CFA Archaeology Ltd

archaeological consultants

Advice on Archaeology & Planning

Environmental Impact Assessment

Interpretation, Design & Display

Finds/ Environmental Analysis

Field Evaluation & Excavation

Historic Building Recording

Site & Landscape Survey

Geophysical Survey

Loch Spallander Hydro Electric Scheme, South Ayrshire, Archaeological Watching Brief

Data Structure Report No. 3267

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This document has been prepared in accordance with CFA Archaeology Ltd standard operating procedures.

Loch Spallander Hydro Electric Scheme, South Ayrshire

Archaeological Watching Brief

Data Structure Report No. 3267

CONTENTS

Appendices

Illustrations (bound at rear)

1. INTRODUCTION

1.1 General

This report presents the results of an archaeological watching brief undertaken by CFA Archaeology Ltd (CFA) between November 2014 and February 2015 at the Loch Spallander Hydro Electric Scheme, near Glenside Farm, South Ayrshire (NGR: NS 37475 08905) (Fig.1). The work was commissioned by Scottish Water.

A Written Scheme of Investigation (WSI) covering this programme of works was produced by CFA on behalf of Scottish Water, dated 25 April 2013. The WSI was designed to meet the requirements of the West of Scotland Archaeology Service (WoSAS) and agreed in advance of works.

1.2 Background

A planning application was approved for the construction of a new turbine house on the side of Muirsmill Burn and a water pipeline connecting this to Spallander Water Treatment Works. The planning approval was subject to an archaeological condition which required an archaeological watching brief on all ground breaking works associated with the development.

The topography of the proposed development area consists of a generally flat area of pasture at the turbine house, changing to a steeper area of pasture as the pipeline heads towards the Water Treatment Works.

1.3 Objectives

The objectives of the programme of works reported herein were to conduct a watching brief during ground breaking works in order to establish the presence or absence of archaeological deposits within the development area, and propose mitigation measures where necessary, and report on the results.

2. WORKING METHODS

2.1 General

CFA Archaeology Ltd follows the Chartered Institute for Archaeologists' Code of Conduct, Standards and Guidance.

2.2 Watching Brief

All ground breaking works for the area of the turbine house and the 3.5m wide wayleave for the pipeline were monitored.

All areas were excavated either to the first archaeological horizon or to the top of the natural geology.

Topsoil was removed by a tracked 360° mechanical excavator equipped with a 2m wide smooth-bladed ditching bucket. All groundbreaking work was carried out under constant archaeological supervision.

All on-site recording was carried out according to standard CFA procedures, principally by drawing, by photography and by completing standard CFA record forms. The stratification of all excavated areas was recorded whether or not significant archaeological deposits were identified.

3. ARCHAEOLOGICAL RESULTS

3.1 General

Numbers in bold refer to contexts, a full list of which is contained in Appendix 2.

The deposits across the entire proposed development area consisted of topsoil **001** over natural geology **002**.

The topsoil varied in depth from 0.3m-0.6m in the flat areas of the western end to 0.25m-0.35m on the steeper sloped areas of the central section and eastern end. The natural substrate consisted of pale yellow/grey sandy and gritty clays, which contained medium to large sub-rounded sandstone blocks, and patches of a finer smooth grey clay.

The natural contained numerous shallow field drains, especially within the eastern end, of both the ceramic pipe and rubble types. These were encountered randomly along the route of the wayleave.

No archaeological features, deposits or artefacts were identified.

4. CONCLUSIONS

This report covers a watching brief undertaken during construction of the Loch Spallander Hydro Electric Scheme. The watching brief uncovered no archaeological features.

The project archive, comprising all CFA record sheets, maps and reports, will be deposited with the National Monuments Record of Scotland (NMRS) and copies of reports will be lodged with the South Ayrshire Historic Environment Record.

On completion of the mitigation works a summary statement will be submitted for publication in *Discovery and Excavation in Scotland* and will also be reported on through *OASIS Scotland*.

