Archaeology Wales

Ynysderw Road, Pontardawe

Archaeological Watching Brief

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Report No. 1231

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Prepared For: Asbri Planning
On behalf of the Jehu Group
and Gwalia Housing Association

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Non – Technical Summary

An archaeological watching brief was carried out during ground investigation works associated with a proposed housing development at Ynysderw Road, Pontardawe (SN 7217 0366). The work was carried out by Archaeology Wales Ltd at the request of Asbri Planning Ltd on behalf of their clients the Jehu Group and Gwalia Housing Association. The work was recommended by Neil Maylan of Glamorgan-Gwent Archaeological Trust Curatorial division. The site is currently in pre-planning.

The ground investigation comprised the excavation of four trial trenches and 14 test pits. Structural remains relating to a 20th century Tinworks that formerly covered much of the site were uncovered in many of the Trenches and Trial Pits, at depths varying between surface level and 1.2m below current ground level. Some of these structural features can be related to relatively detailed plans of the site from the 1940s. Underlying deposits appear to represent waste material from an early 19th century Tinworks that was located adjacent to the site.

The design scheme for the proposed development has not yet been finalised, but suggested works involving the removal of unstable material down to natural subsoil. This will clearly impact on surviving structural remains and related deposits associated with the 20th century Tinworks and, therefore, archaeological excavation of these features and deposits prior to destruction is recommended.

1 Introduction

1.1 In December 2013 Archaeology Wales Ltd (AW) was commissioned by Asbri Planning Ltd on behalf of their clients the Jehu Group and Gwalia Housing Association to undertake an archaeological watching brief during ground investigation works associated with the proposed housing development on Ynysderw Road, Pontardawe (NGR SN 7217 0366, Figures 1 & 2).

1.2 The requirements for the archaeological watching brief were recommended by Glamorgan-Gwent Archaeological Trust Curatorial division (GGAT-C) in their capacity as archaeological advisor to the local planning authority (Neath Port Talbot County Borough Council). The planned ground investigations works involved the excavation of four trial trenches down to the level of sub-structures associated with a former tinplate works that once stood on the site. All *in situ* foundations encountered remained undisturbed. Further smaller test pits were also excavated for general ground investigation work. The purpose of these was to inform the viability and design scheme of the proposed development. GGAT considered that an archaeological watching brief during these site investigation works would be adequate at this stage.

1.3 An approved Written Scheme of Investigation (WSI) was produced by AW in accordance with the Standard and Guidance for Archaeological Watching Briefs (IfA 1994, revised 2011) and was designed to provide an approved scheme of archaeological work to be implemented during the construction works.

1.4 The watching brief was undertaken in late March 2014. The AW project number for the work is 2200.

2 Site Description

2.1 Pontardawe lies in the Swansea Valley, eight miles to the north of Swansea and is connected both by the Tawe River and the main A4067 road up the valley.

2.2 The site of proposed development lies in an area of commercial estates on the southern edge of Pontardawe, on Ynysderw Road (SN 7217 0366). Ynysderw Road forms the eastern and southern boundary of the site, along the northern end of which lies late 19th and early 20th century terraced residential housing. Large modern commercial units lie immediately to the north and west of the site, whilst to the south lies Cwmtawe School.

3 Archaeological and Historical Background

3.1 This area, located to the south of the historic core of Pontardawe, housed many of the large industrial concerns that were vital to the growth and establishment of the area. This site itself overlies part of the former Ynysderw Tinplate Works. These works were founded in 1843 as the Primrose Forge and Tinplate Works by William Parsons, before being sold on in the 1860s to William Gilbertson. The tinplate works continued in operation until 1962. The site area appears to lie on the periphery of the main 19th century works, but by the early 20th century (as seen on the 1918 Ordnance Survey map) a second tinplate works had been built, consisting of large buildings situated across the site.

3.2 Drawings of this later tinplate works survive in the National Museum of Wales collection, including plans from the 1940s (accession no. 2007.85/40) that show a detailed an annotated layout of the tinplate works. These plans show the proposed development area overlying the main tinplate mills and the annealing department. Along the eastern side is a range that includes the Assorting Room and a Tinhouse, with a range of small shops and stores alongside (Figure 3).

3.3 The tinplate process involved hot-rolling squares of iron sheet (blackplates) followed by 'pickling', dipping the sheets in sulphuric acid, to remove scale. The sheets are then reheated for annealing (heated, and then slowly letting it cool), which removed the slime created by the pickling process. At this point the plates are still rough and not straight, so they are cold-rolled to burnish them (whiteplates), which is followed by further annealing and pickling in a weak sulphuric acid, and then they are rinsed. The plates are finally dipped in molten tin (tinning), which is followed by polishing, sorting and packing.

3.4 Until recent years, two ranges of the former tinplate works survived on the site, possibly originating in the late 19th century (as seen on Figure 3), but marked on the plan of *c.*1940 as being the Assorting Room and Tinhouse. These ranges were Grade II Listed in 2003 but have since been demolished with Listed Building consent, by a previous owner of the site. Prior to demolition they were described as built of whitewashed rubble stone with brick dressings and asbestos sheet roofs, with brick flues visible in the walls serving internal tinning bays.

3.5 The site of these ranges survives as an overgrown mound, with the remainder of the site consisting of level scrub-covered ground (Photo 1).

4 Aims and Objectives

4.1 The watching brief was undertaken:

- To allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works.
- To provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard.
- The main objective of the watching brief was to establish and make available information about the archaeological resource existing on the site.

5 Methodology

The methodology for this archaeological watching brief follows that set out within the Written Scheme of Investigation (Appendix II). In brief this work included the following key elements:

5.1 Watching Brief

5.1.1 The archaeological watching brief was undertaken during ground investigation works which consisted of the excavation of four trenches across the site and fourteen test pits. Initially five trenches were planned, but one had to be abandoned due to the potential presence of live services.

5.1.2 Groundworks were undertaken by a mechanical excavator using a combination of toothed and toothless buckets under archaeological observation.

5.1.3 The trenches varied between 16m and 21m in length, all 0.8m wide, and were excavated down archaeological features, structural remains or natural ground deposits, whichever was encountered first. The purpose of the trenches was to investigate the presence or absence of sub-surface structural remains of archaeological significance.

5.1.4 The test pits were distributed across the site for standard ground investigation testing.

5.1.5 The exposed deposits were subsequently recorded by detailed, measured, sketch drawings, high resolution digital photographs (using a 14MP camera) and written records using AW recording systems.

5.1.6 The on-site archaeological work was undertaken by Philip Poucher (AW). The overall management of the project was also undertaken by Philip Poucher.

5.1.7 All works were undertaken in accordance with the IfA's *Standards and Guidance for an archaeological watching brief* (2011) and current Health and Safety legislation.

5.2 Finds

5.2.1 No finds were recovered during the course of the works.

5.3 Palaeo-Environmental Evidence

5.3.1 No deposits suitable for environmental sampling were encountered during the course of the excavation.

6 Watching Brief Results

6.1 *Trench 1 (Figure 4, Photos 2 – 10)*

6.1.1 This trench was excavated towards the northern end of the site, measuring 21m long by 0.8m wide, orientated NE – SW.

6.1.2 At the northern end of the trench a brick wall (structure 1001) was revealed in the western trench section, running parallel to the line of the trench. The top of the wall was 0.25m below the current ground levels, and extended for a length of 2.5m along the trench section before becoming tumbled brick rubble.

6.1.3 Running parallel to the brick wall, 0.8m away and therefore only revealed in the eastern trench section, was a horizontal timber beam (structure 1002) at a depth of 0.8m below current ground levels. The beam stepped out 0.05m into the trench, along the top of which ran an iron pipe. This beam was visible for a length of 2.6m from the northern end of the trench at which point it appears to be squared off before becoming obscured. The width of the trench and presence of unstable material hampered any attempt to access the trench for close examination and clean-up of these features.

6.1.4 3.5m from the northern end a wall (structure 1003) crossed the width of the trench, running perpendicular to the previously described brick wall (1001) and timber beam (1002). This consisted of a concrete block, possibly acting as the foundations, roughly 0.8m wide, the true width difficult to establish amongst the brick rubble, and 0.8m below current ground levels. There appeared to be remnants of a brick wall attached to the surface of the concrete. The southern face of this wall, or wall foundations, was excavated for a further 1m. No smooth face to the wall was revealed, although it could not be hand-cleaned, and it appeared to sit on top of a layer of loose, dark grey-black, silty ash (1005) which was prevalent across the site.

6.1.5 The area north of the concrete wall foundation (1003), above the timber beam (1002), and in between the brick wall (1001) and beam (1002), was in-filled with brick rubble (deposit 1004). Many of the bricks were marked 'Graig/Morriston', from the Graig brickworks in Morriston, Swansea which are listed in the trade directories from the late 19th century through until the late 1920s, although it is believed the site operated until the early 1970s. In its later years however the bricks were marked differently.

6.1.6 To the south of the concrete wall foundation the trench was excavated to a depth of 2.1m below current ground levels, at which depth the natural subsoil (deposit 1006) was exposed. This subsoil consisted of a mid orange-brown silty-clay. Above the subsoil were layers of rubble (consisting of brick, concrete, mortar and waste slag), layers of dark grey-black ashy clinker and mixed dumps of redeposited clays. No further structural features were identified within the trench.

6.1.7 The position of the trench does not readily match up with any walls identified on the plan of the ironworks from the 1940s. The alignment of the walls is however clearly consistent with the general layout of the tinplate works. The outline of the 'Tinhouse' is still visible at current ground level, and therefore it is possible to locate the trench within the plan of the tinplate works with some degree of accuracy. The structural remains identified lie within the area of 'Black Pickling' (where iron plates were dipped in sulphuric acid to remove scale), and possibly therefore relate to internal divisions or features associated with that process. As the walls appear to have at least partially been built on top of the dark ashy-clinker (1005) it is possible these darker layers represent waste deposits from the earlier 19th century phase of iron and tinplate works in the area.

6.2 ***Trench 2 (Photos 11 – 19)***

6.2.1 This was excavated to the southwest of Trench 1, and measured 21m long by 0.8m wide, orientated NE – SW.

6.2.2 12.7m from the southern end of the trench a brick wall (structure 2001) was recorded at a depth of 0.4m below current ground levels, running in a NW – SE direction. This wall was 0.6m wide, built of solid dark grey brick, set in a dark grey mortar lying flush to the vertical face of the wall. A depth of 0.7m was exposed, but the base of the wall was not reached.

6.2.3 A further 1.3m to the northeast lay another, thicker brick-built wall (structure 2002) on the same orientation. This wall was 1.15m wide, built of the same solid dark grey brick with a step, one brick wide (0.25m) along its northern edge, consisting of yellow brick. These bricks were unmarked. A depth of 0.6m was exposed on its southern side, but the base was not exposed.

6.2.4 To the north of this thick wall a concrete floor (structure 2003) was partially exposed at a depth of 0.55m below current ground levels. An iron beam (structure 2004) was also exposed running along this floor along the eastern side of the trench. The beam was 0.09m wide with the cut off remnants of thin iron bars protruding from it. A cross bar was attached, crossing the trench parallel to the walls to the south, and secured to the iron beam with a bolted on reinforcement plate. These beams are typical early to mid-20th century roof trusses (Protheroe-Jones, pers.comm.). It is possible they have collapsed onto the concrete floor, but their position, aligned with the wall to the south, and lying horizontal, suggests they are placed deliberately and may therefore be re-used trusses.

