Consideration of Adaptive Reuse of Existing Dwelling and Outbuilding at Barkhill, Woodford, Co. Galway

July 2024

GCC/HC/CMD

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1.0 Introduction

This report has been prepared to consider the adaptive reuse of existing buildings on site at Barkhill, Woodford, Co. Galway in accordance with the '*Building Conservation Assessment'* report provided by ACP (Architectural Conservation Professionals) on 28th June 2024, following a submission from the Department of Housing, Local Government and Heritage recommending that *'the Local Authority seek the advice of a suitably qualified conservation architect/professional to consider the adaptive reuse of surviving vernacular structures on site. In the event a decision is made to proceed with demolition a measured and photographic survey of the interior and exterior of the building shall be carried out by a suitably qualified building surveyor*' in relation to submitted planning application (Ref. No. LA01/24) for the '*Demolition of existing dwelling and outbuildings and the construction of 2no. 2-bedroom dwellings, together with connections to existing public services, including all other ancillary site works and services'.*

2.0 Accommodation Requirements

The existing buildings on site at Barkhill, Woodford have been considered for adaptive reuse to provide 2 no. 2 bed (universal design) standard units in accordance with the design guidelines of the Department of Housing, Local Government and Heritage document '*Design Manual for Quality Housing*' and the requirements for provision of social housing by Galway County Council in the Barkhill, Woodford area.

The study of the existing buildings proposes to provide the 2 no. units required using the original split between the dwelling and the outbuilding. Unit A is accommodated in the original cottage to the South while Unit B is accommodated in the original out building to the North.

The DHLGH 'Design Manual for Quality Housing' outlines a target floor area of 70 SQM for a 2 bedroom (4 person) single storey house. While the existing floor plan of Unit A is significantly in excess of Department standards, demolition of the modern extension to the rear would provide the required accommodation within the footprint of the original layout with a feasible area of +10% in excess of Department standards.

Unit B is 45 SQM at ground floor level, significantly lower than the required Department standard. The first floor level is currently inaccessible and would not satisfy the accommodation requirements in terms of accessibility for provision of a universal design accessible 2 bed unit. In order to provide the required accommodation an extension to the rear of the existing outbuilding would be necessary. The plan study in Figure 1 below demonstrates a 24 SQM extension to the rear of the existing outbuilding allowing for accommodation of a UD 2 bed level access unit in accordance with requirements.

