

# Dunlop House, Dunlop, East Ayrshire Historic Building Recording

## Data Structure Report



by Louise Turner

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on behalf of McTaggart Construction Ltd

**RATHMELL**   
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## Quality Assurance

This report covers works which have been undertaken in keeping with the issued brief as modified by the agreed programme of works. The report has been prepared in keeping with the guidance of Rathmell Archaeology Limited on the preparation of reports. 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.

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

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## Introduction

1. This Data Structure Report has been prepared for McTaggart Construction Ltd, in support of ongoing refurbishment works on Dunlop House, an early 19<sup>th</sup> century mansion designed by David Hamilton. The archaeological works were designed to mitigate the impact on the archaeological remains within the development area.
2. The West of Scotland Archaeology Service (WoSAS) - who advise East Ayrshire Council on archaeological matters - provided guidance on the structure of archaeological works required. Rathmell Archaeology Ltd was appointed by McTaggart Construction Ltd to undertake the development and implementation of archaeological mitigation works.
3. A Conservation Plan was originally drawn up by AOC Archaeology as part of the planning and development process (AOC Archaeology Group 2004), and this, in conjunction with an Architectural Appraisal prepared by ARP Lorimer and Associates, gave guidance as to the scope of the works.
4. Rathmell Archaeology Ltd were subsequently appointed by McTaggart Construction Ltd to act with regard to the archaeological issues. These comprised a longer programme of archaeological and historic building works which were to be undertaken as a requirement of the issued buildings consent. The various elements of this programme of works – in particular the archaeological aspects – have been dealt with elsewhere and will not be discussed here (see Shaw and Williamson 2006).
5. It was understood, right from the outset, that the historic building recording element of the wider programme of works had a crucial role to play, both in fulfilling the requirements of the planning consent and in helping to improve our understanding of both the upstanding Dunlop House and its now-vanished predecessors. The first element of these works was undertaken prior to the commencement of the refurbishment works, and comprised the creation of a comprehensive baseline record and accompanying historic fabric analysis (Matthews *et al.* 2007).
6. This Data Structure Report does not aim to replicate the data or the findings given in the earlier report by Matthews *et al.* It aims instead to collate the further observations made throughout a long-running programme of building survey and recording works with a view to confirming or refuting the findings and conclusions of the previous volume as appropriate. As such, access to and familiarity with the earlier report is recommended, and will indeed be assumed, with the earlier work referenced as appropriate.
7. All works complied with the West of Scotland Archaeology Service Standard Conditions, the Chartered Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Scotland Policy Statements.

## Project Works

8. The bulk of the historic building recording works were carried out between 29<sup>th</sup> October, 2007 and 20<sup>th</sup> June, 2008, though visits continued on an intermittent basis until January 2011. Throughout this earlier period, the building was subject to a long-running programme of refurbishment works which included the stripping back of lath-and-plaster linings from the walls (in order to eradicate the dry rot which had rampaged through much of its extent), the stripping out of timber floors at ground floor level, and, where appropriate, the removal of later wall and floor finishes (e.g. terrazzo).
9. Where alterations at ground floor level were undertaken, the recording works often took on an archaeological element. The primary focus of these works was the identification of any buried remains associated with earlier phases of construction and occupation on the site, i.e. any evidence pertaining to a forerunner of the present Dunlop House. This element of the works proved valuable instead in yielding evidence relating to the evolution of the upstanding 1830s mansion.
10. The stripping of lead from the roof of the building by criminals during the Christmas holiday period of 2010/2011 resulted in the wholesale loss of the original decorative plasterwork following massive amounts of water ingress during what was, unfortunately,

an extremely wet period. By then, the internal layout of the mansion was already fully understood, but a follow-up visit was undertaken in order to confirm that nothing new had emerged as a result of this catastrophic turn of events.

11. No registers have been included in association with this data structure report: instead, the daybook and photographic register can be accessed via the site archive, within which they play a fundamental role.

## Findings: The Exterior

12. A full description of all four external elevations is given in Matthews *et al.* 2007, and it is not proposed to re-iterate this here. During the course of the refurbishment works, significant changes were, however, made to the S and the N elevations, following the removal of two external fire escapes which had been added in recent years. Not only did the removal of these unsightly additions reveal architectural features which had previously been obscured, it also allowed uncluttered views of the remaining two elevations.

### *S Elevation*

13. The addition of the external fire escape on the S elevation had meant an obstructed view of the central, recessed bay of the building. The removal of this later feature allowed a much clearer understanding of the original configuration of this bay, which will be described in detail below.
14. At the uppermost level, significant disruption of the wallhead was apparent (Figure 1a). A gabled dormer of ogival form had been slighted; in addition, traces survived of a frieze that had originally run westwards from the angle-turret at the SE corner to its junction with the gable. Here, the wallhead had been raised through the use of modern brick to create a hipped roof, and a doorway inserted, allowing access onto the fire escape from the third floor.
15. With the addition of the extra opening, the placing of the original second floor window became inappropriate, and it was subsequently blocked. Revealed by the removal of modern structure, we see another blocked window comparable with an extant example still surviving in this bay at second floor level. The entablature which framed it was in keeping with other window openings at this level. A new doorway had been slapped through the wall between these two second floor windows, allowing access onto the fire escape in a location appropriate for the external stair.
16. At first floor level, a massive window had been partly infilled to create a doorway and its external mouldings slighted over much of their length on the W side to accommodate the external stair. However, the overlying strapwork of this window survived in good condition.
17. The ground floor opening was less easy to interpret (Figure 1b). Internally, the edges of the embrasure had been entirely reworked in brick, which may have been undertaken as a means of making an existing doorway narrower. The external mouldings of this opening remain intact, but in this instance, this does not assist interpretation as the line of the plinth course would be appropriate either for a window or a secondary doorway.
18. However, the presence of a doorway in this location is not logical – although Room 014 allows direct access into a servants' stair, access for servants was also suggested within the E wall of the N end of Room 025, a location which makes more sense as it suggests entrance directly into the servant's dining hall and allows access into a back (service) corridor. That the opening was originally a window is further supported by the fact that a blocked fireplace was identified in the W wall of this room, an unlikely feature for a room designed as an access route for servants. The window hypothesis is also more likely given the fact that the original opening was reduced in size through the use of breeze blocks in the upper section as part of its conversion into a doorway.





Figure 1a: S Elevation – Central, Recessed Bay – Upper Storeys & Wallhead



Figure 1b: S Elevation - Central, Recessed Bay, Lower Storeys





Figure 2a: N Elevation – W Bay following removal of External Stair (Upper)



Figure 2b: N Elevation – W Bay following removal of external stair

*N Elevation*

19. No alterations to the wallhead were apparent here, with a raggle indicating the former pitched roofline of the lift shaft where it abutted the original façade (Figure 2a). At second floor level, an original opening had been blocked and a new one inserted. The original opening was a window, the splayed embrasure of which survives intact in Room 202. However, the asymmetrical character of the modern doorway as viewed from the exterior is misleading; the opening matches the original exactly when viewed internally.
20. A similar approach was seen at first floor level (Figure 2b), this time making use of one of the monumental windows. Here the upper section (separated from the main part of the window by a transom and further subdivided by a mullion) remained extant. However, it is likely that the mullion originally extended downwards, subdividing the lower section of the window.
21. The situation at ground floor level was again more ambiguous. With the current opening retained as part of the refurbishment works, and the masonry (both internally and externally) concealed beneath concrete render, there was no way of establishing whether this opening formed part of the original build or not. When viewed from the exterior, its asymmetrical position made the doorway look completely out of place given the arrangement of the fenestration. The presence of a blocked opening at the N end of the E wall strongly suggested that access into Room 025 had originally been via a different route, though this appears to have been blocked at an early date and perhaps replaced by a central doorway which has now been obscured by later modifications. (see *Ground Floor*). This possibility must, however, be balanced against the fact that visible over the modern opening at wallhead level is a row of squared masonry blocks set vertically to form a flat relieving arch similar to those visible over the flanking windows, and a slender timber lintel. The similarity of these features might suggest, however, that there were originally three windows at ground floor level, one of which was converted into a doorway, leaving just the two flanking windows as extant features.

*W Elevation – External Stair*

22. It was suggested in the preceding baseline survey that the external stair servicing the first floor level might in fact be a later addition, indicating a reconfiguration of the SW corner of the building. With the removal of finishes, it was possible to gain further information relating to this structure.
23. The S abutment wall which supports the stair is clearly independent of the adjacent structure, and this might suggest that it did derive from a later phase of build (Figure 3a). However, as is clearly visible here, the masonry of the N external wall of the house (to the left in the photograph) contrasts with the exposed areas in that it comprises unworked rubble, as opposed to the finely tooled blocks used elsewhere. This would suggest that this area of walling was never intended for public view, and that the external stair formed instead an integral part of the original build.

**Findings: Ground Floor (Appendix 2: Plates 1 & 2)**

24. This floor was the largest in terms of its footprint, and it was clear from the outset that it was – out of all four floors – the one most subject to alteration and change. In the structural sense, it also comprised that portion of the walls which had been most subject to stress from the accumulated weight of the overlying structure. The progressive stripping away of surface finishes provided a detailed insight into the repair strategies used to counteract these stresses and strains, as well as yielding details about original construction techniques. Coupled with ground reduction across the full extent of the footprint, the removal of surface finishes also allowed an insight into how the plan of the building may have evolved in the years since its original construction (see Appendix 2, Plate 1 for Phase 1 layout). Since the floor plan is complex, its various component parts will be discussed in turn: room numbers remain consistent with those initially assigned in Matthews *et al.* 2007, except where subdivided rooms have been conjoined, in which case only one number has been retained.