6.2.5 Around 8m from the southern end of the trench two metal pipes within a brick-built conduit (structure 2005) were noted, at a depth of 0.3m to 0.5m below current ground levels. The conduit was a single brick-wide, and was only visible in the eastern section. The metal pipes were 0.06m in diameter, and crossed the trench in a NW – SE direction.

6.2.6 The area to the south of wall 2001 was excavated to a maximum of 2.3m deep although natural subsoil were not revealed. This area was infilled with very loose dark silty-ash material, bands of reddened ash and brick rubble (2006). At a depth of 0.5m below current ground levels a thick band of compact dark pitch (2007) was revealed. Conduit 2005 was set within the upper loose dark silty-ash material, otherwise no further structures were revealed within this trench.

6.2.7 The concrete floor (2003) and what are presumably associated brick walls (2001 & 2002) lie in the area of 'Cold Rolls' as depicted on the 1940s plan, suggesting floor levels within the main Tinplate Mills building and Annealing Department may still survive below ground.

6.3 ***Trench 3 (Photo 20)***

6.3.1 This trench was excavated towards the south-western end of the site, and measured 20m long by 0.8m wide, orientated NE – SW.

6.3.2 It was excavated to a depth of 2.1m on to a deposit of dark brown, slightly mixed, clayey-subsoil (deposit 3001) which may represent redeposited subsoil. Patches of cleaner, mid orange-brown, silty-clay subsoil (3002) was exposed in small areas at the base of the trench.

6.3.3 Above these deposits was a uniform sequence of dumped dark ashy-silts and clays with layers of clinker, building rubble and general works waste. Only one feature was identified amongst these layers of dumped material, which consisted of a metal pipe, *c.*0.2m in diameter, crossing the trench running in an east-west direction at a depth of 1.1m, around 6.5m from the southern end of the trench. This pipe was set within the loose dumped material.

6.3.4 Wall lines and internal floor surfaces are suggested in this area on the 1940s plan, however, no evidence of structural remains were noted within this trench.

6.4 ***Trench 4 (Photos 21 – 28)***

6.4.1 This trench was excavated close to the western boundary of the site, and measured 16m long, by 0.8m wide, orientated NW - SE. Numerous structural remains were identified within this trench.

6.4.2 Two walls were recorded crossing the trench in a NE – SW direction, set 2.3m apart. The westernmost wall (4001) consisted of a large concrete slab 1.35m wide, occurring 1.9m from the western end of the trench and revealed at a depth of 1.2m below current ground levels. The concrete, which contained visible iron reinforcing rods, was topped by a 0.3m thick layer of crushed, relatively loose, mortar. The easternmost wall (4002) was a brick-built wall, 0.45m wide, two bricks thick. It was built of a mix of red and yellow bricks, solid and unmarked, set in a black sandy mortar. The wall was first encountered at a depth of 0.65m below current ground levels, and was excavated to a depth of 2.1m on its northwest side, at which depth it appeared to be cutting into natural subsoil (4004).

6.4.3 Lying in between these two walls, revealed in the northern section of the trench, was a horizontal wooden beam (4003). The beam was *c.*1.5m long, although the full length was not revealed, and 0.4m thick, and occurred at a depth of 1.7m below current ground levels. The remaining area between walls 4001 and 4002 was in-filled with dumped deposits of clinker and dark ashy grit containing fragments of metal slag, all topped with a loose silty rubble (4011). Naturally occurring subsoil (4004) was exposed at a depth of 2.1m, and these deposits were overlain by 0.6m of topsoil (4000).

6.4.4 In the northwest corner of the trench a fragment of a brick-built wall was revealed (4005). The wall was revealed at a depth of 1.4m below current ground levels and appeared to be built of mortared yellow bricks, possibly suggesting refractory brick although they could not be examined closely. The brick wall extended 0.7m into the trench. Along its south-eastern end was a column, 0.2m wide, of roughly squared grey stone. This stone was in line with the brick wall and butts against it, but is not tied into or mortared onto the wall.

6.4.5 In the opposing section of the trench a possible brick surface or structure (4006) is visible. This consists of five, possibly six, layers of bricks, laid horizontally on top of each other, with each layer recessed from the layer below. The bricks are mortared, but it was not possible to get into the trench to examine them in detail. This surface or structure extends 1.3m along the trench section, visible at a depth of 1m below current ground levels.

6.4.6 A modern plastic pipe cuts across the top, and presumably truncates, both 4006 and 4005. The pipe is backfilled with crushed grey stone. Otherwise, the area to the west of wall 4001 is filled with loose dark mixed ashy-silt with concrete and brick rubble (4012). This was excavated to a maximum depth of 1.9m, the natural subsoil was not exposed.

6.4.7 Towards the southeast end of the trench (4.3m from the end of the trench) a wall (4007) is visible in the southwest trench section. The wall is revealed at a depth of 0.6m, and is 1m wide. It is largely mortared covered, but appears to be brick underneath. It is 0.7m deep, with a vertical northeast face visible in the section, and is sat on a brick, stone and mortar foundation cutting into the natural subsoil. Immediately to the northwest of this wall, butting against the side of the wall, was a 1.4m thick deposit (4008) of fairly compact large river cobbles, mortar and crushed brick fragments, underlying 0.6m of topsoil. This deposit lies within a cut (4009) visible on the northwest side, with wall 4007 forming the opposite side of the cut, 3.4m wide. At the top of this deposit is a single-brick thick layer (4010), possibly remnants of a surface. The bricks themselves appear heat-reddened. The underlying deposits into which 4009 cuts consist of alternating layers of mixed clay and rubble, mixed with ash and burnt deposits (4013). Naturally occurring subsoil deposits (4004) were revealed at a consistent depth of 2m below current ground levels in this area.

6.4.8 To the southeast of wall 4007 the deposits consist of layers of ash rubble overlying dark silty-clays (4014). A small block of mortared brickwork was revealed at a depth of 1.65m in the southwest trench section, lying on top of natural subsoils, but it does not appear structural. Naturally occurring subsoil were revealed at a depth of 1.8m below current ground levels in this area.

6.4.9 Although no markings were recorded on bricks from the various walls, several bricks recovered from general demolition deposits in their vicinity were marked. Some were marked 'SJ/Craig ddu/British Made', others were marked 'Southwood/Jones/....ss'. Both were made by the Southwood Jones Company, who operated a brickworks at Craigddu, Pontypool from the late 19th century.

6.4.10 When positioned on the 1940s plan of the works this trench overlies a building containing a boiler house ('Tinplate and Power Boilers') and possible furnace bases within the Tinplate Mills, with an intervening tram or rail line between the two. Walls 4001 and 4002, with the intervening timber beam 4003 would appear to align well with the tram or rail line. To the southeast, wall 4007 along with deposits 4008 and 4010 may form part of the base of the possible furnace structure or related feature within the Tinplate Mill itself, whilst at the other end of the trench wall 4005 and structure 4006 are therefore presumably associated with features inside the Boiler House.

6.5 ***Trial Pit 1 (Photos 29 & 30)***

6.5.1 This trial pit was excavated in the northern corner of the site, and measured 2.3m by 0.7m, excavated to a maximum depth of 2.4m.

6.5.2 Below 0.2m of topsoil (100) was a mixed rubble layer (101) to a depth of 0.6m below current ground levels. Roughly midway along the pit remains of a brick wall (102) was encountered at this depth, running in an east-west direction. The wall was built of solid orange and yellow brick, possibly refractory brick, bonded in a mid-grey mortar. Surrounding the wall remains was 0.2m of dark grey ashy-clinker (103) lying on top of a further 0.3m of red clinker (104).

6.5.3 Underlying these deposits was a 1.5m thick layer of loose black ashy-clinker (105) with orange-brown subsoil deposits (106) revealed at the base of the trench.

6.5.4 The exact location of the trial pit, in terms of the 1940s plan, is uncertain, although it appears to be in the area of the Mill Engine, adjacent to the main Tinplate Mills

building. The brick wall may therefore be associated with one of these structures on the side of the main Tinplate Mills building.

6.6 *Trial Pit 2 (Photos 31 & 32)*

6.6.1 This trial pit was excavated close to the western edge of the site, a short distance to the south of Trench 4. The pit measured 2.4m by 0.7m, excavated to a maximum depth of 2.1m.

6.6.2 At the western end of the pit a concrete surface (201), 0.7m below current ground levels, was exposed, extending around 1m into the pit. At the eastern end of the pit a brick wall (202) was exposed running roughly NW – SE. The wall was built in a light-coloured brick, set in a grey-brown mortar. This was pierced by a brick-built culvert (203) that ran in a roughly east – west direction. The bricks along the sides of this culvert appear to have been heat-affected.

6.6.3 Underlying deposits appeared to consist of a mix of dark grey ashy-clinker and crushed brick deposits, although the sides of the pit were largely obscured by brick and concrete dust; a naturally occurring sandy-clay subsoil (204) revealed at a depth of 2.1m below current ground level.

6.6.4 All was covered with a 0.7m thick topsoil (200) including large quantities of brick, stone and concrete rubble, along with modern metal and plastic inclusions.

6.6.5 It would seem likely the brick wall and concrete floor relate to the former Tinplate Mills building.

6.7 *Trial Pit 3 (Photo 33)*

6.7.1 This trial pit was also excavated along the western edge of the site, and measured 3.7m by 0.7m, with a maximum depth of 1.2m.

6.7.2 Around 1.6m in from the western end of the pit was a possible dwarf concrete wall (301) crossed the trench in a north – south direction, measuring 0.4m wide. It bordered a flat, smooth, concrete surface (302) on its eastern side. Both features lay beneath a 0.25m thick deposit of dark coal-rich stone and rubble (300).

6.7.3 This pit lies in an area between the Boiler House ('Tinplate and Power Boilers') and the main Tinplate Mill building, in between which lie some rail or tram lines. It is likely the concrete surface and wall relates to one of these structures, although within the area exposed it is difficult to be precise about which building it may relate to.

6.8 *Trial Pit 4 (Photos 34 & 35)*

6.8.1 This pit was excavated close to the western boundary of the site, and measured 4.2m by 0.7m, with a maximum depth 0.9m.

6.8.2 At the eastern end of the trench a brick surface (401) was exposed 0.15m below the current ground levels. The solid yellow unmarked bricks were laid in a herringbone style and terminated in a thin (0.25m) brick wall (402), in the same brick, running NE – SW. A depth of 0.5m of this wall was exposed, which appeared to be laid in clay as no mortar was visible.

6.8.3 At the western end of the pit a concrete surface (403) was exposed 0.2m below the current ground levels. A length of 1.3m of this surface was exposed within the trench, its eastern edge appeared truncated, possibly disturbed by the machining.

6.8.4 Between surface 403 and brick wall 402 was an infilling deposit of clinker and slag (404) which was excavated to a depth of 0.9m but the base of the deposit was not reached.

6.8.5 This pit should lie on the edge of southern end of the main Tinplate Mills building, with an adjoining rail or tram line. The brick surface may therefore be an internal surface associated with the southern end of the main Mills building. The concrete surface may therefore be associated with the rail or tram lines that run adjacent to the main building.

6.9 ***Trial Pit 5 (Photo 36)***

6.9.1 This pit was excavated through a modern concrete surface at the southern end of the site. The pit measured 2m by 1m in size, and reached a maximum depth of 2.8m.

