
CO-OPERATIVE STORE, LANGBORNE ROAD,
WHITBY, NORTH YORKSHIRE.

REPORT ON AN ARCHAEOLOGICAL EVALUATION.
OSA REPORT No: OSA10EV08.

April 2010.

OSA

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Report Summary.

REPORT NO: OSA10EV08

SITE NAME: Whitby Co-Op Store

COUNTY: North Yorkshire

NATIONAL GRID REFERENCE: NZ 899 108

ON BEHALF OF: Nathaniel Lichfield and Partners
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TIMING: Fieldwork
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Table of Contents.

1.0 Abstract	3
2.0 Site Location, Geology, Topography and Land Use.....	5
3.0 Archaeological Background	6
4.0 Methodology.....	8
5.0 Results	9
5.0.1 Trench 1	9
5.0.2 Trench 2	10
6.0 Discussion.....	12
7.0 Conclusions.....	14
8.0 Appendix 1 ~ List of Contexts.....	15
9.0 Appendix 2 ~ Archive Index.....	16
9.1 Drawing Register.....	16
9.2 Photographic Register.....	16
10.0 Appendix 3 ~ The Plates.....	17

List of Figures.

Figure 1. Site Location (NGR NZ 899 108).....	4
Figure 2. Site plan showing location of store, service yard and the two archaeological trenches.....	5
Figure 3. East facing section of trench 1	9
Figure 4. West facing section of trench 2.....	10
Figure 5. Pickernell's map of 1841 showing the docks with store (blue), proposed extensions (pink) and trenches (red)	12

List of Plates.

Plate 1. General view of trench 2 showing its position in relation to the car park	17
Plate 2. Trench 1 looking southwest.....	17
Plate 3. Trench 1 looking east	18
Plate 4. Trench 2 looking northeast.....	18
Plate 5. Trench 2 looking southeast.....	19

1.0 Abstract.

An archaeological evaluation was undertaken by On-Site Archaeology Ltd in March 2010 on behalf of Nathaniel Lichfield and Partners at the site of the Co-op store in Whitby, North Yorkshire.

The evaluation comprised the excavation and recording of two trenches within the area of two proposed extensions to the store, one in the existing car park, one in a service bay at the rear of the store. The site is known to lie above Whitby's historic docks, which were infilled and covered over by railway siding shortly after the arrival of the railway in Whitby in the mid-nineteenth century. The purpose of the evaluation was to establish the nature of any structural remains associated with the dock and dockside, in particular dockside buildings or wooden or masonry dock revetments.

No structural features were encountered. Of the two trenches, one appeared to lie wholly within a backfilled dock and the other appeared to lie wholly on the dockside. The trench on the dockside held no traces of any buildings, either because none were located at this point or because the later development of the railway sidings had completely removed them. On the basis of these results there is no evidence to indicate that the construction of the extensions will have a negative impact on the archaeological remains.



Figure 1. Site Location (NGR NZ 899 108)

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2.0 Site Location, Geology, Topography and Land Use.

The area of proposed development is located within the historic core of the town of Whitby, East Riding of Yorkshire. The proposal covers an area currently occupied by a car park and loading bay relating to the existing Co-op store.

The site lies on the west bank of the River Esk and is bounded by Langborne Road to the east and the railway line to the west. Whitby station is to the northwest.

Trenches 1 and 2 were located within the footprints of two proposed extensions to the existing Co-op store. Their location is shown in figure 2.