Figure 3a: Interior of Extant External Stair at Ground Floor Level, looking S towards abutment wall



Figure 3b: N Elevation – Line of timber panelling along main stair, S wall, Room 002/003/004

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### *Entrance and Atrium*

25. Prior to refurbishment, access to the interior was via a porch into a larger vestibule (Room 002) which then led into a subdivided chamber occupied by the larger Room 002 and the smaller Rooms 003 and 004. It was recognised that this subdivision was a recent modification, and that this had originally been the site of a grand stair which had formed the principal stair of the house and the means of accessing the impressive atrium at 1<sup>st</sup> floor level. Traces of the stair treads had already been identified (Matthews *et al.* 2007, 30), but the grand nature of this feature was further emphasised by the line of accompanying timber panelling which once lined the walls to dado height along its length (Figure 3b). Hints of the grandeur of this entrance were also provided by a discarded plaster corbel, of scrolled form, recovered from deposits underlying the floor level of corridor 005. This matched those which remained *in situ* at first floor level in the atrium 100.
26. The removal of surface finishes around the original doorways within this room also revealed a detail which would subsequently be identified as a recurring feature throughout much of the original structure. This was the use of relieving arches over door and window openings (Figure 4a). The presence of this feature meant that most of the weight of the overlying masonry was supported by the walls, removing strain from the lintel. This enabled the use of a very slender timber lintel. The lath-and-plaster invariably continued to the height of the lintel, creating a rectangular opening, but it is possible that an arched opening may originally have been envisaged. This particular design was not altogether infallible, judging by the number of attempts at lintel replacement and reinforcement which were identified throughout the building, with windows being particularly susceptible to failure.
27. Also of interest in this portion of the building were the structural details which became apparent as floor levels were reduced. A substantial arch was evident in the N wall at floor level, while a series of massive squared holes were present at regular intervals along the length of the opposing S wall, again at floor level. These might have been perceived as surviving fragments derived from an earlier incarnation of Dunlop House: the low level arch may, for example, have been interpreted as an arched vaulted chamber from a tower-house. It soon became clear, however, that this was not the case: instead, the arch formed part of a subterranean chamber beneath 016 which terminated at its E end in a large flue running up through the centre of the house. This subterranean chamber (unnumbered) is likely to have housed the boiler for a rudimentary heating system, the 'joist' holes perhaps marking the locations of ducts towards the N end of the house.

### *Lift Shaft and Southern Fire Escape*

28. The earlier baseline survey (Matthews *et al.* 2007) had surmised that the lift shaft inserted to the rear of Room 014 utilised an earlier stairwell, but it was only with the removal of the lift and the stripping of associated surface finishes that this hypothesis could be confirmed. The stair was accessed at ground level through a broad arched opening: this may, however, have been largely infilled with timber partition work with entry into the stairwell via a rectangular doorway of standard dimensions. The arched opening was later blocked with brick (Figure 4b).
29. The S wall of the lift shaft had been constructed on the line of an earlier internal wall: traces of the earlier feature still survived (Figure 5a), despite the fact that a hole was punched through the masonry to allow the insertion of the lift and its accompanying mechanism.
30. Another feature noted following the stripping of internal finishes in Room 014 was a central fireplace in the W wall. The presence of such a feature strengthened the hypothesis that the doorway in the S wall of this room was a later insertion, using an opening created originally for use as a window. The presence of the internal wall (largely removed during the construction of the lift) means that the room would originally have been accessed only by the doorway at the E end directly into Corridor 005 with no means of directly accessing the stair from within 014 itself.





Figure 4a: Relieving Arch and *in situ* timber lintel/lath & plaster over doorway between vestibule 001 and 002/003/004 to rear, looking E



Figure 4b: Former arched opening in N wall of lift shaft, viewed from Room 014

31. Changes to the layout in this southern suite of rooms were fairly minimal. The presence of low stone footings running across these rooms in this portion of the structure, indicated that the floors would have been timber, and the ceilings in some of the rooms (in particular Corridors 006 and 005) were of fire-proof jack-arch construction (Figure 5b), a feature mirrored in the NW corner of the building.
32. One change in room arrangement which was evident here was identified in Rooms 010 and 011 (situated in the SE corner). A connecting doorway between these rooms appeared to be a recent insertion (which was itself later blocked up), and a relict fireplace was also identified in the west wall of Room 010.

### *Vaulted Chambers*

33. Early studies of Dunlop House had suggested that the vaulted chambers at the heart of the current structure incorporated structural remains from earlier incarnations of Dunlop House (AOC Archaeology Group 2004). This was challenged in the baseline survey which preceded the refurbishment works (Matthews *et al.* 2007) but it was recognised that any ground-breaking works undertaken within the building footprint might reveal structural remains representative of an earlier structure built upon the same site.
34. The excavations within these rooms did reveal some massive unworked boulders amongst the wall fabric, each measuring up to 0.4 x 0.4 x 0.3m in extent (Figure 6a). As works progressed, it became apparent that rather than representing evidence of an earlier structure, these formed part of the same basal course which could be traced over the entire footprint of the 1830s structure.
35. Also of interest was the presence of a substantial 'stone drain' running across the floor of Room 023 and on into Room 009 via a central gap in the footing of the E wall. These stone-lined ducts or drains were a recurring feature across much of the ground floor, and they appeared to form a rudimentary form of service duct (Figure 6b).
36. Room 009 remained largely unchanged from its original layout. The rearmost wine bins on the south side had been bricked up, but the layout of the room was unchanged. Room 023 had, however, been substantially altered. The hatch in the north wall utilised the location of an earlier doorway, which would potentially have been the only access into the room from the adjacent corridor (Figure 7a). The extant, wide, doorway in the E wall may have been a much later insertion, though this, unfortunately, could not be confirmed as the surface finishes were left intact here and the original masonry remained concealed.

### *Kitchen Area and Courtyard*

37. It was clear during the baseline survey that this portion of the building had been subject to substantial reworking and alteration, but it was only during the refurbishment works that the evolution of this space could be better understood.
38. Traces of tussing at lower levels in the masonry which made up the S end of the E and W walls confirmed the presence of a cross-wall separating Room 007 from an E-W extension of Corridors 005 and 015 (Figure 7b). The presence of an upstanding stretch of cross-wall extending eastwards from N end of the W wall and terminating in a possible door jamb (Figure 8a) illustrates the line of the earlier external wall (flush with the N elevation as it survives at 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> floor level). Following the removal of this wall, the weight of the walls above was redistributed through the insertion of a group of steel reinforcement beams in the ceiling. The use of massive riveted steel beams is mirrored elsewhere the building, their role clearly linked with large-scale consolidation works which are described in detail elsewhere. This work was probably contemporary with the laying of a terrazzo floor throughout 007 and its surrounding corridors: newspapers lining the underside of the terrazzo slabs indicate that these works took place in 1933 (Figure 8b).



Figure 5a: External view of lift shaft, viewed from Room 014, showing hole punched through original masonry and then infilled with brick following insertion of lift



Figure 5b: View of the exposed ceiling fabric in corridor 006, showing fireproof jack-arch construction





Figure 6a: *In situ* boulder course at base of S wall, Room 023



Figure 6b: Stone-built drain or duct running beneath internal wall dividing Rooms 009 and 023



Figure 7a: Site of blocked doorway accessing Room 009 from Corridor 005 (N end)



Figure 7b: Line of earlier E-W walling originally forming cross-wall between Room 007 and Corridor 005





Figure 8a: Line of earlier E-W walling originally forming external N wall of house

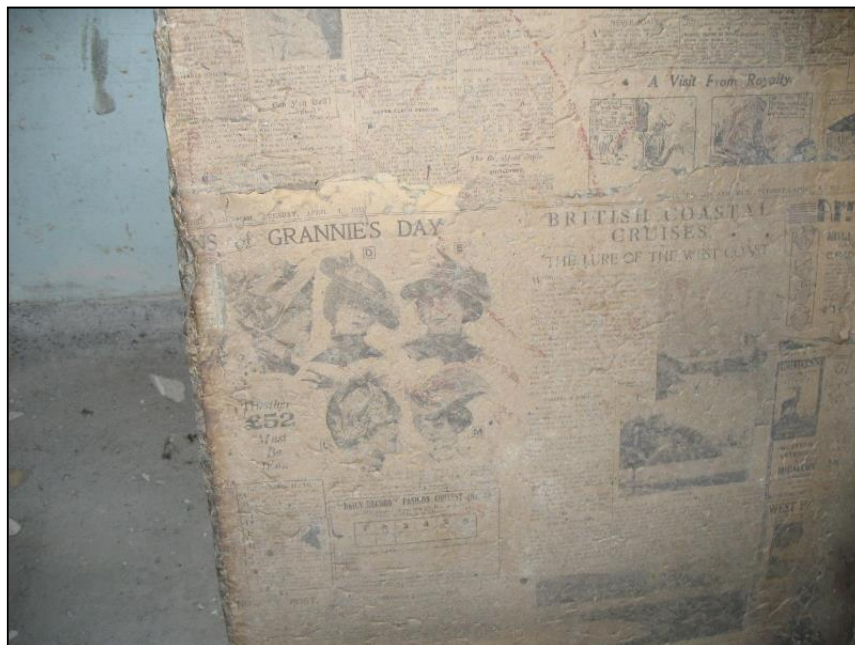


Figure 8b: Preserved 1930s Newspaper on Underside of Terrazzo, Corridor 005 Extension

39. Unfortunately, it was not possible to obtain additional information relating to this northern E-W wall by archaeological methods: the removal of the floor in 007 revealed a substantial excavated area, brick-revetted, which encompassed the extent of the rear portion of the room. This would either have functioned as a basement or, potentially, a coal cellar, and its creation (or expansion?) had resulted in the complete destruction of subsurface deposits throughout this area.

#### *North Elevation (Ground Floor Level)*

40. The arrangement of the N elevation was subject to considerable change, with at least two, and potentially three, phases evident in its construction. In addition to the changes evident in the floor plan of 007, which was extended northwards at one point in the building's history, alterations are also evident in the two projecting service wings.
41. That the bulk of the E wing was contemporary with the main house is demonstrated by the S wall of 031, which marks the junction between the main house and the projecting wing. This wall is roughly worked and not sufficiently well-finished to represent external masonry (Figure 9a). The layout had, however, been changed in recent years. Originally, this section of the structure comprised two, as opposed to four, chambers: 031/032 (now renumbered 031) and 033/034 (now renumbered 033). The floors in both chambers were flagged with sandstone slabs, suggesting a service function: this had later been concealed beneath a layer of terrazzo and the floor level raised (Figure 9b).
42. The origins of the adjacent access corridor 029 were less easy to establish, as the junction between the original W wall and the main house had been compromised through the northwards extension of 007 (Figure 10a). The W wall of 029 was modern (brick), but this may reflect a widening of the passageway rather than the creation of a new space. While the raggle of the original roofline terminated at the N-S running wall which marked the W limits of Room 031, it may have continued onwards to cover an adjacent corridor; this portion of the wall was, however, removed when the W wall of 029 was rebuilt and the wallhead altered to create a much shallower roof pitch. There were suggestions that the sandstone slabbed floor extended westwards into Corridor 029, too, which again tends to argue that this area originally functioned as an internal space, of which only fragmentary evidence now survives as a result of modern reworking. The modern external access into 034, through the W wall, is a later insertion, with the original access having been through the S wall, i.e. from within Corridor 029.
43. The W wing appears to have originally comprised 026 and the small unnumbered room adjacent. Access to Room 025 may originally have been via 026, but this earlier opening was blocked and replaced by another doorway further to the S on the same wall. The creation of this new opening may have been associated with the modification of the existing layout through the addition of Corridor 027: exposed masonry on the N wall of 035 has the carefully worked character of an external surface, suggesting that this was originally an outdoor area. The existing doorway linking Stair 035 with 027 may also date to the creation of this roofed corridor (presented here as Phase 1a- See Appendix 2, Plate 2).
44. It may, however, be the case that 026 was itself a later addition, with the exterior E wall of 025 representing the original external wall of the building and the subsequently-blocked doorway at its N end enabling direct access into the yard: insufficient information was, however, obtained from the internal W wall of 026 to prove or disprove this theory.