6.9.2 This area is covered by a concrete surface (500), which appears to have been part of the access road and car parking area associated with the last phase of activity on the site. This surface and its associated stony levelling deposits below is *c.*0.5m thick. Below this alternating layers of clinker, coal and ash dust and stony deposits intermingled with slag waste extend to a depth of 2.8m below the current ground levels with no further evidence of structural remains. At this depth natural sandy-clay deposits (501) were exposed.

6.9.3 This pit is located in the area of the 'Box Room'. It is possible the pit missed any structural remains associated with that building. The deposits through which it cut appear however to be general waste material from the works.

6.10 ***Trial Pit 6 (Photos 37 & 38)***

6.10.1 This pit was excavated through the concrete surface of the former Assorting Room. This building was still standing until it was recently demolished, although the concrete floor and outline of the building is still visible at ground level. The pit measured 2m by 0.9m, and reached a maximum depth of 2.5m.

6.10.2 The reinforced concrete floor (600) was 0.25m thick, and sat upon a makeup layer of crushed clinker deposits (601). Towards the western end of the pit this floor sat upon remains of a brick-built wall (602), constructed of alternating layers of headers and stretchers, 0.6m wide. The depth of the wall is uncertain, but appears to be built on a bed of sand (603) running east – west and a construction cut for the wall (604) was evident in the east-facing section of the trial pit.

6.10.3 Surrounding the wall, and also underlying it, is a relatively loose layer of ashy-clinker with both brick and slag inclusions (605). Due to the size of the trial pit and the very loose nature of this deposit it was not possible to distinguish between deposits through which the wall was cut and any later deposits built up against the side of the wall. However, in the northeast corner of the trench a thick deposit of light pinkish-grey mortar (606) was exposed, possible remnants of previous foundations. It appears to have been partially truncated by the construction cut (604) for wall 602.

6.10.4 Remains of the Assorting Room are still clearly visible on the surface, although this trial pit suggests there may be evidence of earlier structure surviving below the current floor surface.

6.11 *Trial Pit 7*

6.11.1 This pit was located in the centre of the site, and measured 2.2m by 0.7m, reaching a maximum depth of 3.0m.

6.11.2 On the southern edge of the pit, at a depth of 1.5m below current ground levels, a stone edge (701) was partially revealed that may be part of a structure, although the feature was obscured by overlying material and it was not possible to examine closely. This area was largely disturbed by the presence of a modern plastic drain (702) which was recorded at a depth of 2.7m, otherwise the infilling deposits consisted of ashy-clinker with stone and brick inclusions. This directly overlay the natural subsoil at a depth of 3m.

6.12 *Trial Pit 8 (Photo 39)*

6.12.1 This pit was located in the northern part of the site and measured 2.9m by 0.7m, with a maximum depth of 2.9m.

6.12.2 The upper deposit (800) consisted of hardcore laid on a concrete rubble surface, 0.5m thick. Below this was 0.5m of sandy clay (801) followed by 0.6m of ashy-clinker with stone and brick inclusions (802). Below this was 0.5m of a slag and rubble mix (803) within a cinder matrix. Natural subsoil (804) was encountered at a depth of 2.1m below current ground levels.

6.12.3 This pit was excavated within the area of the main Tinplate Mills building, between the main mills and the Annealing Department. It is possible the surface initially encountered originated within these buildings, although the lack of vegetation cover of soil build-up may indicate a later surface laid during later 20th century activity on the site.

6.13 *Trial Pit 9 – soak-away (Photo 40)*

6.13.1 This soak-away was excavated close to the northern edge of the site, and measured 3.2m by 0.7m, reaching a maximum depth of 3.2m.

6.13.2 Below 0.6m of topsoil (900) was a layer of concrete hard-standing (901) 0.4m thick, which itself was laid on a 0.4m thick layer of sandy clay with stone inclusions (902).

6.13.3 Below this was up to 1.2m of dumped ashy-clinker and soil with stone, brick and slag inclusions (903), lying directly on top of the natural subsoil (904).

6.13.4 This pit lies within the Annealing Department. It is possible the hard-standing represents floor remain of this building, although it appeared similar in appearance to the upper surface (800) revealed in Trial Pit 8 and may be more recent in origin. The full sequence of deposits appeared similar to the sequence visible in Trial Pit 8.

6.14 ***Trial Pit 10 (Photos 41 & 42)***

6.14.1 This pit was excavated through the surviving concrete floor surface (1050) within the former Tinhouse building which was standing until relatively recent demolition. This pit measured 2.5m by 1.5m, and reached a maximum depth of 1.4m.

6.14.2 Immediately below the concrete floor the excavation encountered a brick-lined pit (1051), measuring 1.4m wide, 2.5m long, aligned NW – SE. The walls were built of mortared solid, frogged but unmarked, red brick on all sides, except on the north-east edge where a band of yellow bricks were included in the wall. A metal band had also been built into the wall along the south-east end. The pit was excavated to a depth of 1.4m where a floor was reached, consisting either of concrete or possibly cemented brick.

6.14.3 The structural features are clearly related to the Tinhouse, and indicate earlier features of the Tinhouse surviving below the current concrete floor surface.

6.15 ***Trial Pit 11 (Photo 43)***

6.15.1 This pit was excavated in the northeast corner of the site, measuring 2.7m by 0.7m, reaching a maximum depth of 2.4m.

6.15.2 A topsoil deposit (110) 0.2m thick was recorded. Below this a layer of crushed red stone (111) *c.*0.2m thick, sat upon a dumped deposit of soil and ashy-clinker with slag, brick and stone inclusions and the occasional fragment of kiln-lining material (112). Natural subsoil (113) was reached at a depth of 2.1m.

6.15.3 This pit was located in an area of former open ground to the east of the main Tinworks complex and appears to largely consist of waste material from the Works.

6.16 ***Trial Pit 12 (Photo 44)***

6.16.1 This pit was located towards the eastern side of the site, and measured 1.7m by 0.7m, reaching a maximum depth of 2.0m.

6.16.2 This pit contained loose dumped deposits of ashy-clinker and slag sand with some furnace-lining inclusions (120 – 123). No structural features were noted within the pit. Natural subsoil was encountered at a depth of 2m below current ground levels.

6.16.3 This pit was excavated in an area just to the east of the main complex of buildings associated with the Works. Possible rail or tram lines run through this area, but no evidence of this was revealed within the pit.

6.17 ***Trial Pit 13 (Photo 45)***

6.17.1 This pit was excavated a short distance to the south, measuring 2.0m by 0.7m, reaching a maximum depth of 2.8m.

6.17.2 The upper 0.2m consisted of a thin topsoil deposit (130) covering hardcore (131). Below this lay a 1m thick gritty-clinker deposit (132). Natural subsoil deposits (133) were encountered below this, at a depth of 1.2m below current ground levels, which showed layers dipping from east to west.

6.17.3 This pit was located on the edge of the Tinworks complex, close to a row of buildings used as stores. No structural evidence was revealed within this pit, the deposits would appear to represent waste material from the works overlying natural deposits.

6.18 ***Trial Pit 14 (Photos 46 & 47)***

6.18.1 This pit was excavated through a tarmac surface towards the southern end of the former Tinhouse building, which was until relatively recently still a standing building, but has now been demolished to floor level. The pit measured 3.0m by 0.7m, with a maximum depth of 3.0m.

6.18.2 The tarmac (140) was laid on a red gravel and clinker deposit (141), which together with the tarmac was 0.6m thick. At the western end of the pit was a level concrete floor (142) below layers 140 and 141, extending 1.3m into the trench. At the eastern end of the trial pit was a rubble mix of stone and brick (143) for a depth of 0.5m. Below this was a mix of soil and ashy-clinker with stone and slag waste inclusions (144). Natural subsoil (145) was revealed at a depth of 2.7m below current ground levels.

6.17.3 This pit was located within the Tinhouse building. The tarmac presumably relates to a more recent floor level within this building, with the concrete surface at the western end relating to an earlier floor.

7 Conclusions

7.1 An archaeological watching brief was undertaken in March 2014 during ground investigation works on the site of a former tinplate works on Ynysderw Road, Pontardawe. This work was undertaken to help inform the design scheme for a proposed residential development at the site. The ground investigation comprised the excavation of four trial trenches and 14 test pits. The trenches were excavated specifically to look for any structural remains, and examine ground deposits if no structures were encountered, the smaller test pits were excavated for general ground investigation testing.

7.2 Structural remains relating to the 20th century Tinworks were uncovered in many of the trenches, at depths varying between surface level and 1.2m below current ground levels.

7.3 Within Trench 1 structural remains were encountered at the northern end of the trench at a depth of 0.25m below current ground level. The remains consisted of a brick wall, a timber beam and a probable wall foundation of brick and concrete. The bricks suggest a late-19th or more probably early-20th century date for the structure, and although the walls are not shown on surviving detailed plans of the works, their alignment clearly suggests they are related, and that they lie in an area used for 'black pickling', where iron sheets were dipped in sulphuric acid.

7.4 Within Trench 2 further brick walls and a concrete floor surface were encountered within the northern half of the trench, 0.4m below current ground levels. Iron beams, possibly incorporated into the floor levels, suggest an early to mid-20th century date. This area would appear to correspond to the 'Cold Rolls', an area of the Tinworks where the iron sheets were rolled at room temperature to improve their strength and finish.

7.5 Within Trench 4 a variety of wall remains and possible surfaces were recorded. At the western end of the trench a reinforced concrete wall and a brick wall were recorded 0.65m below current ground levels. The reinforced concrete suggests a 20th century date. These structures may correspond to a tram or rail line visible on a 1940s plan of the works. To the west, a brick wall and adjoining stone wall were identified, with a brick surface or structure located nearby. These were recorded at 1m below current ground levels, and had been truncated by a modern pipe, but may correspond to a boiler house associated with the Tinworks. Towards the eastern end of the trench a stony make-up layer was recorded, sat within a cut, and topped by an apparent heat-affected brick surface, all of which butted against a solid mortar covered brick wall, 0.6m below current ground levels. This would appear to lie in an area within the main Tinplate Mills building marked on the 1940s plan as containing possible furnace bases.

7.6 Further structural remains of the main Tinplate Mills building was suggested by the presence of a concrete surface, brick wall and conduit within Test Pit 2, at a depth of 0.7m. It is possible concrete surfaces within Test Pits 8 & 9 may also be remains of the main Tinplate Mills building and Annealing Department, although these surfaces appeared relatively modern in date and occurred at ground surface level in Test Pit 7. Remnants of structures adjacent to the main Mills building, such as the Boiler House, Mill Engine and tramways also appear to survive between 0.15m and 1.2m below current ground levels within Test Pits 1, 3 and 4.

7.7 The building range containing the former Assorting Room and Tinhouse remained as a standing structure until recent years. It was demolished to the level of its concrete floor surface, which is still visible. Within the Assorting Room, Test Pit 6 cut through the relatively modern concrete surface to reveal an earlier brick wall at a depth of

0.25m, which itself appeared to cut the foundations of an earlier wall. Within the Tinhouse building, Test Pits 10 and 14 cut through relatively modern concrete and tarmac surfaces to reveal a brick-lined pit (Test Pit 10), and an earlier concrete surface at a depth of 0.6m (Test Pit 14).

