

Architectural Impact Assessment

The Biggin, refurbishment
Listed Building consent

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Hitchin Unite d Charities

Michael Collins Architect Ltd

Second Floor, 99 Bancroft
Hitchin
SG51NQ

www.michaelcollinsarchitects.com
michael@michaelcollinsarchitects.com
T: 01462 236866

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1.1 SUMMARY

The proposals involve much needed conservation work to enhance this important buildings future sustainability, functionality and protect its historic fabric, new alterations are designed to be reversible layers that form part of the historic sequencing of this building which spans over 700 years.

The proposed description of development would be:

“ The removal of 20th-century internal partitions and services, New internal partitions, servicing and the installation of new bathrooms and kitchens and associated internal servicing. Exterior timber framing repairs, window restoration, re-decoration and replacement, and new secondary glazing. The installation of a new air-source heat pump and associated services, new bin and bike storage, courtyard landscaping and new boundary treatment to the north elevation”

Note that this document is to be read in conjunction with the Statement of Significance.

The formal scope of work comprises:

- The removal of the of internal 1960s partitions , fixtures and services
- New internal stud partitions and acoustic linings
- Internal door overhaul and replacement as illustrated.
- New decorative service zone linings
- New internal ventilation system and ductwork
- New internal electical services layout, including new cylinders and radiators
- New underfloor heating system to the ground floor.
- Fit out of new kitchens, joinery elements and bathrooms
- Plaster repairs, new plastering to new partitions, internal decorations and fire proofing
- Internal timber repairs, panelling and carpentry repairs and restoration, and revealing existing fireplaces.
- New carpetting to the first floor, New LVT floors to the ground
- Replacement windows, window paint stripping, and window repairs as per the schedule.
- New secondary glazing systems as per the schedule.
- External timber repairs.
- Localised areas of cement pointing to removed and made good, removal of felt flashings.
- Localised wattle and daub infill to replace cement infills to timber frame.
- removal of impervious paint breathable exterior redecoration and new rainwater goods
- Removal of cement haunching at the base of the timber frame and the formation of a french drain perimeter
- Fence removal new perimeter railing, gate and wall.,
- New external works including pathways, soft landscaping bin, mail and bike store
- Concrete removal, replacement paving to the internal couryard area.
- External lighting
- Air source heat pump and new plant room area
- New external entrance doors, repair to the front storm door.
- Insulation and raised walkway to the loft area.

2. Architectural Heritage Impact Assessment

As stated by BS 7913, The purpose of heritage impact assessments (HIAs) is to gain an understanding of the effect of developments and changes on the historic asset, and how the impact of change might be mitigated. HIAs can be carried out at various levels of scale and complexity, from the effects of building works on a small structure to the effects of major development in a world heritage site.

HIAs should identify the significance of the element concerned on the relative scale of values, the nature of the proposed change, an assessment of whether the change needs to be mitigated and if so how this can be achieved. The mitigation measures should be justified on the basis of the heritage asset’s significance.

To follow is a detailed critical analysis of the proposed changes to the building in the form of of an assessment of each major individual alteration or intervention. The purpose of this analysis is to manage the change methodology as advocated within BS 7913 and Historic England Planning Advice Note, “Managing Significance in Decision-Taking in the Historic Environment”, 2015. Each analysis will be undertaken as follows:

Proposal: Brief description of the proposal together with an assessment to establish whether there is enough information to comprehensively understand the impact of the proposals on the character and historic significance of the building.

Impact: Consideration of the effects of the proposal on the authenticity and integrity of the heritage values attributed to the building.

Reversibility: Whilst the quality of the architecture and intended specification is intended to last the test of time, this is not always a given. Should the proposal not perform as expected, consideration is given to the ease of reversibility so as not to prejudice alternative future solutions.

Mitigation: Consideration of the necessary to mitigate the impact of loss of any element of historic significance resulting from the proposals such as recording and archiving.

Compensation: Consideration of any consequential conservation based benefits resulting from the proposal.

Outcome: Evaluation of the anticipated outcome of the proposal given the information available.

This document should be read in conjunction with the accompanying Statement of Heritage Significance

Proposal

2.1 The removal of the of internal 1960s partitions , fixtures and services

Impact

The alteration results in no harm to the significance of the building and removes harmful elements that as illustrated by the condition schedule have eroded the legibility of the building.

