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Archaeological Programme of Works for Phase 3.1 & 3.2 of Ulster Canal Restoration

Castle Saunderson - Gortnacarrow - Clonoony

Co Fermanagh

commissioned by

Doran Consulting

on behalf of

Waterways Ireland

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**Archaeological Programme of Works
For Phase 3.1 & 3.2 Ulster Canal Restoration,
Castle Saunderson - Gortnacarrow - Clonoony
Co Fermanagh**

Planning Ref: L/2011/0833/F

Summary

The following Programme of Works has been carried out by FarrimondMacManus Ltd in relation to a proposed restoration of a c.2.5km section of the former Ulster Canal between Wattlebridge in the west to Gortnacarrow to the east. The archaeological programme of works has been compiled in response to planning conditions imposed upon grant of planning approval (L/2011/0833/F).

A previous Archaeological Impact Assessment carried out as part of an EIA for the scheme confirmed that the proposed development area is located within a wider archaeological landscape with fifteen SMR and IHR sites within 1km of the proposed scheme and 9 Historic Building within 250m of the proposed scheme. One Industrial Heritage / Historic Building site – Wattlebridge Bridge is located within the scheme boundary, while the scheme itself extends along the alignment of the former Ulster Canal.

An assessment of the impact which the proposed scheme may have on any archaeological remains which may survive within its boundaries of the development has been carried out and a mitigation strategy aimed at minimising any potential adverse archaeological impact the proposed development may have is therefore proposed. It is proposed to carry out archaeological monitoring of both river dredging and land based topsoil stripping / ground reduction on those portions of the scheme which remains greenfield in nature. The aims of the archaeological monitoring area to establish the presence or absence of archaeological remains in those areas which will be disturbed by the proposed scheme and to allow for their appropriate mitigation either through in situ preservation or through archaeological excavation and recording in accordance with the attached planning conditions.

1. Introduction

1.1 This Programme of Works was prepared in April 2026 by FarrimondMacManus Ltd having been commissioned by Doran Consulting in relation to archaeological conditions imposed upon grant of planning approval for Restoration of the Ulster Canal between Lough Erne, Co Fermanagh to Clones, Co Monaghan (planning ref: LA02/2024/0269/F). The following programme of works is based upon a previous archaeological impact assessment carried out as part of the EIA report for the scheme and relates to Phase 3.1 & 3.2 section of the scheme between Castle Saunderson to Gortnacarrow and has been compiled in accordance with Condition 17 of the planning approval.

1.2 Condition 17 of the planning approval require that;

No site works of any nature or development shall take place until a developer-funded programme of archaeological work, has been implemented, in accordance with a written scheme and programme prepared by a qualified archaeologist, submitted by the applicant and approved by the Department of the Environment (Planning). The programme should provide for the identification and evaluation of

archaeological remains within the site, for mitigation of the impacts of development, through excavation recording or by preservation of remains, and for preparation of an archaeological report.

1.3 Condition 18 of the planning approval requires that;

No site works of any nature or development shall take place until appropriate fencing has been erected around specified areas to be agreed with the Department's NI Environment Agency: Historic Monuments Unit. No works of any nature or development shall be carried out within the areas to be fenced including no erection of huts or other structures, no storage of building materials, no dumping of spoil or topsoil or rubbish, no bonfires and no turning or parking of plant or machinery. The fence shall not be removed until the site works and development have been completed.

1.4 Condition 19 of the planning approval requires that;

Access shall be afforded to the site at all reasonable times to any archaeologist nominated by the Department to observe the operations and to monitor the implementation of archaeological requirements.

2. Legal and Statutory Policies Relating to the Protection of Cultural Heritage

2.1 The legal framework which provides for the protection of the archaeological and cultural heritage resource in Northern Ireland consists of various national and international laws and policies. The Historic Monuments and Archaeological Objects (NI) Order 1995 is central to this framework and provides for the protection of a number of categories of monuments;

- National monuments in the ownership or guardianship of the State i.e., in State Care.
- Historic monuments or archaeological areas which are scheduled for protection and which are under private ownership.

2.2 The provisions of the Historic Monuments and Archaeological Objects (NI) Order are further supplemented by the 1992 "European Convention on the Protection of the Archaeological Heritage" (commonly known as the 'Valletta Convention') which was ratified by the UK in 2000. The aim of the Convention is to 'protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study' (Article 1). The Convention provides the basic framework for policy on the protection of the archaeological heritage with specific regards to the role of integrated planning policies as laid out in Article 5 of the convention whereby each member state undertakes to:

- i. seek to reconcile and combine the respective requirement of archaeology and development plans by ensuring that archaeologists participate:
 - a. in planning policies designed to ensure well-balanced strategies for the protection, conservation and enhancements of sites of archaeological interest
 - b. in the various stages of development schemes
- ii. to ensure that archaeologists, town and regional planners systematically consult on another in order to permit:

- a. the modification of development plans likely to have adverse effects on the archaeological heritage
- b. the allocation of sufficient time and resources for an appropriate scientific study to be made of the site and for its findings to be published
- iii. to ensure that environmental impact assessment and the resulting decisions involve full consideration of archaeological sites and their settings
- iv. to make provision, when elements of archaeological heritage have been found during development work for their conservation in situ when feasible.

2.1 The Historic Environment Division within the Department for Communities (DfC:HED) keeps a record of all known monuments and sites (the Northern Ireland Sites and Monuments Record (NISMR)). Any site identified in the NISMR is defined as a site of archaeological interest in the Planning (General Development) Order (NI) 2015. Within the context of the Planning Order of 2015 the protection of archaeological monuments and objects, including those listed as in State Care, Scheduled monuments, SMR sites and those as yet unidentified sites is managed through Local Development Plans, in particular in particular Policies HE01 & HE05 of Fermanagh and Omagh District Council Local Development Plan 2030.

2.3 Architectural and Built Heritage

2.3.1 The protection of the architectural and built heritage resource in Northern Ireland is legislated through Article 42 of the Planning (NI) Order 2015, whereby the DfC:HED is obliged to compile a list of buildings of special architectural or historic interest, the protection of which is provided under Article 44 of the Order. Relevant planning policy guidelines relating to the protection of these buildings in terms of demolition, change of use, extension / alteration and their setting are provided for in Local Development Plan Policy Guidelines. In this instance Policy HE02 of Fermanagh and Omagh District Council Local Development Plan 2030.

2.3.2 The industrial heritage of Northern Ireland is also taken into consideration as part of Local Development Plan guidelines and as such may be considered within the planning policy under the existing policies relating to archaeological sites and monuments or listed buildings.

2.3.3 The Fermanagh and Omagh District Council Local Development Plan 2030 recognizes that proper planning and sustainable development includes objectives for the protection of the archaeological heritage. Development plans may include such objectives and conditions relating to archaeology may be attached to individual planning permissions.

3. **Methodology**

3.1 The following archaeological programme of works is based upon the Cultural Heritage section of the previous EIA report for the scheme and includes an update of all cultural heritage records to reflect current baseline conditions. Available historical mapping was consulted and all sites and monuments, industrial heritage sites, defence heritage sites and listed buildings within the vicinity of the proposed development area (PDA) were noted.

3.2 A site visit was also carried out as a means of verifying the results of the desktop survey and to assist in the interpretation of the archaeological landscape and identification of areas of archaeological potential within the development area.

4. Site Location

- 4.1 The proposed scheme is located within southern County Fermanagh approximately 14km to the south of the town of Lisnaskea, Co Fermanagh and 8km to the southwest of the town of Clones, Co Monaghan (fig. 1). The scheme is located in a rural area of Co Fermanagh (fig. 2). The eastern section of the proposed scheme extends across rural fields while the western portion of the scheme incorporates the River Finn channel for a distance of c.1.5km.

5. Proposed Scheme

- 5.1 Phase 3.1 & 3.2 of the proposed scheme comprises plans to reinstate c.1km section of the former Ulster Canal navigation to link to a c.1km section of the River Finn between Castle Saunderson and Gortnacarrow, Co Fermanagh (figs. 3a – 3d). This will include;
- River Finn dredging works and creation of a 13m wide navigation channel
 - Upgrade to Wattlebridge Bridge and construction of access roads
 - Upgrade to Clones Road Bridge and construction of access roads
 - Creation of a new canal channel between Gortnacarrow and Clonoony
 - Construction of Gortnacarrow Locks and Amenity Area and Gortnacarrow Bridge and new Tow Path

6. The Archaeology of the Wider Area

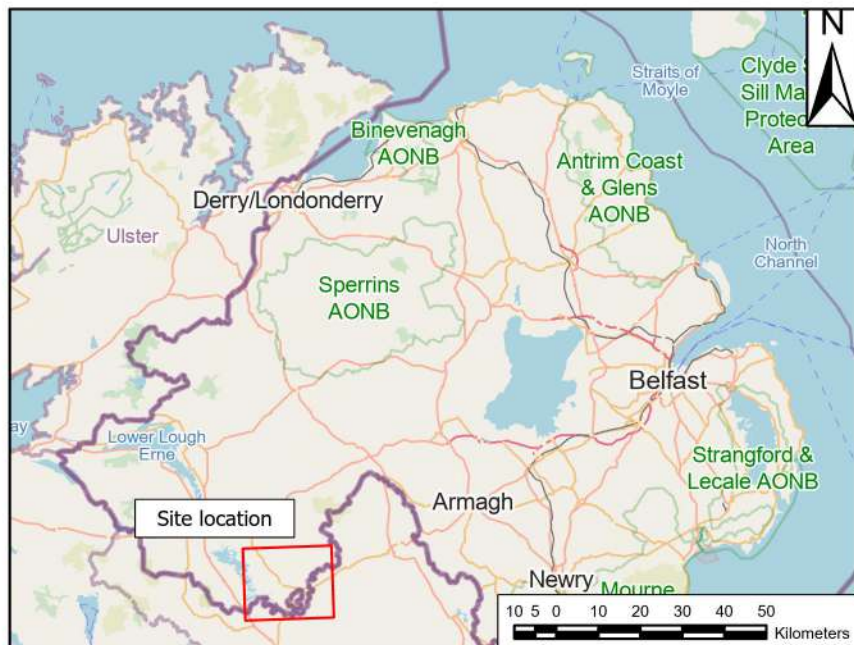
- 6.1 The following background is a brief summary of the archaeology and history of the general area of the development, which is designed to put the results of the investigations into their archaeological and historical context.

6.2 Mesolithic (7,500 – 4,500 BC)

- 6.2.1 The earliest evidence of human activity in Ireland comes from the Mesolithic Period, for which evidence begins around 7,500 BC. The people were hunters and gatherers, living by catching wild animals, birds and fish and collecting wild fruit, nuts and shellfish. They exploited local outcrops of flint and chert to manufacture characteristic microliths (to form composite implements), Larnian blades and butt-trimmed (Bann flake) tools. There are a number of Mesolithic sites in the vicinity of the PDA including an industrial site in Larne (SMR No. ANT040:116).

6.3 Neolithic (4,500 – 2,500 BC)

- 6.3.1 The Neolithic Period began around 4,500 BC with the arrival of farming, introducing cattle and cereals such as wheat and barley into the Irish landscape. The introduction of a settled agricultural regime allowed some industrial specialisation (flint mining, polished stone axe production), the establishment of long-lasting settlements and the erection of megalithic tombs. Pottery was produced for the first time and exploitation of the flint resource continued for the manufacture of tools with a flint factory found at Black Mountain in the Belfast Hills. However, there was also a change in the type of tools used from that of the preceding Mesolithic period; the most notable of which were the range of flint scrapers and hunting tools such as leaf-and lozenge-shaped flint and chert arrowheads and polished stone axes for woodworking. A good example of this range of pottery and stone tools was retrieved from a passage tomb at Kiltierney (SMR No. FER154:002) which was excavated by Laurence Flanagan in 1969.



