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Appendix 17-7 – Report on the Archaeological Monitoring of Geotechnical Site Investigations

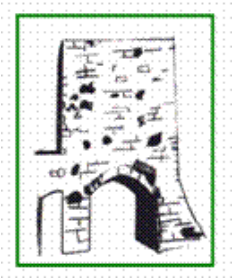
Uisce Éireann
October 2026

BALLINA AND LOUGH TALT WATER SUPPLY UPGRADE

Appendix 9
Archaeological Monitoring Survey

FINAL REPORT
ON ARCHAEOLOGICAL MONITORING
OF GEOTECHNICAL SITE INVESTIGATIONS
IN GARRANKEEL TOWNLAND
BALLINA, COUNTY MAYO

License 25E00070



Through Time Ltd.

Professional Archaeological Services

FINAL REPORT
ON ARCHAEOLOGICAL MONITORING
OF GEOTECHNICAL SITE INVESTIGATIONS
IN GARRANKEEL TOWNLAND
BALLINA, COUNTY MAYO

Martin Fitzpatrick, M.A.

December 2025

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Professional Archaeological Services

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II ABBREVIATIONS

MA - This number is the number of the site on the SMR/RMP map. It begins with the county code, here MA for Mayo the 6-inch sheet number, followed by the number of the archaeological site.

M Meters, all dimensions are given in meters or part of a meter.

NIAH National Inventory of Architectural Heritage

NMI National Museum of Ireland

NMS National Monuments Service, Department of Housing, Local Government and Heritage.

OS Ordnance Survey

OSI Ordnance Survey of Ireland RMP

RMP Record of Monuments and Places. A record on which all known archaeological sites are marked and listed in an accompanying inventory. This resource is based on all publicly available material and cartographic sources and is read in conjunction with constraint maps. The RMP records known recorded monuments and the sites of such monuments (if the monument no longer survives).

RPS Record of Protected Structures

SMR Sites and Monuments Record

PLEASE NOTE*…*

Any recommendations contained in this report are subject to the ratification of the National Monuments Service, Department of Housing, Local Government &, Heritage.

INTRODUCTION

Archaeologist Martin Fitzpatrick was engaged to monitor the excavation of five additional geotechnical site investigations in the townland of Garrankeel on the outskirts of Ballina in County Mayo. The site investigations were being undertaken as part of a proposed water pipeline route between Lough Talt, Co. Sligo to Ballina, Co. Mayo. The purpose of the ground investigation is to adequately characterise the ground conditions and determine the engineering properties of the ground along the proposed route.

The Lough Talt Regional Water Supply Scheme (RWSS) serves a large rural supply area in south Co. Sligo with a population of approximately 13,663 people. The water supply for this region is currently provided from Lough Talt Water Treatment Plant (WTP). The proposed project will see this supply being replaced with a new transfer of potable water from the Ballina RWSS, which will be upgraded and extended.

The proposed project will comprise a number of individual work sites along the linear project:

- Expansion of water treatment capacity will be required at the Lisglennon WTP site.
- An upgraded treated water trunk main network (c. 30 km length) will be required between the Lisglennon WTP and Lough Talt WTP sites, via Ballina town.
- A new booster pumping station will be required near Bunnyconnellan, from where water will then be pumped to a new storage reservoir near the existing Lough Talt WTP site.
- Decommissioning works will be carried out at the existing Lough Talt WTP site, which upon delivery of the proposed project, will cease abstraction and treatment of water from Lough Talt.
- Renewable energy generation equipment (solar panels and energy recovery turbines) is proposed to be installed as part of the works at all new and upgraded sites.

Archaeological monitoring of geotechnical site investigations along the route was undertaken between January and June 2025 (License 25E0070). Additional site investigations at five locations were undertaken over a period of three days in November 2025. The site investigations involved 2 test pits, and 3 slit trenches excavated in the grounds the 19th century Belleek Manor (NIAH Reg. 31303017).

Nothing of archaeological significance was encountered in any of the trenches excavated.

SITE LOCATION

Townland: Garrankeel

Parish: Kilmoremoy

Barony: Tirawley

ITM: 525177 821026

The site investigations were in the grounds of Belleek Manor to the immediate west of the River Moy and c. 2km north of the town of Ballina in north County Mayo. The three slit trenches and two test pits were excavated.