It is acknowledged that some historic fabric may need to be altered and may require remedial works as a result of undertaking this work.

Reversibility

Limited

Mitigation

Rigourous survey work has been undertaken to determine the more recent additions and further survey work will be undertaken to ensure prior to careful removals that damage is not caused through this removals process.

Compensation

Any loss of historic fabric resulting from the alteration will be limited and will be fully documented prior to removal. The internal legibility , integrity and condition of the existing building will improved as a result of this alteration.

Outcomes

This will not result in harm and will in face result in heritage gains.

Proposal

2.2 New internal stud partitions and acoustic linings. These will be installed in limited areas to facilitate the new internal layout. Timber studs will be carefull inserted and fixed to solid inert construction, plasterboard linings will abut carefully with soft joints to existing built fabric.

Impact

Limited and carried out to areas of moderate significance.

Reversibility

High

Mitigation

The position of new walls and linings will be coordinated to avoid damaging the legibility of existing spaces, and will be detailed to avoid clashes or fixings to historic timbers or areas of panelling.

Compensation

These additions will enhance the viability and sustainability of the hertitage asset in terms of acoustic performance in problem areas but also fire separation and escape for occupants. The layouts are generally more open plan and less cellular than the previous and as such more evidential of the historic layout of rooms.

Outcomes

Some limited harm might arise however this is substantially outweighed by the heritage benefits.

Proposal

2.3 Internal door overhaul and replacement as illustrated. Fire upgrades to the existing 1960s front doors, new internal doors to new and modified paritions.

Impact

Limited, and carried out to areas of low significance and new paritions.

Reversibility

High

Mitigation

Materials and proportions will be carefully selected to reflect traditional detailing, ensuring compatibility with the historic context while avoiding pastiche.

Compensation

These additions will enhance the viability and sustainability of the hertitage asset in terms of acoustic and fire performance.

Outcomes

Some limited harm might arise however this is outweighed by the heritage benefits.

Proposal

2.4 New decorative service zone linings to provide cable and plumbing routes to the perimeter of the building.

Impact

The alteration results in limited harm to the significance of the building, It is acknowledged that some historic fabric will require the addition of careful fixings. The new linings will add a modern aesthetic element to the lower part of the ground floor walls where these are plastered masonry but will not be deployed in areas of timber panelling.

Reversibility

High

Mitigation

This strategy aims to provide a clear zone for services and sockets within the properties. This avoids damaging intervention to the property to install services but also ensures that future maintenance and upgrades to not require damaging opening up work.

Compensation

This future proofs the property and avoids future maintenance issues, it also avoid damaging cutting into the historic fabric and ensures a safe and accessible sacrifiical service area.

Outcomes

Very limited harm however this is outweighed by the heritage benefits.

Proposal

2.5 New internal ventilation system and ductwork to run from the ground floor and first floor flats to teh loft area and terminate via the large existing grilles.

Impact

There is the potential for intrustive penetrations through existing plaster and lath ceilings and where fire collars are integrated. There are issues around fixing the ducts to areas where there is a considerable and exceptional heritage value.

Reversibility

Medium

Mitigation

Existing service voids through ceilings will be utilisied where possible. existing extracts have been installed and exhaust into the loft area itself causing condensation issues, these will be removed.

Compensation

The property will have a modern moisture control system that will provide a much drier environment that will prolong the building life,

Outcomes

An sustainable intervention that will create limitedharm but will vastly improve the buildings performance and safety.

Proposal

2.6 New internal electical services layout, including new cylinders and radiators to the first floor

Impact

On the ground floor services will be integrated into the facade as noted in 2.4 The loft zone will be used (see the attached services integration plan). At first floor level he loft wil be used as a service zone.

Reversibility

Medium

Mitigation

The electrical routes have been gathered in ducts to regularise maintenance and reduce he need for multiple penetrations or instrusive work. Refer to the services integration strategy.

Compensation

The building will be fully serviced and maintenance regimes and future electrical and plumbing work will easier to coordinate than the current layout.

