

**Barr Loch Boardwalk, Renfrewshire:
Archaeological Mitigation**

Archaeological Written Scheme of Investigation

by Thomas Rees

issued 20th August 2022

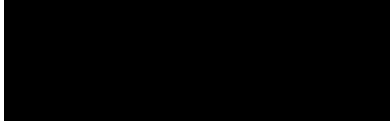
on behalf of RSPB Scotland

RATHMELL 
ARCHAEOLOGY LTD

Quality Assurance

The document has been prepared in keeping with the procedures and guidance of Rathmell Archaeology Limited. All works reported on within this document have been undertaken in keeping with the Chartered Institute for Archaeologists' Standards and Policy Statements and Code of Conduct.

Signed



Date ...20th August 2022.....

In keeping with the procedure of Rathmell Archaeology Limited this document has been reviewed and agreed by an appropriate colleague:

Signed



Date20th August 2022.....

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Introduction

1. This Archaeological Written Scheme of Investigation is for archaeological works required by RSPB Scotland in support of the construction of a new boardwalk at Barr Loch, Renfrewshire (NGR: NS 3588 5840 to NS 3655 5872).
2. The development has been consented through both the planning and scheduled monument consent processes:
 - ❖ **21/01578/PP** Installation of 870m long boardwalk with associated viewpoints; planning consent issued by Renfrewshire Council; and
 - ❖ **300055160** Boardwalk across SW part of designated area to promote access to view the tower, with associated interpretation; Scheduled Monument Consent issued by Historic Environment Scotland.
3. Both consents have been conditioned with a negative suspensive condition requiring the agreement and subsequent implementation of a programme of archaeological works (Condition 1 and 2 respectively).
4. Archaeological mitigation will be through an archaeological watching brief, this being a continuous site presence during groundbreaking operations in identified sensitive areas to identify significant archaeological features and record them before their loss.
5. Rathmell Archaeology Limited has been appointed by RSPB Scotland to undertake the development and implementation of archaeological mitigation works for the project.
6. This archaeological Written Scheme of Investigation provides the detail of the works (monitoring, exclusion, excavation, post-excavation analyses and publication) for the mitigation of groundbreaking works and hence the direct physical impact on buried sediments.
7. The identified structure of appropriate mitigation works is necessary to ensure that the development can proceed while dealing appropriately with the identified adverse impact on the archaeological resource. A suggestive consideration of the possible post-excavation and reporting structure for these works is also presented. Inevitably as works proceed the character of the later stages of this Archaeological Written Scheme of Investigation will be subject to review and enhancement.

Background

8. An Archaeological Impact Assessment has been prepared for the development area, cognisance of this document is assumed within this archaeological Written Scheme of Investigation:

Rees, T (2022) 'Barr Loch Boardwalk, Renfrewshire: Archaeological Impact Assessment', unpublished commercial report by Rathmell Archaeology Ltd
9. This document identifies that there are four archaeological assets within the Development Area. The Peel Tower **S1** is a 16th century tower house that originally stood on an island in the Castle Semple Loch. This island is now connected to the surrounding land by the 1814 bund **S2.1** flanked by a main drain or canal **S2.2** that maintained Aird Meadow as predominantly dry agricultural land during the 19th and early 20th century. A spillway **S2.3** appears to have been added to the bund to the immediate east of the Peel Tower island in the early years of the 20th century; this may have been linked to the mine shafts **S3** sunk on the eastern margin of Aird Meadow. The Glasgow to Ayr rail line **S4** lies to the east and was constructed in 1840, following the intended line of central section of the Glasgow-Ardrossan canal – this section of the canal having never been formed.
10. The Peel Tower **S1** is a Scheduled Monument protected under the Ancient Monuments and Archaeological Areas Act 1979 (as amended). None of the other sites are protected by a heritage designation nor is there a reasonable potential for the presence of buried human remains at any of the known sites.