#### *Servants Areas: NE & NW Corners*

45. Three areas of the ground floor layout remain as yet undiscussed. The first is stair 035, which will be considered in a more general summary of access and circulatory routes. The remaining two are the cluster of rooms located variously at the NE and NW parts of the ground floor. Both showed alterations in layout which require some explanation as part of the broader summary of historic alterations.



Figure 9a: S Wall of 031, showing shared wall with main house and raggle



Figure 9b: Sandstone flagged floor revealed beneath modern terrazzo layer, Room 033





Figure 10a: Entrance to Main House Structure, from demolished remnants of Corridor 029, Looking S



Figure 10b: Basal course of boulders marking original S extent of room 025

46. The suite of rooms which make up the NW corner of the ground floor is dominated by Room 025, a large rectangular chamber which covers much of the footprint of the W wing. On account of its size, this was originally characterised by Matthews *et al.* (2007) as the servants' dining room.
47. The existing S wall of 025 proved to be a later insertion, composed of brick. The original line of the S wall lay further to the south by 0.8 metres: its course was revealed during ground reduction works as a line of massive boulders running immediately to the N of the W window opening in Room 022 and following exactly the same line as the partition wall dividing Rooms 105 and 103 at first floor level above (Figure 10b). This meant that part of 022 had actually formed part of 025, with the doorway connecting the former to the latter a later insertion. Extended westwards to join the W wall of the house, this internal division would have slighted the window: it is therefore possible that there was another doorway here, enabling access into Room 025.
48. As already discussed, a blocked doorway at the N end of the E wall of Room 025 may originally have allowed access directly into the courtyard, but this had been infilled and overlain by timber studs for a lath-and-plaster finish. This may have coincided with the re-modelling that included the addition of the adjoining corridors, with access from the yard from this point being realised instead through Corridor 027. While theoretically possible, this potential early floor plan could not be confirmed with any degree of certainty. The longer floor plan of 025 did, however, further support the suggestion that this room had functioned as the servant's dining room, accessed from within the bowels of the house and also from its exterior.
49. Despite the widespread removal of internal finishes throughout much of the building, the floor plan of the NE corner of the main building (excluding the external wing) remained ambiguous. It is likely that the layout mirrored that seen in the opposing, SE, corner, with 015 extending further to N and S to incorporate Cupboard 030, thus forming a single corridor which ultimately terminated in a junction with the N-S running Corridor 005. However, the masonry was obscured by a thick coating of cement at the N end which meant that the details were lost. Though it was difficult to be certain, there may originally have been no direct access from Corridor 015 into Room 016, the latter being accessed instead via Room 007.

### *Circulatory Routes*

50. Locations for the various stairs were proposed in the preceding report (Matthews *et al.* 2007), and the presence of both the main stair (which would have been timber-panelled to dado height) and a secondary stair at the S end of the building was confirmed. These observations have been discussed in detail previously.
51. Alterations to the layout of the main circulatory corridor have also been indicated, in particular in the NE corner of the building where – it was suggested – the original arrangement may have closely mirrored the extant layout in the SE corner.
52. Beneath its surface finishes, the extant secondary stair and stairwell 035 generated as many questions as it did answers. It is possible that the doorway in the N wall was a later insertion: a line of relict walling surviving at its base may indicate that this space originally held unbroken walling, or alternatively, a window: alternatively, however, this line of walling may have functioned as a threshold. If this opening was slapped through what had originally been a solid wall, it would strengthen the possibility that access to the yard was originally via Room 026, direct access to 035 occurring with the creation of Corridors 027 and 028. However, there was also a lintel in the E wall of stair 035 which could not be readily explained. It was set too low to be a doorway, and it did not appear to be the site of a fireplace, either, though the character of the masonry in this location did seem to suggest a blocked opening. It is possible, for example that the basement area at the N end of 007 was an early feature and that this arched 'opening' originally marked the entrance. This might suggest that a set of steps had descended from this point into the basement, with the entrance in the N wall being a later insertion, access to the yard having been through Room 025, or that this had marked the location of a hatch from which goods stored in the basement could be removed for use elsewhere.



## Findings: First Floor (Appendix 2: Plate 3)

53. The manner in which space was organised at first floor level and the function of the various rooms located here was discussed in detail in the earlier baseline survey (Matthews *et al.* 2007): therefore, there will be no attempt to reiterate its conclusions here. Indeed, it was much easier to establish the role and function of the various spaces when important features such as the decorative plasterwork were fully intact.
54. There had been less alteration to the floor plan at first floor level compared with the ground floor. Some important observations had been made previously as part of the baseline survey, i.e. the removal of the main stair and the subsequent flooring of the open atrium at first floor level. But some details had been concealed at the time of the baseline survey and the later stripping of internal finishes allowed these areas to be studied in greater detail. These included the area of the S stair/inserted lift shaft, and the area overlying the altered kitchen area 007; the latter had been converted into toilets and internally subdivided.
55. While the layout of the significant public rooms – i.e. 103, 104 and 105 – had not changed through the years, it was clear that there had been significant failures of the building's fabric in places. In particular, the large bay window in Room 103 displayed evidence of significant repair and consolidation works.

### *S Stair and Lift Shaft (First Floor Level)*

56. The removal of surface finishes within Rooms 102, 107 and 108 allowed confirmation that Rooms 107 and 108 were the result of internal remodelling, something which had already been argued based on the line of the original corning.
57. The line of the stair was revealed within the former lift shaft, further confirming its presence. However, it was the original arrangement of the adjacent first floor rooms which proved to be of greater interest. It had been evident during the original baseline survey that Room 102 had originally extended westwards to incorporate the area later partitioned off to create Rooms 107 and 108: the removal of surface finishes confirmed that the N half of the cross-wall dividing 102 from the adjacent 106 was composed of mortared rubble masonry, while the S half was a timber stud wall (Figure 11a).
58. Originally, access onto the stair had been via a doorway in the N, stone-built portion of this cross-wall: the gap in the masonry had been subsequently infilled with brick, but the line of the jambs could still be identified and the timber lintel was still *in situ*. The location of the doorway into adjacent 106 had also changed: originally, it had been sited at the S end of the timber section of this cross-wall, adjacent to the external S wall of the house. This opening was later blocked with studwork and a replacement cut through the stud wall further to the N, in a slightly off-centre position located immediately adjacent to the S return of stone-built section of the cross-wall.
59. All traces of the N wall of 106 had been removed during the installation of the lift. The E stud wall has already been discussed, which leaves the S and W walls. We can see from the external S elevation of the house that the modern opening in the S wall re-utilised an earlier window: the interior of this elevation was entirely refaced in brick, though the exterior retained the original masonry. The W wall was perhaps the most interesting (Figure 11b). At its S end, the walling at the corner of the room was angled to allow the placing of a rectangular opening, later bricked-up. This opening originally functioned as a doorway allowing access to and from Room 104. A central arched recess in the W wall, again bricked up, must be interpreted as a cupboard or press. Sitting adjacent to this feature at the N end of the W wall was a fireplace, occupying the N corner of the room: its original location can be established by the presence of a stone plinth in the floor in the NW corner. No sign of any fire surround exists in a wall dominated by modern brickwork; presumably the fireplace functioned through the use of a flue shared with the large fireplace in Room 104.



Figure 11a: Room 106 – View from Room 102, showing Masonry Cross-wall (to right) and frame of timber stud wall (to left)



Figure 11b: Room 106 – View of W wall, seen from NE corner

*Modern Toilet Block, First Floor*

60. With the exception of Rooms 102, 104, and 106, much of the first floor layout showed little change from its original form. Some alteration was, however, evident in the north central section of the building (formerly occupied by Rooms 115, 116, 117 and 118) where it sat above the original extent of Room 007, occupying the space between Stair 035 in the W and Room 111 in the E. This area had been subdivided into male and female toilets (presumably during the 1930s), each accessed via separate doorways.
61. The presence of a blocked fireplace subdivided by the later cross-wall separating Rooms 114 and 116 confirmed the late origin of this insertion (Figure 12a). It can be envisaged that originally, Rooms 114-118 (inclusive) had comprised a single space (re-numbered Room 115): the modern layout retained two original doorways, one accessed via stair 035, the other from the main Corridor (Atrium) 101. A blocked arched opening at the W end of the S wall of 115 is more likely to have been a recess than a doorway; the removal of terrazzo at floor level revealed a substantial relieving arch at low level in this location (Figure 12b), arguing against this being a superseded opening.

*Consolidation Works, First Floor*

62. Evidence for large-scale refurbishment had already been identified at ground floor level, through the presence of large, riveted steel beams which have been used in combination with moulded bricks during repair and remodelling works. Three such steel beams were revealed forming a replacement to an early E-W running and load-bearing wall which had originally formed the N elevation of the house and which was removed during the northwards extension of the kitchen 007. This work is likely to have been contemporary with the transformation of the house into an institutionalised establishment, with dating for these works provided by the newspapers adhering to the underside of the terrazzo flooring in 005, i.e. 1930s.
63. The use of riveted steel beams was also evident in the main bay window of Room 103 (Figures 13a & b). This was the most imposing and monumental window in the entire house, and it had clearly been subject to failure at some point: the original lintel, which is composed of a single segmental arch spanning the entire opening, has been reinforced through the addition of three steel beams, placed parallel along the length of the window, with a brick superstructure filling the void between arch and beams, thus helping to remove the weight borne by the overlying arched lintel onto the beams. The window embrasure was also strengthened through the addition of brick and steel beams.
64. This failure was mirrored at ground floor level: here, the W wall of Room 025, which directly underlay Room 103, had been refaced over virtually its entire extent in brick and the lintels of its three windows replaced with steel beams.
65. Once this reinforcement work was completed, the original timber panelling was replaced in 103, which meant the window retained its original appearance and character.

*Tertiary Stair, First Floor*

66. The subdivided space at the S end of Room 111 was clearly part of the original build (Figure 14a), and its presence requires explanation. At first, this area was interpreted as wall void and storage: however, as surface finishes were stripped away, it became apparent that Room 119 was floored at mezzanine level (Figure 14b). This flooring was located directly below stair 214, the latter allowing access between 2<sup>nd</sup> and 3<sup>rd</sup> floor levels. The uniform build of the timber partition work - and the surviving presence of intermediate floors - argues that this stair continued downwards, linking 1<sup>st</sup> and 2<sup>nd</sup> floor levels. It accessed the 1<sup>st</sup> floor via 119, with the base of the stair located in 113.
67. A slight colour difference in the masonry of the W wall of 113 suggests the presence of a timber stair and represents the last traces of such a feature (Figure 15a). Since the stair was built entirely of timber, and placed within an area defined on two sides by timber studwork, the absence of associated features such as raggles is not entirely unexpected. The later conversion of stairwell 113 into a cupboard required the cutting of a doorway in the timber stud wall to allow access from Room 111.



