



**Buckieburn Forestry Track,
Stirling,
Archaeological Watching Brief
Data Structure Report**



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	Originator	Illustration by	Reviewed by	Approved by
ORIGINAL	NAME Ross Cameron	NAME Ross Cameron	NAME Alastair Rees	NAME Alastair Rees
DATE 13/06/16	SIGNATURE 	SIGNATURE 	SIGNATURE 	SIGNATURE 
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Executive Summary

ARCHAS Cultural Heritage Ltd were commissioned by RTS Ltd to undertake an archaeological watching brief associated with the formation of a forestry track on land to the west of Buckieburn on the southern edge of the Stirling Council area. The track is required in order to facilitate the harvesting of existing forestry plantations south of the Buckieburn Reservoir.

An archaeological planning condition was placed upon the development due to the proximity of a Scheduled Monument, Dundaff Hill Prehistoric Cairn and an unenclosed settlement recorded during survey work associated with the planting of the existing trees in the early 1990s. A walkover survey was completed prior to development which demonstrated the absence of any significant archaeological features along the length of the route. However, due to the proximity of the Scheduled Monument on Dundaff Hill, ARCHAS Ltd recommend further archaeological mitigation in this area.

The watching brief failed to reveal any features or artefacts of archaeological interest. The boundaries of the Scheduled Monument were clearly delineated to ensure avoidance by plant during the tree felling operations.

A record of the work has been deposited with the Online Access to the Index of Archaeological Investigations (OASIS) website hosted by the Archaeological Data Service (OASIS ID archascu1-254633) and with Discovery and Excavation in Scotland (DES), the annual publication of fieldwork by Archaeology Scotland.

1 Introduction

1.1 General

- 1.1.1 ARCHAS Cultural Heritage Ltd were commissioned by RTS Ltd (contact Harry Wilson) to undertake a watching brief associated with the formation of a forestry track on land to the west of Buckieburn on the southern edge of the Stirling Council area. The track is required in order to facilitate the removal of existing forestry plantations south of the Buckieburn Reservoir.
- 1.1.2 Formation of the access track involves the removal of topsoil from a route c.8m wide running between Buckieburn Farm (NS 75000 85200) and an area south west of Buckieburn Reservoir (NS 73200 85000).
- 1.1.3 The area was identified as potentially archaeologically sensitive by the Stirling Council Archaeology Officer. Through planning application 15/00678/NPA an archaeological condition was placed upon the development. Planning Condition 2 states:
- No works shall take place within the development site until the developer has secured the implementation of a programme of archaeological works in accordance with a written scheme of investigation... agreed by the Stirling Council Planning Officer (Archaeology)... Thereafter the developer shall ensure that the programme of archaeological works is fully implemented and that all recording and recovery of archaeological resources within the development site is undertaken to the satisfaction of the...Stirling Council Planning Officer (Archaeology).¹
- 1.1.4 The basis for the planning condition is provided by Policy 7.1 (Archaeology and Historic Building Recording) of the Stirling Local Development Plan 2014.
- 1.1.5 Detailed discussions regarding the proposed development were held between the Stirling Council Archaeology Officer and ARCHAS Ltd on 22/12/15. During these discussions, the Archaeology Officer indicated that he favoured a phased approach to the archaeological mitigation. The first phases of this work involved a walkover survey along the route of the proposed trackway in order to identify any archaeological issues.
- 1.1.6 ARCHAS Cultural Heritage Ltd completed a walkover survey of the site in January 2016. This survey failed to reveal any features of archaeological significance, but recommended a watching brief be maintained in proximity to the Scheduled Monument on Dundaff Hill.
- 1.1.7 Prior to commencing work, ARCHAS completed a Written Scheme of Investigation (hereafter WSI) in line with the requirements of the planning condition. This document outlined the programme of work and standards adhered to by ARCHAS. This document was accepted by the Stirling Council Archaeology Officer on 11/02/16.
- 1.1.8 The watching brief was completed by Ross Cameron on Thursday 09/06/16 in bright sunshine.
- 1.1.9 ARCHAS Cultural Heritage Ltd conforms to the standards of professional conduct outlined in the Chartered Institute for Archaeologists (CIfA) Code of conduct, and relevant Standards and Guidance documents produced by the CIfA.

