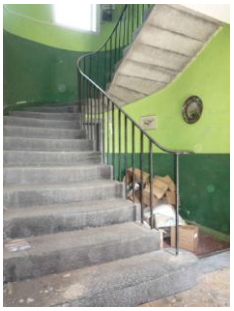
PROPOSED NEW BUTLER GALLERY AT EVAN'S ALMS HOUSE, BARRACK LANE, KILKENNY

VOLUME 2

EXTERNAL CONDITION SURVEY

RECOMMENDATIONS



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Prepared for McCullough Mulvin Architects

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EXECUTIVE SUMMARY

This document forms part of a Conservation Report commissioned by Ruth O'Herlihy of McCullough Mulvin Architects, Setanta Place, Dublin. Carrig was employed to conduct an architectural record and condition assessment for the former Evan's Home, Barrack Lane, Kilkenny City.

Evan Alms Home was built c.1818 as accommodation for "decayed servants" and is attributed to the Architect William Robertson (NIAH Record 12000216). The building has lain derelict for the past number of years and it is the intention of Kilkenny County Council to house the Butler art collection within its grounds as part of the creative re-use of the existing structure. The Alms House and associated gate lodge are individually designated as a protected structures in the *Kilkenny City & Environs Development Plan 2008-2014* (RPS ref: B3 & B4 respectively).

Due to the large volume of information compiled as part of this comprehensive study the Conservation Report has been divided into two volumes;

I. Volume One contains an External Architectural Record & Internal Inventory.

II. Volume Two contains an External & Internal Condition Assessment with accompanying Recommendations. An Internal Schedule of Defects has been included as an addendum to Volume II.

1 INTRODUCTION

The condition survey was carried out over the 2nd and 25th June 2010. A MEWP was used to gain access to high areas of the external elevations though restrictions on access prevented high level survey of the east and south elevations.

The principal defects recorded to the external envelop include corrosion jacking of the chimney stacks and blocking course; cracked and slipped slates to the roof area; missing and corroded rainwater goods; inappropriate cement based strap pointing to the principle/west and south elevations and significant timber decay to the inappropriate casement windows.

It is recommended that essential works are carried out to the exterior including dismantling of the chimney stacks and blocking course and the replacement of corroded elements with nonferrous ties prior to re-building; complete re-roofing of the building; survey and repair of the ground drainage network; the raking out of cement based pointing mortar and the re-pointing of open joints in a lime based mortar; the re-harling of the external elevations; and the replacement of inappropriate and failed casement windows throughout with timber six-over-six sashes to match existing historic windows to the east elevation.

The rainwater goods shall be replaced as part of works to be carried out in 2010 funded by the local authority conservation grant scheme.

The internal survey has revealed significant dampness throughout the building though this is most prevalent to the western and southern elevations where cement based strap pointing has trapped moisture within the walls. Elsewhere, missing floorboards, failed plaster and missing/damaged timber joinery is noted.

It is recommended that essential works are carried out to the external envelope prior to addressing the internal refurbishment. Works to the interior shall include introducing a new dpc to ground floor areas (retaining existing historic floor finishes); the repair of historic plasterwork with matching lime based plaster and the repair/refurbishment of damaged historic joinery.

We have not inspected woodwork or other parts of the structure that are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect.

2 EXTERNAL CONDITION SURVEY

[See appendix 1 for Condition Drawings]

2.1 Slate Roofs

The east pitch of the main block is in relatively good condition though a scattering of cracked, slipped and repaired slates are recorded. Comparatively significant numbers of cracked and slipped slates are recorded to the corresponding west pitch.

High numbers of cracked and slipped slates are recorded to the north and south wings with a marked concentration to the north pitch of the north wing. Here, a hole is visible exposing roofing timbers, providing direct access for rainwater ingress.

Sagging and deflection is recorded in the ridge and plane of the pedimented breakfront to the south wing and to a section of the ridge to the south of the main block. It is likely that the deflection noted here has occurred as a result of differential settlement.

Fig.1: Cracked slate to the west pitch of the south wing.

Fig.2: Slipped slate to the valley junction between the main block and the south wing.

Fig.3: Notable failure of the roof to the north wing. Note the concentration of slipped slates and hole exposing roofing timbers.

Fig.4: Deflection in the roofing plane of the south wing. Note the slipped slate as a result.

2.2 Leadwork

The lead ridge cappings are largely perished with significant tearing and defective seams recorded throughout. At least one section to the north wing has detached completely exposing the underlying timber to the elements. It is unlikely that the ridge capping continues to provide an effective barrier to rainwater ingress.

Cracked mortar fillets are recorded to the base of all chimneystacks and to the raking masonry of the pedimented breakfronts. Here, the exposed location and the continued action of rainwater have caused the mortar to fail at these locations.

Fig.5: Missing section of lead ridge capping exposing underlying timber.

Fig.6: Cracked and failed mortar fillet to the base of chimney stacks.

2.3 Chimneys

Movement is recorded in all of the masonry chimneystacks. This movement is consistent with the corrosion and subsequent expansion of iron cramps often used to tie masonry elements during the 19th century

A rendered chimney stack rising over the south wing appears to have been re-built during the late 20th century. This rebuild does not faithfully replicate the detailing of the original masonry stacks and detracts somewhat from the composition. Cracking recorded in the render is likely to reflect differential settlement between the existing and new build elements.

Cement flaunching is noted to all chimney stacks and is likely to have been introduced as a barrier to rainwater ingress. Cement is a hard and impermeable material, inappropriate for use on historic structures. Cracked and broken flaunching, as a result of movement associated with corrosion jacking, is recorded to all chimneystacks. It is likely that broken flaunching has led to penetrating damp from the top down.

The majority of the buildings eight chimneystacks carry modern chimney pots with five 19th century chimney pots surviving to stacks rising over the south and north wings. Though all flues are disused, caps to weather against rainwater ingress, have not been fitted. Elsewhere redundant television aerials and associated metal strapping is recorded detracting from the historic masonry.

Fig.7: Rendered chimney stack to the south wing – this stack appears to have been rebuilt.

Fig.8: 19th century chimney pots to the south wing. Note this are out of alignment.

2.4 Rainwater Goods

A small number of extant sections of cast-iron rainwater eaves gutters, downpipes and hoppers appear to date to the mid 20th century – the remainder of the goods comprise of galvanised and tin lengths.

Downpipes terminate well above the plinth course - here discharge of rainwater is likely to splash back on the building facilitating water ingress at low level.

Missing sections of gutter and downpipes are recorded throughout with varying degrees of corrosion and damage recorded to surviving lengths, ranging from significant breaches to cracked hoppers. Here, rainwater is likely to penetrate within the fabric of the building as corresponding walls become saturated.