Mitigation Proposal

11. The impact assessment determined that the development of Barr Loch Boardwalk, Renfrewshire will have direct effect on two archaeological assets. These are the 16th century Peel Tower **S1** and the 1814 reclamation bund **S2.1** with spillway **S2.3**. Mitigation was proposed where this direct impact will affect built structural elements (as opposed to predominantly earthen bunds) or areas with the potential for subsurface archaeological features.
12. The sensitivity and significance of impact on the Peel Tower **S1** and the 1814 reclamation bund **S2.1** with spillway **S2.3** is such that it does not reasonably meet the threshold for preservation *in situ* identified within the LDP. Conversely, the potential for archaeological features relating to the sites does meet the threshold for archaeological mitigation where Minor or Moderate effects are anticipated.
13. In consequence, a programme of archaeological monitoring controlled by an archaeological Written Scheme of Investigation agreed with the planning authority and the West of Scotland Archaeology Service should be undertaken for any development impact (i.e. ground breaking works) where these Minor or Moderate effects are anticipated. These are:
 - a. on the crest and Castle Semple loch face of the bund **S2.1**;
 - b. crossing the spillway **S2.3**; and
 - c. on the 'natural' surface of Peel Tower island.
14. Further, all ground breaking works within the extent of the Scheduled Monument should be subject to a programme of archaeological monitoring controlled by an archaeological Written Scheme of Investigation agreed with Historic Environment Scotland.



Standards

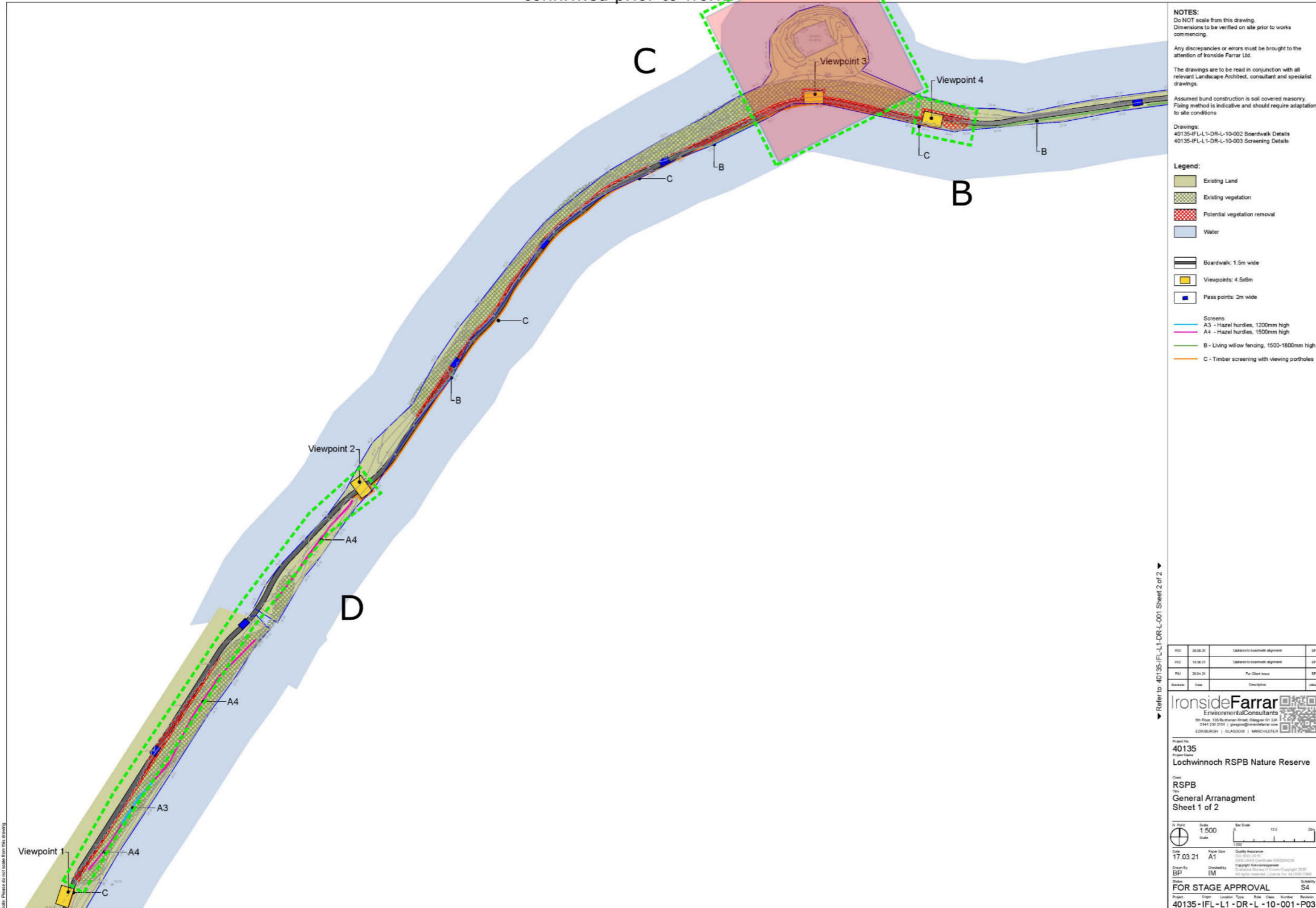
15. This specification conforms to the requirements of PAN 2/2011 Planning and Archaeology. It has been designed following current best archaeological practice and the appropriate national and regional standards and guidelines including:
 - ❖ Procedural Guidance for Archaeology and Development (West of Scotland Archaeology Service);
 - ❖ Code of Conduct (Chartered Institute for Archaeologists 2014 revised to 2022);
 - ❖ Standard and Guidance for an Archaeological Watching Brief (Chartered Institute for Archaeologists 2014 updated to 2020);
 - ❖ Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists 2014 updated to 2020); and
 - ❖ Treasure Trove in Scotland: A code of Practice (Scottish Government 2016)