¹ Stirling Council Decision Notice 15/00678/NPA – 03/12/15

1.2 Site Location and Setting

General

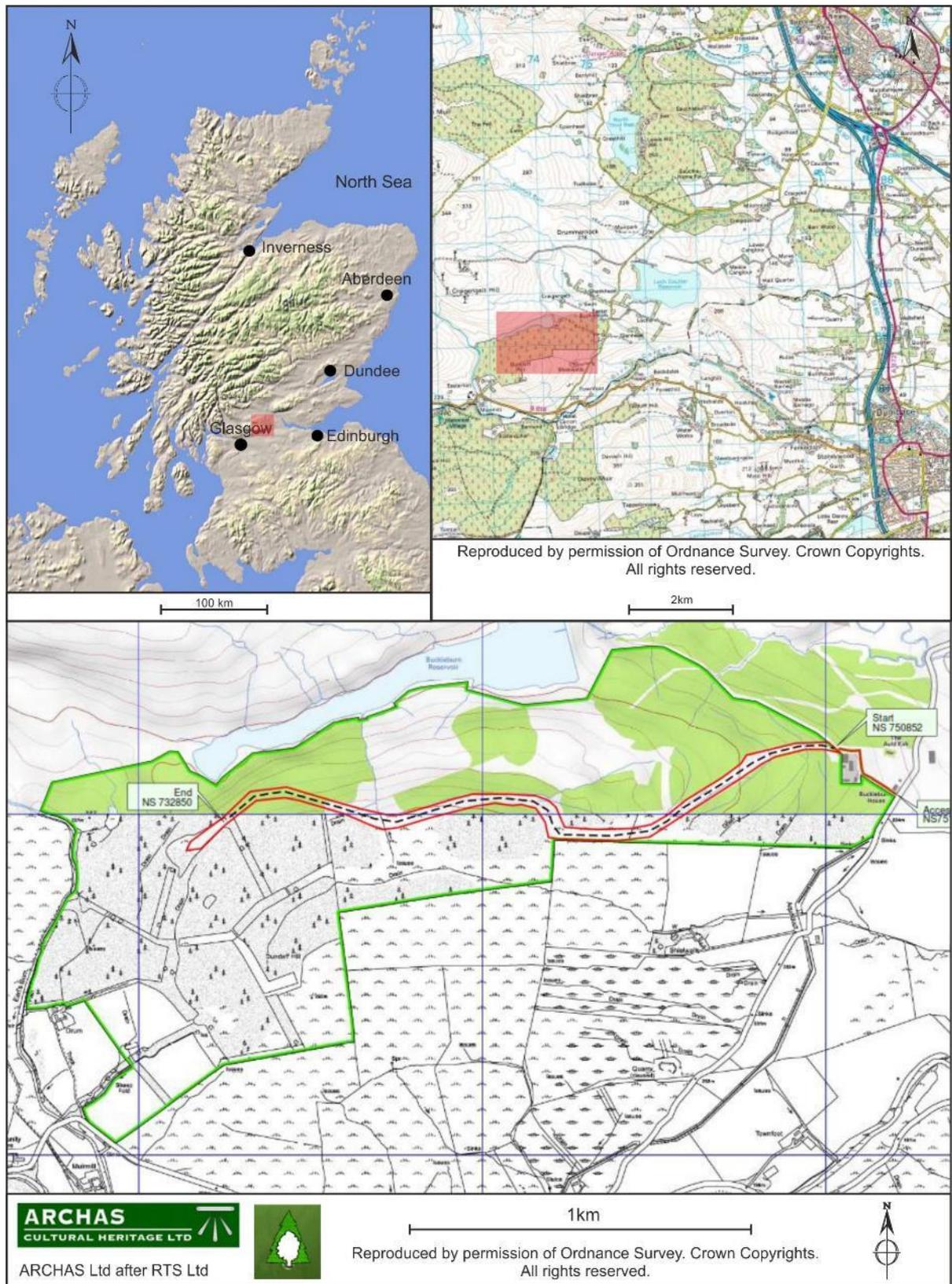


Figure 1: Site location with the route of the roadway marked red (map courtesy of RTS Ltd)

1.2.1 The proposed development lies to the south west of Stirling and the west of the town of Denny (Figure 1). The area contains a number of reservoirs, the most prominent of which is the Carron Valley Reservoir. The Buckieburn Reservoir lies a short distance to the east of this, with the proposed development taking place on the north facing slopes of Dundaff Hill above the reservoir.

