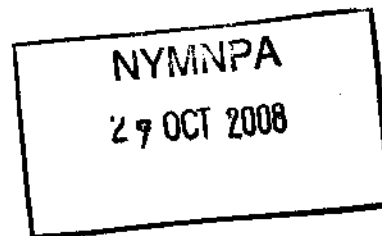


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VISUAL STRUCTURAL SURVEY

**RAITHWAITE HALL
RAITHWAITE HALL ESTATE
SANDESEND ROAD WHITBY**

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- APPENDIX B - SITE PLAN - FIG. 2
- APPENDIX C - EXISTING BUILDING PLANS - FIG. 3
- APPENDIX D - PHOTOGRAPHS

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1.0 INTRODUCTION

- 1.01 CoDA Structures were instructed by D Bamford Architects on 19 September 2007 to undertake a structural survey of Raithwaite Hall, Sandsend Road, Whitby.
- 1.02 The property is the main building on the Raithwaite Hall Estate. The majority of the building is disused, but some rooms are used for offices and storage in relation to the running of holiday cottages on the estate.
- 1.03 The inspection was primarily visual and was to be made from floor levels without the use of access platforms for any high level close examinations.
- 1.04 No exploratory works have been carried out, therefore the majority of the structural elements of the building were not examined.
- 1.05 Sub-soil conditions have not been examined.
- 1.06 Load checks by calculation of major structural elements of the superstructure in order to establish probable permissible floor loading capacity have not been undertaken.
- 1.07 No inspections were made of the drainage systems.
- 1.08 No information on the construction of the building was available.
- 1.09 The property was inspected on 6 December 2007. The weather was overcast with heavy showers.
- 1.10 The estate can be accessed from Sandsend Road.
- 1.11 The Local Authority is Scarborough Council.

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2.0 GENERAL DESCRIPTION OF THE BUILDING

- 2.01 Raithwaite Hall is located approximately at the centre of the estate and is approximately 1 mile to the north west of Whitby Town centre. A site location plan (Fig. 1) is attached in Appendix A.
- 2.02 The Hall appears to date from at least 1853.
- 2.03 A site plan (Fig. 2) is attached in Appendix B.
- 2.04 The building is predominantly a load bearing masonry structure, supporting what appear to be suspended timber floor beams and joists. The roof appears to be formed from 'A' frames and timber purlins, hip beams, valley beams and rafters. The roof has two main twin pitches with a central valley. The roof covering is slate.
- 2.05 The building has a lower ground floor to approximately two thirds of the building footprint. The rear sections of both the first and second floors are approximately 1.0m higher than the first and second floor levels at the front of the building. Attic rooms are present in the rear section of the building.
- 2.06 Building floor plans (Fig. 3) are attached in Appendix C.

3.0 EXISTING CONDITION / OBSERVATIONS**External Inspection****3.01 North Elevation (Gable):**

The front section of the building is constructed of rendered masonry that has been painted at some stage in the past.

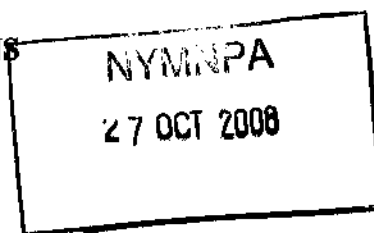
Cracking has occurred below the second floor window cill, and at some stage it appears that the rear roof pitch to the front section of the building has been altered.

The rear section of the building is brickwork which appears to be in good condition with little weathering noted to the pointing.

Feature ashlar stone bands are also in reasonable condition, although slightly weathered.

The lower part of the elevation to the rear section has been rendered at some stage in the past.

Rainwater pipes and soil stacks appear to be in a reasonable state of repair.



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3.02 South Elevation (Gable):

This elevation is generally in a moderately reasonable condition.

The front section of the building is constructed from rendered masonry that has been painted at some stage in the past.

A large picture frame window has been created at ground floor level, and cracking has occurred adjacent to the lintel bearings. Cracking is also evident at both below and above cill head level to the first floor windows.

The rear section of the building is constructed from brickwork which is in reasonably good condition. However, the pointing is slightly weathered.

Feature ashlar window cills, lintels and reveals appear to be in a reasonable condition.

Rainwater pipes and soil stacks appear to be in a reasonable state of repair.

3.03 Western Elevation (Front Elevation):

This elevation appears to be constructed from rendered masonry that has been painted at some stage in the past.

There are large bay windows either side of the main entrance. The bases of the stone mullions are weathered and cracked. Feature ashlar surrounds to other windows appear to be in reasonable condition.

Cracking was also noted between first and second floor level to the right hand bay window.

Cracking is evident over the first floor window head, and to a lesser extent to the second floor window head over the main entrance.

Cracking is also apparent adjacent a first floor window head level to the right hand section of the elevation.

Rainwater pipes and soil stacks appear to be in a reasonable state of repair.

3.04 Eastern Elevation (Rear Elevation):

The rear elevation brickwork and pointing are generally in good condition.

The wall between ground and first floor level appears to be a retaining wall.

Feature stonework at eaves level is slightly weathered, as is the ashlar stone banding adjacent the rear entrance to the building.

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Rainwater pipes and gutters are in a moderate state of repair.

3.05 Roof:

The roof covering, where visible, is in overall terms generally in a good condition. However, slates have slipped on the lean-to to the southern elevation.

The internal valley of the roof appears to be in good condition, having recently been re-leaded. The slates to the internal pitches also appear to be in good condition.

Verge and valley flashings appear to be in reasonable condition.

Chimneys appear to be in a reasonable condition, with no excessive weathering noted. However, the right hand chimney breast has been rendered at some stage in the past.

Internal Inspection**3.06 Ground Floor Level:**

Inspection of the structure at ground floor level was severely limited by the floor and wall coverings.

The ground floor appears to be concrete ground bearing slab and is slightly uneven.

The front right hand ground floor room is disused and is obviously very damp. Slight cracking was also noted in the internal wall adjacent the door into this area.

To the rear of the ground floor at the right hand side there appears to be a brick arched section, which was possibly an old coal store. This area also appears to be damp.

No significant signs of structural movement were noted.

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27 OCT 2008**3.07 First Floor Level:**

At first floor level floor coverings, wall coverings and suspended ceilings (several rooms) are in place, therefore inspection of the structure at this level was severely limited.

The floors generally appear to be of timber construction and are slightly uneven.

Cracking is evident to the original ceilings (where visible).

No significant signs of structural movement were noted, although slight cracking was noted adjacent two openings in internal walls.

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3.08 Second Floor Level:

The second floor level is unheated and is obviously damp throughout. There are signs of water ingress through the bay windows to the front elevation.

