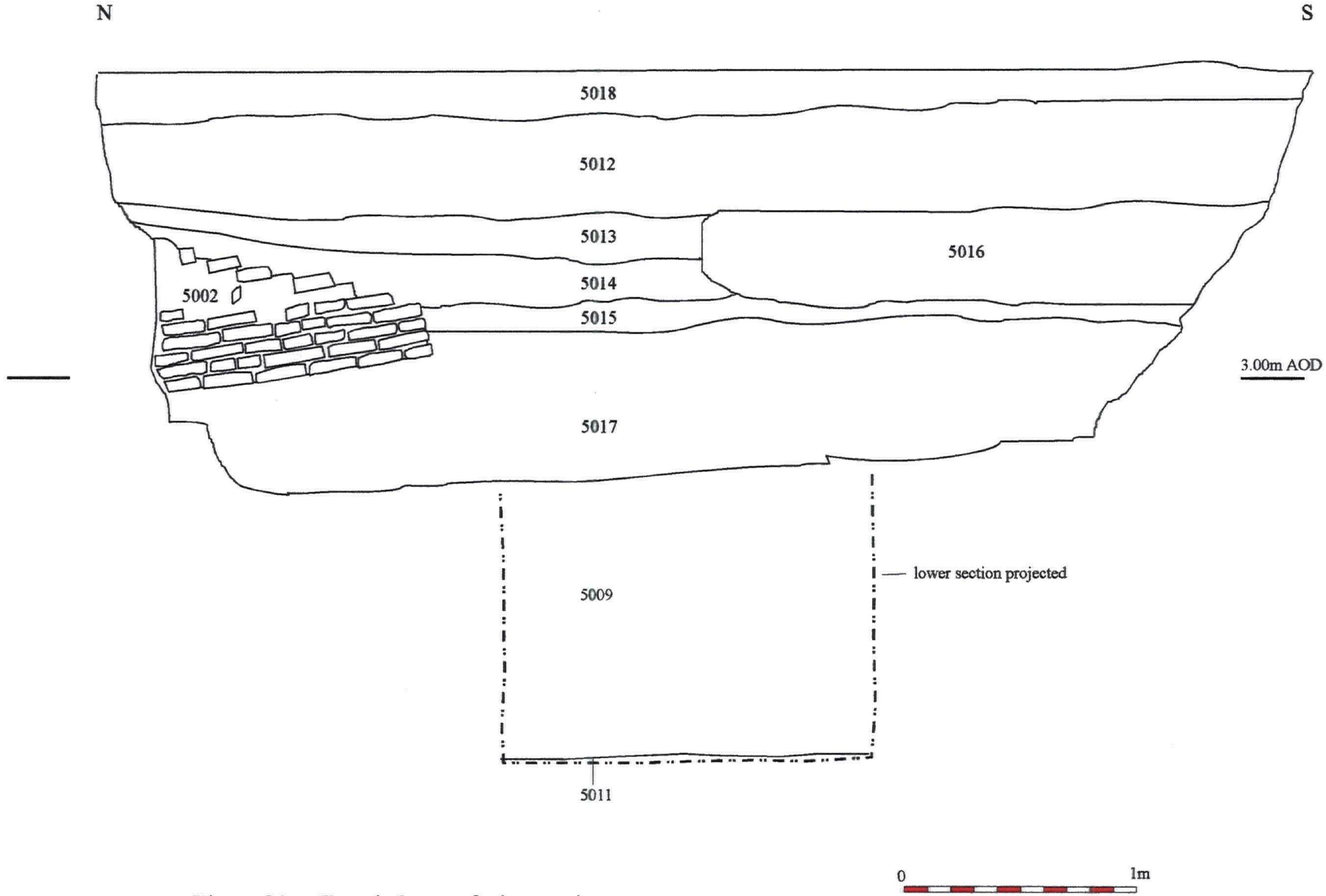

Figure 21. Trench 5 west facing section

5. OBSERVATIONS OF STANDING REMAINS (Figure 22)

Upstanding fabric additional to the sail loft building in the area of the site was recorded, photographed and located on O.S. maps. This fabric was restricted to the perimeters of the site, namely the riverfront walls, slipways and a number of features immediately below the higher ground at the eastern boundary. This survey, and the description that follows, was carried out in an anti-clockwise direction. The river frontage was examined from the mud-flats during low tide.

