

CPAT Report No. 1645

Brook House Tank, Leighton, Powys

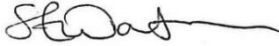


BUILDING SURVEY



YMDDIRIEDOLAETH ARCHAEOLEGOL CLWYD-POWYS

CLWYD-POWYS ARCHAEOLOGICAL TRUST

Client name: Hughes Architects
 CPAT Project No: 2356
 Project Name: Brook House, Leighton
 Grid Reference: SJ2469405093
 County/LPA: Powys
 Planning Application: P/2014/0207
 CPAT Report No: 1645
 Event PRN: 140285
 Report status: Final
 Confidential until: N/A

Prepared by:	Checked by:	Approved by:
		
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4 th March 2019	6 th March 2019	7 th March 2019

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 with the Chartered Institute for Archaeologists

CONTENTS

SUMMARY	ii
1 INTRODUCTION	1
2 LEVEL II BUILDING SURVEY	2
3 CONCLUSIONS	9
4 SOURCES	9
5 ARCHIVE DEPOSITION STATEMENT	9
6 PHOTO CATALOGUE	10
APPENDIX 1: CPAT WSI 2028	15
APPENDIX 2: ANNOTATED EXISTING PLANS AND ELEVATIONS	19

Summary

The Clwyd-Powys Archaeological Trust undertook a building survey in connection with the change of use of an existing outbuilding at Brook House, Leighton, Powys, into holiday accommodation.

The building is grade II listed and is part of the wider Leighton Estate farm. It was built in the early 1850s and functioned as a slurry reservoir and pump house. The building retains much of its original character and displays architectural features that are in keeping with other buildings that form part of the Leighton Estate.

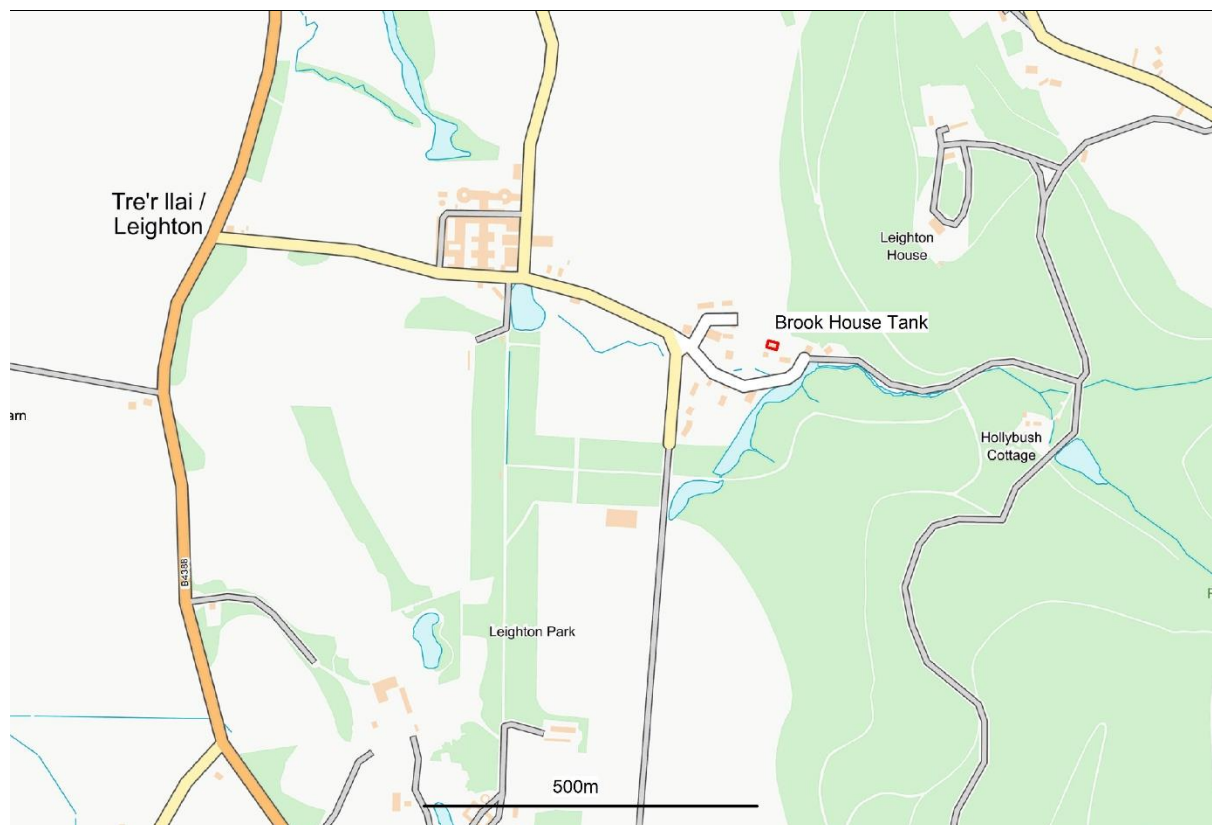
Crynodeb

Bu Ymddiriedolaeth Archaeolegol Clwyd-Powys yn cynnal arolwg adeilad mewn cysylltiad â newid defnydd adeilad allan yn Brook House, Tre'r-llai, Powys, i'w drosi'n llety gwyliau.