The ceilings to the rear of the building are cracked and showing signs of decay and in some areas have been patch repaired.

The floors are timber boards, which are generally in a good condition even though slightly uneven.

Walls generally at this level appear to be in a reasonable condition, but localised cracking was noted to:-

- below the cill to front right hand window;
- internal wall to right hand side of the building;
- to chimney breast in front left hand room.

No other significant signs of structural movement were noted at this level.

3.09 Attic Level (Third Floor):

The third floor where boards have been removed is constructed from timber joists, supported on timber beams.

The floors at this level are generally uneven.

Ceilings to the underside of the rafters are generally cracked. No significant areas of recent obvious water penetration were evident. However, there do appear to be damp areas adjacent the front elevation. Various patch plaster repair works also appear to have been undertaken at some stage in the past.

Local cracking to the masonry has occurred below several hip and valley beams.

No other significant signs of structural movement were noted at this level.

3.10 Existing floor plans (Fig. 3) are attached in Appendix C.

3.11 Photographs taken during the inspection are attached in Appendix D.

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4.0 EXISTING CONDITION / OBSERVATIONS**4.01 Overall:**

In overall terms the building is generally considered to be in a reasonable condition and moderately good state of repair.

The building is not showing major signs of foundation settlement. Minor local cracking was noted in several areas, particularly to stud partitions and render. However, more significant cracking was noted in the following areas:-

- below and adjacent to two window cills at second floor level and to an attic window;
- to an internal wall at second floor level;
- to a chimney breast on the northern elevation at second floor level;
- below hip and valley beam bearings in the attic space.

The structure of the first, second and attic floors in the building was not visible, but appears to be timber joists, possibly with intermediate beams. The floors are slightly uneven and 'out of level'. The ground floor slab appears to be ground bearing and is also uneven.

The building appears to have been reasonably maintained, although there is evidence of water ingress through the roof in several areas. There are areas of damp throughout the building.

4.02 North Elevation (Gable):

This elevation is generally in a reasonable condition.

Minor cracking generally appears to be associated with the render finish and is primarily likely to be due to thermal movement.

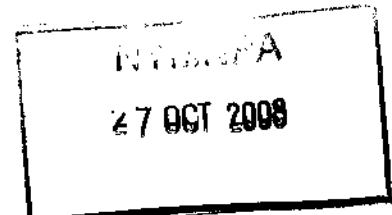
No significant signs of structural movement or cracking were noted.

4.03 South Elevation (Gable):

The cracking noted over the picture window may be the result of deterioration of the lintel used to form the opening, excessive deflection of the lintel or inadequate propping of the wall during installation.

Cracking adjacent the lintel bearing is probably the result of over stressing of the supporting masonry.

No significant signs of structural foundation movement were noted.



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4.04 Western Elevation (Front Elevation):

This elevation is in a moderate condition.

The minor movement and cracking noted generally appears to be associated with existing openings (possible decay to lintels) and possible lateral movement due to lack of restraint at floor level.

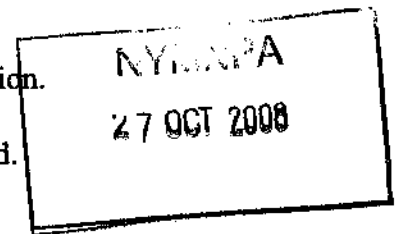
No significant signs of structural movement were noted.

The decay to the mullions on the bay window appears to be a direct result of weathering.

4.05 Eastern Elevation (Rear Elevation):

This elevation generally appears to be in a good condition.

No significant signs of structural movement were noted.



4.06 Roof:

The roof covering, where visible, is in overall terms generally in a good condition. However, slates have slipped on the lean-to to the southern elevation.

The roof structure, where visible, generally appears in a reasonable condition. However, where water ingress has occurred the integrity of the timbers may be suspect.

4.07 Floors:

The ground floor is functional. However, 'unevenness' may be due to settlement.

The suspended first floor construction is unknown, but is likely to be timber. The 'unevenness' of the floor is not uncommon in timber floors in buildings of this age due to shrinkage, creep and warping of timbers.

The cracking to ceiling is not uncommon to lath and plaster, particularly considering the age of the building.

4.08 Internal Walls:

Generally no significant signs of structural movement were noted.

The movement and cracking noted at second floor level generally appears to be associated with existing openings (possibly decay to lintels) and to possible lateral movement due to lack of restraint at floor levels.

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The cracking to masonry noted below several hip and valley beams at attic level may be due to over stressing of the masonry, or due to water ingress causing deterioration of the supporting walls.

4.09 Proposed Conversion:

It is proposed to convert the building to an hotel. In order to achieve this a number of structural repair works and modifications would be required, possibly together with floor strengthening works. These are outlined below, but should not be considered as the definitive works. Further detailed inspections and specialist surveys (timber and damp) would be required, together with uncovering works.

Roof:

- Strip existing slates for reuse and expose the roof timbers for inspection.
- Survey roof timbers and undertake load capacity checks by calculation. Undertake strengthening works as required, replace and renew all defective timbers as required. All timbers should be sprayed with a general timber preservative.
- Rebuild cracked masonry below beam bearings in engineering brickwork.
- Adequately tie in all elevations at eaves and verge level to the roof structure.
- Renew any defective wall plates and strap down with galvanised steel straps.
- Install underfelt, fix new battens and re-slate.
- Renew gutters and downpipes as required.

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Elevations:

- Repointing works as required.
- Undertake horizontal stitching and/or rebuilding work to the cracked masonry on the southern elevation, and to the chimney breast on the northern elevation.
- Adequately tie all elevations into the floor structures.
- Undertake horizontal stitching and/or rebuilding work to the cracked masonry below the second floor windows.
- Ascertain the wall construction. If a cavity wall is present install stitching ties to ensure that the leaves are adequately tied together.

- Install injection dpc. NYM : 2008 / 0 7 9 6 / F L
- Undertake stone repairs to the front bay windows.
- The lintel over the picture window in the southern elevation may need replacing. Rebuild masonry below the lintel bearing and introduce padstones as necessary.

Floors:

- Due to the 'out of level' of the suspended floor consideration may need to be given to its replacement in some areas. Alternatively the existing joists would need to be counter battened with firrings in order to level the floors.
- Survey the floor structure, including supporting beams, and undertake load capacity checks by calculation. Undertake strengthening works as required and replace and renew all defective timbers as required. Strengthen or repair any defective joist and beam bearings as required.
- Install a floating floor, insulation and/or suspended ceiling construction in order to achieve the required acoustic performance.
- Install fire protection as required.
- The ground floor should be broken out and replaced or overcast with a new concrete slab incorporating a dpm and insulation.