5.1 River frontage

(A) A small area of ground is present between the northern end of the sail loft and Spital Bridge adjacent to Spital Beck. At this point the river wall is entirely of cast concrete for its full visible height of 2.42m. This work is clearly of 20th century date.

(B) The lower part of the sail loft also forms a frontage onto Spital Beck. The lowest six courses of visible stonework, some 2.45m in height, of this building are of a block size considerably greater than that employed above. Certain of these sandstone blocks, many of which display coarse picked tooling are all tightly jointed, are up to 1.55m long by 0.45m tall. It was also noted that these six courses slope out with depth, this total widening being in excess of 0.20m over the 2.45m height. This walling is believed to be of 18th century date. This section of riverside wall follows the same alignment in the same position as shown on 18th and 19th century historic maps.

(C) Immediately west of the sail loft an area of well constructed quay is present. This extends westwards for a distance of 25m before turning sharply to the south-west for a further 34m. Visible for heights of between 2.50m-3.65m, this wall is constructed of large tightly jointed sandstone blocks of a size similar to those in the lower courses of the sail loft (B), many of which again display coarse picked tooling. The sequential relationship of this wall to the lower parts of the sail loft is not certain. Although the courses of both walls are at variance they have nonetheless been keyed into one another. At the south-western extremity of this quay the walling turns abruptly to the east, a course presently occupied by a sewer. Later concrete block-work continues the line of the old quay further to the south-west. The eastwards return of the old stone quay is of some note as it corresponds with a narrow inlet shown on 19th century maps that extended as far as the western end of Dog Lane. Whilst the precise reason for this slipway being infilled is not known it may relate to a rearrangement of facilities at the site or merely to the reclamation of land. It is possible that the old slipway survives intact below the later infilling materials. The entirety of this quay is in good overall condition though immediately south-west of its north-west corner the walling has been lowered by two courses; this relating to 20th century works in the vicinity. This quay was known as Chapmans Quay in the 1840's and throughout the 1850's – 1870's (at least) is marked on maps as a timber yard. The old quay is clearly of some antiquity and may well be that depicted on Wooler's map of 1740. As such, this quay should be considered a monument of some significance.

Between the sail loft and the north-west corner an additional six courses of walling were seen to be present. This additional walling, which had a height of 1.46m, was constructed of small sandstone blocks, some displaying herringbone tooling, and butted up to the sail loft at the eastern end. Two blocked openings, 0.88m and 1.37m wide respectively, were seen to extend for the full height of this walling. This walling may represent the surviving north wall of a building that preceded the erection of a 20th century steel framed building (D) in the same location. Buildings along this northern edge of the quay are possibly depicted on Wooler's plan of 1740 and positively on Pickernell's of 1841. The 1st edition Ordnance Survey of 1852 shows what may be an area of raised walling at just this location.

A 7.80m stretch of walling constructed of large sandstone blocks, only the upper 0.74m of which is presently visible, was seen to extend eastwards from the western side of the old quay at a point some 12m south-west of the north-west corner. Although the function of this walling is not known the masonry and its dressing is similar to that of the quay. It may be that this stonework is of some antiquity.

Two partially decayed mooring posts are present on the foreshore less than 1.0m distance from the old stone quay. One of these is located close to the juncture of the quay and sail loft, the other close to the north-west corner. Both were around 0.30m diameter and up to 3.0m tall.

(D) Traces of a steel framed building are visible immediately west of the northern arm of the sail loft building, this taking the form of a standing framework against the western side of the sail loft and the stubs of steel girders cut down to a height immediately above the concrete surface between this point and the north-western corner of the old quay. It is likely that the additional stonework atop the northern side of the old quay described above was incorporated as part of the northern wall of this structure.

(E) Metal ring mooring point.

(F) Further recent features in this area consist of the three concrete blocks described in Trench 5. These blocks may have formed the base for a crane which is marked at this location on the 2nd edition Ordnance Survey map, 1893.

(G) A cast iron mooring block of two pillars and a base, presently lying partially recumbent.

