DEDALUS ARCHITECTURE

“ A Donegal Case Study”

Presentation to 2018 GLAS TRADITIONAL FARM BUILDINGS GRANT SCHEME Seminar

7th March 2018

Duncan McLaren

BSc DipArch RIBA MRIAI RIAI Accredited Conservation Architect (Grade 1)

DEDALUS ARCHITECTURE

- RIAI Accredited Conservation Practice (Grade 1); based in Inishowen, County Donegal
- Architects specialising in historic buildings & sites
- Architectural Research
- Preparation of Conservation Plans & Reports
- Conservation of Historic Buildings & Monuments
- Health & Safety Supervision
- Work for industry, local authorities, community organisations & private individuals
- Applications for grant funding & financial assistance
- 15 no. Heritage Council Funded grant assisted Traditional Farm Building projects over the last 10 years

Definitions: Conservation

Conservation may include actions of:

- **Preservation**
- **Repair**
- **Restoration**

Conservation standards are defined by international convention (ICOMOS International Council on Monuments & Sites)

- International Charter for the Conservation & Restoration of Monuments & Sites (*The Venice Charter- 1964*)
- Charter – Principles for the Analysis, Conservation & Structural Restoration of Architectural Heritage (2003)
- Charter on the Built Vernacular Heritage(1999)