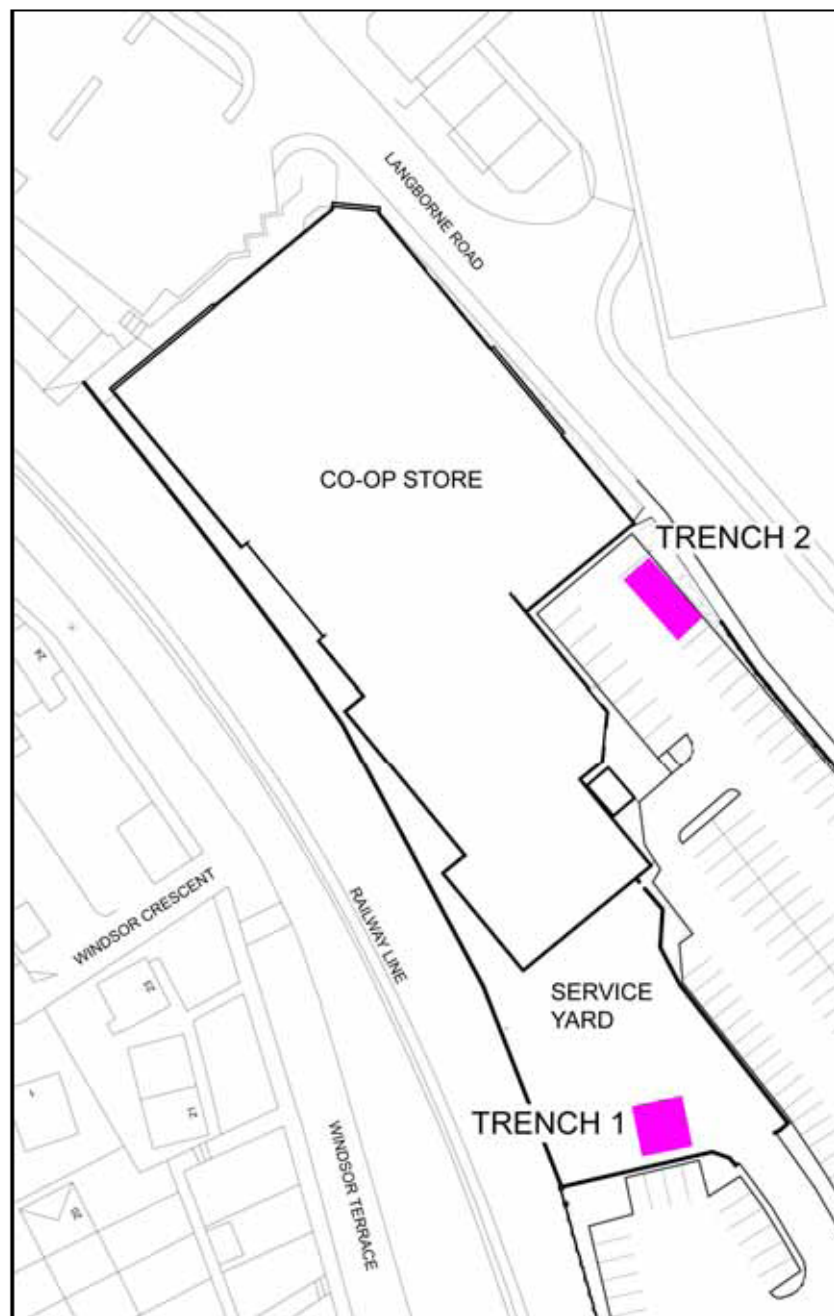


Figure 2. Site plan showing location of store, service yard and the two archaeological trenches

3.0 Archaeological Background.

The town of Whitby has a long history. It was the site of a settlement at least in the Anglian period. St. Hilda founded Whitby Abbey. The Abbey may have been constructed on the site of a late Roman signal station. The Abbey was destroyed by the Danes in AD 867, who also renamed the town. Through later development and a number of landslides, however, little evidence remains of the Danish town layout. The abbey was re-founded following the Norman Conquest, in 1078.

The medieval settlement associated with the abbey contained a market place at the junction of Baxtergate and Flowergate, and a bridge, which was first mentioned in 1351. Port facilities are referred to as early as the start of the 14th century, and numerous grants of quayside were made during the 14th and 15th centuries. Shipbuilding is referred to in 1301 when the town was called upon to furnish a vessel against the Scots. Evidence for the medieval quayside has been archaeologically revealed during sewer trenching on Church Street on the east side of the River Esk in the late 1990s.

Shipbuilding continued to be a significant local industry into the early modern period. This was added to by the transportation of alum, from the 17th century, coal shipping and whaling, during the 18th century.