(H) A rectangular concrete base.

(I) Between the south-western end of the old quay and existing slipway a short stretch of modern concrete block river wall is present. This is badly eroded below the high water mark.

(J) The existing concrete slipway has a width of just under 5.0m and a length in excess of 40m.

(K) A small area of mud and shingle is present immediately south-west of the slipway and a further area of concrete block walling beyond this. This walling extends for a distance of over 40m and in places is in such poor condition that large areas of collapse have taken place. Materials visible in the land behind the slumped wall were seen to be of 19th and 20th century date. Suggestions of an eastwards return of this wall could be seen below overgrown scrub. In places well preserved stonework, presumably from an earlier frontage wall, were visible beneath the modern concrete blockwork. This section of walling covers the entrance location of the former entrance to the dry dock.

(L) The 10m or so of frontage immediately south-west of (*K*) was composed of a low wall, a little over 1.0m tall, built of sandstone and the occasional concrete block. Materials visible in the land behind this wall, which appears likely to be of 20th century date, were for the most part modern.

(M) Extending from (L) to the large concrete slipway and along the eastern side of this was a continuous stretch of driven interlocking steel shoring sheets. Water action had corroded many of these and modern rubbly fill was visible to their rear in many places. By comparing the present riverside with that shown on 19th century maps it appears that between 13m and 18 m of ground have been reclaimed here in the 20th century.

(N) Long concrete slipway, with metal rails.

5.2 Eastern site boundary

(O) Towards the south-east corner area of the site the ground slope is revetted by a mortar bonded dressed sandstone block wall. The scar of a former roof line is visible in this stonework. Within the corner area the remnants of a mortar floor up to 0.04m thick sits directly over a rubble bedding that in turn sealed rubbly made ground. This floor is at a level of 8.89m AOD, some 1.12m above existing ground level in this area. A hard deposit of lime is present over part of this floor surface. The height of this floor raises the likelihood that any building remains in this part of the site are likely to have been completely truncated. These remains appear to be parts of those buildings depicted on late 19th century maps.

(P) Near vertical sandstone cliffs form the eastern boundary in this part of the site. A number of picked tool-marks are visible in at least two areas of the cliff. It is not certain if this represents stone quarrying for the extraction of useful stone or rather the cutting back of areas of the eastern part of the site to facilitate the placement of shipyard buildings or equipment.

(Q) A stretch of the eastern boundary of the site immediately east and south of the existing entrance gates is revetted by mortar bonded dressed sandstone block walling which slopes down from top to bottom at an angle of approximately 15 degrees.

5.3 Central areas

At the present time the bulk of the site is covered by a layer of limestone chippings. In a number of places across the site areas of concrete can be seen to peak through this surfacing. It is likely that most of these relate to 20th century features.