7.8 The remaining Test Pits and Trench 3 uncovered no structural remains, but very thick deposits of rubble, clinker, redeposited clays and general waste material from the Tinplate Works. These deposits were up to 3m thick in places, although more typically around 2m thick, and generally thickest in the centre of the site. The structural remains, which largely appear to relate to the 20th century Tinworks, overlay some of these general waste deposits, indicating that the lower levels are likely to have originated from the main 19th century Tinworks to the west of the site, which was presumably levelled out across the site prior to the construction of the 20th century Tinworks.

7.9 A final design scheme for the proposed development has not been produced at the time of writing. On-site discussions suggest that to provide stable foundations, underlying material would have to be removed from underneath the footprint of the buildings to provide more suitable ground deposits, represented by the natural subsoils. This would clearly involve the removal of structural remains and deposits associated with the Tinworks building.

7.10 It is also anticipated that surface groundworks associated with any development would impact on the remains of the former Assorting Room and Tinhouse, as floor levels associated with these buildings survive at or near ground level, and the ground investigation work clearly indicate that earlier remains survive immediately below the concrete surface.

7.11 Should the development proceed along these lines, it is recommended that the surface remains of the former Assorting Room and Tinhouse, along with the areas where underlying deposits are to be removed, are fully recorded as part of an archaeological excavation prior to their destruction.

8 Sources

Maps

Ordnance Survey 1877-8 *1st edition 1;2500 map, Glamorganshire*

Ordnance Survey 1898 *2nd edition 1;2500 map, Glamorganenshire*

Ordnance Survey 1918-9 3rd *edition 1;2500 map, Glamorganenshire*

Ordnance Survey 1941 *1;2500 map, Glamorganenshire*

Ordnance Survey 1962-4 *1;2500 map, Glamorganenshire*

British Geological Survey 1994 *The Rocks of Wales: Geological Map of Wales 1:250 000*

W. Gilbertson & Co Ltd 1940s Pontardawe Works Plan: A.R.P. Arrangements National Museum Wales Collection Centre, Accession No.2007.85/40

Online resources

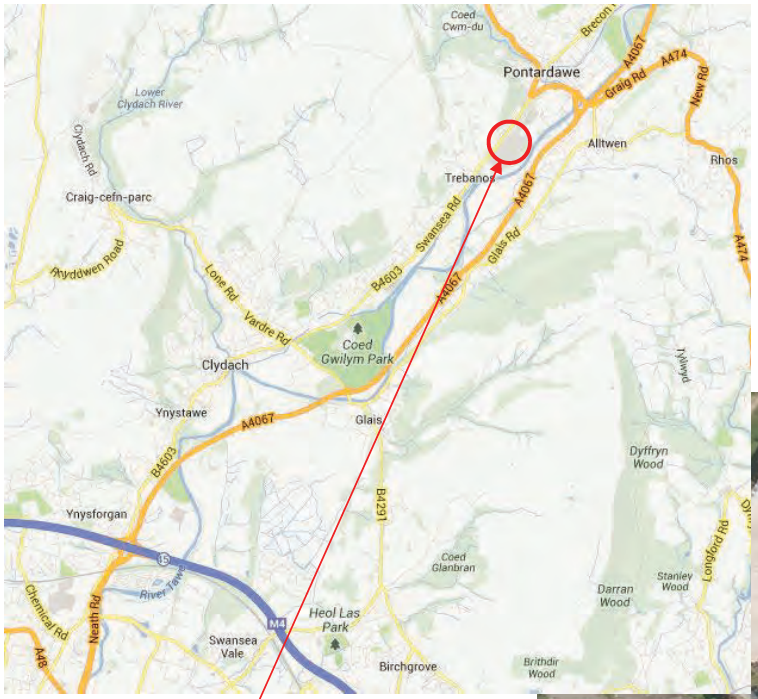
Bluesky. Infoterra Ltd & COWI A/S 2013 *Digital imagery*

British Geological Survey 2014 online viewer http://mapapps.bgs.ac.uk/geologyofbritain/home.html (accessed 10th March 2014)

Databases

Regional Historic Environment Record (HER), held and maintained by Glamorgan-Gwent Archaeological Trust

National Monuments Record (NMR), held and maintained by the Royal Commission on the Ancient and Historical Monuments of Wales



Site Location

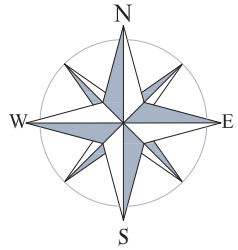


Fig. 1: Site location plan.

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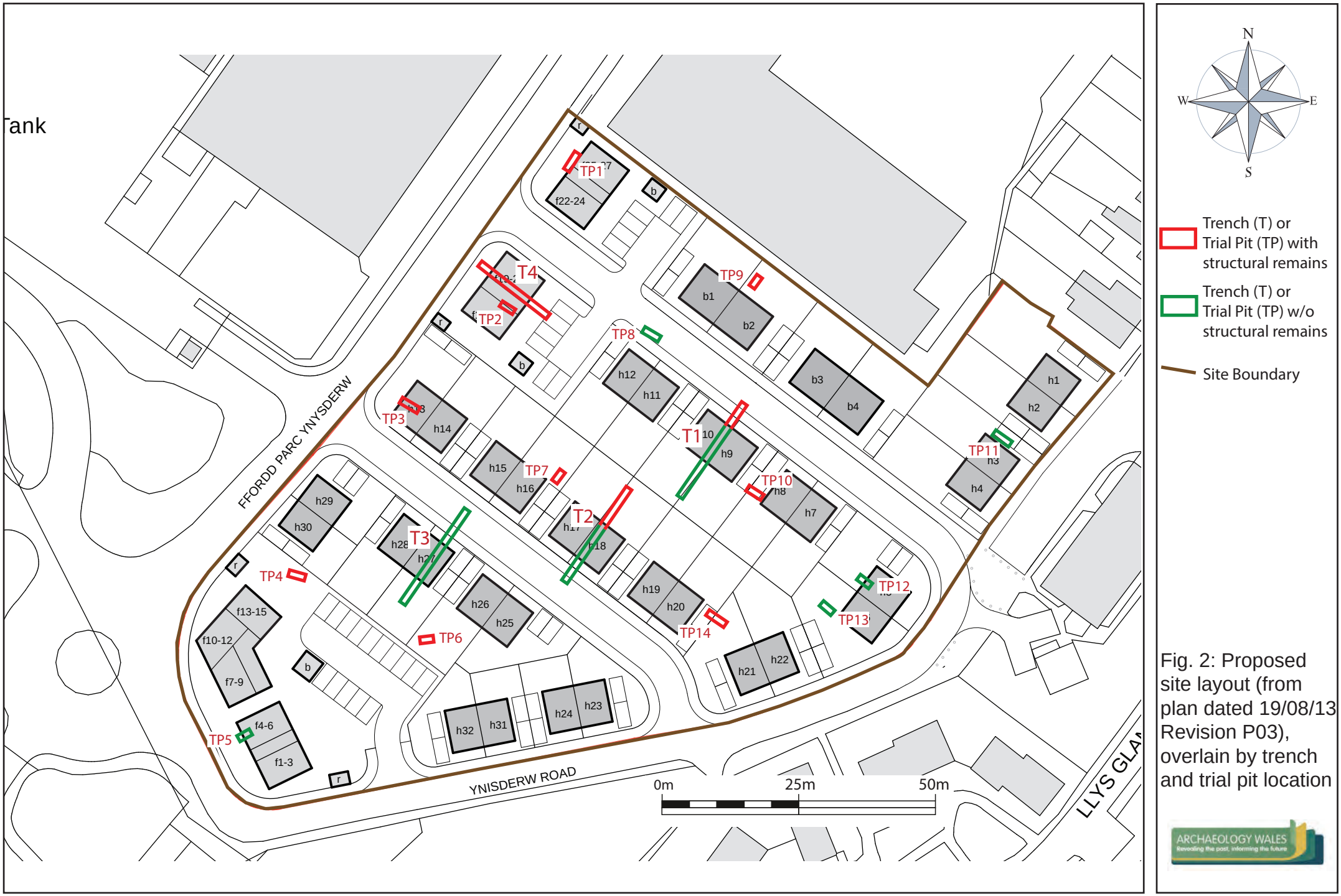

Fig. 2: Proposed site layout (from plan dated 19/08/13 Revision P03), overlain by trench and trial pit location

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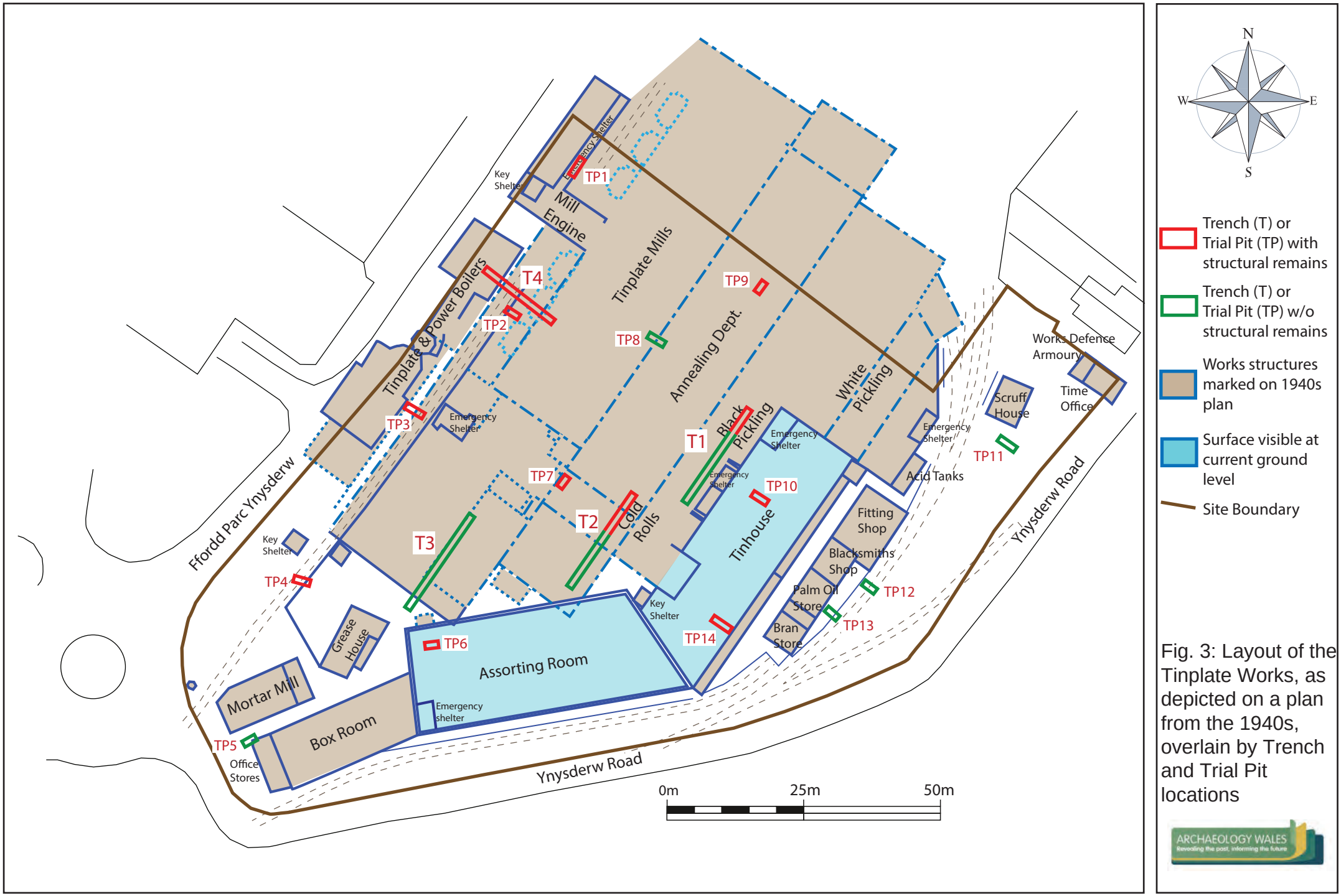

