

# **Waddell Street Outfall, Glasgow City: Archaeological Monitoring**

## **Data Structure Report**



by Diane Gorman

issued 6<sup>th</sup> March 2015

on behalf of Scottish Water

**RATHMELL**   
ARCHAEOLOGY LTD

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Date .....6<sup>th</sup> March 2015.....

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## Non-Technical Summary

1. This Data Structure Report presents the details of a programme of archaeological mitigation works carried out at Waddell Street, Glasgow. The works were carried out in support of construction works carried out at this location, and were designed to monitor excavation works for potential archaeological remains.
2. The works were carried out by Rathmell Archaeology Ltd for Scottish Water in response to the construction works. The archaeological works consisted of the monitoring of excavation works associated with the construction, in order to ascertain and identify potential significant archaeological remains in the area, or lack thereof.
3. The mitigation works exposed only areas which had been subject to previous relatively modern disturbance, indicative of previous edge protection works usually associated with such a location immediately adjacent to an urban centred river course. No evidence for significant archaeological remains were encountered during the course of the mitigation works. However, the potential for archaeological remains in the vicinity and at greater depth still remains.

## Introduction

4. This Data Structure Report has been prepared for Scottish Water in support of construction work on the banks of the River Clyde at Waddell Street, Glasgow City (14/01242/DC). The development work includes the formation of a new combined sewer overflow headwall. The supporting archaeological works were designed to mitigate any adverse impact on the archaeological remains within the development area.
5. Glasgow City Council required a programme of archaeological monitoring to be undertaken as an element of the granted planning consent. The West of Scotland Archaeology Service, who advise Glasgow City Council on archaeological matters has provided guidance on the structure of archaeological works required by the granted planning consent and the mitigation of the development works.
6. Rathmell Archaeology Limited was appointed by Scottish Water to undertake the development and implementation of archaeological mitigation works for the construction stage of the project. This Data Structure Report details the findings of the archaeological mitigation works.
7. The Written Scheme of Investigation (Matthews 2014) provided the detail of the works (archaeological monitoring, exclusion, excavation, post-excavation analyses and publication) for the mitigation pertaining to ground breaking within the development area and hence the direct physical impact on buried sediments.

## Archaeological and Historical Background

8. The Waddell Street Outfall will create a newly formed structure on the southern bank of the River Clyde. The location of this outfall is in close proximity to where, in 1880, a logboat was revealed when the level of the River Clyde was lowered by the removal of a weir (WoSAS Id 8765). The logboat, embedded in a clay layer on a small island, comprised a forward section and one side (7.3m in length and 1.1m in beam) (Figure 1a). The date of this logboat is unknown; the use of hollowed trunks as vessels originated in early prehistory but is known to have continued into at least the post-medieval period.
9. The immediately preceding 1<sup>st</sup> edition Ordnance Survey of the area (surveyed 1858, published 1865) shows a sort sediment bank edging the Clyde (Figure 1b). This suggests that the removal of the weir may have been linked to an armouring and formalisation of the bank in the late 19<sup>th</sup> century.
10. This is further supported by the appearance of apparent parallel lines of masonry on the 2<sup>nd</sup> edition Ordnance Survey of the area published in 1895 (Figure 2a), which also appears to show a formalised avenue of trees at the south edge of the bank, suggesting perhaps an attempt to landscape and formalise the area with a pathway.

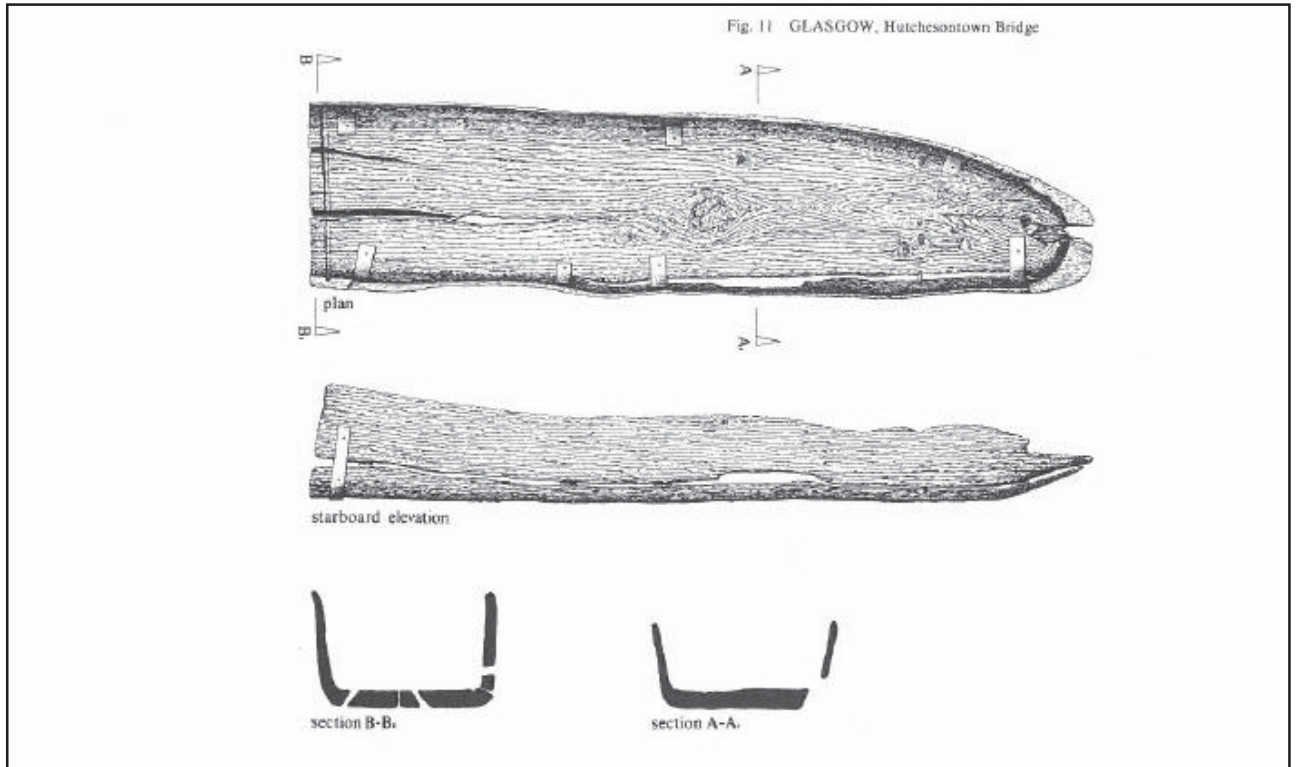


Figure 1a: Plan, elevation and sections of logboat (after Mowat 1996)