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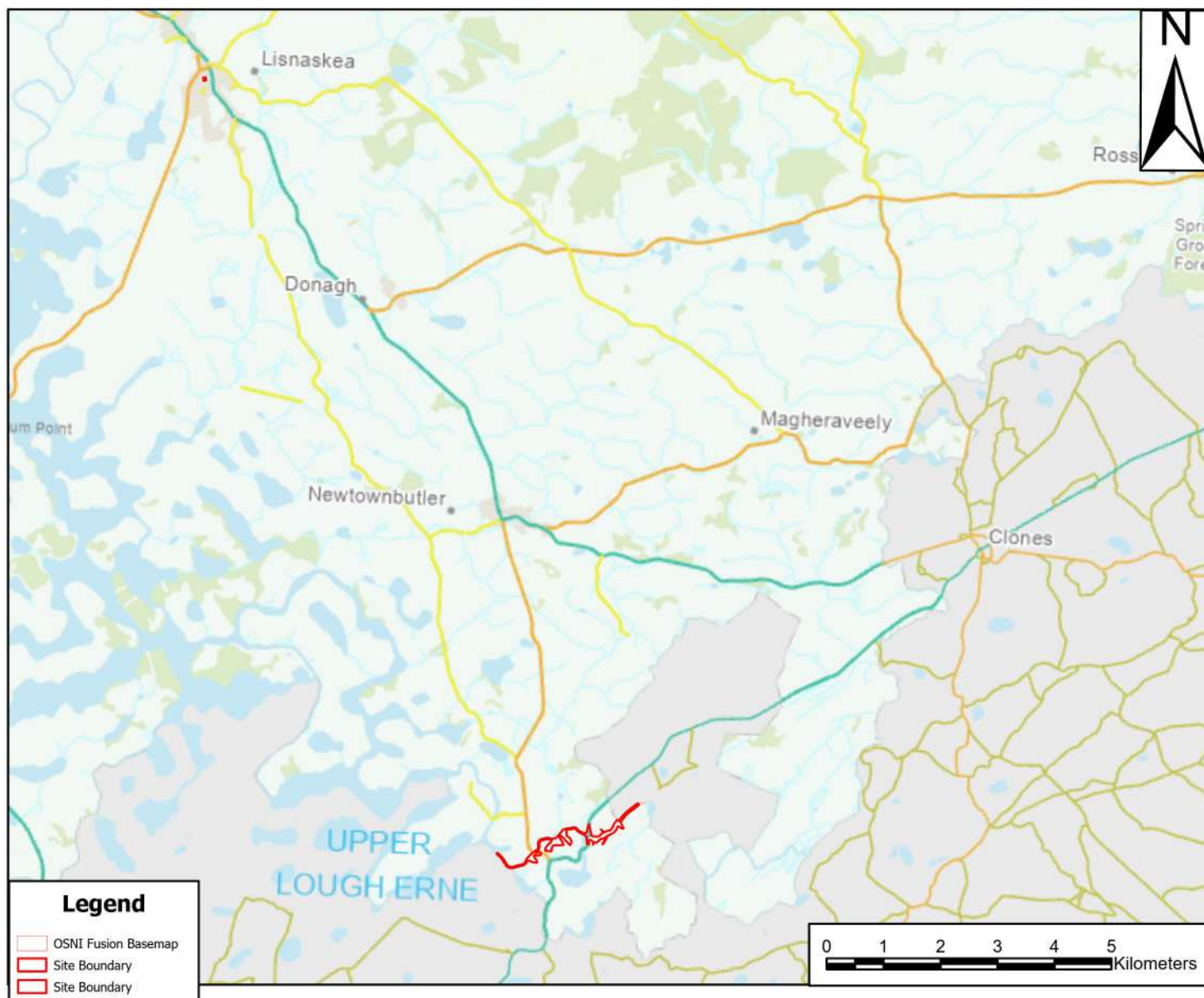


Figure 1: Proposed Ulster Canal Restoration Phase 3.1 & 3.2: General site location

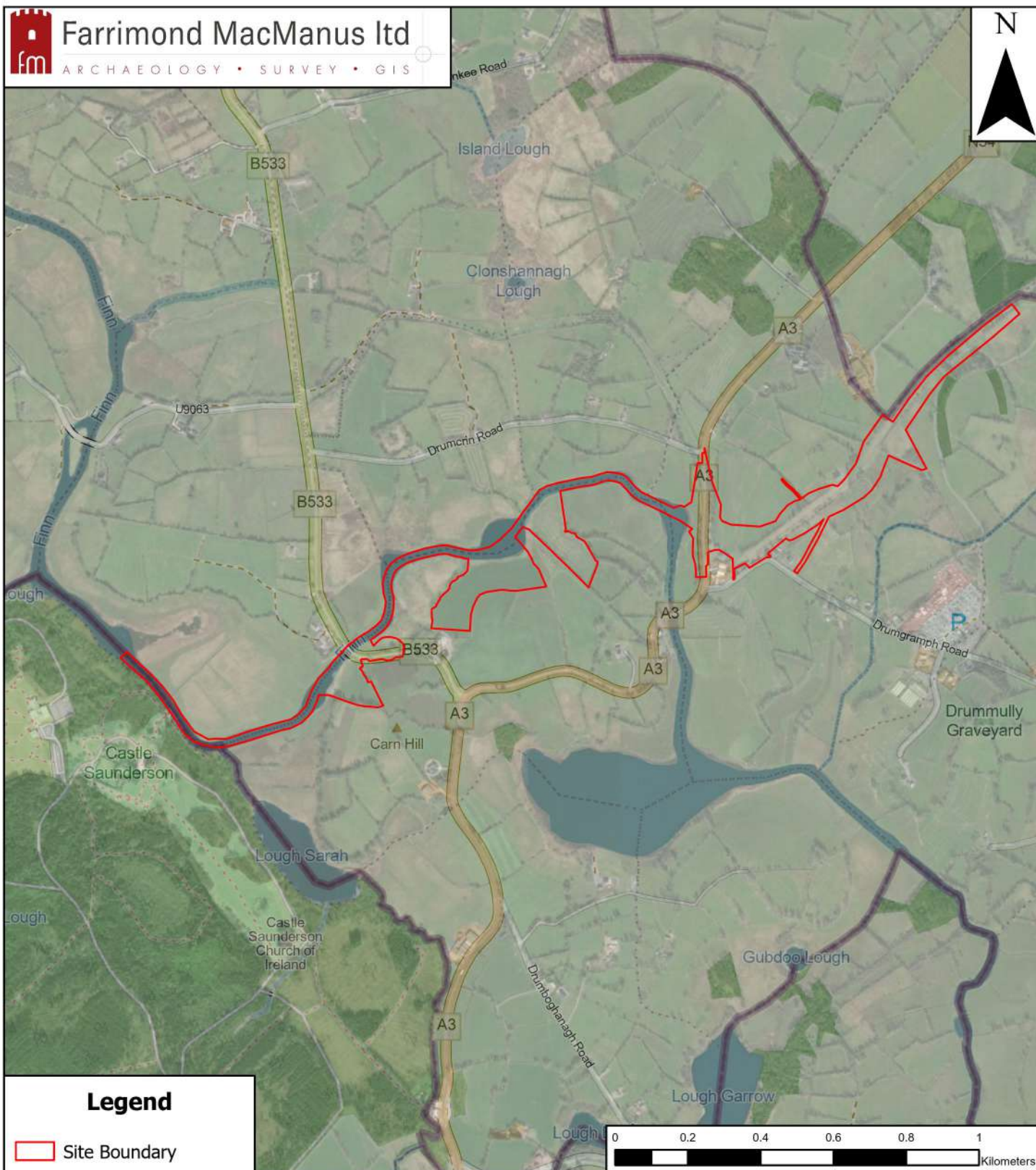
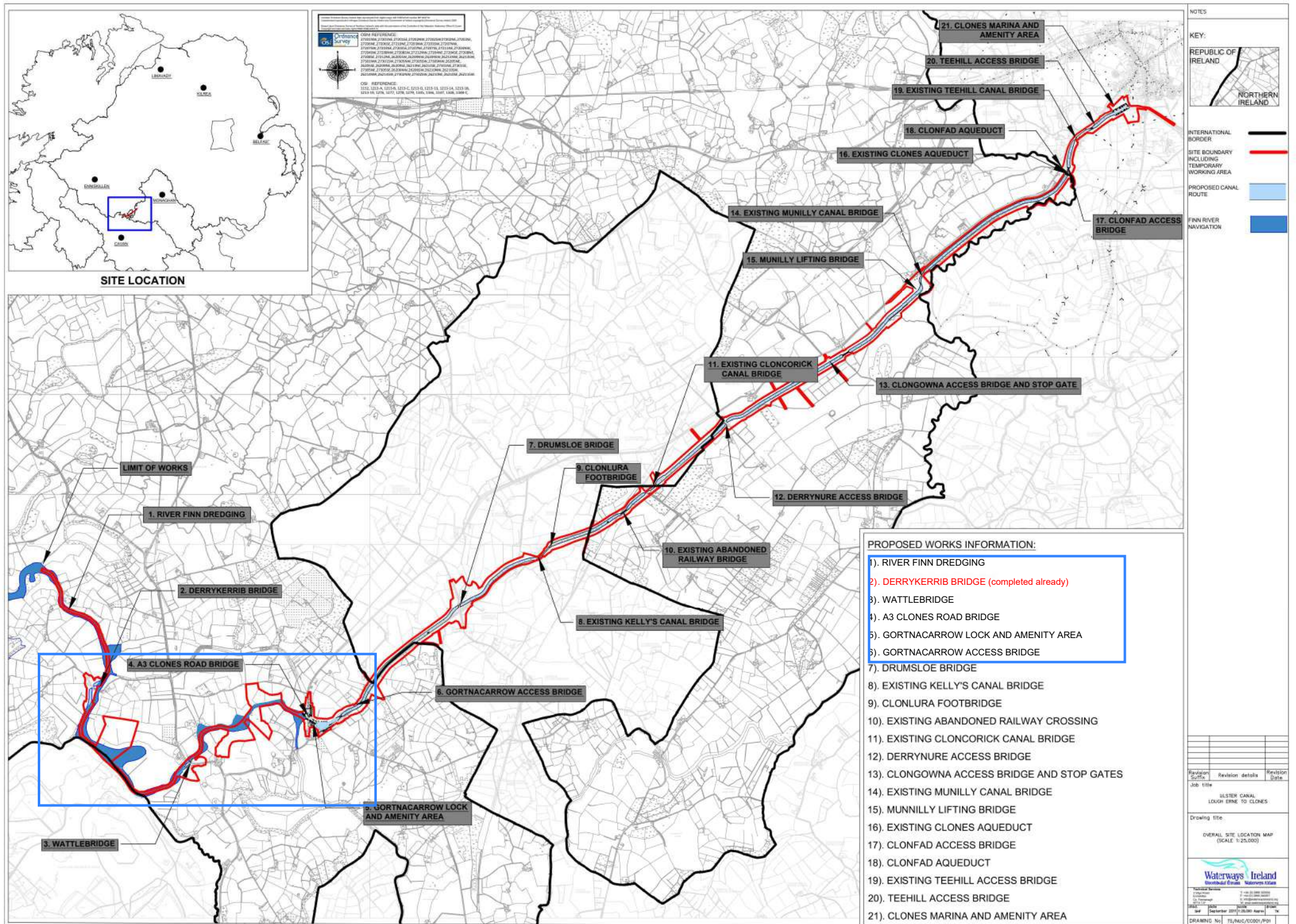