A build-up of debris and the colonisation of plantlife are also noted in a number of locations including eaves gutters and at hopper heads/outlet junctions. Such blockages prevent the free discharge of rainwater and increase the likelihood of moisture ingress within the historic building fabric.

uPVC soil pipes have been insensitively installed to all elevations with little regard for the buildings architectural composition.

Fig.9: Downpipe and socks terminate above plinth course.

Fig.10: Detached section of rainwater goods now tangled amid vegetation.

Fig.11: Blocked hopper heads facilitating the ingress of rainwater within the building.

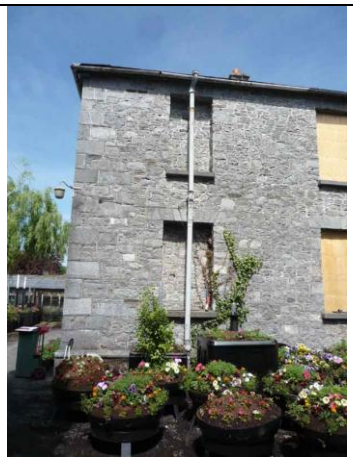

Fig.12: Insensitively installed soil pipe dissecting blind window openings to the north wing.

2.5 Ground Drainage

Although a drainage survey was not carried out as part of this study a number of blockages were recorded in the ground drains. Where drains are blocked this is likely to lead to a saturation of the surrounding subsoil, exacerbating moisture ingress and areas of rising damp within the building.

Concrete drainage channels have been formed to part of the north and south elevations however these are now fractured and no longer route rainwater discharge away from the building.

Fig.13: Blocked ground drain to the east of the building.

Fig.14: Poorly formed and fractured drainage channel.

2.6 Blocking Course

In addition to the corrosion related movement recorded in the masonry of the historic chimneystacks further jacking and displacement of masonry is noted to the blocking courses rising over the pedimented breakfronts. Here, movement is thought to be caused by corrosion of embedded iron cramps. Given the exposed location and the absence of an effective damp proof barrier water ingress is likely to have accelerated the corrosion and subsequent expansion of these metal ties. In places this has lead to cracking and popping of stonework with notable displacement of masonry elements in

extreme cases. Further corrosion relating fracturing has occurred in the door surrounds where exposed metal cramps are clearly visible.

Fig.15: Fracturing of stonework to chimneys likely to have been caused by corrosion jacking of the masonry.

Fig.16: Fracturing of lintel to west door surround caused by corrosion jacking – note the exposed corroded metal cramp.

2.7 Fracturing of Stone

Fracturing of stonework with associated shelling and loss of masonry elements is recorded in locations which have been affected by the corrosion of embedded metal cramps with significant fracturing recorded in the masonry chimney stacks and blocking course of the pedimented breakfronts. Here, stresses placed on the stonework through the rusting and subsequent expansion of embedded ferrous metal cramps have caused the limestone to burst, chip and fracture.

Further fracturing is recorded in three cills across the ground and first floors where differential settlement has lead to fracturing along weak points in the masonry.

Fig.17: Significant fracturing of masonry to chimney stacks as a result of corrosion jacking.

Fig.18: Fracturing of blocking course rising over the north pedimented breakfront.

2.8 Scaling & Detachment of Stone

Scaling and detachment is recorded to the raking and horizontal limestone stringcourses of the pedimented breakfronts. The degree of scaling varies in severity from localised surface blistering to significant detachment. When laying stonework it is vital that the direction of the bedding plane is well suited to the application and more importantly the position of the member however in the locations listed above

the stone appears to have been incorrectly bedded and therefore is more susceptible to scaling and decay.

Fig.19: Scaling & detachment of stone to the horizontal string course to the south pedimented breakfront.

Fig.20: Detachment of stonework from the raking stringcourse to the pedimented breakfront to the main block.

2.9 Mechanical Damage of Stone

Mechanical damage has occurred where the crude installation of uPVC soil pipes has resulted in the chipping of the surrounding material. Further damage is recorded to the southwest corner of north wing and the northwest corner of the south wing where vehicle impact has occurred.

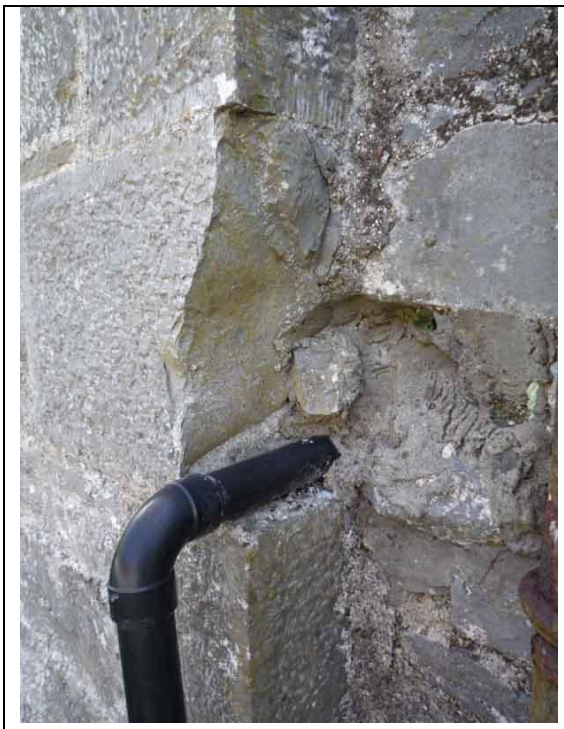

Fig.21: Mechanical damage of the roughly dressed quoins through careless and insensitive installation of soil pipes.

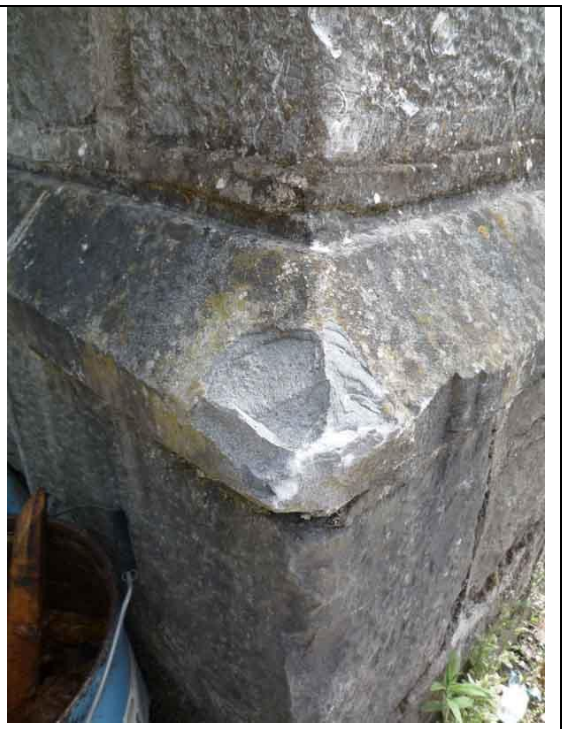

Fig.22: Chipping of stonework to the northwest corner of the south wing caused by vehicle impact.