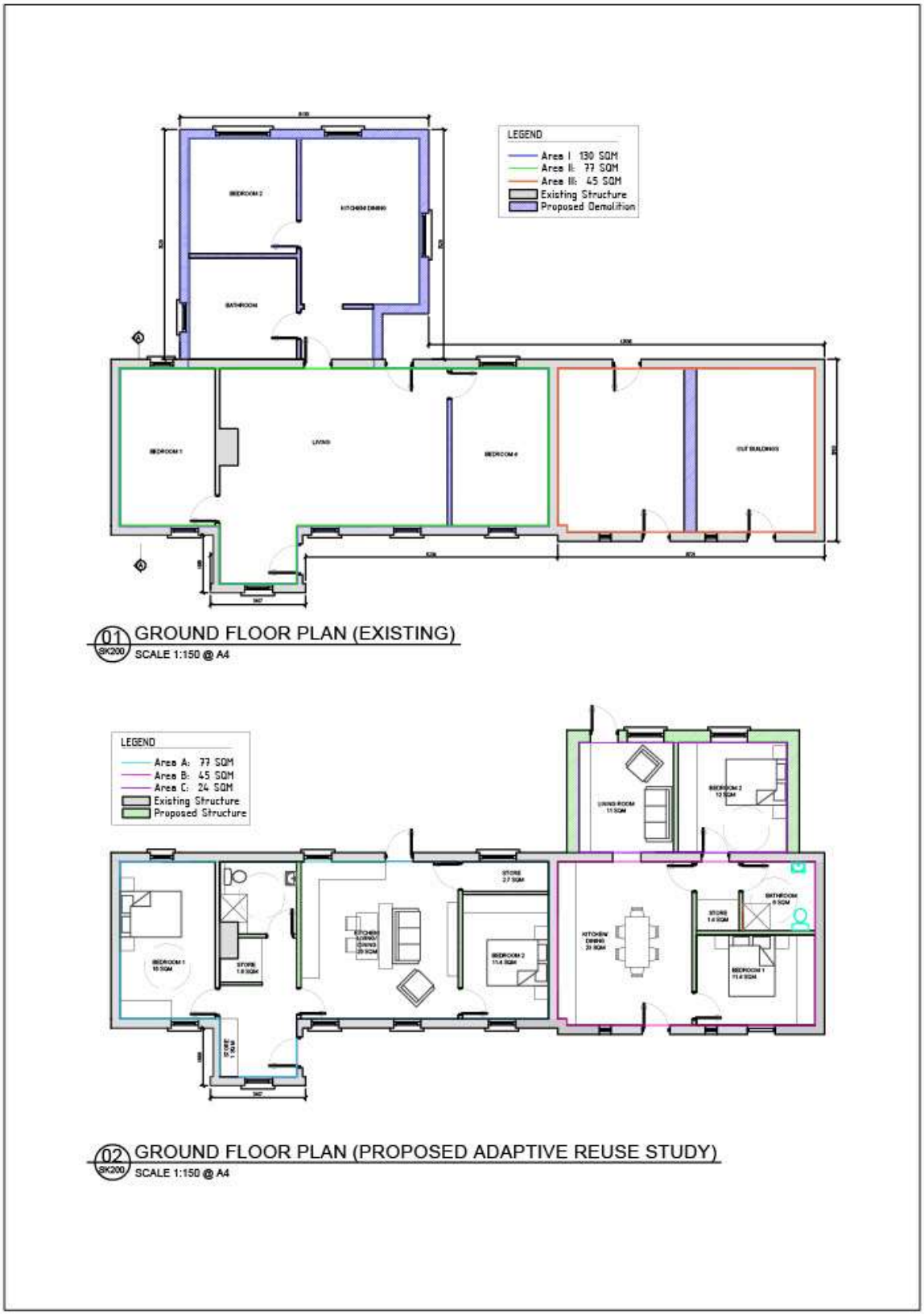

Figure 1 - Plan study of potential adaptive reuse of existing buildings

3.0 Building Regulations

A study of the Technical Guidance Documents (Parts A-M) in relation to the proposed works to the outbuilding highlights a number of areas for consideration including:

3.1 TGDA- Structure

Loading. A1 (1) A building shall be designed and constructed, with due regard to the theory and practice of structural engineering, so as to ensure that the combined actions that are liable to act on it are sustained and transmitted to the ground - (a) safely, and (b) without causing such deflection or deformation of any part of the building, or such movement of the ground, as will impair the stability of any part of another building.

There are a number of areas of concern in relation to the above requirements. To address the issues highlighted in the photographs in Appendix A, the building is likely to require significant interventions including underpinning of the foundations, removal of inappropriate amendments to heads of opes and structural installation of lintels, removal of the internal separating wall, assessment of foundation to the rear wall (West) which is showing inappropriate stone sizing. The ivy growth to the North wall is significant and is evidently affecting the roof structure. The effects of the ivy on the structure of the North wall and chimney is unknown and would require assessment following ivy removal.

3.2 TGDB- Fire

No notable abnormal provisions required.

3.3 TGDC – Site Preparation & Resistance to Moisture

Subsoil drainage C2 Subsoil drainage shall be provided if necessary so as to prevent the passage of ground moisture to the interior of the building or damage to the fabric of the building.

Dangerous substances C3 Reasonable precautions shall be taken to avoid danger to health and safety caused by substances (including contaminants) found on or in the ground to be covered by a building.

Resistance to weather and ground moisture C4 The floors, walls and roof of a building shall be so designed and constructed as to prevent the passage of moisture to the inside of the building or damage to the fabric of the building.

Definitions for this Part C5 In this Part – "Contaminant" includes any substance which is or could become flammable, explosive, corrosive, toxic or radioactive and any deposits of faecal or animal matter. "Floor" includes any base or structure between the surface of the ground, or the surface of any hardcore laid upon the ground, and the upper surface of the floor and includes finishes which are laid as part of the permanent construction. "Moisture" includes water vapour and liquid water.

To provide acceptable levels of damp proofing and radon treatment for the proposed dwelling the existing floor will be required to be removed and replaced with a vapour permeable solution in keeping with the principles of performance of the existing building. Excavation of the floor in the vicinity of the rear wall in particular presents a significant risk to the structure.

3.4 TGDD – Materials and Workmanship

Materials and workmanship D1 All works to which these Regulations apply shall be carried out with proper materials and in a workmanlike manner.

All works to the outbuilding will require materials that are sympathetic to the existing structure (i.e. vapour permeable/ breathable). The response will be bespoke and defined on further assessment of the existing fabric.

3.5 TGDE – Sound

No notable abnormal provisions required.

3.6 TGDF – Ventilation

1.2.4.6 For a hinged or pivot window that opens 30º or more, or for sliding sash windows, the height multiplied by the width of the opening part should be at least 1/20th of the floor area of the room. If the room contains more than one openable window, the areas of all the opening parts may be added to achieve the required proportion of the floor area.