Objectives

16. The objective of these archaeological works is to wherever possible avoid impact on the historic environment resource by:
 - a. determining when possible the nature, form and extent of significant archaeological features before removal to promote preservation *in situ*;
 - b. ensuring the managed excavation and recording of any archaeologically significant features that will be adversely impacted upon by the development;
 - c. undertaking a programme of analysis of archaeological materials (e.g. artefacts and structural remains) exposed; and
 - d. disseminating the findings of the works through reports, an academic publication and public lecture where significant archaeology has been excavated.
17. These objectives will be achieved through the programme of works detailed here.

Approximate Location of Scheduled Monument - boundary MUST be confirmed prior to works

Key:
 Scheduled Monument
 Watching Brief Area



NOTES:
 Do NOT scale from this drawing. Dimensions to be verified on site prior to works commencing.
 Any discrepancies or errors must be brought to the attention of Ironside Farrar Ltd.
 The drawings are to be read in conjunction with all relevant Landscape Architect, consultant and specialist drawings.
 Assumed bund construction is soil covered masonry. Filing method is indicative and should require adaptation to site conditions.

Drawings:
 40135-IFL-L1-DR-L-10-002 Boardwalk Details
 40135-IFL-L1-DR-L-10-003 Screening Details

Legend:

- Existing Land
- Existing vegetation
- Potential vegetation removal
- Water
- Boardwalk: 1.5m wide
- Viewpoints: 4.5m
- Pass points: 2m wide
- Screens:
 - A3 - Hazel hurdles, 1200mm high
 - A4 - Hazel hurdles, 1500mm high
 - B - Living willow fencing, 1500-1800mm high
 - C - Timber screening with viewing portholes

Refer to: 40135-IFL-L1-DR-L-001 Sheet 2 of 2

REV	20.08.21	Update to match alignment	SP
REV	19.08.21	Update to match alignment	SP
REV	20.04.21	For Client Review	SP
Revision	Type	Description	Author