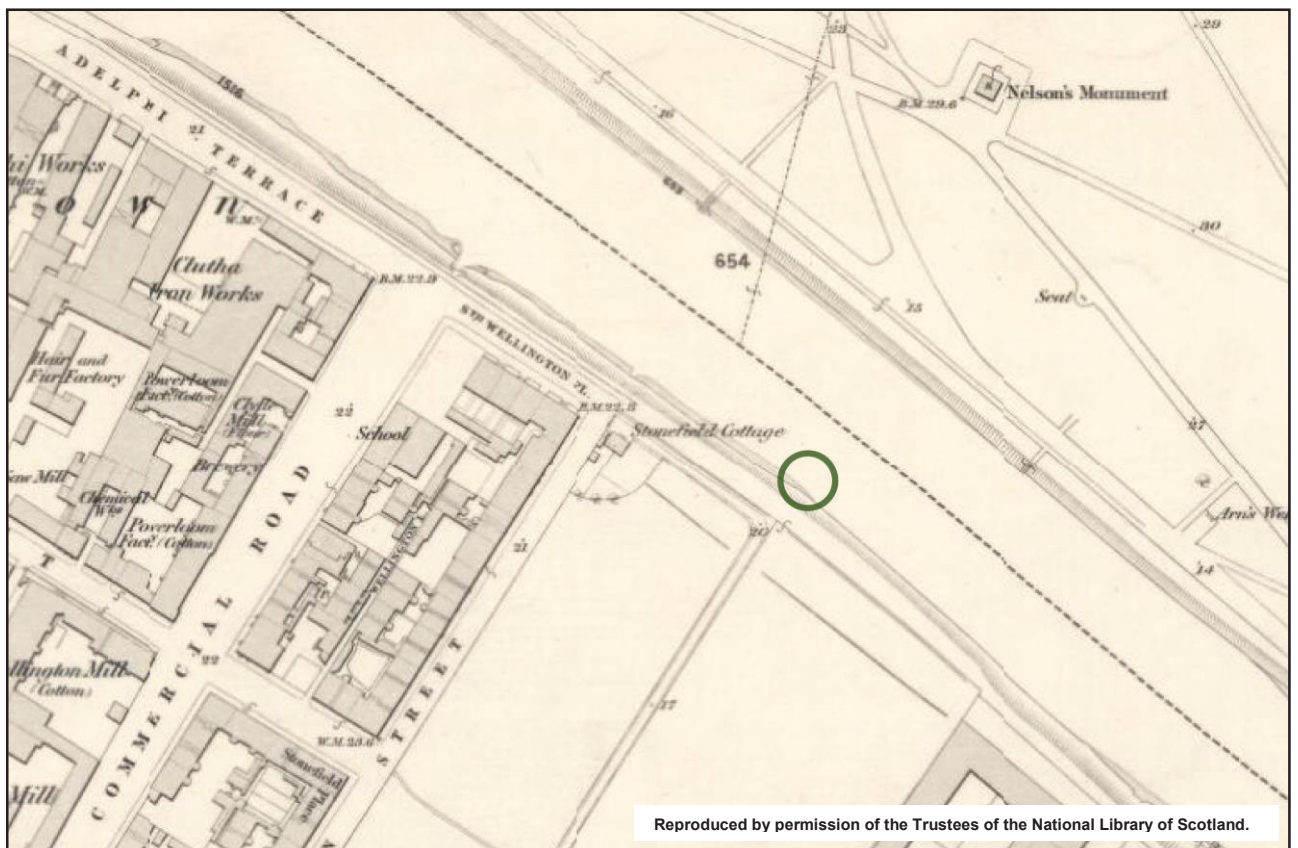


Figure 1b: Extract from the 1<sup>st</sup> edition Ordnance Survey, showing approximate location of outfall (1865)