Outcomes

Proposal	
2.7 The introduction of underfloor heating and a new LVT floor finish is proposed to improve thermal comfort and functionality within the building. The system will be installed with minimal intervention to the existing floor build-up, and the new tiles will be selected to complement the character of the interior spaces.	
Impact	
The proposed works are anticipated to have a low impact on the historic fabric. The existing floor build-up comprises a concrete slab, which is likely to have been installed in recent years. The intervention will be largely confined to later floor layers, with no significant alteration to original structural elements	
Reversibility	
The underfloor heating system and tiled finish are considered reversible. The system can be removed in the future, and the floor finish replaced, without permanent loss of historic fabric.	
Mitigation	
- Floor build-up will be kept to the minimum depth required to reduce intervention. - Any existing historic floor elements encountered during works will be retained and protected where possible. Please do feel free to share any further thoughts. - Installation will be carried out carefully to avoid damage to adjacent walls and historic fabric.	
Compensation	
The proposal provides improved thermal efficiency and internal comfort, supporting the continued use and long-term conservation of the building.	
Outcome	
The installation of underfloor heating and new tiled flooring will enhance the usability and comfort of the interior spaces while maintaining the integrity and legibility of the historic fabric	

Proposal	
2.8 New kitchen, bathroom and joieri fit-outs existing kitchen furniture is outdated and will be replaced. The new kitchen furniture and modules will broadly follow the existing layout, with key elements remaining in their current locations or acessible to existing drainage routes.	
Impact	
The proposed works will have minimal impact on the historic fabric of the building. Where any impact occurs, the works will allow for a necessary and appropriate upgrade to the electrical installation, improving safety and functionality while respecting the existing building fabric.	
Reversibility	
The proposed works are highly reversible. Interventions will largely involve recent plasterboard or existing service trenches, with electrical works carried out on a like for like basis where possible. No irreversible alteration to significant historic fabric is anticipated.	
Mitigation	
New service ducts behind bathroom appliances and kitchen units are proposed to avoid chasing of historic fabric. Water proof paneling is to be incorporated to wet areas set on battens off wall surfaces to protect existing constructions from moisture. Where there is any potential loss of historic fabric, appropriate mitigation measures will be considered, including recording and archiving in line with best conservation practice.	
Compensation	
There are numerous examples of existing poor services integration work. The proposals aim to repair and remedy this The proposals will result in conservation based benefits, including improved building performance, safety, and continued viable use of the property, supporting its long term preservation.	

Proposal	
2.9 Plaster repairs, new plastering to new partitions, internal decorations and fire proofing Fire proof coatings are required to the underside of the existing first floor ceiling	
Impact	
Potential damage and loss of legibility to existing fabric.	
Reversibility	
Limited	
Mitigation	
Plaster repairs will be undertaken as per Historic England’s own recommendatons and guides.	
Compensation	
This work reinstates areas of lost fabric, and	
Outcomes	
These proposals represent a heritage gain in terms of decorative repairs but also making the building more safe and viable,	

Proposal

2.10 Internal timber repairs, panelling and carpentry repairs and restoration, and revealing existing bricked up fireplaces.

Impact

This proposal aims to enhance the condition and visibility of areas of significance

Reversibility

Low

Mitigation

An honest approach will be taken to repairs where the changes that have been made historically. It is proposed that a condition is agreed whereby a schedule of specific works can be agreed with the LPA prior to commencement of this element.

Compensation

the proposals aim to tell the

Outcomes

Improvement of the heritage value of the asset.

Proposal

2.11 New carpetting to the first floor, New LVT floors to the ground

Impact

Low- The floor will be applied over a substrate layer added to the existing ground floor concrete slab. At first floor level underlay will be carefully fitted over the existing timber floor to avoid damage with carpet fitted over in living and bedroom areas. In bathrooms LVt floorings will be incorporated.

Reversibility

High

Mitigation

The new floor surfaces will protect the existing substrates below and will be sacrificial in nature. These flooring layers will be specfied as timber and jute in effect to sit comfortably with the existing historic features.

Compensation

N/A

Outcomes

N/A

Proposal

2.12 Replacement windows, window paint stripping, and window repairs as per the schedule.

Impact

High/medium - It is recognised that where these works are undertaken to these element which are of considerable or exceptional value that extreme care is required to preserve the original charachter. Replacement is only proposed where absolutely necessary and to more recent early and late 20th century windows. It is proposed that a condition is agreed whereby a schedule of specific works can be agreed with the LPA prior to commencement of this element.