Fig. 3: Layout of the Tinplate Works, as depicted on a plan from the 1940s, overlain by Trench and Trial Pit locations

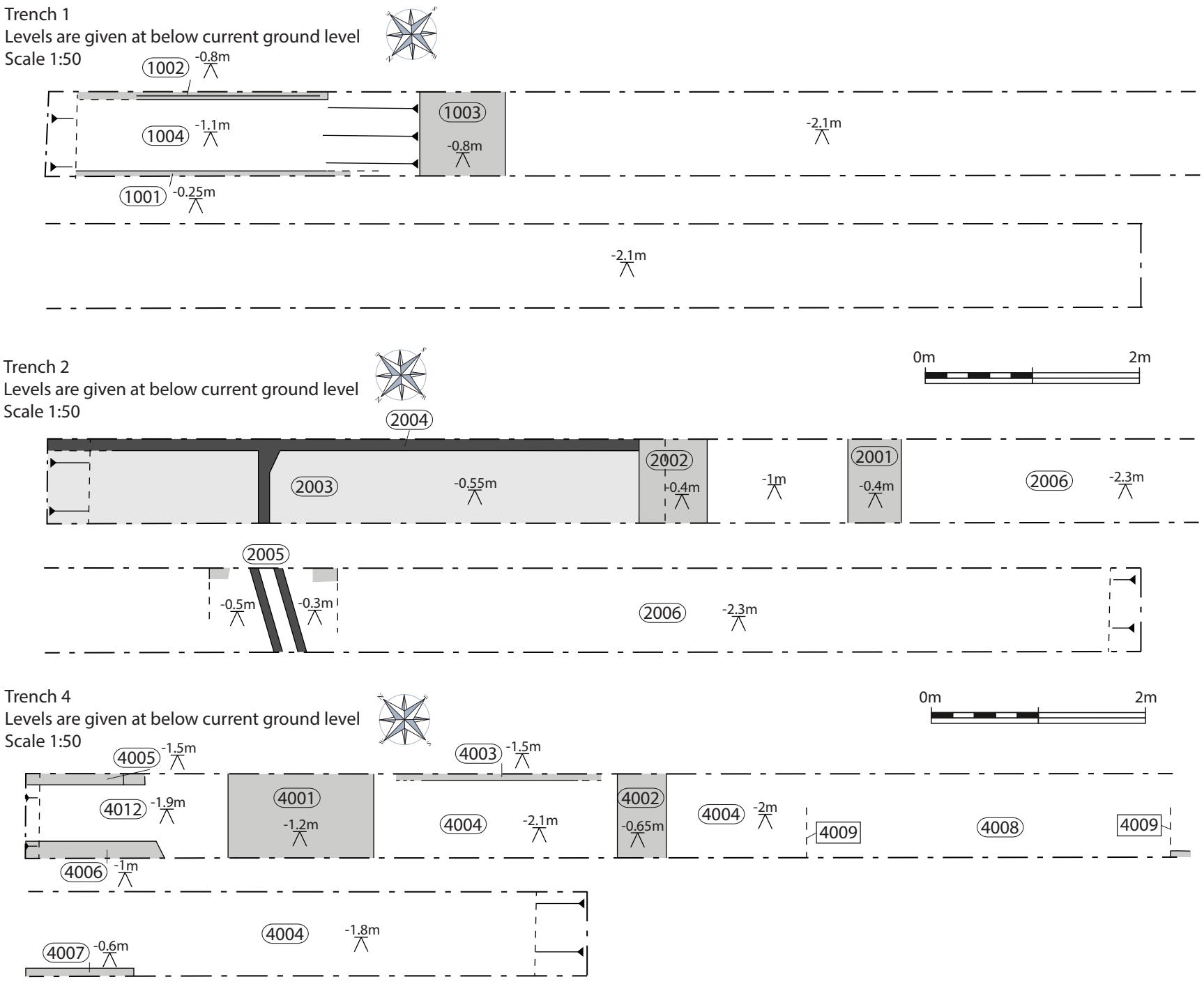

Fig. 4: Plans of Trenches 1, 2 & 4 at a scale of 1:50

Photo 1: Looking NE across the site across the concrete floor remains of the Assorting Room.

Photo 2: Trench 1, looking NW, at wall 1001. 1m scale.

Photo 3: Trench 1, looking SE at timber beam 1002. 1m scale.

Photo 4: Trench 1, looking SW with wall 1001 on the right, and timber beam 1002 on the left.

Photo 5: Looking NW at concrete wall foundations 1003. 1m scale.

Photo 6: Trench 1, looking NE along the northern part of the trench, with concrete wall foundations 1003 behind the 1m scale, lying on top of deposit 1005. Wall 1001 and timber beam 1002 lie on either side of the trench beyond.

Photo 7: Trench 1, looking ESE at the typical deposits within the trench to the south of wall foundation 1003.

Photo 8: Trench 1, as above.

Photo 9: Trench 1, metal pipe within the southern part of the trench.

Photo 10: Trench 1, general shot looking SW. 1m scales

Photo 11: Trench 2, looking SW at the face of wall 2001. 1m scale.

Photo 12: Trench 2, looking NW at wall 2001 on the left, and wall 2002 on the right. 1m scale.

Photo 13: Trench 2, looking SE at wall 2002. 1m scale.

Photo 14: Trench 2, looking NE at the possibly re-used roof trusses on floor 2003. 1m scale.

Photo 15: Trench 2, general shot looking SW, showing concrete floor 2003 in the foreground, with walls 2001 and 2002 beyond. 1m scale.

Photo 16: Trench 2, looking SE at metal pipes within brick culvert 2005. 1m scale.

Photo 17: Trench 2, looking WSW at general deposits to the south of wall 2001.

Photo 18: Trench 2, looking N at the thick deposits of pitch within the trench.

Photo 19: Trench 2, general shot looking NE. 1m scales.

Photo 20: Trench 3, general shot looking SW. 1m scales.

Photo 21: Trench 4, looing SE along the trench with concrete wall 4001 I the foreground, and brick wall 4002 behind.

Photo 22: Trench 4, looing NE at the area between concrete wall 4001 on the left, and brick wall 4002 on the right, showing timber beam 4003.

Photo 23: Trench 4, looking NE at wall 4005, with remains of the modern plastic pipe on top.

Photo 24; Trench 4, looing SW at brick surface 4006 visible below the modern plastic pipe.

Photo 25: Trench 4, looking SW at wall 4007. Unfortunately all shots of this wall were out of focus.

Photo 26: Trench 4, looking W at deposit 4008, within cut 4009.

Photo 27: Trench 4, looking NE at deposit 4008, showing the heat-reddened brick surface at the top.

Photo 28: Trench 4, general shot looking NW. 1m scale.

Photo 29: Trial Pit 1, looking east. 2m scale

Photo 30: Trial Pit 1, looking east showing exposed brickwork 102.

Photo 31: Trial Pit 2. Looking east, general shot showing concrete surface 201 in the foreground, with brick wall 202 at the back of the pit. 2m scale.

Photo 32: Trial Pit 2, looking south, showing detail of the brick wall 202. 1m scale.

Photo 33: Trial Pit 3, looking west, with the remains of the possible dwarf wall 301 across the centre and a small section of the concrete surface 302 revealed in front. 2m scale.

Photo 34: Trial Pit 4, looking north. The concrete surface 403 in the foreground, with brick surface 401 and wall 402 to the rear. 2m scale.

Photo 35: Trial Pit 4, looking north, showing detail of brick surface 401 and wall 402. 1m scale

Photo 36: Trial Pit 5, looking east. General deposits below the surface concrete. 2m scale.

Photo 37: Trial Pit 6, looking west, showing concrete floor 600 of the former Assorting Room building with brick wall 602 below and mortar foundations 604 in the corner. 2m scale.

Photo 38: Trial Pit 6, looking east, showing brick wall 602 below the concrete surface 600. 1m scale.

Photo 39: Trial Pit 8, general shot looking east. 2m scale.

Photo 40: Trial Pit 9, general shot looking south. 2m scale.

Photo 41: Trial Pit 10, general shot looking southwest at the brick-lined pit 1051. 2m scale.

Photo 42: Trial Pit 10, as above looking northeast. 2m scale.

Photo 43: Trial Pit 11, general shot looking southwest. 2m scale.

Photo 44: Trial Pit 12, general shot looking southwest. 2m scale.

Photo 45: Trial Pit 13, general shot looking north. 2m scale.

Photo 46: Trial Pit 14, general shot looking east. 2m scale

Photo 47: Trial Pit 14, as above.

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APPENDIX I:
Context descriptions

Context Descriptions

Context Number	Context Type	Description	Dimensions (Length x width x thickness)
Trench 1			
1000	Layer	• Topsoil • Moderate, mid grey clayey-silt with common medium to large brick and concrete building rubble • Modern plastic sheeting	21m x 0.8m x 0.25m
1001	Structure	• Brick-built wall • Vertical brick wall, bonded in solid dark-grey mortar set back from the face. Regularly coursed, alternating headers and footers • Red – orange solid frogged bricks, marked 'Graig/Morriston', 20th century. • Wall orientated NE - SW	2.5m x ?m (only revealed in section) x 0.75m high
1002	Structure	• Timber beam • Machine cut timber, laid horizontally, orientated NW – SW • Recess cut into NW side, metal pipe runs along recess.	2.6m x ?m (only revealed in section) x 0.35m deep
1003	Structure	• Concrete wall foundations • Rough light-grey concrete block, orientated NW – SE, with uneven face and slightly concave surface. • Topped by remnants of bricks set into mortar	0.8m (extends beyond trench) x 0.8m x 1m
1004	Layer	• Brick rubble • Very loose mid grey sandy mortar with very abundant brick rubble • Many of the bricks were marked 'Graig/Morriston', late 19th - 20th century	3.5m x 0.7m x 1m
1005	Layer	• Dumped waste material • Loose, dark grey-black, silty ash with common medium sub-angular stone	c.16.7m x 0.7m x 0.6m
1006	Layer	• Natural subsoil • Fairly compact mid orange-brown silty-clay with common medium sub-angular stone inclusions	
1007	Layer	• Upper dumped waste material	16.7m x 0.7m x 0.6m