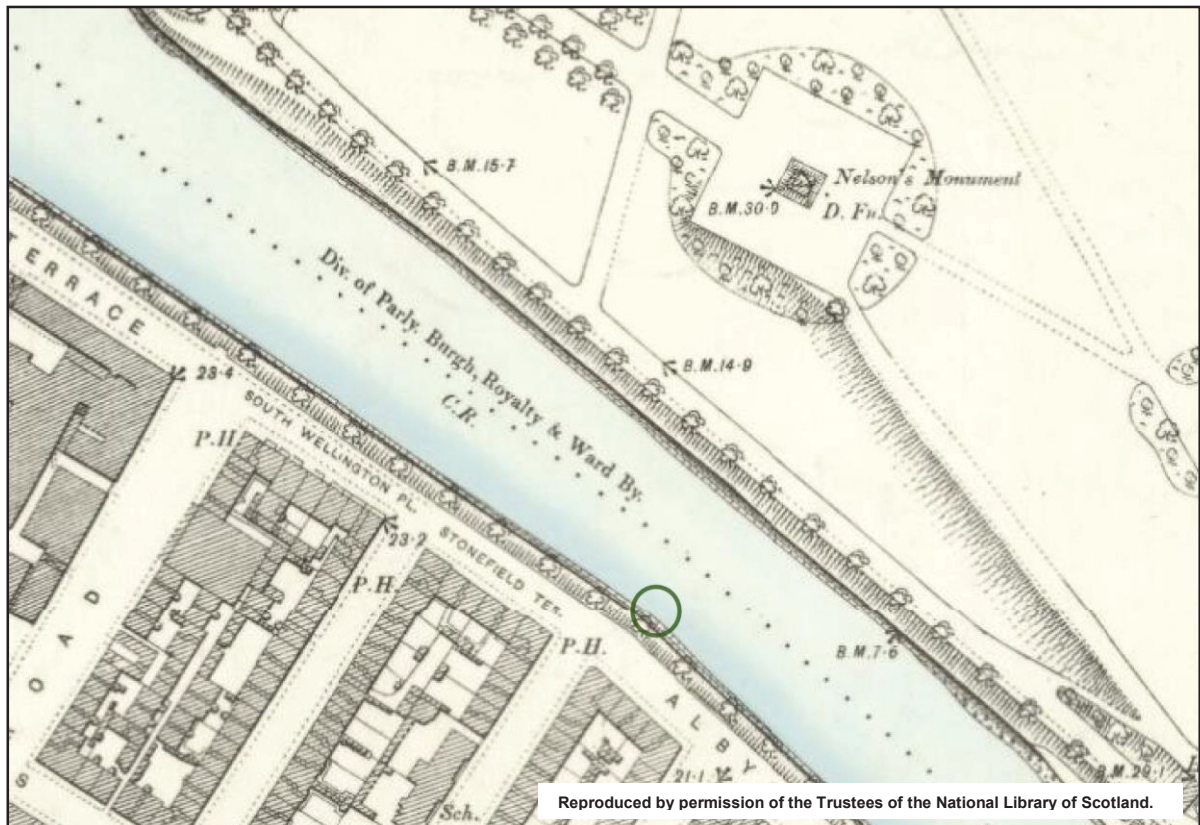


Figure 2a: Extract from the 2<sup>nd</sup> edition Ordnance Survey, showing approximate location of outfall (1895)

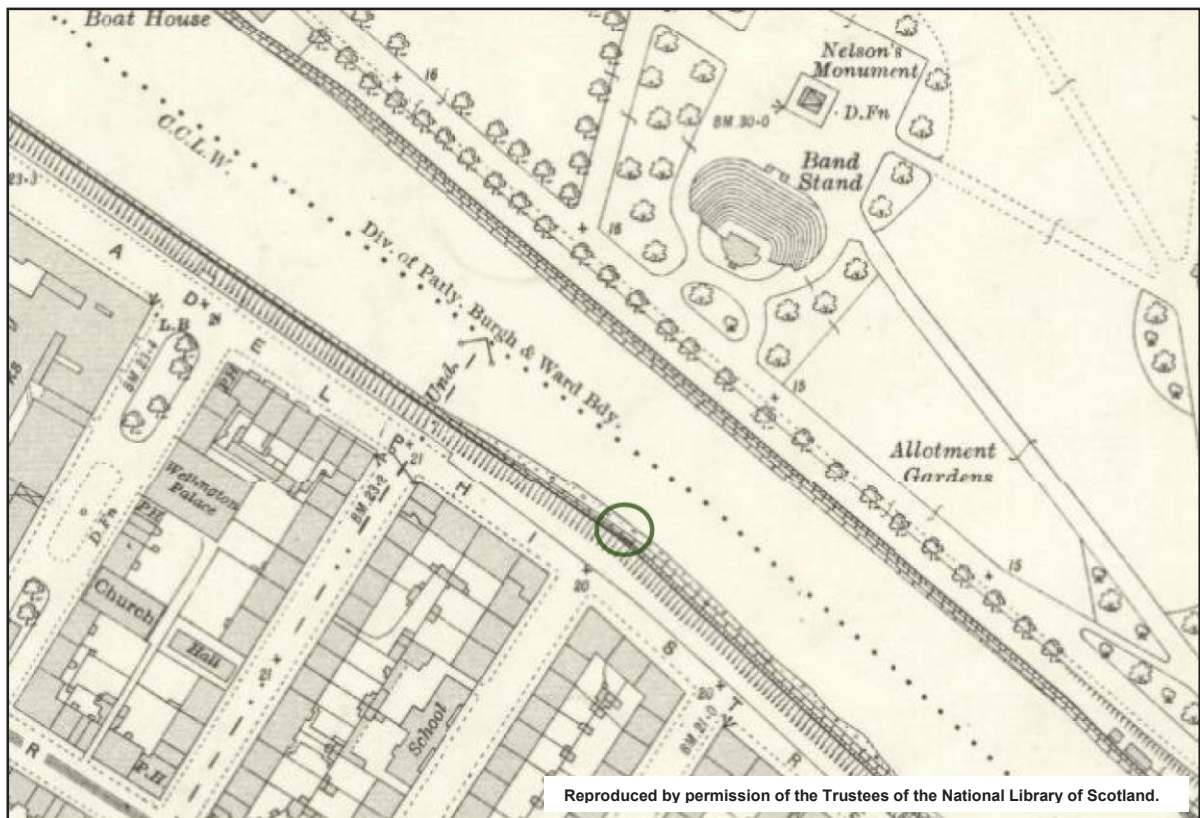


Figure 2b: Extract from the 4<sup>th</sup> edition Ordnance Survey, showing approximate location of outfall (1935)

11. The 4<sup>th</sup> edition Ordnance Survey, published in 1935, again shows a similar layout, minus the avenue of trees, with an area of pebbles depicted immediately adjacent to the water on the north side (Figure 2b).

## Project Works

12. The archaeological mitigation works took place over 5 non-consecutive days, between 18<sup>th</sup> February and 24<sup>th</sup> February 2015. The monitoring works took place within the Planning Application area, which sits within a wider area of permitted development (Figure 3). The works were carried out under the supervision of the on-site contractor, Farrens.
13. As has been alluded to previously (see *Introduction*), the mitigation works acted in support of the construction of a new combined sewer overflow headwall. Specifically, this involved the monitoring of the excavation of a coffer dam, located on the south bank of the River Clyde (Figure 4a). The coffer dam itself was located just to the north-west of the junction of Waddell Street and Adelphi Street.
14. The coffer dam was roughly triangular in plan, measuring approximately 7.5m by 7m by 3.5m (Figure 3) and was excavated to a final depth of 6.5m (measured from the top of the adjacent paving on the south side of the coffer dam). A linear trench was excavated at the northern side of the coffer dam, which measured 0.5m in width by 0.3m to 0.4m deep, and ran north-west to south-east across the width of the coffer dam. The nature of the works and their location on the river bank, necessitated the requirement for the full depth of the excavation to be monitored due to the potential for alluvial river deposition masking natural subsoil, and therefore also potential archaeological features and material.
15. The excavation works were carried out using a combination of a Komatsu PC340NLC-7 high reach demolition hydraulic excavator (tracked) and a 2.6 tonne (tracked) mechanical excavator.
16. All works were conducted in accordance with the Chartered Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Scotland Policy Statements.

