

**Stronmilchan Mains Rehabilitation,
Argyll & Bute:
Archaeological Watching Brief**

Data Structure Report



by Sarah Krischer

issued 29th September 2017

on behalf of Scottish Water Specialist Services


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Quality Assurance

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Signed  Date29th September 2017.....

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Checked  Date29th September 2017.....

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Introduction

1. This Data Structure Report has been prepared on behalf of Scottish Water Specialist Services to report on archaeological works undertaken in support of a pipeline running along the B8077 to the northwest of Stronmilchan. These archaeological works were designed to mitigate any adverse impact on the archaeological remains within the development area from the work.
2. The works were being carried out by Scottish Water Specialist Services as a Permitted Development. Scottish Water, in recognising the archaeological potential within the development area, required archaeological attendance during the site works on a precautionary basis. The West of Scotland Archaeology Service, which advises Argyll & Bute Council on archaeological matters, provided guidance on the structure of archaeological works appropriate on this site. Rathmell Archaeology Ltd has been appointed by Scottish Water to undertake the development and implementation of archaeological mitigation works.
3. The archaeological works were designed to mitigate any adverse impact on any archaeological remains within the development area. Works were carried on the 20th of September 2017

Historical and Archaeological Background

4. The development area follows the line of the 18th century military road between Dalmally and Bonawe. This road was constructed by General Caulfeild between 1750 and 1754 to connect the blast furnace at Bonawe with the Inveraray to Tyndrum road, then also under construction (Taylor, 1996). Work in 2000 to the east of the development area on the B8077 near Strae Bridge (NN 145 294 and NN 146 293) revealed the surface of this road (Bowler, 2000). It is therefore a distinct possibility that the 18th century road surface may have survived to some degree within the development area. Roy's Military Survey of 1752-55 (Figure 1a) shows the road crossing Allt Mhoille with no bridge. This would suggest that the road may have followed a slightly different line across the river than that taken by the bridge of the modern B8077.
5. A review of the historical mapping reveals that the development area has been dominated by agriculture and has remained largely unchanged. Roy's Military Survey (Figure 1a) shows the road surrounded by open country. The field boundaries seen on both the 1st and 2nd edition of the ordinance survey, surveyed in 1870 and 1897 respectively (Figures 1b and c) are consistent with the present day implying that there has been no change away from agricultural use during this time. The 1st Edition Ordinance Survey map appears to show the road crossing the Allt Mhoille at a bridge, suggesting that the line of the road had moved slightly north to its current location between the 1750s and 1870. By the 2nd edition of Ordinance Survey the bridge can be clearly identified, so the road has definitely moved by this point.
6. At the point where the pipe track crosses the B8077 a track leaves the road heading north towards the former site of Glen Strae castle and farm. The castle was destroyed in 1611 (RCHAMS 1975) and as such this track and site have little relevance to the establishment of the military road.

Project Works

7. The program of works comprised the archaeological monitoring of groundbreaking works within the section of the pipeline route at the crossing point of the Allt Mhoille. This comprised an area to the immediate east and west of the river which fell at the western end of the pipe route. The mains rehabilitation had primarily been done by pipe bursting, however open trenching was required in this section as the new pipe followed a different line across the Allt Mhoille than previously taken.
8. The groundbreaking works consisted of opening a trench of between 0.9m and 1.7m deep in order to lay the pipe. The works were undertaken using a 360° tracked excavator with a 0.5m wide smooth ditching bucket and took place on the 20th of September 2017.