Reversibility

Low

Mitigation

Materials and proportions have been carefully selected to reflect traditional detailing. All windows will be colored consistently to align with the historic images of The Biggin. The fenestration will be retained to the windows expressive of each consecutive phase of works.

Compensation

The property will enjoy a higher energy performance rating and the longevity of these historic windows will be prolonged.

Outcomes

The exterior elevations and internal environment will be enhanced.

Proposal

2.13 New secondary glazing systems as per the schedule.

Impact

The alteration results in limited harm to the significance of the building, It is acknowledged that some historic fabric will be altered to undertake this work and this will change a latter addition to the facade made during the late 19th/early 20th Century. This is not necessarily a major alteration in the overall context of this elevation. The visibility of the framing will be low when viewed from the exterior owing to the profile of these systems.

Reversibility

High

Mitigation

New secondary glazing systems will be fixed into surrounding window architraves and avoid direct fixings or attachments to areas of historic fabric. It would not be practicable or sensitive to the building to undertake energy performance enhancements to 16th and 17th Century windows.

Compensation

Any loss of historic fabric resulting from the alteration will be limited to areas of low significance and will be fully documented prior to removal.

Outcomes

A much higher level of energy performance for the building and the preservation of the existing windows.

Proposal

2.14 External timber repairs.

The current cement infills between timbers is a recent addition (last 60 years) and raises both aesthetic and technical concerns regarding the fabric behind. It is proposed that long terms this is carefully removed and a new breathable pargetting or wattle and Daub infills are added in line with what would have been used originally. Guidance will be taken from the LPA and historic England to restore this important element. There are areas (as identified by the structural report, and condition survey), where cement infill and poor detailing to the base of the detail around the southern elevation and Eastern elevation where new timber base-plates are required due to excessive rot. New Oak sections will be procured to match the existing profiles and the configuration of these will be subject to a detailed condition.

Impact

This will be a positive impact on the existing property both preventing rot due to the use of inappropriate materials and will be restorative to an element of exceptional significance.

Compensation

A heritage gain to be viewed in the context of other alternations.

Proposal

2.15 Localised areas of cement pointing to removed and made good, removal of felt flashings. Localised wattle and daub infill to replace cement infills to timber frame.

It would be impractical at this stage from a budgetary perspective to replace all areas of cement infill to this building and it is proposed that this will be limited to priority areas on the Southern and Western elevations where there are signs that this is having a deleterious impact on the existing timber structure

Impact

Medium/High

The proposed infill would be set between the timber studs and it is proposed that the render would follow this patter rather than coating the top of the timbers as illustrated by historic photographs. The current white paint is non breathable and also not representative of the original color of The Biggin.

Reversibility

Medium

Mitigation

Traditional wattle and daub infill with breathable render would be used. The neutral color tone would be subject to agreement with the LPA.

Compensation

This proposal will enhance the longevity of the property, and return it to the original fabric type.

Outcomes

A restoration of the existing facade that will be visible and appreciated from the public realm.

Proposal	
2.16 Insulation and raised walkway to the loft area.	
The installation of a natural fibre breathable insulation system over the top of the existing timber ceiling rafters as per Historic England best practice guidelines. The creation of a new walkway spanning between timbers to prevent damage and ensure safe maintenance and access to the the loft area.	
Impact	
Low/,moderate. The new walkway and insulation are superficial elements that will sit above the existing rafters. The walkway elements will also be used to run services in the loft area.	
Reversibility	
High	
Mitigation	
bearing positions for the new walkway will be subject to survey and sensitively fixed. A steel framed structure will be used to minimise the number of fixing points that would normally arise from a pedestral system. The structure also provides a fixing point for cable trays and ducts which reduces intervention to the main structure.	
Compensation	
This feature will not only provide highlevels of breathable insulation to improve the sustainabilty of the heritage asset but will also will manage access traffic and prevent damage to the existing plaster areas and ceiling from trampling.	
Outcomes	
A more energy efficient and better managed loft area for maintenance ensuring the long term sustainability of the heritage asset.	

