

PROJECT:

Proposed Bridge Replacement, Hartley Bridge, Co.
Leitrim
Archaeological Impact Assessment

LICENSE NO.:

19E0675,19R0182 & 19D0080

DATE:

September 2021

Contents

List of Figures.....	3
List of Plates.....	3
Abstract	4
Acknowledgments	5
1. Introduction.....	6
1.1 General	6
1.2 Conventions, Legislation and Guidelines.....	6
2. Receiving Environment.....	6
2.1 Location	6
2.2 Soils and Geology and Land-use	7
3. Scope of Works.....	8
4. Methodology	11
4.1 Desktop Study.....	11
4.2 Archaeological Testing.....	12
4.3 Dive Survey	12
4.4 Archaeological Excavation	12
5. Results	13
5.1 Desktop study.....	13
5.1.1 Historical and Archaeological Overview.....	13
5.1.2 Place names and Townlands.....	25
5.1.3 Cartographic Information.....	25
5.1.4 Recorded Monuments and known sites: RMPs and SMRs.....	28
5.1.5 Previous Archaeological Work	29
5.2 Dive survey	30
5.3 Archaeological Testing.....	36
5.4 Archaeological Excavation	38
6. Discussion	43
7. Predicted Impacts and Mitigation Measures	44
Field 1	44
Field 2	44
Field 3	44
River Crossing	45
8. Bibliography.....	45
8.1 Documentary Sources	45
8.2 Other Sources	47

9. Appendices 49

9.1 Appendix 1: Previous excavations in wider area Taken from: *Excavations Bulletin* 49

9.2 Appendix 2: RMPs and SMR sites within the wider landscape 53

List of Figures

Figure 1: Site location map.....	7
Figure 2: Site layout plan.....	9
Figure 3: Proposed bridge plan.	10
Figure 4: Cross-section of the shoal at Hartley Bridge, from February 1839 Shannon Navigation Report.....	22
Figure 5: Recorded archaeological monuments in the vicinity of the proposed works and its zone of notification.	23
Figure 6: Ordnance Survey 6-inch map depicting the ringfort erroneously as a perfect circle.	23
Figure 7: Ordnance Survey 25-inch map depicting the ringfort in its true form.....	24
Figure 8: Extract from Map 234, Taylor and Skinner’s Road Maps of Ireland 1777.....	26
Figure 9: Excerpt from 1st edition Ordnance Survey 6-inch map.	27
Figure 10: Excerpt from 2nd edition Ordnance Survey 25-inch map.....	27
Figure 11: Extract from Cassini 6” showing completed Hartley Bridge with footpath to the east.....	28
Figure 12: View of archaeological test trench layout.....	36
Figure 13: Map showing extent of archaeology in Field 3.	39
Figure 14: Post-ex plan of Area 1.	40
Figure 15: Post -ex plan of Area 2.	42

List of Plates

Plate 1: Divers along the east bank of the survey area, taken from NW.	31
Plate 2: View of Hartley Bridge, taken from S (June 2019).	32
Plate 3: View of western end of Hartley Bridge, taken from SE.....	32
Plate 4: View of western bank along survey area, S of existing bridge, taken from NE (June 2019).....	33
Plate 5: View of eastern end of Hartley Bridge, taken from SW.	33
Plate 6: View of eastern bank along survey area, S of existing bridge, taken from W.	34
Plate 7: View of eastern bank along survey area, S of existing bridge, taken from NW.....	34
Plate 8: View of southern elevation of Harley Bridge (December 2020).	35
Plate 9: Overview of Hartley Bridge (December 2020).	35
Plate 10: Artefacts recovered during dive survey, including stoneware ceramic condiment jars, Kruschen salts, pressed flint glass bud vase, glass bottles and a flowerpot base.....	36
Plate 11: View of Trench 1.....	37
Plate 12: View of trench 10.	38
Plate 13: Excavation in progress in Area 1.	41
Plate 14: Assemblage of flint tools recovered from Area 1.	42
Plate 15: Assemblage of chert artefacts recovered from Area 1.....	43

Abstract

Mizen Archaeology was engaged by Leitrim County Council to carry out an Archaeological Impact Assessment (AIA) of works associated with the proposed replacement of Hartley Bridge in Counties Leitrim and Roscommon. The AIA included a desktop study, an underwater survey of the river crossing, archaeological testing of the terrestrial areas to be impacted and full excavation of an archaeological site identified during archaeological testing. The work was carried out under licence from National Monuments Service (licence No. 19E0675).

Acknowledgments

The authors would like to thank John Mulvihill of Leitrim County Council and Paul Casey of Punch Consulting Engineers their assistance during the project. The archaeological assessment and excavation was directed by Julianna O'Donoghue. The dive survey team consisted of Julianna O'Donoghue, Caitlyn Haskin, Sarah Madden, Matt Thornton and Andy Walsh. The archaeological excavation and survey team consisted of Julianna O'Donoghue, Jennifer McCarthy, Áine Brosnan, Caitlyn Haskin, Sarah Madden and Fiachra Dunne.

1. Introduction

1.1 General

This report presents the results of an archaeological impact assessment (AIA) of Harley Bridge Replacement, in Counties Leitrim and Roscommon. *Mizen Archaeology* were appointed by *Punch Consulting Engineers* on behalf of Leitrim County Council to undertake the assessment, including desktop study, an underwater survey of the river crossing, archaeological testing and the full excavation of an archaeological site identified during archaeological testing

1.2 Conventions, Legislation and Guidelines

The assessment was undertaken with due regard to the following national and international protective conventions, guidelines and legislation:

- National Monument Act, 1930, amended 1954, 1987, 1994, and 2004
- Heritage Act, 1995
- National Cultural Institutions Act, 1997
- The Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous) Provisions Act, 1999
- *Frameworks and Principles for the Protection of the Archaeological Heritage*, 1999, Department of Arts, Heritage, Gaeltacht and the Islands
- Local Government (Planning and Development) Act, 2000
- European Convention on the Protection of the Archaeological Heritage (the 'Valletta Convention') ratified by Ireland in 1997
- Council of Europe Convention on the Protection of Architectural Heritage of Europe (the 'Granada Convention') ratified by Ireland in 1997
- International Council on Monuments and Sites (ICOMOS), advisory body to UNESCO concerning protection of sites and recommendation of World Heritage sites ratified by Ireland in 1992.

2. Receiving Environment

2.1 Location

Hartley Bridge spans the River Shannon, linking the townlands of Hartley and Cleaheen, and is located between Carrick-on-Shannon and Cootehall. The eastern approach is located in County Leitrim and the western in County Roscommon (Figure 1).



Figure 1: Site location map.

2.2 Soils and Geology and Land-use

The geology and topography of Leitrim is varied, ranging from the mountainous region of the north to the drumlin landscape in the southern lowlands (Leitrim County Council website). It has an extensive and diverse range of geological heritage sites. The upland areas have rich coal and iron deposits while lowlands have seen the extensive development of caves and other karstic landscape features, carved out by the flow of water through time (Parkes *et al*, 2020, p. 7).

Carrick-on-Shannon area, including Hartley, is located within the Lough Ree-Lough Derg catchment area. It has an undulating topography, with hills, rivers and lakes running in a northwest-southeast direction. In general the bedrock underlying is of the Lower Carboniferous age and primarily chert and shaley limestone, known as the Croghan Limestone Formation (EPA). The Carboniferous limestone of Viséan age is nearly 3000 feet in depth, composed of alternating groups of thin-bedded limestones with shales, unbedded calcite-mudstone and interbedded with larger limestone. These calcareous rocks are underlain by conglomerates and sandstones, some 500 foot thick, resting on sediment of Old Red Sandstone age and in turn are overlain by a thick series of goniatitic black shales of Bollandian and Namurian age (Caldwell, 1959).

The study area is agricultural with most predominantly under pasture.

Topographically there is a fall of some 159 feet in bed level between Lough Allen via Lanesborough and the Shannon Estuary, with shallows dictating flow rates at Carrick-on-Shannon, Rooskey, Athlone, Meelick and between Killaloe and Limerick (Kilroe 1907, p. 77). These shallows have also been the focus of flooding, with adjacent flood plains to accommodate spate events. The Cleaheen and Hartley areas immediate to the Shannon clearly act as fluvial spaces, and as indicated on the 1st edition OS map where the winter flood line is indicated.

3. Scope of Works

In 2016, Leitrim County Council commissioned a structural report on the 104-year old Hartley Bridge. The report found the bridge to be in poor condition and unsafe and therefore a new bridge structure was proposed. The scope of works for the construction of the new bridge includes: the construction of the new precast concrete bridge, c. 20m downstream, and the removal of the existing bridge. The associated site works include the realignment of the approach roads to the bridge, approximately 135m on the Cleaheen side and 110m on the Hartley side (Figures 2-4). The existing bend on the Hartley side will be removed to straighten the road.

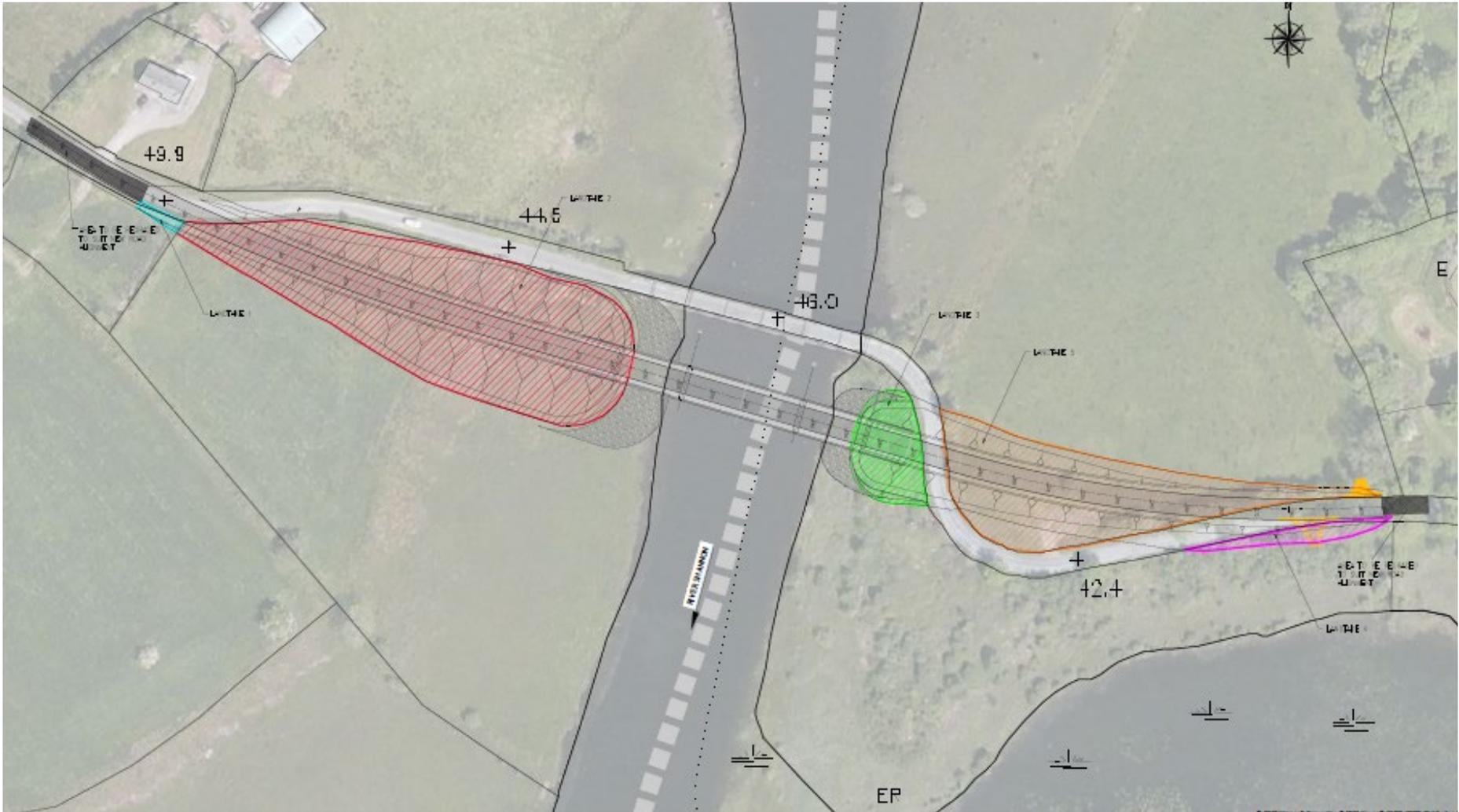


Figure 2: Site layout plan.

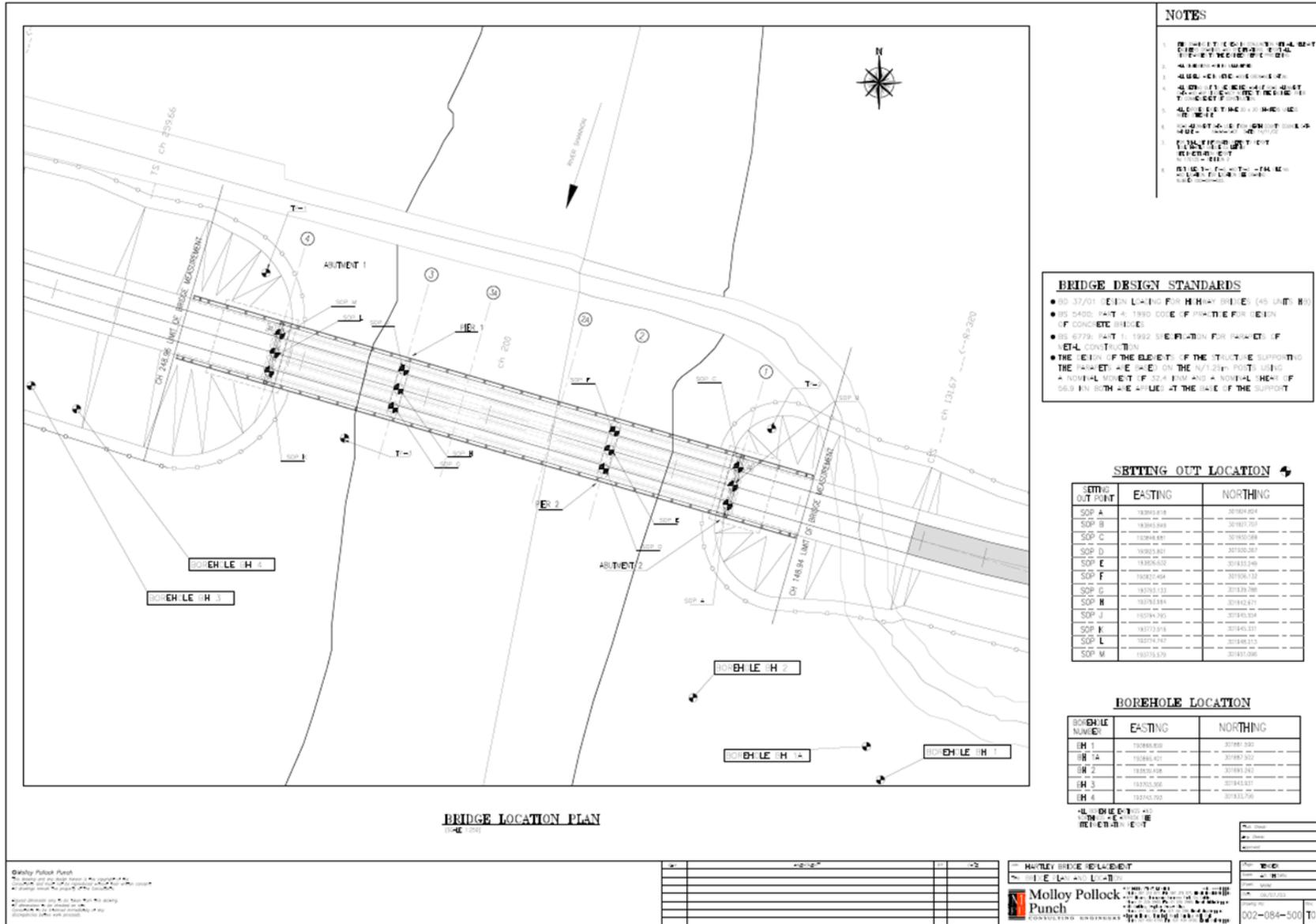


Figure 3: Proposed bridge plan.