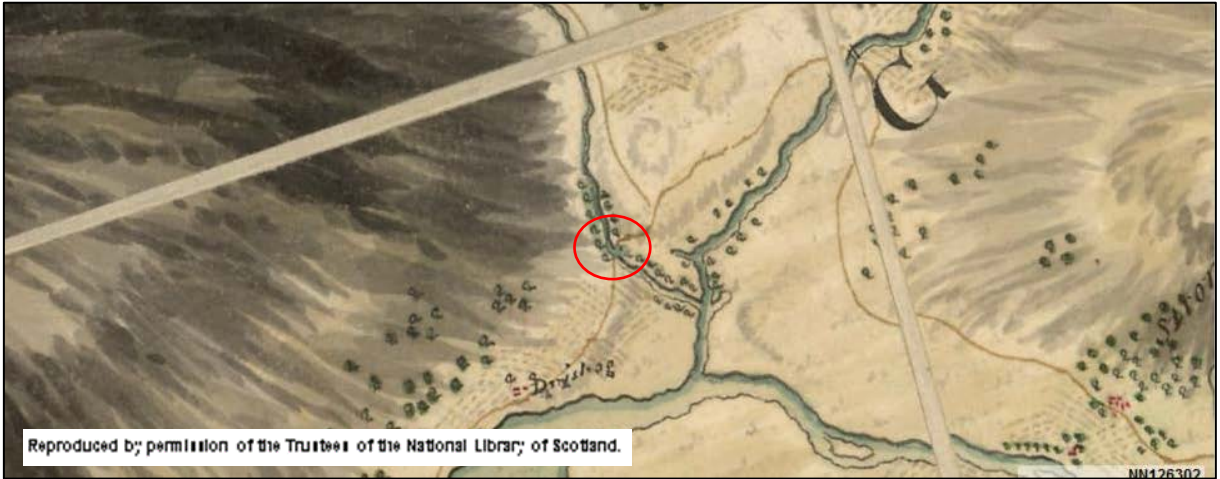


Figure 1a: Extract from Roy's Military Survey 1752-55

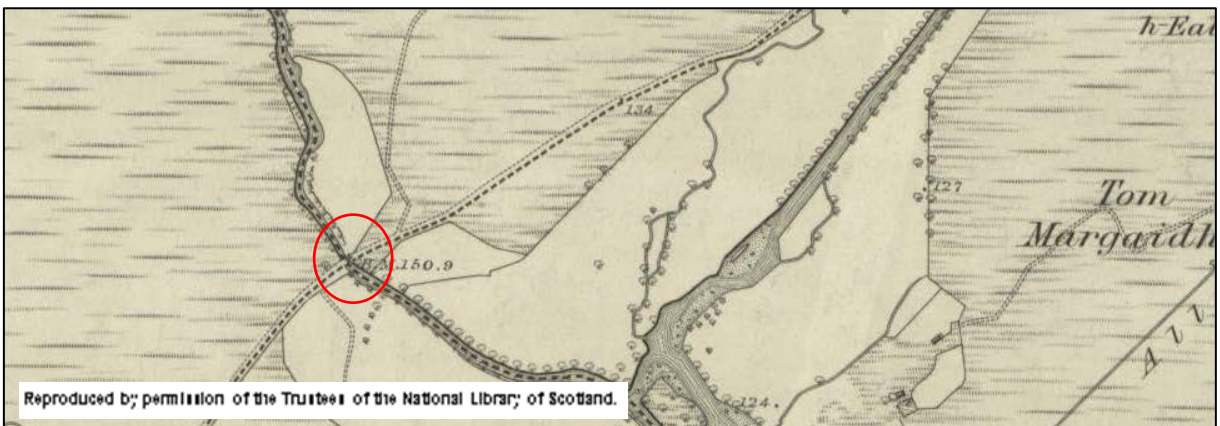


Figure 1b: 1st edition Ordnance Survey, 6 inch.