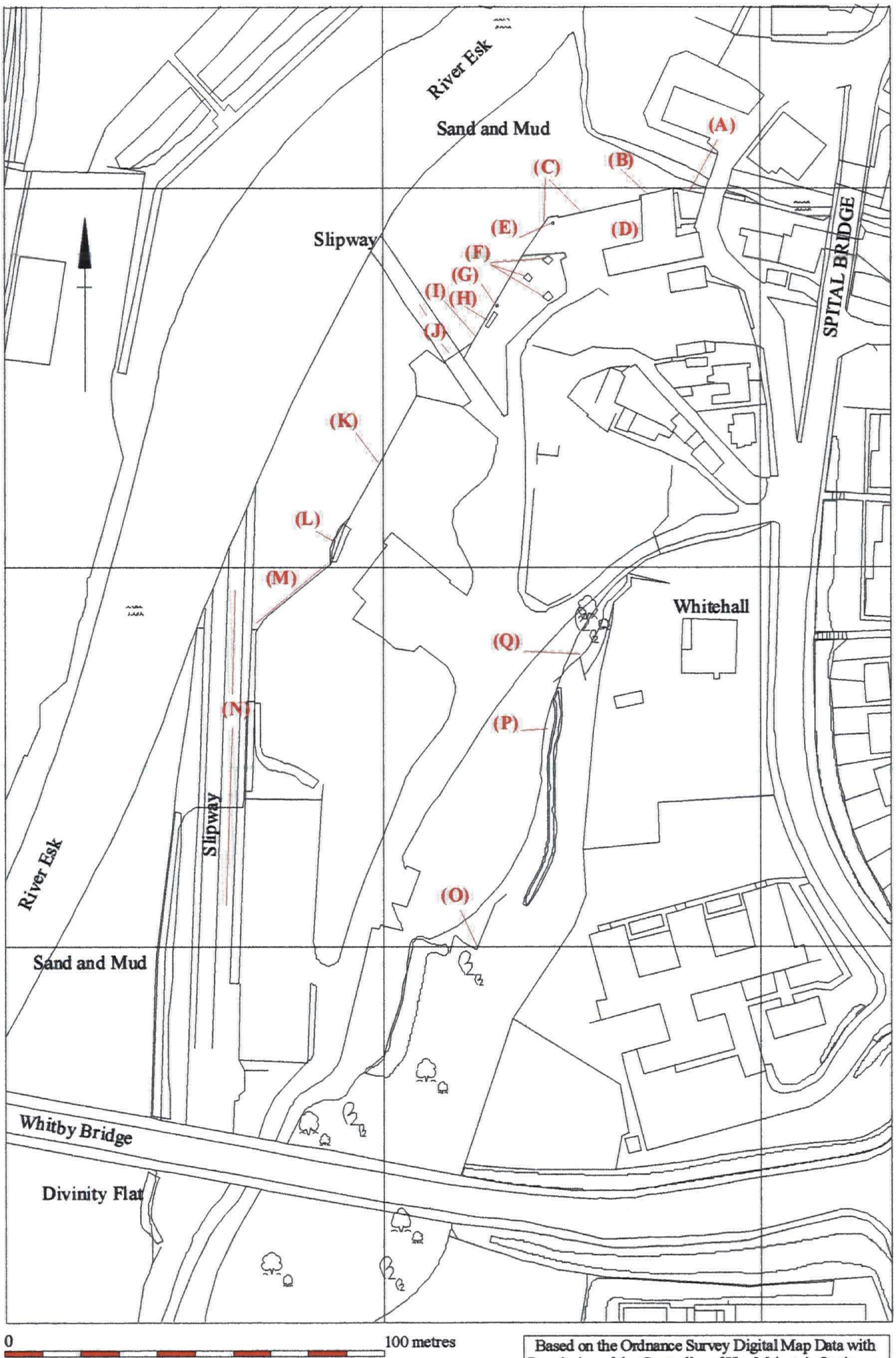

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Figure 22, Location of observed standing remains

6. TEST PIT RESULTS

Twelve test pits were machine excavated for geotechnical purposes and they were archaeologically monitored. Their locations are shown on Figure 1 and the results are tabulated in Figure 23 where depths AOD have been established. No significant structures were encountered in these test pits. Their results mainly contribute to an understanding of the extent and depth of land reclamation within the site. The results from test pits 3 and 4 are included in a schematic east west section through the site (see Figure 24).

6.1 TEST PIT 1

100 Loose brown slightly silty sand with occasional large-small brick fragments and occasional chalk chippings to c. 0.10m bgl

101 Loose grey/black cinders and clinker and loose small pebbles with moderate small-large brick fragments from c. 0.20m bgl

102 Compact yellow and grey clay with frequent sandstone fragments, from c.0.50m bgl

Located c.35m from the river wall and c.10m south of the sail loft, 100 and 101 represented dumped material used as levelling and natural, 102, was encountered approximately 0.50m below ground.

6.2 TEST PIT 2

200 Loose brown slightly silty sand with moderate inclusions of medium sized brick and sandstone fragments and occasional small lumps of mortar, c. 1.25m deep

201 Loose cinders and clinker, thin layer, from c. 1.25m bgl

202 Very mixed sand, brick rubble, yellow/grey clay with frequent pebbles, from c.1.30m bgl

203 Loose pale brown riverwashed sand and loose grey, diesel or oil stained sand with occasional pebbles and occasional small fragments of wood, from c. 1.80m bgl.