4. Methodology

A range of methodologies were utilised to assess the potential impacts of the proposed scheme on the cultural heritage of the Hartley Bridge area including:

- Desktop study
- Field Survey
- Archaeological testing of the riverbanks
- Metal detection
- Dive survey
- Excavation

4.1 Desktop Study

- **Record of Monuments and Places (RMP)** compiled by the Archaeological Survey of Ireland comprises lists, classifications of monuments and maps of all recorded monuments with known locations and zones of archaeological significance. The monument records are accessible online from the National Monuments Section (NMS) of the Department of Housing, Local Government and Heritage (DHLGH) at www.archaeology.ie. These were used to establish the wider archaeological context within which Hartley Bridge is located.
- **Excavations Bulletin** online database www.excavations.ie which contains summaries of all archaeological excavations in Ireland, was consulted to review archaeological investigations carried out previously in the area.
- **Cartography:** several historic maps and charts were examined (see bibliography below for a full list).
- **Aerial photography:** a variety of low and high-altitude aerial photography (vertical and oblique) were examined. Infra-red aerial photos undertaken by the Marine Institute were also examined as well as the aerial orthophotos from the National Monuments website, www.archaeology.ie (see references below for full list).
- **Documentary sources:** These included publications, academic journals, local historical sources, reports and historic material such as State Papers, etc. A full list is given in the bibliography below.

4.2 Archaeological Testing

Systematic field walking was undertaken in advance of licensed archaeological testing in conjunction with a metal detection survey (licence nos.: 19E0675 & 19R0182).

The archaeological testing was carried out along the route of the proposed realignment on the Cleaheen side of Hartley Bridge, which encompassed parts of three fields. The aim of the testing was to assess the location, nature, and extent of any previously unrecorded archaeological remains within the proposed development site.

The fields were assigned numbers 1-3 from west to east. Field 1 was tested with a herringbone pattern and Fields 2 and 3 each had two parallel trenches. The trenches were excavated by a 10-ton tracked excavator, using toothless bucket, and was carried out under archaeological supervision. The up-cast was spread and metal detected. Each trench was cleaned back by hand. Potential features were recorded (photographic, descriptive and drawn record).

4.3 Dive Survey

Mizen Archaeology's underwater team comprised a four-person dive team with lead diver and three support archaeological personnel. All divers hold HSA parts III and IV commercial diving qualifications and HSA in-date dive medicals. Diving operations complied with the Health and Safety Authority's *Safety, Health and Welfare at Work (Diving) Regulations 2018 & 2019*. The methodology employed required the underwater archaeologist to survey along parallel lines 2m apart, thus ensuring full overlap and 100% coverage of the entire crossing.

The diving, using commercial SCUBA, was carried out under licence 19D0080 and from a licensed RIB. An Excalibur 2000 metal detector was used to metal detect the riverbed (licence 19R0182). Features or objects of archaeological significance were noted by way of descriptive, photographic and GPS position record.

4.4 Archaeological Excavation

The excavation was carried out under licence number 19E0675 and complied with the method statement approved by the National Monuments Service in consultation with the National Museum of Ireland. A site grid was set up and tied into the national grid using a Trimble 5800 DGPS. All archaeological features identified on the excavation site were fully excavated. All features were recorded on standard record sheets using a variant of the single context recording system with plans and sections being recorded at a scale of 1:50, 1:20 or 1:10 as appropriate.

The recovery and storage of artefacts complied with the National Museum of Ireland's Advice Notes for Excavators of the National Museum of Ireland (2010) and with the Code of Conduct for the Treatment of Archaeological Objects (www.iaii.ie).

5. Results

5.1 Desktop study

5.1.1 Historical and Archaeological Overview

The hinterland along the course of the River Shannon, including its estuarine mudflats, retain archaeological evidence from the earliest period of known human activity, the Mesolithic and this has continued into modern historic times. All periods are represented, both in physical upstanding structures from more recent times, to those which no longer survive as above-ground features but are evident on historic maps; to artefactual assemblages recovered from along the course of the river and within the river itself – including individual artefacts, wrecks such as logboats or sites like fishtraps and weirs. From the hunter-gatherers of the Mesolithic, to settled and migratory human presence from the Neolithic onwards, when livestock would have been herded along the river's marshes and its waters used as a means of transport, for trade, communication and settlement, the River Shannon has been a focal point for past human existence from the earliest times.

Mesolithic Period (8000-4000 BC)

During this time, the upper reaches of the Shannon, from the estuarine limits to its freshwater courses, would have comprised wetlands, mudflats, salt-marshes, reed-swamps, fens and bog, giving way into scrubby, wet cover of carr woodland in the interior (O'Sullivan, 2001, 1-2). At that time too, human presence would have been utilising this landscape for fishing and wildfowling along its channels and creeks, as well as a plethora of seasonally-gathered fruits and edible roots and plants (Ibid.). Prehistoric burials have also revealed evidence from this period, at a site in Hermitage in Co. Limerick, on the banks of the Shannon. Dating to 9,500 years ago, it remains the earliest evidence discovered to date for a graveyard in Ireland. Along with the identification of several cremated individuals, a remarkable collection of stone axes were recovered, numbering 12 in total, as well as worked chert and flint. Consideration of the location of the cemetery is interpreted as associated with possible groups of individuals using the areas to who were able to control the fording point there, exploit the resources in the river, using it

as a strategic trading location, as well as the use of the river itself as a means of transport (Collins & Coyne 2003, pp. 26-27; Collins & Coyne 2006, p. 21).

Significant artefactual evidence comes in the form, for example, of over 400 stone tools from the shores of Lough Allen, and area located between 10km and 25km north of Hartley Bridge; stone tool finds recovered from Lough Scur, some 11km to the northeast and those from the banks of the Shannon at Tully, Co. Leitrim, all attest to human presence from the earliest times (Gilligan 2019, 23).

The Shannon was the primary means for transport and trade from the earliest of times, and discoveries of the types of craft being used at the time provides evidence for this. From the earliest periods, logboats were the craft of choice, hewn out of the felled tree and shaped to fashion a riverine and estuarine vessel. An example from the Mesolithic period came from the mudflats of the Shannon, at Carrigdirty Rock in County Limerick (O'Sullivan 1996; O'Sullivan 2001, pp. 71-72) while others from later periods have also been discovered within the Shannon river and its catchment.

Neolithic Period (4000-2400BC)

The first people to settle and farm the area date to the Neolithic Period some 6,500 years ago. These first farmers, cleared space in the forests, built houses, made pottery and shaped the land; they fished and migrated along the Shannon also using wooden, dugout canoes or similar wooden craft. The excavated remains of their houses and tools have been found at a number of locations around Leitrim and Roscommon. During the archaeological excavation of a medieval ecclesiastical complex at Kiltasheen, Co. Roscommon, for example, located some 8.5km northwest of Hartley Bridge, close to where the Boyle River flows out from the eastern side of Lough Key, in excess of 2,500 lithics were found dating to the Neolithic and Early Bronze Age periods. These artefacts were identified within medieval layers, rather than in their original context (McCarthy 2018, 9). A possible rectangular Neolithic house was also identified at Cloongownagh in County Roscommon, c. 1km south of Lough Eidin, near Carrick-on-Shannon (ibid. 10). Many of these sites have direct links with water – either riverine or lacustrine, or both – where resources were plentiful, and where travel and communication was possible using the courses as their prehistoric roadways.

Bronze Age (2400- 500)

Evidence of activity along the Shannon River throughout the Bronze Age is well attested to by several sites and artefacts including standing stones, cairns, fulacht fiadh, and a wide variety of artefacts including bronze swords found in Carrick-on-Shannon and Derrintober, along the eastern shore of Lough Allen (ibid. 29) and from Cootehall Lough some 6km to the southwest (Topo Files, NMI). A shield - one of the few surviving examples of its type - was also discovered in Annadale, south-east of Drumshanbo, less than 10km north of Hartley Bridge. Equally unique was the discovery of up to thirteen large golden beads from a field in Tumna, c. 2.5km southwest of Hartley Bridge. These beads have been compared to large amber beads of similar size and shape, which were imported from the Baltic region in the late Bronze Age (Waddell 2018, 38).

Evidence for the Bronze Age from within the River Shannon is manifold. As some 358km in length, the Shannon has been the focus of travel, battles, votive offerings, etc. through time and these activities are manifest in the artefactual material discovered from the river. Much of the material was identified during 19th and early-20th century dredging works as part of drainage schemes, including from the Carrick-on-Shannon area in the mid-19th century (Bourke 1996, pp. 9-10). Bronze Age artefacts recovered include weaponry (accounting for some 70% of finds), e.g. bronze and copper swords, axes, along with metal objects such as chisels, gouges and sickles. Lithic material was also recovered at Killaloe, including 900 artefacts (ibid.).

Iron Age (500BC- AD400)

Evidence of Iron Age activity in the surrounding area is artefactually represented by metalwork artefacts discovered in watery contexts. Bronze spearbutts were found in the River Shannon and at Jamestown, to the south of Hartley. Less than 15km to the northeast, the Keshcarrigan bowl was discovered in a stretch of water between Lough Marrave and Lough Scur, close to the River Shannon. In addition, evidence of Iron Age settlement has been identified in Cloonagownagh, Roscommon, c. 4km southwest of Hartley Bridge. Excavation of part of an early medieval ringfort revealed traces of an earlier unenclosed farming settlement that included one timber round house and several other timber structures. Cereal remains evidenced the cultivation of barley, oats and wheat or rye over a period of time from the 1st century BC to the 4th century AD (Waddell 2018, 49).

Iron Age weaponry and ornate jewellery, of La Tène style, was recovered, the majority coming from Lough Ree and Lough Derg to the south of Carrick-on-Shannon, while a heavily corroded possible Hallstatt date sword was found near Athlone (Bourke 1996, p. 10). Such discoveries

highlight the potential that the Shannon has for significant early metalwork to remain to be discovered within the general course of the River Shannon, both intra-riverine and within the lake system.

Early Medieval Period (AD 400-AD 1100)

The archaeology of the Early Medieval Period in the Hartley area is largely represented by ringforts, one of which is recorded close to the southwestern limits of the proposed scheme (RO007-083) (Fig. 5-7). These monuments (generally known by their Irish names Rath and Lios) are the most obvious extant monuments in the landscape. These sites consist of circular or roughly circular enclosures with earthen banks and external ditches or fosses. Ringforts were essentially the dispersed rural farmsteads of the Early Medieval Period. There are an additional forty-two recorded archaeological sites within a 2km radius of Hartley Bridge (Appendix 2). Of these, thirty-three are ringforts. In a 2005 assessment of the cultural heritage along the Shannon from Drumshanbo to Carrick-on-Shannon and Cootehall, it was determined that the settlement evidence was mostly medieval, with a defensive nature, particularly around Hartley, Port and Cleaheen (Colin Buchanan and Partners, *et al.* 2005, 57). The evidence suggests that the area was utilised as both a politically and economically viable region for local inhabitants who exercised deliberate control of the resources that the waterways corridor provided. Furthermore, they are indicative that certain shallow places along the watercourse were important fording places in the past (*ibid.*). This would include at Carrick-on-Shannon and Hartley/Cleaheen, as discussed earlier when reviewing the topographical nature of the river in those locations. Indeed such shallow places in the River Shannon are scarce, with only a handful of locations extant that could be forded in the past (Ó Danachair 1971, p. 53).

Bridges often spanned rivers at either fording points (i.e. shallow places) or where earlier wooden bridges may have been located, perhaps denoting locations between two townlands (as with Cleaheen and Hartley) or two Medieval lordships (as with the early wooden bridge in the Shannon at Clonmacnoise). In the year 1071AD it is recorded that the men of Munster built a number of bridges, including one over the River Shannon, while the river navigation works of 1700-1850 necessitated the construction of many large bridges across the Shannon (O’Keeffe & Simington, 1991, + Goodbody 2006, p. 14, 45). At other times, however, alternative means for crossing a watercourse was employed, such as a ferry service (see section below on Hartley Bridge). While individual logboats and larger craft were in use at this time, a ferry service would have allowed for the transport of groups of individuals, animals and material across the river.

This period too saw the arrival of the Vikings into Ireland, as raiders and traders, who used the inland waterways, particularly the River Shannon, as conduits to the interior. The development of the main towns, including Limerick from the 9th and 10th centuries onwards, were strategically located along these watercourses to ensure control of trade, transport and communication. Evidence in the form of Viking Swords have been recovered from the Shannon at Scattery Island in County Clare and the fording point at Athlone in Westmeath, on the Roscommon border (Krogstad 2012-2013, p. 61, 65). The Vikings, once they has established themselves in Limerick, are recorded as carrying their ships around the falls of Doonass, and then placing them in the river, plundered the whole length of the Shannon. In 835 AD, as part of extensive Viking raids nationally, the Viking leader Turgéis retreated up the river to Carrick-on-Shannon, ahead of a Gaelic uprising. The fought all the way to Sligo, where the Vikings boarded waiting ships and escaped (Ó Danachair 1971, p. 54). Certainly the Gaelic-Irish had their own fleets, particularly on Lough Ree and Lough Derg at this time, with references in the Annals of the Four Masters to fleet operations in the years 902 AD and 905 AD and this continued in successive years, including mention of the 'fleet of the men of Munster upon the Shannon' in the year 960 AD. In 993 AD Brian Ború has his own fleet on the Shannon, fighting against the people of Breifne, and in 1016 Brian is recorded as travelling up-river in his boats to raid vessels up there and take hostages (ibid., p. 55).