Figure 2: Proposed Ulster Canal Restoration Phase 3.1 & 3.2: Detailed site location



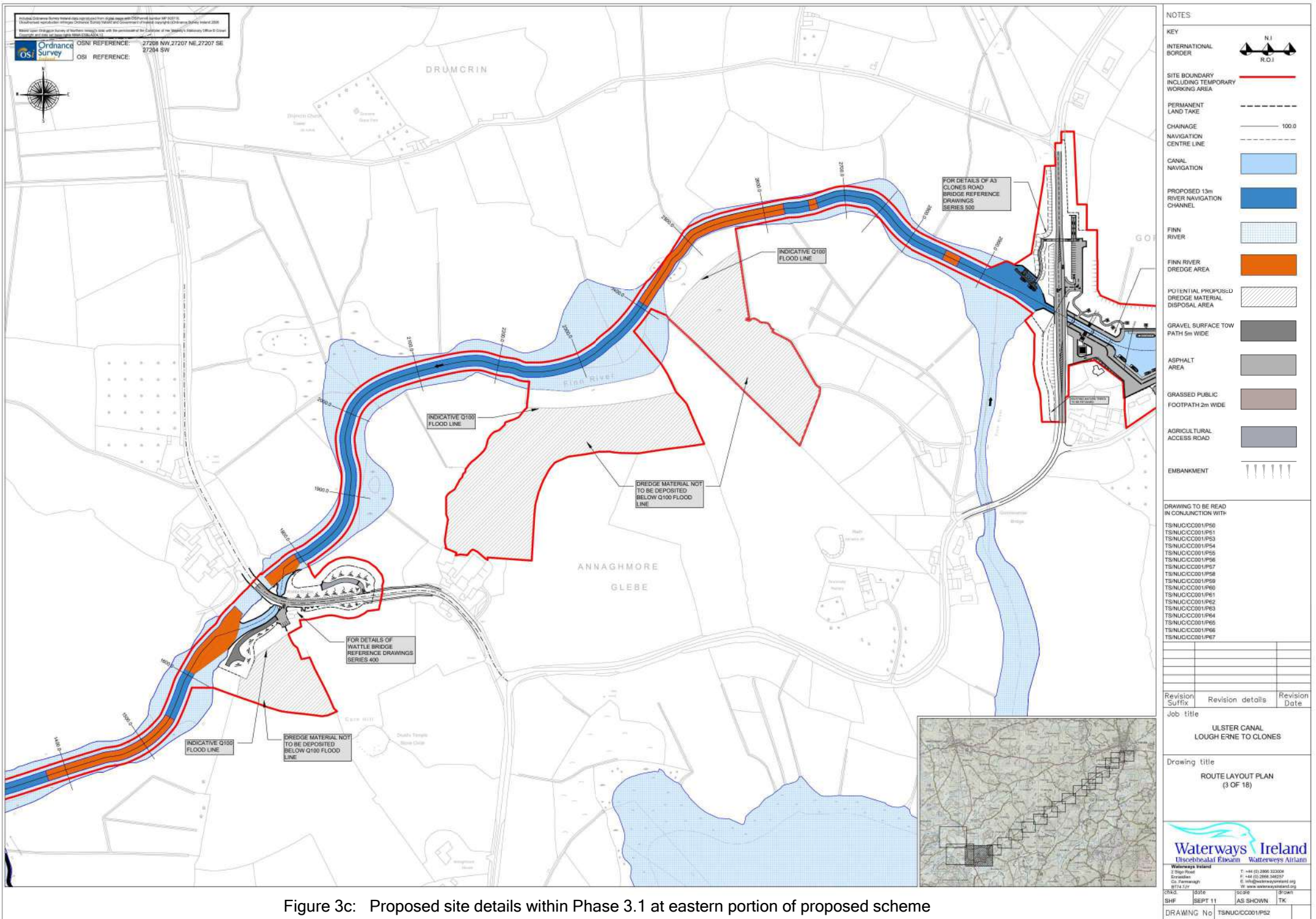
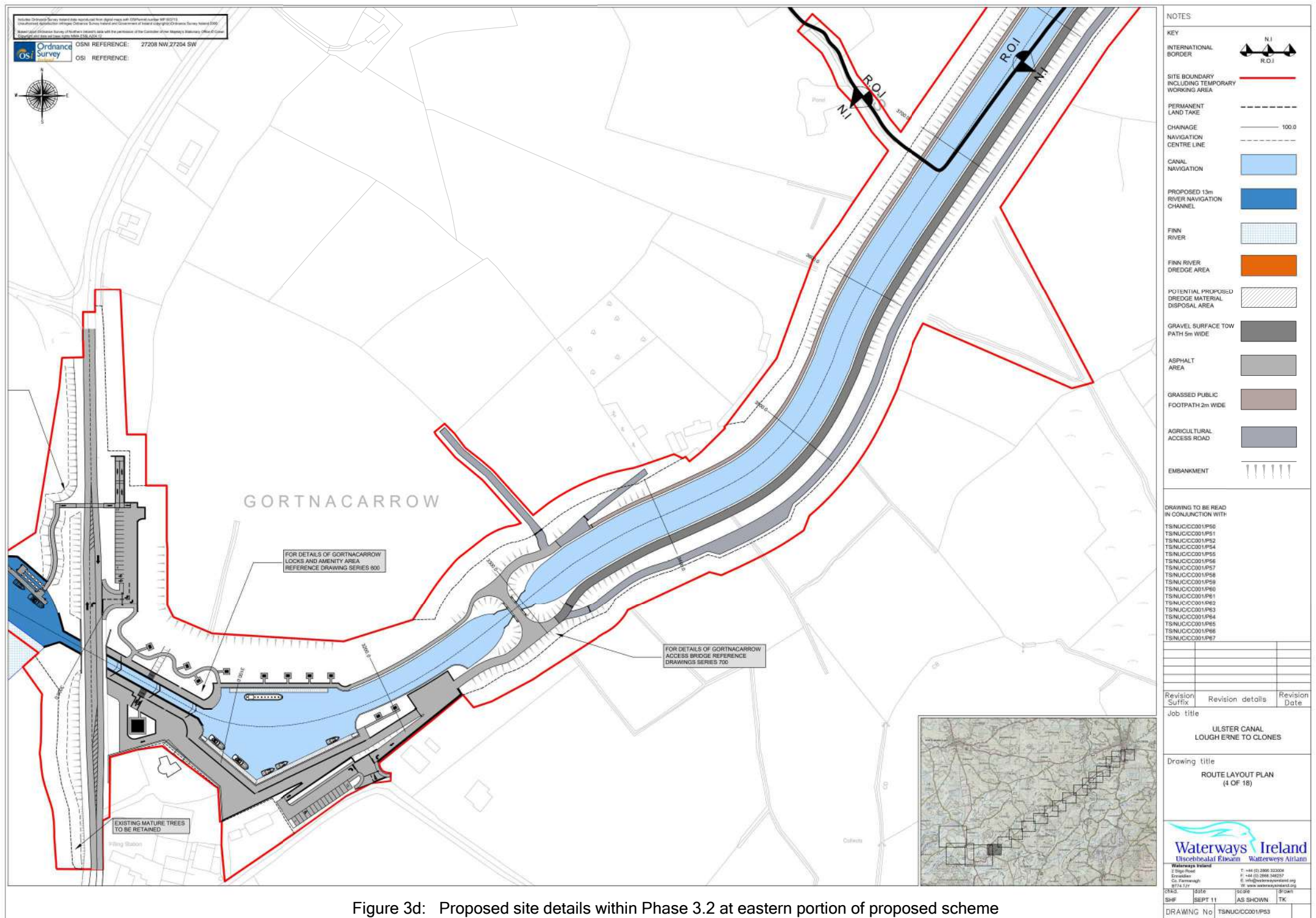


Figure 3c: Proposed site details within Phase 3.1 at eastern portion of proposed scheme



6.3.2 Substantial houses and settlements were constructed and, while many such sites have been discovered in the last 10 years, none of those have been in the region under discussion. Neolithic settlements leave little or no trace on the ground surface and are therefore difficult to spot outside excavation. In recent years, the requirement for archaeological supervision during top soil stripping on green field sites has uncovered substantial Neolithic settlements. One such site was excavated in nearby Ballygalley (SMR No. ANT035:054). Visual indicators of Neolithic activity are the burial and ritual monuments such as standing stones and are generally a good indication of prehistoric activity in an area. Archaeological activity in the area is demonstrated through the Neolithic period, from about 4000 to 2500BC, by the presence of megalithic tombs and other funerary sites. These Megalithic tombs, built of large stones, are some of the most prominent sites in the landscape and several types are to be seen in the general area.

6.4 Bronze Age (2,500 – 500BC)

6.4.1 The beginning of the Bronze Age, around 2,500 BC, was marked by the appearance of new types of pottery (Beakers, Food Vessels and Urns) and by the introduction of metallurgy (working with gold and bronze). The first metal objects were made initially from copper. Indeed, excavations at Rosse Island, Killarney, Co. Kerry, have revealed the earliest copper mines found to date in the British Isles. Refinement of this technology led to the introduction of bronze, itself a copper alloy, with bronze objects found within Irish contexts including weapons (axes, swords, spearheads and halberds), knives and decorative objects such as cauldrons and jewellery. Gold working also developed throughout this period with particularly fine examples of high status objects such as torcs, *lunulae* and bracelets being produced. Flint tools (arrowheads, spearheads, knives and scrapers) continued to be used, however, throughout the period.

6.4.2 Much of the evidence relating to the Bronze Age comes from burial sites. The burials themselves may be either cremation or inhumation in type and were often placed within a simple pit or sometimes in a more complex stone lined cist, although wedge tombs also date from this period. The burials were often accompanied by grave goods, most commonly consisting of small, decorated pots known as food vessels, although grave goods may also include semi-precious stones, jewellery or weaponry.

6.4.3 In the Later Bronze Age, cremation in pits or occasionally within small circular barrows (circular ditch surrounding a low central mound), became the more dominant burial type. Grave goods are less frequently associated with these burials. Stone circles are probably the best-known monuments of the Bronze Age. Standing stones are sometimes assigned a Bronze Age date and may mark burials of the period.

6.4.4 Settlement sites of the Bronze Age are being revealed at a dramatic rate in recent years; the houses generally leave no visible traces on the surface. The evidence for house structures from the Bronze Age suggests that the majority were circular in plan, with south or east facing entrances, and occasionally, porches. Their roofs were probably conical and thatched, supported by internal posts or load-bearing walls. Generally, hearths were external to the houses. Nearby Ballygalley Hill (ANT035:017) may be a Bronze Age promontory fort.

6.4.5 Many artificial islands, or crannogs, also date to this period; composed of brushwood, timbers and stone, they are found in small lakes and areas of drained and reclaimed land. The most numerous monuments of the period, however, are *fulachta fiadh*, or burnt mounds, composed of charcoal, ash and fire-cracked stones; thought to be cooking places, they often have hearths, troughs and wood-lined pits associated with them. The majority of these sites have no upstanding remains and are usually

revealed at the topsoil-stripping stage of archaeological investigations.