1.2.2 The proposed route of the road runs between NS 75000 85200 at Buckieburn Farm at the eastern end, terminating at NS 73200 85000 at the western end.

Study Area

1.2.3 The proposed route of the road follows the natural and planned breaks in the existing forestry plantation (Figure 1).

1.2.4 Much of the route has already been affected by the forestry plantation of the 1990s, with deep ploughing and disruption during planting. The road predominantly follows the contours of the southern slopes of Dundaff Hill.

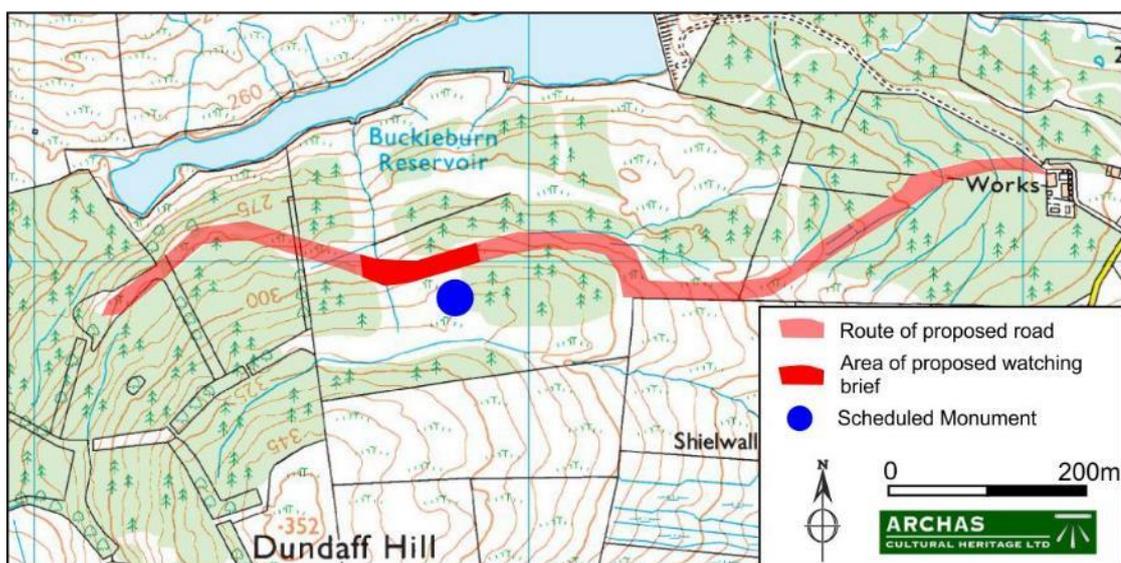


Figure 2: Route of the proposed trackway with the area of the watching brief indicated red. ARCHAS Ltd after Ordnance Survey. Crown Copyrights. All Rights Reserved.

1.2.5 The area of the watching brief is located in a break in the trees across the centre of the trackway (Figure 2). Dundaff Hill rises to the south with the road running along a relatively flat contour, before turning downslope to the north-west. The vegetation in this area consists of long grasses, tussocks and moss. In areas this is very boggy underfoot.

Geology

1.2.6 The drift geology across the proposed development area is mixed, comprising various glacial deposits such as Till, Devensian – Diamicton, Hummocky Glacial Deposits, Diamicton and Sands and Gravels. These deposits can be dated to the Quaternary Period 2-3 million years ago.