High Medieval Period

In the medieval period, the area to the east of the Shannon fell under the ancient territory of Breifne (McDermott 2019, 103). This territory is first referenced in the eighth century when, it is claimed, a section of the Uí Briúin clan of Connacht moved from what is now north County Roscommon into Counties Leitrim and Cavan, forming the Uí Briúin Breifne. The main line of the Uí Briúin Breifne adopted the name Uí Ruairc (O'Rourke) by the turn of the tenth century and began to establish their prominence in the region (ibid. 103-104). However, certain subdivisions existed, and the area surrounding Hartley Bridge was contested between the Reynolds - or MacRaghalls - and the O'Rourkes from the 13th century through to the early 16th century. The contest over Leitrim Castle, c. 3.5km north of Hartley Bridge, illustrates the struggle between the two factions. While the Reynolds likely constructed the castle on the borders of their lands - Muintir Eolias - in the late-15th century, it became a stronghold of the O'Rourke's in the 16th and early -17th centuries (ibid. 117). By the late-16th century, the area was no longer known as West Breifne, as the county of Leitrim was formed in 1583.

The western bank of the Shannon at Hartley, however, fell under the cantred *Mag Luirg* (Moyslurg), which was part of the territory allocated to the O'Connor kings of Connacht in 1227 by Henry III. The rest of Connacht, however, was granted to Richard de Burgh in the same year (O'Connor and Finan 2018, 105). The name Moyslurg had been used in reference to the area from the 8th century and was in use until the mid-17th century. From that time Boyle began to take its place in the administrative record (Ó hAisbéil 2018, 166).

South of Hartley Bridge, the town of Carrick-on-Shannon appears in the annals in 1530, under its Gaelic name - *Cora Droma Ruisc*. The annals recorded the site as a 'crossing of the Shannon' (ibid. 122). The town was granted a charter in 1613, but it is possible that there had been an earlier Gaelic fortress in the area.

Artefacts from the Shannon

The battles of these eras and use of the Shannon for travels or as a crossing point, are reflected in the multitude of armaments recovered from the river over the years – either as battle remains or votive offerings or where vessels, both small and large, sank or were wrecked. While it is well documented that various places along the Shannon were the scene of battles, turmoil or smaller encounters (Ó Danachair 1971), and artefactual material recovered has been associated with such events, consideration of the abundance of material discovered over the centuries also lends itself to speculating on such items being placed in the river as votive deposition. Significant clusters of artefacts have been found at natural and historic fording points along the river, including at Killaloe/Ballina on the border of Co. Clare and Co. Tipperary, and at Carrick-on-Shannon on the border of Co. Leitrim and Co. Roscommon.

In Killaloe, the concentration of finds is largely composed of stone axes, of which over 1,000 have been recorded (O'Sullivan and Lyttleton 2001, 3; Waddell 1998, 46). The axes highlight the importance of the area as a crossing point in the Neolithic and Early Bronze Age (Bradley 1994). Continued use of the crossing is evidenced by a smaller, but equally as significant number of finds from the Bronze Age and Iron Age. The sheer scale of deposition, especially of the stone axes, has led some to suggest that they were deliberately deposited at the river fording point.

Athlone, which was also an important crossing point on the River Shannon, also had a cluster of depositions. These include ornaments which have been related to a major Viking gold hoard, found at Hare Island in 1802, dating to the 9th and 10th centuries, as well as a number of bronze and iron finds.

Artefacts have also been recovered from other, smaller fording points, including stone axes, bronze and iron items. In the early 1840s, for example, works in the Shannon at the ford at Keelogue, south of Banagher, Co. Offally, uncovered a “considerable number of ancient arms, consisting of bronze swords, spears, & c., in excellent preservation,” as well as, “a great number of stone hatchets”(Griffith 1840-44, 312).

The Carrick-on-Shannon area appears to be one of the centres for votive offerings, with evidence of multiple depositions (Farrell *et al.* 2018, 39). These finds include two bronze shields and a bronze ladle from the River Shannon. Further to the south, near Jamestown, a stone axehead, ‘Bann’ Flake and five chert flakes have been found along the river. While in Drumsna, a polished stone axehead was uncovered in the Shannon.

Shannon boat typology and loss

As previously observed, much of the Shannon is unpassable except by boat. This includes its approaches, especially during times of flood as its marshlands and floodplains remain, as they did in earlier times, subject to inundation in wet weather and when the river is in spate. Historic drainage and reclamation, as well as modern farming practices, has led to the approaches to the river becoming more accessible in places (e.g. marshes drained and now used as farmland, etc.), but it remains a formidable watercourse in general, and certainly in times of flooding events, which is more frequent due to climate change impacts. Changed took place much earlier, however, and as stated by Ó Danachair, ‘The importance of the Shannon as an obstacle to the movement of armies increased in proportion to the advancing complexity of military might’, with the incursion of the Anglo-Normans and their castle-building reducing the power of the Gaelic-Irish along the course of the river on either side and the use of the Irish galley fleets (Ó Danachair pp. 53-57). Bridges have been built to try address the impassability of the River Shannon, with the bridges at Athlone and Lanesboro constructed in 1129 AD by Gaelic-Irish ruler Turloch Mór O’Connor. In 1159 AD another wooden bridge was built across the Shannon at Limerick by Dónal Mór O’ Briain and in 1170 AD the wooden bridge at Killaloe was destroyed during a battle between the Uí Máine and Anglo-Normans in the area. In time castles and other fortified structures were built from Lough Allen down along the Shannon at fording points, bridge locations and other landing places (Ibid.).

Of the types of boats and other vessels that frequented the River Shannon, traditional craft include logboats, coracles, small currachs, Shannon cots, Bunratty and Fergus gandelows, turf

boats, lighters, ferries and barges, as well as lake boats and pleasure craft (Tully 2008). Shannon River currachs frequent the Clare shore of the Shannon while upriver the flat-bottomed gandelow can be seen for fishing and angling purposes. Today these types of craft can be seen pulled up in their 'cuts' or nausts along the banks of the river, when not in use (MacCárthaigh 2008, p. 218, 552). During the 19th century, turf boats and sand boats plied the waters, and it was noted in 1801 that sand boats carried 6-8 tons, lighters transported 12-16 tons of sand and was cewed by four men with two oars. By 1817, 26 turf boats operated between Dublin, Athlone and Limerick using the locks and Shannon waterways. In 1836, 23,000 tons of turf was transported by boat along the inland waterways of the Shannon. Described at the time, the turf boats were noted as '... dot[ting] the river [and] are the rudest species of craft...' and were propelled by two rowers, sometimes made up of both male and female, with the women frequently singing as they rowed (Ibid., p. 605).

It was inevitable, with such a history of boat usage on the Shannon and its associated lake and lock systems that over time boats were lost or abandoned. As early as 752AD there is an account of 29 out of a fleet of 30 vessels carrying the men of the lord of Dealbhna-Nuadhat, Diumasach, were wrecked and all hands lost during a great storm (Ó Danachair pp. 53-54). The presence of Vikings and their ships has been discussed above, but in the early 17th century, contemporary accounts record that during the famous long march of O'Sullivan Beara and his followers, they attempted to cross the Shannon north of Portumna, at Portland, but Elizabeth I's soldiers had removed all 'skiffs and boats' from the river. Joined by soldiers from the O'Malley clan, O'Sullivan Beara was forced to build two boats using timber cut from local woodland, one large and the other small; twelve horses were killed and their hides used to cover the hulls of the vessels. The construction of the two boats is detailed, including recording that they were flat bottomed, with oars and the one built by O'Sullivan's soldiers was 26 foot in length, with a curved and raised bow and able to carry 30 individuals at a time. The other, built by the O'Malleys, was small, with just one horse hide use to cover it, akin to a possible coracle or small currach. While O'Sullivan Beara's boat successfully transported his people across, the O'Malley boat overturned with some of their soldiers in it and all were lost (Ó Danachair pp. 53-54).

Early craft like logboats would have been able to navigate the smaller river systems and would have continued in use until boat and shipbuilding came into its own in medieval times. From the 1400s barges assisted the larger vessels that sailed up the Shannon to dock at quaysides to load and offload cargo, with the wreck remains of several barges identified in the same waterways attesting to this – the later remains of two barge wrecks are located in the Shannon on the southern side of Lough Derg, for example (WIID: W11614 & W11383; NMS Wreck Viewer). In

the sixteenth century, as a direct result of raids by pirates, the merchants of Limerick built ‘a great tri-oared galley well fitted with all things necessary.’ Galleys, based on a Mediterranean tradition, were used by the Gaelic-Irish maritime lords of the time and carried three oarsmen to a bench, usually under 40 metres long. Large galleys could have up to 24 benches to each side and were fitted with a single mast carrying a lateen sail (O’Neill, 1987, 29, 49). This reference suggests that as early as the 1500s Limerick had its own ship-building capability and as such larger vessels began to travel the navigable areas of the Shannon and into the lakes.

On the southern side of Lough Derg the remains of 8 wrecks have been located – two barges (W11614 & W11383), a paddle steamer *Lady Lansdowne* (W06220) and four unknown wrecks (WIID: W11386; W11387; W11311; W11385; W11384). The recently discovered wooden wreck just south of the bridge at Banagher has a potential 18th or 19th century date. Two logboats have recently been discovered by divers close to the bridges of Shannonbridge and Portumna. Locals at Hartley also describe the recovery of a logboat close to Hartley Bridge in recent decades which was reburied in marshland further downstream. Such finds highlight the potential for archaeological sites like the remains of wrecks to still await discovery from within the River Shannon.

Hartley Bridge

There is evidence that the location of the current bridge had been a crossing prior to its construction. The February 1839 Shannon Navigation Report made note of a ford at Hartley, which was “a shoal of small extent” (Delaney 2008, 92) (Fig. 8). The shoal is clearly illustrated in the Parliamentary Papers (1839), with an indication that they intended to remove it. In the illustration, the shoal is in approximately the same location where Hartley Bridge now stands. The Parliamentary Papers described the shoal as, “formed of strong gravel” (Burgoyne *et al.*, 1839, 96). According to records of works along the upper Shannon from 1840-1850, the shoal - and fording point - at Hartley was cut on one side by steam dredger to create a channel (*ibid.*).

The existence of a ford or ferry is supported by local tradition, which maintains a story in which a man crossed at Hartley using a ferry run by one Micky Roche, as there was no bridge, in the year 1850 (The Schools’ Collection, Vol. 0232, 30). While the 1st ed. OS map (see Section 5.1.3) is roughly contemporary to the story, it does not show a ferry crossing at Hartley. However, given that the Shannon Navigation and Parliamentary Papers from roughly the same period both

name Hartley as a fording point, it is likely that the ferry was overlooked by the OS at that time, perhaps because it was too small to record. From reviewing the 2nd Ed. Ordnance Survey map of the 1830s, however, a ferry crossing was located and is indicated immediately upstream of Hartley Bridge, suggesting this was the primary crossing method at that time.

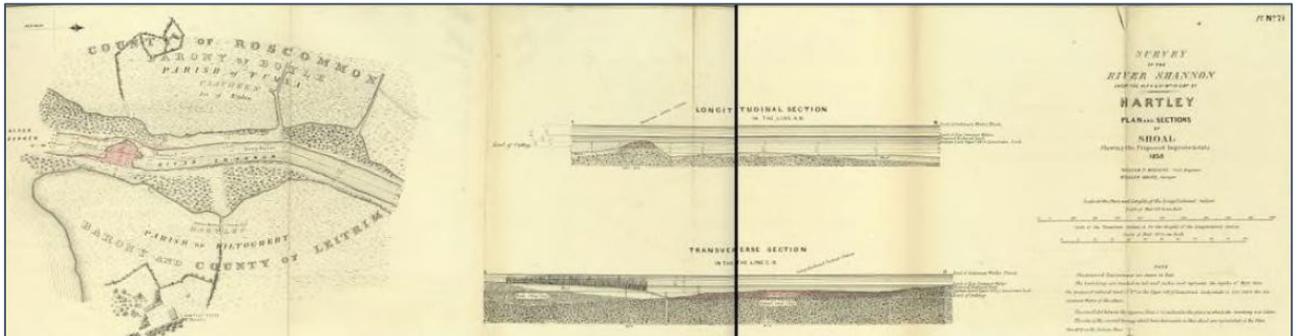


Figure 4: Cross-section of the shoal at Hartley Bridge, from February 1839 Shannon Navigation Report.

Hartley Bridge, as it presents today, was built in 1915 and was one of the first reinforced concrete bridges in Ireland. It is not, however, listed in the *National Inventory of Architectural Heritage* (NIAH) nor the SMR.

The Board of Works Administration of 1910-1922 noted that a new bridge was erected at the ford of Hartley. The 1911-1912 report recorded that plans had been submitted for the bridge, which was to be constructed, “to a new system in ferro-concrete,” said to be the first of this type in Ireland (ibid., 212). The 2nd Edition OS map appears to indicate the location for the new bridge, just below where the ferry crossing was situated.

For several years from 1910 onwards, however, there was dissension between Roscommon and Leitrim over who would pay for the construction of the bridge. By the end of 1912, the bridge itself had been built, but did not have any connecting roads (Wheatley 2005, 102). In the end, the project was financed jointly by Roscommon and Leitrim County Councils and the Board of Works, and the bridge was opened in 1915.

The bridge has 48 in. deep parapets which act as beams spanning between supports. The supports consist of pairs of 12 in. by 12 in. square columns with cross ties and diagonal bracing struts. The main reinforcement used was of a rail type section, known as a Moss Bar. The spans from centre to centre of the supports are (from the west end of the bridge) three of 36ft, one of

40 ft, and one over the navigation channel of 60ft. The design was prepared for Eugene O'Neill Clarke, County Surveyor of Leitrim and the work was carried out by direct labour (ibid.).



Figure 5: Recorded archaeological monuments in the vicinity of the proposed works and its zone of notification.