204 Compact small/medium pebbles, cobbles and sand, from c. 2.40m bgl

205 Sandstone, from c. 2.70m bgl

Located c. 24m from the river wall, adjacent to the slipway in the north west part of the site. 200, 201 and 202 represented c.1.80m depth of dumped material used for reclamation levelling. This material was likely to have dated to the 20th century as modern glass was recovered from 202. 203 and 204 appeared to be alluvial material. While the excavated area exposed was small it is likely that this alluvium was naturally deposited as this area lay within the former river channel. The sandstone bedrock was encountered c.2.70m bgl.

6.3 TEST PIT 3

300 Loose pebble and stone chippings to c.0.20m bgl.

301 concrete foundation seen in section only

302 Loose brown sandy clay and lenses of compact clay with moderate brick fragments and occasional small-medium pebbles from c.0.20m bgl

303 Mixed sandstone and clay with occasional brick fragments and pebbles c.1.40m bgl

304 Compacted grey sand with occasional pebbles from c.2.20 seen to a depth of c.4m bgl.

Located c.15m from the river wall in the northern part of the site, loose chippings 300, formed the ground surface. 301, part of a concrete foundation was seen in the west facing section. 302 and 303 represented dumped material deposited as part of land reclamation beneath which 304 appeared to be alluvial material likely to be located within the former river channel. This material was seen to a depth of 4m bgl.

6.4 TEST PIT 4

400 Loose pebble and stone chippings to c. 0.20m bgl.
401 Loose dark brown clayey silty sand with moderate brick fragments, occasional lumps of mortar and pebbles, from c. 0.20m bgl
402 Sandstone fragments in a matrix of yellow/brown clay, from c.0.70m bgl
403 Compact grey/yellow clay from c. 1.20m seen to a depth of c. 2.50m.

Located c.53m from the river wall adjacent to the roadway through the site 400 formed the modern ground surface. This pit fell within the area of one of the two shipyard features which are shown on the 2nd edition Ordnance Survey map, 1893. No structural remains of this feature were encountered and 401 and 402 are likely to have been deposited to infill this feature and represented c.1.20m depth of dumped material with 402 being interpreted as redeposited natural. 403 appeared to be undisturbed natural deposits which were seen to a depth of c.2.50m bgl.

6.5 TEST PIT 5

500 Loose pebble and stone chippings to c. 0.50m bgl
501 Loose brown clayey sand with moderate brick fragments, and lumps of mortar and occasional pebbles, an iron post, small sandstone fragmentsfrom 0.50m bgl
502 Friable dark brown clayey sand with occasional brick and sandstone fragments, from c.1.00m bgl
503 Sandstone fragments in a matrix of yellow/brown clay from c.2.00m bgl

Located c.46m from the river wall in the central part of the site, this pit lay within the footprint of a building shown on the 1841 and 1852 maps of the area. 500 formed the modern ground surface. 501 and 502 represented c.1.40m depth of dumped material used as levelling. Natural sandstone and clay, 503 was encountered at c.2m bgl.

6.6 TEST PIT 6

600 Loose pebble and stone chippings, to c. 0.30m bgl.
601 Friable dark brown slightly clayey silty sand with moderate brick and occasional tile, pebbles, sandstone fragments and twigs, from c. 0.30m
602 Three large sandstone blocks were aligned parallel with the river but were not coursed seen c.0.60m bgl.
603 Friable dark brown slightly clayey silty sand with moderate brick and occasional tile, pebbles, sandstone fragments and twigs, from c.0.60m bgl
604 Compacted black silt and pebbles with occasional fragments of wood and twigs, from c. 2.00m bgl.
605 Loose pale grey sand and gravel with occasional tile and brick fragments and one piece of lino, from c.2.80m seen to c.3.50m bgl

Located c.16m from the river wall adjacent to the slipway. 600 formed the modern ground surface. 601, 602 and 603 were dumped deposits for land reclamation and levelling. Fragments of modern jam jars were observed in 603 indicating that this material dated to the 20th century. 604 and 605 repesented alluvial material from within the former river channel. A piece of linoleum was recovered from 605.

