



Furzemill Pond, Margam Park, Neath Port Talbot

**Archaeological Written Scheme
of Investigation**

**Prepared
For
HR Wallingford**

by

**The
Glamorgan-Gwent Archaeological Trust Ltd
(GGAT Projects)**

October 2019

Project No. P2035
Report No. 2019/048
NGR SS 81031 85676



Furzemill Pond, Margam Park, Neath Port Talbot: archaeological written scheme of investigation

Contents	Page
Summary	3
Acknowledgements	3
Copyright notice	3
Abbreviations.....	3
1 Introduction	4
1.1 Development proposal and planning background.....	4
1.2 Site description	4
1.3 Site Specific Background	4
1.4 Previous Investigations.....	5
2 Specification	6
2.1 Purpose	6
2.2 Objectives.....	6
2.3 Timing	6
2.4 Nature of effect.....	6
2.5 Assessment of potential impact	7
2.6 Specification strategy	7
3 Resourcing.....	8
3.1 Staffing	8
3.2 Specialists.....	9
4 Implementation.....	10
4.1 General implementation	10
4.2 Specification methodology	10
4.3 Method of recording	10
5 Reporting.....	12
6 General	14
6.1 Insurance.....	14
6.2 Health and Safety.....	14
6.3 General Limitations	14
6.4 Quality Control.....	14
6.5 Arbitration	14
7 References	15

Figures

Figure 1. Client drawing showing location of Structures 1 and 2. Developer's drawing number	
MCR6075_100_SERIES-MCR6075_100_D001	16

Furzemill Pond, Margam Park, Neath Port Talbot: archaeological written scheme of investigation

Summary

HR Wallingford Ltd have proposed remedial works relating to flood management around the reservoir embankment at Furzemill Pond, Margam Park centred at SS 81031 85676.

The Glamorgan-Gwent Archaeological Trust Ltd Projects Department (GGAT Projects) have been commissioned by HR Wallingford to prepare the Written Scheme of Investigation (WSI) followed by a programme of archaeological mitigation in the form of a watching brief. The WSI provides the framework for the archaeological works to be undertaken and forms the subject of the present report.

The Scheme provides for a programme of recording of existing spillway structures by written, drawn and photographic means. This is to be carried out prior to the commencement of the development. It also follows that an archaeological watching brief is to be carried out on all groundworks required for the development.

The archaeological works will be carried out to the professional standards laid down by the Chartered Institute for Archaeologists' (2014).

Acknowledgements

The project was managed by Johnny Crawford BSc MA MCIfA (Assistant Projects Manager) and the report was prepared by Issica Baron BA MA (Project Archaeologist) of GGAT Projects.

Copyright notice

The copyright of this report is held by Glamorgan-Gwent Archaeological Trust Ltd; GGAT Projects has granted an exclusive licence to HR Wallingford to use and reproduce the material it contains. Figure 1 has kindly been provided by the client and their agents.

Abbreviations

HER:	Historic Environment Record (curated by the Glamorgan-Gwent Archaeological Trust)
LPA:	Local Planning Authority
NGR:	National Grid Reference
NMW:	National Museum Wales
OS:	Ordnance Survey
PRN:	Primary Record Number (in HER)
RCAHMW:	Royal Commission on the Ancient and Historical Monuments of Wales
SM:	Scheduled Monument (Cadw)

1 Introduction

1.1 Development proposal and planning background

- 1.1.1 Remedial works have been proposed relating to flood management around the reservoir embankment at the south-western and southern ends of Furzemill Pond, Margam Park.
- 1.1.2 The proposed remedial works consist of replacement of an existing masonry overflow spillway with a reinforced concrete spillway (Structure 1) and the replacement of an overflow pipe with reinforced concrete box culvert and headwalls (Structure 2).
- 1.1.3 The need for an archaeological watching brief of the groundworks and to produce a record of the existing masonry structures prior to removal has been identified due to the setting of Margam Park, which is subject to a number of designations.
- 1.1.4 The Glamorgan-Gwent Archaeological Trust Ltd Projects Department (GGAT Projects) have been commissioned by HR Wallingford to prepare the Written Scheme of Investigation (WSI), which provides the framework for the archaeological works. The WSI forms the subject of the present report.