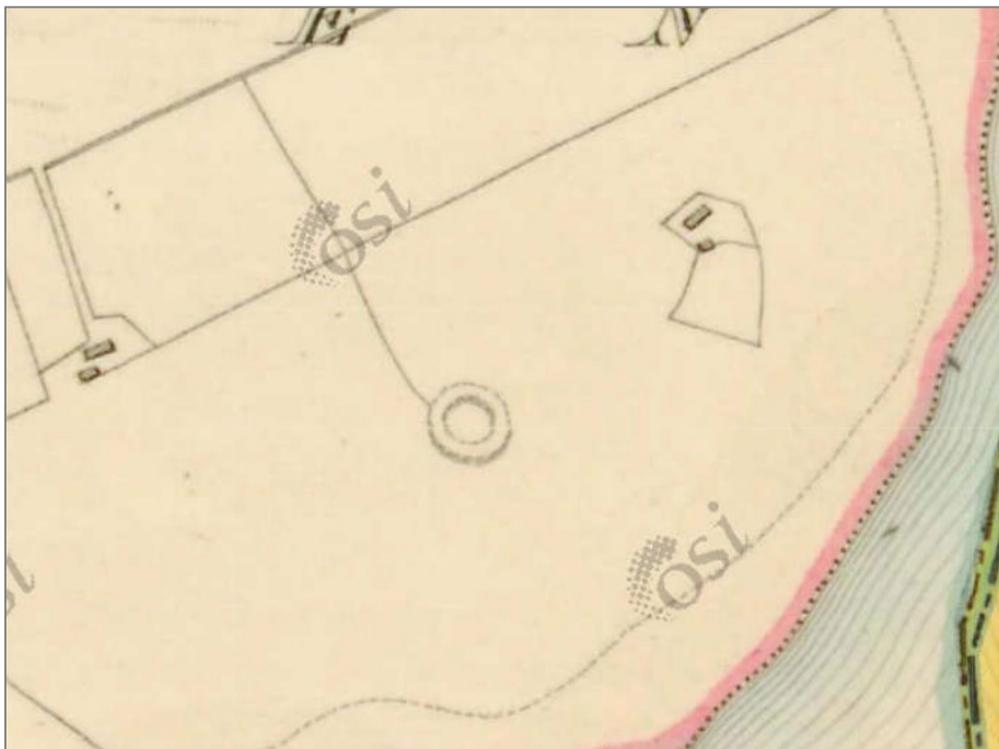


Figure 6: Ordnance Survey 6-inch map depicting the ringfort erroneously as a perfect circle.

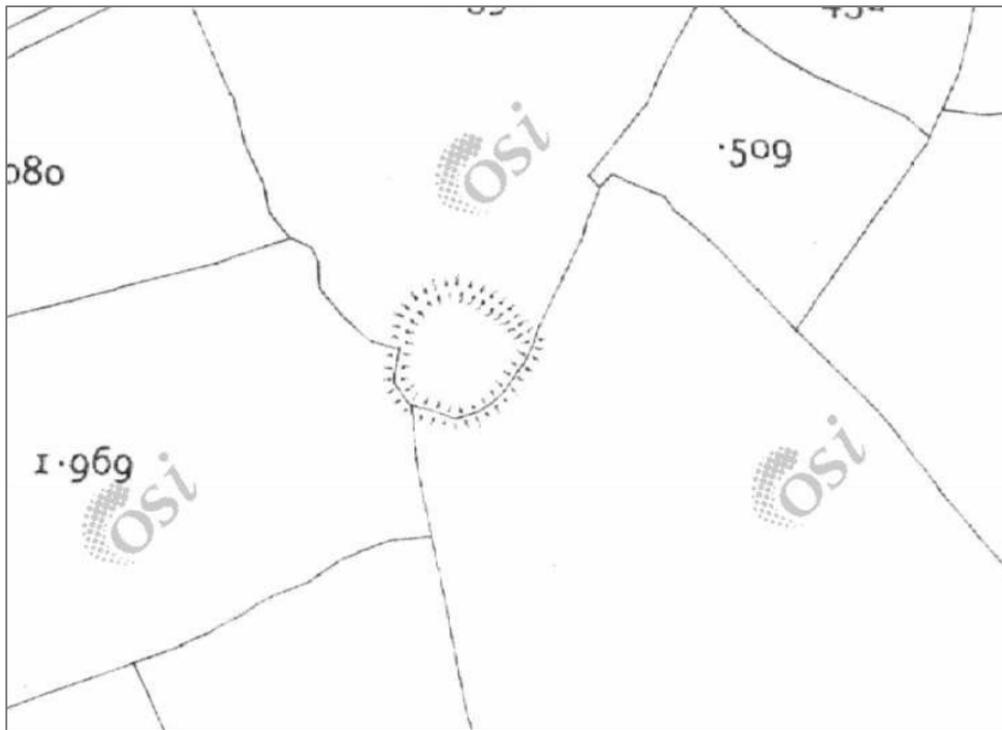


Figure 7: Ordnance Survey 25-inch map depicting the ringfort in its true form.

Hartley House

To the east of Hartley Bridge, c.200m away, is Hartley House which local tradition holds to be from the 1750s, although it is not included in the National Inventory of Architectural Heritage (NIAH). An early date is supported by its appearance on the 1777 road maps of Taylor & Skinner. The house was originally known as “Hartly” or “Hartley” Manor House (O’Donovan 1835, 47). By the time of Griffith’s Valuations, the property was owned by one Charles St. George, who was leasing it out (Landed Estates Database). The connection of the names “St. George” and “Hatley” is also seen a short distance away in Carrick-on-Shannon, where the St. George family built “Hatley Manor” in the 1830s (NIAH). In fact, the connection goes back even further, as the St. George family came to Ireland from Cambridgeshire, where the original family seat was also called, “Hartley”. The St. George family was prominent in the area by the mid-18th century, as St. George Usher was elevated to the peerage of Ireland in 1763 as Lord St. George of Hartley, Co. Leitrim (Burke 1848, 98). As the Hartley House close to the bridge was also reckoned as part of the St. George estate, it is likely that the house and, later, the entire townland, borrowed its name from the St. George seat in Cambridgeshire.

The manor house in Hartley had been converted to a farmhouse by the mid-19th century, but the townland continued to be known by the same name (O'Donovan 1835, 47). The 1835 Name Books also recorded an area of bog at the southern angle of the townland, as well as an old fort - known as Hartly Fort - which was, "nothing remarkable". There are three ringforts recorded in Hartley townland, located between c. 400 to c. 700m northeast and northwest of Hartley Bridge, any of which could be the Hartly Fort referenced by O'Donovan.

5.1.2 Place names and Townlands

The name 'Hartley' is first recorded in association with the area in 1835, when it is mentioned at 'Hatley'. In 1836, one description records that, "... in the southern angle of the townland...a fort called 'Hartly Fort'..." (*Desc. Rem.:AL*).

On the western side of the bridge, is the townland of Cleaheen, which comes from the Irish *cléithín* meaning a small hurdle. The name appears on the 1st Edition OS maps from the 1830s but is more than likely of ancient origin (www.logainm.ie).

5.1.3 Cartographic Information

Taylor and Skinner's *Road Maps of Ireland 1777, Map 234* (Figure 9) shows the road from Carrick-on-Shannon northwards to Leitrim, as well as several branching roads. However, it does not show any road branching off towards Hartley or any sort of crossing in the area north of Carrick-on-Shannon. It does, however, show a house on the eastern side of the river, near to the site of the current bridge. It is possible that this is the location of Hartley House, which still stands a short distance east of the bridge.

The next maps which provide any detail on the location are the Ordnance Survey maps. The first edition 6-inch map (1829-1841) (Figure 10) shows Hartley House, unnamed, to the east surrounded by orchards, which seems to correspond well with the house surrounded by trees drawn on Taylor and Skinner's map in 1777. The ringfort c.200m to the west of the bridge and another fort, c.700m to the northeast, are marked on the map. A dotted line along the river's edge indicates the height the water reaches during winter floods.

On the 2nd edition 25-inch Ordnance Survey map (1880-1913) (Figure 11), Hartley House has expanded, although it is still shown with orchards. The forts from the first edition are still shown, along with two more forts c.500m to the northeast of the bridge. A spring is labelled in the field to the west of the river crossing. Most notably the river crossing has developed. There appears

to be a quay or the beginning of a bridge from the west bank reaching halfway into the river. On the eastern bank, a ferry is marked, as discussed above.

The Cassini 6" map (1830-1930) shows the period between when Hartley Bridge was complete in 1912 and when it opened with connecting roads in 1915 (Figure 12).



Figure 8: Extract from Map 234, Taylor and Skinner's Road Maps of Ireland 1777.

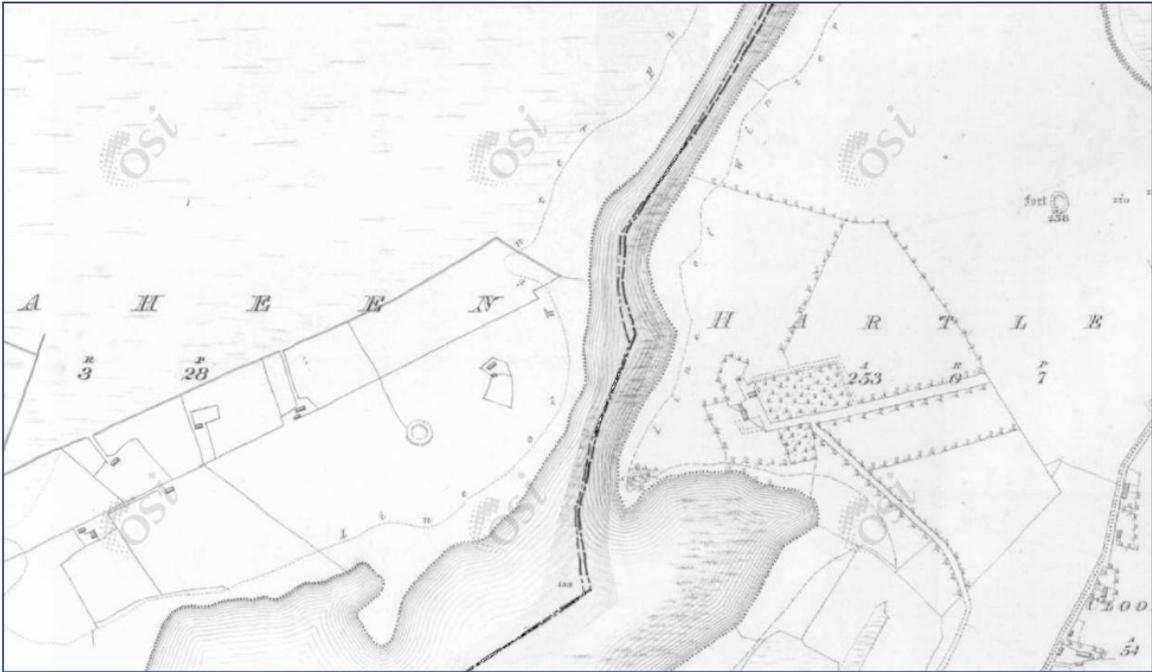


Figure 9: Excerpt from 1st edition Ordnance Survey 6-inch map.

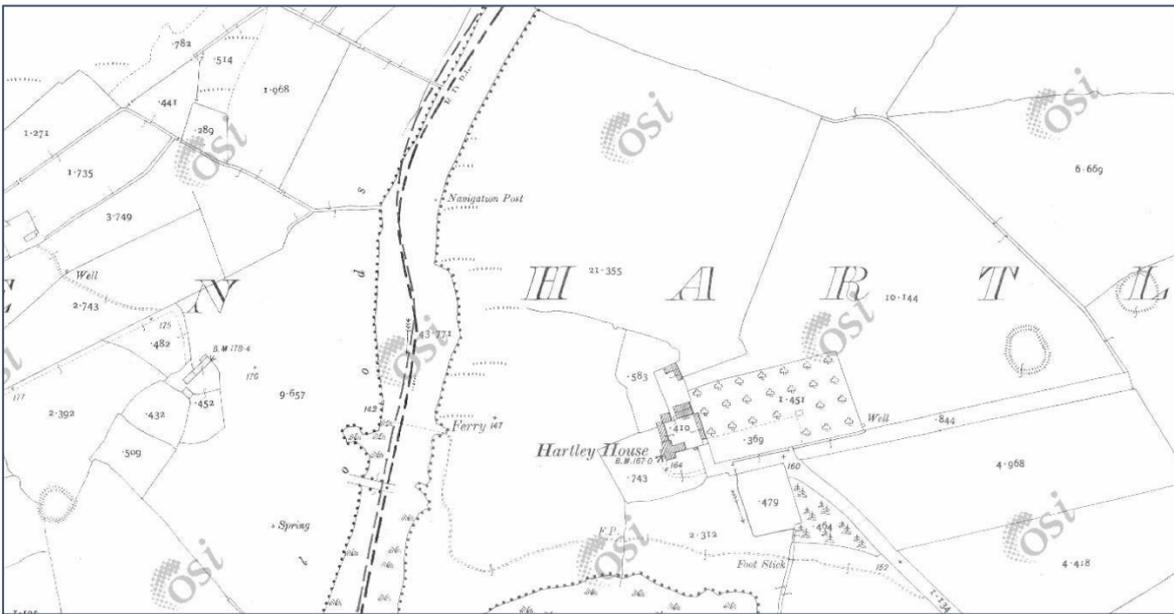


Figure 10: Excerpt from 2nd edition Ordnance Survey 25-inch map.

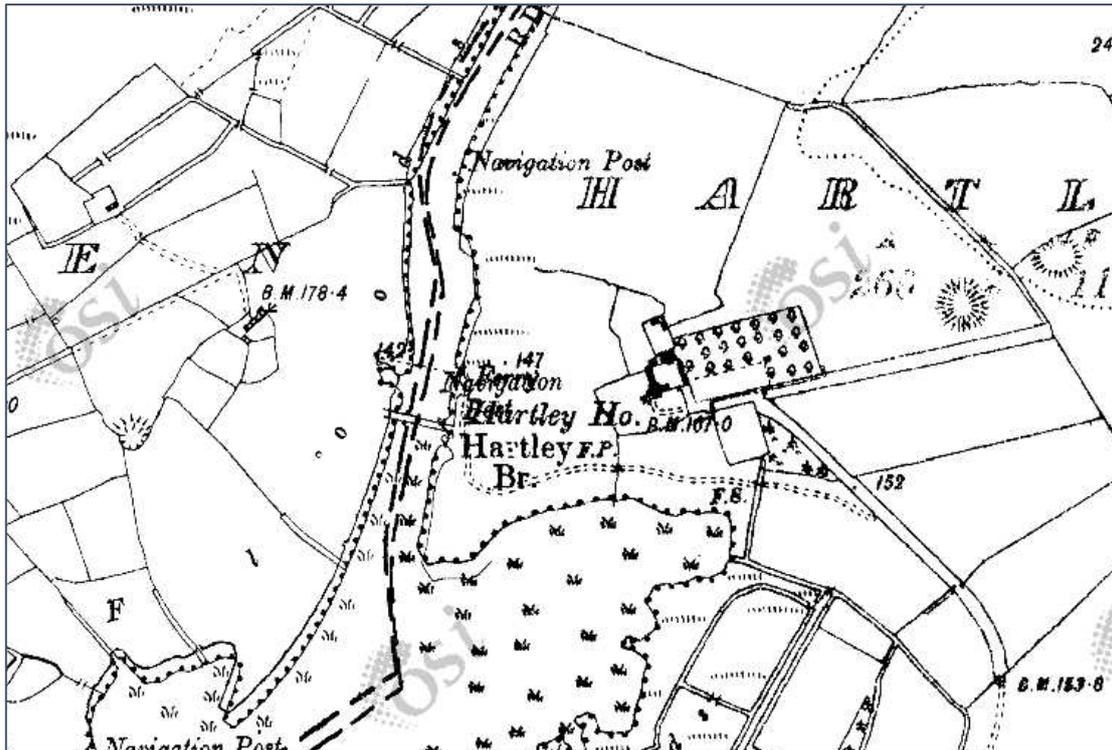


Figure 11: Extract from Cassini 6'' showing completed Hartley Bridge with footpath to the east.