Proposal	
2.17 removal of cement mortar to masonry areas, impervious paint breathable exterior redecoration and new rainwater goods.	
Impact	
Potentially high visibility	
Reversibility	
Medium	
Mitigation	
This work will be subject to further surveys to ensure this can be carried out sensitively and avoiding damage to surrounding fabric. After raking out joints traditional NHL3 lime mortar will be used appropriate to the existing brick density. The method of paintwork removal will be subject to further investigation.	
Compensation	
This will enhance the longevity of the property and an improved external appearance.	

Proposal	
2.18 Removal of cement haunching at the base of the timber frame and the formation of a french drain perimeter as per the detail included in the planning pack.	
Impact	
low, this will remove areas of 20th century concree/cement at the abutment with the elevation, but will retain the existing brick gulley detail. Areas of localised repointing and potential brick repairs (as a result of damage from cement) will be incorporated below floor level.	
Reversibility	
N/A	
Mitigation	
The works will be carried out carefully with hand tools to ensure damage to the existing elevation and foundation is avoided.	
Compensation	
These works will reduce damp ingress, and enable the lower part of the elevation and foundations to dry out.	
Outcomes	
The proposals will prolong the life of the existing fabric	

Proposal

2.19 Fence removal new perimeter railing, gate and wall.

Impact

High / positive - The current fence obscures the building and forms a poor foreground for this important landmark, furthermore the fence has failed due to the presence of vegetation. There is a high visibility of this elevation from the public realm, and this new wall and railing frames the building.

Reversibility

High

Mitigation

This boundary has varied considerably during the life of the building as illustrated by cartographic analysis. This boundary was originally open, and then enclosed by a high brick flank wall. Historic photographs and illustations indicate low level fencing but also railings which would have been a Victorian addition.

Compensation/ Outcomes

The new wall and railing whilst a new intervention is consistent with the treatment of other boundary walls around historic buildings in Hitchin.

Proposal

2.20 New external works including pathways, soft landscaping bin, mail and bike store

Impact

Medium - New structures within the curtileage of a listed building

Reversibility

High

Mitigation

The proposals set the new bike and bin storage away from the building and amalgamate this with the boundary treatment. This enables modern standards to be met without compromise to the appearance of the listed building. The landscaping aims to make the garden areas around the building more functional and faciliate access and maintenance.

Compensation/Outcomes

The proposals will improve the appearance and exterior aspect of the building and promence within the public realm.

Proposal

2.21 Concrete removal, replacement paving to the internal courtyard area. Carefully removing areas of hardstanding with hand tools, the installation of permeable brick paving and new drainage channels. Limited excavation (within 200mm from current level)

Impact

Modetate,

Reversibility

Medium

Mitigation

Materials selected that are in sympathy with the existing courtyard area. gravel edgings to the perimeter to minimise damp ingress around the perimeter of the existing walls.

Compensation

The improvement of the visual quality and appearance of this area and a more robust drainage strategy.



Proposal

2.22 External lighting

Existing bulkhead lighting will be replaced with new bronze slimline fittings.

Impact

These fittings will be an improvement on the highly visible generic bulkhead lights currently fixed to the building.

Reversibility

High

Mitigation

Cabling and fixing will be sensitively carried out and no new holes are to be formed to existing timber elements.

Compensation/Outcomes

Any loss of historic fabric resulting from the alteration will be limited to areas of low significance and will be fully documented prior to removal.

Proposal

2.23 Air source heat pump and new plant room area

Impact

Medium - A new plant room fit out, and air source heat pump is proposed externally. The plant room will incorporate new cylinders and surface fixed pipework. Some localised services penetrations will be require to run water feeds from the heat pump to the plant room.

Reversibility

High.

Mitigation

The new heat pump will be sited in the bin store area away from the building and visibility of the building.
New mechanical services will be floor standing where possible with limited fixings to the external walls.

Compensation/ Outcomes

A new renewable heating system that will benefit the residents of this building and reduce overall running costs enabling the longer term use and sustainability of this building.