2.10 Open Joints

Open joints are recorded to the chimney stacks, limestone eaves course, blocking course, pediments and to localized areas of the north and east elevations. Further notable areas are recorded to the door surrounds of both the east and west elevations where the ingress of water within the structure has led to visible signs of moisture related damage to corresponding internal timber and plasterwork.

Fig.23: Open-joint to the plinth course of the west elevation.

Fig.24: Significant open-joints to the door surround of the east elevation.

2.11 Inappropriate Pointing

The west elevation of the principle block, west elevation of the north wing and the west and south elevations of the south wing have been re-pointed in a cementitious material. This mortar is harder and more impermeable to moisture than the stone thus increasing water movement within the masonry and building as a whole. It should be noted that significant levels of internal damp, moisture ingress and efflorescence are recorded in areas where the external masonry has been pointing in cement based mortar.

In addition, an incorrect pointing method has been adopted. Proud-standing ribbon pointing detracts from the aesthetics of the walls, changing its overall appearance and allows moisture to accumulate at joints increasing the likelihood of water penetration within the structure.

Fig.25: Cementitious strap pointing to the south elevation of the south wing.

Fig.26: Area of ribbon pointing to the west elevation.

2.12 Harling

Traces of lime harling survive to the west elevation of the main bloc, the west elevation of the south wing and to the north and west elevations of the north wing. No harling survives to the remaining elevations though it is likely that the building was rendered as a whole (dressed limestone to the pedimental breakfronts, eaves course, door surrounds, window sills and plinth course would have remained exposed).

External renders provide protection from direct exposure to the elements and in the case of Evan's Home the absence of such protection is likely to facilitate the ingress of water. Materials analysis was carried out on a sample of surviving harling indicating that this is a lime based render with an aggregate consisting of well rounded pebbles.

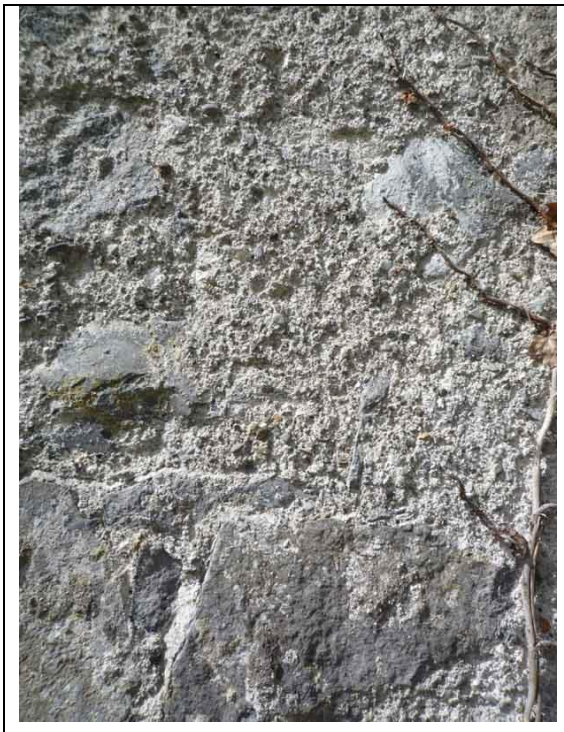

Fig.27: Area of surviving harling to the west elevation of the main block.

Fig.28: Exposed stonework to the western elevations.

2.13 Biological Growth

Advanced plant life is noted to a number of hopper heads and parapet gutters with blockage of the outlet to the south and west elevations – here the risk of rainwater ingress is likely. Further colonisation is noted to areas of open joints at the high-level stonework of the pedimented breakfronts. Ivy growth is noted to the south and east elevation and despite efforts to control this, new growth is recorded.

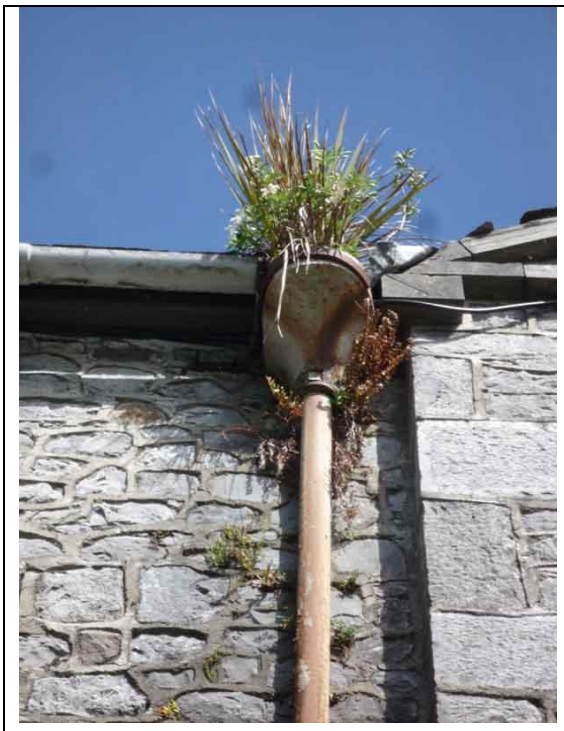

Fig.29: Plantlife to hopper located at the south elevation.

Fig.30: Ivy growth to the south elevation.

2.14 Openings

2.14.1 Doors

All original and early doors appear to be in good condition however there is some evidence of paint failure throughout. Localised areas of timber decay are noted to the bottom rails with some evidence of previous repair to the principle doors located at the west elevation.

The creation of two fire exit doorways to the rear/east elevation by altering existing first floor window openings is visually obtrusive and detracts from the composition of the building. Some structural movement associated with the installation of these exits is recorded in the surrounding masonry.

Settlement has caused the limestone flags to the entrance steps to the west elevation to sink and fracture. The cast-iron boot scraper to the northernmost opening to the west elevation is missing.