1.2 Site description

- 1.2.1 The proposed development is located at the south-western side and southern end of Furzemill Pond in Margam Park, Neath Port Talbot, NP13 2NP. The centre of the pond is approximately at SS 81031 85676 (Figure 1).
- 1.2.2 The western spillway is situated in a parkland setting at the western edge of the reservoir, where it drains southwest into a stream. It is a wooded area of parkland (though the two nearest trees have been cut and only stumps remain) with overgrown banks but is immediately surrounded by two concrete ramps and a gravelled path. Two short low parallel masonry walls set into the ground surround an initially flat-bottomed central channel which turns into steps at the downstream end. The walls adjoin a masonry embankment surrounding the reservoir. There is a small stone weir at the upstream end.
- 1.2.3 The southern culvert, where the reservoir drains southwards into Coal Brook via a high level pipe, is in a wooded area of the parkland (though the nearest tree has been cut and only a stump remain. It is set between two low masonry walls where it meets the reservoir and it is covered in stone up to ground level and capped with soil.
- 1.2.4 The superficial geology consists of alluvium – clay, silt, sand and gravel, with deeper geological deposits consisting of the South Wales Middle Coal Measures (BGS 2019).

1.3 Site Specific Background

- 1.3.1 Margam Park is a Grade 1 Listed Historic Park and Garden (PGW (Gm) 52 (NEP)) is situated within the Mynydd Margam Historical Landscape Character

Furzemill Pond, Margam Park, Neath Port Talbot: archaeological written scheme of investigation

Area (HLCA001).

- 1.3.2 Margam Park has six Scheduled Ancient Monuments which cover sites of Iron Age (circa 700BC to 43AD), Medieval (1067 to 1485 AD) and Modern (WWII) dates. None of these are in the vicinity of the pond.
- 1.3.3 There are fifteen Listed Buildings within the parkland, only six of which are within 500m of the development site. These are all part of the Ywyn yr Hydd farmstead to the south, except for a boundary milepost to the southwest. None are within visual range of the pond, being located approximately 250m to the south east.
- 1.3.4 The HER search found twenty-two sites of historic interest within a 500m radius, including Furzemill Pond itself (04589w), but primarily they consist of landscape features and boundary markers recorded as a result of a walkover survey to the southwest (E005624).
- 1.3.5 Furzemill Pond is visible on the Margam estate map from 1814, labelled simply 'Pond' and it appears that the stream that the western spillway leads to is situated in a similar location as present, however Coal Brook at the southern end is not been depicted. The first edition OS map (surveyed in 1876) is more detailed and shows both streams, with the western stream surrounded by woodland and Coal Brook appearing to already be culverted where it drains from Furzemill Pond.

1.4 Previous Investigations

- 1.4.1 Previous recent investigations have been carried out in the vicinity consisting of a desk-based assessment (E005624) and walkover survey (E005624) for the Margam Park Discovery Centre which included Furzemill Pond, and a subsequent watching brief preceding its construction in 2007 (E000114).
- 1.4.2 A Historic Impact Assessment, in conjunction with this Written Scheme of Investigation (Crawford 2019).

2 Specification

2.1 Purpose

- 2.1.1 The purpose of this written scheme is to set out a quantifiable schedule of works against which performance, fitness for purpose and achievement of quality can be measured.
- 2.1.2 This written scheme has been prepared to ensure that the work is undertaken to the standard required by the Chartered Institute for Archaeologists' *Standard and guidance for an archaeological watching brief* (2014a), Chartered Institute for Archaeologists' *Standard and Guidance for the archaeological investigation of standing buildings or structures* (2014b) and Historic England's *Understanding Historic Buildings: A Guide to Good Recording Practice* (2016).

2.2 Objectives

- 2.2.1 An investigation of the potential archaeological/historic resource through observation and recording in order to ensure the safeguarding of the resource in the development area prior to construction works.
- 2.2.2 The presentation of these observations in a written report, taking account of related documentary and historical evidence.
- 2.2.3 The preparation of an archive of data recovered and records made as a result of the project, and the deposition of this archive in a suitable receiving museum or similar institution.