		• Loose mid-grey silty-sand with abundant fine gravel and ash inclusions and common brick and concrete rubble with rare deposits of waste slag	
1007	Layer	• Upper dumped waste material • Fairly compact light orange-brown silty-clay with brick and concrete rubble inclusions	5m x 0.7m x 0.5m
Trench 2			
2000	Layer	• Topsoil • Moderate, mid grey-brown silty-clay with common medium to large brick and concrete building rubble and sub-angular stone inclusions	21m x 0.8m x 0.4m
2001	Structure	• Brick wall • Straight, vertical brick wall, built of solid grey brick, regularly coursed with stretchers. Bonded in a grey mortar. • Orientated NW – SE. • Bricks unmarked	0.8m (extends beyond trench) x 0.6m x 0.7m (base not exposed)
2002	Structure	• Brick wall • Straight, vertical brick wall, built of solid grey-brick, with a line of yellow brick along its northern edge. Bonded in a grey mortar • Orientated NW – SE • Bricks unmarked	0.8m (extends beyond trench) x 1.15m x 0.6m (base not exposed)
2003	Structure	• Concrete floor • Concrete floor surface, rough but level, with raised ridge along SE side of trench, orientated NE – SW. • Associated with 2004	5.25m x 0.8m (extends beyond trench)
2004	Structure	• iron beam • Set into the surface of the floor is an iron girder 0.09m wide, orientated NE – SW. Thin iron bars protrude from the visible surface, that have been cut and bent over. Cross bar visible, same dimensions, secured with a triangular plate with hexagonal bolts. • Early – mid 20th century	
2005	Structure	• Brick built pipe conduit • Conduit only visible in section. Only side walls remains - single red-brick thick, mortar bonded. • Two metal pipes within, 0.06m in diameter	0.8m (extends beyond trench) x c.1m x c.0.8m

		• Orientated NW – SE	
2006	Layer	• Upper dumped waste material • Mixed deposits of very loose dark grey silty-ash with bands of reddened ash and brick rubble. At a depth of 0.5m below current ground levels a thick band of compact dark pitch was revealed. Conduit 2005 was set within the upper loose dark silty-ash material	12.7m x 0.8m (extends beyond trench) x 0.5m
2007	Layer	• Pitch • Compact black pitch, intermingled with bands of silty-ash and brick rubble.	c.8m x 0.8m (extends beyond trench) x c.1.5m
2008	Layer	• Natural subsoil • Fairly compact mid orange-brown silty-clay with common medium sub-angular stone inclusions	
Trench 3			
3000	Layer	• Topsoil • Moderate, mid grey clayey-silt with common medium to large brick, stone and concrete rubble	20m x 0.8m x 0.3m
3001	Layer	• Redeposited subsoil • Fairly compact dark brown slightly mixed silty-clay	
3002	Layer	• Natural subsoil • Fairly compact mid orange-brown silty-clay	
3003	Layer	• Upper dumped deposit • Alternating layers of dark grey silty-ash and building rubble in a mid brown silty-clay with occasional dumps of light yellow-brown clay. • Contained a metal pipe, *c.*0.2m in diameter, crossing the trench running in an east-west direction at a depth of 1.1m.	20m x 0.8m x 0.8m
3004	Layer	• Lower dumped deposit • Loose dark grey fine clayey-silty ash with rare small-medium sib-angular stone inclusions and rare slag fragment.	20m x 0.8m x 1m
Trench 4			
4000	Layer	• Topsoil • Moderate, dark grey, silty-clay with rare small – medium coal fragments,	16m x 0.8m x 0.6m

		abundant small – medium sub-angular stone inclusions and ashy deposits	
4001	Structure	• Concrete wall foundation • Concrete slab, unfaced rough edges, rough but level surface. Incorporated iron reinforcing rods. • Topped by 0.3m thick deposit of loose, light grey crushed mortar • Orientated NE – SW	0.8m (extends beyond trench) x 1.35m x c.0.5m
4002	Structure	• Brick wall • Straight, vertical brick wall built of a mix of solid red and yellow bricks regularly coursed with stretchers visible. Bonded in dark grey mortar, flush with the face. • Orientated NE - SW	0.8m (extends beyond trench) x 0.45m x 2.1m
4003	Structure	• Wooden beam • Laid horizontal, machine cut, squared. • ?Pine	c.1.5m x ? x 0.4m thick
4004	Layer	• Subsoil • Fairly compact mid orange-brown silty-clay with abundant sub-rounded stone	
4005	Structure	• Brick wall • Straight, vertical wall built of solid yellow brick, regularly coursed possible in a Flemish Garden style. Bonded in grey gritty mortar • Stone wall/pillar butts on eastern edge, built of roughly squared grey stone, regularly coursed with uncertain bonding • Orientated NW - SE	0.9m x ? x 0.5m
4006	Structure	• Brick surface/structure • Fiveive, possibly six, layers of orange bricks, laid horizontally on top of each other, with each layer recessed from the layer below. Bonded in grey mortar	1.3m x? x 0.9m
4007	Structure	• ?Brick wall • Straight vertical wall, largely covered in smooth light grey mortar but possible brick-built underneath. Rough mortar facing on NW end. • Sat on foundations of brick and stone set in a light yellow-grey sandy mortar	1m x ? x 0.7m
4008	Fill	• Fill of 4009/foundation deposit • Fairly compact mid grey gritty ash with very abundant large sub-rounded river	3.4m x ? x 1.4m

		cobbles with rare crushed brick fragment	
4009	Cut	• Cut for foundation deposit 4008 • Steep, slightly concave NW edge, SE edge is formed by wall 4007. • Contains 4008 & 4010	3.4m x ? x 1.4m
4010	Layer	• Brick surface • Layer of solid yellow-orange brick, relatively horizontal. Partly crushed and heat-reddened	3.4m x ? x 0.2m
4011	Layer	• Dumped rubble deposit • Loose, mixed dark grey and orangeclinker and brick rubble, with lower band of fine grey silty-ash • Infills area between walls 4001 and 4002	2.3m x 0.8m x 1.5m
4012	Layer	• Dumped mixed waste material • Loose dark grey sandy-silt with common medium brick fragment and sub-angular stone inclusions • Obscured by modern pipe cut infilled with grey stone	1.9m x 0.8m x 1.3m
4013	Layer	• Dumped waste deposits • Loose dark grey silty-ash with alternating layers of mixed clay and brick & concrete rubble and occasional fragments of slag material.	1.3m x 0.8m x 1.4m
4014	Layer	• Dumped waste material • Loose mid grey-brown silty-ash rubble overlying dark silty-clays. Common medium sub-angular stone inclusions, rare brick and mortar fragments.	2.7m x 0.8m x 1.2m
Trial Pit 1			
100	Layer	• Topsoil • Loose, dark brown-grey, clayey-silt with common small – medium sub-angular stone inclusions and rare small – medium brick fragments	2.3m x 0.7m x 0.2m
101	Layer	• Dumped rubble layer • Loose, light grey mixed rubble and mortar, including brick, stone and mortar fragments	2.3m x 0.7m x 0.4m
102	Structure	• Brick wall • Fragmentary remains, vertical brick wall built of solid red and yellow brick with mortar bonding. • Orientated east-west	
103	Layer	• Dumped deposit	0.8m x 0.7m x 0.2m

		• Loose dark grey ashy clinker with common small-medium sub-angular stone inclusions.	
104	Layer	• Dumped deposit • Loose mid red ashy clinker with common small-medium sub-angular stone inclusions.	0.8m x 0.7m x 0.3m
105	Layer	• Dumped deposit • Loose black ashy-clinker	2.3m x 0.7m x 1.5m
106	Layer	• Natural subsoil • Fairly compact mid orange-brown silty-clay	2.3m x 0.7m
Trial Pit 2			
200	Layer	• Topsoil • Loose, mid grey-brown sandy-silt including large quantities of brick, stone and concrete rubble, along with modern metal and plastic inclusions	2.4m x 0.7m x 0.7m
201	Structure	• Concrete surface • Level but rough concrete surface	0.7m x 0.7m
202	Structure	• Brick wall • Straight vertical wall, built of light-coloured brick, regularly coursed. Bonded in a light grey-brown mortar • Orientated NW – SE.	0.4m x ? x 1.3m
203	Structure	• Brick culvert • Culvert with straight vertical sides, flat base, built of same bricks as wall 202. Bricks are heat-reddened on the internal surface of the culvert.	
204	Layer	• Natural subsoil • Fairly compact mid orange-brown silty-clay with common medium sub-angular stone inclusions	
205	Layer	• Dumped waste material • Mixed loose dark grey ashy-clinker and crushed brick	
Trial Pit 3			
300	Layer	• Topsoil • Loose dark grey sandy silt with very abundant coal fragments, abundant sub-angular stone inclusions and common brick fragments	3.7m x 0.7m x 0.25m
301	Structure	• Concrete wall	0.7m x 0.4m x 0.15m

		• Low partial/disturbed concrete wall with relatively smooth exposed faces • Orientated north-south	
302	Structure	• Concrete surface • Level horizontal smooth concrete surface. • Butts against 301	1.6m x 0.7m
Trial Pit 4			
400	Layer	• Topsoil • Loose, dark brown-grey, clayey-silt with common small – medium sub-angular stone inclusions and rare small – medium brick fragments	4.2m x 0.7m x 0.15m
401	Structure	• Brick surface • Horizontal, level surface built of solid yellow unmarked bricks laid in a herringbone style • Terminates in a thin brick wall (402)	0.6m x 0.7m
402	Structure	• Brick wall • Straight vertical wall, built of solid light-yellow brick, regularly coursed in an English style. Clay bonded. • Orientated NE - SW	0.7m x 0.25m x 0.5m
403	Structure	• Concrete surface • Level horizontal concrete surface, slightly rough upper surface.	1.3m x 0.7m
404	Layer	• Infilling deposit • Loose, very dark brown silty clinker with ash deposits and common slag inclusions	2.05m x 0.7m x 0.75m
Trial Pit 5			
500	Structure	• Concrete surface • Level horizontal concrete surface with underlying crushed stone and gravel levelling. • Modern	2m x 1m x c.0.5m
501	Layer	• Natural subsoil • Fairly compact mid orange-brown sandy-clay	2m x 1m
502`	Layer	• Dumped waste deposits • Loose alternating layers of clinker, coal and ash dust and stony deposits intermingled with slag waste	2m x 1m x 2.3m

Trial Pit 6			
600	Structure	• Concrete floor • Level horizontal and smooth concrete surface. • Concrete contains iron reinforcement rods • Modern	2m x 0.9m x 0.25m
601	Layer	• Makeup layer • Fairly compact light grey crushed clinker	2m x 0.9m x 0.25m
602	Structure	• Wall • Straight vertical brick-built wall, regularly coursed possibly in English style. Bonding material uncertain • Orientated east – west	0.9m x 0.6m x 0.5m
603	Layer	• Levelling deposit • Moderate mid orange-brown clayey sand	
604	Cut	• Construction cut for wall 604 • Only northern edge revealed, moderate concave side, moderate break of slope at base.	
605	Layer	• Dumped waste material • Loose dark grey ashy-clinker with common brick and slag fragment inclusions	
606	Structure	• Foundations? • Fairly compact light pinkish-grey mortar • Partially truncated by construction cut 604	
Trial Pit 7			
700	Layer	• Topsoil • Loose, dark brown-grey, clayey-silt with common small – medium sub-angular stone inclusions and rare small – medium brick fragments	2.2m x 0.7m x 0.2m
701	Structure?	• Possible wall • Fragment of roughly squared grey stone, with a vertical face.	
702	Feature	• Modern plastic drain	
703	Layer	• Natural subsoil • Fairly compact mid orange-brown sandy-clay	
704	Layer	• Dumped waste material	2.2m x 0.7m x 2.5m