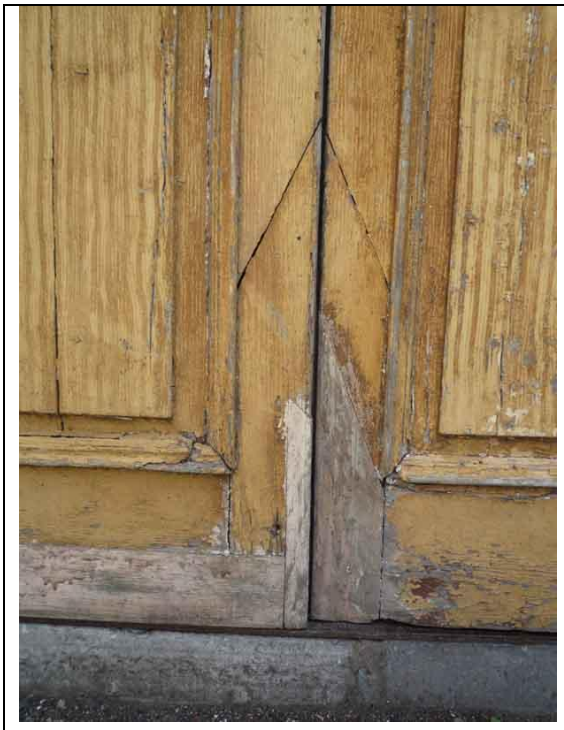

Fig.31: Previous sliced repair to double-leaf doors to west elevation.

Fig.32: Fractured flagstones to steps located to west elevation.

2.14.2 Windows

Seven early timber sliding sash windows survive to the east elevation of the principle block. Varying degrees of paint and putty failure are recorded to all timber sash windows indicating that these are now in need of maintenance. Limited areas of localised wet rot, particularly at cills and bottom rails are noted to some frames, where sustained levels of both internal and external moisture have lead to decay. A number of glazing panes to these sashes are broken and cracked.

The remainder of the windows have been replaced with inappropriate timber casement windows c.1990. These display signs of advanced timber decay with areas of wet rot noted to bottom rails leading to a slippage and loss of glazing panes across all elevations. Given the accelerated decline, it is likely that this decay is as a result of poorly specified or inadequately treated timber in combination with poor maintenance. These windows now require complete replacement.

The majority of the window reveals to the north and west elevations have been rendered in a cement based material. Historic structures need to 'breathe' and while traditional lime renders facilitate this process, cementitious renders are hard and impermeable trapping moisture within the walls, ultimately increasing the levels of dampness within a building.

Fig.33: Localised timber decay to early sash window.

Fig.34: Complete failure of the timber casement windows.

2.14.3 Blind Windows

Trace remains of rendered and painted trompe-l'oeil window mimicking timber sliding sashes survive in varying condition to north elevation of northern wing.

Prolonged exposure to the elements has led to failure of the render where saturation over time has caused this to delaminate, bulge and ultimately detach. It is notable that areas of survival occur at high level where the render is sheltered by the recessed soffit.

Fig.35: Blind window opening with trace remains of trompe-l'oeil window to ground floor (east) of north elevation.

Fig.36: Blind window opening with trace remains of trompe-l'oeil window to first floor (east) of north elevation.

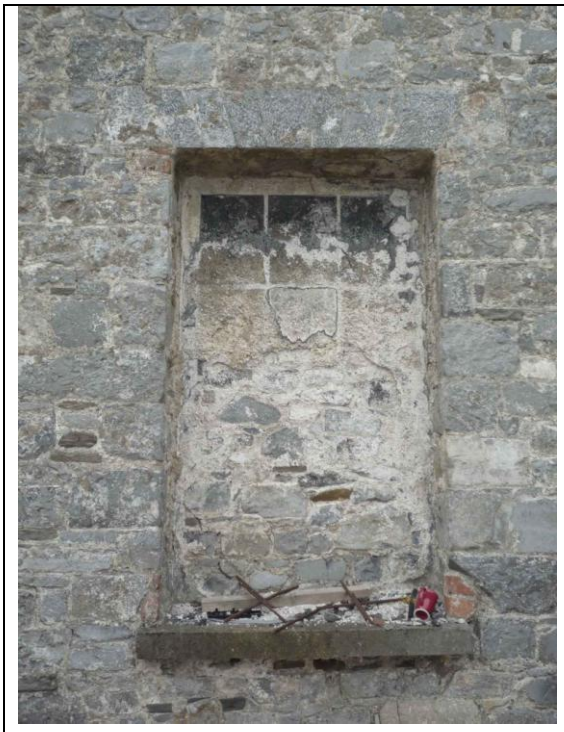

Fig.37: Blind window opening with trace remains of trompe-l'oeil window to ground floor (west) of north elevation.

Fig.38: Blind window opening with trace remains of trompe-l'oeil window to first floor (west) of north elevation.

2.15 Services

Haphazard cabling routed along eaves level, particularly to the south elevation, has little regard for the aesthetics of the building.

2.16 Boundary Walls, Gateway & Sanitary Blocks

Pockets of missing and loose masonry are recorded to northern and southern sections of the boundary wall where loss is likely to have occurred as a result of the actions of vigorous route systems.

Failed capping is recorded to exposed sections of the boundary wall, gate and ruinous outdoor sanitary blocks. Given the degree of vegetation present to the remaining sections it must be assumed that the surfaces in these areas has failed and now requires re-flaunching.

Advanced plant life is recorded throughout with particular concentration and blanket growth recorded to the western sanitary block. Here, the colonisation of open-joints by such vigorous root systems as the common ivy is likely to lead to erosion of pointing mortar and dislodgment of masonry in these areas.

Localised areas of open-joints are recorded to the boundary wall, gateway and sanitary blocks. Here, driving rain in the presence of exposed skyward surfaces coupled with the colonization of vigorous plant-life has lead to a loss of pointing material.

Fig.39: Pocket of destabilised masonry to a section of the southern boundary wall (adjacent entrance gateway).

Fig.40: Pocket of missing and loose masonry to the northern boundary wall.

Fig.41: Blanket vegetation to the outdoor sanitary block to the southeast of site.

Fig.42: Open-joints to northern boundary wall.

3 EXTERNAL RECOMMENDATIONS

[See appendix 2 for Recommendation Drawings]

3.1 Conservation Strategy

A full set of recommendations required for the best practice conservation and maintenance of the building have been listed below. Essential maintenance and repair should be carried to include re-slating of roofs; replacement of rainwater goods (to be carried out in 2010 funded by the local authority conservation grant scheme); survey and repair of the ground drainage network; the raking out of cement strap pointing and the re-pointing of open joints in lime mortar; the harling of the building in a lime render; the repair of timber sash windows and the replacement of inappropriate casement windows with historically accurate sash units.

It is the intention of Kilkenny County Council to house the Butler art collection and associated administration space within Evan's House as part of the creative re-use of the site. A number of interventions and alterations to the existing structure are required as part of these works. The proposal provides for the addition of a new purpose built gallery space to the southwest of Evan's House linked at ground floor level to the existing structure - this link will be constructed in glass to minimise impact on the historic structure. Three existing window openings at ground floor level shall be altered to form new doorways - here minimum disturbance will be caused to the historic fabric and items of architectural salvage re-use elsewhere within the building.