The existing outbuilding opes (Unit B) would not meet the requirements for purge ventilation in the Kitchen area as required in the current form. Interventions to the existing building opes would be required to provide larger or additional opes to meet the required standard detracting from the original aesthetic.

Mechanical extract fans would also be required to the kitchen and bathroom with ducts provided through the external structure.

3.7 TGDG – Hygiene

No sanitary facilities currently exist in the existing outbuilding. Kitchen and Bathroom facilities would be required.

3.8 TGDH – Drainage and Wastewater Disposal

No water provision or plumbing currently exists in the outbuilding and provision would be required to allow for kitchen and bathroom facilities in line with modern standards. Inlet and outlet pipes for sinks, toilets and shower would be required to be connected internally and to external sources either through the existing external walls below ground level or above.

3.9 TGDJ – Heat Producing Appliances

Protection of building. J3 A heat producing appliance and any flue pipe shall be so designed and installed, and any fireplace and any chimney shall be so designed and constructed, as to reduce to a reasonable level the risk of the building catching fire in consequence of its use.

Liquid fuel storage system – protection against pollution by the system. J6 A fixed liquid fuel storage tank, which serves a heat producing appliance, and the pipes connecting it to that appliance shall be so located, constructed and protected as to reduce to a reasonable level the risk of the fuel escaping and causing pollution.

While there is evidence of an open fire and chimney to the North wall the structure appears to be compromised with the removal of the fireplace keystone. The condition of the chimney is unknown but the adjacent roof is evidently compromised with heavy ivy growth. Provision of a closed stove here would require significant intervention with removal of apparent load bearing stone to the fireplace. Further analysis of the chimney structure would be required on removal of the ivy. The building would require analysis to determine the most appropriate form of heating and pipework would be required in all instances which would be required to circulate below or through the external wall structure.

3.10 TGDK – Stairways, Ladders, Ramps and Guards

No notable abnormal provisions required.

3.11 TGDL – Conservation of Fuel and Energy- Dwellings

L1 A building shall be designed and constructed so as to ensure that the energy performance of the building is such as to limit the amount of energy required for the operation of the building and the amount of carbon dioxide (CO2) emissions associated with this energy use insofar as is reasonably practicable.

All works to the outbuilding will require materials that are sympathetic to the existing structure (i.e. vapour permeable/ breathable) in order to provide an acceptable level of energy retention and limitation of emissions. The response will be bespoke and defined on further assessment of the existing fabric.

3.12 TGDM – Access and Use

3.2.2 Accessible Entrance (c) The minimum effective clear opening width of the entrance door should be 800 mm.

The existing front door ope to the outbuilding could provide a clear opening of no more than 700mm in it’s current form and would be required to be widened to meet current regulations for accessibility.

4. Conclusion

In consideration of the significant interventions required to the external envelope of the existing outbuilding including structure, ventilation, waterproofing, inaccessibility and unusable upper level in accordance with accommodation requirements, it is concluded that the existing outbuilding is unsuitable for the provision of social housing in accordance with universal design standards as required.

The cottage unit (unit A) has had significant interventions applied since it's original appearance on the Ordnance Survey of Ireland Twenty-Five Inch Map, 1903-1904. This earliest record shows a separation of the buildings with an external stairs between the South wall of the existing outbuilding and the cottage. The abutment of the cottage to the outbuilding (via the North most bay) is a later intervention, the year of which is unknown.

Considering the adaptive reuse of the existing buildings in order to provide 2 no. 2 bed dwellings on this site, it is evident that only three of the existing external walls (East, West and South) of the cottage (unit A) could feasibly be retained with new construction required otherwise to provide suitable residential accommodation in accordance with current building standards and regulations. Retention of these walls alone with modern interventions otherwise required would significantly detract from the vernacular form and setting.

In order to provide accommodation that is in compliance with building regulations and in consideration of the associated costs of investment for futureproofing a social housing asset together with the limited viability of adaptive reuse, we propose that the existing buildings on site are demolished and 2 no. 2 bed dwellings are constructed in accordance with the drawings submitted as part of this planning application.

In accordance with the recommendations of the Department of Housing, Local Government and Heritage '*a measured and photographic survey of the interior and exterior of the building shall be carried out by a suitably qualified building surveyor'*.