Mae'r adeilad yn un rhestredig gradd II ac mae'n rhan o fferm ehangach Stad Tre'r-llai. Cafodd ei adeiladu ar ddechrau'r 1850au fel cronfa biswail a chwt pwmpio. Mae llawer o gymeriad gwreiddiol yr adeilad dal i'w weld, ac mae ganddo nodweddion pensaernïol sy'n gyson ag adeiladau eraill sy'n ffurfio rhan o Stad Tre'r-llai.

1 Introduction

- 1.1. The Field Services Section of the Clwyd-Powys Archaeological Trust were invited by Hughes Architects, acting as agent on behalf of Mr Simon Wootton, to undertake a programme of building recording in connection with the change of use of an existing outbuilding at Brook House, Leighton, into holiday accommodation.
- 1.2. The building is grade II listed (No. 19572 - Brook House Tank) and forms part of the wider Leighton Estate farm (Fig. 1; SJ 24694 05093). It was built in the early 1850s as a tank house incorporating a slurry reservoir and pump house.



Contains Ordnance Survey data © Crown copyright and database right 2018

Fig. 1 Location of Brook House Tank

- 1.3. Planning permission (P/2014/0207) received conditional consent in 2014, with the inclusion of the following condition:
 3. No development of any kind shall commence until the applicant has secured the implementation of a Level 2 archaeological study of the Brook House Tank building in accordance with a curatorial design brief and an approved written scheme of investigation. A copy of the report and project archive shall be submitted in accordance with all current archaeological standards and guidance to the Local Planning Authority and the Development Control Archaeologist, Clwyd-Powys Archaeological Trust, 41 Broad Street, Welshpool, Powys, SY21 7RR.
- 1.4. Subsequently, listed building consent (18/0299/LBC) was granted in 2018 with the inclusion of the following condition:

5. Prior to the commencement of development an appropriate photographic survey, (equivalent to an Historic England Photographic Survey - Understanding Historic Buildings, 2016, 5.5, p.27) of the existing buildings shall be carried out in accordance with details to be submitted to, and approved in writing by the Local Planning Authority. The resulting digital photographs shall be forwarded on appropriate digital media to the Local Planning Authority and the Development Control Archaeologist (Clwyd-Powys Archaeological Trust, 41 Broad Street, Welshpool, Powys, SY21 7RR). After approval by the Local Planning Authority, a copy of the photographs should also be sent to the Historic Environment Record Officer, Clwyd-Powys Archaeological Trust, 41 Broad Street, Welshpool, Powys, SY21 7RR for inclusion in the regional Historic Environment Record.



Fig. 2 The Tank House, with Brook House to the right. Photo CPAT 4602-0032

2 Building Survey

- 2.1. The building survey was undertaken on 4th March 2019 in accordance with the Chartered Institute for Archaeologists' (CIfA) *Standard and guidance for the archaeological investigation and recording of standing buildings or structures* (2014). The survey took the form of a Level 2 building survey as defined by Historic England (2016) *Understanding Historic Buildings: a guide to good recording practice*.
- 2.2. The survey was based on existing architect's plans (Figs 11-13). A photographic survey was completed and where possible a measured survey to record any additional details of interest or significance that form part of the building. These features were marked on the existing plans and elevations (see Figs 4-6).
- 2.3. The building is located to the south-east of the model farm at Leighton, on the south-western slopes of Moel-y-Mab. It is situated within the grounds of the dwelling known as Brook House and is thought to have been one of at least four tank houses

within the Leighton Estate. A map of the Leighton Estate dated 1855 records four Tank houses along with their level in feet above the River Severn which was used as the datum. This recorded:

Pump (20ft)
Farm Building Tank (100ft)
Brook House Tank (202ft)
Moelymab Tank (535ft)
Park Tank (581ft)

- 2.4. The building is not shown on the 1847 Tithe Map of the townships of Trelystan, Rhos Goch and Leighton, although Brook House is marked along with an additional building to the north which had gone by the time of the 1st edition Ordnance Survey map of 1886 (Fig. 3).