3.2 Heritage Contractor

It is recommended that the conservation works at Evan's Home are carried out by a recognized heritage contractor with demonstrable skills and proven experience in the repair/conservation of historic structures.

3.3 Slate Roofs

The extent of ongoing temporary repair to the roof would suggest that it is now more cost effective to consider a complete re-roofing programme. Due care shall be given to ensuring that the building remains water tight and serviceable throughout and where possible works shall be programmed during the summer months.

The quality of the natural slates is such that where a pitch is stripped it should be possible to salvage approx 70% for reuse. Slates shall be carefully sorted and stacked on scaffolding. Cracked or delaminated slates shall not be used. New natural slates to match existing shall be used to replace a shortfall in slates (note the slate is arranged in diminishing courses and this shall be faithfully replicated during re-roofing works).

Lime parging was intended as a sacrificial element designed to reduce drafts and improve thermal performance. The surviving areas of historic lime parging to the roof will be lost during stripping of the slate. Here, the opportunity shall be taken to introduce a breathable sarking felt underlay. This will act as a barrier to water while continuing to allow air to move throughout the roofspace. A high density insulation shall also be installed within the roofspace during re-roofing works.

Fixing holes shall be punched in the slate as necessary however the reuse of existing holes is advised where possible. Fixing nails shall always be copper.

It is recommended that all timbers are inspected as these are exposed during the repair of the roofs having particular regard for the following locations:

a. The areas of deflection recorded to the southern pedimented breakfront and to the south of the main block,
b. Timbers located in areas where slipped/loss and cracked slates are recorded.
c. All timber ends located at wall head level.

The existing lead flashings and ridges shall be replaced in lead as part of works to the roof. Failed mortar filets to chimneystacks shall be replaced with lead apron flashings. In general milled lead of lighter gauges can be safely used provided it is suitably detailed. The Lead Sheet Association has published a comprehensive set of guidelines that must always be followed.

3.4 Chimneys

Structural repairs are required to correct the movement in all the chimneystacks. The masonry shaft shall be carefully taken down to roof level – a methodology will be established for the numbering and accurate recording of masonry elements during the taking down of these stacks. Chimneys shall be carefully rebuilt replacing the corroded metal cramps with non-corrosive stainless steel ties. Masonry shall be re-bedded in a lime-based mortar to match existing. Given the fractured nature of stonework approximately 40% replacement and repair of stonework should be allowed for.

The rendered chimney stack rising over the south wing shall be taken down and rebuilt in limestone masonry detailed to match the remaining historic stacks.

Cracked and damaged flaunching to the stacks will be replaced during re-building with a strong lime based mortar.

Modern pots shall be removed and replaced to match the early octagonal pots. All pots shall be fitted with caps to prevent rainwater ingress and birds from nesting while ensuring adequate ventilation of the flues.

Redundant metal fixings (aerials & associated strapping) shall be removed and holes made good using a suitable mortar repair mixture.

3.5 Rainwater Goods

The rainwater goods shall be replaced with cast-iron goods to match existing 20th century hoppers, eaves gutters and downpipes (these works will be carried out in 2010 funded by the local authority conservation grant scheme). Downpipes shall be fitted with appropriate necks to ensure that these continue below the base plinth to ensure water discharges without excessive splash back.

It is recommended that gutters, hoppers and downpipes should be inspected on a twice-yearly basis and where necessary cleared of debris.

Insensitively installed uPVC soil pipes shall be rationalised and where redundant removed. Where possible downpipes/soilpipes/services shall not obstruct/detract from architecturally important and character defining features of the building.

3.6 Ground Drainage

The existing ground drainage network should be surveyed using cctv. Where apparent, blockages should be removed to facilitate the free drainage of foul water from the site.
The concrete pavers to the east and the defective drainage channels to the north and south shall be removed. Ground drainage around the building shall be improved with the installation of a circuit French drain.

3.7 Blocking Course

Corrosion of the metal cramps has lead to movement and fracturing of stonework to the blocking course rising over the pedimented breakfronts. Based on initial inspection this masonry shall be carefully dismantled to systematically remove the embedded iron cramps and to replace these in stainless steel. A methodology for numbering and recording the masonry elements will be devised. Masonry shall be re-bedded in a lime-based mortar to match existing.

3.8 Fractured Stone

In all cases root causes of structural movement to the chimney stacks and blocking courses shall be addressed prior to repair of fractured masonry. Open fractures/fissures shall be caulked with a lime based pointing mortar to colour match existing stone. Fine hairline cracks shall be resin injected. A virtually invisible form of repair, resin injecting will help consolidate the material and prevent the ingress of moisture. Where the fracture has led to detachment of material this shall be carefully patched with a suitable mortar repair mix. Care must be taken to produce an accurate colour match for the stonework and to mould the mortar to match the profile and tooling of the surrounding stone.

3.9 Scaling & Detachment of Stone

Where significant scaling and flaking has occurred, such as to the raking cornice of the pedimented breakfronts to the south and west elevations the decayed section shall be carefully cut out and indented with matching limestone worked to match the profile and tooling of the surrounding stone.

3.10 Mechanical Damage of Stone

Insensitively installed uPVC soil pipes shall be rationalised and where redundant removed. Where mechanical damage has occurred this shall be carefully patched with a suitable mortar repair mix or indented with matching limestone.

3.11 Open Joints

An essential element in preventing the weathering of the stonework and the ingress of rainwater is to attend to the open joints to the chimney stacks, limestone eaves course, blocking course and pediments. Root causes of structural movement to the chimney stacks, blocking course, etc. shall be addressed prior to raking out and re-pointing.

3.12 Inappropriate Pointing

Inappropriate pointing shall be raked out and re-pointed with an appropriate lime mortar and to an appropriate finish. Test trials shall be carried out prior to any programme of raking out and re-pointing. All due care is to be taken not to damage the remaining historic fabric.

The joints shall be hand finished to a slight recess with the stone surface and any excess removed. It is recommended that a contractor experienced in such work be employed to carry out the above.

3.13 Failed Harling

The buildings external elevations shall be re-harled to match the surviving historic harling (see materials analysis included in Appendix 3). This will provide a weatherproof coating to prevent the further ingress of rainwater and will also serve to improve the overall presentation of the building.

The dressed ashlar limestone plinth course, horizontal and raking platbands to pedimented breakfronts and blank limestone plaque to tympana were designed to be exposed and shall not be harled. In addition the inscribed stone dated '1542' built into coursing of northern wing shall also remain exposed.