Figure 12a: Relict Fireplace in E wall, Room 114



Figure 12b: Relieving arch at low level, S wall of Room 115





Figure 13a: 1930s reinforcement of bay window, Room 103



Figure 13b: Reinforcement of main bay window, Room 103, seen from below, showing (bottom to top – steel beams, brick superstructure, original segmental arch lintel, and joists/flooring of 2<sup>nd</sup> floor



Figure 14a: Room 119 from interior of 111 – site of former stair, with timber flooring still *in situ*



Figure 14b: Room 119 from interior of 113 – site of former stair, with timber flooring still *in situ*

### *Miscellaneous Observations*

68. One final feature of note which was encountered during the exploration of the first floor was a series of joist-holes at high level above the south doorway in the east wall of Room 104 (Figure 15b). The function of this feature was unclear: the room had been studied previously and recorded with cornicing intact, with the joist-holes serving no clear function in terms of supporting timber bracketing associated with any of the decorative plasterwork. Nor was any change in floor level evident.
69. With no role evidenced by the building's character as it was prior to renovation, these features must remain inconclusive. The joist-holes were very roughly executed and may have been later insertions; even so, they do not appear to serve any clear purpose. The absence of such features elsewhere in the building is marked, however, making these examples all the more ambiguous.
70. Another unusual feature noted at first floor level was the presence of two fireplaces (blocked in recent times by brick infill) within the N wall of Room 102. The duplication of these features might suggest that the room had once been divided into two using a stud wall: however, the location of these fireplaces would have meant that any such division would have bisected the central bay window.

### **Findings: Second Floor (Appendix 2: Plate 4)**

71. Changes in floor plan were once again much less marked at second floor level compared with ground floor level. The alterations mirrored those seen in the first floor plan, comprising the insertion of a lift at the original site of the S Stair (N of Room 221) and the creation of male/female toilet facilities. However, the insertion of the toilet facilities did not simply mirror the rationale employed at first floor level: in the case of the second floor, they were located within the projecting central bay in the E elevation.
72. The original internal subdivisions at the SW corner of 219 (forming Room 220) were later insertions: their removal revealed a similar situation to that already discussed in Rooms 102/106, namely the presence of an original timber stud-built cross-wall at the W end (dividing Room 219 from Room 221), abutting an original masonry wall running N-S along the same line. The latter was subsequently removed and replaced with the modern lift shaft. Only a small stretch of the original walling survived, revealing a fragmentary doorway which had originally connected Room 219 and the stair. This mirrored the process seen at first floor level, i.e. the removal of an existing masonry wall and its replacement with a brick wall on the same line, though in this instance even less of the original wall survived, with the doorway now surviving in fragmentary form.
73. The rear N wall of the lift revealed an initial broad arched opening. This may not have been a doorway: it may instead have represented a broad arched recess similar to that seen in Room 202 (Figure 16a). The former line of the stair could be seen as a bricked-up raggle in the wall above.
74. Access from Room 219 into the adjacent 221 was originally via a doorway at the S end of the timber element of the cross-wall. This was later blocked using an inserted panel of studwork, and a new doorway cut into the N section of the stud wall (Figure 16b), where it abuts the brick lift shaft.
75. In a layout similar to that seen in Room 106 – which directly underlay Room 221 – the presence of a stone plinth in the NW corner of Room 221 indicates that a fireplace was located here (Figure 17a). Again, this must have discharged into a flue which fed into the main flue serving the large fireplace in room 104.





Figure 15a: W wall of Room 113, showing line of former stair



Figure 15b: High Level Joist-holes at S end, E wall, Room 104



Figure 16a: Bricked up doorway & line of stair, N wall of lift shaft, from Room 221



Figure 16b: W wall of Room 219 (looking into 221), viewed from E

76. The second significant change in layout was evident within Room 216 (formerly numbered Rooms 216 and 217). Here, the room had been subdivided into 2 parts, creating male and female toilet areas. Some additional changes were evident. Firstly, an arched opening at the W end of the N wall had been blocked through the insertion of bricks, i.e. at a point in time contemporary with the insertion of the toilets (Figure 17b). This opening would originally have functioned as a doorway, allowing access into 215. This space then appears to have opened out into the upper floor of the atrium 201, with the adjacent 213 (to the N) remaining a separate space.
77. Another interesting alteration to Room 216 was the creation of a sharply splayed embrasure to the existing central window in the N wall through the addition of bricks on either side of the opening. This prevented direct views into and out of the room, preserving the privacy of those using the toilet/bathroom facilities (Figure 18a).

#### *Timber Construction and Later Consolidation Works*

78. The second floor showed an increasing use of timber stud walls as a means of creating divisions of space, reflecting the fact that – as the height of the building increased – so it became imperative to try and reduce the load on the structural elements below. At the same time, the load-bearing capacity at this level did not have to be as great, with the second floor walls supporting only the roof structure and the attic level contained within it.
79. As well as structural timber work, the stripping of surface finishes throughout the building yielded detailed insights into the way in which lath-and-plaster was used as a flexible medium through which numerous decorative elements might be created. Room 202 in particular yielded excellent examples of the timber structures used to create the various ornamental arched recesses which were a feature of the house, occurring here in both broad and narrow forms. The broad recess typically comprised an arched opening defined by a segmental arch of ashlar, which was then in-filled using a stud partition finished with lath-and-plaster (Figure 18b). This contrasted with the narrow recess, which comprised a rectangular recess within the wall, with the arch itself defined by a timber former, around which the lath-and-plaster was laid (Figure 19a).
80. Though it had been assumed that the decorative plasterwork was original throughout the building, evidence eventually emerged of earlier consolidation works. During this phase of the on-site works, water ingress at the skylight surmounting the atrium caused the failure of a foliate boss in one of the coffered sections, resulting in further explorations to assess the full extent of the water penetration. This work revealed that the plain wooden perimeter beam which lay between the glazed central section and the coffering comprised a later plywood sheet masking riveted steel beams below (Figure 19b). These beams were identical in character to those noted elsewhere in the building, and must therefore have been introduced during the major renovation and remodelling works undertaken in the 1930s.

## Findings: Third Floor (Appendix 2: Plate 5)

### *Circulatory Routes*

81. Work undertaken on the third floor had the potential to inform us first of all about the original means of accessing this attic level. Access in later phases of use was undertaken by way of an external fire escape which had been built abutting the central bay of the S wall. This fire escape abutted the space that eventually functioned as the lift vestibule: the damage caused to the earlier S stair through the insertion of this lift has already been discussed in detail elsewhere. However, at third floor (attic) level, the insertion of the lift machinery had also resulted in the creation of a caphouse (Figure 20a) which housed the hoist mechanism and which had resulted in the remodelling of this portion of the structure.





Figure 17a: Stone plinth for fireplace in SW corner of Room 221, viewed from below



Figure 17b: Blocked doorway, W end of N wall, Room 216



Figure 18a: Splayed window embrasure created through insertion of later brickwork, N wall, Room 216

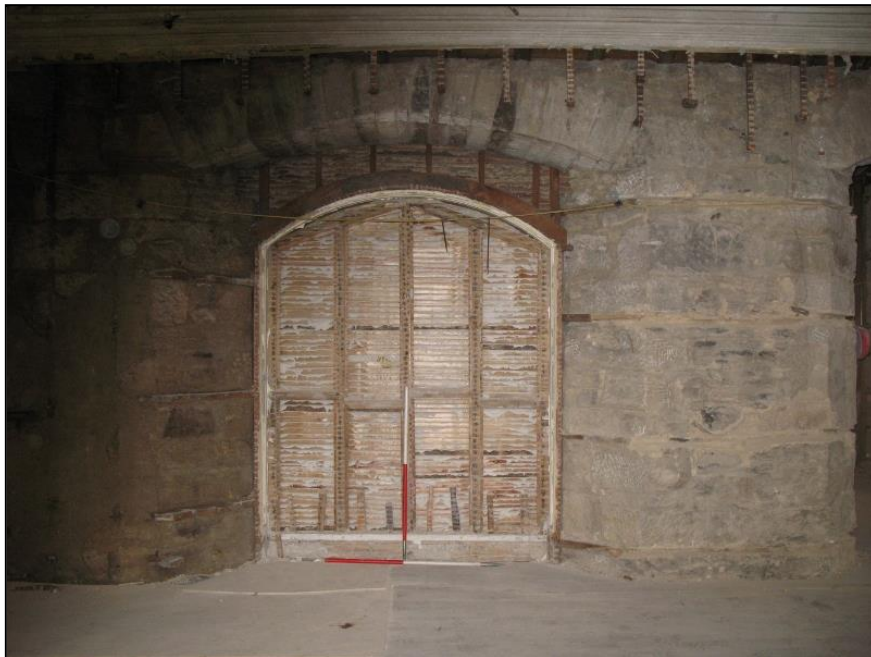


Figure 18b: Central arched recess in E wall, Room 202, showing relict timber studwork





Figure 19a: Arched recess at N end of E wall, Room 202, showing relict timber studwork