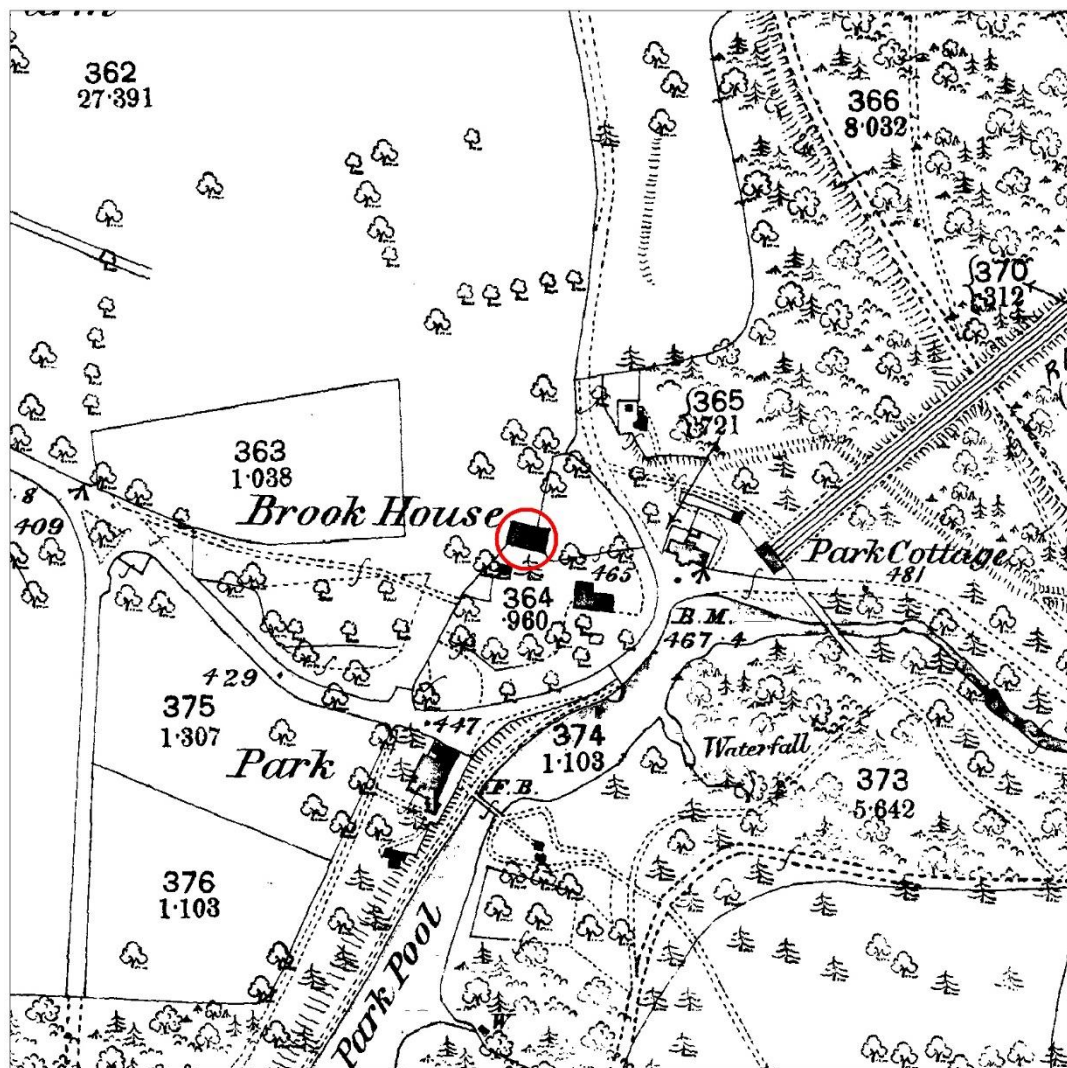


Fig. 3 Extract from the 1st edition Ordnance Survey 25" map, published in 1886. The Tank is circled in red

- 2.5. The Tank House is thought to have been erected around 1850 and was built as a reservoir for manure slurry which was then pumped through a system of copper

pipes to fields on the Leighton Estate. The slurry was composed of manure from Leighton Farm, which was mixed with water and pumped uphill to the Tank House. Brook House Tank would have been an integral part of the Leighton Estate, which was acquired by the Liverpool banker John Naylor in 1846-47 who embarked on an ambitious programme of building, principally Leighton Hall, church and Farm, which was largely completed by the mid-1850s. John Naylor introduced new rational farming methods at Leighton, notably pioneering the recycling of manure as fertiliser and continued to extend and improve the Estate until his death in 1889. His grandson, Captain J.M. Naylor, sold the Estate in 1931.

- 2.6. When the building was in operation there are likely to have been clear views between the Tank House and the main farm at Leighton, however the view has been obscured relatively recently by the development of modern housing in between the two, to the north-east of Brook House.

Exterior

- 2.7. The building is rectangular in plan and of brick construction (individual bricks measuring 215mm x 100mm x 75mm) with coped gables on moulded kneelers and a slated roof. The building is of one storey. The tank located beneath the building was not accessible at the time of survey owing to the presence of hibernating lesser horseshoe bats. However, the tank will not be affected by the proposed refurbishments and future access will be possible in order to monitor the bat activity.
- 2.8. There is a large central, planked doorway to the front elevation (Fig 4) which is accessed via a set of wooden steps. The doorway has a chamfered brick surround and a segmental head of 35 bricks. There are single windows to either side with chamfered brick sills and segmental heads of 13 bricks above. The frames are wooden. To the roof, three roof lights are visible. An oval, iron tie bar is visible below and to the left of the doorway.
- 2.9. The rear elevation (Fig. 5) is set into the hillslope, with a single wooden planked doorway to the centre with a chamfered segmental arch above of 19 bricks and stone sill. As on the front of the building there are single windows to either side with segmental heads of 10 bricks above and chamfered brick sills below.
- 2.10. The western elevation (Fig. 6) contains a small opening at the lower left corner measuring 0.74m across by 0.56m high, with sandstone sill and lintel. The opening afforded a somewhat restricted view into the lower part of the building, which was otherwise inaccessible. A large iron pipe could be seen projecting into the building just below the opening (Fig. 7) and a limited view of the internal arrangement of the tanked area could be seen, which is double brick vaulted with a series of brick arched partitions, constructed from blue engineering bricks (Fig. 8). The iron tie beam could also be seen extending across from the façade towards the rear of the building.
- 2.11. While the eastern elevation (Fig. 9) is relatively plain, a rectangular, overgrown, stone lined drain was noted adjacent to it with a series of iron fixings adhered to the stone.