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Project No: 40135
 Project Name: Lochwinnoch RSPB Nature Reserve
 Client: RSPB
 General Arrangement
 Sheet 1 of 2

Scale: 1:500
 Date: 17.03.21
 Drawn: BP
 Checked: IM
 Quality Assurance: IM
 Copyright: Rathmell Archaeology Ltd 2022
 For Stage Approval: S4

Project	Origin	Location	Type	Rate	Class	Number	Revision
40135-IFL-L1-DR-L-10-001-P03							

Client
 RSPB Scotland

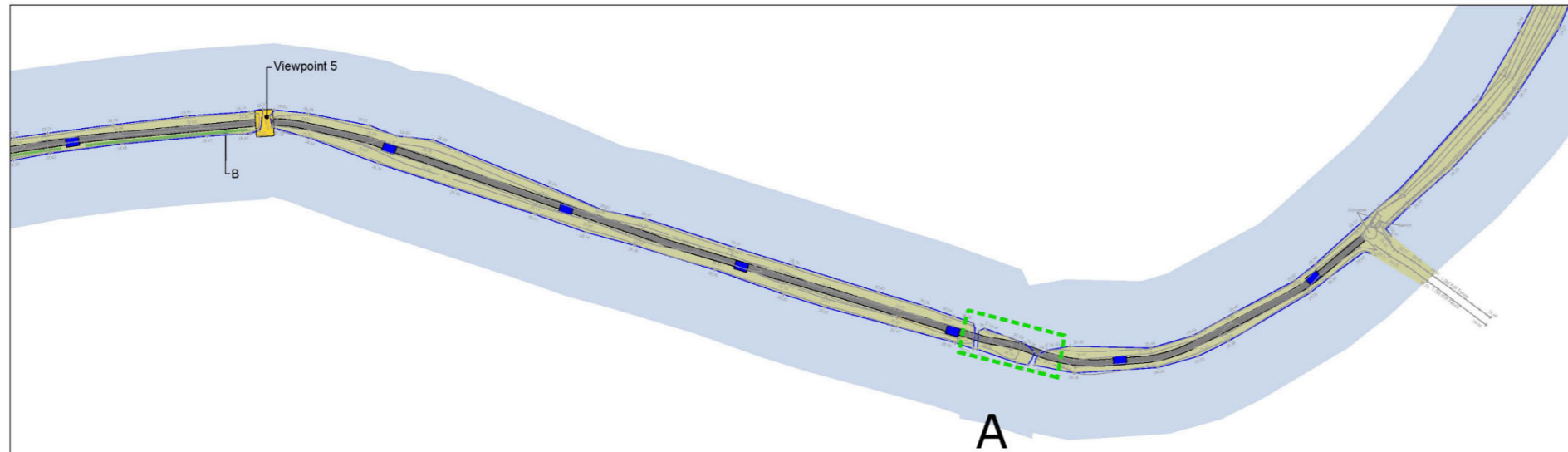
Project Name
 Barr Loch Boardwalk

Title
 WB Areas

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Drawn: TR Date: 19/08/2022
 Checked: LMCK Sheet:

Reference No. RA22028/001



NOTES:
 Do NOT scale from this drawing.
 Dimensions to be verified on site prior to works commencing.
 Any discrepancies or errors must be brought to the attention of Ironside Farrar Ltd.
 The drawings are to be read in conjunction with all relevant Landscape Architect, consultant and specialist drawings.
 Assumed bund construction is soil covered masonry. Fixing method is indicative and should require adaptation to site conditions.