- 6.4.6 Large defensive hilltop enclosures / hillforts, sometimes associated with settlements, and located in prominent positions also appear in the archaeological record for the Late Bronze Age.

6.5 Iron Age (500BC – 500AD)

- 6.5.1 Evidence of human activity and settlement in the Iron Age is surprisingly sparse, though more sites are gradually being discovered. However, the evidence so far uncovered suggests that circular houses continue to have been used, while cremation burials in simple pits or small ring barrows remained the dominant burial type.
- 6.5.2 Important Iron Age sites include Navan Fort and the Dorsey, both large earthworks in County Armagh. As the name indicates, it was during this period that the manufacture and use of iron and steel tools, weapons and other artefacts first took place, though the tradition of pottery production apparently disappeared.
- 6.5.3 The Iron Age period is also associated with the arrival of the Celts in Ireland from mainland Europe and although a Celtic language became established on the island, evidence for a large scale invasion or migration has yet to be identified in the archaeological record.

6.6 Early Christian / Early Medieval (500AD – 1177AD)

- 6.6.1 In Northern Ireland the term 'Early Christian' is used to refer to the period from about 500AD to the Anglo- Norman invasion of east Ulster in 1177, though it is being increasingly referred to as the Early Medieval period. Monuments from this period are the most numerous in the landscape, with tens of thousands in the whole of Ireland. These include raths and souterrains, cashels, further crannogs, promontory forts, unenclosed settlements and ecclesiastical sites.
- 6.6.2 The most plentiful of these are raths, which were farmsteads enclosed by banks and ditches. The total number of raths found across Ireland is estimated to be around 30 – 40,000, though this is probably an underestimate.
- 6.6.3 Many of the destroyed sites listed as enclosures in the SMR are probably the remains of raths disturbed by agricultural improvement schemes. Rathes are generally circular or oval but vary in size and in the number of enclosing banks and ditches. A typical rath would be delineated by a bank 35m – 40m in diameter with an outer ditch, though variations of this include a platform rath, a raised rath, bivallate and trivallate raths. Excavations have dated raths to 500 - 1100AD and have uncovered houses of wattle, plank, stone, mud or sod, sometimes with a series of outbuildings within their interior. There are two raths within the study area (ANT035:040 and ANT035:041).
- 6.6.4 Cashels are enclosures in rocky upland areas, of similar date and function as raths but with stone-built walls instead of banks and ditches.
- 6.6.5 Associated with such sites are souterrains. Abundant in County Antrim, they are underground structures most commonly made by digging open trenches, lining them with boulders to form dry-stone walls, and then roofing them with large stone lintels before covering them with soil. Due to the removal of associated upstanding remains, many souterrains are found with no obvious accompanying settlement; these are difficult to anticipate prior to their exposure.
- 6.6.6 As is clear from the name, this period saw the introduction of Christianity, and subsequently literacy into Ireland and, therefore, the start of the historic period. There are several hundred ecclesiastical sites of the period within Northern Ireland, varying greatly in size and state of preservation. Some are occupied by modern churches, some are still used for burial, some have been completely destroyed.

6.6.7 While the earliest church organisation was diocesan, monastic organisation developed from the 6th and 7th centuries. These monastic buildings ranged greatly in size and complexity depending on the services offered to the local community - ministering, education, hospital, hospitality and shelter. The earliest buildings were often constructed from timber and can only be recovered during careful excavation. Stone churches, often built over earlier foundations, generally date from the 9th century and can be associated with stone carved crosses, bullaun stones, round towers and water mills.

6.7 Late Medieval (1177AD – 1603AD)

6.7.1 The Late Medieval period in Ireland began with the Anglo-Norman invasion in 1169-70, and in Northern Ireland by the conquest of east Ulster by John de Courcy in 1177. Although Antrim and Down were quickly subdued and settled, there was no expansion further west at the time and gradually the frontier was pushed back. The Anglo-Normans introduced new types of structures, prominent among which were mottes (flat-topped earthen mounds), stone castles and further monastic foundations. Fortifying their position, stone castles, tower houses and keeps were constructed as important military and administrative centers. There is a Scheduled Motte within the boundaries of the proposed development area (ANT035:018) and other mottes nearby.

6.8 Post Medieval (1603AD – 1750AD)

6.8.1 The post-medieval period was dominated by the Plantation of Ulster. After the Flight of the Earls in 1607, large tracts of Counties Antrim, Down and Londonderry were granted by the Crown to English and Scottish settlers in 'Proportions' of land of 1,000, 1,500 or 2,000 acres, on condition that the holders were able to build strong houses and enclosures. These in turn acted as the nucleus for the growth of towns.

6.8.2 In the late 16th and early 17th centuries, Elizabeth I and James I tried to control the rebellious native Irish aristocracy by confiscating their lands and dividing it among new settlers - planters, brought specifically over from Scotland and England. The plantation period saw the introduction of strong houses and enclosures to house the new settlers in their unfamiliar and potentially hostile surroundings. Town defenses were usually provided by earthen ramparts, stone walls and enclosing ditches

6.8.3 Although there had been earlier plantations throughout Ireland which had succeeded in confiscating land and grafting on a new aristocracy, the Plantation of Ulster in 1609 was comprehensive. The six Counties of Armagh, Fermanagh, Coleraine, Cavan, Tyrone and Donegal were all systematically planted. Land was allocated to a series of 'Undertakers', landlords who undertook to bring in Scottish and English colonists, settle them in fortified villages, house them and arm them. Land was also granted to 'Servitors', soldiers who had served the Crown in the wars of the 1590s as a reward for their loyalty. The village of Ballygalley dates back to the plantation period and Ballygalley Castle was built in 1625 by a Scottish planter (ANT035:015).

7. Archaeological Desktop Study

7.1 Northern Ireland Sites and Monuments Record / Records of Monuments and Places (RMP)

- 7.1.1 Consultation of the Northern Ireland Sites and Monuments Record (NISMR) and Ireland Records of Monuments and Places files for the area revealed 15 known archaeological sites within a 1km radius of the proposed development, two of which are Scheduled Monuments. The recorded sites within the study area are primarily indicative of widespread Early Medieval and Medieval occupation within the surrounding landscape although prehistoric occupation is also evidenced from within the archaeological record (fig. 4; Table 1).

SMR No.	Type	Period	Protection	Located	Townland
FER272:005	Ecclesiastical Site	Post Medieval	Not defined	Located	Drumcrin
FER272:007	Rath	Early Medieval	Not defined	Located	Gortnacarrow
FER272:008	Rath	Early Medieval	Not defined	Located	Annaghmore Glebe
FER272:009	Ecclesiastical Site	Medieval/Late Medieval; Early Christian.; Post Medieval	Not defined	Located	Drummully
FER272:012	Mound	Uncertain	Not defined	Located	Derryelvin
FER272:013	Crannog	Early Medieval	Not defined	Located	Clonnaroo
FER272:014	Crannog	Early Medieval	Not defined	Located	Derryelvin; Drumboghanagh Glebe
FER272:016	Graveyard	Uncertain	Not defined	Located	Clonshannagh
FER272:017	Holywell	Uncertain	Not defined	Located	Drummully
FER272:006	Cairn	Prehistoric	Scheduled	Located	Annaghmore Glebe
FER272:015	Mound	Bronze Age; Prehistoric	Scheduled	Located	Derrykerrib
CV011-004001	Castle	Post Medieval	RMP Site	Located	Castlesaunderson Demesne
CV011-004002	Bawn	Post Medieval	RMP Site	Located	Castlesaunderson Demesne
CV001-006	Church	Modern	Not Defined	Located	Castlesaunderson Demesne
MO016-018	Rath	Early Medieval	RMP Site	Located	Clonoony

Table 1: List of recorded NISMR/RMP sites within 1km of the proposed development

- 7.1.1 The two scheduled monuments represent the earliest evidence for occupation within the wider landscape and include a Cairn (FER272:006) located immediately to the southeast of the proposed scheme and a Mound (FER272:015) located 400m to the northwest of the proposed scheme. The Cairn site which is also known as Druid Temple represents the remains of a round cairn surrounded by 76 kerb stones under which urns and stone coffins are described as being found in the past. The Mound site is located on the west bank of the River Erne is a dome shaped mound standing 1.2m high which possibly represents the remains of another burial cairn.
- 7.1.2 Five Early Medieval occupation sites are recorded from within the study area. These include the site of two Rathes located to the east of the scheme. Rath site FER272:008 is situated on the summit of a drumlin overlooking the River Finn c.125m to the southeast of the PDA surviving as a substantial upstanding earthen platform c.30m in diameter. Rath site FER272:008 is situated 435m south of the

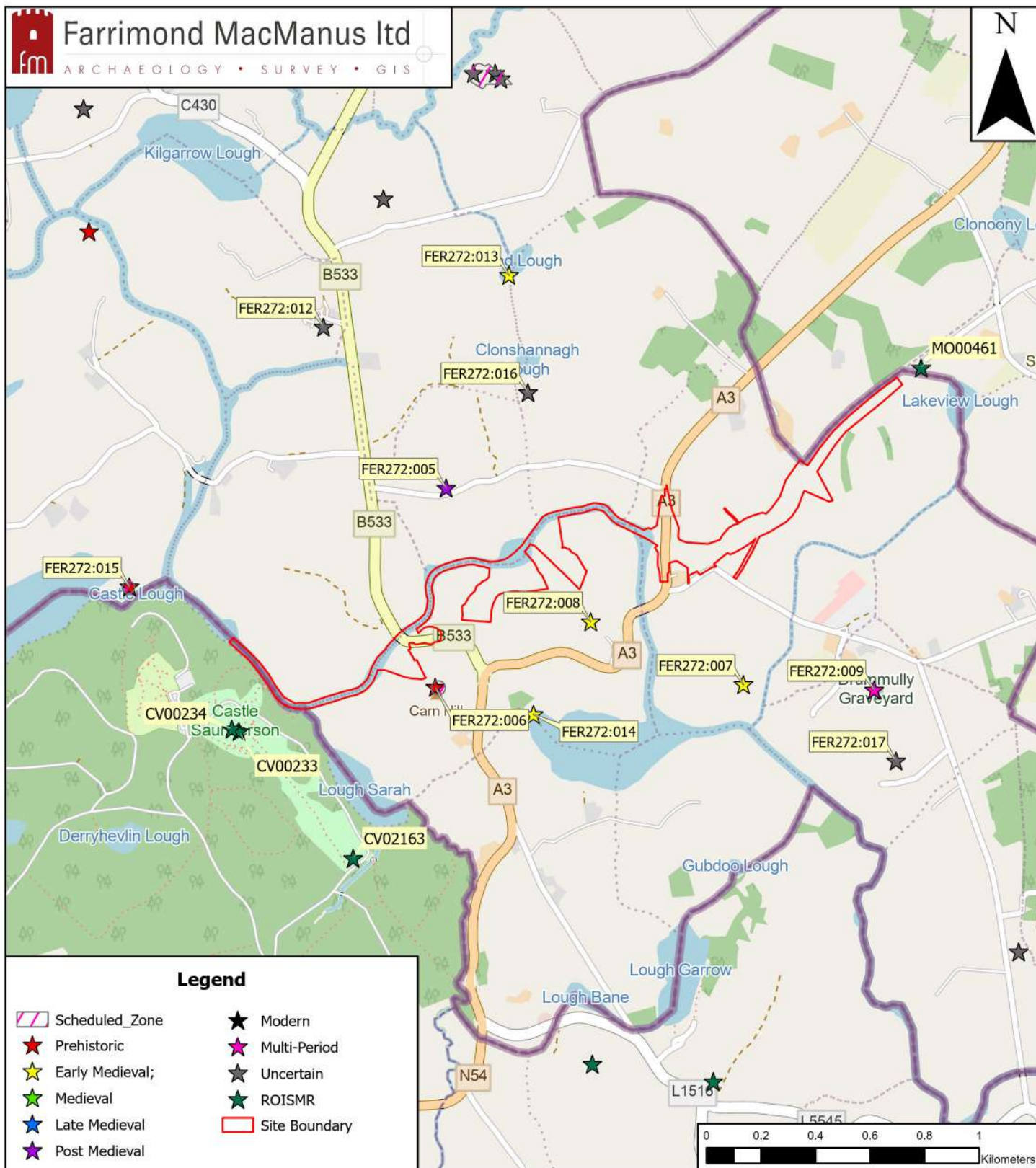


Figure 4: Location of recorded Sites and Monuments (SMR) sites located within 1km of proposed scheme

proposed scheme and survives as another circular earthen platform some 1m high and 25m in diameter. A third Rath site (MO016-018) is situated 90m from the northeast end of the proposed scheme. It is described as a circular enclosure defined by an earthen bank and outer ditch which has been partially disturbed along its northwest side by the Ulster Canal towpath. Two Crannog sites (FER272:013 & FER272:014) are situated 380m to the southeast and 900m to the north of the proposed scheme respectively. The first is located near the west shore of an inlet in the Finn River and survives as a tree lined island, the second is located within Island Lough to the north again surviving as a tree lined island in the lough.