6.7 TEST PIT 7

700 Mixed rubble and loose brown silty sand and pebbles with ceramic drain pipe, fragments of rope, wooden post, large sandstone fragments, plastic sacking, fragments of tree branch, large lumps of concrete and a wooden post.seen to a depth of at least 1.70m bgl. Ceramic pipe left in situ, large stones were loose within the material.

701 Concrete - concrete foundations of an unknown structure seen from c.1.90m - 2.07m.

Located c.8m from the slipway towards the southern part of the site, 700 represented mixed, dumped material intended as land reclamation. Aligned east-west, concrete was observed along the northern edge of the test pit. 701 formed the foundation of an unknown structure, possibly associated with the adjacent slipway.

6.8 TEST PIT 8

800 Loose pebble and stone chippings, c.0.30m bgl

801 Loose dark brown silty sand with moderate inclusions of brick rubble and lumps of mortar, from c.0.30m - 0.65m bgl

802 Sandstone and yellow/brown compact clay, from c.0.65m - 4.00m bgl

Located c.30m from the slipway towards the eastern edge of the southern part of the site, 800 formed the modern ground surface. 801 represented c.35m of dumped levelling material above undisturbed natural, 802 encountered c.0.65m bgl, seen to a depth of 4m bgl.

6.9 TEST PIT 9

900 Loose mid brown silty sand with moderate inclusions of brick fragments and wire, plastic seen to a depth of 0.45m bgl.

901 Compact yellow/brown clay and sandstone fragments, from c.0.45m bgl.

902 Compact brown clayey silt with occasional charcoal flecks and pebbles, from c.1.60m bgl.

903 Compact yellow/brown clay and sandstone fragments, from c.2m bgl.

904 Compact grey/brown silty clay with occasional twigs, fragments of wood, pebbles and sandstone fragments, from c.2.80m bgl.

905 Grey sand and sandstone, from c.3.08m bgl.

Located close to the southern end of the slipway, 900 and 901 represented material dumped and intended as land reclamation, 901 was redeposited natural. 902 could have built up over a period of time, but was more likely to have also been dumped material, only more compacted than the majority of similar deposits; it contained 20th century pottery. Beneath it 903 was a further dump of redeposited natural and 904 completed the sequence of dumped material used for land reclamation above undisturbed natural, 905 encountered at c.3.08m bgl.

6.10 TEST PIT 10

1000 Very loose brick rubble in a matrix of dark brown silty sand with occasional wood and slate fragments and plastic hose pipe seen to a depth of c.0.40m bgl

1001 Compact red/brown clay and sandstone with cobbles, very occasional charcoal flecks seen at c.0.80m bgl, from c.0.40m - 1.40m bgl

1002 Sandstone and pale grey/yellow sand seen, from c.1.80m- 2.50m bgl

Located c.34m from the slipway close to the eastern edge at the southern end of the site 1000 was dumped material used as levelling. 1001 may have been undisturbed natural, although very occasional charcoal flecks indicated that it may have been subject to environmental contamination or to have been redeposited material. 1002 was clearly undisturbed natural.

6.11 TEST PIT 11

1100 Loose pebble and stone chippings to c. 0.45m bgl

1101 Compact red/brown clay and sandstone and cobbles, from 0.45m - c.1.80m, occasional flecks of charcoal in the clay with less sandstone was seen at c.0.80m to c.1.40m bgl.

1102 Sandstone and pale grey/yellow sand, from c.1.80m - 2.50m bgl

Located c.61m from the slipway close to the eastern edge in the central part of the site. 1100 formed the modern ground surface. 1101 may have been undisturbed natural, although very occasional charcoal flecks indicated that it may have been subjected to environmental contamination or have be redeposited material. 1102 was clearly undisturbed natural.

6.12 TEST PIT 12

1200 Loose pebble and stone chippings, to c.0.30m bgl

1201 Yellow sandstone fragments and very decayed grey sandstone, almost sand, from c.0.30m - 1.20m bgl

1202 Compact red/brown clay with occasional pebbles, sandstone fragments, occasional small mudstone fragments, from 1.20m - 1.80m bgl

1203 Yellow/grey sand and gravel, from c.1.80 - 2.00m bgl

Located c.46m from the slipway in the central part of the site. 1200 formed the modern ground surface, 1201, 1202 and 1203 were natural deposits.