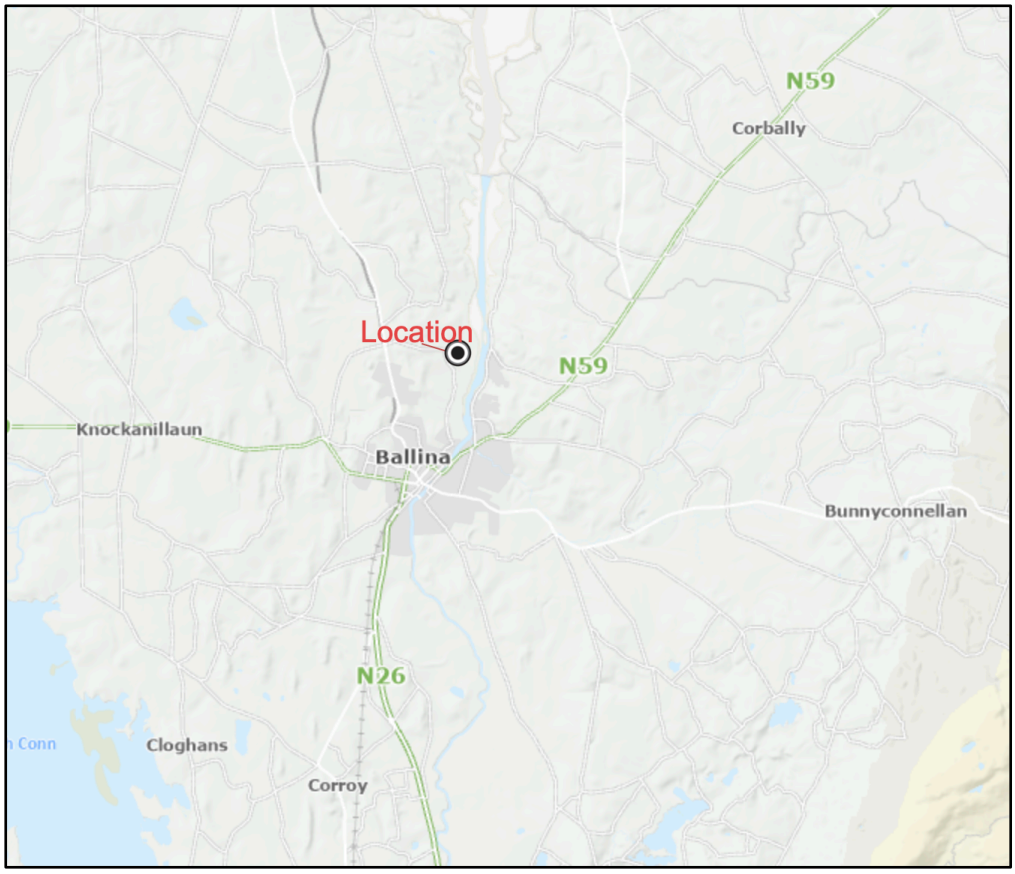


Fig. 1: General Site Location Map.

RELEVANT LEGISLATION

Archaeological monuments are protected through national and international policy designed to secure the protection of the cultural heritage resource. This is facilitated in accordance with the provisions of the European Convention on the Protection of the Archaeological Heritage (Valletta Convention), which was ratified by Ireland in 1997.

The *Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023* ("the

Act") was enacted on 13th October 2023 and partially entered into force on the 31st of May 2024. Pending the commencement of the provisions of the Act which will repeal *the National Monuments Acts 1930 to 2014* and related legislation, those Acts and related legislation remain fully in force as they stood on 13th October 2023.

The National Monuments Act 1930 to 2004 and relevant provisions of the National Cultural Institutions Act 1997 are the primary means of ensuring the satisfactory protection of archaeological remains, which includes all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. A National Monument is described as:

"*a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto*" (National Monuments Act 1930 Section 2).

A number of mechanisms under the National Monuments Act are applied to secure the protection of archaeological monuments. These include the Register of Historic Monuments, the Record of Monuments and Places and the placing of Preservation Orders and Temporary Preservation Orders on endangered sites.