5.1.4 Recorded Monuments and known sites: RMPs and SMRs

Aside from the ringfort (RO007-083) to the west of Hartley Bridge, there is a cluster of three ringforts between 500m and 700m to the northeast (LE027-100, LE027-099, LE027-098) (Table 1). Their presence indicates a rich medieval landscape, one of settled farmsteads, belonging to Gaelic-Irish who dominated the landscape at that time. The presence of such sites denotes the use of the landscape and can be indicative of earlier use, even to prehistoric time, with use and reuse of sites and places over time. See Appendix 2 for a more comprehensive list of recorded monuments in the wider landscape.

Number	Type	Townland	Description
RO007-083----	Ringfort- rath	Cleaheen	On the top and the S-facing slope of the NE-SW ridge overlooking the River Shannon, which is c. 200m to the E and S. Circular overgrown area (diam. 22m) defined by an earthen bank (Wth 3-5-5.5m; int. H 0.2-0.7m; ext. H 0.3-1m), which is incorporated into a field bank E-S-W, with an outer fosse (Wth 4m; D 0.2-0.3m) and outer bank (Wth 4m; int. H 0.4m-0.8m; ext. H 0.2-0.5m) N-ENE. There is no visible entrance.

LE027-098----	Ringfort- rath	Hartley	Located on the SW-facing slope of a low drumlin and c. 300m from the shore of a NE-SW extension of Lough Eidin. This is a grass and rush-covered subcircular area (int. dims 29m N-S; 25.5m E-W) defined by an overgrown earthen bank (Wth 3.5m; int. H 0.35m; ext. H 1.1m) which is reduced to a scarp (H 0.6m) SE-S, and an external fosse (Wth 2.1m; D 0.35m) E-W-N. The original entrance is not identified. Archaeological testing (02E0483) c. 110m to the NW failed to produce any related material (Read 2004).
LE027-099----	Ringfort- rath	Hartley	On the S-facing slope of a low drumlin and c. 400m NE of SW-NE extension of Lough Edin. This is a grass and rush-covered D-shaped area (int. dims 30m N-S; 25m E-W) defined by an overgrown earthen bank which is best preserved at S (Wth 5.3m; int. H 0.45m; ext. H 1.25m) and an external fosse (at S: Wth 2.9m; D 0.25m). The original entrance is not identified, but the perimeter is truncated at NW by a NE-SW field bank.
LE027-100----	Ringfort- rath	Hartley	Located on top of a low drumlin. This is a grass-covered circular area (int. diam. 26.5m N-S; 25.5m E-W) defined by an earthen bank (Wth 3.3m; int. H 0.2m; ext. H 1.4m generally to 1.75m at SW) and a fosse represented by an external band of rushed (Wth 2-3m). The original entrance is not identified.

5.1.5 Previous Archaeological Work

The *Excavations Bulletin* is the primary source for published summaries of excavations carried out in the State. Two archaeological investigations have been undertaken in the immediate hinterland of Hartley Bridge and they are listed below. Refer to Appendix 1 for a more comprehensive overview of archaeological excavations from the wider landscape.

2002:1055- Hartley, Leitrim

Sites and Monuments Record No.: SMR 27:98

Licence no.: 02E0483

ITM: E594099m, N802154m

The proposed development, a dwelling-house is near a ringfort. The entire area was excavated to the level of undisturbed natural, but no archaeological features or finds were uncovered.

2011:400 – Portaneoght, Leitrim

Sites and Monuments Record No.: N/A

Licence No.: 11E034

ITM: E 593264m, N 801187m

A programme of testing was carried out at two areas of archaeological potential. Area 1a was identified from an aerial photograph showing a possible D-shaped enclosure site and Area 1b is an area of wetland. The work was undertaken on behalf of Leitrim County Council as part of the Environmental Impact Assessment for the proposed N4 Carrick to Dromod Road Scheme. The testing took place between 14 and 15 March 2011.

A total of 1,109 linear metres were excavated within the two areas to be tested. Nothing of archaeological significance was identified in the test trenches. Two trenches were excavated across the boundary ditch of the possible D-shaped enclosure, however, in order to investigate its archaeological potential.

The bank and ditch arrangement is a frequent feature of the Irish landscape. The curvilinear form of this example- as against the typical straight modern and post-medieval examples, suggested an archaeological origin, but nothing of archaeological significance was present in the test trenches.

5.2 Dive survey

A dive survey of the proposed crossing was carried out in June 2019. Conditions were favourable, although the visibility was poor, limited for the most part to 1m. The survey covered the entire width of the river for a length of 40m, both upstream and downstream of the existing bridge.

The River Shannon flows in an NE-SW direction at the bridge. There is a c.5m margin along the western bank which was marshy with only a few inches of water at the time of the survey. It appears that the river regularly floods and recedes in this area. Stone blocks which appeared to be deliberately placed as rock armouring were noted on the eastern bank.

The entire riverbed was covered in rounded water-rolled limestone cobbles ranging in size from 7cm x 5cm x 5cm to 20cm x 10cm x 10cm, with occasional white, chalky boulders. A thin film of

silt overlay the stones, which became deeper towards the centre of the channel, and a mound of sediment had built up around each pier of the existing bridge. Mussel shells were frequently observed particularly along the eastern side of the survey area.

A significant amount of modern debris was noted in the river including bullets, a car battery, a television, cutlery, cups, glasses, fishing gear, and ceramic/earthenware jars - some of which had cork lids, but none had any remaining content. The debris was concentrated towards the western bank.



Plate 1: Divers along the east bank of the survey area, taken from NW.



Plate 2: View of Hartley Bridge, taken from S (June 2019).



Plate 3: View of western end of Hartley Bridge, taken from SE.



Plate 4: View of western bank along survey area, S of existing bridge, taken from NE (June 2019).



Plate 5: View of eastern end of Hartley Bridge, taken from SW.



Plate 6: View of eastern bank along survey area, S of existing bridge, taken from W.



Plate 7: View of eastern bank along survey area, S of existing bridge, taken from NW.



Plate 8: View of southern elevation of Harley Bridge (December 2020).



Plate 9: Overview of Hartley Bridge (December 2020).



Plate 10: Artefacts recovered during dive survey, including stoneware ceramic condiment jars, Kruschen salts, pressed flint glass bud vase, glass bottles and a flowerpot base.

5.3 Archaeological Testing

A programme of archaeological testing was carried out along the route of the proposed realignment which encompassed parts of three fields which were assigned numbers 1-3 from west to east (Figure 13).



Figure 12: View of archaeological test trench layout.

Field 1 (Trenches 1-8)

Field 1 is located on the western bank of the Shannon, SW of Hartley Bridge. It consists of a pasture which slopes steeply towards the river. The low-lying eastern limits of the field are regularly flooded. The field is enclosed by a hedgerow to the north and west, by modern electric fencing to the south and by the river to the east.

The centre-line trench measured 120m in length and reached a maximum depth of 1.2m to the natural subsoil. Seven off-set trenches measuring between 7m and 20m in length were also excavated. The trenches at the lower eastern end of the field did not reach a definitive 'natural' subsoil, due to water inundation but what was reached appeared sterile. The easternmost 18m of the centreline trench was excavated through alluvium silts. At 23m from the eastern limits of the centreline trench the alluvium measured 0.9m in depth. The alluvium gradually decreased in depth towards the west. At 28m from the eastern limit of the trench the topsoil consisted of 30cm of mid-orange-brown peaty loam overlying a yellowish grey clay subsoil.

No archaeological remains were recorded within the test trenches in Field 1. However, it should be noted that the easternmost 18m of the trench comprised alluvium silts, the base of which was not reached in the archaeological test trenches.



Plate 11:View of Trench 1.

Field 2 (Trenches 9 & 10)

Field 2 is densely vegetated ground located on the eastern bank of the Shannon. The southern end of the field has been built up with domestic and construction debris. Two trenches were excavated in this field. The somewhat irregular pattern of the trenches is a result of avoiding trees and the rubbish deposit.

A 30cm layer of dark brown humic-rich friable topsoil overlay a greyish white clay subsoil with occasional stones. No archaeological material was uncovered in the test trenches.



Plate 12: View of trench 10.

Field 3 (Trenches 11 & 12)

Field 3 is located to the northeast of the existing roadway. The proposed realignment transects the southern end of the field. Two parallel trenches (T11 & T12) were excavated in this field. The topsoil consisted of 0.30m of dark brown silty clay loam, and the underlying subsoil was whitish-orange clay. Sherds of 19th- and 20th-century pottery were found beneath the topsoil.

Cultivation furrows measuring 0.50m in width and 0.20m in depth and orientated in a SW-NE direction were noted in both trenches. Twelve potential archaeological features were recorded within the trenches mainly clustered on the eastern and western end of the trenches. The provenance of the features could not be definitively determined in the course of the test excavation and it was recommended that an area 30m x 20m be stripped of topsoil in the western side of the site and an area of 5m x 5m be excavated at the eastern extent of the site to further investigate the archaeological potential.

5.4 Archaeological Excavation

The two areas of archaeological potential in Field 3 were stripped of topsoil. As it became apparent that the features were of archaeological significance, the topsoil stripping continued radially outward until the limit of the road take was reached in Field 3. A baulk (average 3m wide) was left in situ on the northern limits of Field 3 as no ground disturbance works are planned for that area during Construction Stage. The archaeological site continued beyond the

limits of the site boundary to the north. The development of the roadway to the west and south of Field 3 in the early 20th Century appears to have truncated the archaeological site.



Figure 13: Map showing extent of archaeology in Field 3.

Two distinct areas of archaeological activity were identified and are referred to hereunder as Area 1 and Area 2.

Area 1 was situated in the north-western limits of Field 3. It was severely truncated by plough activity. It contained the remains of a shallow circular ditched enclosure with 46 associated pits /stake-holes and 11 deposits. Over 90% of the enclosure was exposed and excavated. The remainder of the enclosure lies beyond the northern limits of the excavation area.

The enclosure measured 16.05m in diameter. The ditch had a similar profile around its excavated circumference, with the base being uneven, and the internal edge being steeper than the external edge. It measured 0.40–50m in width and 0.10–0.27m in depth. Two gaps in the ditch indicate the location of possible entrances on the southeast and the west. The gap in the south east measures 0.95m and the gap in the west measures 2.8m.

It is possible that the ditch supported palisades though there was a lack of definitive evidence for packing stones, or slot trenches.

Twenty-two pits and nine possible postholes were excavated within the enclosure. A further nine pits were excavated externally but close to the enclosure. There was no discernible pattern that would suggest they formed a definitive structure.

The majority of features contained burnt and unburnt bone. Prehistoric pottery, flint and chert scrapers, a chert projectile and debitage was recovered from the pits and ditched enclosure in Area 1.

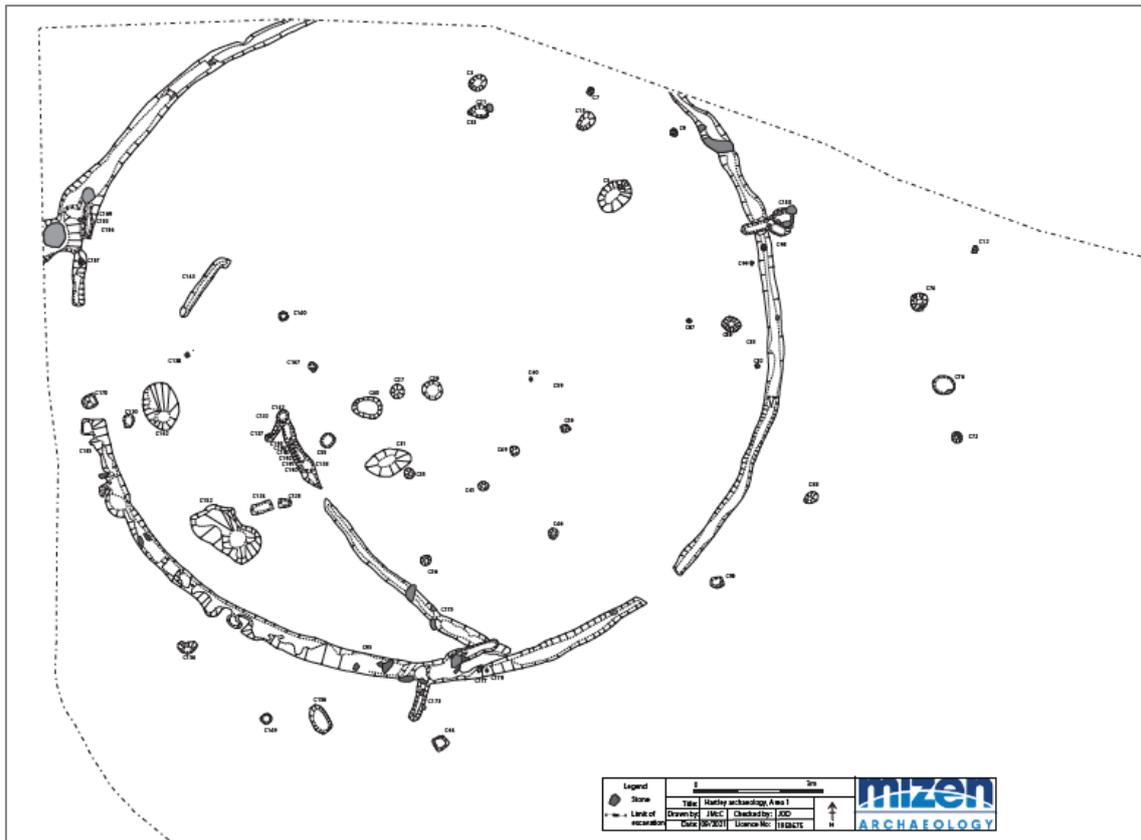


Figure 14: Post-ex plan of Area 1.



Plate 13:Excavation in progress in Area 1.

Area 2 was situated in the eastern limits of Field 2. The road take is narrow here and the archaeological site continues beyond the limit of the excavation to the north and is truncated by the existing road to the south. It consisted of a metal working area, three pits and curvilinear features.