APPENDIX 1: Photographic Register

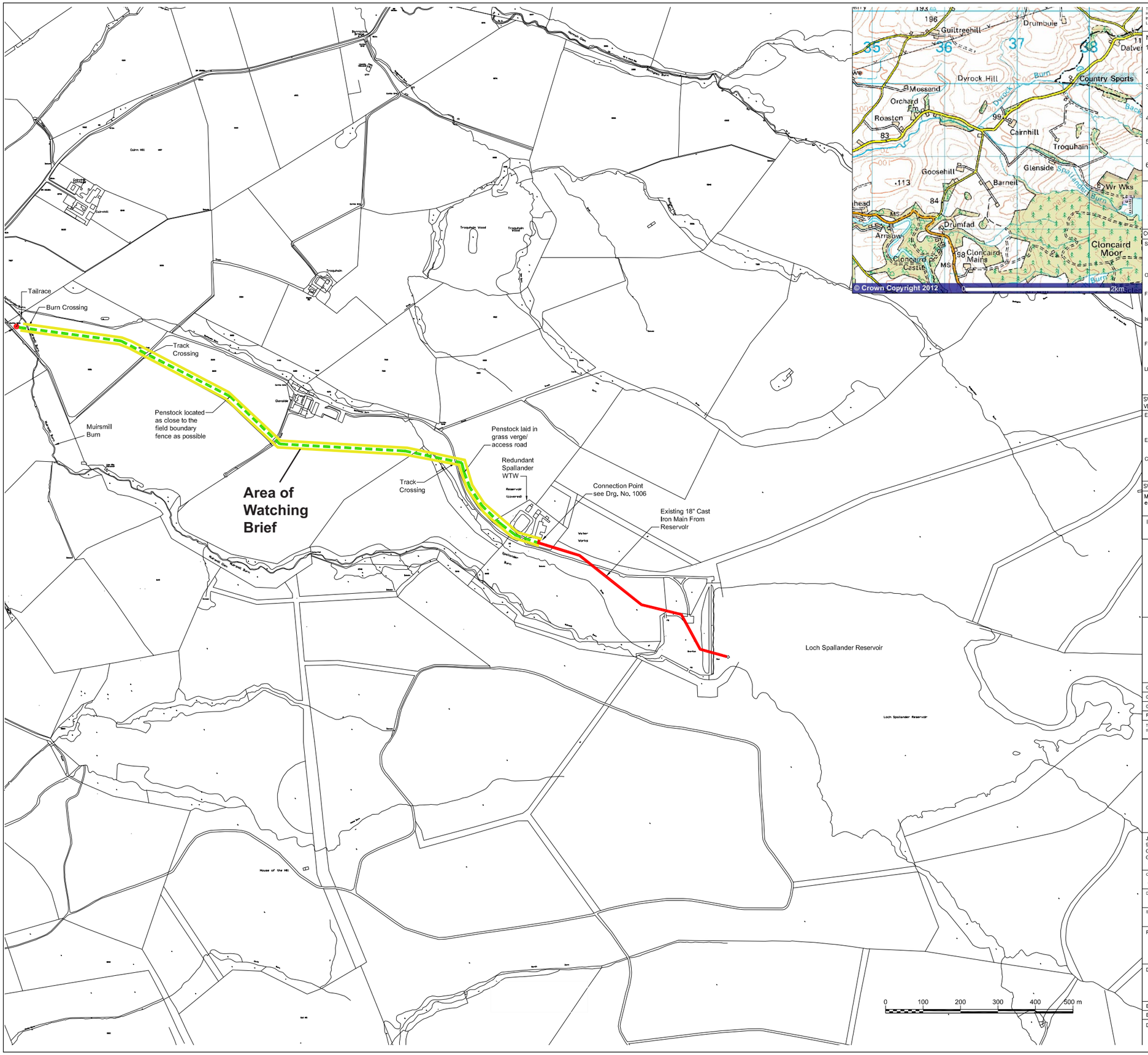
Photo Number	Contexts/Description	Taken From
1	Pre-ex shot of site, Western end	S
2	Pre-ex shot of site, Western end	S
3	Pre-ex shot of site, Western end	SW
4	Drain repair, Western end	NE
5	General view of wayleave, Western end	E
6	General view of wayleave, Western end	SE
7	General view of wayleave, Western end	E
8	General view of wayleave, Western end	S
9	General view of wayleave, Western end	SW
10	General view of wayleave, Western end	SW
11	General view of wayleave, Western end	SW
12	General view of wayleave, Western end	SW
13	General view of wayleave, Western end	SW
14	General view of wayleave, Central section	SW
15	General view of wayleave, Central section	W
16	General view of wayleave, Central section	SW
17	General view of wayleave, Central section	SW
18	General shot of Central section looking towards Eastern end	W
19	Detail of geology in central section	n/a
20	General view of wayleave, Eastern end	E
21	General view of wayleave, Eastern end	E
22	General view of eastern end at Spallander Burn	N
23	General view of pipe put in across Spallander Burn	NE
24	Post-ex shot of eastern extent of Eastern end	S
25	Post-ex shot of eastern extent of Eastern end	N

APPENDIX 2: Context Register

Context No.	Area	Trench	Description
001	N/A	all	Topsoil
002	N/A	all	Natural geology