The minister may acquire National Monuments by agreement or by compulsory order. The State or the Local Authority may assume guardianship of any National Monument (other than dwellings). The owners of National Monuments may also appoint the Minister or the local Authority of that monument if the State or Local Authority agrees. Once the site is in ownership or guardianship of the State, it may not be interfered with without the written consent of the Minister.

Section 5 of the 1987 Act requires the Minister to establish and maintain a Register of Historic Monuments. Historic monuments and archaeological areas present on the Register are afforded statuary protection under the 1987 Act. Any interference with sites recorded on the Register is illegal without the permission of the Minister. Two months notice in writing is required prior to any work being undertaken on or in the vicinity of a Registered Monument. The Register also includes sites under preservation orders and temporary preservation orders with the written consent, and at the discretion of the Minister.

Section 12 (1) of the 1994 Act requires the Minister to establish and maintain a Record of Monuments and Places where the Minister believes that such monuments exist. The Record comprises a list of monuments and relevant places and a map/s showing each monument and relevant place in respect of each county in the state. All sites recorded on the Record of Monuments and Places receive statuary protection under the National Monuments Act 1994.

Section 12 (3) of the 1994 Act provides that:

"Where the owner or occupier (other than the Minister) of a monument or place included in the Record, or any other person, proposed to carry out, or to cause or permit the carrying out of, any work at or in relation to such a monument or place, he or she shall give notice to the Minister to carry out work and shall not, except in the

case of urgent necessity and with the consent of the Minister, commence the works until two months after the giving of notice".

The Architectural Heritage and Historic Properties Act 1999 and the Planning and Development Act of 2000 are the main built heritage legislation. The Architectural Heritage Act requires the Minister to establish a survey to identify, record and assess the architectural heritage of the country. The National Inventory of Architectural Heritage (NIAH) records all built heritage structures within specific counties in Ireland. The document is used to advise local Authorities on the register of a Record of Protected Structures (RPS) as required by the Planning and Development Act, 2000. The Act of 2000 requires Local Authorities to establish a Record of Protected Structures to be included in the County Development Plan (CDP). Buildings recorded in the RPS can include Recorded Monuments, structures listed in the NIAH or buildings deemed to of architectural, archaeological or artistic importance by the Minister. Once listed in the RPS the sites/areas receive statuary protection from injury or demolition under the 2000 Act. Damage to or demolition of a site registered in the RPS is an offence. The detail of the list varies from County to County. If the Local Authority considers a building to be in need of a repair it can order conservation and/or restoration works. The owner or developer must make a written application/request to the local authority to carry out any works on a protected structure and its environs.

Where a National Inventory of Architectural Heritage (NIAH) survey has been carried out, those structures which have been attributed a rating value of international, national or regional importance in the inventory are recommended by the Minister of the EHLG to the relevant planning authority for inclusion on the RPS. In accordance with Section 53 of the Planning and Development Act 2000, if a planning authority, after considering a recommendation made to it under this section, decides not to comply with the recommendation, it shall inform the Minister in writing of the reason for its decision.

BELLEEK MANOR HOUSE

The structures at Belleek including the Manor House, Mausoleum, entrance arch, House, castle and stables are Protected Structures (RPS 2-7). The house is registered in the National Inventory of Archaeological Heritage (Reg. No. 31303017) where it is described as follows….

Appraisal

A country house erected for Lieutenant-Colonel Sir Francis Arthur Knox-Gore (1803-73), first Baronet, representing an important component of the early nineteenth-century domestic built heritage of County Mayo with the architectural value of the composition, 'a noble mansion in the later English style of architecture' (Lewis 1837 II, 189), confirmed by such attributes as the deliberate alignment maximising on panoramic vistas overlooking manicured lawns and the broad River Moy; the symmetrical frontage centred on a Tudor-esque doorcase showing pretty Georgian Gothic glazing patterns; the construction in a deep grey limestone with sheer dressings not only demonstrating good quality workmanship, but also compounding a ponderous monochrome palette; the diminishing in scale of the multipartite openings on each floor producing a graduated visual effect with the principal "apartments" defined by polygonal bay