- 7.1.3 Drummully Graveyard (FER272:009) represent the site of a multi-period ecclesiastic site located 700m to the southeast of the proposed scheme. It is the site of an early church or monastery which is shown in the 1609 baronial maps and survives as a badly ruined church within a graveyard. Another post medieval ecclesiastical site (FER272:005) is located 350m northwest of the proposed scheme. Built in 1773 this site was demolished in 1844.
- 7.1.4 Post medieval occupation within the wider landscape is represented by the site of Castle Saunderson Castle and Bawn (CV011-0004-1, CV011-0004-2) situated along the southern banks of the River Finn at the western portion of the proposed scheme. Originally consisting of a limestone constructed castle and bawn constructed by Captain Alexander Saunderson in the 17th century the present castle is a composite structure dating from between the 18th – 20th centuries. A related church (CV011-006) is also located 600m to the southeast of the castle.
- 7.1.5 The rath site (DOW046:013), known as Spring Hill Fort, dates to the early Christian period. It consists of a central platform measuring 35m E-W by 33m N-S and is surrounded by a 2m high external bank and up to 8.5m wide ditch. Although there is some modern disturbance, likely from metal detecting, the site remains well preserved.
- 7.1.6 The earliest site within the study area dates to the prehistoric period. This is a neolithic occupation site (DOW046:052) located c. 840m east of the PDA on Fullerton Road. The site was discovered during pre-development archaeological investigations and consisted of a series of small pits, stake holes, linear ditches and charcoal rich deposits. Pottery and flint recovered from the site indicated an early neolithic date while carbon dates ranged from 2460-170BC.
- 7.1.7 There are also three sites of uncertain date which include an Mound (FER272:012) located 950m to the northwest of the proposed scheme, a Graveyard (FER272:016) located 450m to the north of the proposed scheme and a Holywell (FER272:017) located 950m to the southeast of the proposed scheme. There are no upstanding remains of either of these sites.
- 7.1.8 There are no NISMR sites recorded within or immediately adjacent to the boundaries of the proposed development.

7.2 Industrial Heritage Record

- 7.2.1 Consultation of the Industrial Heritage record indicated that there are 6 Industrial Heritage sites located within the 1km study area of the proposed scheme (fig. 5; Table 2) four of which are directly related to the historic Ulster Canal.

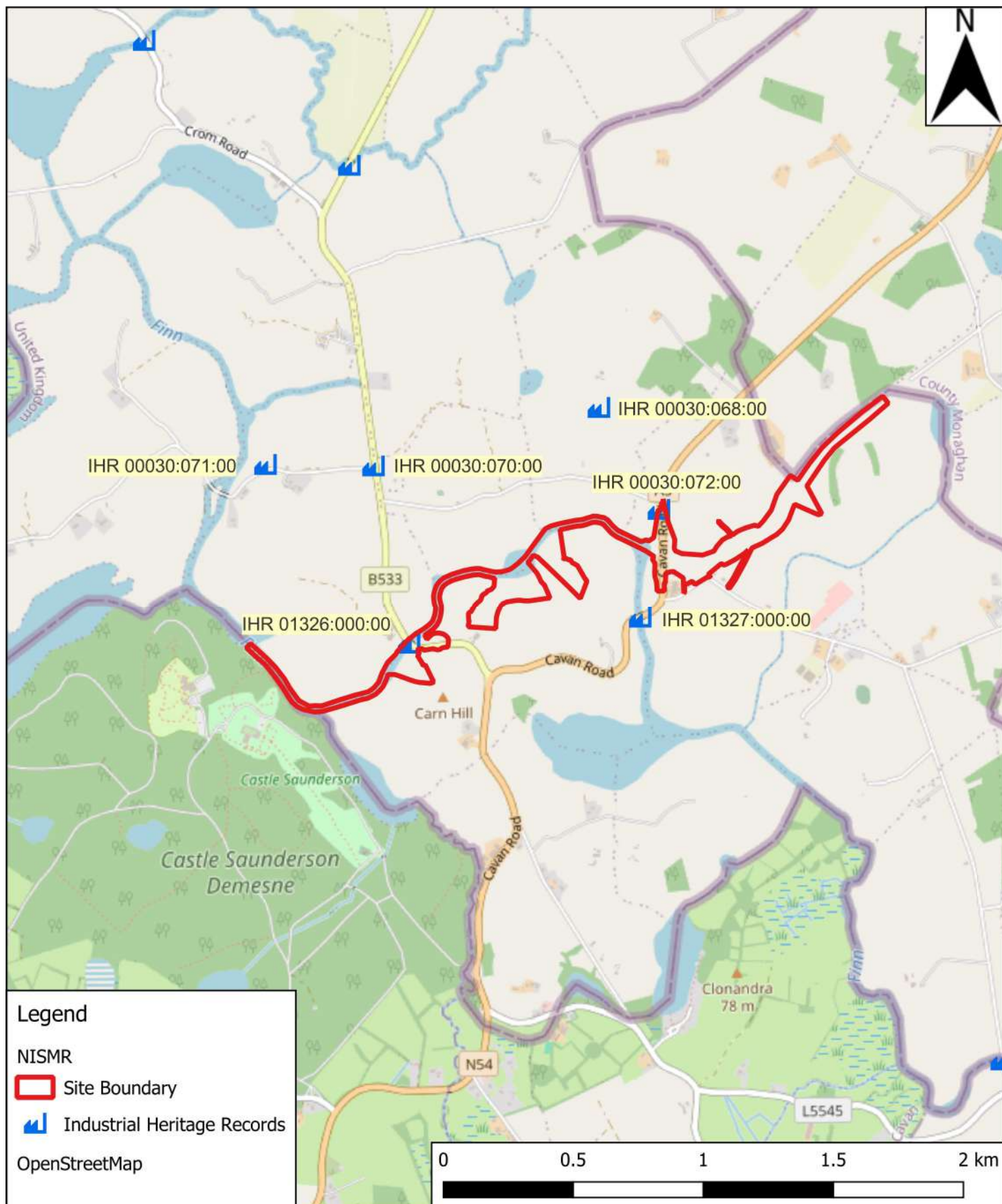


Figure 5: Location of recorded Industrial Heritage (IHR) sites within 1km of proposed development

IHR Ref	Location	Type	Townland
IHR 01326:000:00	Not defined	Bridge	Annaghmore Glebe / Edergool
IHR 01327:000:00	Not defined	Bridge	Annaghmore Glebe / Gortnacarrow
IHR 00030:070:00	Ulster Canal	Bridge	Clonnaroo / Edergool
IHR 00030:068:00	Ulster Canal	Bridge	Clonshannagh
IHR 00030:071:00	Ulster Canal	Lock & Mooring Post	Edergool
IHR 00030:072:00	Ulster Canal	Bridge, Lock, Mooring Post	Gortnacarrow

Table 2: List of recorded Industrial Heritage sites within 200m of the proposed development

- 7.2.2 Two of the site are located within the boundaries of the proposed scheme, these being Wattlebridge Bridge (IHR 01326:000:00) which is located at the southwest end of the proposed scheme and Gortnacarrow Bridge, Lock and Mooring Post (IHR 00030:072:00) located within the eastern portion of the proposed scheme. The other three Industrial Heritage sites relating to the Ulster Canal are situated between 400 – 600m to the north of the proposed scheme and include another Lock and Mooring Post (00030:071:00) along what is now the Derrykerrib Road, another two bridges, the first (IHR 00030:070:00) carrying the Wattlebridge Road over the canal and the second (IHR 00030:068:00) carrying a local road over the canal. Gortnacarrow Bridge (IHR 01327:000:00) is located 120m south of the proposed scheme.
- 7.2.3 As noted above two Industrial Heritage sites ((IHR 01326:000:00 & IHR 00030:072:00) are located within and are associated with canal restoration works.
- 7.3 Historic Buildings
- 7.3.1 Consultation of the Listed Buildings Register identified 9 Historic Buildings located within a 250m of the proposed scheme (fig. 6; Table 3).
- 7.3.2 The majority of the historic buildings are located well beyond the boundaries of the proposed scheme, however four of them are situated within the western and eastern portions of the Within the western portion of the proposed scheme, both Wattlebridge Bridge (HB12/02/084) and a Hall (HB12/02/086) are situated within the boundaries of the proposed scheme. Wattlebridge is designated a B2 listed building which a recorded in Historic Buildings Records as likely being of early 19th century in date, although a 1714 map by Moll records “Wattle Bridge” in its location suggesting an earlier origin. The Orange Hall building was originally a house constructed in the early 19th century but has been extensively refurbished after a fire removing its architectural value.
- 7.3.3 At the east portion of the proposed scheme, the former Lockkeepers House (HB12/02/090) is situated within the boundaries of the scheme while the Canal Warehouse (HB12/02/091) form the southern boundary of the scheme in this area. The Warehouse is afforded B1 listed status is a large two storey stone constructed building built in the middle of the 19th century and represents one of few canal related stores which survive in such good condition. The Lock Keepers House was also constructed as a one storey stone built building constructed in the mid-19th century which has had considerable renovation works removing many of its original features.