Fig. 4 The front elevation of the Tank House. Photo CPAT 4602-0001



Fig. 5 The rear elevation of the Tank House. Photo CPAT 4602-0008



Fig. 6 The west elevation of the Tank House. Photo CPAT 4602-0005



Fig. 7 The access to the tank at the base of the west elevation. Photo CPAT 4602-0007



Fig. 8 The interior of the tank. Photo CPAT 4602-0012



Fig. 9 The east elevation of the Tank House. Photo CPAT 4602-0009

Interior

- 2.12. Internally, the building comprises a single, open-plan room. All of the walls were of modern plaster and partly painted. The room is open to the ceiling, with two king post roof trusses with struts.
- 2.13. In between the trusses, two beams (one placed immediately above the other) had been inserted, the ends of which had been cut to fit around each of the truss tie beams. An iron pulley had been fixed to the underside of the cross beam and a wooden mounting block was visible on the upside (Fig. 10). Aligned with the mounting block, a smaller iron pulley could be seen adhered to the side of the northernmost purlin, with the remnants of an iron chain hanging below.



Fig. 10. CPAT Image 4602-0015 showing the beam arrangement.

- 2.14. The majority of the floor was covered over with chip board, though some areas of the original flooring were visible. Immediately inside of the double doorway, red brick edging was visible beneath the later concrete flooring and stone slabs could be seen at the southern corners of the building. Against the eastern gable and central to it, a small raised platform (50mm high by 1.60m long and 1.17m across) of square fire bricks/tiles (22cm square) was also visible.
- 2.15. A hole in the floor at the eastern end of the building provided access to the tank area below although this was boarded over at the time of the survey.

3 Conclusions

- 3.1. The Leighton Estate is an exceptional example of high-Victorian estate development. It is remarkable for the scale and ambition of its conception and planning, the consistency of its design, the extent of its survival, and is the most complete example of its type in Wales. Brook House Tank is an important element of the whole farming complex at Leighton. It is a highly specialised building type which represented a bold attempt to revolutionise agricultural techniques in the context of a model farm of national significance.
- 3.2. Architecturally, the building is in keeping with other buildings within the wider Leighton Estate and although the lower part of the building will not be affected by the proposed refurbishments, it is interesting both in its engineering design and function.

4 Sources

Cartographic Sources

1847 Tithe Map of the townships of Trelystan, Rhos Goch and Leighton in the County of Montgomery.

1855 Map of the Leighton Estate (RCAHMW)

1886 Ordnance Survey 1:2500 1st edition Montgomeryshire 23.16

1902 Ordnance Survey 1:2500 1st edition Montgomeryshire 23.16

5 Archive deposition Statement

- 5.1. The project archive has been prepared according to the CPAT Archive Policy and in line with the CIfA *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives guidance* (2014). The archive is entirely digital and will be deposited jointly with the Historic Environment Record, Clwyd-Powys Archaeological Trust and the National Monuments Record (RCAHMW).

Archive summary

CPAT Event PRN: 140285

35 digital photographs, CPAT film no 4602

4 photographic contact sheets

1 Photographic catalogue

1 A3 plan

2 A3 elevation drawings (front and rear elevations)

6 Photo Catalogue

6.1. See Fig. 11 for the accompanying plan showing the locations of the images.

Image Number	View from	Description
4602-0001	SSW	Façade of Brook House Tank
4602-0002	S	Façade and eastern gable of Brook House Tank
4602-0003	SSW	Window detail to façade
4602-0004	SSW	Iron tie beam to façade
4602-0005	NW	Western gable
4602-0006	NW	Western gable opening
4602-0007	NW	Western gable opening detail
4602-0008	NNE	Rear elevation
4602-0009	SE	Eastern gable
4602-0010	SE	Stone lined drain beside eastern gable
4602-0011	E	View down valley from Brook House Tank
4602-0012	NW	Western gable opening internal tank detail
4602-0013	NW	Western gable
4602-0014	SSE	Internal view of rear doorway
4602-0015	SW	Internal view of beam arrangement
4602-0016	SE	Internal view of trusses
4602-0017	N	Internal view of raised platform against eastern gable
4602-0018	N	Internal view of stone slab flooring
4602-0019	NW	Internal view of trusses
4602-0020	NE	Internal view of main doorway
4602-0021	NE	Internal view of main doorway and beam arrangement
4602-0022	N	Internal view of beam arrangement and pulley
4602-0023	SSE	Internal view of rear doorway
4602-0024	S	External fixings outside of main doorway
4602-0025	SW	Façade window detail
4602-0026	SW	Earlier brick flooring visible beneath later concrete at main doorway
4602-0027	SW	Detail of pulley
4602-0028	NE	Detail of pulleys
4602-0029	SW	Detail of pulley
4602-0030	E	Detail of pulleys
4602-0031	NW	Detail of pulleys
4602-0032	S	General view of Brook House and Brook House Tank
4602-0033	W	Brook
4602-0034	S	General view of Brook House and Brook House Tank
4602-0035	S	Brook