windows; and the elongated pinnacles embellishing a multi-gabled roofline. Having been well maintained, the elementary form and massing survive intact together with substantial quantities of the original fabric, both to the exterior and to the interior where contemporary joinery; and decorative plasterwork enrichments, all highlight the considerable artistic potential of the composition. Furthermore, an adjoining stable complex (see 31303018); the nearby Knox-Gore monument (see 31303019); and an eye-catching gate house (see 31303022), all continue to contribute positively to the group and setting values of a much diminished estate having historic connections with the Knox-Gore family including Sir Charles James Knox-Gore (1831-90), '[second] Baronet late of Belleek Manor Ballina County Mayo' (Calendars of Wills and Administrations 1891, 289); and the succeeding Saunders-Knox-Gore family including Major General William Boyd Saunders-Knox-Gore (né Saunders) (1827-1902) and Matilda Saunders-Knox-Gore (née Knox-Gore) (1833-1912); Lieutenant-Colonel William Arthur Gore Saunders-Knox-Gore JP DL (né Saunders) (1854-1925), one-time High Sheriff of County Mayo (fl. 1900); and Lieutenant-Colonel William Arthur Cecil Saunders-Knox-Gore JP DL (né Saunders) (1888-1975). NOTE: Although traditionally attributed to John Benjamin Keane (d. 1859) of Mabbot Street [James Joyce Street], Dublin (Bence-Jones 1978, 38; Williams 1994, 300-1), strong comparisons with the contemporary Coolbawn House (1823-39) in County Wexford point to Frederick Darley Junior (1798-1872) as an equally likely design source: Darley was also responsible for the County Gaol (1829-34; replaced 1932-40) in Castlebar.

Description

Detached five-bay (two-bay deep) two-storey over basement country house, begun 1825; completed 1831, on an E-shaped plan with single-bay two-storey gabled advanced end bays centred on single-bay full-height gabled breakfront; nine-bay two-storey rear (north) elevation centred on three-bay two-storey breakfront. Occupied, 1911. Sold, 1942. Vacant, 1948. In alternative use, 1954. Vacated, 1956. Sold, 1961, to accommodate alternative use. Pitched slate roofs on an E-shaped plan behind parapet with pressed or rolled lead ridges, limestone ashlar octagonal chimney stacks on cut-limestone chamfered cushion courses on limestone ashlar bases having stringcourses below corbelled stepped capping supporting terracotta or yellow terracotta octagonal pots, part iron-covered dragged cut-limestone coping to gables with cut-limestone octagonal pinnacles to apexes, and concealed rainwater goods retaining embossed cast-iron octagonal or ogee hopper and downpipes. Tuck pointed drag edged dragged limestone ashlar walls to front (south) elevation on moulded cushion course on drag edged dragged cut-limestone plinth with pinnacle-topped drag edged dragged limestone ashlar octagonal piers to corners centred on drag edged dragged limestone ashlar battlemented octagonal piers to corners (breakfront); tuck pointed drag edged tooled limestone ashlar surface finish (remainder) on moulded cushion course on drag edged dragged cut-limestone plinth with drag edged tooled cut-limestone flush quoins to corners. Hipped Tudor-headed central door opening approached by flight of four drag edged tooled cut-limestone steps, dragged cut-limestone doorcase with engaged colonettes supporting archivolt framing timber panelled double doors having sidelights on shield-detailed panelled risers below fanlight. Square-headed flanking window openings in bipartite arrangement with carved timber cruciform mullions and cut-limestone block-and-start surrounds having

chamfered reveals with hood mouldings framing timber casement windows. Square-headed window openings (remainder) with drag edged dragged cut-limestone sills, and drag edged tooled cut-limestone block-and-start surrounds with hood mouldings framing one-over-one (ground floor) or six-over-six (first floor) timber sash windows. Interior including (ground floor): central entrance hall with polished Portland Stone flagged floor, carved timber neo-Jacobean chimneypiece, quatrefoil-detailed carved timber Gothic-style surrounds to door openings framing timber panelled doors, and fan vaulted ceiling with carved timber ribs on panelled octagonal corbels centred on "Acanthus"-detailed ceiling rose; and carved timber surrounds to door openings to remainder framing timber panelled doors with carved timber surrounds to window openings framing timber panelled shutters on panelled risers. Set in landscaped grounds with drag edged tooled limestone ashlar chamfered piers to perimeter having moss-covered shallow pyramidal capping supporting quatrefoil-detailed cast-iron double gates.