The archaeological potential of the site is specifically linked to the ship building industry. Although no previous archaeological investigations have been carried out on the site, by the late 18th century the character of the area is known from cartographic sources. A plan of the town and harbour of Whitby prepared by L. Charlton in 1778 shows that the west side of the River Esk, to the south of the town, was occupied by a tidal island, called Bell Island, with several inlets beyond. A quay is marked, as is a 'dry dock', towards the northern part of this area. Several buildings are also shown in the vicinity. Shipyards, docks and associated buildings are shown in more detail on the 1828 Plan of Whitby by J. Wood.

The 1841 Plan of Whitby by F. Pickernell shows the area in more detail, and includes a caption: "Mr Hobkirks Ship Yard". A large oval dry dock and a wet dock of similar size are both shown, accessing the River Esk via a broad creek. To the south of the creek are several divisions, probably representing walls defining yards and a single large building. Further buildings are shown to the north and east of the wet and dry docks. The edges of the creek would have been managed, almost certainly including timber revetments, and the docks would have been lined, again either in timber, or possibly with brick (suggested in 2001 to Colin Briden by a Whitby resident, who had witnessed the construction of the current store in the late 1980s).

The character of the area in the immediate vicinity of the site began to undergo changes from the mid 19th century, with the coming of the railway. The First Edition Ordnance Survey map of 1853 shows the new station, together with the docks, creek and buildings shown on the Pickernell map. In the 1860s the area underwent significant changes, with the expansion of the railway across the site itself. A new goods shed was built to the south, with several tracks

being constructed through the site itself. The expansion of the railway across the site required the backfilling of the earlier docks and creek and lifting of the ground level above the adjacent water level. The geotechnical investigation carried out in 1988 recorded made ground, which varied in depth from 1.5m to 3.2m. Although it is difficult to locate the boreholes and trial pits upon the 1841 map with any certainty it is likely that the deepest made-ground represents backfilling of the docks or channel, and that shallower material overlies the areas of dry land between these. Partially decomposed timbers were found at a depth of between 2.2m and 3m, which are likely to have been within one of the docks or the creek. Colliery waste and slag were noted, especially within the top 1m of the made-ground. This material is likely to represent material laid down during the expansion of the railway.

An archaeological watching brief was carried out during sewer replacement scheme in 1998 (NAA 2001). Whilst much of this work was located on the east side of the river, along Church Street, monitoring did take place along the northern part of Langborne Road. This revealed thick layers of dolomite beneath the existing road. This make-up was generally between 0.80m and 1m thick and overlay surfaces and wall footings interpreted as parts of the former railway and dockyard. The surfaces are structures were built over further layers of make-up, containing well-preserved timbers.

4.0 Methodology.

Standard *On-Site Archaeology* techniques were followed throughout the evaluation. These involved the completion of a context sheet for each deposit, structure or cut encountered, along with plans and/or sections drawn to scale. Heights above Ordnance Datum (AOD) were calculated by taking levels from a Temporary Benchmark (TBM) which was then tied in with an existing Ordnance Survey benchmark. A photographic record of the deposits and features was also maintained.

Two trenches were excavated by 360° tracked excavator using a toothed bucket for the uppermost deposits and a toothless ditching bucket for the lower, softer deposits. Trench edges were stepped for safety reasons and the excavation did not exceed a safe depth of two metres.

5.0 Results.

5.0.1 Trench 1.

The first of the two trenches was located to the south end of site, situated within the enclosed delivery area of the supermarket. The trench was placed next to the south wall of the delivery area 5m west from the gated entrance. The trench was 6.50m x 6.50m in plan and had an overall depth of up to 2m. A total of 13 contexts were recorded. The trench base was located at a height of 2.40m AOD to the north and 2.24m AOD to the south. All further heights stated below are values AOD. The east facing section of the trench is shown in figure 3.