4602-0001.JPG



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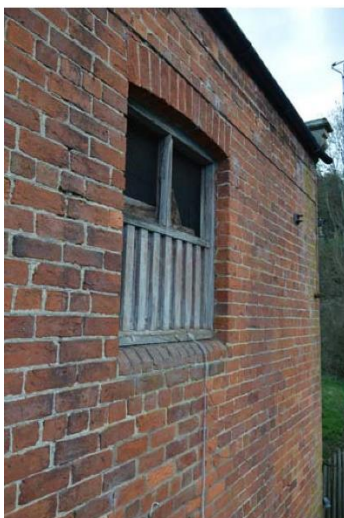
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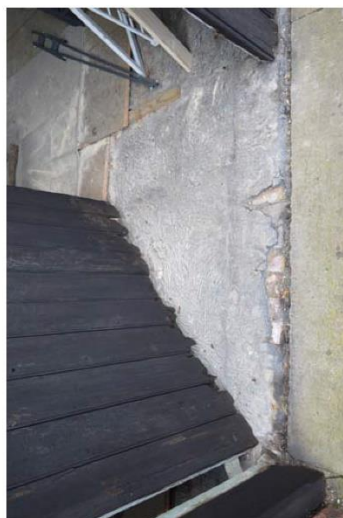
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Appendix 1: CPAT WSI 2028

1 Introduction

- 1.1. The Field Services Section of the Clwyd-Powys Archaeological Trust has been invited Hughes Architects, acting as agent on behalf of Mr Simon Wooton, to submit a proposal for undertaking a programme of building recording in connection with the change of use of an existing outbuilding at Brook House, Leighton (SJ2469405093), into holiday accommodation.
- 1.2. The building is grade II listed (No. 19572) and is part of the wider Leighton Estate model farm. It was built in early 1850's and functioned as a slurry reservoir and pump house.
- 1.3. Planning permission (P/2014/0207) received conditional consent in 2014, with the inclusion of the following condition:
 3. No development of any kind shall commence until the applicant has secured the implementation of a Level 2 archaeological study of the Brook House Tank building in accordance with a curatorial design brief and an approved written scheme of investigation. A copy of the report and project archive shall be submitted in accordance with all current archaeological standards and guidance to the Local Planning Authority and the Development Control Archaeologist, Clwyd-Powys Archaeological Trust, 41 Broad Street, Welshpool, Powys, SY21 7RR.
- 1.4. Subsequently, listed building consent (18/0299/LBC) was granted in 0000 with the inclusion of the following condition:
 5. Prior to the commencement of development an appropriate photographic survey, (equivalent to an Historic England Photographic Survey - Understanding Historic Buildings, 2016, 5.5, p.27) of the existing buildings shall be carried out in accordance with details to be submitted to, and approved in writing by the Local Planning Authority. The resulting digital photographs shall be forwarded on appropriate digital media to the Local Planning Authority and the Development Control Archaeologist (Clwyd-Powys Archaeological Trust, 41 Broad Street, Welshpool, Powys, SY21 7RR). After approval by the Local Planning Authority, a copy of the photographs should also be sent to the Historic Environment Record Officer, Clwyd-Powys Archaeological Trust, 41 Broad Street, Welshpool, Powys, SY21 7RR for inclusion in the regional Historic Environment Record.

2 Objectives

- 2.1. The objectives of the survey are:
 - to describe and record all of the key internal and external components of the surviving outbuilding complex so that a permanent record survives prior to alterations commencing. This will be completed by means of a desktop study and English Heritage Level 2 building survey;
 - to prepare a report outlining the results of the survey;

-
- to prepare a final publication of the results in an appropriate regional or national journal, depending on the nature and significance of any archaeology.

3 Methodology

- 3.1. The archaeological works will be conducted according to the Chartered Institute for Archaeologists' (CIfA) Standard and Guidance for the archaeological investigation and recording of standing buildings or structures (2014), Standard and Guidance for Historic Environment Desk-based Assessment (2014).
- 3.2. The study will include a rapid desk-based study involving readily available sources at the following repositories:
 - the regional Historic Environment Record
 - the National Library of Wales, Aberystwyth
 - the National Monuments Record, Aberystwyth
 - Powys County Archives
- 3.3. All cartographic sources consulted will be included within the desktop section of the report, together with transcriptions of relevant documents and copies of plans, maps and photographs containing relevant information, subject to any copyright restrictions.