Figure 18a: Upper level of Atrium 201 – 1930s consolidation works revealed



Figure 19a: Inserted caphouse projecting above original roofline



Figure 19b: Inserted floor over site of stair in S end, Room 308



82. Following the insertion of the lift, this floor was serviced by a single 'L'-plan corridor, 304, which flanked the projecting central skylight of the atrium. This ran from room 308 at the NE corner of the building, to rooms 310/302 at the SW corner, where the corridor terminated in a short north-running spur (named '311' in the baseline survey) immediately to the W of the lift shaft.
83. The lift machinery was accessed via an inserted doorway placed within an existing masonry wall: it was important to ascertain whether this had originally been an external wall, or an internal wall forming the W limits of the stairwell. The presence of a segmental arch over a blocked opening at the S end of this wall suggests the latter: rather than being a recess, this feature was originally a doorway opening directly onto the S stair. The N wall of the stair was removed during the insertion of the lift machinery and caphouse, and it is possible that there was a doorway here or at the very least a hatch which might allow access onto the roof for maintenance and repairs. Such a feature was replicated in the later caphouse.
84. Corridor 304 followed the original line of the 19<sup>th</sup> century access corridor, terminating at its SW end in an original doorway to Room 303 and at its N end into a vestibule adjacent to Room 308. This vestibule originally housed a stair, closed off through the insertion of a floor/ceiling which fills the original void. Viewed from above, this 'ceiling' can be identified as an area of new flooring visible against original floorboards (Figure 19b). It was clear at the time of the baseline survey that this stair allowed access between 2<sup>nd</sup> and 3<sup>rd</sup> floor levels: what was not established until more detailed observations were made during the refurbishment works, was that this stair had continued down to Room 113 on the 1<sup>st</sup> floor level.
85. It is unclear whether Corridor 304 had originally continued westwards on the current line before joining N-S running Corridor 311, or whether it had terminated at the entrance to Room 303, with the latter forming the most westerly chamber in a suite of timber stud wall-defined rooms which included Rooms 305, 306 and 307 (as suggested in Appendix 2, Plate 3). The picture is confused by the insertion of the lift shaft within the former S stairwell (now totally eradicated), requiring the complete reworking of this space. The original doorway at the W end of 304 still survives as a blocked feature in the E wall of Corridor 311 (Figure 20a), but it is unclear whether this provided access only to rooms 302 and 310, or whether there was an opening within the N-S running masonry wall which allows a link with Room 303 and hence onwards into Corridor 304. The modern opening is clearly a late insertion: it uses a series of parallel steel beams as lintels (Figure 20b), but these are much slighter than the examples used elsewhere in the building as part of the earlier consolidation works, with no use of riveting evident. This confirms contemporaneity with the insertion of the lift shaft, i.e. a late 20<sup>th</sup> century date.
86. The addition of the external fire escape on the S elevation also damaged the original line of the wallhead in this location. Though the height of the wallhead has been raised to allow access onto the stair, it is possible that the doorway utilised the site of a former dormer, now lost. While most of the timber and brick components used in the construction of stair and doorway are clearly modern, occasional original timber studs still appear to be *in situ*. These extend to a height flush with the roof of the stair, as opposed to a height compatible with the wallhead (Figure 21a). Though this suggests that the wallhead was originally higher in this location, it is, however, possible that the timber was reused.

#### *Details of Construction*

87. The materials employed on this, the uppermost, floor of the building differed from those used elsewhere. Perhaps most striking was the reliance upon timber studwork as a means of subdividing the internal space, as opposed to masonry cross-walls. This was reflective of the location: the walls were not required to be particularly robust as they supported only the roof timbers and slates above, instead of having to take the weight of any overlying floors. Conversely, by reducing the weight of the structural elements at this level, the overall burden borne by the walls at ground and first floor level in particular was eased.



Figure 20a: E wall of Corridor Extension 311 – inserted doorway to left, original doorway to right



Figure 20b: Inserted doorway between modern Room 303 and Corridor 311



Figure 21a: Looking SW towards junction between original wallhead and modern external access stair, with *in situ* original timber to left of modern examples



Figure 21b: Flat arch lintel, Corridor 304

88. What was also evident was that the attic rooms were much smaller in plan than those on the main floors below. The use of timber studwork in creating these subdivisions would have ensured that undue pressure was not placed upon the more spacious second floor rooms, which would have been used by the family as bedrooms, guest accommodation and nursery accommodation. The smaller rooms and cramped accommodation of the attic level, accessed by secondary stairs at either end of the 'L'-shaped access corridor, confirmed its original use as servant accommodation.
89. Details of construction also differed in the third floor, with the original openings in Corridor 304 contrasting with the fine finish seen in the underlying floors. Here, rather than making use of a finely worked segmental arch overlying a slender timber lintel, the lintels instead comprised massive blocks of roughly hewn stone. In one example, an individual block was used, while in another, a group of blocks was laid flat over a timber lintel in a manner almost cyclopean in scale and execution (Figure 21b).
90. Evidence of consolidation and repair was also present at this level, particular in the N and W facing windows. This work resembled the style of repairs seen elsewhere throughout the building, combining the use of brick consolidation of the jambs with the use of steel beam lintels. However, the beams were slender, and showed no evidence of riveting, and they were also used in conjunction with pre-cast concrete (Figure 22a). This suggests that these repairs were contemporary with the insertion of the lift and the addition of the fire escape, as opposed to the extensive remodelling and repair work undertaken during the 1930s.
91. Despite extensive evidence for repair and consolidation work, it was once again clear that efforts were made to retain as much of the building's original character as possible. Cornices were either retained or reinstated, and original window surrounds reused within rebuilt embrasures sympathetic to the building's earlier form.

## Discussion

92. The progressive stripping of surface finishes throughout Dunlop House allowed an unparalleled insight into the underlying anatomy of a late Georgian country house. The manner of this work - which took place over an extended period with archaeological monitoring taking place on a regular basis - enabled the compilation of an exhaustive record of the structural detail. The methods employed invariably involved the removal of surface plaster to reveal the underlying lath-and-plaster below, with the laths then removed to reveal the supporting studwork, which was then in turn stripped away to reveal the underlying masonry. This was symptomatic of the extent to which dampness and associated conditions (such as dry rot) had rampaged through the property.
93. The decorative elements of the plasterwork were to be left intact, but the robbing of sheet lead from the roof by thieves over the winter of 2010-11 resulted in the wholesale loss of this resource. This was an unexpected outcome, and a catastrophic one: furthermore, the exposure of additional elements of the structure through the failure of the plasterwork did nothing to improve our understanding of a building which had already yielded up its secrets.
94. The majority of the alterations in layout had occurred at ground floor level, which was logical considering that this part of the structure allowed greater scope for modification beyond the limits of the original floor plan. Some of these alterations had already been identified during the baseline survey: however, the subsequent exposure of underlying fabric allowed these suppositions to be confirmed and gave some insight into the building's original form (Appendix 2, Plate 1).
95. This was particularly true of the kitchen area, Room 007: here, the northwards expansion of the kitchen to its final extent was confirmed through the identification of traces of the original N wall, which itself featured an opening, potentially a doorway or - perhaps more likely - a window. Ground breaking works in this location also confirmed that Corridor 005 had originally continued to the rear of 007, with both areas separated by a masonry cross-wall. Unfortunately, the retention of terrazzo finishes over a significant portion of this area meant that the means of access between Corridor 005 and 'kitchen' 007



remained uncertain, and that the area later occupied by Rooms 030, 007 and the S end of 029 could not be properly understood. It is, however, likely that the access corridors on the N side of the building followed a similar arrangement to those on the S side, with Room 007 extending east to incorporate the S end of Corridor 029 with access through into adjacent 016 through the E wall.

96. One potential source of difference between the S line of corridor 005 and its northern counterpart 015 was posed by the presence of a subterranean chamber, accessed by a floor hatch which would have been located in this N corridor. This chamber may once have played a role in a rudimentary heating system, with heated air circulating around a series of ducts that run beneath the floors and through the walls (Figure 22a). Alternatively, it could have been a hot water system which utilised a network of cast iron pipes placed within these ducts.
97. Such a heating system would be more commonly encountered within a late 19<sup>th</sup> century house: however, the way in which the subterranean chamber has been incorporated into this structure at the design and build stage suggests a recognition of the potential of such a system and a rudimentary attempt to deliver one. This is not altogether unlikely: the Scots engineer Robertson Buchanan had been writing on the subject as early as 1810 (Buchanan 1810) and had been working to deliver heating systems in some of Glasgow's industrial buildings.
98. No traces of a boiler now survive in the chamber, and we should be wary of interpreting all of the large bore cast-iron pipes as related to a heating system, as at least some appear to have been linked with drainage from areas of the large and complex roof. These run through the house at below-floor level before linking with foul water drains beyond the extent of the building footprint (Figure 22b).
99. More caution is advised by the fact that a similar style of cast iron pipe is used to discharge foul water from the 2<sup>nd</sup> floor toilet blocks, which may indicate later reuse of original service ducts during the 1930s as part of a widespread upgrading of the services at this time. It remains possible, however, that the style and form of cast iron pipes had altered so little between the mid-1800s and the mid-1900s that the extant pipes were derived from both phases.
100. Ground reduction across the ground floor revealed evidence that Dunlop House was a radical, forward-looking structure on the one hand and staidly traditional on the other. The inventive use of drains and ducts around a central subterranean structure which must have been used for some kind of supplementary heating system was clearly ahead of its time, and yet the monumental stone-built ducts at ground floor level are reminiscent of the kind of slab-built drain which was characteristic of late 18<sup>th</sup> and early 19<sup>th</sup> century agricultural drainage. The use of a basal course of massive boulders to underpin the structure derives not from an earlier structure occupying the same location, but from the use of a vernacular style of building more often seen in smaller cottages and houses throughout Ayrshire.
101. Perhaps this combination of tried-and-tested, traditional methods combined with adoption the state-of-the-art techniques (which pushed existing technologies to their limits) resulted in widespread failures of the structure. These in turn were addressed through the implementation of substantial repair and consolidation works during the 1930s. In particular, the use of broad segmental arches as lintels over the massive windows at first floor level was a technique which resulted in failure; it was clear that a number of the smaller windows at first floor level (particularly in the W wall of Room 025) had also been subject to failure and later consolidated through the insertion of replacement steel lintels.
102. Hamilton's use of state-of-the-art construction methods are also demonstrated by the widespread use of fire-proof, 'jack-arch' construction over much of the ground floor. Again, this may have added to the weight endured by the ground floor walls, and this may be the reason why the flooring, like the walls, changes as the height of the building increases. The ground floor walls and internal divisions are typically stone, with jack-arch construction used in the ceilings. At first floor level, again stone is the dominant material

used in wall construction, with the ceilings comprising double thickness timber with a pugging layer to muffle sound from above and potentially increase insulation. The subdivisions at second floor level make greater use of timber stud walls, though stone still dominates, and the ceilings/floors comprise one layer, with no pugging layer. The third, attic floor is divided almost entirely through the use of timber stud walls. This different use of materials is likely to reflect a very real effort to alleviate the accumulated stresses upon the ground floor walls through progressively lightening the load at higher levels, though the success of this tactic appears to have been limited judging from the scale of the repairs carried out – along the W elevation of the building at ground and first floor level in particular – during the 1930s.