Internal Walls:

- Replace timber lintels to all retained openings with concrete lintels.

Further Investigation Works:

The following further investigation works are recommended:- 27 OCT 2008

- specialist timber survey;
- specialist damp survey;
- asbestos survey;
- measured structural survey and load checks by calculation of all main structural members.

Summary:

Extensive works are required to convert the building to a hotel. However, the condition of the building is such that it is considered feasible to undertake the proposed conversion.

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VISUAL STRUCTURAL SURVEY

**RAITHWAITE HALL
RAITHWAITE HALL ESTATE
SANDESEND ROAD WHITBY**

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5.0 CAVEATS

- 5.01 The comments and recommendations made in this report are based on visual inspections. There may be conditions prevailing at the site with respect to the integrity of structural members that have not been encountered during the investigations, and which have therefore not been taken into account in this report.

- 5.02 This report has been prepared for the sole use of Mr G Douglas and his development funders, unless agreed otherwise in writing by CoDA Structures.

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27 OCT 2008

Signed:
J Lawrence B Eng C Eng M I Struct E

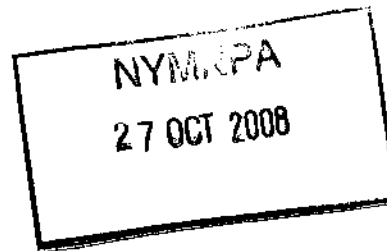
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VISUAL STRUCTURAL SURVEY

**RAITHWAITE HALL
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SANDESEND ROAD WHITBY**

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APPENDIX A

SITE LOCATION PLAN – FIG. 1

Client: MR G DOUGLAS
Project No: 6196
Date: 21 May 2008

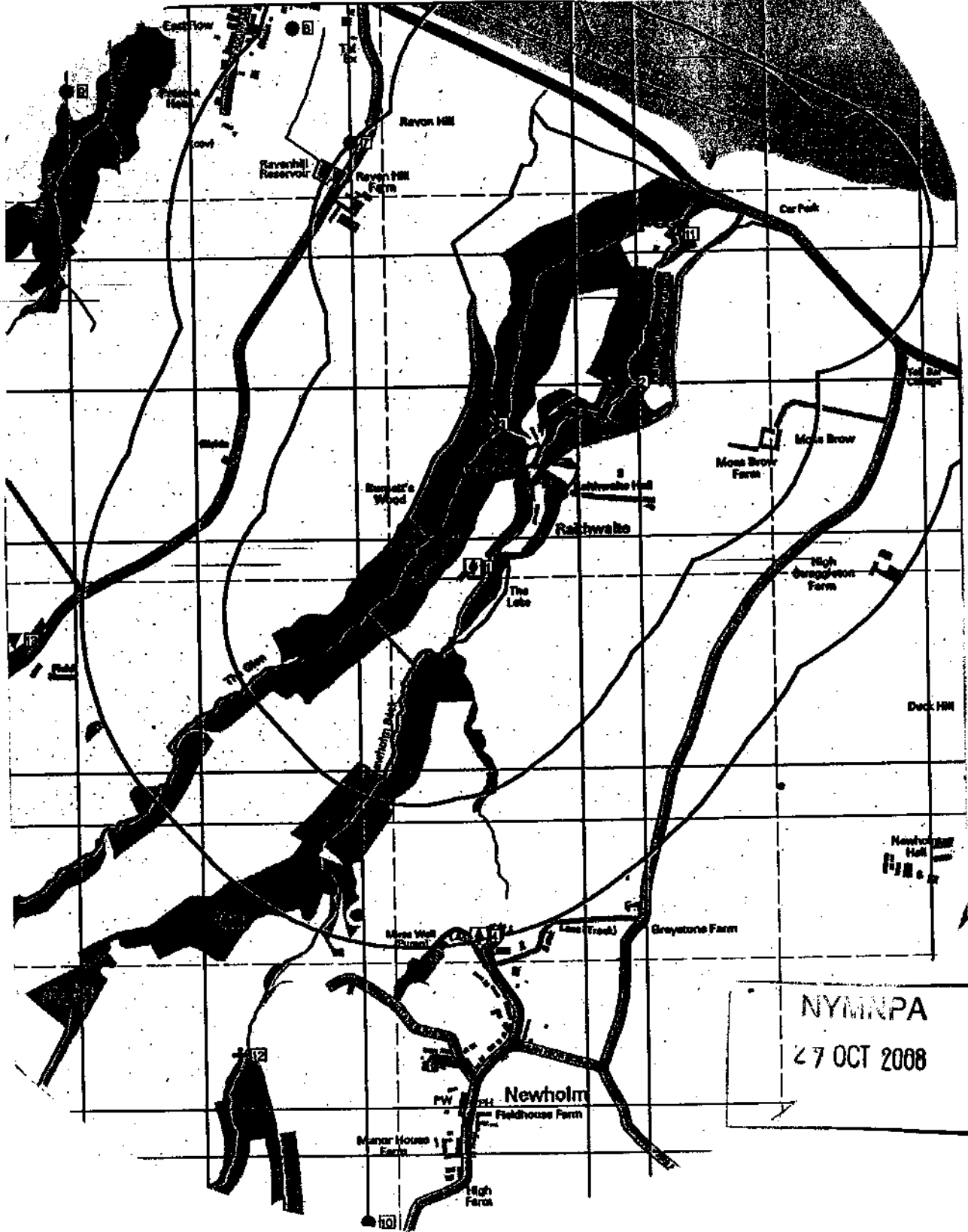
CoDa+ Structures

Consulting Civil & Structural Engineers

No 2 Harewood Yard
Harewood
Leeds LS17 6LP
Tel: 0113 288 6786
Fax: 0113 288 6785

Project	Rathwaite Hall Whitby			
Title	Site Location Plan			
Drawn	JL	Date	02.07	
Scale	1:10000	Checked	JL	
Drwg. No.	6196/Fig1		Rev.	-

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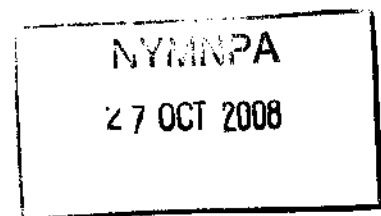
VISUAL STRUCTURAL SURVEY