To the west of the house are the stables recorded in the NIAH (Ref. 31303018) as follows…..

‘Stable complex, begun 1825; completed 1831, on a U-shaped plan about a courtyard including (south): Detached three- or seven-bay single-storey stable block with half-attic on a symmetrical plan. Now disused. Pitched slate roof with moss-covered clay or terracotta ridge tiles, dragged cut-limestone coping to gables with tooled cut-limestone octagonal pinnacles to apexes, and cast-iron rainwater goods on cut-limestone eaves retaining cast-iron downpipes. Tuck pointed coursed or snecked tooled limestone walls with tooled cut-limestone flush quoins to corners. Series of three square-headed door openings in camber-headed recesses with tooled limestone ashlar voussoirs framing timber panelled doors. Square-headed window openings in camber-headed recesses with drag edged dragged cut-limestone sills, and tooled limestone ashlar voussoirs framing fixed-pane fittings having lattice glazing bars; (west): Detached three-bay double-height stable block on a symmetrical plan. Now disused. Part overgrown pitched slate roof on collared timber construction with clay ridge tiles, and cast-iron rainwater goods on cut-limestone eaves retaining cast-iron downpipes. Tuck pointed snecked tooled limestone walls with tooled cut-limestone flush quoins to corners. Square ventilation loops centred on square-headed central door opening with cut-limestone surround having chamfered reveals framing remains of timber panelled door. Square-headed flanking window openings with cut-limestone surrounds having chamfered reveals framing remains of timber fittings; (north): Detached six-bay single-storey coach house with half-attic on a symmetrical plan. Now disused. Pitched slate roof with rolled iron ridge, dragged cut-limestone coping to gables with tooled cut-limestone octagonal pinnacles to apexes, and remains of cast-iron rainwater goods on cut-limestone eaves with downpipes now missing. Tuck pointed coursed or snecked tooled limestone walls with tooled cut-limestone flush quoins to corners. Series of four segmental-headed central carriageways with drag edged tooled limestone ashlar voussoirs centred on drag edged tooled cut-limestone keystones framing timber boarded double doors. Square-headed window openings in camber-headed recesses with drag edged dragged cut-limestone sills, and tooled limestone ashlar voussoirs framing fixed-pane fittings having cast-iron lattice glazing bars. Set in landscaped grounds shared with Belleek Manor’.

RECORDED MONUMENTS

One recorded -monument Monumental Structure (MA030-037) is recorded in the vicinity of the works. It is located in mixed woodland, formerly part of the Belleek Castle estate, close to the W bank of the River Moy.

The following account of the monument was derived from the Archaeological Survey of Ireland files…

'This monument was commissioned by Charles James Knox (1835-1924) as a memorial to his father, Sir Francis Arthur Knox-Gore, Baronet and Lord Lieutenant of Sligo (1803-1873), who built the manor house, Belleek Abbey, located 150m to NW. An elaborate cut-limestone, gothic-style structure crowns the summit of a substantial circular, flat-topped earthen mound (diam. c. 23m; top 10m; H 3.7m). The mound is enclosed at its base by a fosse (Wth at base 4m) with external bank (Wth 10.3m; int. H 2-2.5m; ext. H 1m). Steps have been cut into the slope of the mound at the SSE providing access to the top. At E-SE the outer bank has been incorporated into the line of an unpaved forest pathway. The large size of the mound gave rise to a local legend that Knox-Gore's favorite horse was buried here (www.archaeology.ie)..

Topographical Files of the National Museum of Ireland

This is an archive of all known finds recorded by the National Museum. The archive primarily relates to artefacts but also includes references to monuments and previous excavations. The find spots of artefacts are important contributors to the knowledge of the archaeological landscape. Locational information to finds is an important indicator or human activity.

The topographical records include no references to artefacts from Garrenkeel.