Traditional Farm Buildings

STONE SLATE ROOF COVERINGS

Some County Donegal Examples

Hayloft & Byre; Dromore, Kilmacrennan

Hayloft & Byre; Dromore, Kilmacrennan

Drumnatinny, Falcarragh


Roshin, Dunfanaghy

Buncrana Castle, Inishowen

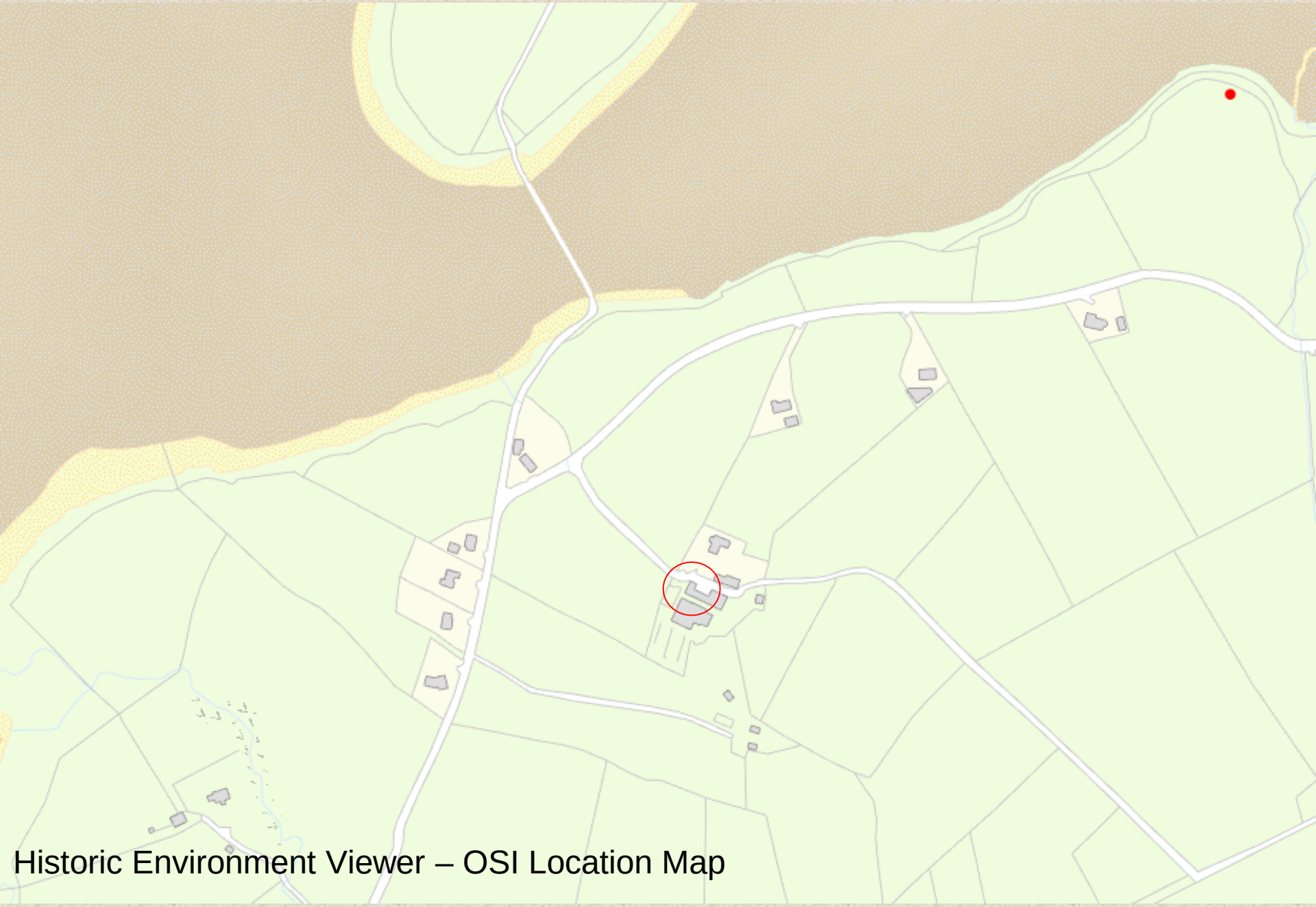

Fort Stewart, Ramelton

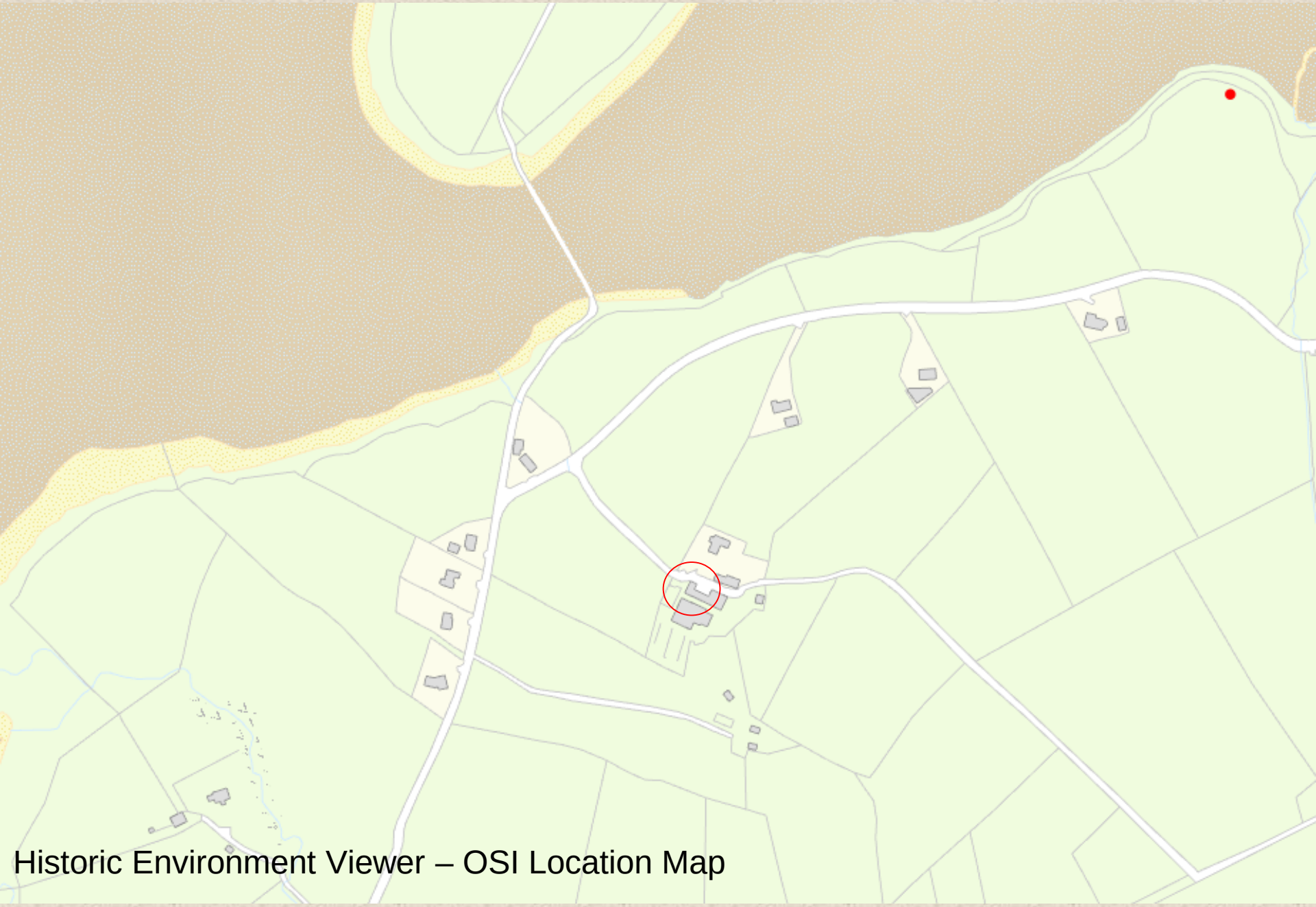
Fort Stewart, Ramelton

Aughinish, Ramelton – March 2017

STATUTORY PERMISSIONS

- If the works involve protected structures, or buildings in an Architectural Conservation Area, the planning authority should be consulted prior to making a grant application.
- Where needed, a copy of the application or approval of the planning authority (through planning permission, ‘declaration’; or other letter of acknowledgement of the works) should be forwarded as part of the application.