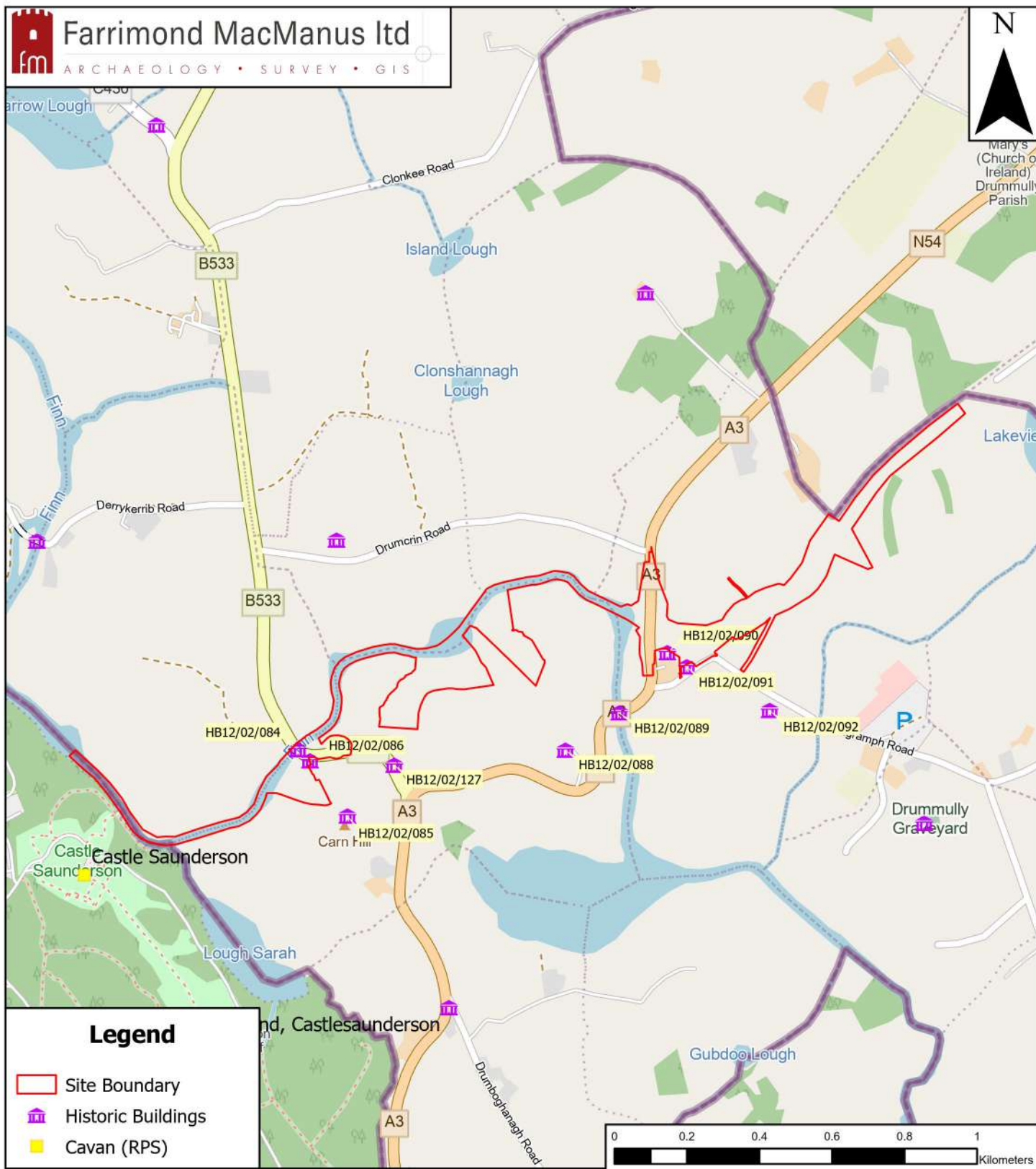


Figure 6: Location of Historic Buildings within 200m of proposed scheme

HB_ref	Grade	Address	Construction Date	Former Use	Townland
HB12/02/091	B1	Canal Warehouse	1820 - 1839	Canal Structure	Gortnacarrow
HB12/02/084	B2	Wattle Bridge	1820 - 1839	Bridge	Edergool; Annaghmore Glebe
HB12/02/088	B2	The Old Rectory	1860 - 1879	Rectories/ Manses etc	Annaghmore Glebe
HB12/02/089	B1	Gortnacarrow Bridge	1780 - 1799	Bridge	Annaghmore Glebe; Gortnacarrow
HB12/02/085	Record Only	Druid's Temple Carn Hill	Pre 1600	Archaeological Site	Edergool
HB12/02/086	Record Only	Orange Hall Wattlebridge	1880 - 1899	Hall	Annaghmore Glebe
HB12/02/090	Record Only	Former lock keeper's house	1820 - 1839	House	Gortnacarrow
HB12/02/092	Record Only	Cottage	1820 - 1839	Thatched House	Gortnacarrow
HB12/02/127	B2	Milestone 17 Wattlebridge Road	1820 - 1839	Milestone	Annaghmore Glebe
Cavan Co Co record	RPS	Castle Saunderson	18 th – 20 th century	Country House	Castle Saunderson Demesne

Table 3: Historic Buildings located within 200m of the proposed development

7.4 Historic Parks and Gardens

- 7.4.1 There is one historic garden within 1km of the proposed scheme. Castle Saunderson Demesne is located to the southwest of the scheme and is a designed landscape associated with the historic castle.

7.5 Defence Heritage and Battle Sites

- 7.5.1 There are no Defence Heritage or Battle sites located within the study area

7.6 Previous Archaeological Excavations

- 7.6.1 The database of Irish Archaeological Excavation Reports and the Department for Communities Historic Environment Map Viewer¹ were consulted to identify previous archaeological excavations within the study area (Table 4).
- 7.6.2 One previous archaeological investigation was carried out within the area of the proposed scheme. Archaeological monitoring of dredging and underwater supervision of dredging of the River Finn at the far northern end of the scheme was carried out under licence AE/15/165. No archaeological material was identified.

7.7 Place name evidence

- 7.7.1 Often the origin of town or townland names will indicate the historic topography of an area or its use in past times². A search of the meanings of place names can assist in the assessment of archaeological potential of an area.
- 7.7.2 The proposed scheme extends across five townlands – Edergool, Drumcrin, Annaghmore Glebe, Clonshannagh and Gortnacarrow.
- 7.7.3 Edergool townland comes as an anglicized version of the Irish townland name “*Eadar-ghobha*” / “*Eadar-ghabha*” referring to a land or place between two forks or river and largely refers to the land between the fork in the River Finn.

¹ Accessed 09.03.26

² <http://www.placenamesni.org/>

- 7.7.4 Drumcrin has been suggested as an anglicisation of the Irish “*Droim Crainn*” or “ridge of the tree”, again referring to features of a local topographic nature.
- 7.7.5 Annaghmore Glebe originates from the Irish “*Eanach Mór*”, i.e. 'great marsh', appended with the English element glebe which refers to land set aside for the upkeep of the clergyman of a parish. The element *eanach* means 'watery place, fen, marsh or swamp' and since such places are common in Ireland, the anglicised forms annagh, anna and anny appear frequently in place-names.
- 7.7.6 The first element of the Clonshannagh townland name clon- derives from the Irish “*cluain*”, referring to a meadow or lawn. The second element derived from the Irish for fox “*sionnach*” ‘ and combined originates from the Irish townland name “*Cluain Sionnach*”, i.e. meadow of the foxes.
- 7.7.7 Gortnacarrow townland may derived its English name from the Irish “*Gort na Carra*” i.e. field of the weir and likely refers to a pre-canal use of the river.
- 7.7.8 While each of the townland names owe their origins to a description of the local topography, there is no indication of any archaeological origin.

7.8 Historic Maps

- 7.8.1 Early 19th to early 20th century historic OS maps were consulted to examine the landscape development of the area within and surrounding the proposed scheme.
- 7.8.2 The 1st Edition (c. 1834) OS map (figs 7a -c) is the earliest available large scale mapping for the area. The western portion of the scheme (fig. 7a) follows an existing water channel over which the Wattle Bridge road and bridge passes. A number of dwellings are shown along the Wattlebridge Road just outside the boundary of the proposed scheme. SMR site FER272:015 is shown close to the southeast boundary of the scheme being annotated as “Druids Temple”. Much of the land around the River Finn which is within the site boundaries shown as marshland. This landscape pattern continues through the middle portion of the scheme (fig. 7b) the two areas of proposed dredging material deposition to the south span across open fields. The western portion of the proposed scheme extends beyond the existing River Finn watercourse to the east across a combination of open greenfields and local access roads leading to isolated farmsteads. The line of the proposed Ulster Canal is shown as a dotted line extending northeast – southwest across the area before turning sharply northwards.
- 7.8.3 The 2nd Edition (c. 1856) OS map (figs. 8a – c) highlight the extent of land division into a pattern of field systems and the construction of the Ulster Canal. There is little change and landscape between the 1st and 2nd Edition OS maps within the western and middle portions of the proposed scheme (figs. 8a & 8b) outside of the patchwork pattern of field boundaries. SMR site FER272:015 is depicted in more detail in this edition mapping shown as a banked enclosure on the summit of Carn Hill. The most significant change in landscape setting is the construction of the Ulster Canal at the eastern portion of the scheme (fig. 8c). This is shown as a wide water channel with tow path on either side following the dotted line marked on the 1st Edition OS map. SMR site FER272:015 is still marked on mapping to the south of the scheme boundaries with Wattlebridge Orange Hall (HB12/02/086) within the southeast corner of this end of the scheme representing the only additional building at this time. The areas on either side of the canal which are enclosed within the boundaries of the proposed scheme are primarily divided into smaller agricultural fields to the south and larger fields to the north with the Clones Road running alongside the western side of the canal which is taken over the canal by a small bridge before continuing northeast.

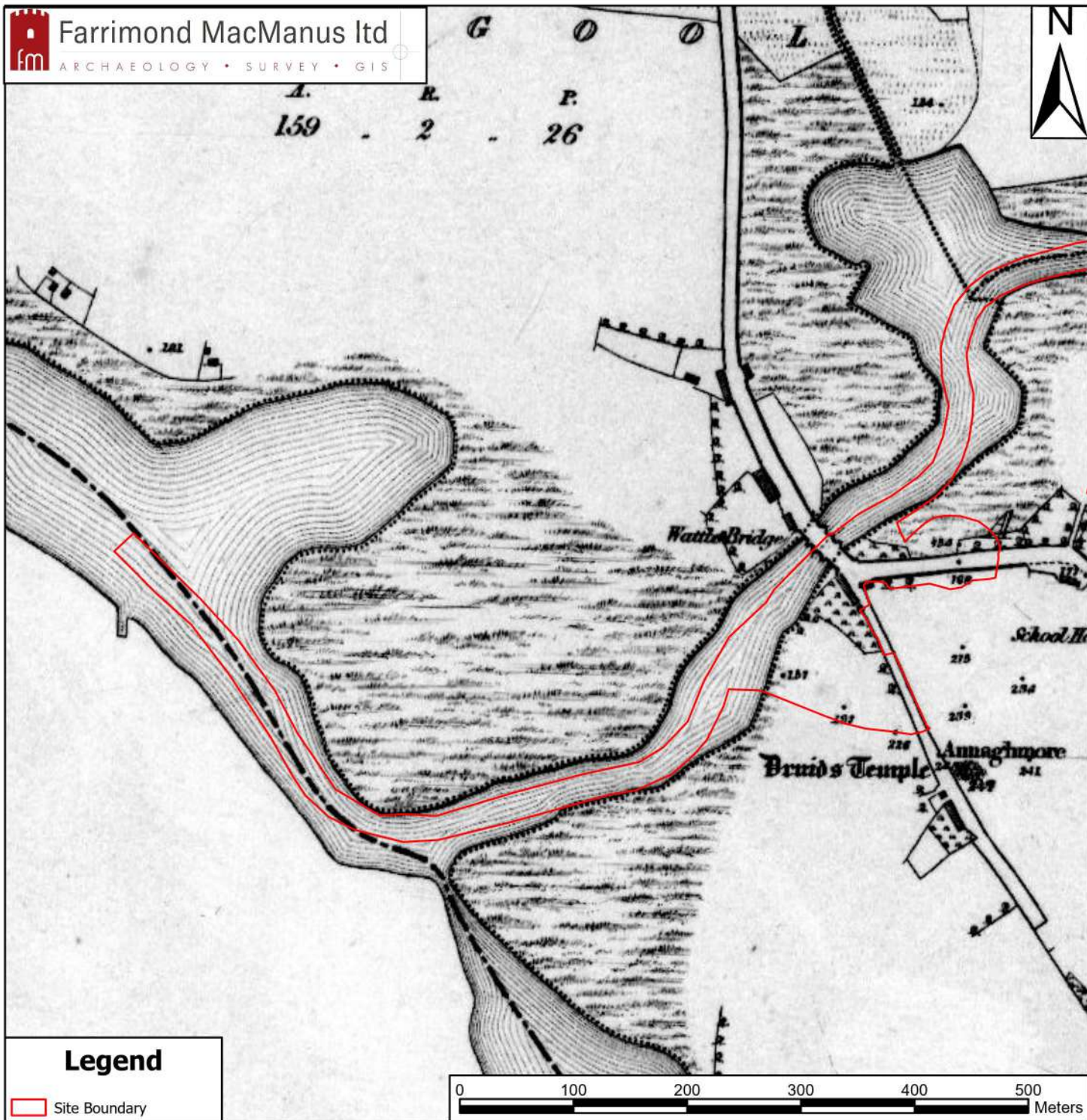


Figure 7a: 1st Edition OS map (c.1834) showing land use of western portion of proposed scheme in the early 19th century