Figure 1c: 2nd edition Ordnance Survey, 6 inch

Findings

9. Two areas were monitored during the archaeological watching brief. These were the sections of pipe trench to the northeast and southwest of the Allt Mhoille.
10. To the northeast of the Allt Mhoille the pipe trench ran north-south for 18m before following the road northeast-southwest for 33m. The trench measured 1.1m wide and had a total length of 51m. The depth of trench varied from 0.9m to 1.8m. Throughout the length of the trench the topsoil (001) comprised of a moderately loosely compacted silty sand with frequent roots and small stones. This deposit had a thickness of 0.2m to 0.7m and was heavily waterlogged in places.
11. Underlying the topsoil (001) was a series of three natural deposits. The uppermost deposit was gravel deposit (004). This consisted of loosely compacted banded layers of mid and dark orange gravel with a thickness of between 0.4m and 1m. (004) was underlain by gravel layer (003). (003) consisted of a loosely compacted, pinkish grey gravel. The deposit had a maximum thickness of 1.5m. Mid-grey bedrock (002) underlay (003) and was visible in the trench close to the Allt Mhoille.
12. One feature of anthropic origins was identified in the northeast stretch of pipe trench. This feature was a gravel deposit, (005), which consisted of moderately compacted, light orange gravel with large rounded cobble inclusions (with an average size of 0.3m x 0.4m x 0.3m). It was located 16m to the northwest of the river (Figures 2a and 2b). The deposit had a thickness of 0.3m and a width within the trench of 2.6m. It underlies topsoil (001) and overlies subsoil (003).
13. To the southwest of the Allt Mhoille the ground was much boggier. The trench ran northwest-southeast from the stream towards the road. The trench was 0.9m wide and 51m long. Throughout the length of the trench the topsoil (010) consisted of a dark brown peat with frequent root inclusions. This deposit had an approximated thickness of 0.1m and was heavily waterlogged.
14. The topsoil overlay two naturally occurring subsoil layers, (006) and (008). Peat layer (006) was a loosely compacted and was mid to dark brown in colour. It had occasional sub-angular stone and was excavated to a depth of 1.4m. The deposit was heavily waterlogged. A deposit of loosely compacted light orange gravel (008) underlay (006) in sections.
15. Another gravel deposit, (007), similar that identified within the north eastern stretch of pipe trench was identified in the south western stretch close to the modern road. The deposit consisted of moderately compacted, mid orange brown gravel (Figure 3a). It had a thickness of 0.2m and width within the trench of 2.5m. The deposit lay between a peat layer (009) and peat layer (006). Peat layer (009) represents the regrowth of the peat over the anthropic gravel deposit after it fell out of use.

Discussion

16. Only gravel deposits (005) and (007) are likely to be anthropic in origin. The gravel comprising (005) was significantly more compact than the surrounding natural gravel deposits. It contained large sub-rounded stones arranged to form a flat surface. It is likely that this surface was part of the military road from Dalmally and Bonawe built between 1750 and 1754 (Taylor, 1996).
17. There is a possibility that the thin layer of orange gravel (007) found to the southwest of the stream also represents the surface of the military road. It forms a clear layer in the relatively homogenous peat, showing that it was intentionally laid down. Work carried out on the military road outside the Kings House Hotel in Glencoe found that the road surface had been laid directly onto the peat (Lewis, 2009). Therefore, despite the lack of bedding layer it is still a distinct possibility that gravel deposit (007) represents an 18th century road surface.



Figure 2a: North facing section showing road (005) to the northeast side of Allt Mhoille. Taken from the north.



Figure 2b: Post excavation shot of military road (005) to the northeast of Allt Mhoille. Taken from the northwest.



Figure 3a: Post excavation shot of possible military road (007) to the southwest side of Allt Mhoille taken from the southwest.



Figure 3b: Post-excavation shot of pipe trench to the northeast side of Allt Mhoille. Taken from the northeast.



Figure 4a: Section of trench to the southwest side of Allt Mhoille showing peat (006) throughout section. Taken from the south.



Figure 4b: Post-excitation shot of trench the southwest side of Allt Mhoille. Taken from the west.