103. Finally, by confirming the presence of the S stair through traces in the modern lift shaft and the identification of a third stair which continued the line of a short stretch of extant NE stair originally surviving at 2<sup>nd</sup> floor level, it was possible to gain a much better understanding of access routes throughout the building and to shed some light upon gender divisions amongst domestic staff. With the main central stair from the atrium providing access only to family members between ground and first floor level, the three secondary stairs played a crucial role in allowing domestic staff to carry out their duties. We could envisage that the main secondary Stair 035 allowed access to and from the ground floor service corridors and servants dining area/kitchen to first floor level, and that this route was open to all.
104. However, it is possible that use of the remaining two stairs – the S stair and the NE stair – was separated along gender lines. We could envisage one of these stairs being used by male staff, and the other by female domestic staff: could we suggest, perhaps, that the NE stair, which terminated at first floor level (Room 113) within a wholly interior space, was for use by female workers, while the S stair, which terminated at ground floor level, was used by male staff who may have had more reason to leave the building in their duties.
105. Carrying this argument forward, we could suggest that those rooms on the north and east sides of the building (east of the secondary Stair 035) were used primarily by the women of the house and the female servants, while those to the south and east were predominantly male spaces. The NW corner – comprising the servants' dining room at ground floor level, the dining room at first floor level, and perhaps, children's accommodation at 2<sup>nd</sup> floor level – was a shared space, with the adjacent communal stair providing unrestricted access to servants and family members.
106. Extending this argument further, we can continue to support the arguments already put forward in Matthews *et al.* (2007) and suggest that those rooms serviced by the NE stair were exclusively female spaces. Either Room 109 or Room 111 may have functioned as a ladies' sitting room or boudoir, with the second floor rooms above comprising ladies' dressing rooms and bedrooms. This would be balanced against the masculine space provided by Room 104: with its frieze of hounds and heraldry, this could be interpreted, for example, as a smoking room. In addition to these more rigidly defined spaces, we have Room 103 (the dining room) and Room 102 (the morning room), both of which would have been frequented by both genders.
107. Following on from this, we could suggest that the suite of rooms at 3<sup>rd</sup> floor level functioned as staff accommodation. Rooms 301, 305, 306, 307, 308 and 309 housed female servants with access via the NE stair, with male accommodation provided in Rooms 302, 303 and 310, access for which was via the S stair. Alternatively, male servant accommodation was restricted to ground floor level, with female accommodation at attic level. This might suggest a vertical, as opposed to a horizontal, division of space, with men accessing the S stair at ground and 1<sup>st</sup> floor level, while only female servants were accessing both the NE and the S stairs between 2<sup>nd</sup> and 3<sup>rd</sup> floor levels.
108. Without detailed documentary evidence, it is impossible to present anything more detailed than a broad-brush picture regarding the use of space and gender relations in the early years of occupation at Dunlop House. However, sufficient information has survived to consider such issues in a rudimentary fashion, even though it was beyond the scope of this report to allow detailed comparison with similar structures.

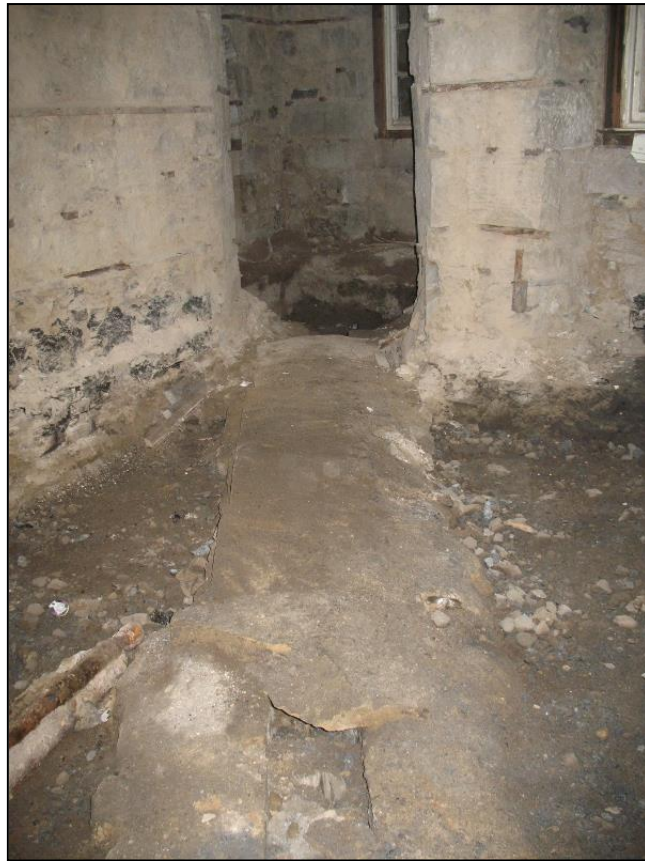


Figure 22a: Extant stretch of original service duct, looking NE across 016 towards 017



Figure 22b: Cast iron drainage pipe revealed during ground reduction in Corridor 008

109. No clear evidence of original bathroom facilities survived at Dunlop. In the absence of such items, we must assume that such requirements were served through the use of portable items such as commodes, baths and chamber pots as opposed to *in situ* water closets. It is possible, however, that such items may have been present in some of the smaller rooms at second floor level, and that they were removed during the 1930s refurbishments.
110. The historic building recording at Dunlop House allowed three phases of construction to be identified: of these, Phases 2 and 3 can be best understood through reference to the plans of the modern building (as reproduced in Matthews et al. 2007). Phase 1 comprised the original build (with some hints of early modification evident in the projecting west wing at ground floor level (characterised as Phase 1a): it is this stage in the building's evolution which forms the focus here and the recreated floor plans as included in Appendix 2 reflect this. Phase 2 consisted of a major programme of consolidation and internal remodelling, undertaken soon after ownership of the house passed from the Dunlop family to Ayrshire council, for use as a psychiatric hospital); and Phase 3, the addition of a lift and external stairs later in the 20<sup>th</sup> century.
111. Despite this long and varied history of occupation and use, the impacts upon its fabric had been comparatively slight. The building's change of function when it was brought use as a military hospital during World War I left no visible traces in its fabric, which is perhaps not surprising, given the fact that it remained in the possession of the Dunlop family. It was its later transformation into a psychiatric hospital during the 1930s which left a more substantial mark on the structure (Phase 2). This involved the northwards expansion of the kitchen, the rebuilding of Corridor 029 which runs along the W wall of the E wing, and the insertion of male and female toilet facilities at 1<sup>st</sup> and 2<sup>nd</sup> floor. This coincided with a substantial renovation programme which involved the large-scale consolidation of the N end of the W wall, particularly at ground and first floor level, and the rearrangement of the ground floor layout around the entrance and central vaulted areas.
112. The insertion of the lifts and fire escape appears to have occurred later (Phase 3), during the later 20<sup>th</sup> century, but it is unclear whether the removal of the NE stair and the infilling of the Atrium and removal of the grand staircase took place as part of the Phase 2 or the Phase 3 works. The presence of substantial steel beams inserted to help support the load of the floor above, and the widespread use of terrazzo in the enclosed W section of 101 would suggest an early origin within Phase 2, and considering the large scale of the interventions undertaken more generally on the fabric at this time, this is certainly a very real possibility.
113. Despite this succession of changing uses – each of which left their mark upon the fabric – the character of the original building survived largely unchanged, with decorative finishes left undisturbed. This tradition of relatively benign intervention, which allowed modernisation of the internal space without wholesale loss of historic fabric, was set to continue well into the 21<sup>st</sup> century; indeed, it would have done, had it not been for the disastrous events of the winter of 2010-11 which resulted in the calamitous loss of the building's internal decorative elements.

## Recommendations

114. With the current programme of works completed, Rathmell Archaeology Ltd recommends that no further archaeological work be carried out.
115. The appropriateness and acceptability of our recommendations rest with East Ayrshire Council and their advisors, the West of Scotland Archaeology Service (WoSAS).

## Conclusion

116. This Data Structure Report has been prepared for McTaggart Construction Ltd in support of ongoing refurbishment works on Dunlop House, an early 19<sup>th</sup> century mansion designed by David Hamilton. The archaeological designed to mitigate the impact on the



archaeological remains within the development area.

117. The West of Scotland Archaeology Service (WoSAS) - who advise East Ayrshire Council on archaeological matters - provided guidance on the structure of archaeological works required. Rathmell Archaeology Limited was appointed by McTaggart Construction Ltd to undertake the development and implementation of archaeological mitigation works, using a scope of works set out in an earlier Conservation Plan (AOC Archaeology Group 2004), originally drawn up by AOC Archaeology as part of the planning and development process in conjunction with an Architectural Appraisal prepared by ARP Lorimer and Associates.
118. The works revealed no traces of an earlier structure within the building footprint of the upstanding Dunlop House, confirming that the modern country house's medieval predecessor was built on an entirely different site. The monitoring works did, however, enable a greater understanding of the 1830s David Hamilton-designed country house, both in terms of its original layout and the internal arrangement of its rooms, and in the construction techniques used to create it ('Phase 1' and 'Phase 1a'). Insights were also obtained into the nature and extent of the remodelling and refurbishment works undertaken upon the site following its change of ownership in 1932, when it was bought by Ayrshire Council for use as a psychiatric hospital ('Phase 2'). The final alterations comprised the insertion of the lift and the addition of external fire escapes in the late 20<sup>th</sup> century ('Phase 3'), again during council ownership. The full extent of these changes did not, however, erase the original character and layout of the building, with efforts made to retain original features, even during substantial consolidation works.

## Acknowledgements

119. I would like to thank McTaggart Construction for granting us the opportunity to carry out this work and – in particular – Stewart Patrick (Project Manager) for co-ordinating our role within the wider programme of on-site works and keeping us fully informed of developments on-site. I would also like to thank Carol Swanson (former Manager, West of Scotland Archaeology Service), and Hugh McBrien, of the West of Scotland Archaeology Service, for guidance and assistance throughout.
120. Thanks are also due to Alan Matthews and Claire Williamson for their earlier work on the baseline survey which took place as a precursor to this long-running programme of monitoring works, to Liam McKinstry for his illustrations and to Claire Williamson and Thomas Rees for their editorial assistance.

## References

### *Documentary*

AOC Archaeology Group 2004 *Conservation Plan*. Unpublished commercial document by AOC Archaeology Group Ltd.

Buchanan, R 1810. *Essays on the Economy of Fuel and the Management of Heat* (Republished by Bibliolife, 2009)

Matthews, A, Turner, L and Williamson, C. 2007. *Dunlop House, Dunlop: Historic Building Recording*. Unpublished commercial report by Rathmell Archaeology Ltd.