## Findings

17. Monitoring of the excavation works exposed only evidence of relatively modern disturbance of the river bank. The upper levels of the excavation consisted of the removal of 3m of grey concrete aggregate (001), which had been previously laid by Farrens in order to provide a stable working platform for inserting the steel sheeting which forms the coffer dam. Context (001) had been laid over the existing sloping bank of the river (which sloped down from the south-west to the north-east), obscuring the majority of the natural slope until it was removed.
18. Removal of the concrete aggregate exposed a number of different deposits which contained material evidence indicative of modern disturbance; the nature of the material changed according to depth and location.
19. The uppermost deposits found within the bank area were (002), located at the south side of the coffer dam, and (003), which was found within the 1m to 1.5m stretch directly adjacent to the river, and lay stratigraphically below (002). Deposit (002) consisted of dark brown/black silt, with frequent roots, branches and modern detritus such as aluminium cans and plastics. Deposit (003) consisted of light grey/light brown silt, containing modern red brick, red brick fragments, wood detritus, plastics and branches. Deposit (002) appeared to represent the uppermost layers of landscaping/backfill deposits, while (003) appeared to be the uppermost layer of river sediments and dumped material normally associated with this type of location, immediately adjacent to a river within an urban centre. Deposit (003) had a maximum thickness of 0.1m, while (002) was 0.7m in thickness.
20. Excavation exposed a deposit of pottery (007) in the southern corner of the coffer dam, at 3m below the top of the pavement. This was overlain by deposit (002) at the north-east side, and was part of a sequence of deposits of red brick dust (012), and ash (013); the

pottery deposit (007) consisted of whole stoneware pottery and sherds.

21. Deposits (007), (012) and (013) appeared to be dumps of material relating to either the levelling of the road/pavement or the bank (Figure 4b). These deposits measured 1.4m wide (south-west to north-east) by 1.5m long (north-west to south-east) by 1.2m thick, and seemed to run from under the pavement; however this cannot be verified due to the sheet metal of the coffer dam obscuring any deposits below the road.
22. Underlying deposits (002), (003) and the sequence of deposits in the southern corner (007), (012) and (013)) were contexts (004), (005) and (006), found between 3.6m and 5.8m from the top of the pavement. Deposit (004) consisted of grey, small to medium angular stones and contained red brick fragments, modern white glaze pottery and modern salt-glazed heavy ceramic drain fragments. Context (005) consisted of a very dark grey/black silt, containing modern beer cans, red brick fragments and general modern detritus. Deposits (004) and (005) were found close to the water's edge, mainly below deposit (003), suggesting deposits associated with material dumped into the river.
23. It was context (006) which made up the majority of the material encountered during the excavation, accounting for approximately 5m across the area of the coffer dam interior from south-west to north-east. Deposit (006) consisted of a very dark grey clay, mixed with light to mid brown clay, and containing red brick fragments. It is possible this deposit was a deliberate levelling or backfill deposit, although the origin/location of the original sourced material is unclear. Of note is the presence of two red sandstone blocks which measured between 0.5m to 0.7m long by 0.25m to 0.35m wide and 0.25m to 0.3m in thickness. These looked to have been worked, but did not appear to be *in situ*, rather they were found loose within (006); it is possible they represent the presence of an earlier structure in the vicinity.
24. The lowest depths of the excavation were characterised by deposit (008), which consisted of a light brown/grey clay, encountered between 5.8m and the full depth of the excavation at 6.5m. This material contained frequent modern inclusions, in particular, red brick, concrete and tarmac/bitumen. A red brick wall [009] was found running from north-west to south-east across the width of the coffer dam, and the lowest depth of the excavation; the wall was visible running across the base of the excavation. Wall [009] measured 0.3m to 0.4m wide by approximately 7m long; the wall was mortar bonded, and was one to two skins wide by 6 courses high as remaining (Figure 5a).
25. The beginnings of a secondary structure [011] were noted at the northern end of this wall (Figure 5a). This had the appearance of the remains of a secondary red brick wall, orientated south-west to north-east, which appeared to sit at a 90° angle to [009]. This suggested a possible relationship, although due to the nature of the excavation this was obscured and thus cannot be proven. The remains of the possible secondary wall [011] were considerably shorter in length than [009], measuring only 0.5m to 0.6m in length; this possible wall also appeared to be mortar bonded, and as remained was two skins wide by 6 courses high.
26. A deposit of *in situ* tarmac or bitumen (010) was discovered adjacent to the north-east and eastern sides of [009] and [011]; this was also found at the base of the excavation at 6.5m to 6.8m below the top of the current pavement. This deposit was very compacted with small to medium sized angular stones inclusions, possibly indicative of rough tarmac. The extent of (010) measured between 5m to 7m long by 3.5m wide. The full depth of the deposit is uncertain; the smaller linear trench at the north-east side of the coffer dam (Figure 5b) mentioned previously (see *Project Works*) exposed a further 0.3m thickness of (010), meaning it was found at 6.8m below the top of the current pavement.