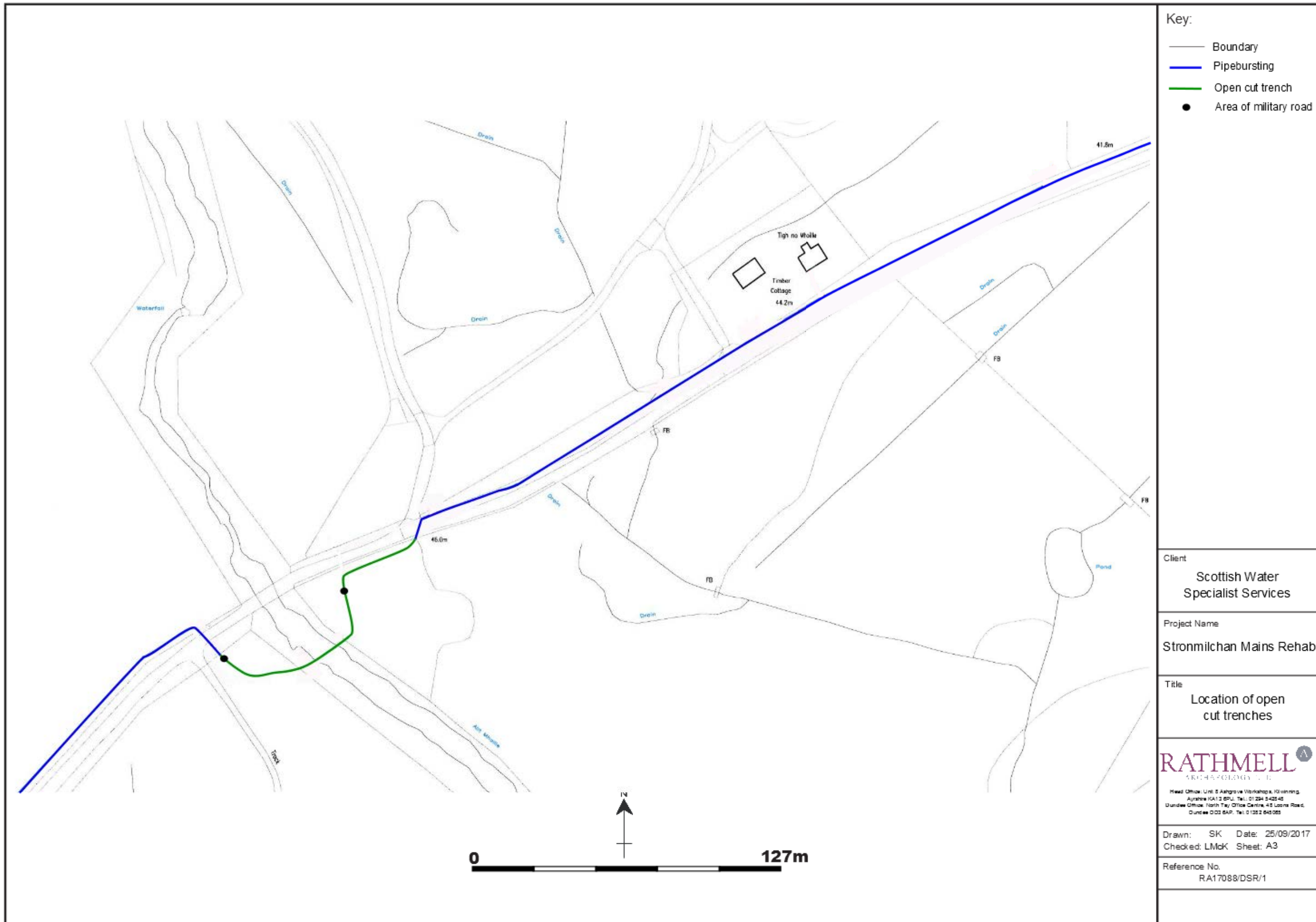


Figure 5: Plan of site showing location of open cut trenching, after plan by Scottish Water

Recommendations

18. This Data Structure report covers archaeological monitoring works undertaken during Permitted Development works during the rehabilitation of water mains.
19. The archaeological monitoring works uncovered the remains of the 18th century military road. No other significant archaeological features were found within the development area. As such it is recommended that no further archaeological works are required as a direct consequence of these works.
20. The appropriateness and acceptability of our recommendations rest with Argyll & Bute council and their advisers, the West of Scotland Archaeological Service.