**RAITHWAITE HALL
RAITHWAITE HALL ESTATE
SANDESEND ROAD WHITBY**

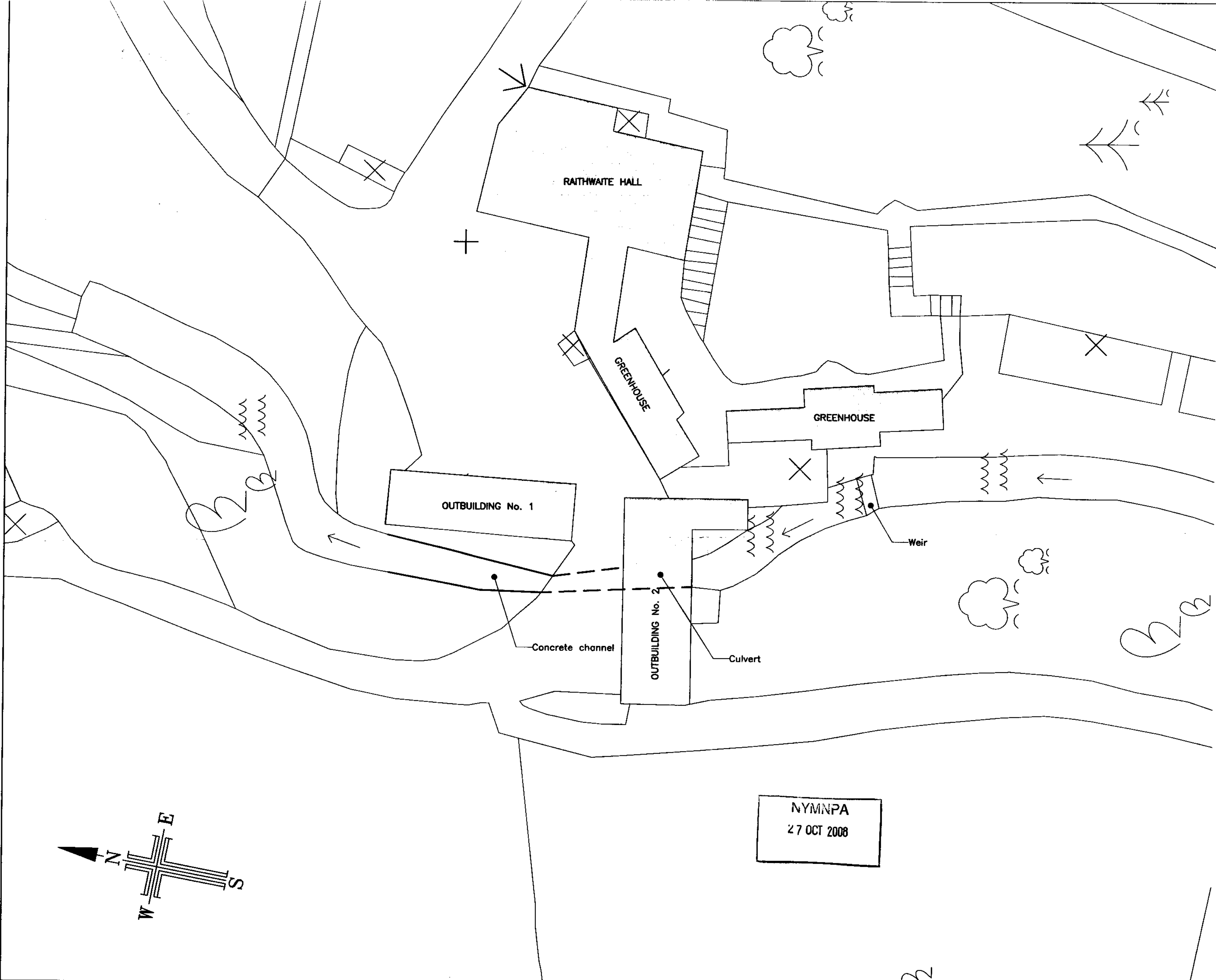
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APPENDIX B

SITE PLAN - FIG. 2



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Rev.	Content	Date

Client		Mr G Douglas	
Project		Raithwaite Hall, Whitby	
Title		Site Plan - Raithwaite Hall	
Drawn	Date	Fig. No.	Rev.
ED	12.07	6196/Fig2	-
Scale	Checked		
1:250	JL		

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RAITHWAITE HALL

RAITHWAITE HALL ESTATE

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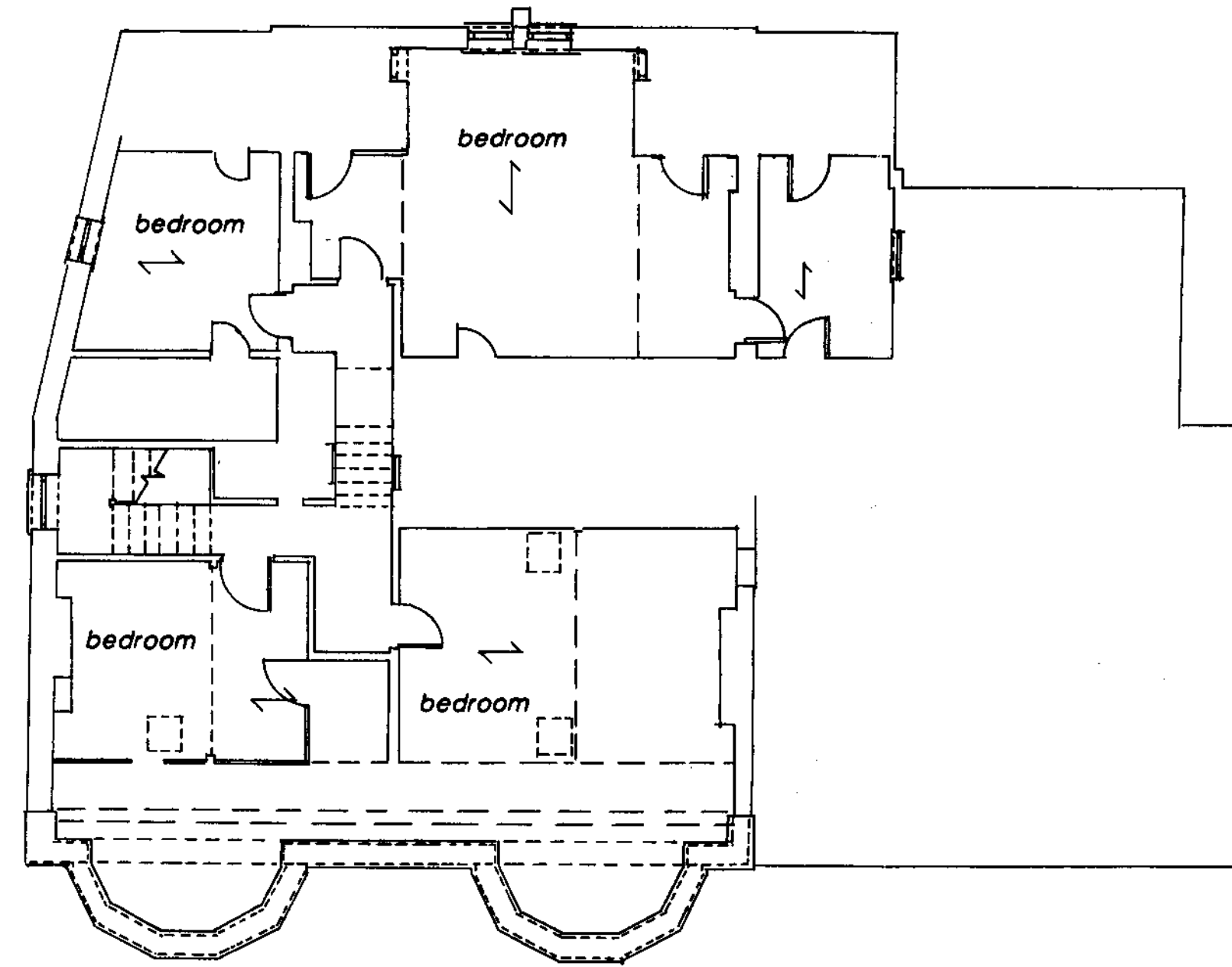