1.2.7 The route also contains quantities of peat dated to the Quaternary Period.

1.2.6 The underlying bedrock geology is from the Gargunnock Hills Lava Member and is a Basaltic-rock, Plagioclase-macrophyric. This igneous bedrock formed around 331-343 million years ago in the Carboniferous Period.²

² www.bgs.ac.uk –16/11/15

2 Archaeological and Historical Analysis

2.1 General Historical Background

- 2.1.1 The primary archaeological concerns raised by the development are the existence of a Scheduled Monument on Dundaff Hill (SM 6553, NMRS: NS 78 SW 10, HER 2568) to the south of the road, and an unenclosed settlement (NMRS: NS 78 NW 10, HER 2565.01) lying to the north. These sites were identified during a pre-afforestation survey undertaken in 1993.
- 2.1.2 The settlement is not depicted on the earliest Ordnance Survey maps or William Roy's map of 1747. As such, it is possible that this settlement represents the remains of a medieval village, unrecorded on maps.
- 2.1.3 The Scheduled Monument on Dundaff Hill (Plate 1) is interpreted as a prehistoric burial mound or barrow with a diameter of c.40m and a height of c.2m. It is surrounded on three sides by a bank and is thought to be of Neolithic or Bronze Age date. The site was protected as a Scheduled Monument under the Scheduled Monument and Archaeological Areas Act (1979) in 1996.

2.2 The Walkover Survey

- 2.2.1 The walkover survey completed by ARCHAS Ltd in January 2016 located both the unenclosed settlement and the Scheduled Monument identified during the 1993 survey.
- 2.2.2 The unenclosed settlement was shown to lie significantly to the north of the proposed development. No outlying remains associated with the settlement were noted within the route of the proposed trackway.
- 2.2.3 No archaeological features were recorded in the vicinity of the Scheduled burial cairn on Dundaff Hill. However, the vegetation and ground conditions in this area were challenging and not conducive to archaeological assessment due to the thick carpet of dead bracken and areas of moss. In addition the forest track passes in relative proximity to the cairn and as a result a watching brief was recommended for this area.
- 2.2.4 Two previously unrecorded relict drystone walls and a quarry pit were also recorded during the walkover survey.

3 Methodology

3.1 Watching Brief

- 3.3.1 The watching brief as required by Stirling Council involved the monitoring of *all* ground breaking works across the area closest to the Scheduled Monument (Figure 2).
- 3.3.2 Ground-breaking works were undertaken by the contractor using a 32 tonne mechanical excavator fitted with a 2.10m wide toothless ditching bucket.



Plate 1: Excavation of the Forestry Track with the Dundaff Hill Scheduled Monument visible behind to the SE. (Photograph 021)

- 3.3.3 Mechanical excavation work was monitored by a qualified ARCHAS Ltd archaeologist under watching brief conditions until undisturbed natural subsoil became apparent or the depth of the development impact was reached. During excavation soil was removed gradually in spits of c.0.10m.
- 3.3.4 Records were compiled on ARCHAS Ltd pro forma context sheets of all stratigraphic soil layers identified during the excavations.
- 3.3.5 A comprehensive photographic record was maintained of all ground breaking works on site.
- ### 3.2 Delineating the Scheduled Monument
- 3.2.1 Although the area of the new forestry track does not impinge upon the Dundaff Hill Scheduled Monument, the proximity of this and nature of the site works meant that it was important to ensure this was clearly delineated and marked out to avoid any unintentional impacts caused during felling, quarrying or plant movement. This is in line with the recommendations compiled by ARCHAS following the Walkover Survey.
- 3.2.2 The Scheduled Area extends in a circle of 70m diameter from the centre of the mound. This was paced out and clearly marked with a series of bamboo canes joined by black and yellow ticker tape. Visual inspection confirmed that this avoided all visible and potential archaeological features.

4 Results

4.1 General

- 4.1.1 Upon arrival on site, work had halted at the stipulated area immediately north of the existing coniferous tree belt where this meets the open ground upon which the Scheduled Monument is located.
- 4.1.2 Excavation began working in a westerly direction with the mechanical excavator sitting on the undisturbed turf and pulling the topsoil towards himself. This allowed the archaeologist to see the subsoil beneath (Plate 2).