Previous Archaeological work in the area

Townland: Garrankeel
Licence number: 98E0214
Author: Donald Murphy, Archaeological Consultancy Services Ltd.
Site type: Designed landscape - tree-ring
ITM: E 525868m, N 821187m

An archaeological assessment was carried out at Garrankeel, Ballina, Co. Mayo, in advance of a proposed industrial development. The site consisted of two low banks at right angles to each other, identified in the course of an Environmental Impact Statement. Two trenches were excavated. Trench 1, 3.5m x 1m, was placed across the eastern bank. Sod was found to overlie naturally derived gravel, which overlay natural, yellow/brown boulder clay. No trace of a ditch was recovered, and the interior contained a layer of stony, brown clay in which were two iron handles of a bucket of probable 19th-century date. The feature appears to be a 19th-century tree ring, built as part of Belleek Castle demesne.

Cartographic Analysis

Analysis of the Ordnance Survey Maps dating from the 1830's to the present day facilitated a further assessment of the Archaeological Heritage of the area of the site investigations. The historic ordnance survey maps record the manor house Belleek Abbey and surrounding designed landscape. The 1896 6-inch map records a large saw mill to the west of the house. The area of the east of the house is recorded as open countryside in the 1838 map edition while in the 1896 map edition the area has been landscaped with the ground level altered. site investigations development and access road located in the northern end of two rectangular fields located immediately south of the roadway.



Fig. 2: Extract from 1838 6-inch map.

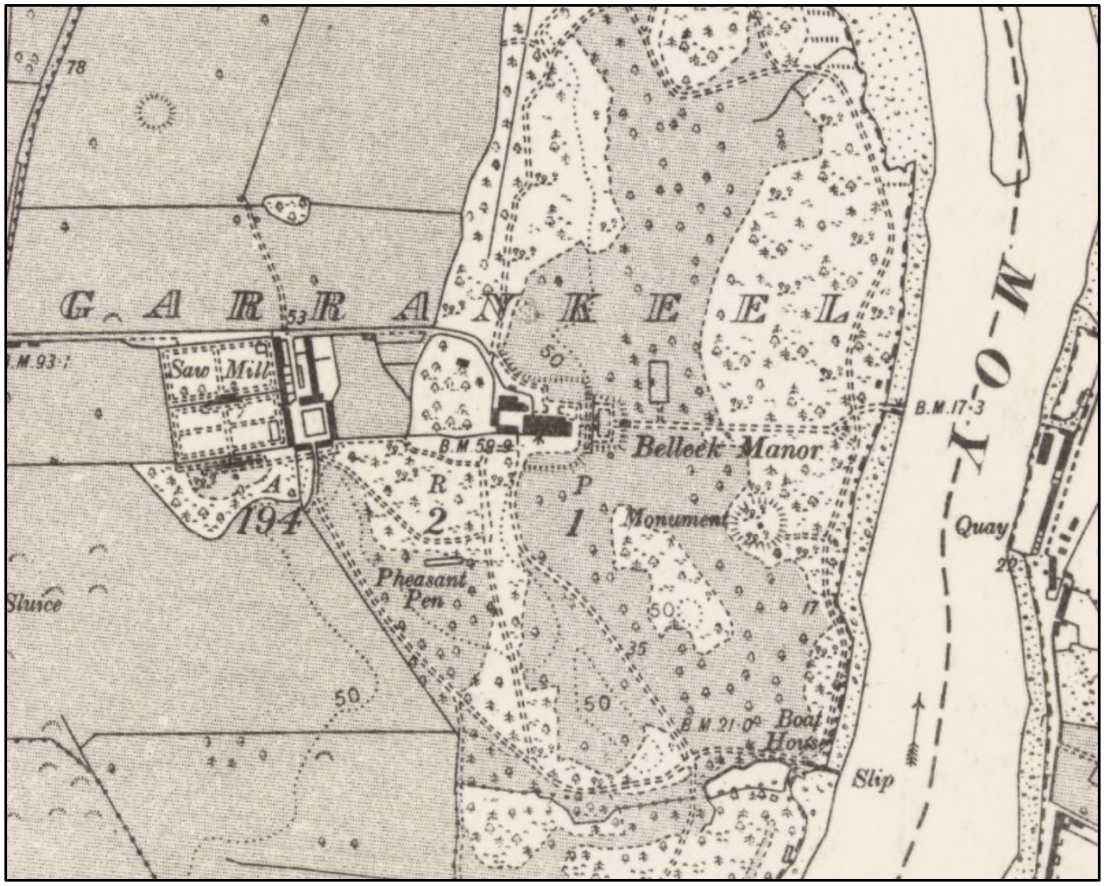


Fig. 3: Extract from 1896 6-inch map.