APPENDIX C

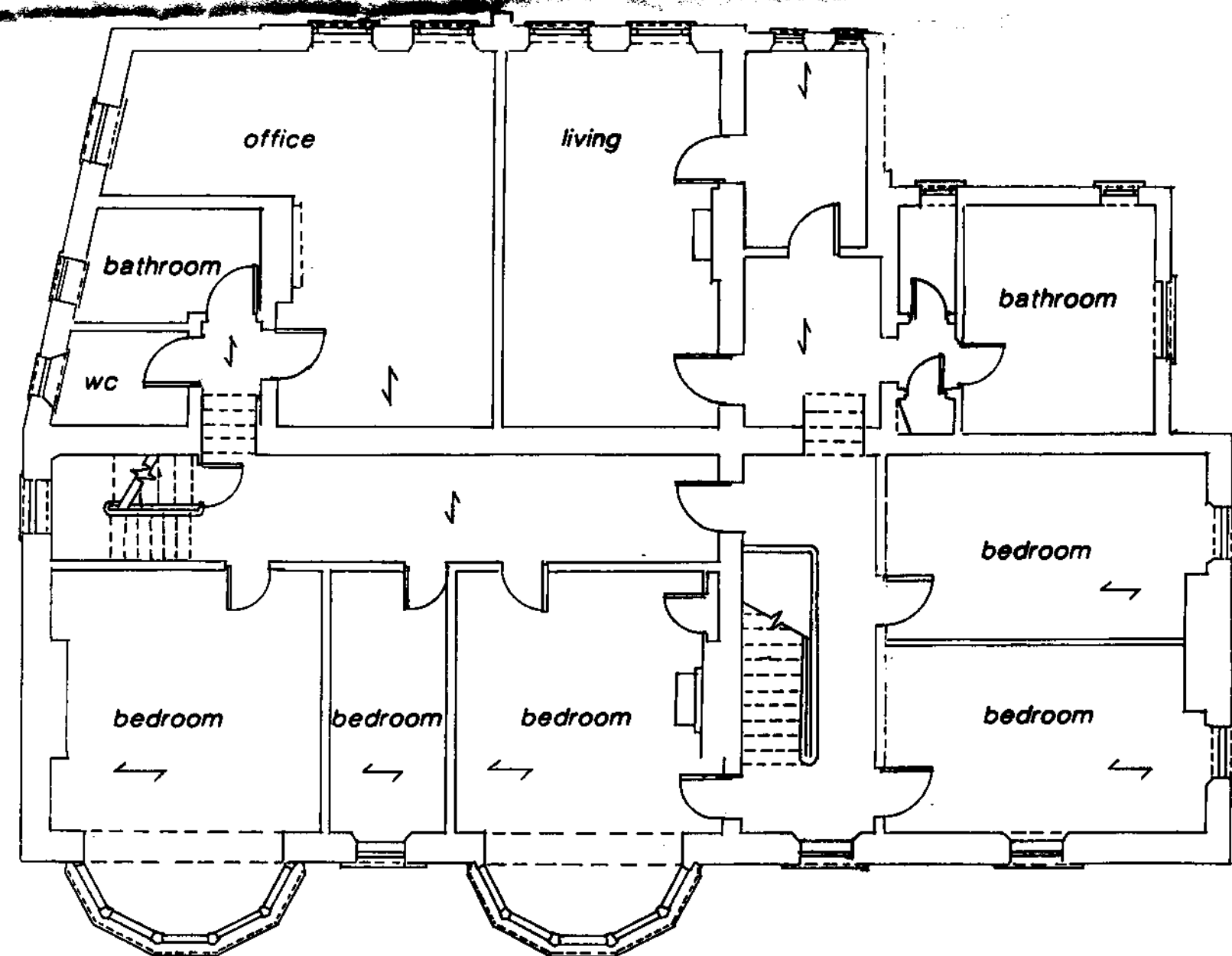
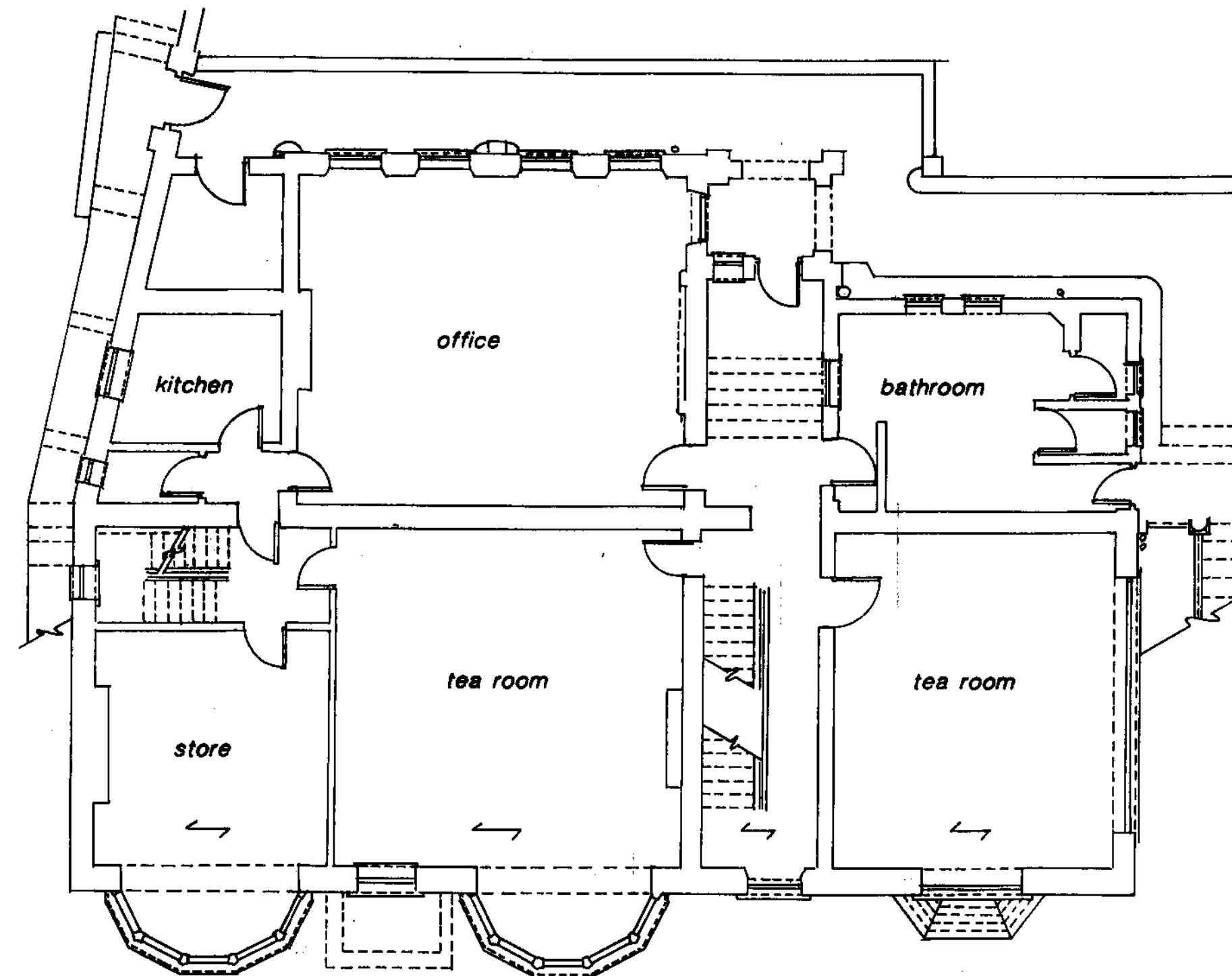
EXISTING BUILDING PLANS – FIG. 3