2.3 Timing

- 2.3.1 It is expected that survey and recording of existing spillways will be carried out prior to the commencement of any works to remove the structures.
- 2.3.2 The archaeological watching brief will commence following the notification of a start date for the development works as provided by the client.
- 2.3.3 The timing of on-site works will be phased according to the development programme and each component will be agreed in advance

2.4 Nature of effect

- 2.4.1 The scope of the works are demonstrated by the General Arrangement drawings (Drawing numbers MCR6075_100_D001_00_TO_MCR6075_300_D002_00), which include removal of an existing masonry overflow spillway with a reinforced concrete spillway and the replacement of an overflow pipe with reinforced concrete box culvert and reinforced concrete headwalls (Structures 1 and 2, Figure 1).
- 2.4.2 The investigation will entail photographic recording of the existing masonry structures that will be affected by construction/demolition or redevelopment works.
- 2.4.3 There is a low probability of encountering previously unknown archaeologically

significant features and finds within the proposed development.

2.5 Assessment of potential impact

2.5.1 Without appropriate forms of mitigation the following development activities are deemed likely to have a potential impact on the archaeological resource:

- Construction of site compounds
- Ground preparation/enabling works, including any ground investigation works and access
- Topsoil stripping
- The reduction of ground levels
- The excavation of foundation trenches
- Landscaping works, including any levelling or re-profiling
- Demolition or alteration of the existing structures
- Any other ground intrusive works

2.6 Specification strategy

2.6.1 The strategy is proposed on the basis of the likely extent and form of archaeological interests and the proposed extent and form of development effect.

2.6.2 A detailed investigation of existing structures according to the principles of a Level 2 building survey (Historic England *'Understanding Historic Buildings: A Guide to Good Recording Practice'* 2016) should be undertaken which will make a record of the structure by written, drawn and photographic means. Level 2 building survey entails an introductory description followed by information of the building's origins, development and use if known.

2.6.3 A Level 2 building survey entails the potential for drawing a sketched plan, section, elevation or detail drawings or measured plans (to scale or fully dimensioned) as existing. Plans should show the form and location of any structural features of historic significance or other changes in the wall structure, and any evidence for fixtures of significance. Other drawings could also be included including reconstruction drawings and other structural details.

2.6.4 The photography should include a general view of the structures in their wider setting or landscape, to include a series of oblique views that will show elevations, and give an overall impression of the structures sizes and shapes. Where individual elevations include complex historical information it may also be appropriate to take views at right angles to the plane of the elevation and the overall appearance.

2.6.5 The written account will note the precise location of the structures in the form of a National Grid reference, the date when the record was made, the name of the recorder and the location of any archive material. As well as a summary statement which should summarise the structures's form, function, date and sequence of development. The names of architects, builders, patrons and owners should be given if known. Its purpose is to describe the structure when no fuller record is necessary.

Furzemill Pond, Margam Park, Neath Port Talbot: archaeological written scheme of investigation

- 2.6.6 The strategy is proposed based on the likely extent and form of archaeological interests and the proposed extent and form of development effect.
- 2.6.7 The effect of the development on potential archaeological interests will be safeguarded by means of an archaeological watching brief undertaken on the groundwork's specified in 2.5.1 above to meet the requirement of the Chartered Institute for Archaeologists' Standard and guidance for an archaeological watching brief (2014).
- 2.6.8 If archaeologically significant remains are discovered during the watching brief, the archaeologist carrying out the works, in consultation, where appropriate, with the resident engineer (or equivalent agent), will make a decision as to whether it can be adequately recorded and removed without disruption to any nearby development works.
- 2.6.9 In the event that a significant discovery is made during the watching brief, and the provision in paragraph 2.6.3 cannot be put into effect, then arrangements will be made to modify the construction programme and fence off the area of interest to allow its safe and effective investigation and recording.
- 2.6.10 In the event that remains are encountered during the watching brief which are of such complexity or significance that the contingency arrangements would not be of sufficient scope, a meeting with the client, the LPA, their archaeological advisors and any other parties that may be relevant to the issue, should be convened in order to agree an appropriate strategy.