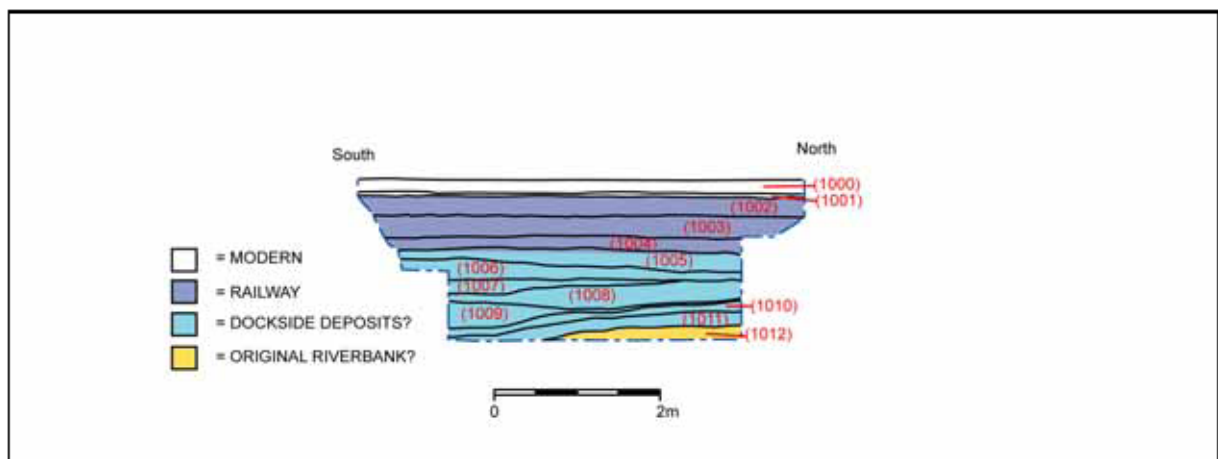


Figure 3. East facing section of trench 1

The earliest of the contexts (1012) was a firm reddish brown clay with lenses of darker brown clay throughout. A band of this material, an average of 0.20m in thickness was present in the base of the trench at its northern end. The top of the deposit was present at a height of 2.60m. The material dipped away to the south. This was overlain by (1011) a mixed deposit of coarse greenish grey silty gravel and fine blue ash. This was found at height of 2.80m in the northern half of the trench but it too dipped away to the south so that at that end of the trench it was present only at the base of the section. The average thickness of this material was 0.20m. Overlying this deposit and also dipping away to the south was (1010) a layer of crushed chalk hardcore an average of 0.12m in thickness. To the north it was present at a height of 2.92m AOD whilst at the south end it was found at a height of 2.38m. Sealing this material was (1009) a layer of firm reddish brown clay with occasional dark brown clay lenses and pebbles present throughout. This deposit was much thicker (0.33m) to the south than it was to the north (0.02m). Compared to the earlier deposits, the upper limit of this material was broadly level, located at a height of 2.66m.

Above this clay was (1008) a thick band of firm, coarse greenish grey sand with rare pebbles. This was noticeably thicker in the north (0.28m) than it was in the south (0.06). The upper limit was again broadly level, at a height of 3.10m. To the south it was overlain by (1007) a band of crushed chalk hardcore up to 0.18m in thickness. This material was present throughout most of the trench save for the final 0.60m to the north. Here it was sealed, along with the northern extent of (1008) by a thick band of pale greenish grey silty clay (1006) with

large fragments of hardcore. Above this was band of pale blue greenish grey sandy clay and coarse gravel (1005) with quantities of crushed brick in the southern end. The upper limit was broadly level and the deposit was thicker to the north than the south. The top of the deposit was at a height of 3.42m. This was sealed by an extremely compact spread of gravel (1004) containing ash and iron working waste, particularly in the upper extent. The material had a petrochemical odour. The average thickness was 0.20m and it was present at a height of 3.62m. This very dense material was overlain by a thick (0.30m) band of hardcore (1003). Sealing this foundation material was a second very compact layer (1002) of gravel with similar inclusions to (104). This more recent layer was also 0.20m. It was sealed by a fine band of hard core and damp proof membrane (1001), which underlay the existing concrete yard surface (1000). The top of the trench was at a height of 4.04m.

5.0.2 Trench 2.

The second trench was located in the northeast corner of the site, within the customer car park and adjacent to the rear entrance of the store. It measured 10m x 4m in plan. It was orientated north-south. To the north the base of the trench was at 1.53m and to the south at 1.72m. A total of 20 contexts were recorded. The west facing section of the trench is shown in figure 4.