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 40135-IF-L-1-DR-L-10-003 Screening Details

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 - B - Living willow fencing, 1500-1800mm high
 - C - Timber screening with viewing porches

Refer to: 40135-IF-L-1-DR-L-10-001 Sheet 2 of 2

REV	20.08.21	Update boardwalk alignment	BP
REV	19.08.21	Update boardwalk alignment	BP
REV	20.04.21	For Client issue	BP
Revision	Date	Description	Initials

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Project No: 40135
 Project Name: Lochwinnoch RSPB Nature Reserve
 Client: RSPB
 For: General Arrangement
 Sheet 2 of 2

Scale: 1:500
 Date: 17.03.21
 Drawn by: AT
 Checked by: IM
FOR STAGE APPROVAL
 Project: 40135-IF-L-1-DR-L-10-001-P03

Key:

- Scheduled Monument
- Watching Brief Area

Client
RSPB Scotland

Project Name
Barr Loch Boardwalk

Title
WB Areas

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 Tel.: 01294 542848

Drawn: TR Date: 19/08/2022
 Checked: LMCK Sheet:

Reference No. RA22028/002

Project Works

18. A staged programme of works that are anticipated to satisfy the requirements of Renfrewshire Council and Historic Environment Scotland will be undertaken. The first stage of these works is outlined below, including:
- ❖ agree on preparatory paperwork including risk assessments encompassing safe working procedures;
 - ❖ undertake continuous archaeological monitoring on groundbreaking works within identified archaeologically sensitive areas in a manner that will expose any significant archaeological horizons with care;
 - ❖ hand excavation of significant archaeological features exposed by the works which would be impacted on by the build;
 - ❖ production of a report which integrates the findings of the works, detailing the nature, form and extent of the archaeological features;
 - ❖ the submission of an OASIS form; and
 - ❖ in the event of significant archaeology being identified the report will design appropriate post-excavation analyses and reporting, including publication.

19. Prior to ANY works to the west of Viewpoint 4 or to the northeast of Viewpoint 2 the boundary of the Scheduled Monument must be marked out to the agreement of Historic Environment Scotland.

Monitoring

20. The default approach will be for any groundbreaking operations that extend below the current ground surface to be monitored by an archaeologist within sensitive areas as identified by the established criteria (see paras 13-14 above). Based on the current works design (see Figures 1 and 2 above) there are four sensitive areas:
- ❖ A – boardwalk works on the bund as they move onto the Loch face;
 - ❖ B – boardwalk works including Viewpoint 4 as they crossing the spillway;
 - ❖ C – boardwalk works including Viewpoint 3 within the Scheduled Monument; and
 - ❖ D – boardwalk works on the bund as run along the Loch face forward slope from Viewpoint 2 to Viewpoint 1.
21. This monitoring will ensure that any significant archaeological features are identified, investigated and recorded before the loss.
22. Prior to the commencement of any phase of work the current version of the sensitive areas should be checked against the intended works to ensure they remain competent (ie the criteria for sensitive locations per paras 13-14 have been applied to the design to be built). Should any change be appropriate, new copies of Figures 1 and 2 (as appropriate) should be circulated for agreement with West of Scotland Archaeology Service and Historic Environment Scotland, the latter only when the phase includes any portion of the Scheduled Monument.
23. When monitoring is undertaken:
- a. one archaeologist will monitor each excavator (mechanical or auger or hand dig team) that is working to reduce an area;
 - b. any monitored mechanical excavator should work wherever possible with a drawn toothless bucket. No plant should track over any stripped surface until cleared to do so by the archaeologist;
 - c. the archaeologist will have the authority to halt the excavator should an archaeologically significant horizon be met. The archaeologist will monitor the excavator until the underlying natural subsoil has been exposed or the maximum working depth reached;

- d. minor or isolated potential archaeological features identified during works will be excavated (in keeping with excavation protocols below); and
 - e. more extensive or significant potential archaeological features will be assessed, delimited and secured by temporary fencing (erected by the main contractor) pending the determination of how the material should be dealt with.
24. A site-specific response will be needed for any extensive or significant potential archaeological features. The response will typically prefer preservation *in situ* where this is practicable; alternatively, archaeological excavation will be undertaken. The West of Scotland Archaeology Service and Historic Environment Scotland (for works within the Scheduled Monument) will take the final decision on the most appropriate response in any single case.
25. For each temporary fenced area (i.e. site) the proposed response will need to be formally agreed with Historic Environment Scotland (for works within the Scheduled Monument), the West of Scotland Archaeology Service and the Renfrewshire Council through an addendum to the Archaeological Written Scheme of Investigation. A targeted investigation will be carried out within the fenced area to help determine the nature and form of the archaeology to better inform this response. No further works will be progressed within the fenced area (either development or archaeological) until the response is formally agreed.