3 Resourcing

GGAT Projects can provide the following input to carry out the archaeological works.

3.1 Staffing

The project staff involved are experienced archaeologists drawn from the team regularly used, these will include:

- Martin Tuck MCIfA, Senior Projects Manager, responsible for the tracking of the project and maintaining quality
- Assistant Project Manager/Archaeologist, responsible for carrying out the building survey

Additional input is provided by:

- Finds Specialist, responsible for finds recovery policy and arrangement of specialist services
- Project Archaeologists (finds), responsible for cleaning, cataloguing and analysing finds
- Illustrator, responsible for preparing publication-standard drawings, artistic reconstruction drawings, information boards, leaflets and advertisements if appropriate.

3.2 Specialists

Specialist expertise, if required, will be obtained from suitably qualified internal and external individuals. These specialists will include:

- Ceramic building material: Martin Locock (Freelance)/Dr Edith Evans (GGAT)
- Clay pipes: Charlotte James-Martin (Freelance)
- Coins: Steve Sell (Freelance)
- Conservation: Phil Parkes, Cardiff Conservation services (Cardiff University)
- Faunal remains: Hannah Bowden (GGAT)
- Flints: Elizabeth Walker (NMW)
- Glass: Joyce Compton (Freelance)
- Metalwork: Dr Mark Redknap (NMW) / Prof Bill Manning (Freelance)
- Medieval stone: Dr Mark Redknap (NMW)
- Medieval and Post-medieval coins: Steve Sell (Freelance)
- Medieval pottery: Joyce Compton (Freelance)
- Metalwork and industrial slag: Dr Tim Young (Cardiff University and GeoArch) / Daria Dabal (GGAT)
- Mortar analysis: Rob Dunning (GGAT)
- Palaeoenvironmental remains: University of Wales Lampeter, Archaeological Services (UWLAS) / Wendy Carruthers (Freelance) / Reading University
- Post-medieval pottery: Joyce Compton (Freelance)
- Prehistoric pottery: Jody Deacon (NMW)
- Roman pottery: Joyce Compton (Freelance)
- Waterlogged wood: Prof Nigel Nayling / Dr Rod Bale (UWLAS (UWTSD))

Further specialist expertise in other disciplines will be obtained as required from suitably qualified individuals/institutions.

4 Implementation

4.1 General implementation

- 4.1.1 The specified archaeological works will be undertaken to the highest possible standards in line with the requirements of the Chartered Institute for Archaeologist's Historic England '*Understanding Historic Buildings: A Guide to Good Recording Practice*' (2016) and the Chartered Institute for Archaeologists' *Standard and Guidance for Archaeological Watching Briefs* (2014).
- 4.1.1 If stray finds or deposits of minor interest are encountered these will be recorded by the archaeologist as the specified ground works proceed.
- 4.1.2 If more significant deposits are found these will be investigated and recorded within a secured area.
- 4.1.1 It is intended that the site archive, including any finds assemblage, will be deposited with an appropriate institution (e.g. Swansea Museum), or retained by the landowners, as required.
- 4.1.2 The finds, including artefacts and ecofacts, excepting those, which may be subject to the laws of *Treasure Act* (1996) and/or *Treasure Order* (2002), will be deposited with the same institution, subject to the agreement of the site owners. An agreement with an appropriate institution to accept this material will need to be made on completion of fieldwork and assessment of the nature of the finds recovered,
- 4.1.3 A report describing the works carried out and findings made will be prepared and submitted to the local planning authority.

4.2 Specification methodology

- 4.2.1 A specific Health and Safety risk assessment will be prepared before the commencement of the archaeological recording and watching brief, to meet the requirements of The Management of Health and Safety at Work Regulations (1992), assessing all risks to the health and safety of employees and others arising from a work activity.
- 4.2.2 No works should be undertaken on the masonry structures and their setting until archaeological recording of these has been carried out.
- 4.2.3 Any ground intrusions will be conducted under archaeological watching brief conditions. These include, but are not limited to, those specified in section 2.5.1. No groundworks should be undertaken in the area to which this scheme applies without liaising with the site archaeologist.