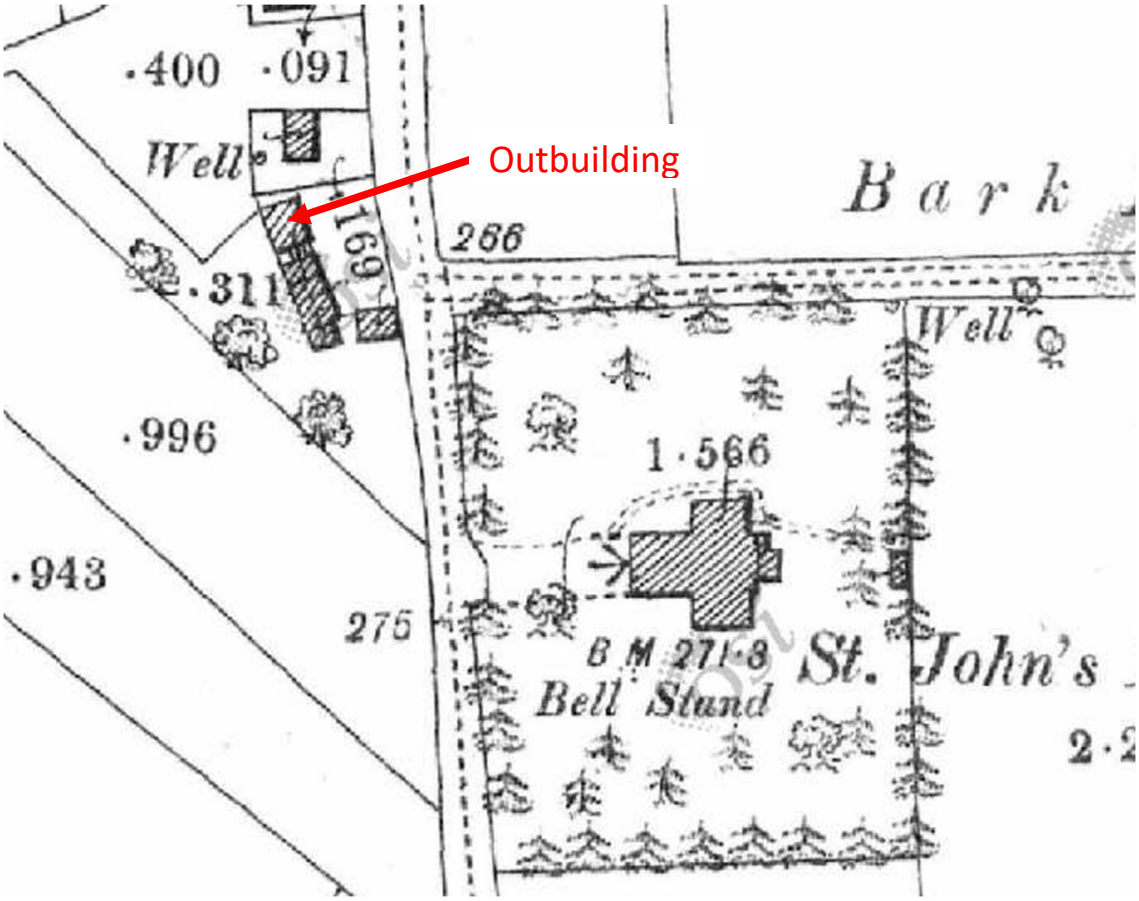

Figure 2- 25 Inch Map (1903-1904)

Appendix A – Site Photographs

Figure 3- Overview of stone structure missing adjacent to door ope threshold

Figure 4- Detail view of stone structure missing adjacent to door ope threshold

Figure 5- Structural supports missing to internal head of window ope 1

Figure 6 - Structural supports missing to internal head of window ope 2

Figure 7- Evidence of intervention to original arched door ope head

Figure 8- Evidence of intervention to original rear wall to create a door ope (no structural lintel to head)

Figure 9- Smaller stones at foundation level than that of the supported wall

Figure 10- Significant mortar infill to base of wall

Figure 11- Missing Keystone to original fireplace ope

Figure 12- No existing external cills to window opes

Figure 13- Significant Ivy growth with visible undulations in the roof structure

Figure 14- Overview of stone structure missing adjacent to door ope threshold

Figure 15- Detail view of stone structure missing adjacent to door ope threshold

Figure 16- Structural supports missing to internal head of window ope 1

Figure 17 - Structural supports missing to internal head of window ope 2

Figure 18- Evidence of intervention to original arched door ope head

Figure 19- Evidence of intervention to original rear wall to create a door ope (no structural lintel to head)

Figure 20- Smaller stones at foundation level than that of the supported wall

Figure 21- Significant mortar infill to base of wall

Figure 22- Missing Keystone to original fireplace ope

Figure 23- No existing external cills to window opes

Figure 24- Significant Ivy growth with visible undulations in the roof structure