		• Loose mid grey ashy-clinker with common stone and brick inclusions	
Trial Pit 8			
800	Structure	• Concrete & hardcore surface • Fairly compact light grey hardcore laid on a level rough stony concrete layer	2.9m x 0.7m x 0.5m
801	Layer	• Levelling deposit? • Fairly compact light yellow-brown sandy clay with common medium sub-angular stone inclusions	2.9m x 0.7m x 0.5m
802	Layer	• Dumped waste material • Moderate mid brown ashy-clinker with stone and brick inclusions	2.9m x 0.7m x 0.6m
803	Layer	• Dumped waste material • Moderate dark grey slag and rubble mix within a cinder matrix	2.9m x 0.7m x 0.5m
804	Layer	• Natural subsoil • Fairly compact mid orange-brown sandy-clay	
Trial Pit 9			
900	Layer	• Topsoil • Moderate mid grey-brown clayey-silt with common medium sub-angualr stone inclusions an drare brick and concrete rubble fragments	3.2m x 0.7m x 0.6m
901	Structure	• Concrete surface • Level horizontal rough stony concrete	3.2m x 0.7m x 0.4m
902	Layer	• Deposit • Moderate mid orange-brown sandy-clay with common medium sub-angular stone inclusions	3.2m x 0.7m x 0.4m
903	Layer	• Dumped waste material • Loose dark grey ashy-clinker and soil with stone, brick and slag inclusions	3.2m x 0.7m x 1.2m
904	Layer	• Natural subsoil • Fairly compact mid orange-brown sandy-clay	
Trial Pit 10			
1050	Structure	• Concrete surface • Smooth level horizontal concrete	2.5m x 1.4m x 0.15m
1051	Structure	• Brick-lined pit • Rectangular pit, orientated NW - SE. Wall built of vertical straight solid frogged red brick, with a band of	2.5m x 1.4m x 1.4m

		yellow brick in the NE wall. Regularly coursed with stretchers visible. Bonded in a dark grey mortar flush to the face. • Metal band built in SE wall. • Floor either of concrete or possibly cemented brick.	
Trial Pit 11			
110	Layer	• Topsoil • Loose, dark brown-grey, clayey-silt with common small – medium sub-angular stone inclusions and rare small – medium brick fragments	2.7m x 0.7m x 0.2m
111	Layer	• Deposit • Moderate light orange-brown crushed red stone	2.7m x 0.7m x c.0.2m
112	Layer	• Dumped waste material • Loose dark brown-grey mixed soil and ashy-clinker with slag, brick and stone inclusions and the occasional fragment of kiln-lining material	2.7m x 0.7m x 1.7m
133	Layer	• Natural subsoil • Fairly compact mid orange-brown sandy-clay	
Trial Pit 12			
120	Layer	• Topsoil • Loose, dark brown-grey, clayey-silt with common small – medium sub-angular stone inclusions and brick fragments • loose dumped deposits of ashy-clinker and slag sand with some furnace-lining inclusions	1.7m x 0.7m x 0.3m
121	Layer	• Dumped waste material • Moderate dark grey ashy-clinker with mortar fragments	1.7m x 0.7m x 0.4m
122	Layer	• Dumped waste material • Loose light grey-yellow clayey-sand with abundant large sub-angular stones	1.7m x 0.7m x 1.3m
123	Layer	• Natural subsoil • Fairly compact mid orange-brown sandy-clay	
Trial Pit 13			
130	Layer	• Topsoil	2m x 0.7m x 0.1m

		• Loose, dark brown-grey, clayey-silt with common small – medium sub-angular stone inclusions and rare small – medium brick fragments	
131	Layer	• Hardcore • Fairly compact light grey stony concrete	2m x 0.7m x 0.1m
132	Layer	• Dumped waste material • Loose dark grey gritty-clinker	2m x 0.7m x 1m
133	Layer	• Natural subsoil • Alternating bands of light yellow sandy-clay and orange-brown sandy clay with abundant medium-large stone	
Trial Pit 14			
140	Layer	• Tarmac surface • Level horizontal smooth tarmac	3m x 0.7m x 0.4m
141	Layer	• Levelling deposit • Moderate mid red gravel and clinker	3m x 0.7m x 0.2m
142	Structure	• Concrete surface • Level horizontal smooth concrete surface	1.3m x 0.7m
143	Layer	• Dumped waste material/levelling deposit • Loose mixed stone, brick and mortar rubble	1.3m x 0.7m x 0.5m
144	Layer	• Dumped waste material • Loose dark grey soil and ashy-clinker with stone and slag waste inclusions	1.3m x 0.7m x 1.3m
145	Layer	• Natural subsoil • Fairly compact mid orange-brown sandy-clay	

Archaeology Wales

APPENDIX II: Written Scheme of Investigation

Archaeology Wales

WRITTEN SCHEME OF INVESTIGATION

FOR AN ARCHAEOLOGICAL WATCHING BRIEF

AT

Ynysderw Road, Pontardawe,

Prepared for:

Asbri Planning Ltd

11th December 2013
(Amended 12 February 2014)

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NON TECHNICAL SUMMARY

This Written Scheme of Investigation (WSI) details the proposal for an archaeological Watching Brief during ground investigation works associated with a proposed housing development on Ynysderw Road, Pontardawe. It has been prepared by Archaeology Wales Limited for Asbri Planning Ltd, on behalf of their client the Jehu Group and Gwalia Housing Association.

1. Introduction and archaeological background

The scope of the current work to be undertaken at the site (NGR SN 7217 0366, Figure 1) includes the excavation of five trenches plus additional smaller trial pits across the site as part of the initial ground investigations works that will inform the viability and design scheme for the proposed development. At this stage the subsequent proposed development is for affordable flats and houses on the site (Figure 2). This work is at the pre-planning stage. The local planning authority is Neath Port Talbot County Borough Council.

This WSI has been prepared by Philip Poucher, Project Manager, Archaeology Wales Ltd (henceforth - AW) at the request of the Asbri Planning Ltd, on behalf of their clients the Jehu Group and Gwalia Housing Association. It provides information on the methodology that will be employed by AW during an archaeological watching brief at the site.

An original WSI was produced in December 2013 detailing the proposal for an archaeological watching brief on the trial trenching alone. This WSI has been amended (February 2014) to incorporate an archaeological watching brief during additional trial pitting as part of the geotechnical investigations on the same site.

The methodology set out in this WSI will be agreed with the curatorial division of the Glamorgan-Gwent Archaeological Trust (GGAT Curatorial) prior to the commencement of groundworks due to be carried out on the site. An archaeological watching brief has been recommended by Neil Maylan of GGAT Curatorial, in his previous capacity as archaeological advisor to the local planning authority. The planned ground investigation trial trenching works are to excavate down to any potential sub structures associated with a former tinplate works that once stood on the site, additional trial pitting works are to investigate ground conditions and enable geotechnical sampling to be undertaken. Any *in situ* foundations encountered will remain undisturbed. It was considered by Mr Maylan that an archaeological watching brief during these site investigation works would be adequate at this stage.

All work will be undertaken in accordance with the standards and guidelines of the Institute for Archaeologists (2011).

2. Site description and historic background

The area of proposed development lies in an area of commercial estates on the southern edge of Pontardawe, on Ynysderw Road (SN 7217 0366). Ynysderw Road forms the eastern and southern boundary to the site, along the northern end of which lies late 19th and early 20th century terraced residential housing. Large modern

commercial units lie immediately to the north and west of the site, whilst to the south lies the modern Cwmtawe School.

This area, to the south of the historic core of Pontardawe, housed many of the large industrial concerns that were vital to the growth and establishment of Pontardawe. The particular site overlies part of the former Ynysderw Tinplate Works. These works were founded in 1843 as the Primrose Forge and Tinplate Works by William Parsons, before being sold on in the 1860s to William Gilbertson. The tinplate works continued in operation until 1962. The site area appears to lie on the periphery of the main 19th century works, but by the early 20th century (as seen on the 1918 Ordnance Survey map) large buildings associated with the works were built across the site. Until recent years two ranges of the former tinplate works survived on the site, probably dating to the late 19th century (as seen on Fig 1). These ranges were Grade II Listed in 2003 but have since been demolished by a previous owner of the site. The site of these ranges survives as an overgrown mound, the remainder of the site consisting of level scrub-covered ground (photo 1).

3 Proposed groundworks

Following a desk study assessment of the site, undertaken by Earth Science Partnership in July 2013, a number of ground-related hazards were identified that required further investigation prior to planning proposals being drawn up. One such issue was the potential for archaeological remains associated with the former tinplate works to be present on site.

In order to provide an early indication of the extent of potential archaeological remains associated with the former tinplate works a series of five trial trenches are to be excavated across the site by the Earth Science Partnership (Figure 2). The objective of these trenches is to identify whether structural remains or features of archaeological importance are present, therefore the trenches will be of limited depth (nominally 1m bgl) to reveal any remains without disturbing them, and an archaeological watching brief will be maintained on these groundworks.

In addition to this, small trial pits will be excavated in surrounding soils and deposits to expected depths of between 2.5m and 3m to allow geotechnical sampling of soil deposits and ground conditions to take place.

4 Site specific objectives

The aims of the watching brief, as defined by the IfA (2011) are:

- To allow a rapid investigation and recording of any archaeological features that are uncovered during the proposed groundworks within the application area.

- To provide the opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief are not sufficient to support the treatment to a satisfactory or proper standard

5 Watching Brief Methodology

General
The archaeological watching brief will be undertaken by AW staff using current best practice.

All work will be carried out by a suitably qualified archaeologist with relevant level membership of the Institute for Archaeologists (IfA) and will follow the IfA Standard and Guidance for an archaeological watching brief (2011).

Detailed
The Watching Brief will be carried out by Philip Poucher, project manager at Archaeology Wales, during the removal of topsoil or hard-standing and modern material overlying any potential archaeological remains. The mechanical excavation will be undertaken by a machine using a toothless ditching bucket wherever possible.

If archaeological features, finds or deposits are uncovered, work will be stopped in the area of the exposed feature in order that the supervising archaeologist can clean and identify the extent and nature of the feature and for detailed recording to take place.

All archaeological deposits that are identified will be mapped, cleaned, recorded and investigated. The developer will provide a safe working area and sufficient time to record all features to the satisfaction of AW and GGAT. The recording of identified features will not be compromised by the construction programme.

Any encountered archaeological features or deposits will remain *in situ*. The purpose of the groundworks is to establish the presence and extent of archaeological remains, not to remove any such remains.

Contingency Arrangements
In the event of significant archaeological features being discovered all activities in this area of the site can be temporarily suspended. This will allow a period of consultation with GGAT and if required the opinion of specialists.

Following such consultation, recommendations will be presented to the Developer and the Local Planning Authority.

The methodology and timescale of additional archaeological work to investigate such features will be presented and included in the Developers Programme; the feature will be fenced off and secured thus allowing the site programme to continue.

Recording
Recording will be carried out using AW recording systems (pro-forma context sheets etc), using a continuous number sequence for all contexts.

Plans and sections will be drawn to a scale of 1:50, 1:20 and 1:10 as required and related to Ordnance Survey datum and published boundaries where appropriate.

All features identified will be tied in to the OS survey grid and fixed to local topographical boundaries. The location of all features will also be recorded using a Topcon GTS725 total station.

Photographs will be taken in digital format, using a 14MP camera with photographs stored in Tiff format. Should significant remains be identified that require excavation, photographs will also be taken in black and white and colour slide (35mm film).

The archaeologist undertaking the watching brief will have access to the AW metal detector and be trained in its use.

Artefacts

Archaeological artefacts recovered during the course of the excavation will be cleaned and labelled using an accession number, which will be obtained from the local museum. A single number sequence will be allocated to all finds. The artefacts will be stored appropriately until they are deposited with a suitable local museum. Contact has been made with curator of heavy industry at the National Waterfront Museum, Swansea for this purpose. In the interim any recovered artefacts will be stored in secure premises at AW's head office.