Building Survey

- 3.4. The survey will take the form of a Level 2 building survey as defined by Historic England 2016 Understanding Historic Buildings: a guide to good recording practice. This level of survey is intended to create a descriptive record of the building, and will include:
 - Description and photographic record of the exterior and the interior
 - conclusions regarding the building's development and use, but without discussing in detail the evidence on which these conclusions are based
 - A plan and sometimes other drawings but the drawn record will normally not be comprehensive.
- 3.5. The drawn record will be created which it has been assumed can be based on existing drawings. These will be checked and annotated/amended as appropriate using conventional measured survey. The end result will include:
 - Ground floor plan, including the position of structural or architectural detail and fixtures and fittings
 - Phase plans showing the development of the structure
- 3.6. The photographic survey will be conducted using digital photography with a minimum resolution of 12 mega pixels to include:
 - general views
 - external appearance

-
- internal views
 - elevations and structural detail
 - overall appearance
 - fixtures, fittings etc

Report

3.7. Following the on-site work an illustrated report will be prepared containing conventional sections to include:

- Non-technical summary
- Location and NGR
- Statutory designations
- Date of record, recorder and archive deposition
- Introduction
- Site location
- Methodology
- Summary of the form, function, date and development of the building
- Desk-based study, including copies of historic maps and photographs where permitted
- Summary description of the building
- Past and present usage
- Evidence for former existence of demolished structures, removed fittings etc
- Conclusions
- References

3.8. The report summary will be provided in English and Welsh, in accordance with the Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) V1 (July 2018).

Site archive

3.9. The overall archive will conform to guidelines described in Management of Research Projects in the Historic Environment (MoRPHE), Historic England 2006, the CIfA (2014) Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives and The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales (NPAAW, 2017) and Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) V1 (July 2018).

3.10. The paper and digital archive will be deposited with the National Monuments Record (NMR), RCAHMW, including a copy of the final report. This archive will include all written, drawn, survey and photographic records relating directly to the investigations undertaken. NMR Digital archives will follow the standard required by the RCAHMW (RCAHMW 2015). A copy of the digital archive only will also be lodged with the Historic Environment Record, Clwyd-Powys Archaeological Trust.

4 Resources and programming

4.1. The assessment will be undertaken by a team of skilled archaeologists under the overall supervision of Nigel Jones, a senior member of CPAT's staff who is also a

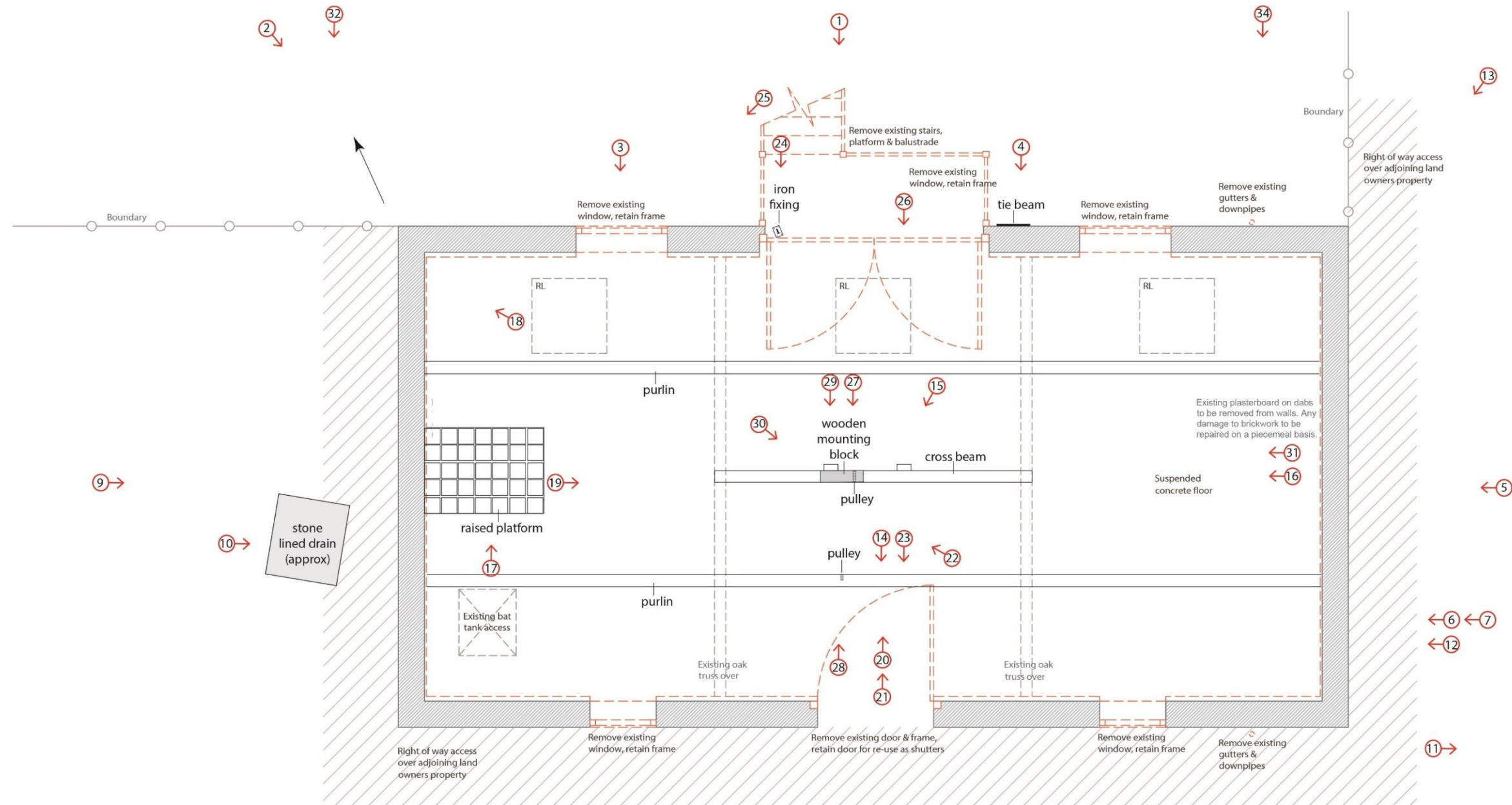
member of the Chartered Institute for Archaeologists (Cifa). CPAT is also a Cifa Registered Organisation (RAO No 6) and as such agrees to abide by their Code of Conduct (2014) and the Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology (2014).