One of the pits, C.102 contained bone, pottery, flint, a chert flake and a high volume of slag. The feature was only partially exposed as it extended northwards beyond the limit of the excavation making it difficult to fully determine its function. Another large pit C.100, on the eastern limit of the site also extended northward beyond the limit of the excavation. It was Irregular in plan and flat in profile and contained flint and prehistoric pottery. The third pit C.110, on the eastern side of area 2 was smaller and produced no finds.

A linear feature, C121 and C126 on the western limits of Area 2 was truncated by a modern refuse pit.

On the southern limits of this area are two curvilinear features. Although, not they are not identical it is most likely that they represent a single feature/structure truncated by the existing roadway. They both contained similar fills and produced a large quantity of animal bone as well as copper and iron objects. Analysis of the archaeobotanical remains, lithics and metal objects and slag are currently being undertaken and will be published in the final excavation report.

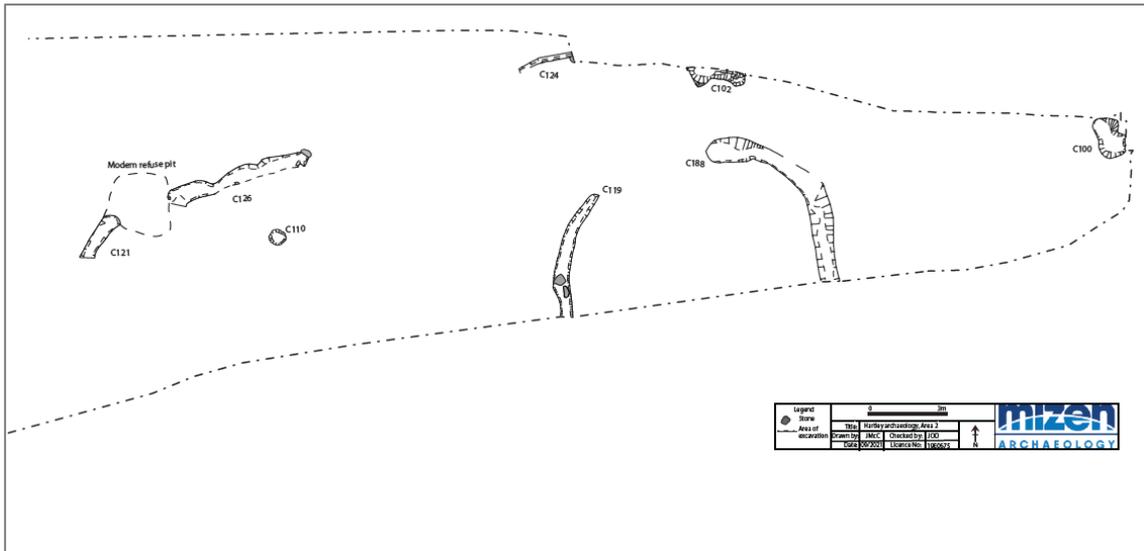


Figure 15: Post-ex plan of Area 2.



Plate 14: Assemblage of flint tools recovered from Area 1.

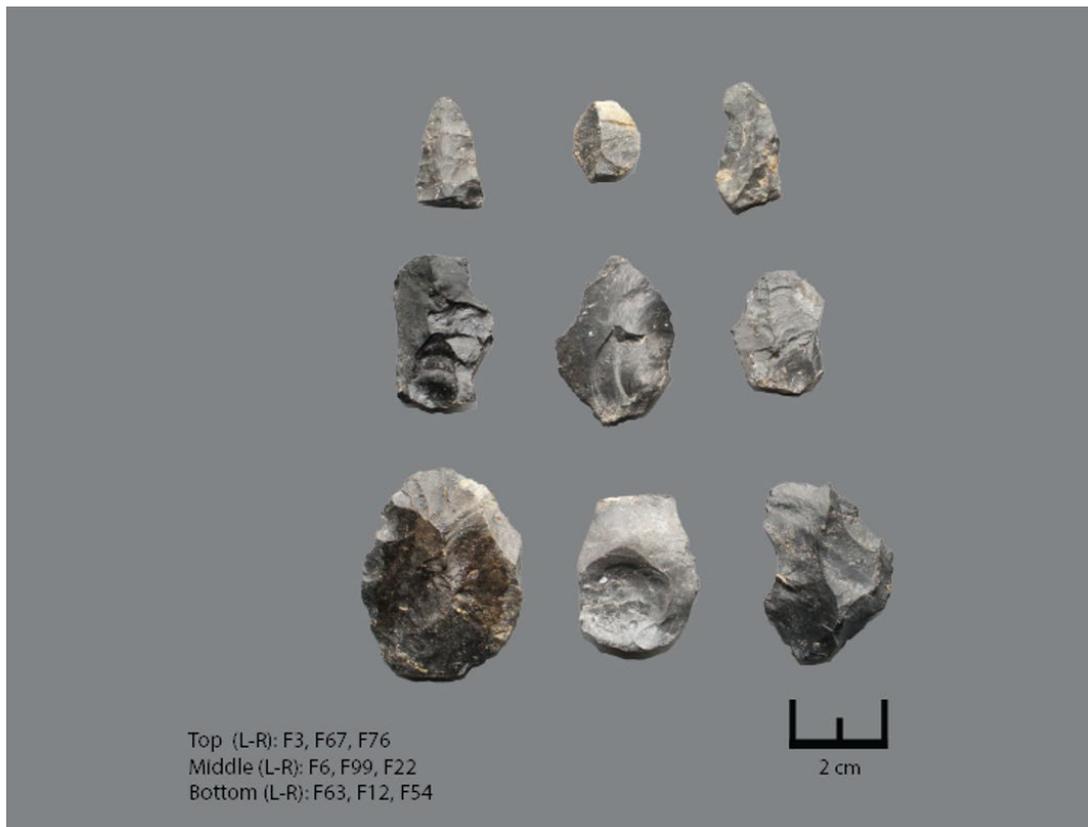


Plate 15: Assemblage of chert artefacts recovered from Area 1

6. Discussion

The results of the archaeological impact assessment demonstrate that the proposed scheme is situated within an important archaeological landscape the resources of which, in particular the Shannon River, have been a source of almost continuous settlement, exploitation and use to varying degrees, since at least the Late Mesolithic Period, some 7,000 years ago. Archaeological testing revealed two areas of archaeology including a prehistoric ditched enclosure and metal working area in Field 3. All of the topsoil within the site boundary in Field 3 was removed under archaeological supervision bar a baulk along the northern fence where no further ground disturbance is planned. All archaeological features and deposits within the excavation site were fully removed. Analysis of the archaeobotanical remains, lithics, metal objects and slag are currently being undertaken and will be published in the final excavation report. In compliance with the excavation licence conditions the final archaeological excavation report will be submitted to the National Monuments Service by January 2022.

7. Predicted Impacts and Mitigation Measures

Field 1

Nothing of archaeological significance was recorded within the test trenches in Field 1. However, it should be noted that the easternmost 18m of the test trench comprised alluvium silts, the base of which was not reached. The river bank is subject to seasonal flooding and has the potential to provide anaerobic waterlogged conditions for the preservation of archaeological material. It is possible that the proposed works may negatively impact on unrecorded archaeological material buried within the alluvium silts.

Any excavation works occurring within 30m of the western riverbank should be monitored under licence.

Field 2

Nothing of archaeological significance was recorded within the test trenches in Field 2. However, given its close proximity to the newly discovered archaeological site in Field 3, it is possible that sub-surface archaeological remains may be uncovered during the course of ground disturbance works.

Topsoil stripping within Field 2 should be archaeologically monitored under licence from the National Monuments Service.

Field 3

All archaeological features and deposits within the excavation site were fully excavated. The archaeological features extended beyond the limit of the excavation site under the baulk and agricultural lands to the north. Features also continued under the field boundary ditch to the south, east and west of Field 3. Although the construction of the field boundary during the early 20th Century would have significantly disturbed or destroyed archaeological features along its footprint, in-situ sub-surface deposits and artefacts may survive in places.

The removal of the field boundary ditch to the south east and west of Field 3 should be archaeologically monitored under licence from the National Monuments Service.

The construction works should be securely fenced off from the northern baulk in Field 3 to avoid accidental damage to the sub-surface archaeological features beneath the baulk.

River Crossing

Although the artefacts recovered during the dive survey were post-medieval in date, the crossing is located at a natural fording point of the Shannon which has been utilized since prehistory. Therefore, it is possible that the proposed works may negatively impact on unrecorded buried archaeological material in the riverbed.

Excavation of riverbed material associated with the construction of the proposed bridge as well as the decommission of the existing bridge should be archaeologically monitored by an underwater archaeologist under licence from the National Monuments Service.

All mitigation measures are recommendations only. The ultimate decision rests with the National Monument Service of the Department of Culture, Heritage, and the Gaeltacht in collaboration with the National Museum of Ireland.

8. Bibliography

8.1 Documentary Sources

Bradley, J. 1994. "Killaloe: a pre-Norman borough?" *Peritia*, 8, 171-179. Burgoyne, J., Griffith, C. and Rhodes, T. 1839. *Shannon Navigation: fourth report: part 1*.

Bourke, L. 1996. 'A Watery End: Prehistoric Metalwork in the Shannon', *Archaeology Ireland*, Vol. 10, No. 4, pp. 9-11.

Burke, J.B. 1848. *The Roll of Battle Abbey, Annotated*. London.

Caldwell, W.G.E. 1959. 'The Lower Carboniferous rocks of the Carrick-on-Shannin syncline', *Journal of Geological Society*, 115, pp. 163-188.

Collins T. & Coyne, F. (2003) 'Fire and Water... Early Mesolithic Cremations at Castleconnell, Co. Limerick', in *Archaeology Ireland*, Vol. 17, No. 2, pp. 24-27

Collins T. & Coyne, F. (2006) 'As Old as We Felt...' *Archaeology Ireland*, Vol. 20, No.4, p. 21.

Colin Buchanan and Partners, Cronin, J. and Associates, Roche, N. 2005, *The Shannon: Waterway Corridor Studies*, The Heritage Council.

Cox, R.C. and Gould, M.H. 1998. *Civil Engineering Heritage: Ireland*. ICE Publishing.

- Delaney, R. 2008. *The Shannon Navigation*. Dublin: The Lilliput Press Ltd.
- Driscoll, K. 2006. The early prehistory in the west of Ireland: Investigations into the social archaeology of the Mesolithic, west of the Shannon, Ireland. Master's Thesis, Department of Archaeology, National University of Ireland, Galway.
- EPA: Carrig-on-Shannon Sewerage Improvement Scheme EIA, Leitrim County Council, Section 4; www.epa.ie/licences/lic_eDMS/090151b280250707.pdf
- Farrell, Richie, Kieran O'Connor, and Matthew Potter (eds), Roscommon history and society: interdisciplinary essays on the history of an Irish county, *History and Society* 26, Dublin: Geography Publications, 2018
- Gilligan, C. 2019. 'Above and below ground: traces of life and death of prehistoric Leitrim', in Kelly, L. and Scott, B. (eds) *Leitrim: History and Society*. Geography Publications, Dublin.
- Kilroe, J.R., 1907. The River Shannon: its present course and geological history. *Proceedings of the Royal Irish Academy*, **26B**, pp. 74-96.
- Krogsrud, L. M. 2012-2013. 'Checklist of Viking-Age silver hoards from Ireland', *Journal of the Royal Society of Antiquaries of Ireland*, Vol. 142/143, pp. 59-73.
- Leitrim County Council: <http://www.leitrimcoco.ie/eng/Community-Culture/Heritage/Natural-Heritage/>
- MacCárthaigh, C. 2008. *Traditional Boats of Ireland: History, Folklore and Construction*, The Collins Press.
- McCarthy, N, 2018 *Monuments and mobility in early prehistoric Roscommon* In: Roscommon: History and society. Dublin: Geography Publications.
- McDermott, J.J. 2019. 'Late medieval strongholds of the Gaelic Irish in County Leitrim c. 1350-1600'. IN Kelly, L. and Scott, B. *Leitrim: History and Society*. Dublin: Geography Publications.
- O'Connor, K. and Finan, T. (2018) 'Medieval Settlement in North Roscommon, c. 1200 - c. 1350' In: Roscommon: History and society. Dublin: Geography Publications.
- Ó Danachair, C. 1971. 'The Shannon in Military History', *North Munster Antiquarian Journal*, Vol 14, No. 9, pp. 53-64.
- O'Donovan, J. 1835. *O'Donovan Name Books- Kiltoghert Parish*. Rearranged and re-typed by FAS Project: Leitrim Genealogy Centre, Ballinamore (1994).

Ó hAisbéil 2018 *The Place-Names of Co. Roscommon* In: Roscommon: History and society. Dublin: Geography Publications.

O’Keeffe, P. & Simington, T. 1991, & revision by Goodbody, R. 2006. *Irish Stone Bridges: History and Heritage*, Irish Academic Press.

O’Neill, T. 1987. *Merchants and Mariners in Medieval Ireland* (Irish Academic Press).

Ó Súilleabháin, M., Downey, L. and Downey, D. 2017. *Antiquities of Rural Ireland*. Dublin: Wordwell.

O’Sullivan, A and Lyttleton, J. 2001. *Foragers, Farmers and Fishers in a Coastal Landscape*. Dublin: Discovery Programme Monograph No. 5.

O’Sullivan, A. 1996. *Late Bronze Age intertidal discoveries on North Munster estuaries*, Discovery Programme Monograph 4, North Munster Project, pp. 63-71.

O’Sullivan, A. 2001. *Foragers, Farmers and Fishers in a Coastal Landscape: An intertidal archaeological survey of the Shannon Estuary*, Discovery Programme Monograph 5, North Munster Project.

Parkes, M., Meehan, R., Gallagher, V. & Hennessy, R. 2020. *Report on The Geological Heritage of County Leitrim: An Audit of County Geological Sites*. Leitrim County Council.

Topo Files: Topographical Files of the National Museum of Ireland; accessed via www.heritagemaps.ie

Tully, D. 2008. *Clare Traditional Boat and Currach Project 2008*, Report for The Heritage Council and Clare County Council.

Waddell, J. 1998. *The prehistoric archaeology of Ireland*. Galway: Galway University Press.

Waddell, J. 2018 *Roscommon in later prehistory – a land of kings and heroes*, In: Roscommon: History and society. Dublin: Geography Publications.

Wheatley, M. 2005. *Nationalism and the Irish Party: Provincial Ireland 1910-1916*. Oxford: OUP Oxford.