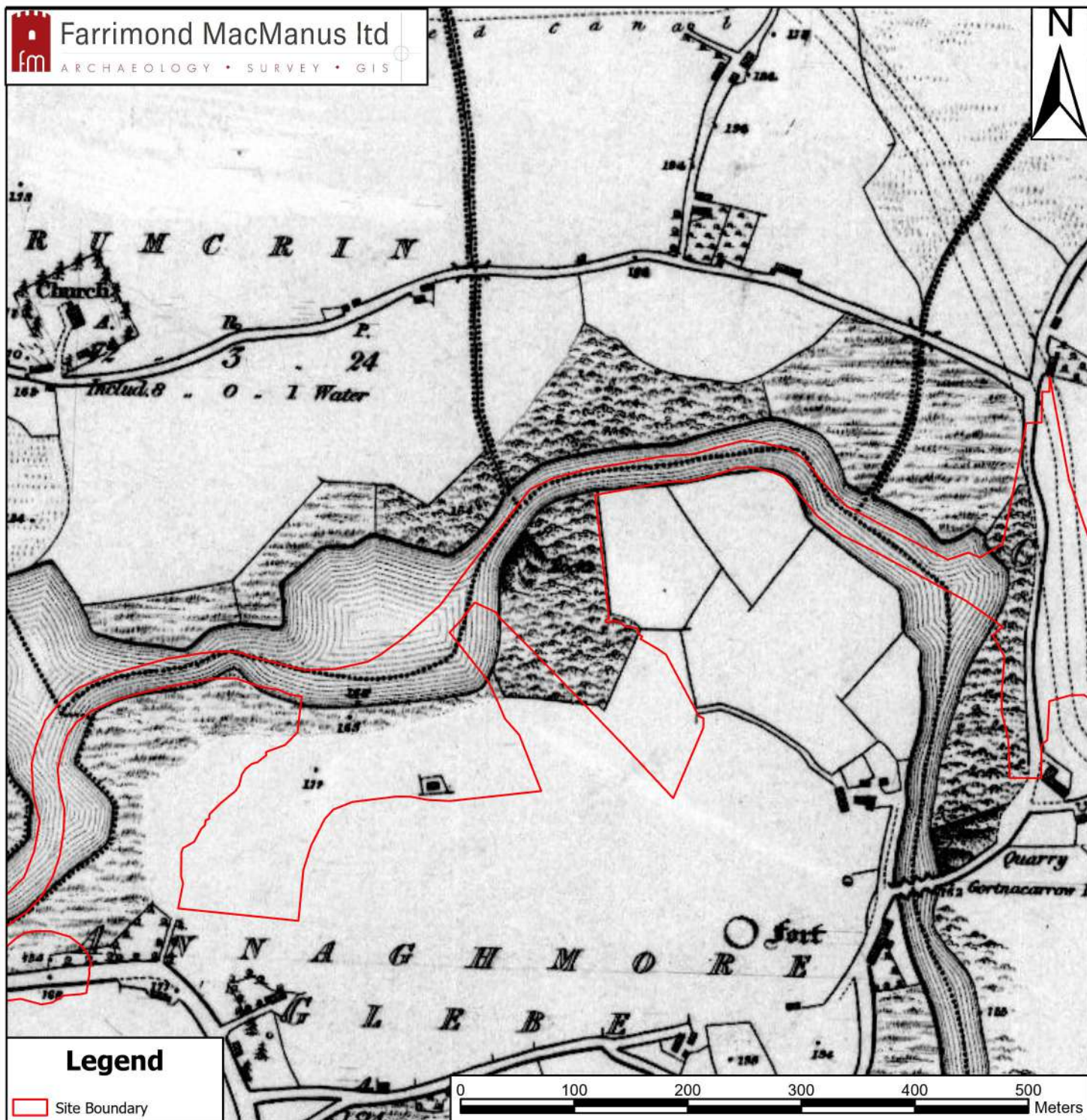


Figure 7b: 1st Edition OS map (c.1834) showing land use of middle portion of proposed scheme in early 19th century



Figure 7c: 1st Edition OS map (c.1834) showing land use of eastern portion of proposed scheme in the early 19th century



Figure 8a: 2nd Edition OS map (c.18 56) showing land use of western portion of proposed scheme in the mid 19th century

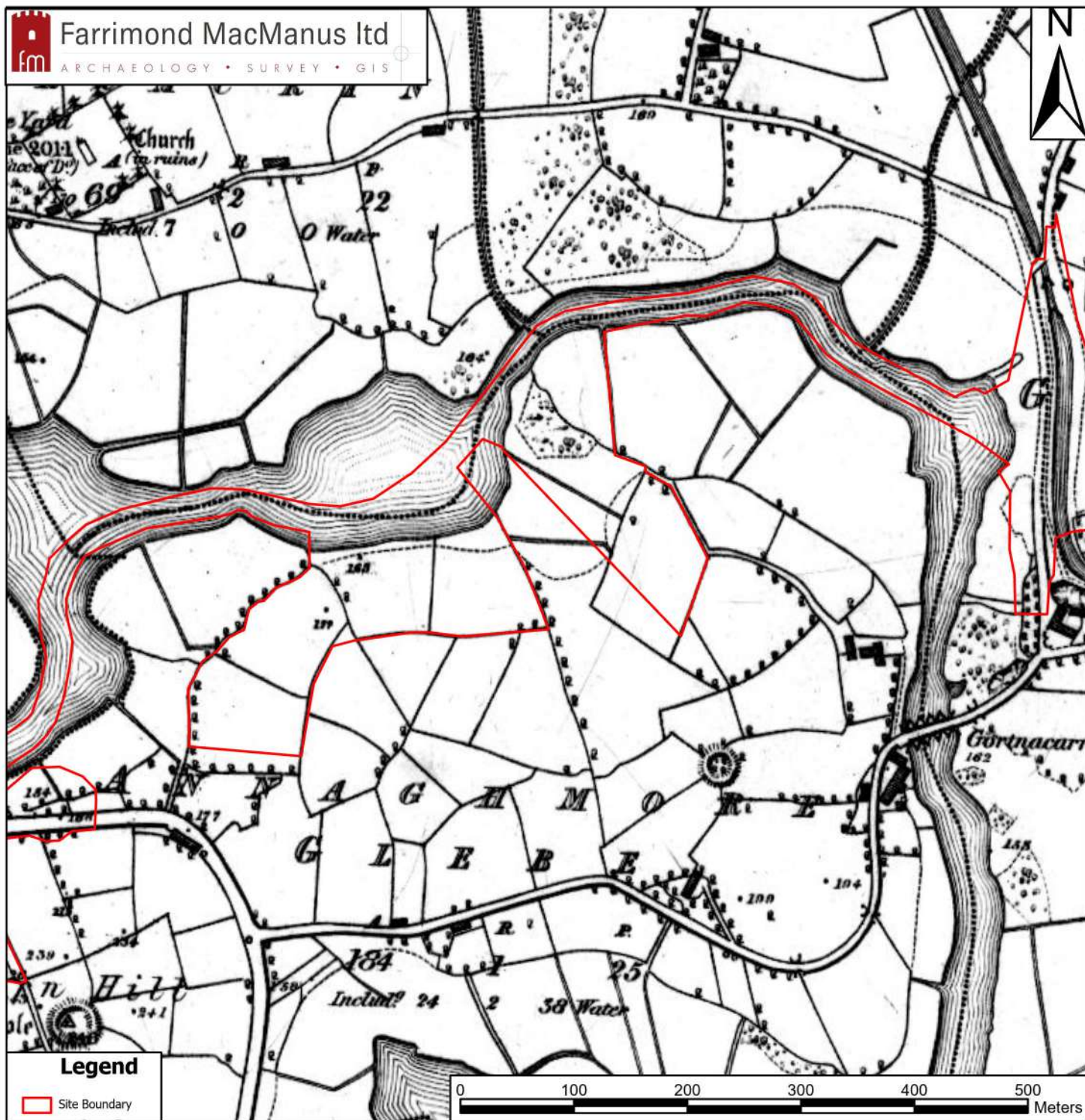


Figure 8b: 2nd Edition OS map (c.1856) showing land use of middle portion of proposed scheme in the mid 19th century