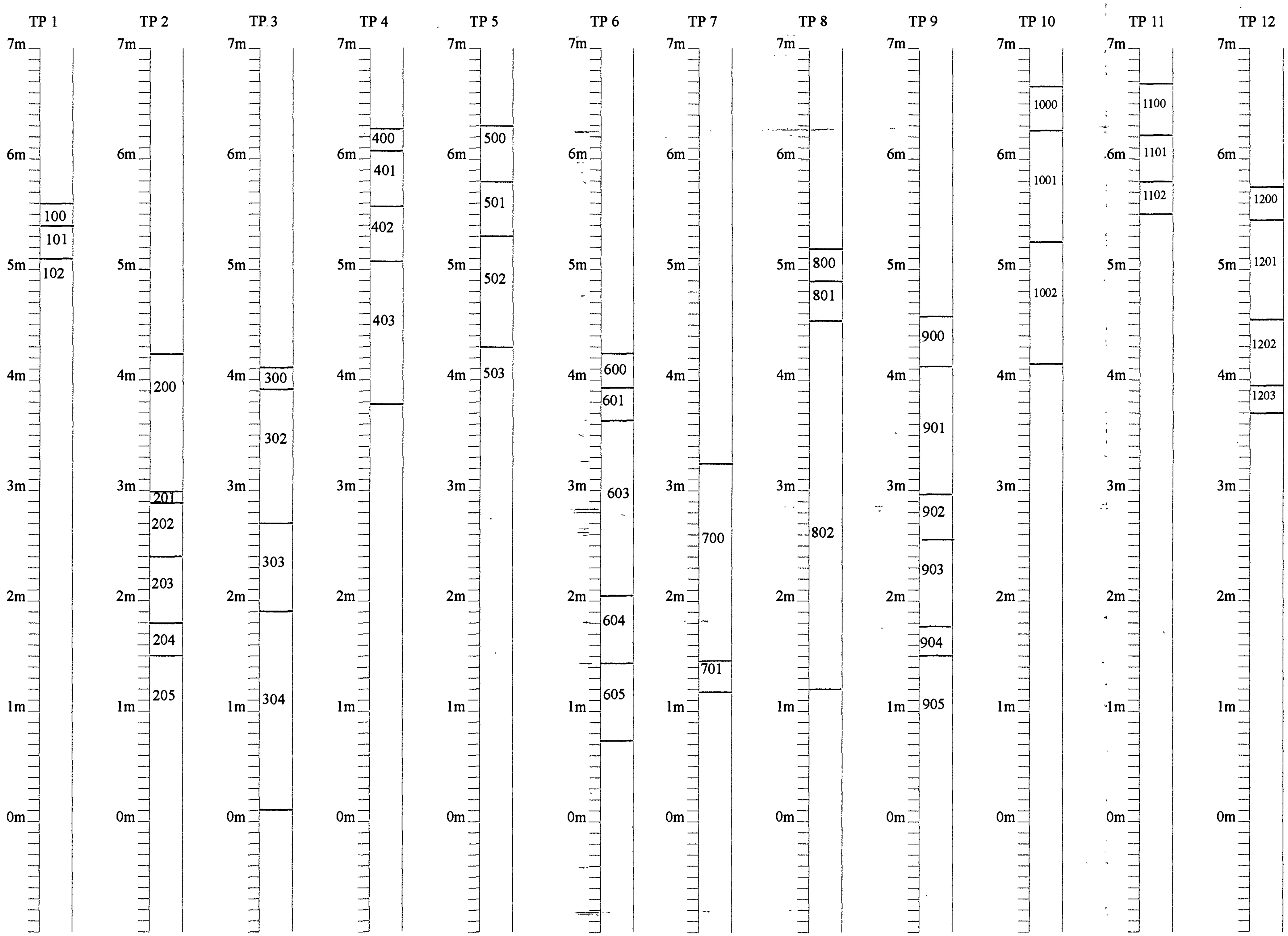

Figure 23. Record of Test Pit deposits showing levels AOD

Figure 24 Schematic section East - West
Incorporating Trench 4, Trial Pits 3 and 4 and NAA Trial Pits 4 and 6