8.2 Other Sources

Excavations Bulletin: www.excavations.ie Historic Environment Viewer, National Monuments Service; www.archaeology.ie

Irish Placenames website: www.logainm.ie

Ordnance Survey of Ireland: www.osi.ie

National Inventory of Architectural Heritage (NIAH): <http://www.buildingsofireland.ie/niah/>

National Monuments Service: www.archaeology.ie

The Schools' Collection: www.duchas.ie

Wreck Inventory of Ireland Database (WIID): National Monuments Service (DHLGH);

www.archaeology.ie

9. Appendices

9.1 Appendix 1: Previous excavations in wider area Taken from: *Excavations Bulletin*

2007:1487- Cloonfad, Roscommon

Sites and Monuments record no.: N/A

Licence No.: 07E1135

Site type: Fulacht fiadh and cut features

ITM: E 550339m, N 771044m (c. 2.3km north of Hartley Bridge)

The site of the proposed development in the townland of Cloonfad is located on the Roscommon/Leitrim border. The River Shannon meanders a short distance from the development site to the east, north-east and north. The proposed development site comprises nine acres combining a number of conjoined field plots. The closest monuments to the proposed development include RO007-055 (ringfort/rath/cashel), situated 50m to the north-west, while RO007-057 (crannog) is situated 250m to the south-west; RO007-058 (ringfort/rath/cashel) is situated 180m to the south and RO007-059 (ringfort/rath/cashel) is situated 250m to the south-east of the development site.

Ten test-trenches were excavated by machine to the level of undisturbed natural or the top of identified archaeological features/deposits. All trenches were 1.9m wide. Definite and potential archaeological features were revealed in two of the trenches, in the eastern portion of Trench 1 and across the northern half of Trench 3, both in the south-east corner of the site.

In Trench 1, to the east of the open drain which runs north-south across the entire site, a substantial deposit of charcoal-enriched soil and heat-shattered sandstone was uncovered, measuring 9m east-west and extending beyond the limits of the 1.8m wide trench to the north, south and west. This deposit was probably cut by the open drain to the west, although it was clearly not present in the western portion of Trench 1. It was partially overcut by the machine and would have had a likely depth of 0.2-0.3m. All of the fulacht material erroneously removed by the machine was searched manually for finds, with none revealed.

While there is nothing which directly links the fulacht fiadh in Trench 1 with the cut features revealed in Trench 3, their proximity cannot be overlooked and they are probably component parts of the same archaeological site. Trench 3 was originally to have been 70m long but was extended a further 10m in an attempt to follow the archaeology. All of the features were revealed in the northernmost 30m of the trench. All nine were cut features and included one

slot-trench and eight irregular to subcircular pits. Their relative positions in the trench are somewhat odd, with three of the pits extending beyond the eastern limits of the trench and the remainder extending beyond the western limits of the trench.

Feature 1, the slot-trench, measured 7m (north-east/south-west) by 0.3-0.45m wide. It extended beyond the western limits of the excavated trench. A small sondage was excavated across its width, 0.2m wide, 3m from its north-east end. This revealed it had straight sides and an irregular bottom with a depth of 0.12m. The fill was a friable grey silty clay with small stone inclusions. The pits were all irregular to subcircular in shape and appear to be filled with similar silty grey clay to that found in the slot-trench.

The design of the proposed development was amended to avoid the exposed archaeological features, facilitating their preservation *in situ*.

2018:358- Port, Port Shan Castle, Leitrim

Sites and Monuments record no.: LE027-065----

Licence No.: 18E0591

Site type: Burnt spread

ITM: E 595232m, N 803439m (c. 2km north of Hartley Bridge)

The proposed development entails the restoration, extension and change of use of a granary building at Port, Leitrim Village, Co. Leitrim. The development is within the zone of archaeological potential for LE027-065---- Castle, as well as within the curtilage for the 18th-century Port Shan House and Garden (Historic Garden Reference No.: LE-33-G-954034). Surrounding a concrete covered yard are a complex of exposed stone work building, the most prominent of which is a two-storey stable or granary building, the north exterior wall of which faces towards the River Shannon which is located directly behind this building. The granary building is in a state of disrepair and is no longer in use. Access to the upper floor of this building is via a stone outer staircase. East of this staircase are the collapsed walls of another former building. A well was reputedly located further east of this ruined structure.

According to historical sources a castle referred to as 'Port Shan Castle' once occupied the proposed development site. Traces of this early structure, a pre-1700 building, were identified in a building survey conducted by Shirley Markley on behalf of the client. The north-west exterior wall of the stable/granary building presented possible medieval features of the castle- including a possible gun loop, the substantial thickness of the walls and battered base (Markley 2013, 92).

A further two gun loops were identified in the north-west boundary wall, which Markley suggested might be possible standing remains of the bawn wall of the original late 16th/early 17th-century Port Shan Castle, which is now occupied by a cow byre. Further possible medieval remains were noted in the walled orchard which also revealed two further gun loops, which Markley suggested was a second phase of bawn wall associated with the original Port Shan Castle (Markley 2013, 93).

Testing took place on 13 October 2018. Test trenches were excavated in four locations where proposed ground works would be undertaken:

- 1) Percolation area located east of the farm complex and orchard
- 2) Sewer service pipe located north-east of the granary building
- 3) Proposed location of the proposed extension for the café adjacent to the granary building
- 4) Piggery building adjacent to the east wall of the walled garden

No archaeological material was noted in the test trenches except in one trench excavated where the sewer service pipe is proposed to the north-east of the granary building, terminating to the rear of the proposed extension for the café. The trench was excavated using a 0.9m wide bucket. It measured 0.8m wide and 0.56m deep. The stratigraphy consisted of sod cover over dark blackish brown peaty clay over a greyish white marl. At 16m from the proposed café location a deposit of blackened peaty clay, a possible charcoal-enriched soil was uncovered with occasional burnt stone present within the matrix of black soil. This material was 0.2m below the surface and 1m wide. The deposit was not extensive but may represent a possible burnt spread in the vicinity. The proposed works at this location will be relocated to avoid any potential disturbance to this material.

2005:942- LISNAGAT, Leitrim

Sites and Monuments record no.: SMR 31:2

Licence No.: 05E1267

Site type: Possible prehistoric structure

ITM: E 593602m, N 800836m (c. 1.1km south of Hartley Bridge)

The site of the proposed development at Lisnagat, Co. Leitrim, is located on the northern outskirts of Carrick-on-Shannon. It will consist of 37 detached and semi-detached houses, access and connection to local services. Located within the bounds of the proposed development is an enclosure. A recommended 10m buffer zone was proposed by Leitrim County Council and incorporated by the developer into the proposed site layout.

Topsoil-stripping was carried out in March 2005 and in the south-west corner of the field a potential archaeological feature was revealed. It was subsequently excavated under the above licence. The feature consisted of a thin, shallow, curving gully, 6.8m long, 0.36-0.47m wide and 0.07-0.22 deep. It probably extends further to the south-west. At the north-west end there is a possible pebble surface. A well-made chert thumbnail scraper was retrieved as a stray find c. 20m to the east. The feature is c. 40m to the south-west of the enclosure. Upon full exposure, the feature consisted of a narrow, shallow slot-trench enclosing two-thirds of an 8m circle. This was probably the remains of a temporary structure that can date to anywhere between the later prehistoric to the early historic period. Samples have been taken for dating purposes.

9.2 Appendix 2: RMPs and SMR sites within the wider landscape

Number	Type	Description	Distance/direction from bridge
RO007-083---	Ringfort-rath	On the top and the S-facing slope of a NE-SW ridge overlooking the River Shannon, which is c. 200m to the E and S. Circular overgrown area (diam. 22m) defined by an earthen bank (Wth 3-5-5.5m; int. H 0.2-0.7m; ext. H 0.3-1m), which is incorporated into a field bank E-S-W, with an outer fosse (Wth 4m; D 0.2-0.3m) and outer bank (Wth 4m; int. H 0.4-0.8m; ext. H 0.2-0.5m) N-ESE. There is no visible entrance.	220m W
LE027-098---	Ringfort-rath	Located on the SW-facing slope of a low drumlin and c. 300m from the shore of a NE-SW extension of Lough Eidin. This is a grass and rush-covered subcircular area (int. dims 29m N-S; 25.5m E-W) defined by an overgrown earthen bank (Wth 3.5m; int. H 0.35m; ext. H 1.1m) which is reduced to a scarp (H 0.6m) SE-S, and an external fosse (Wth 2.1m; D 0.35m) E-W-N. The original entrance is not identified. Archaeological testing (02E0483) c. 110m to the NW failed to produce any related material (Read 2004).	469m east-northeast
LE027-099---	Ringfort-rath	On the S-facing slope of a low drumlin and c. 400m NE of a SW-NE extension of Lough Edin. This is a grass and rush-covered D-shaped area (int. dims 30m N-S; 25m E-W) defined by an overgrown earthen bank which is best preserved at S (Wth 5.3m; int. H 0.45m; ext. H 1.25m) and an external fosse (at S: Wth 2.9m; D 0.25m). The original entrance is not identified, but the perimeter is truncated at NW by a NE-SW field bank.	565m east-northeast
LE027-100---	Ringfort-rath	Located on top of a low drumlin. This is a grass-covered circular area (int. diam. 26.5m N-S; 25.5m E-W) defined by an earthen bank (Wth 3.3m; int. H 0.2m; ext H 1.4m generally to 1.75m at SW) and a fosse represented by an external band of rushes (Wth 2-3m). The original entrance is not identified.	720m northeast
1km-2km distant from bridge			
LE027-101---	Ringfort-rath	Situated in a low-lying position c. 30m from a SE-NW section of a small S-N stream. This monument is visible as a D-shaped feature on aerial photographs (OSAP: 4/1043-4). It is a grass-covered D-shaped area (int dims 33m E-W; 27m N-S) defined by an earthen bank (Wth 4-5m; int. H 0.15m; ext. H 0.6m generally to 1.1m at S) and a slight external fosse (Wth 2.1-2.5m; max. D 0.5m). There is a straight side at W and the straight S side	1,005m east

		is formed by an old E-W stream bed. The original entrance is not identified.	
LE027-143---	Ringfort-rath	Located in improved pasture, towards the bottom of a S-facing slope, but it is surrounded by higher ground within 300-600m. It was first identified by Susan Curran as part of an M.A. thesis with the University College Dublin using a LiDAR survey dataset commissioned by Leitrim County Council and the National Roads Authority. This is a D-shaped area (dims 20m E-W; 9m N-S) defined by a slight earthen bank (at NE: Wth of base 5.1m; Wth of top 2m; int. H 0.25; ext. H 0.4m) and outer fosse (at NE: Wth of top 7.3m; Wth of base 3m; D 0.25m) WSW-N-ENE. The monument is truncated by an ENE-WSW drain and field bank with hedge at S, and there is no evidence of the monument beyond this boundary. There is no evidence of an original entrance.	1,210m east
LE-027-106--	Ringfort-rath	Located at the crest of the S end of a short NE-SW drumlin ridge. It was described in 1991 an overgrown circular area (diam. c. 45m) defined by an intermittently visible earthen bank (Wth 3.5m; H 0.4m), and an external fosse visible only as a band of lush vegetation (Wth 3m) at SW. The growth appears to have been largely cleared from the monument (Bing 2013).	1,760m, east-southeast
LE-027-107--	Ringfort-rath	Located on the NW-facing slope at the N end of a NE-SW drumlin ridge in an area of rock outcrop. It is depicted as an oval hachured feature (dims c. 36m N-S; c. 30m E-W) with an outer fosse on the 1911 edition of the OS 6-inch map. This is a grass-covered circular area (int. diam. c. 45m) defined by a slight and barely perceptible grass-covered earthen bank (Wth c. 1m; H 0.15m).	1,890m east
LE-027-104--	Ringfort-rath	Located at the crest of the S-facing slope of a NE-SW drumlin ridge. This is an oval overgrown area (dims c. 55m E-W; c. 40m N-S) defined by an arc of a round-topped, overgrown, earthen bank (Wth 2.5m; int. H 0.5m; ext. H 0.5m) with an external fosse (Wth of base 2m; D 0.3m) surviving N-E, but the perimeter cannot be traced elsewhere.	1,900m northeast
LE027-071---	Enclosure	On the W-facing slope of a drumlin. Visible as an anomalous feature on aerial photographs (GSIAP, G 156-7). Overgrown subcircular area (diam. c. 25m E-W; c. 20m N-S) defined by a slight earthen bank (Wth 1.5m; H 0.25m).	1,790m northeast
LE027-070---	Enclosure	Located on a gentle W-facing slope. It is visible as a large circular feature on aerial photographs (OSAP: 4/1044-5). This is a grass-covered circular platform (diam. 84m N-S; 80m E-W) defined by an earthen	1,510m northeast

		bank (Wth 2.8m; int. H 0.4m; ext. H 0.8m) with some bushes and a slight fosse (Wth 3m) at S, and by a scarp (H 0.5-1m) elsewhere. It is bisected by an old E-W trackway towards the perimeter at S. Archaeological testing (05E0711) just to the SE produced no related material (Henry 2008).	
LE027-069--- -	Ringfort-rath	Situated on a low-lying landscape c. 60m from the E bank of a N-S section of the River Shannon at a point where it turns W. This is a grass and scrub-covered circular area (int. diam. 33.5m N-S; 32.5m E-W) defined by a round-topped and overgrown earthen bank (Wth 2.8m; int. H 0.35m; ext. H 0.65m) N-S-W and by a scarp (H 0.8m) elsewhere. A slight external fosse (Wth 1.9-2.4m; D 0.25m) is intermittently visible. There is an entrance (Wth 2.5m) and causeway at S.	1,450m northeast
RO007-063001-	Canal	Marked as a canal on the 1837 ed. of the OS 6-inch map, and situated on the W bank of the NNE-SSW River Shannon. A short stretch of canal (L c. 150m; Wth 8-12m; D 1-1.5m) aligned NNE-SSW cuts off a small wooded bend in the river (max. dims c. 150m NE-SW; c. 35m NW-SE) where there may have been shallows. This is part of the Lough Allen canal which was commenced by Col. Charles Tarrant after 1787 (Delaney 1992, 52). The work ceased shortly afterwards, although this portion was completed.	1,920m northeast
LE027-065--- -	Castle-unclassified	Located on the E bank of the River Shannon where it takes a slight curve to the W, probably because rock is diverting it. The castle is marked, though not named on the Down Survey (1655-6) barony map, and is described as 'Port Castle ruins' on Taylor and Skinner's map of 1788 (Andrews 1969, 234). The site is now occupied by a farmyard and there are no visible remains of a castle at ground level, although it is possible that fabric of a later medieval building such as a tower house could be incorporated into existing buildings. A fragment of a date stone of 1766 from Port Shan House in the boundary of the entrance to the house has the inscription: 'Laugh Lin / Glyn Undert / ake Er 1766' (McHugh 2018, 18). According to M'Parlan (1802, 111) Bryan Conyngham was then in residence but by the Griffith Valuation of 1856 George Latimer was the proprietor of the whole townland. Archaeological testing (18E0591) in the vicinity discovered a small spread of burnt stone, but no evidence of the castle came to light (McHugh 2018). See: Excavations.ie 2018:358	2,020m northeast
RO007-061-- --	Ringfort-rath	On top of a small drumlin overlooking the River Shannon c. 400m to the SE and Lough Naseer (max.	1,750m north-northeast