4.3 Method of recording

- 4.3.1 The techniques employed should conform to best current professional practice. During the watching brief, all archaeological deposits should be recorded with a single continuous context numbering system. The archaeological contractor, upon request, should submit a copy of its recording forms and manual to the client. Contexts and structures will be

Furzemill Pond, Margam Park, Neath Port Talbot: archaeological written scheme of investigation

drawn at a suitable scale in plan, and, where appropriate, in section. All significant contexts will be digitally photographed, with a resolution of no less than ten megapixels. Survey information will be related to the Ordnance Survey National Grid and levels related to the Ordnance Survey Datum.

- 4.3.2 All classes of finds will be retained, cleaned, and catalogued until arrangements for final deposition have been agreed, in line with the requirements of the Chartered Institute for Archaeologists' *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (2014). If substantial quantities of undiagnostic, residual or modern material are recovered, an on-site recording and discard policy for these classes of find will be devised. If human remains are encountered, they will be archaeologically recorded and removed under conditions, which comply with all current legislation, including reporting to the relevant authorities, the obtaining of proper licences, and the provision for eventual reburial following appropriate analysis. All human remains will be excavated by hand in accordance with the Chartered Institute for Archaeologists' *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains*: Technical Paper Number **13** (1993), and in accordance with guidance in the Chartered Institute for Archaeologists' *Guidelines to the Standards for Recording Human Remains* (Brickley and McKinley 2004) and *Updated guidelines to the standards for recording human remains* (Mitchell and Brickley 2017).
- 4.3.3 In the event that suitable deposits are encountered, the management of environmental recording and sampling will follow the principles and tenets laid down in Historic England's (formerly English Heritage's) *Environmental Archaeology: A guide to the theory and practice of Methods, from sampling and recovery to post-excavation* published in 2011. All deposits with a high potential for the preservation of palaeoenvironmental material will be sampled, by column, bulk and other method, for possible subsequent analysis, in accordance with a sampling strategy overseen by a specialist with appropriate expertise. Sampling and recording will be the responsibility of an identified member of the field team with relevant experience.

5 Reporting

- 5.1.1 An archive of archaeological records relating to the fieldwork and an archive of records relating to the preparation of the reports will be prepared to the specifications in *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales* (National Panel for Archaeological Archives in Wales 2017).
- 5.1.2 Archaeological and historical sources will be consulted, in order to place the results of the fieldwork in an appropriate archaeological and historical framework.
- 5.1.3 Following a review of the potential of the recovered evidence, a programme of analysis and research will be undertaken, resulting in the preparation of a site narrative and supporting data, including finished drawings and photographs as necessary.
- 5.1.4 The archaeological contractor should identify the internal or external specialists who will be responsible for preparing reports on cultural or palaeoenvironmental material, and dating and for overseeing the sampling programme.
- 5.1.5 Reporting will be phased according to the development programme but will include a synthesis of the data gathered, together with inclusion of supporting evidence in appendices as appropriate, and illustrations. A PDF of the report will be supplied to the client and if requested two hard copies of the report. **It is the submission of the report by the client to the LPA which enables discharge of planning condition(s).**
- 5.1.6 If appropriate, short archaeological digest reports will be submitted for publication in relevant regional, national and thematic learned journals; as a minimum, a report will be submitted to the annual publication of the regional CBA group or equivalent journal. Non-technical reports will also be produced to inform the general public of the archaeological investigations, this may also include web pages, posters, leaflets or other media forms.
- 5.1.7 It is intended that the site archive, will be deposited with an appropriate institution, or retained by the landowners, as required, in accordance with the ICON and the National Panel for Archaeological Archives in Wales guidelines (*The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales* (2017)), and subject to the agreement of the legal landowner.
- 5.1.8 The finds, including artefacts and ecofacts, excepting those, which may be subject to the laws of Treasure Act (1996) and/or Treasure Order (2002), will be deposited with the same institution, subject to the agreement of the landowner(s). An agreement with an appropriate institution to accept any such material will need to be made on completion of fieldwork and assessment of the finds recovered.
- 5.1.9 A digital copy of the report and full archive will be deposited with the *National Monuments Record*, RCAHMS, Aberystwyth, and a digital copy of the report and archive index will be deposited with the *Regional Historic Environment*

Furzemill Pond, Margam Park, Neath Port Talbot: archaeological written scheme of investigation

Record, curated by the Glamorgan-Gwent Archaeological Trust, Swansea in accordance with the guidance for the Submission of Data to the Welsh Historic Environment Records (HERs).