- 4.2. All report preparation will be completed by or with the assistance of the same field archaeologist(s) who conducted the fieldwork.
- 4.3. At present CPAT would be in a position to undertake the survey during March 2019, subject to the receipt of sufficient advanced notice from the client.
- 4.4. Requirements relating to Health and Safety regulations will be adhered to by CPAT and its staff.
- 4.5. CPAT is covered by appropriate Public and Employer's Liability insurance, as well as Professional Indemnity insurance.

N W Jones

27 February 2019

Appendix 2: Annotated existing plans and elevations

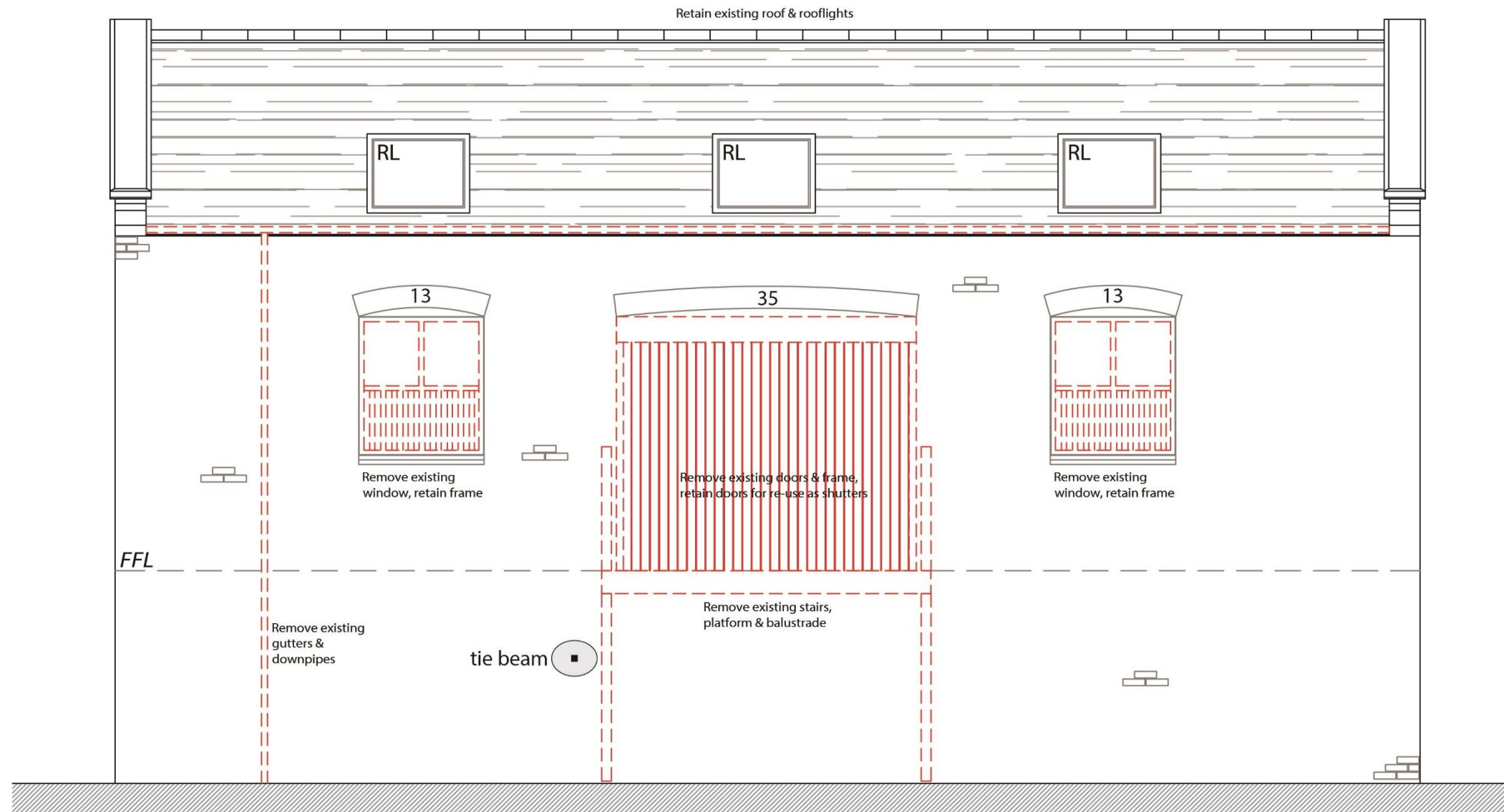


EXISTING GROUND FLOOR PLAN Demolitions and Alterations

0 3m

Dotted lines denote items to be removed.
 All demolition works to comply with **BS 6187:2011** Code of practice for full and partial demolition.
 ALLOW ADEQUATE SUPPORT DURING ALL WORKS TO STRUCTURAL ELEMENTS.