3.14 Biological Growth

All plantlife shall be treated with an appropriate biocide prior to removal. Once the biocide has killed the growth the roots should be carefully removed taking care not to dislodge masonry or pointing. As part of a sustained maintenance programme any accumulation of organic matter should not be allowed to remain.

3.15 Openings

3.15.1 Doors

Early timber doors shall have their surfaces sanded down to remove flanking paint and to allow inspected by an experienced joiner. Where decay is visible the area of timber shall be either built-up with an appropriate adhesive mix or carefully cut out and new timber spliced in to match the existing. It is essential that new timber is treated to reduce the rate of decay. Once repairs are completed each door is to be repainted.

Consideration shall be given to removing the fire exists to the rear/east of the building (subject to discussion with the fire safety officer) and re-instating window openings with appropriately detailed timber sash windows to match existing six-over-six units found to the west elevation.

3.15.2 Windows

All historic timber sash windows are to be sanded down and inspected by a joiner. Where units are free from decay putty must be reapplied and the framework repainted. Localised areas of decayed timberwork shall be cut out and new timber spliced in to match the original profile. All inappropriate timber casement windows shall be replaced with units to match the existing historic six-over-six timber sash windows.

Cement based render to all window reveals shall be removed, subject to test trial and the reveals re-pointed in a lime based mortar.

Four new door openings shall be formed from existing window openings at ground floor (G01,G03,& G14). Where existing, historic joinery shall be retained where possible or carefully removed and re-used elsewhere on site. Limestone cills shall also be

removed from each opening and either retained for future re-use or used as replacement stone for repair/indenting of stonework.

3.15.3 Blind Windows

Every effort shall be made to retain sound existing trace remains of rendered and painted trompe-l'oeil windows however prolonged exposure to the elements has led to failure of the render with much of the plaster now in a delicate state. These elements have been fully recorded photographically as part of this study.

Consideration shall be given to adopting a modern and contemporary approach (in full discussion with KCC) to the treatment of the remaining blind windows to include murals and trompe-l'oeil.

3.16 Metal Fixings

All redundant metal fixings shall be carefully removed from the stonework and the holes made good using a suitable mortar repair mixture. The insensitively installed cabling at eaves level should be re-routed as part of a building wide revision of mechanical and electrical services.

3.17 Boundary Walls, Gateway & Sanitary Blocks

All plantlife shall be removed insuring that little damage is done to the remaining historic fabric. Any heavy roots shall be then drilled and injected with an approved biological kill product.

Where it is obvious that individual stones have become dislodged these shall be re-seated in a bed of lime mortar. Where larger pockets of masonry are to be repaired the stone shall be laid in courses to match the existing historic masonry.

Re-pointing shall only take place where necessary. Here, loose mortar shall be raked out of the joints to an appropriate depth and re-pointed in a lime based mortar.

Following the localised removal of plantlife, the exposed skyward facing wall head shall be capped in a lime based flaunching. The flaunching shall be weathered/finished appropriately to provide protection from rainwater ingress and further mortar wash out at this level.

4 INTERNAL CONDITION ASSESSMENT

This section of the report gives an overview account of the defects found within the interior rooms at Evans Home. A comprehensive breakdown of these findings and recommended treatments is documented in an addendum to this volume titled "Internal Schedule of Defects", also dated July 2010.

4.1 Floors

The limestone flags are coated with a thick adhesive residue used to secure linoleum covering. In places the adhesive is so heavy that the limestone flags are virtually indistinguishable. Elsewhere surface degradation is likely to have been caused by natural wear and tear. Where large sections of the flags have been exposed (G01, G08 & G22) open joints and fracturing of the limestone is noted.

A number of the original flags to the ground floor rooms have been replaced with concrete; it is unlikely that these floors incorporate a dpc. Concrete is an impermeable material which is likely to prevent the movement of moisture inherent within the structure forcing this to migrate through the walls as rising damp.

Localised areas of missing floorboards are the most common condition recorded to the first floor. In most cases these boards have been removed to facilitate previous surveys. Areas of missing floorboards present a health and safety risk for building users.

Fig.43: Adhesive residue to limestone flats to base of staircase in G19.

Fig.44: Uneven and fractured flags displaying open joints to G01.

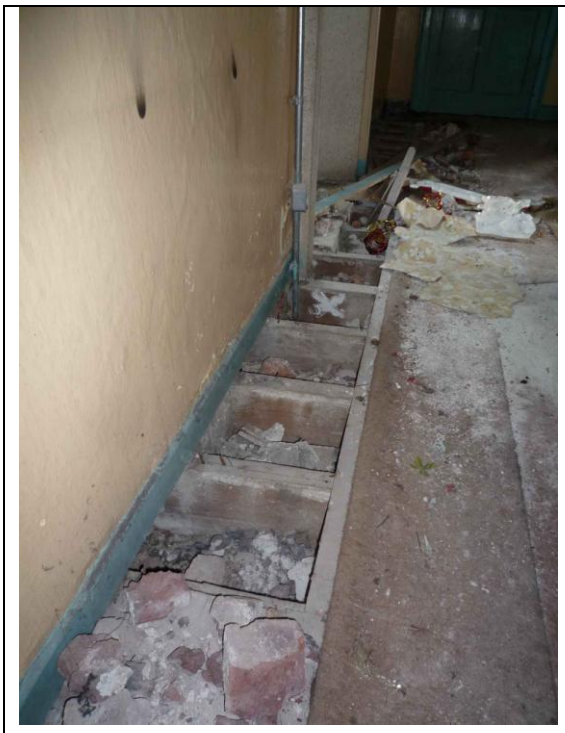

Fig.45: Section of missing floorboards to F08.

Fig.46: Missing floorboards to F06.

4.2 Ceiling Plaster

Cracking of ceiling plasterwork is recorded throughout. Most cracks are considered to be "hair-line" cracks and are of little concern. Larger cracks are recorded in the ceilings of G10, G16, F13 and F14 where settlement is likely to have occurred. A significant amount of detritus is noted to the ceiling voids placing added weight on plaster keys.

Sections of missing plasterwork are recorded to G26, G28, F08, F12, F21, F24 and F27. Here the plaster has either been removed to facilitate pervious investigation or has failed as a result of moisture ingress. In some cases timber laths remain to the underside of exposed joists.

Fig.47: Cracking of ceiling plasterwork to G10.

Fig.48: Significant hole in ceiling plaster over F01.

4.3 Wall Plaster

Cracking of wall plaster is common throughout with most cracks noted adjacent chimneybreasts, door and window opes, and at the junctions between ceilings and walls. In most cases these are of little concern however significant cracking is recorded to the north wall of G01 corresponding with structural cracking recorded to the external elevation.