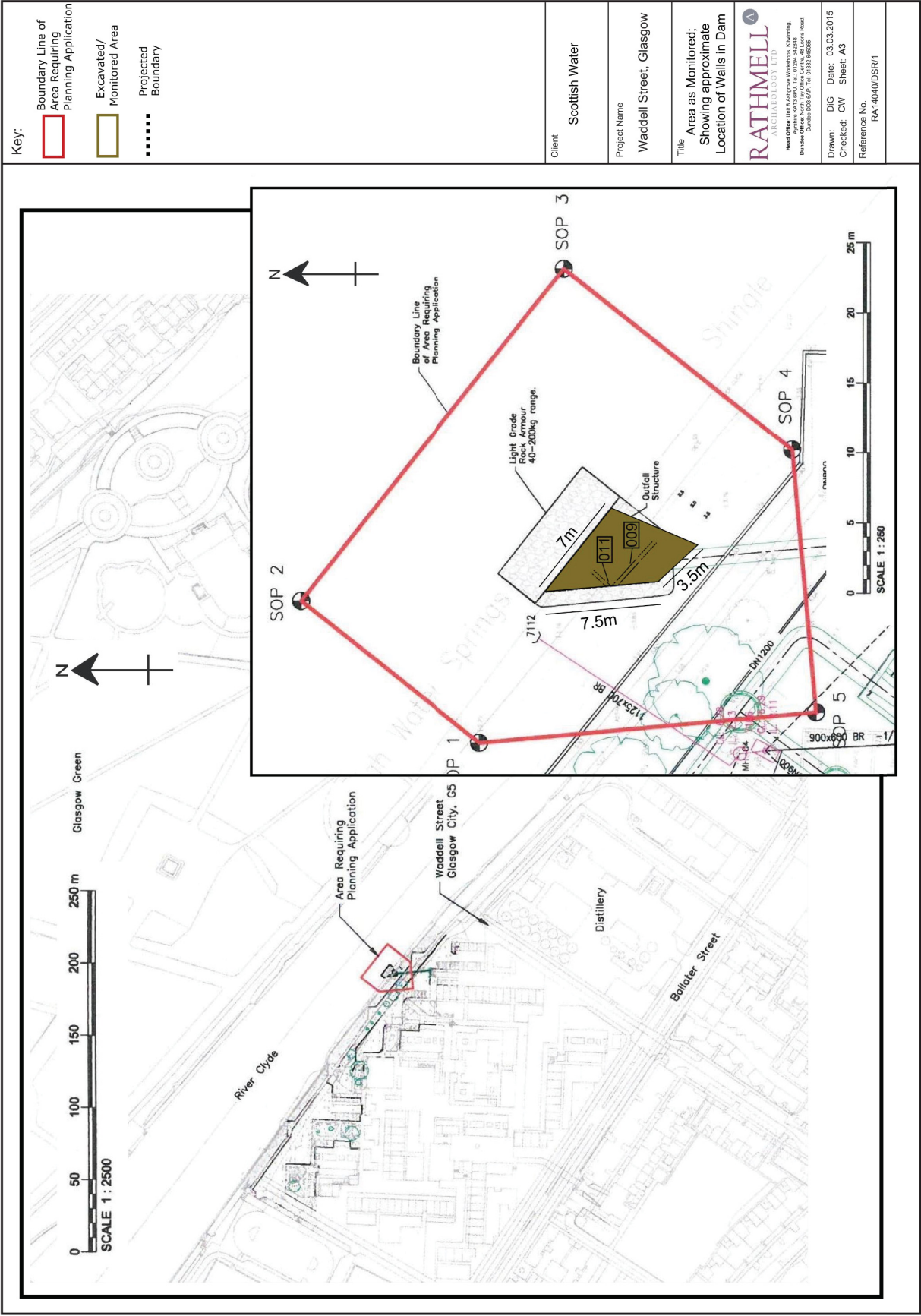


Figure 3: Site Plan

## Discussion

27. Monitoring works at Waddell Street, Glasgow showed only evidence of modern disturbance of the area. The final depth of the excavation was mostly 6.5m (measured from the top of the adjacent current pavement to the south), extending to 6.8m within the linear trench at the north-east side of the excavations. At this depth, modern material culture was still in evidence; in particular, the remains of a red brick wall, and the potential remains of a secondary adjacent red brick wall, as well as a deposit of tarmac/bitumen located to the north-east and east of the wall remains.
28. The origin of the wall, potential secondary wall and deposit of tarmac/bitumen remains uncertain. Consideration of the historical mapping of the area from 1858 to 1935 (Figures 1b, 2a and 2b) indicates only fairly straight lines of masonry running north-west to south-east, with no visible buildings or structures visible.
29. The walls and bitumen/tarmac deposit seem very likely to be the product of 20<sup>th</sup> century works in the area, relating to former edge protection along the river. It is possible the remains relate to the presence of an earlier river embankment, which has since been supplanted by more modern stylisation and formalisation of the area. The sort sediment bank shown edging the Clyde in the 1865 Ordnance Survey of the area (Figure 1b) suggests the build-up of sediment in this area may have been a continuing issue, and necessitated the need to armouring and formalisation of the bank on more than one occasion since the discovery of the logboat in 1880.
30. The pottery deposit (007) at the southern corner of the excavation consists of a stoneware type which can be roughly attributed to the late 19<sup>th</sup>/early 20<sup>th</sup> century. This deposit, as well as the red brick dust and ash deposits which were found, suggest either dumped material or deliberate levelling/make-up deposits. Monitoring of the excavation of the coffer dam revealed deposits which seem to be mostly dumped material and levelling/backfill deposits, which ranged in type and date.
31. The nature of the deposits are very likely due to the location of the site within a central, urban area, immediately adjacent to a centralised body of water such as the Clyde. The impressive engineering works which have taken place to formalise the Clyde over the years has led to the remains of construction deposits, as well as the dumped waste deposits which are to be expected from a centralised river within a large city.
32. However, the build-up of such deposits, located at a depth of 6.5m from the current occupation layer to the south, suggests that natural subsoil could still exist at a greater depth within the area, and so the potential for significant archaeological remains and artefacts within the area cannot be ruled out.

## Conclusion

33. A programme of archaeological works was required by Scottish Water in support of construction works which took place at Waddell Street, Glasgow City. The archaeological works were designed to mitigate the impact on the archaeological remains within the development area.
34. The mitigation works consisted of an archaeological watching brief during the excavations for a new coffer dam, during which, no significant archaeological features were discovered. The discovery of one, possibly two, red brick walls and a deposit of *in situ* bitumen/tarmac at the base of the excavations at 6.5m to 6.8m below the adjacent pavement level demonstrates the high levels of modern intrusive works in the area, and the deep levels of detritus, dumped material, and modern man-made deposits present. It is possible that the original natural subsoil was removed in the area in order to achieve the desired outcome with regards to the engineering works; however, it is equally possible that the modern deposits and structures found during the excavations represent a build-up of material, which exist overlying the natural subsoil, and which could therefore obscure earlier levels of archaeological material, artefacts and deposits. While no significant archaeological material was encountered during the excavations, the potential for significant material in this area remains.

## Acknowledgements

35. The author would like to thank the West of Scotland Archaeology Service who gave support and guidance for these archaeological works. Thanks are also due to the Farrens staff, who helped with photography in difficult circumstances, and to my colleagues Liam McKinstry for his help with the appendices and conclusion of on-site works, and to Claire Williamson for her help with editing this report.