ARCHAEOLOGICAL MONITORING OF SITE INVESTIGATIONS

Site investigations were undertaken at five separate locations to the NW, W, S, SW and E of Belleek manor (Fig. 4). The investigations included three slit trenches (approx. 8m x 0.8m) mechanically excavated to the NW, S and E of Belleek House. All of the trenches were excavated in grass/verge by a mechanical excavator utilising a toothless bucket. Two trial pits (3m x 0.8m) were excavated to the SW and SE of the house (Fig. 4).

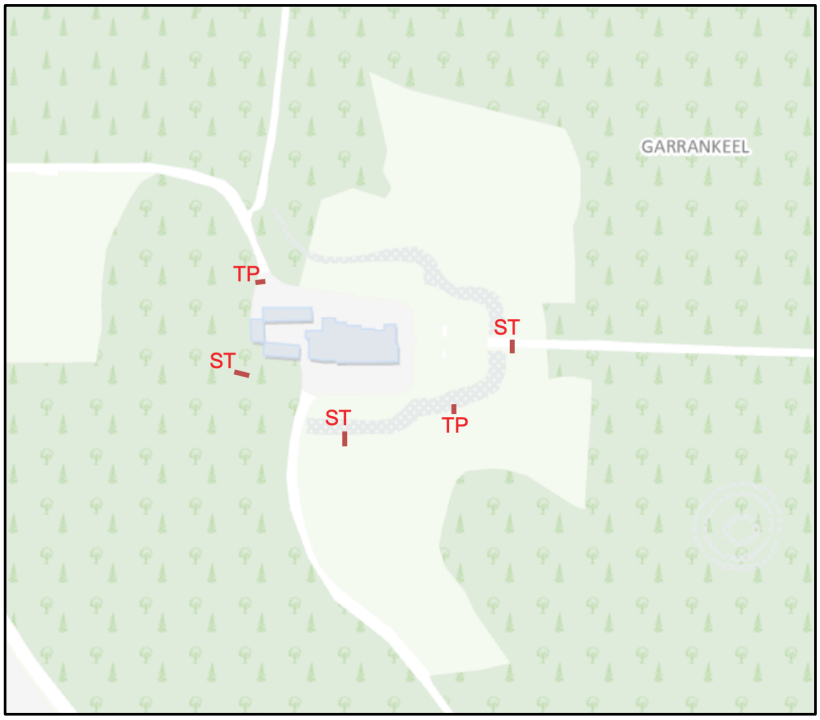


Fig. 4: Plan indicating the location of the site investigation.