Sections of missing plasterwork are concentrated to the external walls where damp has been allowed to penetrate and where saturation has caused the plaster to delaminate and detach. Elsewhere some sections have been stripped to facilitate investigation of underlying timbers.

Fig.49: Cracking of plaster to the north wall of G01 corresponding with cracking to the external wall.

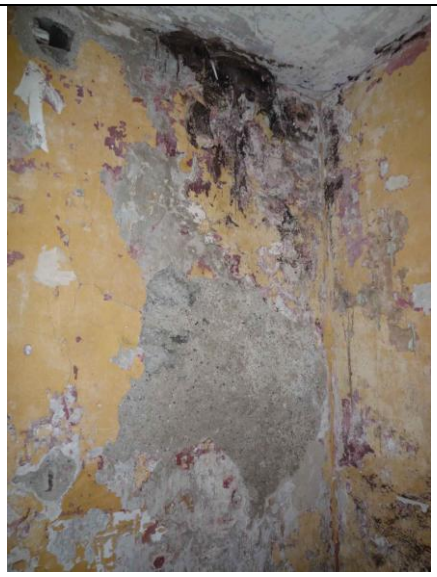

Fig.50: Plaster failure to room G27.

4.4 Joinery

Missing and damaged timber skirting is recorded to external walls particularly at ground floor level where rising damp has lead to wet rot and decay.

In general timber door leafs, architraves and soffits appear to be in sound condition. However in some localized areas timber decay has been recorded elsewhere door leafs have been removed (G15 and G17). The most common defect recorded is loose, missing or inappropriate door furniture.

In most cases the timber paneled soffits, shutters, aprons and timber architraves to window openings survive intact though some missing and damaged elements are recorded. Folding leaf shutters are generally overpainted and inoperable.

The surviving historic timber sash windows show signs of failed paintwork with localized areas of wet rot recorded to bottom rails and glazing bars. The timber

casement windows are in poor condition with excessive wet rot and failure recorded throughout. Many of the glazing panes have slipped and have shattered where frames have disintegrated.

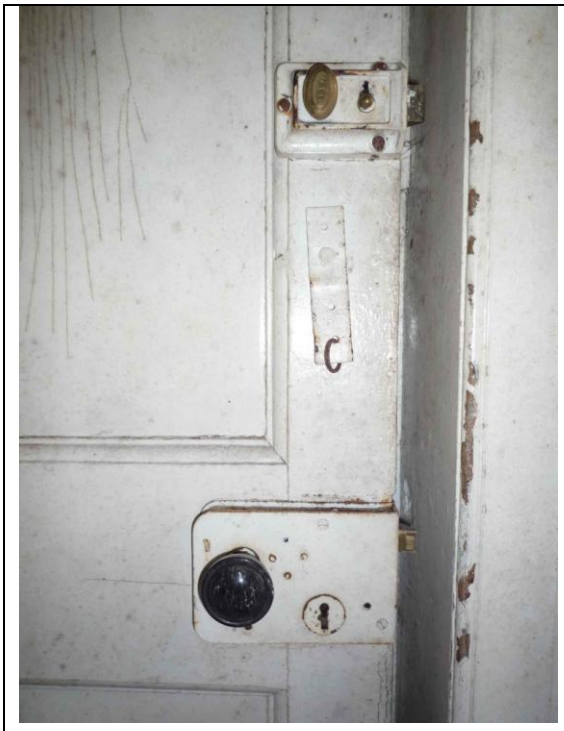

Fig.51: Door furniture to G01.

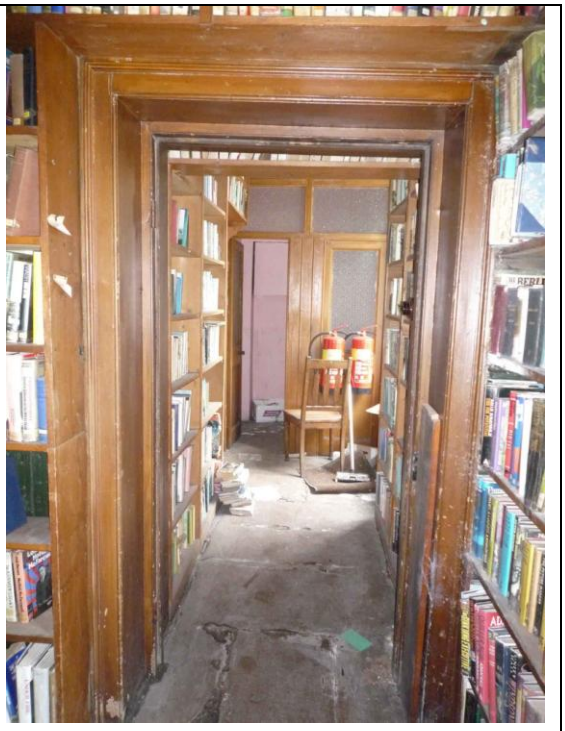

Fig.52: Missing door leaf to opening giving access from G15 to G16.

Fig.53: Missing apron panel to window opening at F07.

Fig.54: Timber decay of window back to west window opening of F11.

4.5 Staircase

Open joints are recorded to the undercarriage of the staircase located in G19. Elsewhere missing balusters are recorded to the newel of the staircase located in G11. No other conditions were recorded to the cantilevered staircases.

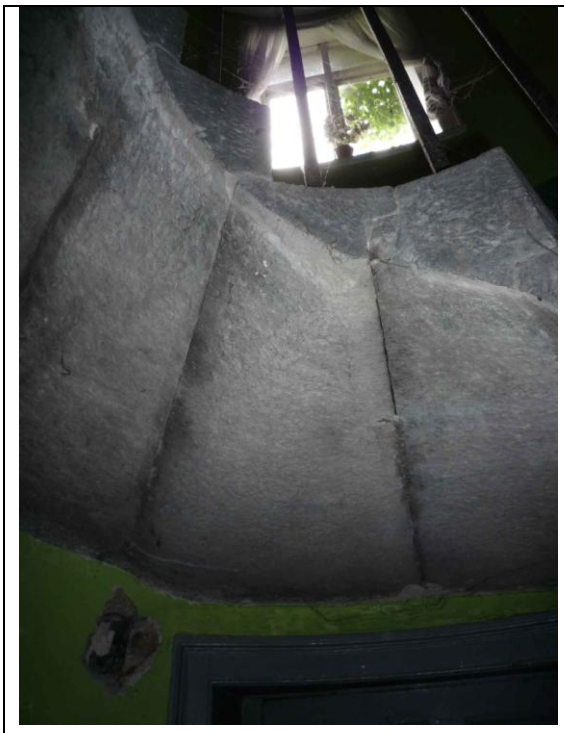

Fig.55: Open joints to undercarriage of staircase located in G19.