6 General

6.1 Insurance

- 6.1.1 GGAT holds full insurance cover for this type of work, to include Professional Indemnity and Public Liability cover. Full details of these and other relevant policies can be supplied to the client on request.

6.2 Health and Safety

- 6.2.1 GGAT will provide to the client a copy of its Health and Safety statement in accordance with *The Health and Safety at Work Act 1974*. GGAT will prepare any documentation required by the *Construction Design and Management Regulations 2015*.
- 6.2.2 Prior to commencement of work, GGAT will carry out a formal Health and Safety Risk Assessment in accordance with *The Management of Health and Safety Regulations 1999*. A copy of the risk assessment will be kept on any site office and be available for inspection on request.
- 6.2.3 In addition to statutory requirements, GGAT will follow best practice for Health and Safety in archaeology as defined in the FAME (Federation of Archaeological Managers and Employers) *Manual of Health and Safety in Field Archaeology* (2010).

6.3 General Limitations

- 6.3.1 The work outlined in this specification will be carried out to the highest professional standards, and the conclusions drawn will be based on a considered review of the evidence available. However, the archaeological/historical resource is unpredictable, and the encountering of unexpected remains on the site cannot be ruled out. Examination of such deposits is beyond the scope of the specification and must be agreed by separate negotiation.
- 6.3.2 Should there need to be a variation to the provisions of the specification, this will be agreed in advance with the Client and the relevant Planning Authority or their agents.

6.4 Quality Control

- 6.4.1 GGAT will carry out the work in accordance with the Chartered Institute for Archaeologist's *Code of Conduct*, *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology*, and other related by-laws, and the *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures* currently in force.

6.5 Arbitration

- 6.5.1 Any dispute or difference arising out of a contract in relation to this work will be referred for a decision in accordance with the Rules of the Chartered Institute of Arbitrators' *Arbitration Scheme for the Institute for Archaeologists* applying at the date of the agreement.

7 References

Crawford, J. 2019. *Furzemill Pond, Margam Park: Heritage Impact Assessment*.
GGAT Report No. 2019/053

Cartographic:

1814 Margam Park Estate Map (West Glamorgan Archives DD/Ma/E 1/1-2)

1876 First Edition Ordnance Survey, 1:2500

Legislative and CIfA guidelines:

Chartered Institute for Archaeologists. 2014a. *Standard and Guidance for an archaeological watching brief*.

Chartered Institute for Archaeologists. 2014b. *Standard and Guidance for the archaeological investigation of standing buildings or structures*.

Historic England. 2016. *Understanding Historic Buildings, A guide to good recording practice*.