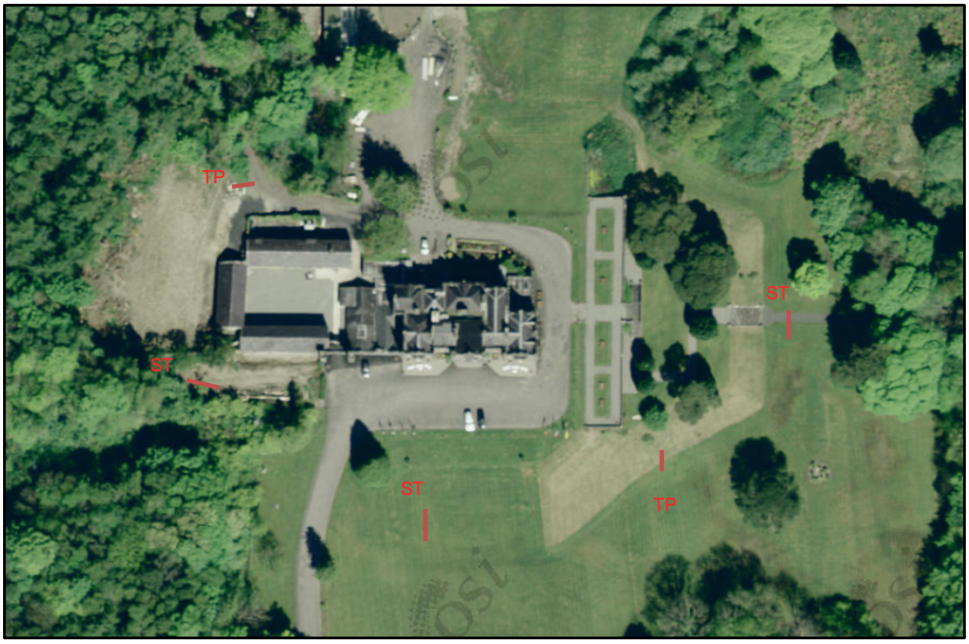


Plate 1: Aerial view indicating the Locations of the site investigations.

Trial Pits

TP (M102)

Excavated on side of internal road to NW of Belleek House. This trench measured 2.5m x 0.8m and was excavated to a depth of 2.3m. The stratigraphy consisted of 804 stone fill 0.3m deep over a light brown sandy silt to 0.5-0.6m over a silty sand. Nothing of archaeological significance was encountered in this trench.




Plates 2 & 3: The location and excavation of TP102.

TP103

Excavated on grass to the SE of Belleek House. The trench was orientated N-S and measured 3m x 0.8m. The stratigraphy encountered was sod and topsoil 0.2m over a yellow brown sandy clay to 1m over rock.



Plate 4: Location of TP103. Taken from the S.



Plate 5: TP 103 from the N.

Slit Trenches

ST 114

Excavated on the south verge of an internal road to the SW of the stables and house. Orientated NW-SE this trench measured 6m x 0.8m and was excavated to a maximum depth of 1-1.1m. The stratigraphy consisted of road fill 0.3-0.4m over a brown silty clay with large boulder inclusions at the base to 1m-1.1m. ESB service pipes were encountered at a depth of 0.75m.



Plate 6: Location of ST114. Taken from the SE.




Plates 7 & 8: View of ST 114 from SE and NW.

ST 115

Excavated on grass to the south of Belleek house. Orientated N-S this trench measured 4m x 0.8m and was excavated to a depth of 1.3m. The stratigraphy consisted of sod and topsoil 0.25m over a light brown/grey silty clay to 0.55m over a grey silty clay with frequent stone inclusions to 1.25-1.3m over rock.



Plate 9: Location of ST115. Taken from the S.




Plates 10 & 11: Excavation of ST 115 from N and S.

ST116

Excavated across a narrow path to the east of Belleek House. Orientated N-S it measured 5m x 0.8m and was excavated to a depth of 1.7m-1.8m. The stratigraphy consisted of sod and topsoil 0.25m over a brown clay to 0.5-0.55m on either side of the path. The path fill extended for a depth of 0.55m and overlay a yellow grey sandy clay to a depth of 1.7m which overlay large boulders. Nothing of archaeological significance was encountered.




Plates 12 & 13: View of trench location and excavation from the S.

CONCLUSIONS & RECOMMENDATIONS

Archaeological monitoring of geotechnical site investigations in the grounds of Belleek manor were undertaken as part of a proposed water pipeline route between Lough Talt, Co. Sligo to Ballina, Co. Mayo. Previous archaeological monitoring of geotechnical site investigations along the route were undertaken between January and June 2025 (License 25E0070). The additional site investigations were undertaken over a period of three days in November 2025. They involved 2 test pits, and 3 slit trenches excavated in the grounds the 19th century Belleek Manor (NIAH Reg. 31303017). No finds or features of archaeological significance were encountered in any of the trenches excavated.

The archaeological assessment of the proposed pipeline route for an EIAR is currently underway and the results of these site investigations will be incorporated into the overall report. It will be recommended that any proposed ground disturbance in the area of Belleek manor will be subjected to full time archaeological monitoring.

PLEASE NOTE…

Any recommendations contained in this report are subject to the ratification of the National Monuments Service, Department of Housing, Local Government &, Heritage.

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