Treatment of Human Remains

26. Should human skeletal material be exposed then works on that area should be paused to enable the notification of the local constabulary, Renfrewshire Council and the West of Scotland Archaeology Service.
27. Sites with buried human skeletal material are protected. The removal of a body from the grave is not considered theft; rather Scots common law recognises the offence of *crimen violati sepulchre* (violation of sepulchre). In essence, the crime is the disturbance of the corpse without permission. Care must be taken to ensure that no works are undertaken that conflict with this law; this would in part be achieved by complying with Historic Environment Scotland's operational policy paper 5 *The Treatment of Human Remains in Archaeology*.
28. Should extensive deposits of human skeletal material or numerous intact graves be uncovered the response should typically be to alter works to preserve them *in situ* where this is practicable; archaeological excavation can act as an alternate. This has been agreed in the past in certain instances, especially where no record of burial or lair plan can be sourced or the burials are pre-modern. However, there may be a requirement to seek a Sheriff's order for exhumation.

Excavation

29. Where archaeological remains are accessible and where excavation is agreed as the appropriate response the areas will be cleaned using hand tools to define surviving archaeology. The exposed archaeology will then be excavated and recorded.
30. After the cleaning and planning the sampling strategy will be finalised. This will take into account the project aims and the type, quality and quantity of remains revealed. The excavation sampling strategy will seek to maintain the following levels, but the West of Scotland Archaeology Service and Historic Environment Scotland (when within the Scheduled Monument) will take the final decision on the appropriate levels of sampling to be applied in any single case within the planning boundary and may insist on 100% excavation of any archaeological features to be destroyed by the development proposals:
- a. all structures and all zones of specialised activity (e.g. funerary, ceremonial, industrial, agricultural processing) will be fully excavated and all relationships recorded;
 - b. ditches and gullies will have all relationships defined, investigated and recorded. All terminals will be excavated. Sufficient lengths of the feature will be excavated to determine the character of the feature over its entire course; the possibility of re-

- cuts of parts of the feature, and not the whole, will be considered. This will be achieved by a minimum 10% sample of each feature (usually a 1m section every 10m);
- c. sufficient artefact assemblages will be recovered (where possible) to assist in dating the stratigraphic sequence and for obtaining ample ceramic groups for comparison with other sites;
 - d. all pits, as a minimum, will be half-sectioned. Usually, at least 50% (by number) of the pits will be fully excavated. Decisions as to which pits will be fully excavated will be taken in the light of information gained in the half-sectioning taking into consideration, amongst other things; pit function, artefact content and location
 - e. for post and stake holes where they are not forming part of a structure (see above) 50% (by number) will be half-sectioned ensuring that all relationships are investigated. Where deemed necessary, by artefact content, a number may demand full excavation;
 - f. for other types of feature such as working hollows, quarry pits, etc the basic requirement will be that all relationships are ascertained. Further investigation will be a matter of on-site judgment, but will seek to establish as a minimum their extent, date and function; and
 - g. for layers, an on-site decision will be made as to the limits of their excavation. The factors governing the judgment will include the possibility that they mask earlier remains, the need to understand function and depositional processes, and the necessity to recover sufficient artefacts to date the deposit and to meet the project aims.