Figure 4a: General shot, exterior coffer dam from the south-east



Figure 4b: North-west facing section, showing pottery deposit (007)





Figure 5a: Shot of [009] to left and [011] to right, from the north-east



Figure 5b: Trench at north-east side of coffer dam, showing deposit (010), from the south-west

## References

### *Documentary*

Matthews, A	2014	<i>Waddell Street Outfall, Glasgow City: Archaeological Mitigation Written Scheme of Investigation</i> , unpublished commercial report by Rathmell Archaeology Ltd
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### *Images*

Mowat, RJC	1996	'Plan, profile and sections of Rutherglen Bridge and Hutchestown Bridge logboats', drawn for publication in RJC Mowat (1996), <i>Logboats of Scotland</i> (p. 39, fig. 11) SC352845 Copyright RCAHMS
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### *Cartographic*

Ordnance Survey	1865	<i>25-inch 1<sup>st</sup> Edition 1855-1882 Ordnance Survey Lanark Sheet VI.15</i> (Surveyed 1858, Published 1865)
Ordnance Survey	1895	<i>25-inch 2<sup>nd</sup> Edition Ordnance Survey Lanarkshire 006.15</i> (Published 1895, Revised ca. 1892, 1893, 1894)
Ordnance Survey	1935	<i>25-inch 4<sup>th</sup> Edition Ordnance Survey Lanarkshire 006.15</i> (Published 1935, Revised ca. 1934)

## Appendix 1: Registers

Within this appendix are all registers pertaining to works on-site during the watching brief.

### Context Register

Context No.	Area	Type	Description	Interpretation
001	-	Deposit	Small to medium sized angular grey stones within coarse sand matrix. Deposit measured 3.0m maximum thickness. Upper deposit of coffer dam excavation.	Concrete aggregate deposit.
002	-	Deposit	Dark brown/black silt, with frequent rootlets, roots, branches and modern material (aluminium cans, plastic material etc). Measured 0.7m thickness. Immediately below (001) at south side of coffer dam.	Topsoil deposit, possibly resulting from landscaping of the bank.
003	-	Deposit	Light grey/light brown silt, containing modern red brick fragments, wooden detritus, plastics and branches. Maximum 0.1m thickness. Found adjacent to river at eastern side of coffer dam.	Uppermost strata of river silt deposits.
004	-	Deposit	Small to medium sized grey angular stones within silt matrix. Frequent inclusions of red brick and red brick fragments, modern white-glazed pottery and salt-glazed heavy ceramic drain fragments, and other modern detritus (plastics, aluminium cans etc). Mainly found below deposit (003) at east side of coffer dam, partially below deposit (002). Measured 0.3m thickness.	Deposit of dumped material, most likely associated with dumping of material into the river.
005	-	Deposit	Very dark grey/black silt containing red brick and red brick fragments, aluminium/steel cans and general modern detritus. Deposit measured maximum 1m thick, varied dependent on location. Deepest at north-east end of coffer dam. Mainly found below deposit (004) at east side of coffer dam; partially below deposit (002).	Layer of silt/industrial waste, associated with dumping of material into the river.
006	-	Deposit	Very dark grey clay mixed with light brown/mid brown clay, containing red brick fragment inclusions. This deposit made up the majority of material encountered during the excavation, accounting for approximately 5m across the area of the coffer dam interior from south-west to north-east. Two possibly worked red sandstone blocks were found within this deposit. Overall thickness of deposit is uncertain, but between 1 to 1.3m thick.	Possible deliberate levelling/backfill deposit.
007	-	Deposit	Deposit of stoneware pottery; complete vessels and sherds, located within southern corner of coffer dam. Found at 3m below the top of the pavement. Overlain by deposit (002) at north-east side, part of a sequence of deposits of (012) and (013). Pottery deposit measured 0.15m to 0.2m thick; sequence of deposits measured 1.4m wide	Dump of material relating to either the levelling of the road/pavement or the bank.

Context No.	Area	Type	Description	Interpretation
			(south-west to north-east) by 1.5m long (north-west to south-east) by 1.2m thick, and seemed to run from under the pavement.	
008	-	Deposit	Light brown/light grey clay, encountered between 5.8m and 6.5m below the top of the current pavement level. Contained frequent modern inclusions such as red brick and red brick fragments, concrete pieces and tarmac/bitumen pieces. Red brick wall [009] and possible red brick wall [011] was found within this deposit at the base of the excavation, and the bitumen/tarmac deposit (010) was found just below/adjacent to this deposit. This deposit measured 0.7m thick as excavated.	Probably backfill/levelling deposit, possibly consisting of clay material original to the area, although this cannot be confirmed.
009	-	Deposit	Orientated north-west to south-east across width of coffer dam at lowest depth of excavation (6.5m below the top of the pavement). Measured 0.3m to 0.4m wide by approximately 7m long; mortar bonded, 1 – 2 skins wide by 6 courses high. Base of wall sits at 6.5m below top of pavement.	Probable product of 20 <sup>th</sup> century works in the area; possibly relating to former edge protection/river embankment.
010	-	Deposit	Dark grey/black, very compact surface with frequent small to large stone inclusions. Found adjacent to the north/north-east sides of [009] and [011]. Found at the base of the excavation between 6.5m to 6.8m below the top of the current pavement. Exposed within linear trench at north-east side of coffer dam. Measured 5m to 7m long by 3.5m wide by 0.3m thick as excavated.	Probably bitumen surface, resulting from probable 20 <sup>th</sup> century works in the area; possibly relating to former edge protection/river embankment.
011	-	Deposit	Located at the north end of red brick wall [009], at lowest depth of excavation of coffer dam (6.5m below the top of the current pavement level). Orientated south-west to north-east, angled at 90° to red brick wall [009]. Possible relationship to [009], although the relationship was obscured due to nature of excavation, so this cannot be proven. Measured 0.5m to 0.6m long by 0.3m wide; 2 skins wide by 6 courses high, looks to be mortar bonded. Base of wall sits at 6.5m below top of pavement.	Beginnings of a secondary structure at north end of [009], possible remains of red brick wall, associated with [011]. Possible product of 20 <sup>th</sup> century works in the area; possibly relating to former edge protection/river embankment.
012	-	Deposit	Deposit of red brick dust, located within southern corner of coffer dam. Found at 3m below the top of the pavement. Overlain by deposit (002) at north-east side, part of a sequence of deposits of (007) and (013). In total, the sequence of deposits measured 1.4m wide (south-west to north-east) by 1.5m long (north-west to south-east) by 1.2m thick, and seemed to run from under the pavement. The layer of red brick dust appears more than once within the sequence of deposits, varying from 0.1m to 0.2m thick.	Dump of material relating to either the levelling of the road/pavement or the bank.
013	-	Deposit	Deposit of ash, located within southern corner of coffer dam. Found at 3m below the top of the pavement. Overlain by deposit (002) at north-east side, part of a sequence	Dump of material relating to either the levelling of the road/pavement or



Context No.	Area	Type	Description	Interpretation
			of deposits of (007) and (012). In total, the sequence of deposits measured 1.4m wide (south-west to north-east) by 1.5m long (north-west to south-east) by 1.2m thick, and seemed to run from under the pavement. The layer of ash appears only once within the sequence of deposits and is less than 0.1m thick.	the bank.