Proposal

2.24 New external entrance doors, repair to the front storm door.

Impact

Hight/Medium

Reversibility

High

Mitigation

New glazed doors are proposed as a lightweight addition to sit within the existing construction. This was seem as an honest addition and to be clearly legible from the remaining historic construction. These are proposed as bespoke timber (Oak) and glazed elements

Compensation

New secure doors that are more sympathetic against existing the existing historic building

4.0 General Interventions

Remedial Works to the Existing Timber Frame.

Key to the Treatment of Fungal Decay		
1A	Fungus restricted to the decayed timbers. No signs of strand formation on the timber, on the wall surface or within the wall. No signs of fine red spore dust or dry rot fruiting bodies.	Proceed to 2 .
	Fungus producing surface growth and strands that extend onto the wall surface and within the wall, or red spore dust or dry rot fruit.	Proceed to 4 .
2A	Damage minor, or of little consequence.	Proceed to 3 .
2B	Structural integrity of timber impaired or damage severe.	Promote drying. Cut back decayed wood to sound timber following consultation with SE.
3A	Damage to hardwoods in a building that contain active deathwatch beetle.	Promote drying. Coat damage with a paste preservative.
3B	Damage to hardwoods or softwoods, no deathwatch beetle activity present	Promote drying. No further action.
4A	Strands appear dead/ inactive (grey-brown and brittle) and do not produce condensation when left in a warm place in a polythene bag.	Proceed to 5 .
4B	Strands appear active (white-grey and flexible) and produce condensation when left in a warm polythene bag.	Proceed to 6 .
5A	Building structure is dry. Source of moisture cured in the past. eg masonry mc<2%, timber mc<20%	No treatment
5B	Building structure remains damp	Proceed to 6 .
6A	All sources of water located and rectified, e.g. faulty downpipes, moisture from the ground, or little chance wetting will recur.	Proceed to 7 .
6B	Sources of moisture not obvious or not easily rectifiable. Decay caused by widespread water penetration. Only temporary or emergency elimination of damp source possible - possibility of recurrence.	Proceed to 8 .

Key to the Treatment of Fungal Decay		
7A	Depending on construction programme and associated works, structure could be left exposed for an appropriate time in order to dry.	No treatment.
7B	Significant time constraints and no time to dry out.	Proceed to 8 .
8A	Cost constraints, or treatment possible only on a temporary or emergency basis; quality of structure or finishes important and/ or no opportunity for opening up and reinstating conservatively.	Proceed to 9 .
8B	Structure and finishes less significant, no cost constraints, or structure remains saturated.	Treatment A .
9A	Client prepared to accept small risk of further damage as structure dries, particularly if timbers are of significance and good quality heartwood.	Treatment B . Monitor.
9B	No risks acceptable, guaranteed treatments required.	Treatment A .

General Interventions

Remedial Works to the Existing Timber Frame

Proposal: The proposed works will involve remedial work to specific historic timbers of varying historic periods.

It is noted that much of this survey work cannot be undertaken until enabling works have commenced and opportunity arises to inspect the timbers in question at close hand.

Investigative works to date have revealed some evidence of water ingress, the presence of fungal attack and potentially historical attack of deathwatch beetle. It is proposed to commission a further, specialist extensive survey at the commencement of the works.

Although not exhaustive, investigative works have revealed potential works to the following historic timbers:

1. 14th Century timber corner posts, and truss ends, potential 14th re-used rafters
2. 16th and 17th century studs floor joists and rafters
3. 19th century floor and roof timbers

Impact: The works have the potential to impact upon historic fabric of significance with potential works to fabric of considerable and exceptional significance. However the methodologies selected seek to mitigate this loss and, where loss is inevitable, to undertake repair in an honest fashion to ensure legibility.

Reversibility:

Mitigation: Although a timber by timber repair schedule could not be prepared, it is critical, at this stage, to establish appropriate methodologies and ensure means are in place to appoint both experienced specialists and a contractor who is capable of undertaking detailed survey, analysis and proposals in conjunction with the design team.

From the outset, the overarching principle in relation to remedial works to timber will be to maximise the retention of significant fabric. An initial, detailed recorded survey will be undertaken, identifying the individual components, their specific character and significance, itemisation of defects including fungal and insect attack, and schedule of specific proposals to address these issues on a timber by timber basis.

The methodology for assessing and undertaking remedial works in relation to timber decay will be based on the principles set out in the seminal text, *“Timber Decay in Buildings and its Treatment”*, 2019 by Brian Ridout, previously of Historic England.