Client: MR G DOUGLAS
Project No: 6196
Date: 21 May 2008

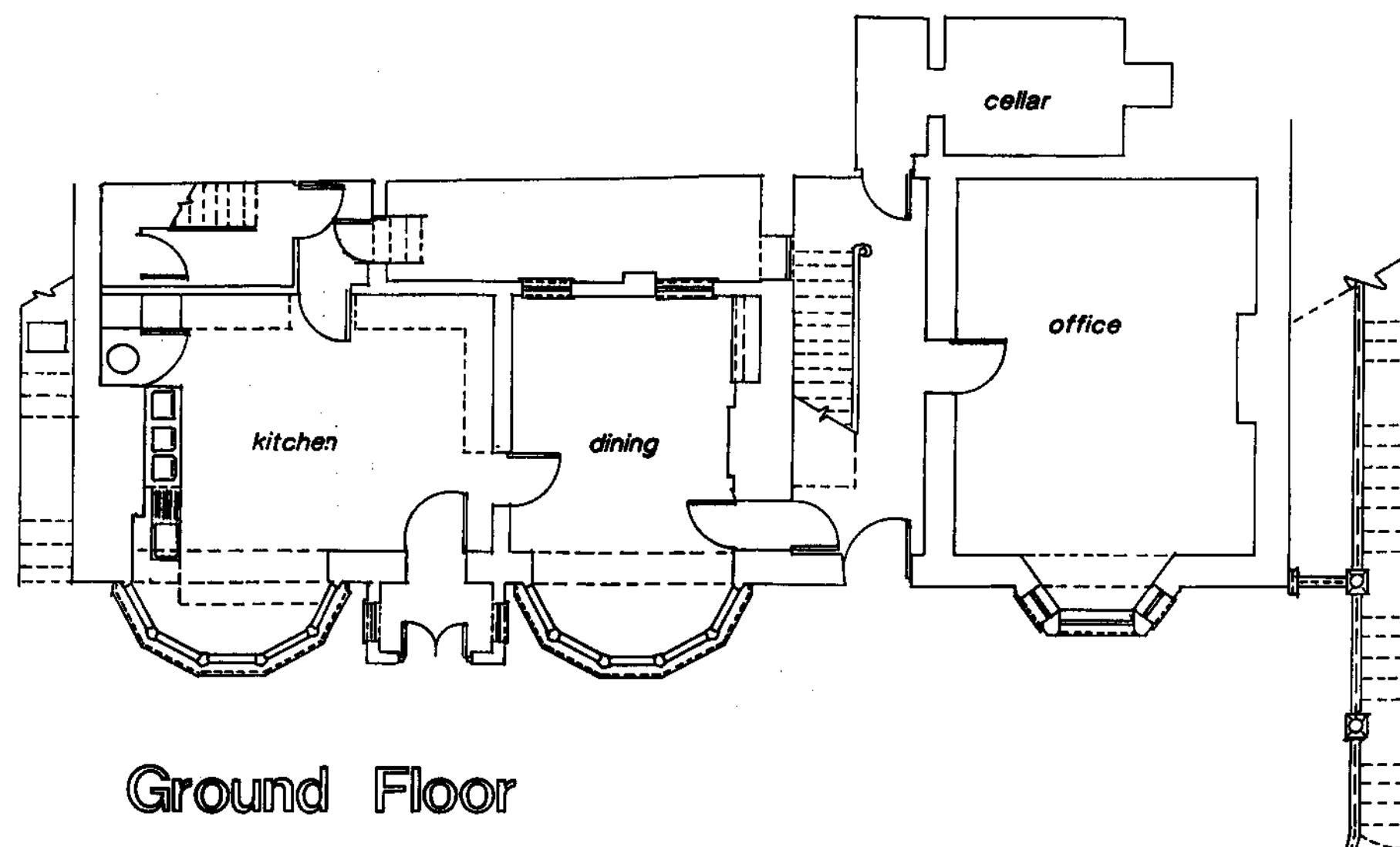
Third Floor



First Floor



Second Floor



Ground Floor

Client	Mr G Douglas			
Project	Raithewaite Hall, Whitby			
Title	Raithewaite Hall - Existing Floor Plans			
Drawn	RD	Date	05.08	
Scale	1:100	Checked	JL	
Dwg. No.	6196/ Fig3		Rev.	-