		dims c. 850m NE-SW; c. 200m NW-SE) c. 140m to the NW. Circular area (diam. 38m NW-SE) defined by a scarp (H 0.9m at W to 1.55m at E), with an outer fosse (Wth of top 4.8m; ext. D 0.1-0.2m) at NW. There is no visible entrance, but the interior is bisected by a NW-SE field wall and it is grass-covered SW of this and overgrown to the NE. Rath (RO007-060----) is c. 130m to the W.	
RO007-062-- --	Ringfort-rath	At the SW end of a low rise on the SE shore of Lough Naseer (max. dims c. 850m NE-SW; c. 200m NW-SE), c. 30m from the lake. D-shaped grass-covered area (dims 64 NE-SW; 54m NW-SE) defined by a scrub-covered scarp (H 0.75-1.2m). There is no visible fosse or entrance, but the perimeter is truncated by a NW-SE field bank at NE. Rath (RO007-060----) is c. 130m to the NE.	1,520m north-northeast
RO007-060-- --	Ringfort-rath	On the lower W-facing slope of a NE-SW drumlin ridge c. 30m from the SE shore of Lough Naseer (max. dims c. 850m NE-SW; c. 200m NW-SE). D-shaped overgrown area (max. dims 40m NE-SW; 30m NW-SE) defined by a scarp down to the interior (H 0.2-0.4m) NE-S (upslope) and an outer scarp (H 1.2-3m) elsewhere. There is no visible fosse or entrance. Rath (RO007-061----) is c. 130m to the E, and rath (RO007-062----) is c. 120m to the SW.	1,685m north-northeast
RO007-057-- -	Crannog	Towards the NE end of Lough Naseer (max. dims. c. 680m NE-SW; c. 200m NW-SE) where the lake is widest and c. 100m from the NW, NE and SE shores. Circular overgrown mound (diam. c. 20m; H 0.5m) of earth and stone. There is a fragment of a disc quern at the surface. Rath (RO007-058----) is c. 120m to the ENE on the shore	1,925m north-northeast
RO007-058-- --	Ringfort-rath	In a low-lying position c. 35m from the NE shore of Lough Naseer (max. dims c. 850m NE-SW; c. 200m NW-SE) with crannog (RO007-057----) c. 120m to the WSW. Circular overgrown area (diam. c. 27m) defined by fosse (Wth of top 4.5-4.7m; int. D 0.4-1m; ext. D 0.2-0.4m). There is no visible entrance. Rath (RO007-059----) is c. 190m to the E.	2,030m north-northeast
RO007-056002-	House-indeterminate date	The outline of a rectangular structure (int. dims 12.6m N-S; c. 10m E-W) defined by drystone tumble and which is open to the W is at the centre of rectangular enclosure (RO007-056001-)	1,800m north
RO007-056001-	Enclosure	Marked as a small rectangular feature only on the 1914 ed. of the OS 6-inch map, and situated at the bottom of a S-facing slope, just above the flood plain of Lough Naseer (max. dims c. 680m NE-SW; c. 200m NW-SE) c. 220m to the SE. Rectangular grass and scrub-covered area (dims 44m N-S; 37m E-W) defined by a scarp down to the interior (H 0.4m) at	1,800m north

		N, an external scarp (H 0.7m) overlain by a tumbled drystone wall at S, a field bank (Wth c. 5m; int. H 0.1m; ext. H 0.4m) at E, and a field bank (Wth c. 3m; int. H 0.1m) and drain at W which extend off to the N and S. The outline of a rectangular structure that may be a house (RO007-056002-) (int. dims 12.6m N-S; c. 10m E-W) defined by drystone tumble and which is open to the W is at the centre.	
RO007-052--	Ringfort-rath	On top of a small drumlin. Circular grass and rush-covered but poached area (diam. 27.5m N-S) defined by an overgrown earthen bank (Wth 4-5m; int. H 0.2-0.5m; ext. H 1-1.3m) and outer fosse (Wth of top 4m at N to 5.2m at E; D 0.1-0.3m). There is no visible entrance and field banks circumscribe the fosse S-W.	1,825m north
RO007-051--	Ringfort-rath	At the crest of the S-facing slope of a small drumlin. Circular grass and scrub-covered area (diam. c. 23m) which remains unplanted in a coniferous forest is defined by a scarp (H 0.2-1m). There is no visible entrance, but a bank and fosse were recorded in 1972 (Gannon 1972). Rath (RO007-050---) is c. 70m to the NW.	1,475m northwest
RO007-050--	Ringfort-rath	At the crest of the NW-facing slope of a small drumlin. Circular grass-covered area (diam. 21m N-S) defined by an earthen bank (Wth 4m; int. H 0.4-0.6m; ext. H 0.2-0.3m) E-S and a scarp (H 0.2m at S to 0.6m at N) elsewhere. There is no visible fosse or entrance. Rath (RO007-051----) is c. 70m to the SE.	1,570m northwest
RO007-079--	Ringfort-rath	On top of a low drumlin. Circular grass-covered area (diam. 22m E-W; 21m N-S) defined by an overgrown and eroded earthen bank (Wth 3.3-4m; int. H 0.15m at S to 0.45m at N; ext. H 0.85m at S to 1.2m at N). There is no visible fosse or entrance, but a drain skirts the perimeter NW-N.	1,240m northwest
RO007-076--	Ringfort-rath	On the summit of a drumlin. Circular grass-covered area (diam. 17m) defined by an earthen bank (Wth 2.7m; int. H 0.2-0.4m; ext. H 0.4-0.6m) E-S and a scarp (H 0.2m to 0.7m at NW) elsewhere, but the perimeter at NE is obscured by spoil. A back-filled fosse is visible as a band of wet ground (Wth 2-3m) E-SE and at NW. There is no visible entrance and a NW-SE field bank bisects the interior. Rath (RO007-074----) is c. 150m to the NW and rath (RO007-075-- --) is c. 120m to the NNE.	1,975m northwest
RO007-075--	Ringfort-rath	On the N-facing slope of a drumlin. Circular overgrown area (diam. c. 20-22m) defined by a scarp (H 0.6-1m), with a fosse (Wth of base 3-4m; D 0.2-0.4m) SE-SW. There is no visible entrance. Rath RO007-074----) is c. 160m to the W and rath (RO007-076----) is c. 120m to the SSW.	1,990m northwest

RO007-080-- --	Ringfort-rath	On top of a NE-SW ridge. D-shaped grass-covered area (dims c. 28m NE-SW; c. 25m NW-SE) in reclaimed pasture defined by a scarp (H 0.2-1m) SW-N-SE which is truncated by an ENE-WSW field bank at S. There is no visible fosse or entrance. Rath (RO007-082----) is c. 200m to the SSW.	1,165m west
RO007-082-- --	Ringfort-rath	On the S-facing slopes of a low NE-SW ridge. Oval grass-covered area (dims 26.5m N-S; 22.5m E-W) in reclaimed pasture defined by a scarp (H 0.2m at N to 1m at S). There is no visible fosse or entrance. Rath (RO007-080----) is c. 200m to the NNE.	1,275m west-southwest
RO007-103-- --	Rinfort-rath	Situated in a slight hollow. It was first identified by Susan Curran as part of an M.A. thesis with University College Dublin using a LiDAR survey dataset commissioned by Leitrim County Council and the National Roads Authority. This is a circular grass and rush-covered area (diam. 24m NW-SE; 22m NE-SW) defined by a shallow fosse that is best preserved (at NE: Wth of top 4m; Wth of base 1.5m; int. D 0.2m; ext. D 0.1m) NE-S-SW. There is no identifiable original entrance. It is overlain by a NE-SW field bank and barely traceable NW of this feature. The fosse is slightly curtailed by a NW-SE field bank at SW.	1910m west
RO007-077-- --	Ringfort- cashel	Marked as a circular embanked enclosure (ext. diam. c. 35m) only on the 1837 ed. of the OS 6-inch map, and situated on level ground with rock-outcrop. It is not visible at ground level, and the site is now occupied by a farmhouse and yard. It may have been a cashel. Rath (RO007-078----) is c. 140m to the SSW.	1,720m west
RO007-078-- -	Ringfort-rath	On a low knoll in a flat, low-lying landscape. Subcircular grass-covered area with trees on the perimeter S-W-N (dims 22m N-S; 19m E-W), which has an uneven interior defined by a scarp (H 1.1-1.3m). There is no visible fosse or entrance. Ringfort (RO007-077----) is c. 140m to the NNE.	1810m west
RO007-081-- --	Ringfort-rath	At the SW end of a low NW-SE ridge. D-shaped grass-covered area (dims 26.5m E-W; 20m N-S) defined by an earthen bank (Wth 3m; int. H 0.2-0.3m; ext. H 0.2-0.3m) N-ENE and a scarp (max. H 0.8m) S-W, but there is no evidence of the perimeter W-N. There is no visible fosse or entrance, and a disused NE-SW laneway truncates the perimeter at SE (L c. 15m).	1588m west-southwest
LE031-001--- -	Ringfort-rath	Located towards the top of the W-facing slope of a drumlin. This is a grass and rush-covered circular area (diam. 25.8m N-S; 25.1m E-W; int. dims 23.5m N-S; 21m E-W) defined by a grass-covered earthen bank (at N: Wth of base 4.1m; int. H 0.1m; ext. H 0.6m) and an external fosse (at N: Wth of base	1,195m south

		2.3m; ext. D 0.3m) largely traceable as a band of rushes, with an outer bank (Wth of base 2m; ext. H 0.2m) NE-E. The original entrance is not identified, and the fosse at SE is truncated by a NE-SW field bank.	
LE031-002001-	Hut site	Located towards the top of the E-facing slope of a prominent drumlin. Archaeological testing and excavation (05E1267) identified a possible prehistoric hut-site c. 40m to the SW of the rath (LE031-002----). It was completely excavated under the same licence and consisted of a curving gully (Wth 0.36-0.48m; D 0.07-0.22m) enclosing about two thirds of a circle. No artefacts were recovered from it and nor was there evidence of a hearth or an entrance, but a chert scraper was found c. 20m to the E. its exact location is not known. (Read 2008).	1,140m south
LE031-002---	Ringfort-rath	Located towards the top of the E-facing slope of a prominent drumlin. This is a grass-covered circular area (int. diam. 29m E-W; 28m N-S) defined by the slight remains of an earthen bank (Wth 3m; H 0.15m). No fosse or original entrance was noted. Archaeological testing (01E0702) c. 80m to the E at a development site (dims c. 65m E-W; c. 50m N-S) produced no related material (Read 2003). Further testing and excavation (05E1402) identified a possible prehistoric hut-site (LE031-002001-) c. 40m to the SW. The location of this rath was excluded from the development and it is now preserved under grass (Read 2008). The above description is derived from 'The Archaeological Inventory of County Leitrim' compiled by Michael J. Moore (Dublin: Stationery Office, 2003). In certain instances the entries have been revised and updated in the light of recent research.	1,100m south
LE031-099---	Ringfort-rath	On the bank of the River Shannon. Indicated as a circular enclosure (diam. c. 50m) on the 1st ed. OS 6-inch map where it is named 'Fort'; it is represented as a circular enclosure on the latest edition of the OS 6-inch map. Described as the remains of an earthen bank (Wth c. 3m; H c. 0.8m) surviving NW-E (C c. 30m) (OSFM), the site is now occupied by a waterworks.	1,950m south
LE031-003---	Ringfort-rath	Located on flat ground on a gentle S-facing slope. It is not depicted on any OS map but it is visible as a circular feature on aerial photographs (GSIAP: G 151-2; OS 4/1042-3) and some later series. This is a grass and rush-covered circular area (int. diam. 41m NW-SE) defined by a grass-covered earthen bank (Wth of base 3m at W to 4.5m at NNE; int. H 0.2m) and an external fosse (Wth of base 1.5m) visible as	1,275m south-southeast

		a band of rushes or lush vegetation. It is slightly truncated by a NW-SE field bank at SW but the perimeter can be traced as a low rise in the field to the SW. An entrance (Wth of base 2.4m) at NNW could be original.	
LE031-105---	Ringfort-rath	Situated at the top of the S-facing slope at the S end of a NE-SW drumlin ridge. It was first identified by S. Curran from a LiDAR survey conducted for Leitrim County Council in advance of a proposed by-pass on the N4 around Carrick-on-Shannon. It is traceable as a circular or D-shaped grass-covered area (diam. c. 38m N-S; c. 35m E-W) defined by a slight bank (Wth 4-6m; H 0.1-0.3m) at N and E and by a slight scarp E-S (max. H 0.7m). There is no evidence of a fosse or entrance	1,160m south-southeast
LE031-113---	Ringfort-rath	Located towards the top of a NW-facing slope in improved pasture. It was first identified by Susan Curran as part of an M.A. thesis with University College Dublin using a LiDAR survey dataset commissioned by Leitrim County Council and the National Roads Authority. This is a circular area (diam. 21m NE-SW; 20m NW-SE) defined by the slight remains of an earthen bank (at NE: Wth of base 6.6m; Wth of top 2.5m; int. H 0.3m; ext. H 0.1m), which is reduced to an external scarp (Wth 2.1m; H 0.15m) W-N. There are traces of a fosse (at NE: Wth of top 5.6m; Wth of base 2.0m; ext. D 0.25m) N-E-S, on the upslope side. There is no recognisable entrance.	1,060m southeast
LE031-004---	Megalithic structure	Located in pasture on the SE-facing slope of a drumlin and on the SW side of a NW-SE field bank. It is described as a 'Grave' in gothic lettering on the 1835 edition of the OS 6-inch map and as the site of a Grave on the 1945 revision. It was described as two large upright stones (OS Name Book, No. 84, 241), but it is not visible now at ground level in pasture.	1,230m southeast
LE027-102---	Ringfort-rath	Located on the NW-facing slope of a NE-SW drumlin ridge. This is an overgrown circular area (int. diam. c. 25m) defined by an earthen bank (at NE: Wth 2.3m; int. H 0.5m; max. ext. H 1.1m), with a slight external fosse (Wth 2m) visible at NE. The original entrance is not identified. Rath (LE027-103---) is c. 50m to the SE.	1,110m southeast
LE027-103---	Ringfort-rath	Located in reclaimed pasture on the NE-facing slope of a NE-SW drumlin ridge. This is a grass-covered circular area (int. diam. c. 22m) defined by a band of light vegetation on the site of the bank (Wth 4m) and the lush vegetation of an outer fosse (Wth 3-4m). The original entrance is not identified.	1,180m southeast