Figure 11. Plan (based on existing) showing locations of photographs and additional structural detail.



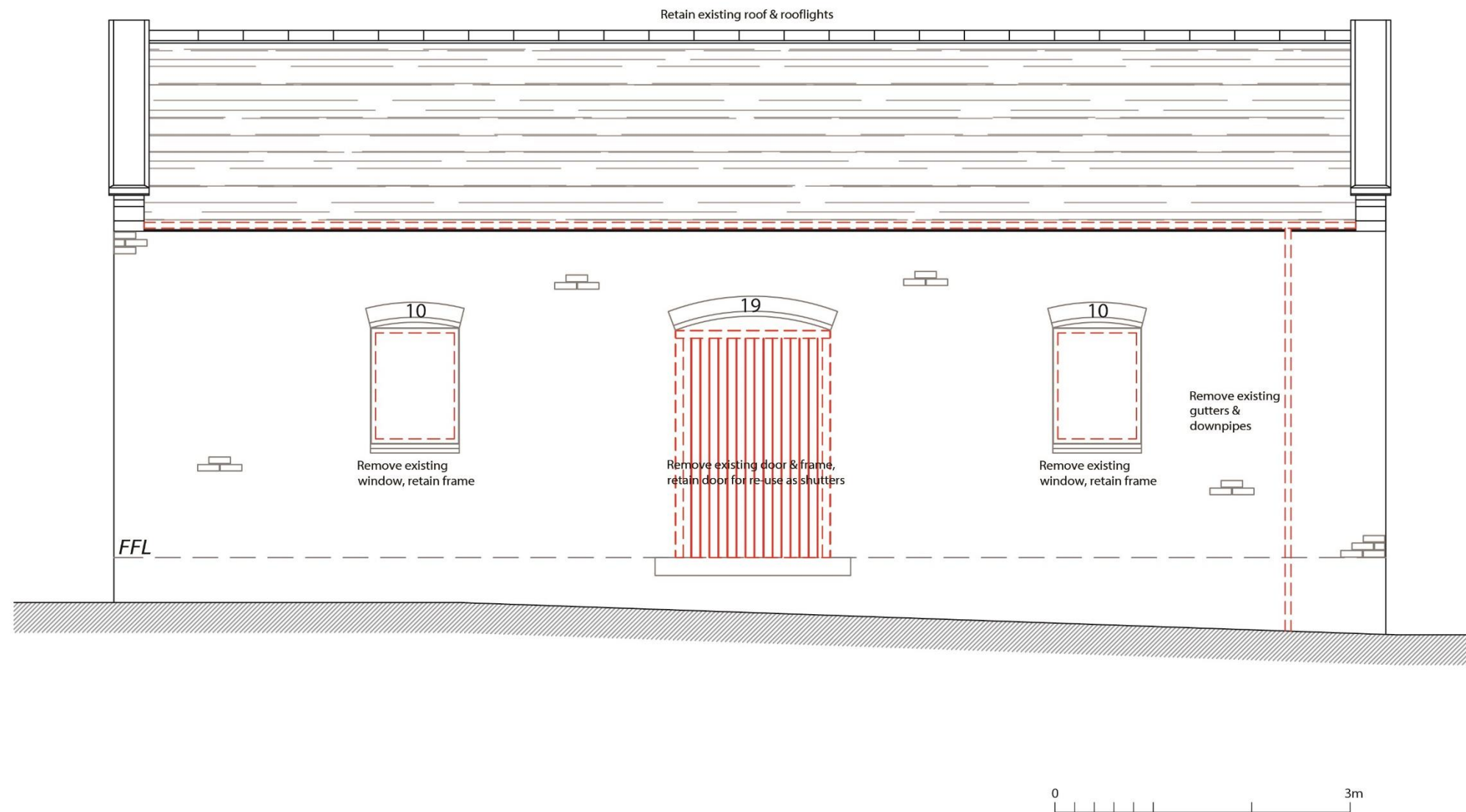
EXISTING SIDE ELEVATION - West Demolitions and Alterations

 Dotted lines denote items to be removed.

All demolition works to comply with BS 6187:2011 Code of practice for full and partial demolition.

ALLOW ADEQUATE SUPPORT DURING ALL WORKS TO STRUCTURAL ELEMENTS.

Figure 12. Front elevation (based on existing) showing additional structural detail.



EXISTING REAR ELEVATION - North Demolitions and Alterations

Dotted lines denote items to be removed.

All demolition works to comply with **BS 6187:2011** Code of practice for full and partial demolition.

ALLOW ADEQUATE SUPPORT DURING ALL WORKS TO STRUCTURAL ELEMENTS.

Figure 13. Rear elevation (based on existing) showing additional structural detail.