The decision making process and outline remedial work options are detailed as part of this section.

Compensation: The potential remedial works to historic timber, if undertaken sensitively, offers the opportunity to undertake honest repair to fabric of significance that could be expressed, thereby highlighting the tectonics of the asset.

Outcome: Subject to detailed survey and analysis as highlighted above, remedial works to historic timbers is acceptable on the basis it is carried out using the methodologies described.

Treatment A

1. Remove all sources of water penetration.
2. Remove plaster to expose full extent of fungus. Start from centre of infection and work outwards to edge, but not beyond.
3. Expose concealed bearings for inspection: on one side if joists, on both if thick beams or purlins.
4. Cut back decayed timbers to sound poor or coat the exposed bearings with a paste preservative 0.5m past the last signs of decay. Preservative may need to be caulked into pre-drilled holes if the timber is substantial. Wet timbers should be treated with a preservative formulation based on glycol and boron to aid penetration.
5. Remove timber lintels within the zone of decay and replace with inorganic material. Historic oak may be salvaged if the fungus is superficial but will be resistant to treatment.
6. Remove bonding timbers, grounds and other embedded timbers within zone of decay. Brick up cavities left by timber removal using lime mortar and brick to SE specification.
7. Re-support structural timbers as necessary using timber pre-treated to BS 4072 Part 2. The cut ends of pre-treated timber should be brush-treated or dipped in an end treatment fluid supplied by the treatment specialist. All new timber should be isolated from the walls with an impervious membrane but not wholly rapped to allow breathability.
8. Remove external joinery within the zone of decay; taking care to record profiles and other evidential fabric of value. Discard, or repair as appropriate. Repairs should involve two brush coats of spirit-based preservative to the edges or backs.
9. Spray treat exposed brickwork with a water-based fungicide.

Treatment B

1. Remove all sources of water penetration.
Expose cavities as far as is practically possible by lifting floorboards etc and leaving exposed for as long as possible.
3. Thoroughly clean out all debris and loose or unimportant decayed material from the zone of decay.
4. Consider the installation of a remove moisture-sensing system to detect any further wetting.

The following additional measures may be relevant if the structure is softwood:

5. Paste-treat accessible softwood timber to within 100mm of decorated surfaces.
6. Treat embedded timbers by partial exposure and paste application.

General Interventions

Environmental Upgrade Strategy to Historic Building Fabric

Proposal: As part of the restoration of the heritage asset, a number of outline strategies are proposed relating primarily to the upgrading of existing historic fabric to improve energy efficiency.

Impact: The strategies have the potential to impact upon historic fabric and must be considered in the context of how historic buildings perform environmentally. For all their apparent simplicity, old buildings are surprisingly complex and diverse.

Vernacular buildings, in particular, demonstrate a sensitivity to regional climate in both form and orientation. Traditional forms of building construction take up moisture from their surroundings and release it according to environmental conditions. Buildings of traditional construction also tend to have greater thermal inertia than their modern counterparts; heating up and cooling down more slowly through the use of thick, solid masonry walls. This ability to ‘buffer’ moisture and heat helps to even out fluctuations in humidity and temperature. In simple terms many such buildings were designed with passive ventilation which ensured air flow around building elements helping disperse water vapour and keeping the fabric free from excessive moisture and subsequent decay. The materials used also allowed the free movement of water vapour within the structure.

It can be concluded that despite their apparent rudimentary nature, historic buildings often deal with energy conservation using considered and sophisticated means that is not always immediately apparent.

Breathable thermal upgrades are proposed to the existing building walls, roof and floors in accordance with the Historic England guidelines, “Energy Efficiency and Historic Buildings: How to Improve Energy Efficiency”, 2018. The method used should be largely determined by the extent and condition of the original fabric that remains. Where lath and plaster survives, there will normally be a cavity between this and the masonry wall. Where original linings have been lost, more recent dry linings can be removed and replaced with insulation, either directly to the masonry (‘on the hard’) or, where space allows, the wall can be framed with timber to hold insulation in place. In general, thinner materials such as calcium silicate based insulation board, are best applied directly to the masonry, whilst thicker materials such as wood fibreboard and hemp board are best held in place with framing.