- If the structure was built before 1700, it is likely to be protected under the National Monument Acts 1930–2004. If the farmyard is identified on the Record of Monuments and Places a copy of the relevant consent or application for consent from National Monuments Service, must be submitted with the application.
- Many farm buildings provide roosting sites for bats and nesting sites for birds; protected by law. If bats or nesting birds are present in the building, a license from the National Parks and Wildlife Service may have to be obtained before works can commence.
- All works grant aided must meet all statutory requirements including the Safety, Health and Welfare at Work Act 2005, and employment law.


Historic Environment Viewer – OSI Location Map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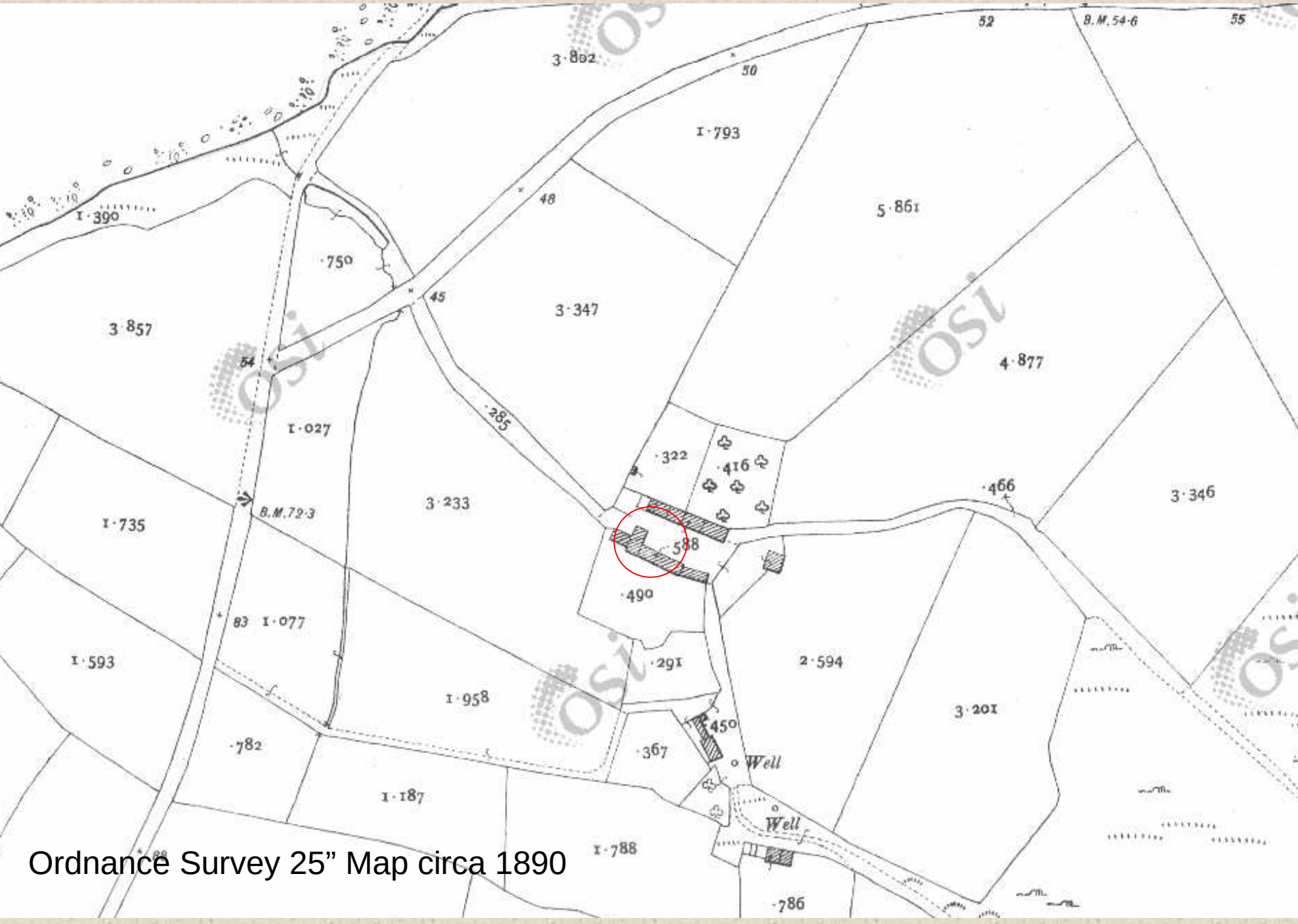