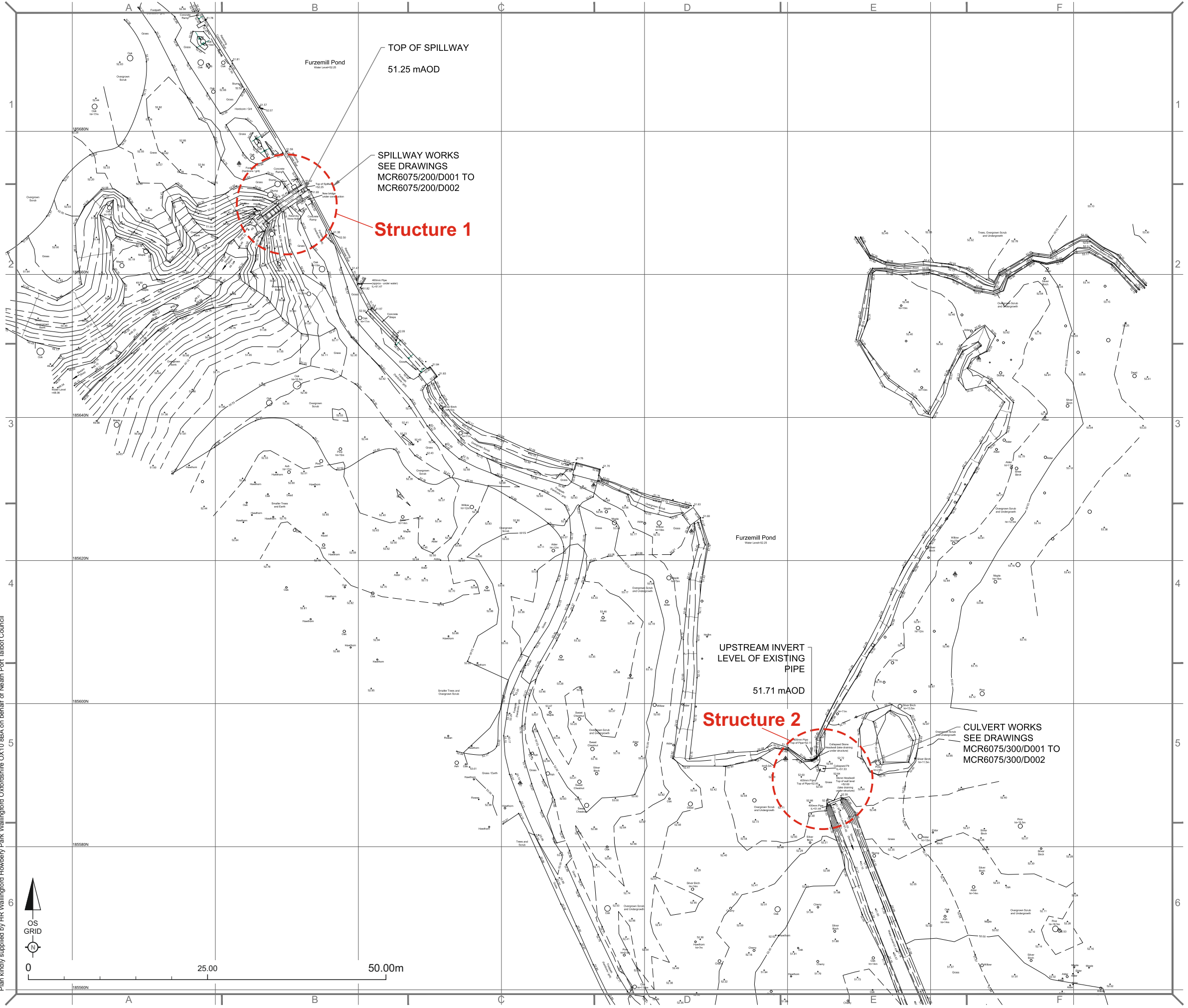
National Panel for Archaeological Archives in Wales. 2017. *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales*.

Websites

BGS. 2019. British Geological Survey Interactive Map <http://www.bgs.ac.uk/>
(Accessed 04/10/2019)

Historic Environment Records (HER) Enquiry 6121.

Furzemill Pond, Margam Park, Neath Port Talbot: archaeological written scheme of investigation



Plan kindly supplied by HR Wallingford Howbery Park Wallingford Oxfordshire OX10 8BA on behalf of Neath Port Talbot Council

Figure 1. Client drawing showing location of Structures 1 and 2. Developer's drawing number MCR6075_100_SERIES-MCR6075_100_D001.



**Glamorgan-Gwent
Archaeological Trust Ltd
(Projects Department)**



QUALITY CONTROL

Report Title: Furzemill Pond, Margam Park: archaeological written scheme of investigation

Report Date: October 2019

Report Number: 2019/048

Report prepared by: Issica Baron

Position: Project Archaeologist

Date: 20/10/2019

Illustrations prepared by: N/A

Position: -

Date: -

Report checked and authorised by: Johnny Crawford

Position: Assistant Projects Manager

Date: 25/10/19

As part of our desire to provide a quality service we would welcome any comments you may wish to make on the content or presentation of this report.