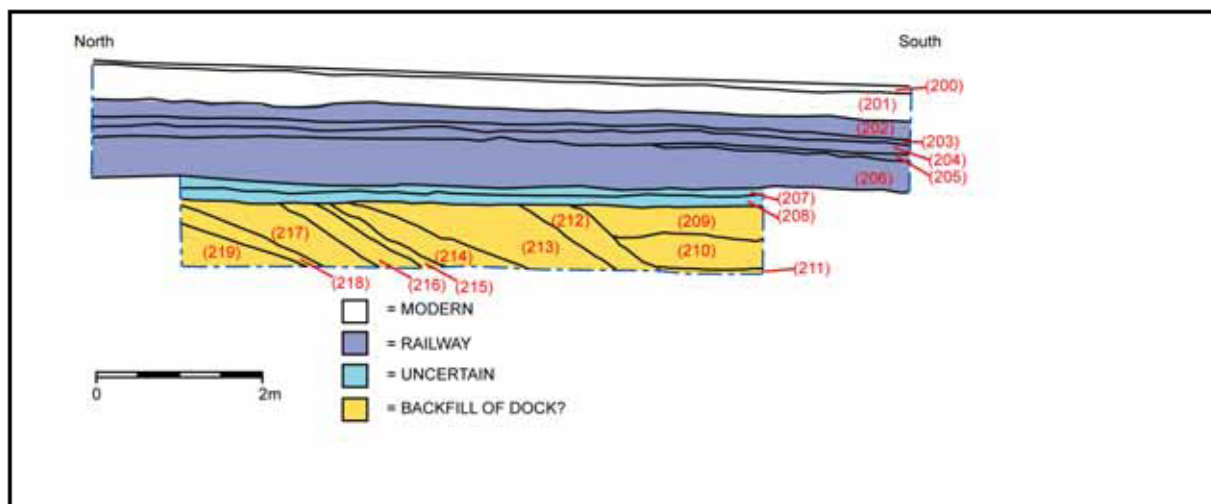


Figure 4. West facing section of trench 2

The deposits broke down into two distinct groups. The first group (contexts 212 to 219) consisted of a series of deposits that were in bands that tipped distinctly to the south at quite a steep angle. These were present from the north throughout all but the last 1.30m of the west facing section. The second and later group (contexts 200 to 211) consisted of deposits that lay horizontally.

The earliest deposit encountered was (219) a band of very pale greenish grey sand and unconsolidated rubble present at the extreme north end of the trench. The band of material was 0.20m thick and the upper limit was at 2.03m. Above this was (218) was 0.10m of soft very fine very dark brown silty sand at a height of 2.13m. The next deposit recorded was (217) a loose mixed dark greenish brown and mid reddish brown silty clay. This contained frequent small sub-rounded and sub-angular stones. It was located (along with the remaining tipped

layers 216 to 212) at a height of 2.33m. Sealing this mixed deposit was (216) 0.25m of loose pale greenish grey silty sand. This material contained frequent sub rounded stones and pebbles. The next tip layer in the sequence (215) was a pale grey gritty ash with moderate inclusion of stone and pebble, followed by (214) a band of very clean soft mid greenish grey silty clay. Next came a distinctly thicker (0.45m) band of rubble (213), which contained sherds of post-medieval/early modern pottery. The final tipped layer (212) consisted of a band of grey brown silty clay with pottery and glass of an early modern date.

The earliest horizontal layer (211) consisted of a very thin deposit of black ash. Just 80mm thick it contained sherds of early modern ceramic. This material had built up or being laid against tip layer (212). Sealing this and also butting that latest tip layer was (210), a thicker layer (0.34m) of reddish brown silty clay with inclusions of brick, tile, and ceramics. The upper limit of this deposit was at 2.17m. This was in turn itself sealed by a very similar looking deposit (209) of grey brown silty clay. Found at a height of 2.52m, it also butted the latest tip layer (212).