Survey Details
Raithewaite Hall
SandSEND, Whitby

scale 1/100

dwg a.1

9/8/07

David R. Bamford
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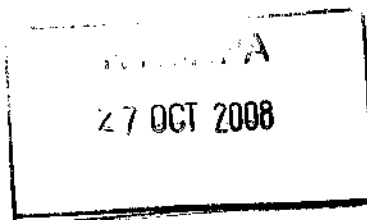
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VISUAL STRUCTURAL SURVEY

**RAITHWAITE HALL
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APPENDIX D

PHOTOGRAPHS

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**SITE PHOTOGRAPHS
RAITHWAITE HALL**

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1. West Elevation – part



2. West Elevation – part

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3. East Elevation – part



4. East Elevation – part

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5. North Elevation - part



6. North Elevation - part

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Date: 06 May 2008

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7. South Elevation - part



8. South Elevation - part

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Project No: 6196
Date: 06 May 2008

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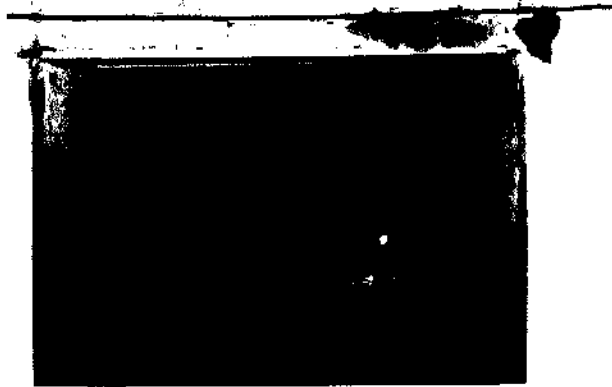
9. Damp at the rear of the ground floor



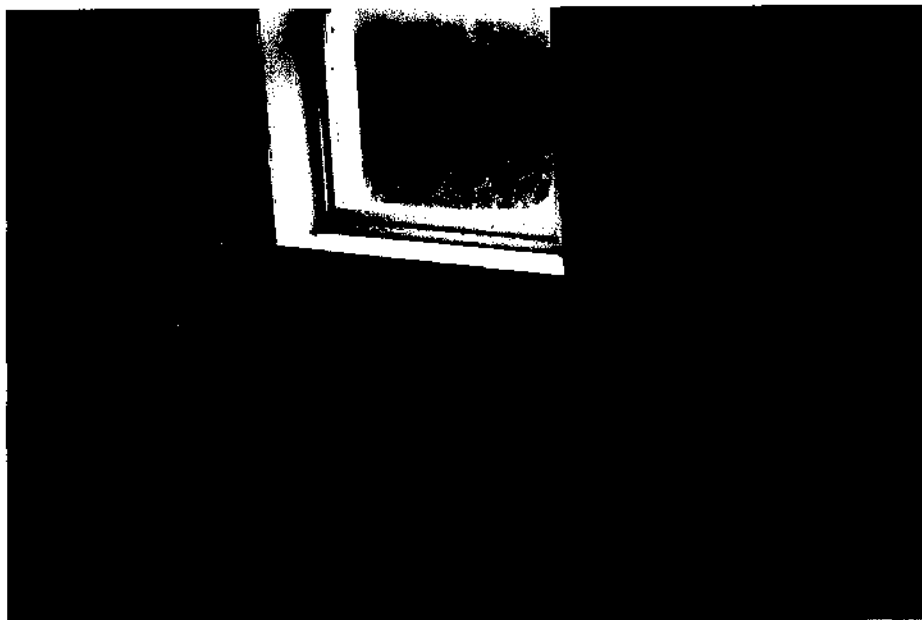
10. Damp to south elevation at ground floor level

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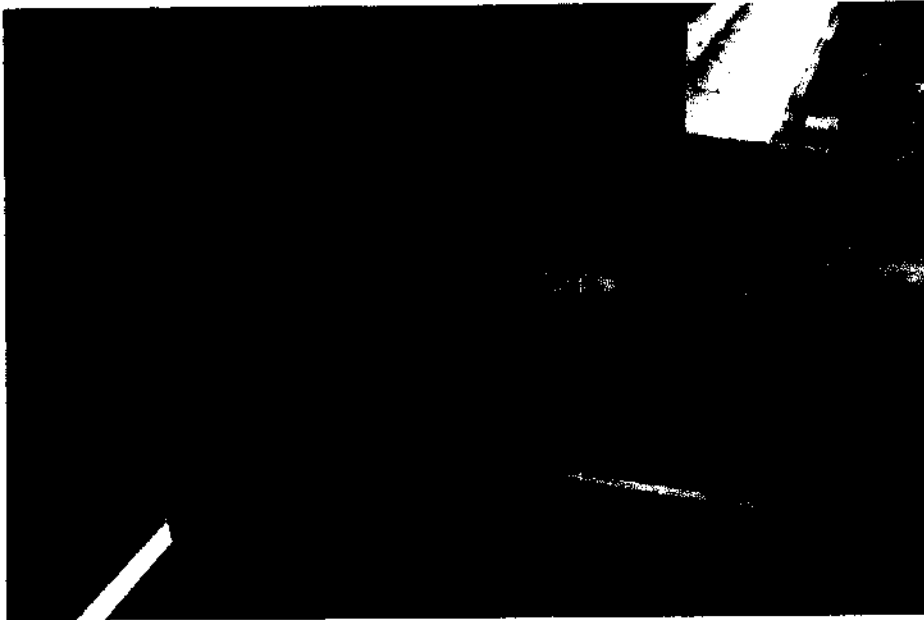
11. Damp and crack adjacent a first floor lintel



12. Cracking to east elevation at 2nd Floor level

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13. Cracking to south elevation at 2nd floor level