### Photographic Register

Image No.	Digital No.	Description	From	Date
001	001	General/Location shot.	SE	18/02/15
002	002	General shot; Farrens site compound.	SW	18/02/15
003	003	Location shot	SE	18/02/15
004	004	General shot; Farrens site compound.	N	18/02/15
005	005	Shot of people's palace, across river.	SW	18/02/15
006	006	General site view.	SE	18/02/15
007	007	Working shot (installation of sheeting for coffer dam)	SE	18/02/15
008	008	As above	SSE	18/02/15
009	009	As above	SE	18/02/15
010	010	As above	SE	18/02/15
011	011	Shot of interior of the cofferdam, and original ground level.	SE	18/02/15
012	012	As above	SE	18/02/15
013	013	As above	SE	18/02/15
014	014	Shot of exterior of the cofferdam.	SE	18/02/15
015	015	As above	SE	18/02/15

Image No.	Digital No.	Description	From	Date
016	016	As above	S	18/02/15
017	017	Through type 1 and into topsoil (002).	WNW	18/02/15
018	018	Branch within topsoil (002).	WNW	18/02/15
019	019	Showing type 1 gravel (001) over deposit (002).	WNW	18/02/15
020	020	As above	WNW	18/02/15
021	021	Yellow peg to left of photo is Michael's survey point.	SW	18/02/15
022	022	General shot of cofferdam exterior.	SSE	19/02/15
023	023	As above	SE	19/02/15
024	024	Cofferdam interior. Thursday morning – as found.	SW	19/02/15
025	025	As above	SW	19/02/15
026	026	As above	SW	19/02/15
027	027	As above	SW	19/02/15
028	028	Digging of sump in northern corner by mini-digger.	SW	19/02/15
029	029	As above	SW	19/02/15
030	030	Excavation of sump, 3m deep	NW	19/02/15
031	031	General shot; coffer dam filling with water.	SW	19/02/15
032	032	As above	SW	19/02/15
033	033	As above	SW	19/02/15
034	034	As above	SW	19/02/15
035	035	Shot showing extent and nature of waterlogging within coffer dam and sediments.	S	19/02/15
036	036	As above.	S	19/02/15
037	037	Shot of people's palace across river.	SW	19/02/15

Image No.	Digital No.	Description	From	Date
038	038	Nelson's monument, directly across river from coffer dam.	SSW	19/02/15
039	039	General setup of cofferdam and pavement.	SW	19/02/15
040	040	As above, showing platform.	NW	19/02/15
041	041	Chunk of concrete found at 3.5m from pavement level.	-	19/02/15
042	042	As above.	-	19/02/15
043	043	General view of cofferdam.	NW	19/02/15
044	044	As above, showing platform.	NW	19/02/15
045	045	Shot of sump in northern corner, excavation at north-east side of coffer dam, and deposits (004) and (005).	NW	19/02/15
046	046	As above.	NW	19/02/15
047	047	As above.	NW	19/02/15
048	048	River levels against cofferdam.	NW	19/02/15
049	049	General level of excavation for 1 <sup>st</sup> frame.	NW	19/02/15
050	050	As above.	NW	19/02/15
051	051	Level of excavation start 20/02/15.	W	20/02/15
052	052	Pottery deposit (007), red brick dust deposit (012) and ash deposit (013) at southern corner of coffer dam excavation (also showing NW facing section).	NW	20/02/15
053	053	Pottery deposit (007), red brick dust deposit (012) and ash deposit (013) at southern corner of coffer dam excavation (also showing NW facing section).	NW	20/02/15
054	054	NW facing section of coffer dam showing sequence of deposits (007), (012) and (013) to right of photo in south corner of coffer dam; section shows deposit (002) at top and (006) below.	NW	20/02/15
055	055	Excavation below backfill (006); shows lower deposit (008).	W	20/02/15
056	056	As above	W	20/02/15
057	057	Pottery deposit (007), red brick dust deposit (012) and ash deposit (013) at southern corner of coffer	NW	20/02/15

Image No.	Digital No.	Description	From	Date
		dam excavation (also showing NW facing section).		
058	058	As above, zoomed in, showing red brick fragment within deposit (006).	NW	20/02/15
059	059	As above	NW	20/02/15
060	060	Showing deposit (008), below deposit (006).	NW	20/02/15
061	061	As above, showing red brick fragment within deposit (008).	W	20/02/15
062	062	Mini-digger.	SE	24/02/15
063	063	360 degrees excavator.	SE	24/02/15
064	064	General view across the river.	SW	24/02/15
065	065	Excavation channel at NE side.	SW	24/02/15
066	066	Excavation channel at NE and E side.	SW	24/02/15
067	067	As above	SW	24/02/15
068	068	As above	SW	24/02/15
069	069	As above	SW	24/02/15
070	070	Excavation channel at NE and E side. Showing red brick fragment within deposit (008).	SW	24/02/15
071	071	General view of waterlogged excavation.	SSW	24/02/15
072	072	As above	SSW	24/02/15
073	073	As above	S	24/02/15
074	074	General view of waterlogged excavation at 5.5m to 0.6m below the top of the pavement.	S	24/02/15
075	075	Wall found in section (bad shot)	S	24/02/15
076	076	Red brick wall [009] to left of photo and possible red brick wall remains [011] to right of photo, found within NE facing section of deposit (008) (base of walls sit at 6.5m down from top of pavement).	NE	24/02/15
077	077	Red brick wall [009] NE facing elevation.	NE	24/02/15
078	078	Remains of possible wall [011] found within NE facing section of deposit (008); showing cross-section of	SE	24/02/15