Sealing (209) and all the tipped layers was a rather thin (0.15) spread of very compact reddish brown clay. This and all the deposits that follow it were present across the entire length of the west facing section and all were broadly flat. The context contained varying concentrations of mortar and brick fragments. Its upper limit was at 2.67m. Above this was a thicker layer (0.35m) of very mixed brown to grey brown sand and dark grey silt. Within the deposit were fragments of brick and slate. It is possible that the material represent a series of episodes rather than a single event. Both the layer below it and the layer above it (206) were distinguishably different in nature from this very loose and mixed material. Deposit (206) was 0.39m thick and comprised of limestone and slag. The limestone was formed from angular blocks up to 0.30m x 0.30m in size. The top of this deposit was at 3.06m. This was sealed by two thin bands of material. The earliest of these was just 50mm thick and made up of a coarse grey brown sand (205) whilst the later (204) consisted of 0.19m of ash and clinker. This had then been sealed by 0.20m of very hard and compact slag, brick and clinker (202). The top of this material was at 3.53m. The sequence was then completed by (201) sub base and (200) and existing tarmac.

6.0 Discussion.

No structural features – in the form of timbers or brick facings – were uncovered by the evaluation. The trenches had been placed, as far as was possible using old map evidence, in order to span the transitional point between dockside and dock or open water. Since no structural features or other indications of the expected transitional point were found it is self evident that there was a discrepancy between the features as shown on Pickernell's map of 1841 (figure 5) showing the docks and the position of the evaluation trenches. The reason for this is that the map itself was pre-Ordnance Survey (OS) and there fore may have been less accurate than its OS equivalent and it had relatively few fixed features allowing for accurate positioning in relation to the modern map. The other possibility – that the trenches were not deep enough to penetrate to the pre-1860s dockside – is unlikely; trench 1 reached 2.24m AOD and trench 2 1.53m AOD, both likely to be below the level of the dockside.

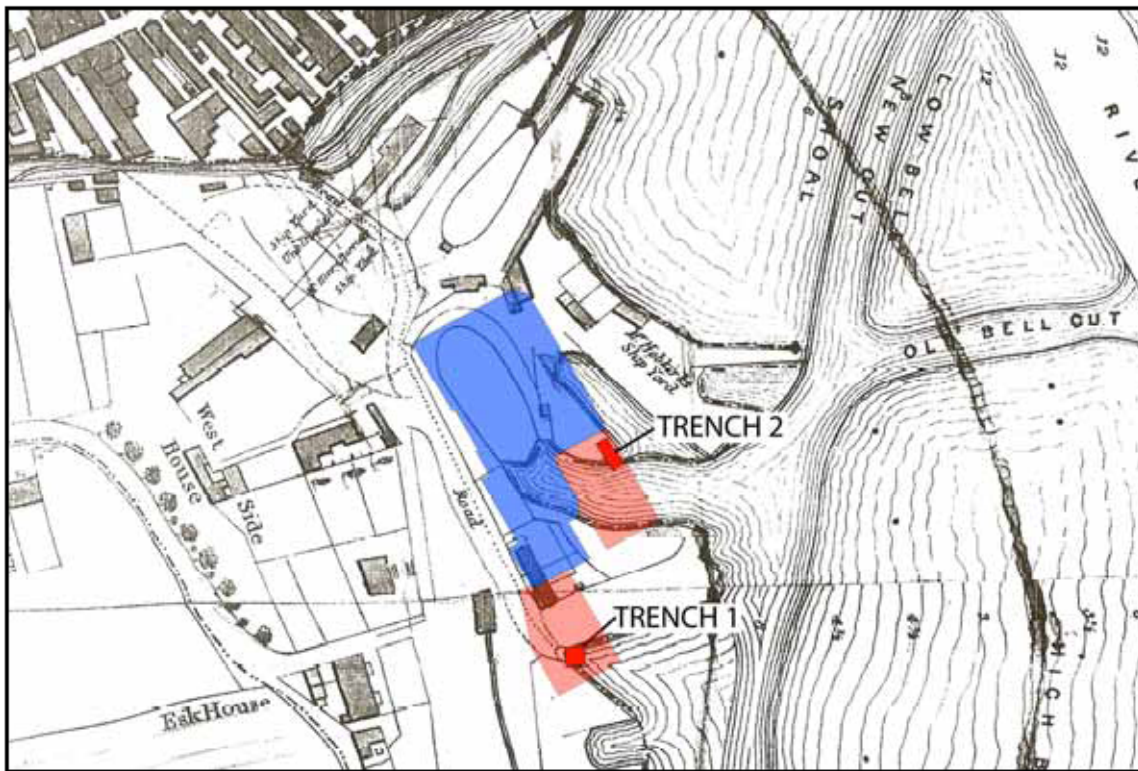


Figure 5. Pickernell's map of 1841 showing the docks with store (blue), proposed extensions (pink) and trenches (red)