Ordnance Survey 25” Map circa 1890

Understanding the Heritage - Description

Barn A is a 2-storey rubblestone structure with a timber purlin & tied rafter roof with a stone slate roof covering which, from historical mapping evidence, may date from the mid-19th century. The barn is thought to have been used as a threshing mill originally, with a rink located on the north side of the building. Whilst the threshing machine is no longer present, there is a hand operated winnowing fan still located at first floor level.

The roof is L-shaped with a hipped corner to the southwest with a lead-lined pitched valley to its internal corner. The roof is completely slated with what are thought to be St Johnston/ east Donegal schist slates, many of which have slipped and been reinstated by the owner to control the ingress of rainwater. The slates are graded so that the slate batten spacing decreases over the height of the roof. Slates are nailed with iron nails that have corroded and were also originally bedded in mortar with under slate parging internally. The underslate parging is fibre reinforced and has survived in most areas that have not been affected by water ingress. Recent repair have involved bedding the slipped slates in cement rich mortar, so that the covering in several areas is only held by the adhesive qualities of the cement and friction. Daylight is visible through the roof covering in many areas and water ingress is occurring locally and a number of structural timbers have rotted where they are located below these holes. The roof structure appears quite strong in comparison with other farm building structures, however, a number of structural timbers have split due to the immense weight of the stone slate covering. A single, strategically placed, Acrow prop is currently supporting the pitched valley beam.

The existing roof presents a hazard to farm users and animals and the damaged sections of roof will require re-slating. Whilst damage is concentrated on the east-west arm of the L-shaped building it is feared that the north-south arm may also exhibit similar defects in the near future, particularly if the roof is to be disturbed by significant repairs which will include propping and splicing of the supporting structure below. For this reason, re-slating of the whole roof has been priced, although, due to the likely expense of this, it is proposed to prioritise work to the east-west wing, if needed. Some minor works below roof level have been itemized to facilitate future planning of repairs, but it is thought unlikely that these will be affordable in the short term. The priced work will include underslate parging as this is thought will improve the effectiveness and durability of the new roof covering, however, this may also need to be prioritised according to budget.

The work of reslating will require a reliable source of St Johnston slates. The exact requirement is not yet known, although we would anticipate approximately 15% of slates may require renewal. We have discussed the possibility of sourcing material from the owner of Trentagh House farm, St Johnston and she has offered to supply material salvaged from the collapsed barn roof which will not be roofed again in slate. An alternative supply is available from the same farm at the original slate quarry.

The existing first floor structure has been repaired in recent years and seems to be in reasonable condition. Timber joists have been supplemented with steel beams and additional ties so that the floor is capable of storing large bales of straw. Rotted boards have also been replaced with Sterling board sheeting which, insofar as it can be seen, appears to provide a safe working platform.

Some minor structural cracks are visible to the external walls and small areas of pinning and repointing needed. It is proposed to utilise part of the grant to obtain training for the owner to undertake this work that would have practical application for this and other barns on the farm.