Plate 2: Working shot – digging the shallow topsoil at the eastern end of the site. Note the Scheduled Monument to the rear (South) (Photograph 002)

4.2 Stratigraphy

- 4.2.1 A description of stratigraphic layers excavated is provided below. Detail of the contexts encountered can be viewed in Appendix A. All context numbers for layers and features are recorded within curved parentheses (**xxx**).
- 4.2.2 The topsoil at the eastern end of the roadway was relatively shallow with a depth of <0.20m. Recorded as (**001**), this comprises moderately to softly compact black brown organic loam with a degree of peat. Although this became progressively a little deeper, (**001**) remained essentially the same until the road began to curve downhill to the south east. Here the topsoil went from the depth of c.0.30m to a final depth of c.0.70m, becoming much peatier in nature (Plate 3).



Plate 3: SW facing section of excavations showing the peaty topsoil (001) (Photograph 026)

- 4.2.3 The natural subsoil (**002**) also changed slightly in tandem with the topsoil, but revealed no negatively cut archaeological features. At the eastern end (**002**) comprised mid to light brown slightly silty clay with a slight grey red hue, becoming predominantly grey with an increased frequency of larger stones as the topsoil became deeper towards the west.
- 4.2.4 The excavations were monitored over an area measuring roughly 125m by 4m. No features or artefacts of archaeological significance were recorded along the route.

5 Summary and Discussion

5.1. General

- 5.1.1 The Desk Based research failed to reveal any sites of archaeological or historical significance along the route of the proposed roadway, but the vicinity of the Scheduled Monument on Dundaff Hill is indicative of prehistoric occupation in the area. The presence of peat topsoil along the route also has the potential to preserve any prehistoric features which existed prior to the growth of the peat carpet.
- 5.1.2 The walkover survey completed prior to the development ensured that no noticeable archaeological features were impacted by the roadway, while ensuring that a suitable buffer was maintained around the Dundaff Hill Scheduled Monument.
- 5.1.3 Although the proposed site works avoided the Scheduled Monument, prior to work commencing this was clearly delineated to ensure it is recognised and not damaged during forestry works or movement of plant along the road.
- 5.1.4 The excavations failed to reveal any archaeological artefacts or features of interest. There was no sign that this area had been previously disturbed during the planting of the existing coniferous plantation and as such, the area must be considered archaeologically sterile.

6 Recommendations

6.1. General

- 6.1.1 Archaeological monitoring along the route of the proposed forestry track at Buckieburn failed to reveal any artefacts or archaeological deposits of any significance.
- 6.1.2 ARCHAS Cultural Heritage do not recommend any further archaeological mitigation with regards to the current development and believe the archaeological condition can be discharged.
- 6.1.3 Whilst ARCHAS can provide recommendations as to any future work on site, the final decision for any further archaeological mitigation rests with Stirling Council through Stirling Council Archaeology Service.

Acknowledgements

ARCHAS Cultural Heritage would like to thank Harry Wilson of RTS Ltd for commissioning us to undertake the work. Harry and RTS Ltd have our gratitude for their understanding and for their commitment to protecting the archaeological resources of Buckieburn.

The machine operator was Johnny from J.M. Dewar of Crieff. Johnny was highly skilled and made the watching brief prompt and painless.

Our thanks also go to Stirling Council Archaeology Officer Murray Cook. Murray was generous both with his time and his advice during the project.

Bibliography

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Online

www.bgs.uk

www.canmore.org.uk

www.historicenvironment.scot

www.nls.uk

Appendix A Context Register

<i>Context No.</i>	<i>Type</i>	<i>Description</i>	<i>Dimension</i>	<i>Comments</i>	<i>Date</i>	<i>Initial</i>
001	Deposit	Moderate to softly compact black brown organic loam/peat.	D: 0.20-0.70m	Turf and topsoil	09/06/16	RC
002	Deposit	Firmly compact mid to light brown slightly silty clay with a slight grey hue becoming increasingly grey clay with medium stone inclusions westwards.	-	Undisturbed natural subsoil	09/06/16	RC