Despite not spanning the edge of the dockside, it is possible to draw some initial conclusions about the trenches and whether they are within backfilled dock areas or on the dockside. Given our knowledge of the development of the area, in the case of both trenches a similar sequence of deposits might have been expected. Most recently we would have expected to find the surface of the present day car park and loading bay. Immediately below this would be surfaces/features associated with the railway sidings that stood here before the existing Co-op store was built. The sidings date back over a hundred years to the 1860s, so it is quite possible that a sequence of surfaces might have been found, all associated with the railway and the re-working of the sidings over time.

Below the railway deposits would have been deposits associated with the docks; either the dockside surfaces or the docks themselves, suitably backfilled. In practice, it is likely to be difficult to distinguish between the two (which is why the trenches were placed to try to encompass both). The docks will have been created by erecting reveting walls and backfilling the space behind with rubbish, dredged sand and silt or other fill material. The backfilling of the docks in advance of the construction of the railway sidings will have involved the deposition of similar material. Three things might distinguish the dockside deposits from the backfilled dock:

- 1) Artefacts of different dates, although this is not so clear cut as it might be. By examining maps from 1778, 1828 and 1841 it is clear that the dockside and the docks were re-configured frequently, possibly up until a few years before the railway sidings were built, so artefacts of very similar date might be found in both deposits. In addition the docks may have been filled using secondary material derived itself from the earlier deposits on the dockside.
- 2) Level surfaces and buildings would only be found on the dockside, not the backfilled dock.
- 3) The nature of the backfilling. The docks were backfilled swiftly to allow for the construction of the railway sidings and the nature of the deposits would reflect this. It is possible, although by no means certain, that the dockside would have been constructed more slowly, perhaps showing several phases of construction.

In both trench 1 and trench 2, it is relatively easy to identify the railway phase of the trenches. In the case of trench 1, deposits (1002) to (1004) appear to be railway related. All are rich in ash and cinder and have a pungent aroma of coal and oil. The two probable surfaces (1002) and (1004) are very hard and contain iron furnace waste. In the case of trench 2, layers (201) to (206) were clearly railway-related for much the same reasons as in trench 1.

The layers below the railway deposits were different in the two trenches. In trench 1, The various layers sloped gently to the south and included at least three possible successive floors – (1010), the earliest and most sloping made of crushed chalk and brick fragments, (1007), almost horizontal and also made of crushed chalk, and (1005), apparently level and containing demolition rubble. At the very base of the trench was a sloping deposit of clay (1012) that may have been the original river bank. It is quite likely that this sequence represented successive phases of dockside, indicating that trench 1 was on the dockside.

By contrast, most of the lower deposits in trench 2 slope dramatically down to the south, much more consistent with the backfilling of a dock. The sloping layers are capped by two deposits (208) and (207) that are nearly horizontal. These could be either railway related or dockside, but the latter is more likely. It is probable, but by no means certain, that trench 2 is located in a backfilled dock.

7.0 Conclusions.

It the case that neither trench, despite being located as well as possible according to the old maps available, spanned the dock and dockside. This evaluation was designed to assess the extent and nature of any timber or masonry remains relating to the former docks. Due to the problems of accuracy when using pre-Ordnance Survey mapping, it has not been possible to definitively answer these questions given the necessarily limited investigation possible in the course of archaeological evaluation by trial trenching.

Despite the limited results it has been possible to tentatively establish that trench 1 was wholly positioned over a dockside (while trench 2 lies wholly over a backfilled dock). The remains in trench 1 indicate that no building footings or other substantial structural remains exist in this part of the dockside, although it was possible to identify up to three phases of dockside surfaces. The lack of structural features may be because they never existed in this part of the dockside, or because they were removed during the course of the construction of the railway sidings. As trench 2 lies over a backfilled dock, no such remains would have been anticipated.