Conclusion

21. Archaeological monitoring work was carried out for Scottish Water Specialist Services, in support of a pipeline running along the B8077 to the northwest of Stronmilchan. These archaeological works were designed to mitigate any adverse impact on the archaeological remains within the development area from the work.
22. The works at Stronmilchan consisted of an archaeological watching brief during the construction of the open cut pipe trench on either side of the Allt Mhoille.
23. During the works a 2.6m long section of the 18th century military road was found to the north of the river and a possible 2.5m long section was also identified to the south of the river. No other significant archaeological features were identified.

Acknowledgements

24. The author would like to thank the client Scottish Water Specialist Services and the site agent, DJ, for the onsite contractor MacAulay Askernish Ltd for his support throughout the project. The author would also like to thank Liam McKinstry, Senior Archaeologist with Rathmell Archaeology Ltd for his input and editing.
25. In addition, this author would like to thank Martin O'Hare from the West of Scotland Archaeology Service who has given guidance and direction throughout.

References

Documentary

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Taylor, W. 1996 *The military roads in Scotland; Revised edition* SPR Ltd, Exeter

Cartographic

Ordnance Survey, 1874, 6 inch, Argyllshire. Sheet CI

Ordnance Survey, 1900, 6-inch, Argyllshire. Sheet CI.NE

Roy, W., 1752-55, Map of the Highlands

Appendix 1: Registers

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

Context Register

Context No.	Area/ Trench	Type	Description	Interpretation
001	Northeast field	Deposit	Loose dark blackish brown silty clay containing a large number of roots and small stones with a maximum depth of 0.7m. Deposit was very waterlogged. Found throughout northwest field.	Topsoil to the northeast of the Allt Mhoille
002	Entire area	Deposit	Mid-grey rock found at base of pipe trench immediately adjacent to stream at a depth of 0.7m.	Bedrock
003	Northeast field	Deposit	Moderately loosely compacted light pinkish grey gravel with a maximum thickness of 1.5m.	Lower deposit of natural subsoil to the northeast of the Allt Mhoille
004	Northeast field	Deposit	Banded loosely compact mid and dark orange gravel between 0.4m and 1m thick. .	Upper deposit of natural subsoil to the northeast of the Allt Mhoille.
005	Northeast field	Deposit	Compact light orange gravel contain large cobbles with an average size of 0.3m x 0.4m x 0.3m. Road is 0.3m deep and 2.6m long.	Surface of military road
006	Southwest field	Deposit	Loosely compacted mid to dark brown peat with occasional sub-angular stones. Deposit is very waterlogged and found throughout southwest field.	Peat subsoil to the southwest of the Allt Mhoille.
007	Southwest field	Deposit	Compact mid orange gravel surface 0.2m thick and 2.5m long.	Possible military road.
008	Southwest field	Deposit	Loosely compacted light orange gravel.	Lower deposit of natural subsoil to the southwest of the Allt Mhoille
009	Southwest field	Deposit	Loosely compacted mid to dark brown peat with occasional sub-angular stones. Deposit is very waterlogged and found throughout southwest field.	Peat underlying possible road (007). Same as 006.
010	Southwest field	Deposit	Loosely compacted mid to dark brown peat with frequent root inclusion. Deposit is very waterlogged and found	Topsoil to the southwest of the Allt Mhoille

Context No.	Area/ Trench	Type	Description	Interpretation
			throughout southwest field	

Photographic Register

Image No.	Digital	Description	From	Date
001	100624	General view of trench near stream in northeast field	NW	20/09/2017
002	100832	General view of trench near stream in northeast field with end of pipe.	NW	20/09/2017
003	101406	Working shot of digging of trench in northeast field	W	20/09/2017
004	101831	General shot of pipe trench in northeast field with stream	NE	20/09/2017
005	103619	Working shot of digging of trench in northeast field	W	20/09/2017
006	103636	Working shot of digging of trench in northeast field	W	20/09/2017
007	103646	Working shot of digging of trench in northeast field	N	20/09/2017
008	110412	Possible military road (007) in southwest field	SW	20/09/2017
009	110505	Working shot of digging of trench in southwest field	N	20/09/2017
010	111348	Working shot of digging of trench in southwest field	NE	20/09/2017
011	111354	Working shot of digging of trench in southwest field	NE	20/09/2017
012	115812	Working shot of digging of trench in northwest field	NE	20/09/2017
013	115824	Working shot of digging of trench in southwest field	NE	20/09/2017
014	121511	Military road (005) in northeast field	NNW	20/09/2017