APPENDIX 3: DISCOVERY AND EXVAVATION IN SCOTLAND ENTRY

LOCAL AUTHORITY:	South Ayrshire
PROJECT TITLE/SITE NAME:	Loch Spallander Hydro Electric Scheme, South Ayrshire, Archaeological Watching Brief
PROJECT CODE:	LOCP
PARISH:	Kirkmichael
NAME OF CONTRIBUTOR:	G Carruthers
NAME OF ORGANISATION:	CFA Archaeology Ltd
TYPE(S) OF PROJECT:	Watching Brief
NMRS NO(S):	None
SITE/MONUMENT TYPE(S):	None
SIGNIFICANT FINDS:	None
NGR (2 letters, 6 figures)	NS 37475 08905
START DATE (this season)	November 2014
END DATE (this season)	February 2015
PREVIOUS WORK (incl. *DES* ref.)	None
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	A watching brief took place during construction of the Loch Spallander Hydro Electric Scheme, on the site of a new turbine house and the pipeline that connected this into Loch Spallander reservoir. No archaeological remains were uncovered.
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	Scottish Water
ADDRESS OF MAIN CONTRIBUTOR:	CFA Archaeology Ltd, Old Engine House, Eskmills Park, Musselburgh, EH21 7PQ.
EMAIL ADDRESS:	gcarruthers@cfa-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS, Reports lodged with SMR and NMRS.



Original Size A1

Key

Notes:

1. Background of drawing reproduced from Scottish Water GIS data.
2. Contractor to confirm location of all services.
3. Final penstock route to be confirmed following site topographic survey along proposed route shown on this plan.
4. See Drg. No. 1007 for Access Road to Turbine Powerhouse.
5. See Drg. No. 1003 for Turbine Powerhouse General Arrangement.
6. Refer to drawing 1005 for Tailrace General Arrangement.

Scottish Water Solutions
HEALTH AND SAFETY INFORMATION

IN ADDITION TO THE HAZARDS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, PLEASE NOTE THE FOLLOWING :

CONSTRUCTION PHASE	
Striking buried services	Refer to existing utility information provided. Undertake adequate investigations before commencing works.
Overhead lines	Awareness of overhead lines. SSOW.
Flooding	Parts of site liable to flood during extreme weather events. Maintain watching brief on weather forecast
Isolation of existing mains	Liaise with SW Ops to ensure all upstream valves are closed ahead of cutting into existing mains
Floatation of new pipelines / structures	Possible risk of floatation due to high groundwater table. Management of groundwater required.
Livestock / adjacent farmland	Contractor to be aware of neighbouring farms and potential livestock movements / farm machinery manoeuvres
SW OPs ACCESS – HORIZONTAL, VERTICAL, PEDESTRIAN, VEHICLE/PLANT	
Existing access track	SW require existing access track to be kept operational at all times. Near neighbours may use track also.
Existing adjacent roads	Sections of existing road to site in very poor condition.
Confined space	New turbine pit considered to be confined space
SW OPs HANDLING / LIFTING STRATEGY	
Mechanical plant & Electrical equipment	'A' frame lifting facility & manual handling of small items

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT PERSON WORKING, WHERE APPROPRIATE, TO AN APPROVED SAFE SYSTEM OF WORK

Legend

- Turbine House Location
- Proposed New Main 560mm OD HPPE (454.7mm ID SDR11)
- Existing 18" Cast Iron Main

Rev	Description	Drawn	Chk'd	App'd.	Date
0C	Turbine Position Amended	GL	SGF	SAR	11/05/12
0B	Route Amended	GL	SGF	SAR	
0A	First Issue	GL	SGF	SAR	19/04/12

Scottish Water Horizons

JACOBS
95 BOTHWELL ST,
GLASGOW
G2 7HX

Originated By	Drawn By	Checked By	Approved By
AW	GL	SGF	SAR
Date 18/04/12	Date 18/04/12	Date 18/04/12	Date 18/04/12

Scale: 1:5000 | Status: First Issue

Project Title: Loch Spallander Hydro Scheme

Drawing Title: Location Plan

ELLIPSE EQUIPMENT No.

ELLIPSE PLANT No. | AUTOCODE No.

Drawing No. 00001-0002-20-DRG-1001-0C

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Fig. No:	Report:
1	3267

Title: Location Map

Project: Loch Spallander Hydro Electric Scheme

Client: Scottish Water

Scale at A3: 1:10,000

Drawn by:	Checked by:	Date:
TB	MJ	10/03/15

Fig. 2 - General view of wayleave, western end, from SW

Fig. 3 - General view of wayleave, Plan central section, from W

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Title:	Fig.	Report:	Drawn:	CKD:	Date:
Photos	2 - 3	3267	TB	MJ	10/03/15

Client: Scottish Water

Project: Loch Spallander Hydro Electric Scheme

Fig. 3 - General view of wayleave, eastern end, from E

Fig. 4 - General view of wayleave, eastern end, from S

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Title:	Fig.	Report:	Drawn:	CKD:	Date:
Photos	4 - 5	3267	TB	MJ	10/03/15

Client: Scottish Water

Project: Loch Spallander Hydro Electric Scheme