8.0 Appendix 1 ~ List of Contexts.

Context no.	Description	Thickness	Extent
<i>Trench 1</i>			
100	Existing concrete surface of loading area	0.20m max	Tr.
101	Crushed pale grey hardcore and damp proof membrane. Bedding of (100)	0.12m ave	Tr.
102	Mixed very dark grey gravel with organics and iron waste. Railway surface ?	0.20m ave	Tr.
103	Compact hardcore, 50mm diameter	0.30m max	Tr.
104	Very compact layer of gravel with ash, iron waste, and oil Railway surface ?	0.20m max	Tr.
105	Pale blue/green grey sandy clay with coarse gravel and crushed brick	0.12m ave	Tr.
106	Pale greenish grey silty clay with large fragments (70/80mm) of hardcore	0.25m max	Tr.
107	Crushed chalk hardcore with lenses of pale greenish grey brown silty clay, surface ?	0.18m max	Tr.
108	Firm coarse greenish grey sand with rare pebble, levelling deposit	0.28m max	Tr.
109	Firm reddish brown clay with occasional dark brown clay lenses and rare pebble, dredging ?	0.33m max	Tr.
110	Crushed chalk hardcore, working surface ?	0.12m	Tr.
111	Mixed coarse greenish grey silty gravel and fine pale blue ash, levelling ?	0.20m ave	Tr.
112	Firm reddish brown clay with lenses of dark brown clay, River bank ?	0.20m ave	Tr.
<i>Trench 2</i>			
200	Tarmac	60mm	Tr.
201	Sub base/blinding layer for tarmac	0.39m	Tr.
202	Compacted ash and clinker, coillery/foundry waste	0.15m	Tr.
203	Hard compacted surface of slag, brick and clinker	0.20m	Tr.
204	Ash and clinker with occasional brick fragments, foundry waste	0.19m	Tr.
205	Greyish brown coarse sand, probable blinding for (204)	50mm	Southern part of Tr.
206	Limestone and slag, foundation material of railway sidings	0.39m	Tr.
207	Mixed brown/greyish brown sand with dark grey silt and mortar. Probably the result of a number of tipping episodes	0.35m	Tr.
208	Very compact reddish brown clay with varying concentrations of mortar and brick fragments	0.15m	Tr.
209	Greyish brown silty clay with mixed occasional brick and ceramic	0.22m	Southern part of Tr.
210	Reddish brown variant of (209)	0.34m	Southern part of Tr.
211	Black ash	80mm	Southern part of Tr.
212	Greyish brown silty clay, tip layer	0.29m	
213	Thick layer of demolition rubble, tipped layer backfilling dock ?	0.45m	
214	Soft mid greenish grey clayey silt, tipped layer	0.20m	Northern end of Tr.
215	Pale grey grit and ash with moderate pebbles and sub rounded stones, tipped layer	0.10m	Northern end of Tr.
216	Loose pale greenish grey silty sand with frequent small sub rounded stones and pebbles, tipped layer	0.25m	Northern end of Tr.
217	Loose mixed dark greenish brown silty clay with frequent small sub rounded/sub angular stones and pebbles, tipped layer	0.25m	Northern end of Tr.
218	Soft very fine very dark brown silty sand, tipped layer	0.10m	Northern end of Tr.
219	Very pale greenish grey unconsolidated rubble, tipped layer	0.20m	Northern end of Tr.

9.0 Appendix 2 ~ Archive Index.

9.1 *Drawing Register.*

Drawing no.	Description	Scale	Initials	Date
1	Annotated site drawing showing monitored areas			03/0310

9.2 *Photographic Register.*

Frame no.	Description	View	Scale	Inits and date
1-17	General shots of trench 1	-	-	24.3.10
18-33	General shots of trench 2	-	-	25.3.10

10.0 Appendix 3 ~ The Plates.



Plate 1. General view of trench 2 showing its position in relation to the car park



Plate 2. Trench 1 looking southwest



Plate 3. Trench 1 looking east



Plate 4. Trench 2 looking northeast



Plate 5. Trench 2 looking southeast