Image No.	Digital No.	Description	From	Date
		[011].		
079	079	General working shot.	NE	24/02/15
080	080	General shot showing location of wall [009] below barrel.	S	24/02/15
081	081	General shot, showing proximity of wall [009] to pavement (below barrel)	SE	24/02/15
082	082	General shot showing water level against coffer dam	SW	24/02/15
083	083	As above	SW	24/02/15
084	084	Wall [009] in base of excavation, at 6.5m below top of pavement.	S	24/02/15
085	085	As above	SW	24/02/15
086	086	As above	S	24/02/15
087	087	As above	S	24/02/15
088	088	General shot of works within coffer dam	S	25/02/15
089	089	General shot of river	S	25/02/15
090	090	Working shot	S	25/02/15
091	091	View of wall [009] in base of coffer dam excavation (6.5m below top of pavement)	S	25/02/15
092	092	Working shot, showing tarmac/bitumen layer (010) at north-east side of coffer dam	SSE	25/02/15
093	093	As above	SSE	25/02/15
094	094	General shot of river	S	25/02/15
095	095	As above	SSE	25/02/15
096	096	View of exposed tarmac/bitumen layer (010)	SSW	25/02/15
097	097	As above	SSW	25/02/15
098	098	As above	SSW	25/02/15
099	099	Working shot, showing removal of last area of sediment to be removed	SSW	25/02/15
100	100	As above	SSW	25/02/15

Image No.	Digital No.	Description	From	Date
101	101	Shot of wall [009] and SW corner of excavation	SW	25/02/15
102	102	Working shot, showing removal of last area of sediment to be removed	SE	25/02/15
103	103	Layer of hardcore application	S	25/02/15
104	104	As above	SW	25/02/15
105	105	Excavation of linear trench at north-east side of coffer dam, showing continuation of deposit (010)	SW	25/02/15
106	106	As above	SW	25/02/15
107	107	Excavation of linear trench at north-east side of coffer dam, showing continuation of deposit (010)	SW	25/02/15
108	108	As above	SW	25/02/15
109	109	As above	SW	25/02/15
110	110	As above	SW	25/02/15
111	111	View of SSW facing trench/section through tarmac/bitumen layer (010)	SSW	25/02/15

### *Finds Register*

Find No.	Area/Trench	Context no.	Material Type	Description	Excavator	Date
001	-	004	Ceramic	2 x modern pottery sherds	DiG	19/2/15
002	-	007	Ceramic	1 x complete modern pot; 1 x modern pottery sherd	DiG	20/2/15

## Appendix 2: Discovery & Excavation in Scotland

<b>LOCAL AUTHORITY:</b>	Glasgow City Council
<b>PROJECT TITLE/SITE NAME:</b>	Waddell Street, Glasgow
<b>PROJECT CODE:</b>	RA14040
<b>PARISH:</b>	Glasgow (City of Glasgow)
<b>NAME OF CONTRIBUTOR:</b>	Diane Gorman
<b>NAME OF ORGANISATION:</b>	Rathmell Archaeology Limited
<b>TYPE(S) OF PROJECT:</b>	Watching brief
<b>NMRS NO(S):</b>	NS66SW 9
<b>SITE/MONUMENT TYPE(S):</b>	CANOE 8765
<b>SIGNIFICANT FINDS:</b>	-
<b>NGR</b> (2 letters, 8 or 10 figures)	NS 5973 6416
<b>START DATE</b> (this season)	18 <sup>th</sup> February 2015
<b>END DATE</b> (this season)	24 <sup>th</sup> February 2015
<b>PREVIOUS WORK</b> (incl. <i>DES</i> ref.)	None
<b>MAIN (NARRATIVE) DESCRIPTION:</b> (may include information from other fields)	<p>An archaeological watching brief was undertaken in support of construction works on the banks of the River Clyde at Waddell Street, Glasgow. The development work includes the formation of a new combined sewer overflow headwall. The archaeological mitigation was designed to mitigate any adverse impact on the archaeological remains within the development area. The works were carried out on behalf of Scottish Water.</p> <p>The Waddell Street outfall included the installation of a coffer dam, the excavation of which was monitored by Rathmell Archaeology Ltd. The coffer dam was installed immediately south of the River Clyde, located on the southern bank of the river. The full depth of the excavation was monitored, which ranged to between 6.5m and 6.8m below the top of the adjacent pavement.</p> <p>No significant archaeological features, deposits or artefacts were uncovered during the monitoring of these excavations; natural subsoil was not reached. The full depth of 6.5m to 6.8m exposed only evidence of relatively modern disturbance, ranging in date from 20<sup>th</sup> century till present. At 6.5m to 6.8m the excavation revealed a red brick wall, and a potential possible secondary wall, in addition to a deposit of tarmac/bitumen.</p> <p>It is possible these deposits are the result of a build-up of deposits over natural subsoil which exists at a greater depth; it is also possible the extensive engineering works in the area have removed natural subsoil, and the build-up of modern deposits are all that remains. The possibility of significant archaeological features, deposits and artefacts in the area remains.</p>
<b>PROPOSED FUTURE WORK:</b>	None
<b>CAPTION(S) FOR ILLUSTRS:</b>	None

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<b>SPONSOR OR FUNDING BODY:</b>	Scottish Water
<b>ADDRESS OF MAIN CONTRIBUTOR:</b>	Unit 8 Ashgrove Workshops, Kilwinning, Ayrshire. KA13 6PU
<b>E MAIL:</b>	contact@rathmell-arch.co.uk
<b>ARCHIVE LOCATION</b> (intended/deposited)	Report to WoSAS and archive to RCAHMS Collections



## Contact Details

37. Rathmell Archaeology can be contacted at our Registered Office or through the web:  
Rathmell Archaeology Ltd [www.rathmell-arch.co.uk](http://www.rathmell-arch.co.uk)  
Unit 8 Ashgrove Workshops  
Kilwinning t.: 01294 542848  
Ayrshire f.: 01294 542849  
KA13 6PU e.: [contact@rathmell-arch.co.uk](mailto:contact@rathmell-arch.co.uk)
38. The West of Scotland Archaeology Service can be contacted at their office or through the web:  
West of Scotland Archaeology Service [www.wosas.org.uk](http://www.wosas.org.uk)  
231 George Street t.: 0141 287 8330  
Glasgow e.: [enquiries@wosas.glasgow.gov.uk](mailto:enquiries@wosas.glasgow.gov.uk)  
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