Image No.	Digital	Description	From	Date
015	122301	Working shot of digging of trench in northeast field	NW	20/09/2017
016	142740	General shot of pipe trench in northeast field	NE	20/09/2017
017	143908	North facing section of northeast field showing topsoil (001)	NW	20/09/2017
018	150636	North facing section with road (005) in the northeast field	NNW	20/09/2017
019	150646	North facing section with road (005) in the northeast field	N	20/09/2017
020	150653	North facing section with road (005) in the northeast field	NW	20/09/2017
021	150701	Cobble from military road (005) in northeast field	above	20/09/2017
022	150704	Cobble from military road (005) in northeast field	above	20/09/2017
023	150738	North facing section of trench in northeast field	NE	20/09/2017
024	150756	General shot of trench in northeast field	NE	20/09/2017
025	150807	North facing section of trench in northeast field	N	20/09/2017
026	150828	North facing section of trench in northeast field	N	20/09/2017
027	150858	General shot of trench in northeast field	W	20/09/2017
028	150902	General shot of trench in northeast field	NE	20/09/2017
029	151327	General shot of trench in northeast field	NE	20/09/2017
030	151334	North facing section of trench in northeast field	NW	20/09/2017
031	151343	General shot of trench in northeast field	NE	20/09/2017
032	153003	West southwest facing section of trench in southwest field with road (007)	WSW	20/09/2017

Image No.	Digital	Description	From	Date
033	153020	West southwest facing section of trench in southwest field with road (007)	SW	20/09/2017
034	153027	General shot of trench in southwest field	NW	20/09/2017
035	153108	Southwest facing section of trench in southwest field	S	20/09/2017
036	153112	General shot of trench in southwest field	NW	20/09/2017
037	153118	General shot of trench in southwest field	SW	20/09/2017
038	153137	Southwest facing section of trench in southwest field	SW	20/09/2017
039	153204	Southwest facing section of trench in southwest field	S	20/09/2017
040	153212	General shot of trench in southwest field	SW	20/09/2017

Appendix 2: Discovery & Excavation in Scotland

LOCAL AUTHORITY:	Argyll & Bute Council
PROJECT TITLE/SITE NAME:	Stronmilchan mains rehab
PROJECT CODE:	RA17088
PARISH:	Ardchattan and Muckairn
NAME OF CONTRIBUTOR:	Sarah Krischer
NAME OF ORGANISATION:	Rathmell Archaeology Limited
TYPE(S) OF PROJECT:	Watching brief
NMRS NO(S):	None
SITE/MONUMENT TYPE(S):	None
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	NN 13580 28772 (centred)
START DATE (this season)	20 th September 2017
END DATE (this season)	20 th September 2017
PREVIOUS WORK (incl. <i>DES</i> ref.)	None
MAIN (NARRATIVE) DESCRIPTION: (may include information from other fields)	<p>A program of archaeological works was undertaken in support of a pipeline running along the B8077 to the northwest of Stronmilchan. These archaeological works were designed to mitigate any adverse impact on the archaeological remains within the development area from the work.</p> <p>The works at Stronmilchan consisted of an archaeological watching brief during the construction of the open cut pipe trench on either side of the Allt Mhoille. During the works a 2.6m long section of the 18th century military road was found to the north of the river and a possible 2.5m long section was also identified to the south of the river. No other significant archaeological features were identified.</p>
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	Scottish Water Specialist Services
ADDRESS OF MAIN CONTRIBUTOR:	Unit 8 Ashgrove Workshops, Kilwinning, Ayrshire KA13 6PU
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ARCHIVE LOCATION (intended/deposited)	Report to West of Scotland Archaeology Service and archive to HES Collections

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