All finds of gold and silver will be removed to a safe place and Natural Resources Wales, Cadw and the local coroner informed, within the guidelines of the Treasure Act 1996.

Any finds which are considered to be in need of immediate conservation will be referred to a UKIC qualified conservator (Phil Parkes at Cardiff University).

Human remains

In the event of burials or cremations being found all work will be halted in the area of the burials and their extent and nature established. The client, GGAT and the Ministry of Justice will be informed and a methodology of excavation agreed which will adhere to Ministry of Justice Guidelines.

Environmental and technological samples

Environmental samples will be taken where necessary when significant deposits are located. Technological samples will be taken where necessary when significant deposits are located.

Specialists

In the event of certain finds/features etc. being discovered, the site archaeologist may have to seek specialist opinion for assistance. Such specialists will be accessed either internally within AW itself or from an external source. A list of external specialists is given in the table below.

Type	Name	Tel No.
Flint	Dr Amelia Pannett	02920 899509
Animal bone	Jen Kitch	07739 093712
CBM, heat affected clay, Daub etc.	Rachael Hall	01305 259751
Clay pipe	Hilary Major	01376 329316
Glass	Andy Richmond	01234 888800
Cremated and non-cremated human bone	Malin Holst	01759 368483
Metalwork	Kevin Leahy	01652 658261
Neo/BA pottery	Dr Alex Gibson	Bradford University

IA/Roman pottery	Jane Timby	01453 882851
Post Roman pottery	Mr Stephen Clarke	
Charcoal (wood ID)	John Carrot	01388 772167
Waterlogged wood	Nigel Nayling	University of Wales (Lampeter)
Molluscs and pollen	Dr James Rackham	01992 552256
Charred and waterlogged plant remains	Wendy Carruthers	01443 233466

6 Post-Fieldwork Programme

Conservation
After agreement with the client, GGAT and any identified landowner arrangements will be made for the long term conservation and storage of all artefacts in an appropriate local or county museum.

Archive
The site archive will be prepared in accordance with MAP 2, Appendix 3 (English Heritage 1991). It will comprise all the data recovered during the fieldwork and shall be quantified, ordered and indexed and will be internally consistent. The archive will be deposited with the finds in a suitable local museum (contact has been made with the National Waterfront Museum, Swansea). If no finds are recovered the paper archive will be deposited with the National Monuments Record of Wales, held and maintained by the Royal Commission on the Ancient and Historical Monuments of Wales, Aberystwyth.

Reporting
The results of the watching brief will be submitted in an illustrated and bound report, which will include the following material:

- Non-technical summary
- Location plan showing the area/s covered by the watching brief, all artefacts, structures and features found
- Plan and section drawings with ground level, ordnance datum and vertical and horizontal scales.
- Written description and interpretation of all deposits identified, including their character, function, potential dating and relationship to adjacent features. Specialist descriptions and illustrations of all artefacts and soil samples will be included as appropriate.
- An indication of the potential of archaeological deposits which have not been disturbed by the development
- Statement of local, regional and national context of the remains
- A detailed archive list at the rear listing all contexts recorded, all samples finds and find types, drawings and photographs taken. This will include a statement of the intent to deposit, and location of deposition, of the archive.

Monitoring
Any changes to the specification that the contractor may wish to make after approval will be communicated to GGAT for approval on behalf of the Planning Authority.

Representatives of GGAT will be given access to the site so that they may monitor the

progress of the watching brief. GGAT will be kept regularly informed about developments, both during the site works and subsequently during any potential post-excavation.

Archive Format & Deposition
The full site archive will be deposited within one month of the completion of the client report.

The paper/drawing/digital archive will be deposited at the appropriate regional archival store with the finds will be deposited with the appropriate local museum. AW will agree the location and timing of the deposition of the archive before the contract commences.

The archive will include all site notes, finds, documents, drawings, photographs, digital data and a copy of the final report and any prior draft versions. All of these items will be clearly quantified in tabular from in an 'archive deposition statement' located at the rear of the clients report, and their ultimate location and proposed date of deposition stated.

7 Resources and timetable

Standards
The watching brief will be undertaken by AW staff using current best practice.

All work will be undertaken to the standards and guidelines of the IFA.

Staff
The project will be undertaken by Philip Poucher, project manager at Archaeology Wales, who has experience of working on industrial sites of this era within the Swansea Valley and beyond.

Equipment
The project will use existing AW equipment.

Timetable of archaeological works
The watching brief will be undertaken at the convenience of the client.

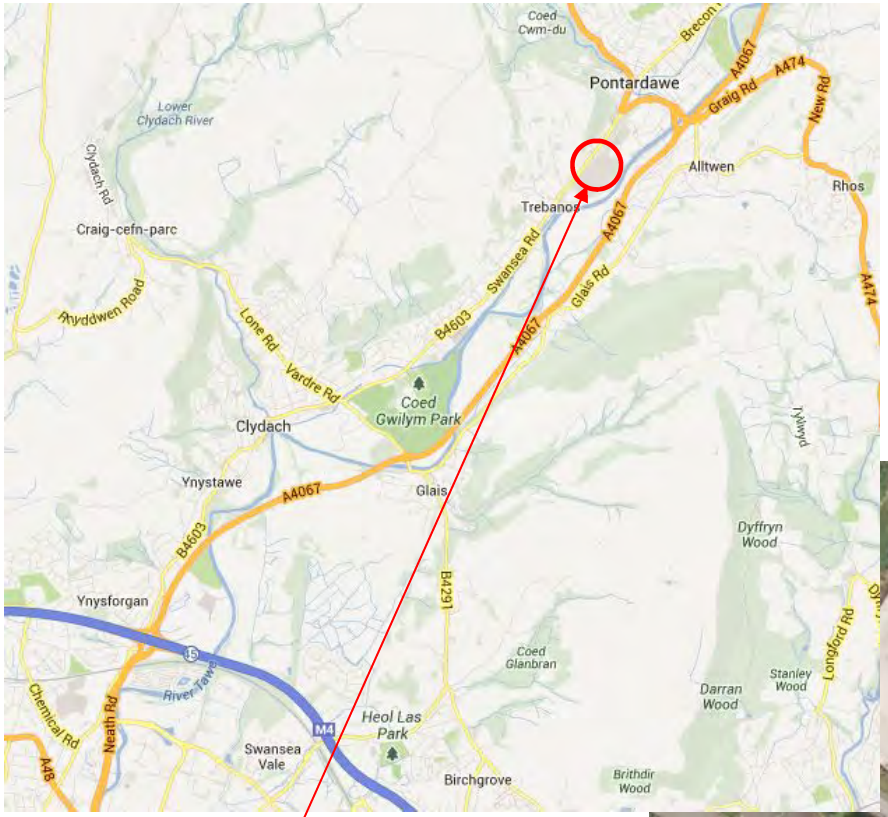
Insurance
AW is an affiliated member of the CBA, and holds Insurance through the CBA insurance service.

Health and safety
All members of staff will adhere to the requirements of the *Health & Safety at Work Act*, 1974, and the Health and Safety Policy Statement of AW.

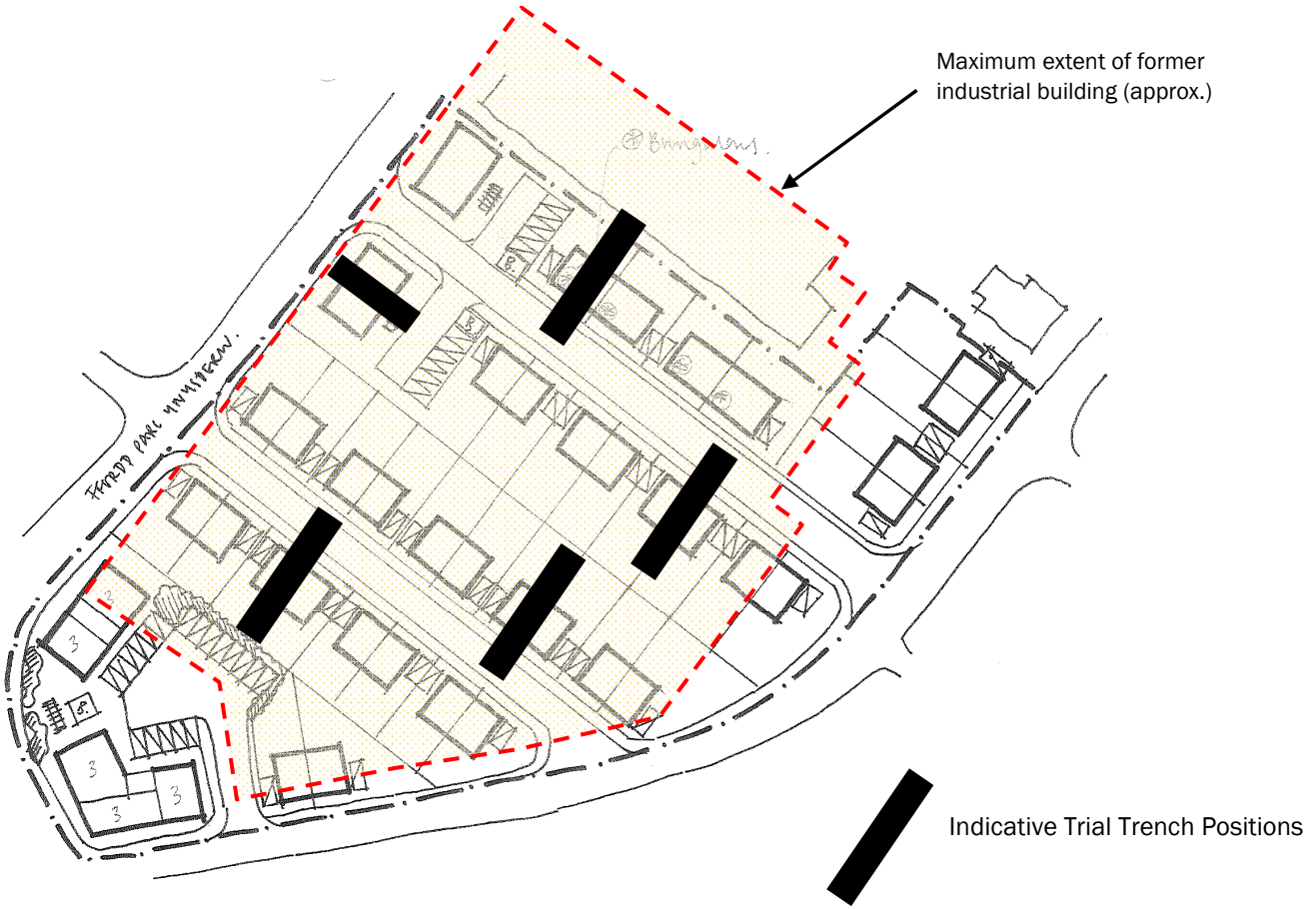
Photo 1: View of the site taken from the SW, looking NE.

Site Location Plan

Ynysderw Road, Pontardawe, SA8 4EH



Site Location



N

Development layout from Spring Consultancy, 2013.

PROJECT:	**PROPOSED RESIDENTIAL DEVELOPMENT FFORDD PARC YNYSDERW, PONTARDAWE**
SCALE:	**1:1,250 (approx. at A4)**
FIGURE 1:	**Indicative Trial Trench Positions**

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