Shaw, C. & Williamson, C. 2006 *Dunlop Houses, Dunlop: Archaeological Evaluation, Data Structure Report*. Unpublished commercial report by Rathmell Archaeology Ltd

## Contact Details

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122. The West of Scotland Archaeology Service can be contacted at their office or through the web:

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## Appendix 1: Discovery & Excavation in Scotland

<b>LOCAL AUTHORITY:</b>	East Ayrshire
<b>PROJECT TITLE/SITE NAME:</b>	Dunlop House, Dunlop
<b>PROJECT CODE:</b>	RA06005
<b>PARISH:</b>	Dunlop
<b>NAME OF CONTRIBUTOR:</b>	Louise Turner
<b>NAME OF ORGANISATION:</b>	Rathmell Archaeology Limited
<b>TYPE(S) OF PROJECT:</b>	Historic Building Recording
<b>NMRS NO(S):</b>	NS44NW 8
<b>SITE/MONUMENT TYPE(S):</b>	Country House
<b>SIGNIFICANT FINDS:</b>	None
<b>NGR (2 letters, 8 or 10 figures)</b>	NS 42737 49312
<b>START DATE (this season)</b>	October 2007
<b>END DATE (this season)</b>	January 2011
<b>PREVIOUS WORK (incl. DES ref.)</b>	
<b>MAIN (NARRATIVE) DESCRIPTION:</b> (may include information from other fields)	<p>A programme of archaeological monitoring was undertaken for McTaggart Construction Ltd on behalf of East Ayrshire Council, in support of ongoing refurbishment works on Dunlop House, an early 19<sup>th</sup> century mansion designed by the architect David Hamilton. These works were designed to mitigate the impact on the archaeological remains and comprised both historic building recording and the monitoring of ground-breaking works.</p> <p>Though the 1830s country house was thought to occupy the site of an earlier medieval tower-house, no traces of an earlier structure were found within the building footprint of the upstanding structure, confirming an earlier suggestion that the medieval building occupied an entirely different site.</p> <p>The monitoring works did, however, enable a greater understanding of the country house, both in terms of layout and internal construction. Three phases of construction were evident: Phase 1 comprised the original build (with some hints of early modification evident in the projecting west wing at ground floor level (i.e. Phase 1a); Phase 2 consisted of a major programme of consolidation and internal remodelling, undertaken soon after ownership of the house passed from the Dunlop family to Ayrshire council, for use as a psychiatric hospital); and Phase 3, the addition of a lift and external stairs later in the 20<sup>th</sup> century.</p> <p>The full extent of these changes had not erased the original character of the building, nor entirely masked its original plan. Indeed, efforts appear to have been made to retain original features, even during consolidation works.</p>
<b>PROPOSED FUTURE WORK:</b>	None
<b>CAPTION(S) FOR ILLUSTRS:</b>	None

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<b>SPONSOR OR FUNDING BODY:</b>	McTaggart Construction Ltd.
<b>ADDRESS OF MAIN CONTRIBUTOR:</b>	Unit 8 Ashgrove Workshops, Kilwinning, Ayrshire KA13 6PU
<b>E MAIL:</b>	contact@rathmell-arch.co.uk
<b>ARCHIVE LOCATION</b> (intended/deposited)	Report to West of Scotland Archaeology Service and archive to HES Collections.