The roof has metal guttering, although this is missing on the internal north and east sides. Joinery to part of the building is also still present and requires splice repairs of framing elements to be undertaken and boarding to shutters to be patched. Repair of these secondary elements is necessary to secure any structural repair work in the long term; some of these items might be deferred to a later date or undertaken by the client directly if the budget determines this.

The owner proposes to demolish a small modern lean-to structure on the north side of the building (figure 11 & 12). This is of no particular practical purpose and would facilitate installation of a rainwater stack on this side.

Inspection Survey – March 2017


10kg

CONSERVATION WORKS

Item	Labour	Material
Scaffolding access for the works; ensure roof and walls are securely propped ; scaffolding to be sized to allow for stacking slates of the work at eaves level		
East-West wing: Strip ridges & graded slate roof covering & salvage for reuse; stack vertically in the order that slates are not damaged an din rows to ensure that existing grading is repeated in new work.		
North-South wing: Provisionally strip ridges & graded slate roof covering & salvage for reuse; stack vertically in the order that slates are not damaged & in rows to ensure that existing grading is reinstated in new work.		
Provision sum for purchase of salvaged St Johnston slates from an approved source		€2,000.00
Cost of cleaning , sorting and resizing of new purchased slates as needed		
East-West wing: Allow to renew 5 no. rotted truss members; renew; 3 no rafters complete; 50% of rafter tail extensions over head of wall; renew wall plate and resecure using salvaged iron straps/ new purpose-made galvanised steel ties to match.		
Prop split valley beam and repair with 2 x painted steel channels		
Spray timber roof structure with borax spray		
Provisional: repair & repoint bellcote & chimney with lime		
East-West wing: Re-lay salvaged slates on new treated battens with stainless steel nails; reuse existing clay ridges and allow to replace any damaged slates. Allow to consolidate wall head in conjunction with timber repairs and for bedding slates in lime mortar as work proceeds.		
North-South wing: Re-lay salvaged slates on new treated battens with stainless steel nails; reuse existing clay ridges and allow to replace any damaged slates. Allow to consolidate wall head in conjunction with timber repairs and for bedding slates in lime mortar as work proceeds.		
East-West wing: Reinstate fibre reinforced lime parging to underside of slates. Allow for preparation of samples to match original parging and to identify fibre material to be used before commencement of this work generally.		
North-South wing: Reinstate fibre reinforced lime parging to underside of slates. Allow for preparation of samples to match original parging and to identify fibre material to be used before commencement of this work generally.		
Install new painted galvanised gutter and galvanised steel rafter end brackets to north & east side of roof; 2 x new galvanised steel downpipe stacks fixed with stave brackets .		

Item	Labour	Material
Selectively pack & repoint crack in stonework to front, rear & gable elevations; renew missing pointing to brick reveals & sills to window & door openings with NHL2 lime mortar; finish joints flush with stipple finish to expose sand grain		
Provisional: Pack 2 no. full height vertical movement cracks with NHL2 mortar and pinning stones.		
Take down & reconstruct collapsing panel to bricked up doorway to east gable		
Provisional - Reconstruct 2 no. timber doors/ shutters with new framed ledged & braced leaf with beaded T&G sheeting; salvage and reuse forged bolts, pivot hinges etc or source new to match		
Paint cast iron or galvanised steel rainwater goods with 3 coat paint system.		
Labour		
Materials		
Total		

Scaffolding – October 2017


Temporary Works

E-W Wing – October 2017


E-W Wing – October 2017

E-W Wing – October 2017

E-W Wing – October 2017

E-W Wing – October 2017

E-W Wing – October 2017

E-W Wing – October 2017


N-S Wing – October 2017


N-S Wing – November 2017

Materials – Steel Valley Splint


Materials – Steel Valley Splint


SECIL
natural
lime
NHL 3,5
Natural Hydraulic Lime
Cal Hidráulica Natural
25kg
Lime
NHL 3,5
SECIL

Materials

Materials – Graded Sharp Sand

Materials – Mortar & Salvaged Slates

Materials – Clay Ridge Tiles

Materials – Underslate Parging

Materials – Washed Cow's Tails

Materials – Access & Tools for Parging

Materials – Underslate Parging


FARM SAFETY NOTICE
BEWARE
CAUTION

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