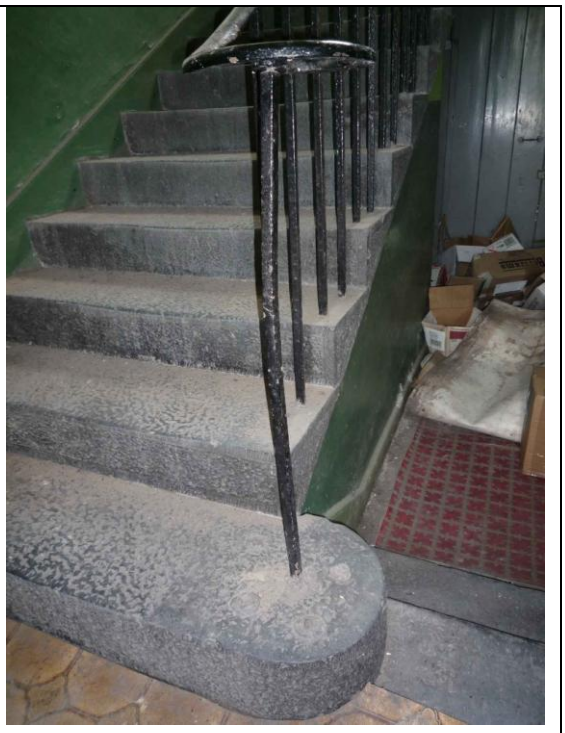

Fig.56: Missing wrought-iron balusters newel post of staircase to G11.

4.6 Fireplaces

Where early stone fireplaces survive these have been heavily painted in an oil based medium which detracts from the ascetics of the fireplace. Elsewhere a number of early fireplaces have been replaced with 20th century tiled pieces. A significant amount of debris and detritus is recorded to all hearth grates suggesting that the chimney flues are in poor order.

Fig.57: Over-painted stone fireplace to G01.

Fig.58: Detritus to the fireplace located in G29.

4.7 Internal Damp

Rising damp is evident in the form of resulting paint failure, efflorescence and plaster failure throughout the ground floor. An excessive level of dampness is noted in the in rooms where external walls have been re-pointed in cement based mortar. It is noted that the existing external drainage is blocked throughout leading to saturation of the surrounding ground exacerbating levels of dampness to the internal ground floor.

Fig.59: Plaster failure at low level as a result of rising damp to G20.

Fig.60: Rising damp to the west wall of G24.

5 INTERNAL RECOMMENDATIONS

5.1 Conservation Strategy

The interior shall be refurbished following conservation works and weatherproofing of the external envelop.

While the original early 19th century features are of significant architectural interest, care shall also be taken to preserve late 19th and early 20th century additions as these form part of the architectural history and development of the building.

A number of internal alterations are proposed to facilitate the reuse of the building as an integrated part of the new Butler Gallery however where alteration and interventions are proposed then these shall, as far as possible, be reversible. The proposal allows for the partial removal of some internal walls to facilitate gallery space. In such cases a section of wall will be retained at each end together with a downstand from the ceiling so that the original division may be clearly read.

5.2 Floors

Cleaning trials shall be carried out in order to establish the most appropriate means of removing the staining/residue from the existing flagstone floors. The cleaning of the stone must be carried out by a specialist contractor prior to the lifting and rebedding of the flags.

Where stone flags exist these shall be carefully raised from their present position and a new subfloor laid incorporating a dpc prior to rebidding of the flags. The surfaces of badly worn flagstones may be leveled using an epoxy resin. Alternatively badly worn flags may be lifted from areas of high pedestrian traffic and re-seated in an area of the floor where traffic levels are low. Where concrete floors are recorded to ground floor these shall be removed and a new floor installed incorporating a dpc.

In all cases sound original timber floorboards to the first floor shall be retained, with new boards matched in where originals are missing/ damaged.

5.3 Ceiling & Wall Plaster

Where cracks are small and not thought to represent significant failure of the plaster these shall be discreetly filled with a mixture of lime putty and casting plaster applied using a small syringe or other appropriate tool. Areas of loss and/or damage shall be replaced using historically accurate lime plaster and should be carried out by an appropriately qualified and experienced craftsman.

5.4 Joinery

Where timber skirting is missing/damaged this shall be replaced with timber to match the existing historic profile.

Missing door leaves and missing/damaged sections of architrave shall be replaced/repaired to match existing. Original door furniture shall be retained and fixed or where missing replaced to match existing to render all doors fully operable.

Missing sections of architrave, soffit and aprons to window openings shall be replaced with replica sections to match existing. All over-painted shutters shall be freed and where necessary new hardwear installed to prevent damage to the timber joinery.

Sash cords shall be renewed ensuring that weights are correctly counter balanced. Repair works shall be carried out to the historic timber sash windows as detailed in section 3.15.2.

Four new door openings shall be formed from existing window openings at ground floor (G01,G03,& G14). Historic joinery shall be retained where possible or carefully removed and re-used elsewhere on site.

In addition a number of existing door openings at G1, F1 & F05 shall be blocked/locked from use; here the historic joinery shall remain in-situ. Elsewhere, the existing timber architrave shall be carefully removed to facilitate the opening-up of a section of wall between room G14 and G15. Where possible this architrave shall be used to repair/replace sections of damaged/missing architrave in the building.

5.5 Staircase

New balusters to match existing shall be fabricated to replace those missing to the newel post of the staircase located in room G11.

5.6 Fireplaces

Painted stone surrounds shall be cleaned using a proprietary product (following cleaning test trials) by a specialist contractor with proven experience in the selective and sensitive cleaning of historic building fabric. 20th century replacement fireplaces shall be retained as part of the layered history of the building.

5.7 Internal Damp

It is likely that areas of rising damp to the ground floor will subside when the existing external drainage is addressed and with the installation of a French drain. Remaining areas of internal damp will drop to acceptable levels with the refurbishment of the rainwater system, re-roofing of the building and the removal of cement based re-pointing.

Heating shall be introduced in all parts of the building in tandem with improved ventilation to aid the gradual drying out of the historic fabric. Once the building has sufficiently dried out a further survey should be conducted to identify any areas of persistent damp.

5.8 Services

The installation of new or replacement services shall be carefully considered in order to have the minimum possible impact on the building's historic fabric and to avoid unsightly and physically damaging alterations/interventions. Where possible services shall be routed within ceiling voids or use pre-existing service routes.

APPENDIX 1 – CONDITION DRAWINGS

APPENDIX 2 – RECOMMENDTAION DRAWINGS

APPENDIX 3 – MATERIALS ANALYSIS