Appendix 2: Floor Plans

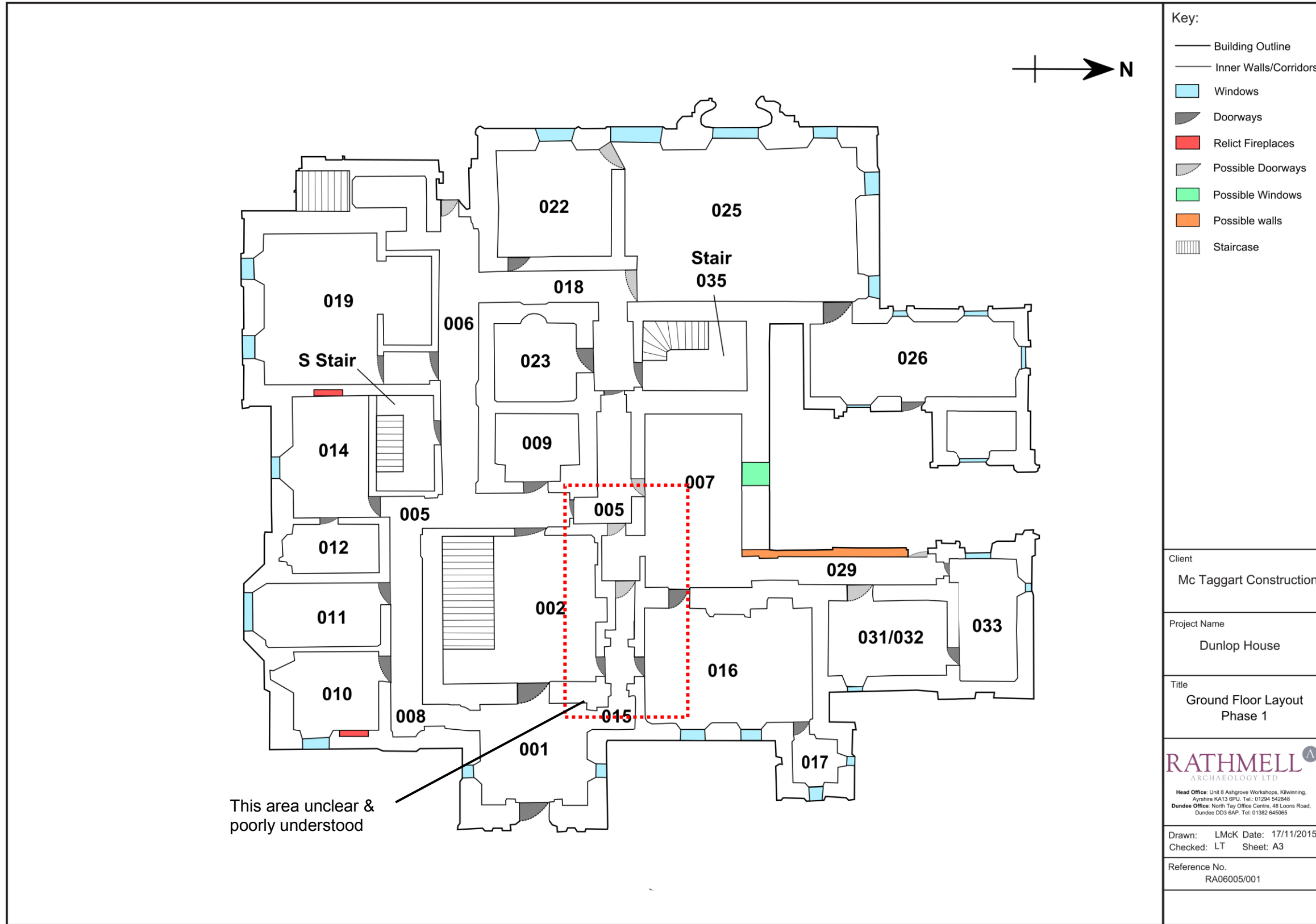


Plate 1

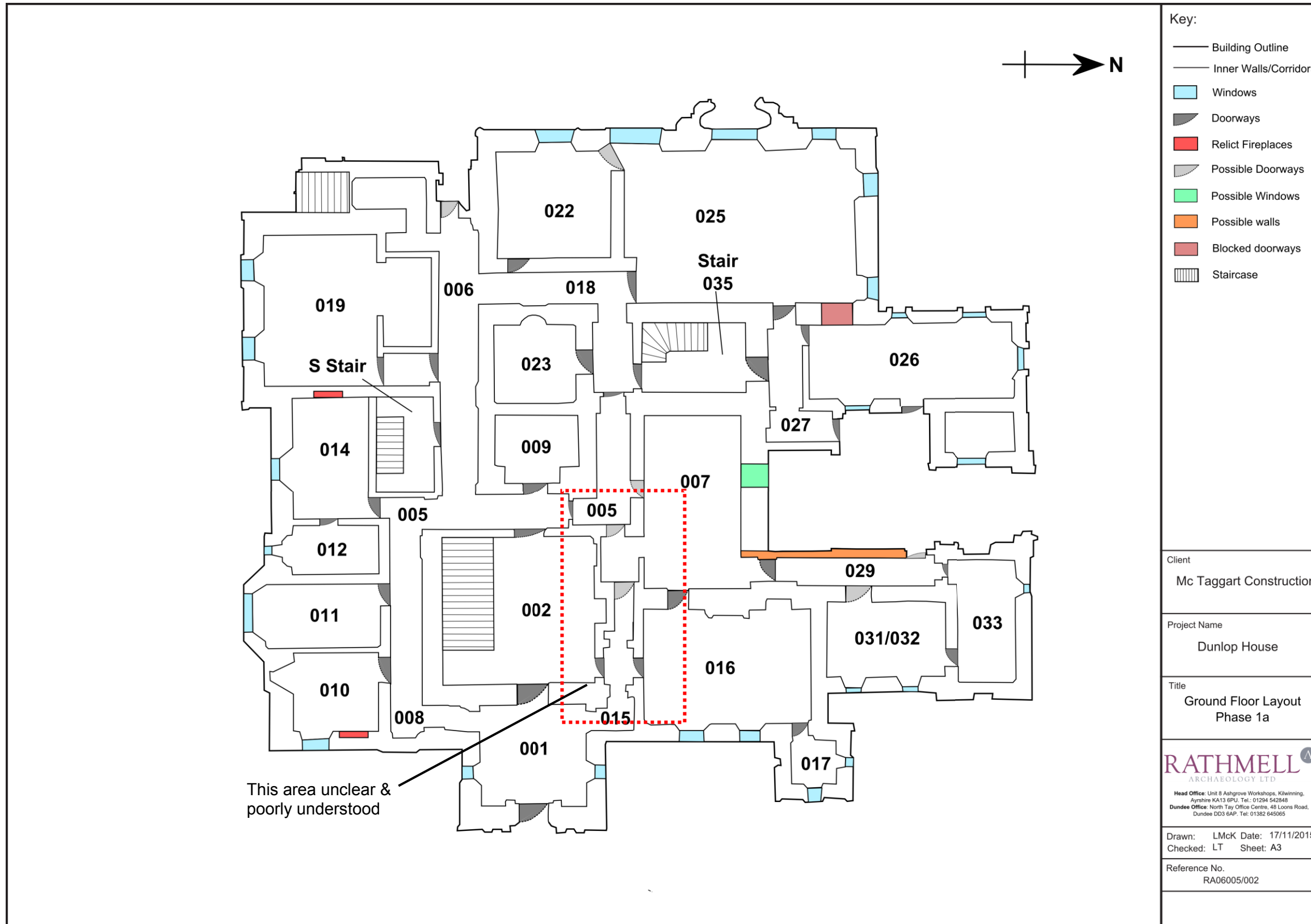


Plate 2

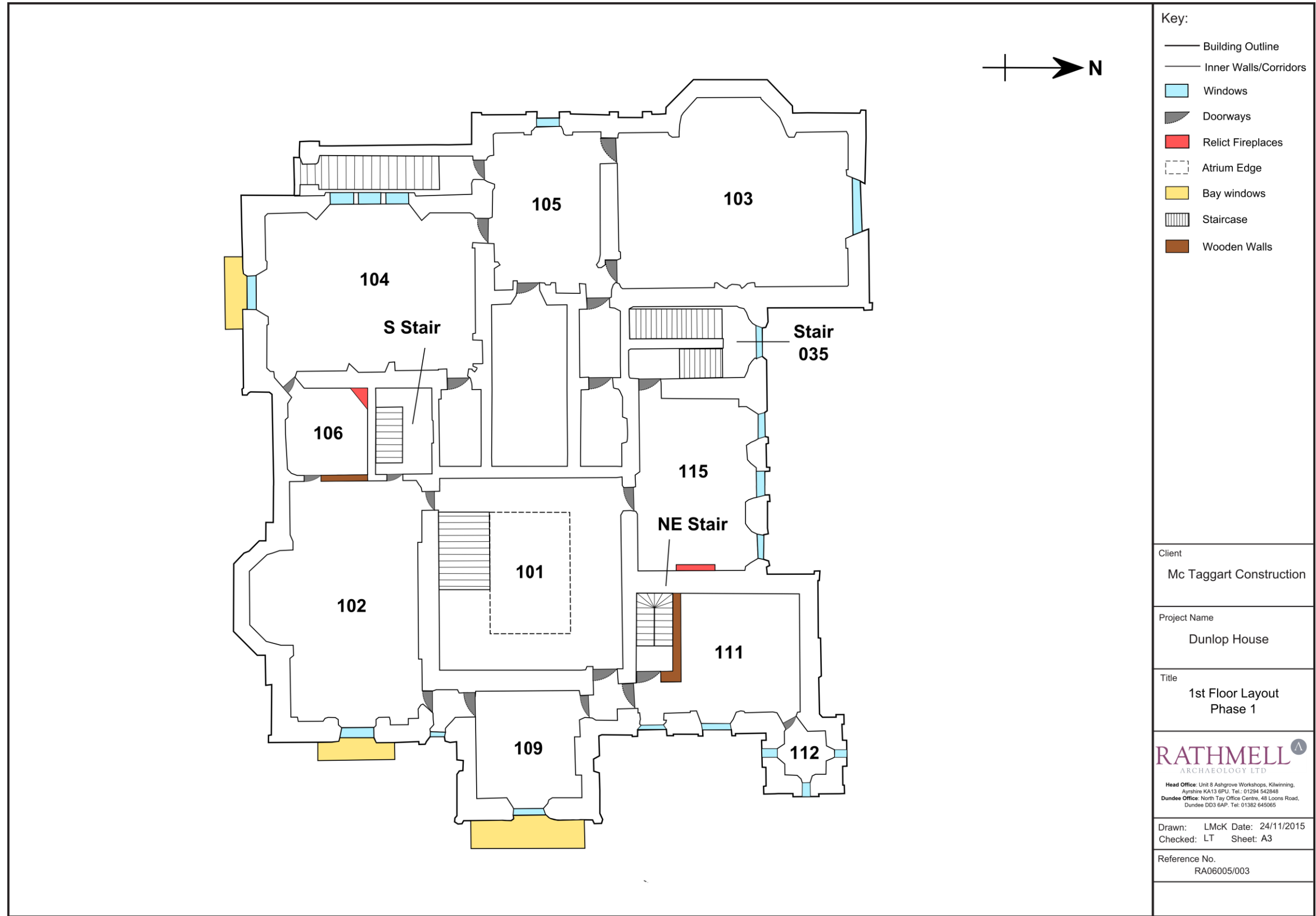


Plate 3

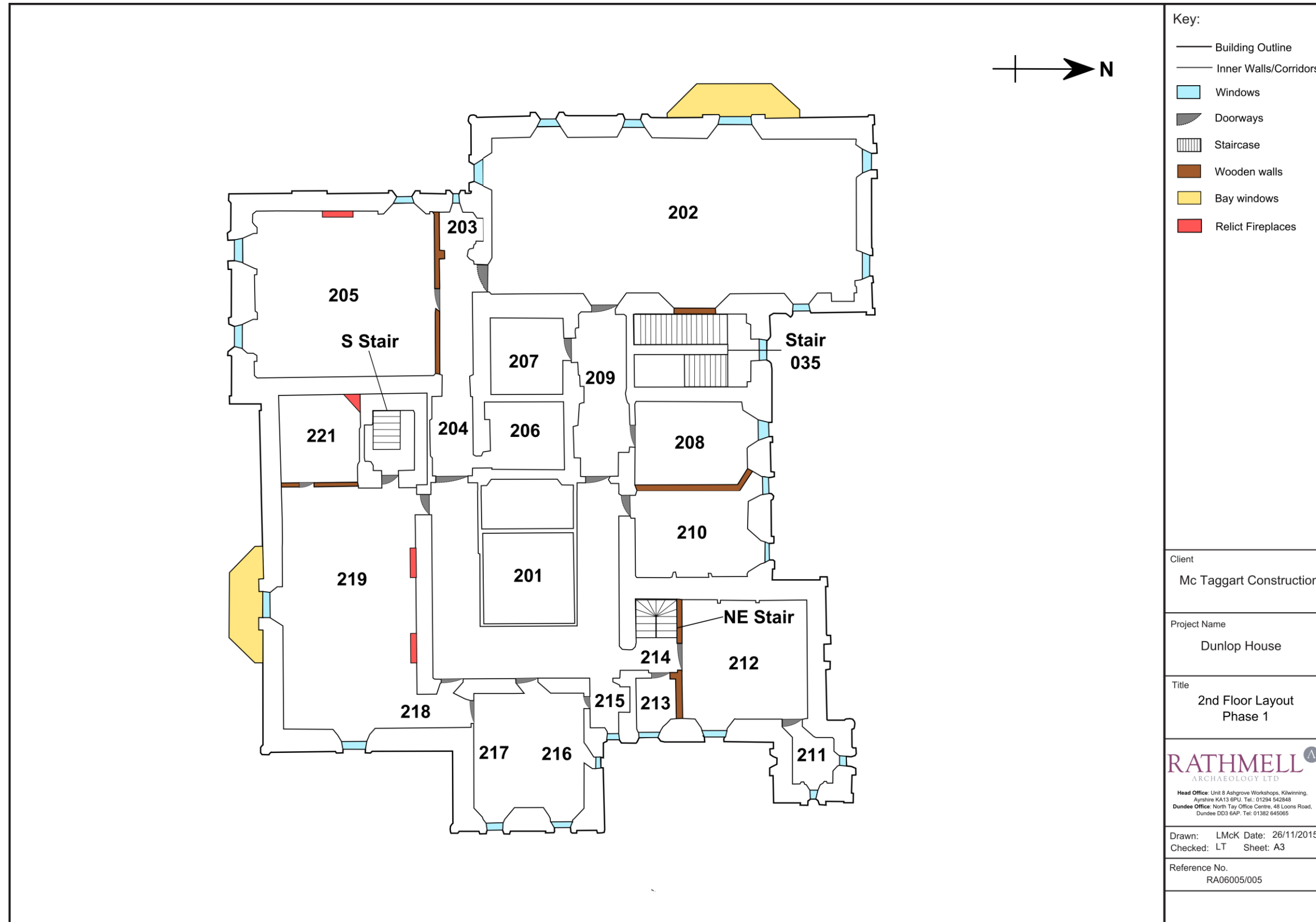


Plate 4



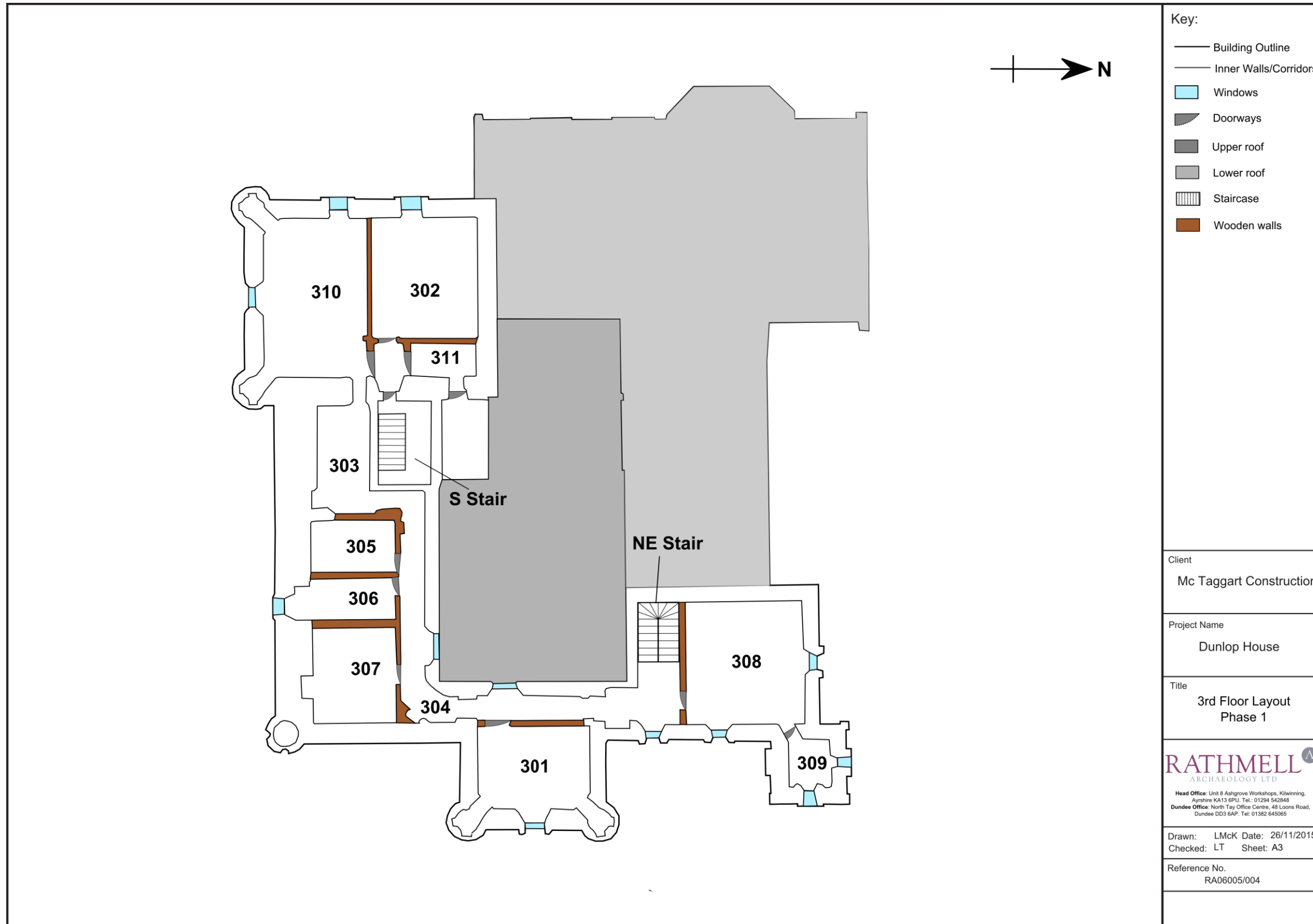


Plate 5

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