Appendix B Photographic Register

<i>Image No.</i>	<i>Direction facing</i>	<i>Context No.</i>	<i>Description</i>	<i>Date</i>	<i>Initial</i>
001	W	001	Working shot - Removing topsoil	09/06/16	RC
002	S	001	Working shot - Removing topsoil with Scheduled Monument behind	09/06/16	RC
003	S	001	Working shot - Removing topsoil with Scheduled Monument behind	09/06/16	RC
004	S	001	Working shot - Removing topsoil with Scheduled Monument behind	09/06/16	RC
005	S	001	Working shot - Removing topsoil with Scheduled Monument behind	09/06/16	RC
006	W	001	Working shot - Removing topsoil	09/06/16	RC
007	N	-	Working shot - View from the Scheduled Monument	09/06/16	RC
008	N	-	Working shot - View from the Scheduled Monument	09/06/16	RC
009	N	-	Working shot - View from the Scheduled Monument	09/06/16	RC
010	W	001	Working shot - Removing topsoil	09/06/16	RC
011	W	001	Working shot - Removing topsoil	09/06/16	RC
012	N	-	Working shot - View from the Scheduled Monument with the boundary between	09/06/16	RC
013	N	-	Working shot - View from the Scheduled Monument with the boundary between	09/06/16	RC
014	N	-	Working shot - View from the Scheduled Monument with the boundary between	09/06/16	RC
015	N	-	Working shot - View from the Scheduled Monument with the boundary between	09/06/16	RC
016	W	001	Working shot - Removing topsoil	09/06/16	RC
017	W	001	Working shot - Removing topsoil	09/06/16	RC
018	W	001	Working shot - Removing topsoil	09/06/16	RC
019	NW	001	Working shot - Removing topsoil	09/06/16	RC
020	SE	001	Working shot - Removing topsoil with the Scheduled Monument behind	09/06/16	RC
021	SE	001	Working shot - Removing topsoil with the Scheduled Monument behind	09/06/16	RC
022	SE	001	Working shot - Removing topsoil with the Scheduled Monument behind	09/06/16	RC
023	SE	001	Working shot - Removing topsoil with the Scheduled Monument behind	09/06/16	RC
024	NW	001	Working shot - Removing topsoil	09/06/16	RC
025	NE	001	SW facing section of excavations showing peat	09/06/16	RC
026	NE	001	SW facing section of excavations showing peat	09/06/16	RC
027	SW	001	NE facing section of excavations showing peat	09/06/16	RC

Appendix C Provisional Discovery and Excavation Scotland Entry

LOCAL AUTHORITY:	Stirling Council
PROJECT TITLE/SITE NAME:	Buckieburn Forestry Track
PROJECT CODE:	229
PARISH:	St Ninian's
NAME OF CONTRIBUTOR:	Ross Cameron
NAME OF ORGANISATION:	ARCHAS Cultural Heritage Ltd
TYPE(S) OF PROJECT:	Watching Brief
NMRS NO(S):	NS 78 SW 10
SITE/MONUMENT TYPE(S):	n/a
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	NS
START DATE (this season)	07/01/16
END DATE (this season)	07/01/16
PREVIOUS WORK (incl. <i>DES</i> ref.)	None
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>ARCHAS Cultural Heritage Ltd were commissioned by RTS Ltd to undertake an archaeological watching brief associated with the formation of a forestry track on land to the west of Buckieburn on the southern edge of the Stirling Council area. The track is required in order to facilitate the harvesting of existing forestry plantations south of the Buckieburn Reservoir.</p> <p>An archaeological planning condition was placed upon the development due to the proximity of a Scheduled Monument, Dundaff Hill Prehistoric Cairn and an unenclosed settlement recorded during survey work associated with the planting of the existing trees in the early 1990s. A walkover survey was completed prior to development which demonstrated the absence of any significant archaeological features along the length of the route. However, due to the proximity of the Scheduled Monument on Dundaff Hill, ARCHAS Ltd recommend further archaeological mitigation in this area.</p> <p>The watching brief failed to reveal any features or artefacts of archaeological interest. The boundaries of the Scheduled Monument were clearly delineated to ensure avoidance by plant during the tree felling operations.</p>
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	n/a
SPONSOR OR FUNDING BODY:	RTS Ltd
ADDRESS OF MAIN CONTRIBUTOR:	ARCHAS Cultural Heritage LTD Suite B2 Laws Close 339-343 High Street Kirkcaldy KY1 1JN
EMAIL ADDRESS:	ross.cameron@archas.co.uk
ARCHIVE LOCATION	NMRS and Stirling Council HER (intended)