Recording

31. All recording will be by Rathmell Archaeology Limited standard method. In summary: all contexts, small finds and environmental samples will be given unique numbers; bulk finds will be collected by context; digital images will be captured throughout the work; recording will be undertaken on *pro forma* record cards. An overall site plan will be recorded at 1:100, with significant individual features planned at 1:20 and sections drawn at 1:10.
32. Any artefacts retrieved will be catalogued and subject to standard Treasure Trove procedures. Archaeological deposits will be sampled systematically following Rathmell Archaeology Limited standard environmental sampling practice. All investigated features believed to be significant and man-made will be sampled along with a selection of natural features and topsoil to provide control samples. Bulk samples, a minimum of 10 litres but up to 30 litres if possible, will be taken for wet sieving and flotation.

Liaison

33. At all points during the ongoing works, the client or their representative shall be kept informed of progress and significant developments. Similarly, the West of Scotland Archaeology Service and Historic Environment Scotland shall be kept informed progress of works and significant developments.

Reporting

34. The products of each stage of the works will be as follows:
 - ❖ Data Structure Report presenting the results of the works and incorporating detailed listing of the materials (artefacts, sediments; written record) recovered; also, a narrative would explain the character of the archaeology investigated and compare this to comparable archaeology in the area;
 - ❖ Costed Post-Excavation Research Design will be prepared to identify the potential analyses necessary and the structure for the publication and dissemination of results;
 - ❖ Project archive, to be deposited in National Record of the Historic Environment; and

- ❖ Lists of finds (if any) to be submitted to the Scottish Archaeological Finds Allocation Panel.
35. A full draft of the Data Structure Report will be circulated to Renfrewshire Council, Historic Environment Scotland and the West of Scotland Archaeology Service for comment prior to being finalised. The finalised report will be deposited through the OASIS system.
36. In the event that there is a break of more than 3 months between phases of the boardwalk construction, the Data Structure Report from the phase(s) that have been delivered will be prepared and shared with all parties.

Project details

37. Rathmell Archaeology Ltd could start when required. The subsequent on-site works can then be commenced. The duration of works on-site will depend on the archaeology encountered and the work programme of the main contractor, for the monitoring elements.
38. The initial reporting would be completed within four weeks of the completion of all on-site works.
39. The scope of any post-excavation stages of work will then be agreed with the West of Scotland Archaeology Service, Historic Environment Scotland and Renfrewshire Council within three months of the end of on-site works. All post-excavation works will be completed within twelve months of the agreement of the scope of these works.

Health & Safety

40. Rathmell Archaeology maintains high Health & Safety standards on-site and a copy of our Health & Safety policy is available. The lead archaeologist will liaise with the Main Contractor before coming on-site to ensure that works are conducted safely.
41. Archaeological excavations will not proceed if there is a risk of structural collapse or injury and may be restricted due to the presence of dangerous or live services or contaminants. In this event recording and sampling will be carried out where possible.

Project team

42. The lead Archaeologist for the monitoring will be an experienced field archaeologist and sufficient additional archaeological assistants as are required to deliver the programme of works.
43. Rathmell Archaeology will maintain close contact with Renfrewshire Council and the West of Scotland Archaeology Service with all significant findings being reported immediately. The West of Scotland Archaeology Service will be kept informed of the progress of the project and monitoring visits during fieldwork will be facilitated if requested.

Insurance

44. Rathmell Archaeology is fully indemnified and all necessary insurances can be presented on request. A summary of insurances held is presented below:
- ❖ *Public Liability Insurance* - A policy with limit of indemnity of £5,000,000 is held with Aviva;
 - ❖ *Employer's Liability Insurance* - A policy with limit of indemnity of £10,000,000 is held with Aviva; and
 - ❖ *Professional Indemnity Insurance* - A policy with limit of indemnity of £1,000,000 is held with Hiscox.

References

Museum of London (1994) *Archaeological Site Manual*

Scottish Government (2008) *Treasure Trove in Scotland: A code of Practice*

Scottish Government (2011) *Planning Advice Note 2/2011: Planning & Archaeology*

Watkinson & Neal (1998) *First Aid for Finds*

West of Scotland Archaeology Service, *Procedural Guidance for Archaeology and Development*

Contact Details

45. Rathmell Archaeology can be contacted at our Registered Office or through the web:

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