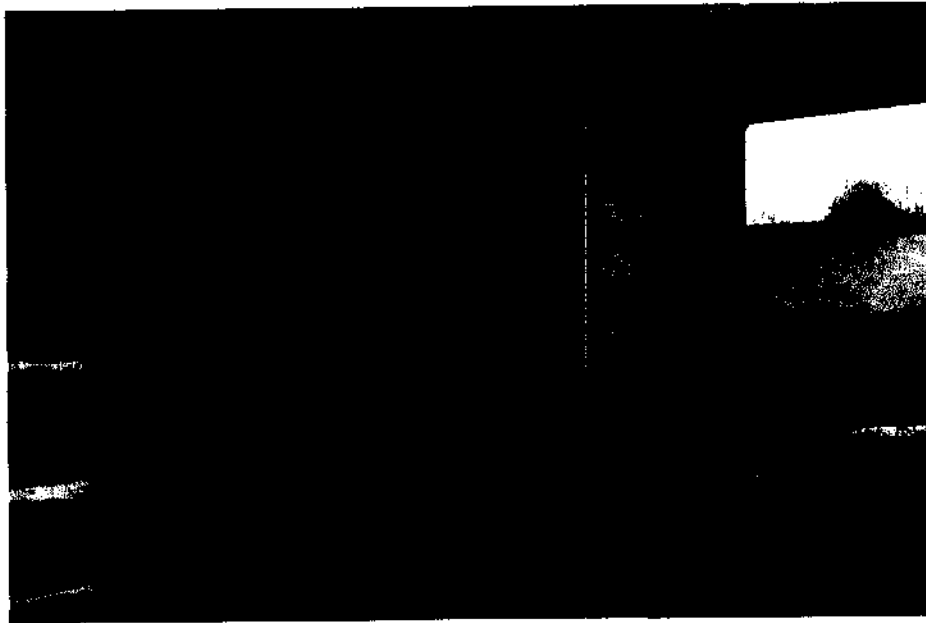


14. Damp to south elevation at 2nd floor level

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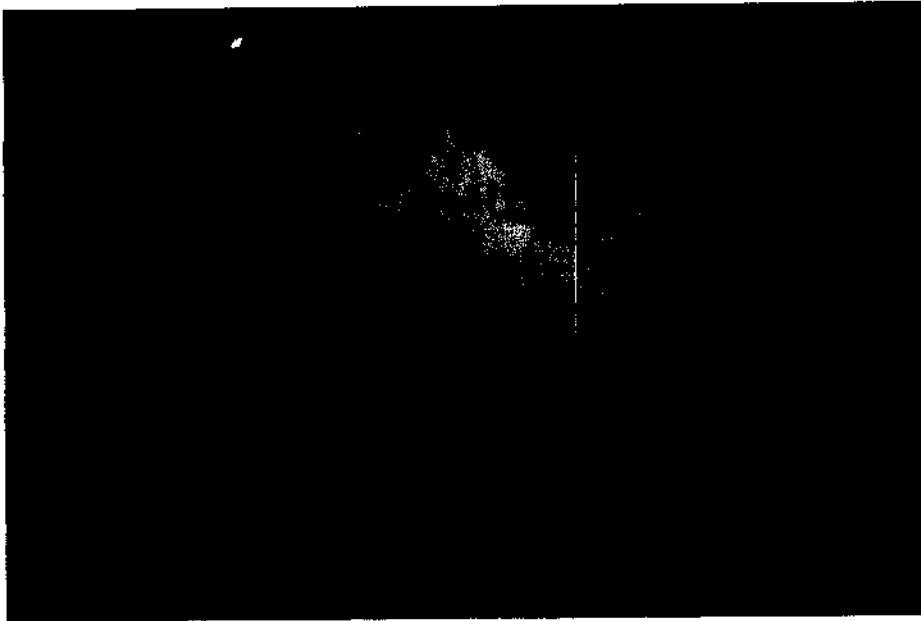
15. Damp to north elevation at 2nd floor level



16. Cracking below valley beam in attic space

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17. Attic space to rear section of building



18. Attic room to rear section of building

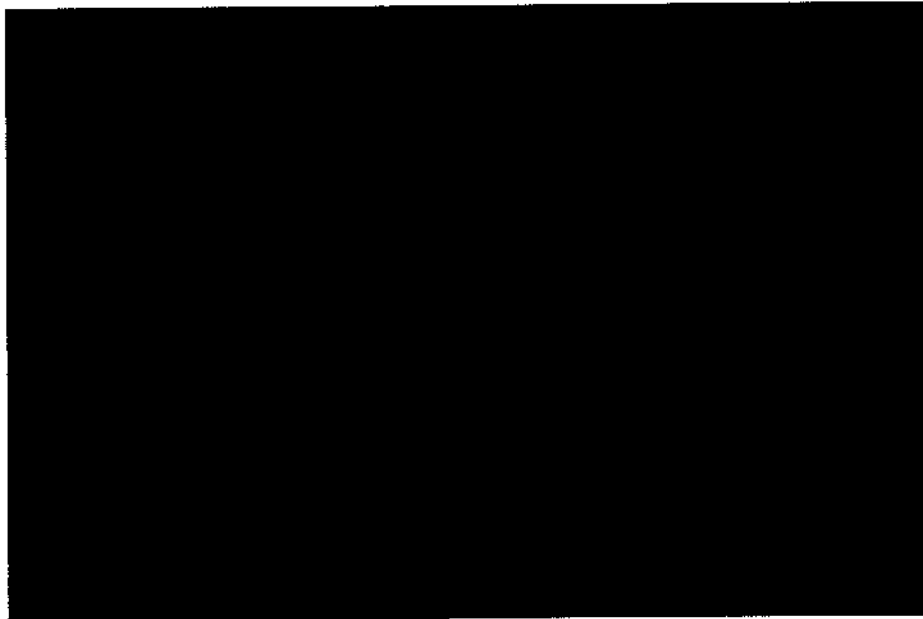
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07 OCT 2008

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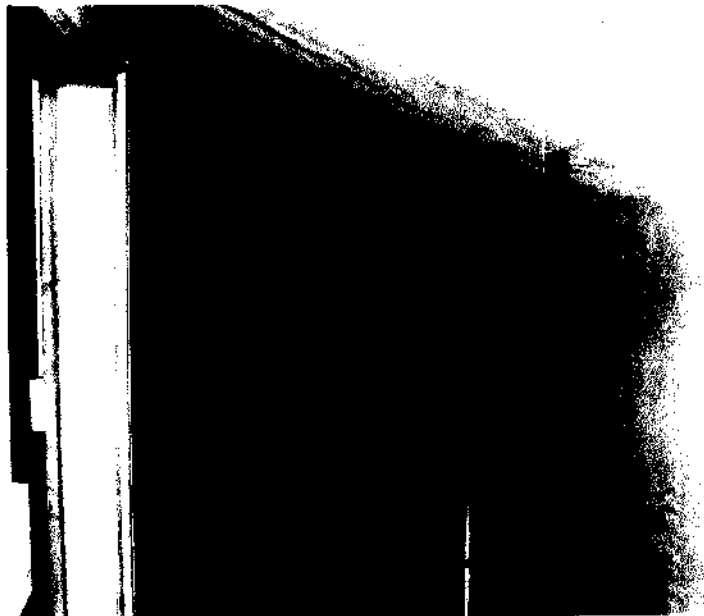
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**SITE PHOTOGRAPHS
RAITHWAITE HALL**

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19. Cracking to chimney breast on north elevation



20. Damp in the Attic area

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Date: 06 May 2008