Where appropriate, glass in sash and case or casement windows can be replaced with thin or slim profile double glazing in existing timber sashes. Careful assessment of the historic or cultural significance of the original glass is required before this work is undertaken. For example, the removal of crown glass should be discouraged given the rarity of surviving examples and the significant visual value which this glass adds to a building elevation. Where timber frames have suffered decay, components can be repaired with new timber sections before the double glazed units are fitted.

Reversibility: n/a

Mitigation: In order for an appropriate assessment to be made, further detail is required to understand how each of the proposed environmental upgrades affects historic fabric and overall significance. This includes appropriate means of assessment when considering the upgrade of historic masonry walls using WUFI Numerical Simulation Assessment as per BS EN 15026: 2007.

Compensation: Upgrading of historic fabric, if done correctly, will aid in the protection of and ensure the extended lifespan of the building for many years to come.

Outcome: The principle of environmental upgrades is considered acceptable, subject to further detail and detailed survey of elements for replacement eg existing timber windows.

4.0 Conclusions and Recommendations

This document demonstrates that there is sufficient information, subject to detail, to comprehensively understand the impact of the works on the character of the listed building, and that the consequence of the proposals has been assessed.

This is an example of an important local landmark and national heritage asset requiring investment and being under pressure to find dynamic ways of remaining viable. The sustainable future use of this building relies upon considerable private investment. In this instance, the applicant intends to invest considerably for this development and a significant portion of this will be spent on maintenance and repairs to ensure that the building is in good physical order moving forward. The proposals will result in some additions and new interventions within the existing historic fabric.

. To this end Historic England's Conservation Principles Policy and Guidance (2008), states:

"Changes which would harm the heritage values of a significant place should be unacceptable unless:

- 1.) the changes are demonstrably necessary either to make the place sustainable, or to meet an overriding public policy objective or need;
- 2.) there is no reasonably practicable alternative means of doing so without harm;
- 3.) that harm has been reduced to the minimum consistent with achieving the objective;
- 4.) it has been demonstrated that the predicted public benefit decisively outweighs the harm

This document clearly demonstrates that objectives 1 to 4 have been met and the loss of the highlighted elements is justifiable.

The proposed alterations are intended to be of a quality of design and execution which can be appreciated both now and in the future and will contribute to the historic evolution of the building in forthcoming years. This, however, is acknowledged as being subjective and no guarantee that the proposal will stand the test of time. This document demonstrates that the nature of the proposals is such that they will not prejudice future alternative solutions.

The proposals are consistent with the objectives set out in the National Planning Policy Framework (CLG, 2019. S16 Para192) stating:

- 1.) The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;

- 2.) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and

- 3.) the desirability of new development making a positive contribution to local character and

distinctiveness.

The proposals retain the historic character, significant features and heritage values attributed to the listed buildings and wider conservation area. The proposed interventions have been sensitively designed in a deferential manner and will improve the legibility of the heritage asset.

The proposals preserve the historic character and appearance of the conservation area and when considering the overall impact of the resulting development, the author is of the opinion that the proposals retain the cultural significance of the conservation area and satisfy the principles of conservation in terms of minimum intervention, reversibility and legibility.

In summary, we consider the proposals present no significant risk in terms of unnecessarily compromising the significance of the heritage asset and that the objectives set out by Historic England and the National Planning Policy Framework have been met insofar as:

- 1.) there is sufficient information comprehensively to understand the impacts of the proposal on the significance of the place;
- 2.) the proposal would not materially harm the values of the place, which, where appropriate, would be reinforced or further revealed;
- 3.) the proposals aspire to a quality of design and execution which may be valued now and in the future;
- 4.) the long-term consequences of the proposals can, from experience, be demonstrated to be benign, or the proposals are designed not to prejudice alternative solutions in the future.

Overall the analysis indicates that there are overwhelming heritage gains and high levels of compensation set against limited harm to the existing building as a result of these proposals.

It is recommended that, should the application be approved it is subject to

Michael Collins Architect LLP

Second floor
99 Bancroft
Hitchin
SG5 1NQ

www.michaelcollinsarchitects.com
michael@michaelcollinsarchitects.com
T: 01462 236866