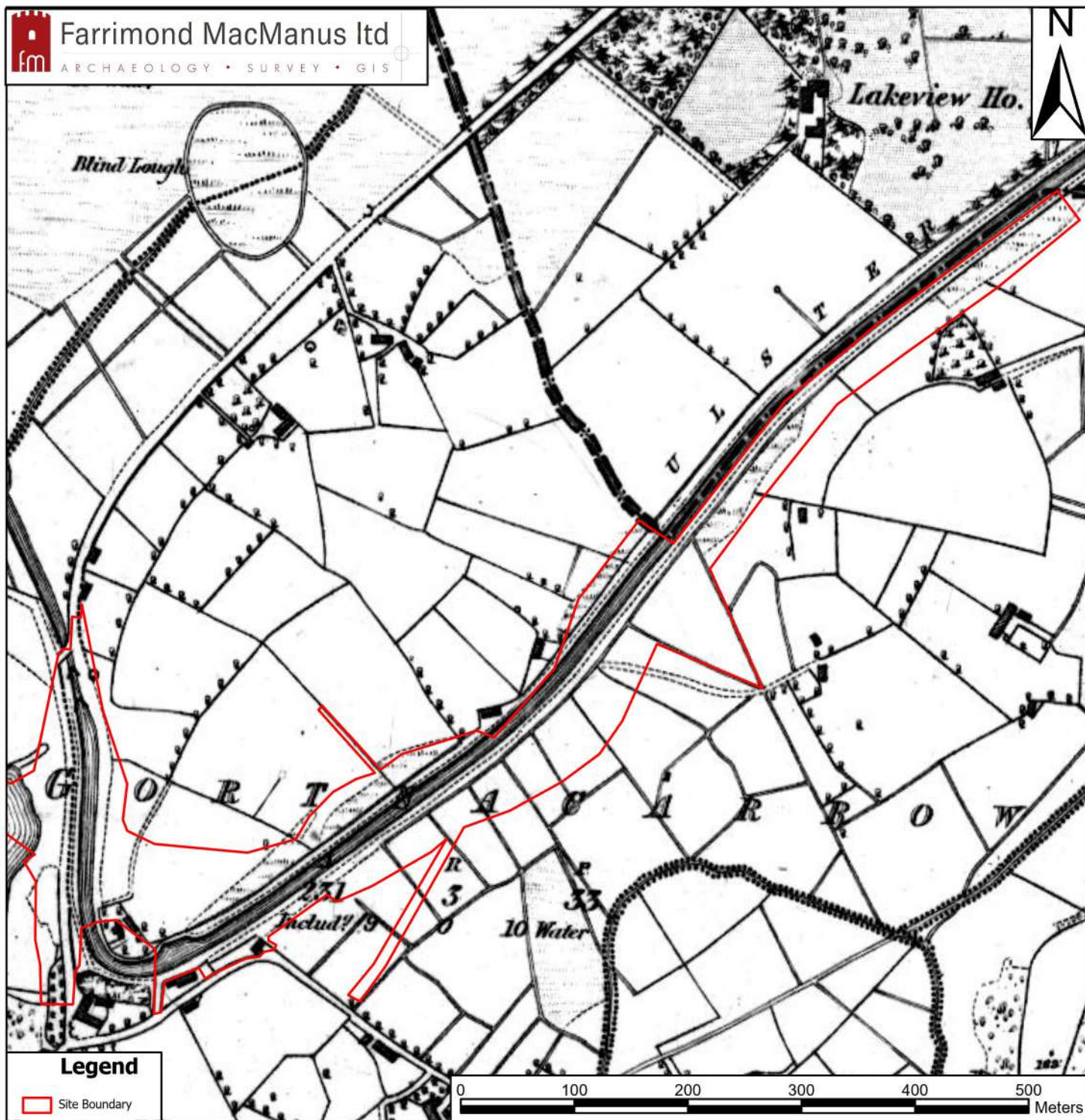


Figure 8c: 2nd Edition OS map (c.1856) showing land use of eastern portion of proposed scheme in the mid 19th century

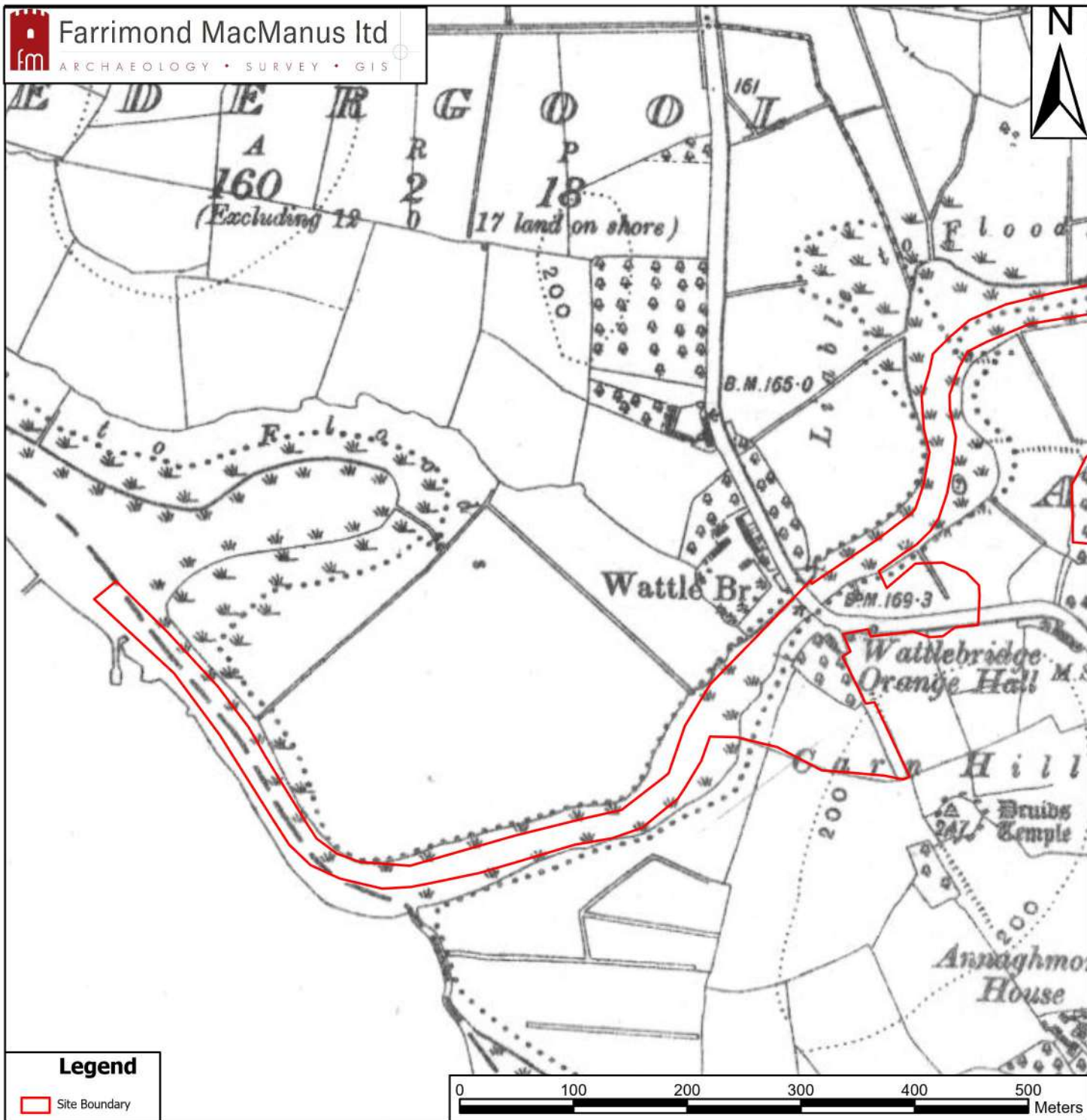


Figure 9a: 2nd Edition OS map (c.18 56) showing land use of western portion of proposed scheme in the early 20th century

Figure 9b: 2nd Edition OS map (c.18 56) showing land use of middle portion of proposed scheme in the early 20th century

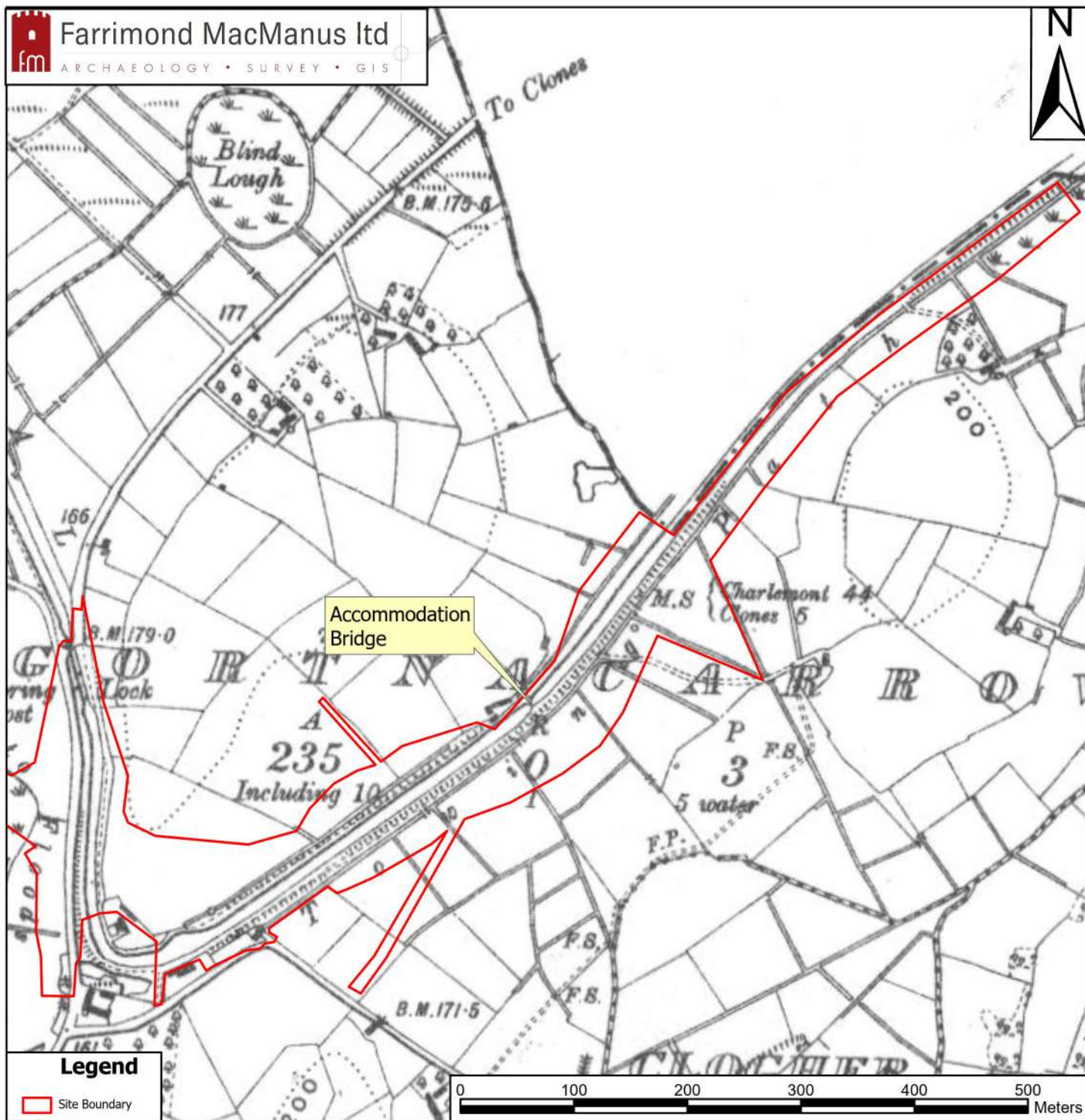


Figure 9c: 2nd Edition OS map (c.1856) showing land use of eastern portion of proposed scheme in the early 20th century

- 7.8.4 The 3rd Edition OS maps (figs. 9a – c) show little change in landscape setting between the middle of the 19th century and the beginning of the 20th century. The landscape around both the River Finn and Ulster Canal remains agricultural in nature. The canal has not changed significantly in terms of layout with the Clones Road carried over the canal by a bridge which contains an associated Lock. An accommodation bridge has also been added across the canal approximately 450m upstream of Gortnacarrow.
- 7.8.5 No potential newly identified archaeological or historic features were noted from inspection of the historic maps.
- 7.9 Aerial Photography
- 7.9.1 Consultation of modern aerial photography (figs. 10a - c) was carried out to identify the modern land use of the site and identify any potential archaeological features which may be visible as changes in vegetation cover.
- 7.9.2 The aerial photograph shows the area of the western portion of the proposed scheme (fig. 10a) as an existing watercourse over which the Wattlebridge Road crosses. The area of proposed new canal section and associated site access and towpath as well as the area of proposed dredge material deposition are currently agricultural fields with an area of marshland along the southern bank of the river.
- 7.9.3 The middle portion of the proposed scheme (fig. 10b) also shows that the areas of proposed dredge material deposition are currently large open agricultural fields with the proposed canal following the existing water channel.
- 7.9.4 The eastern portion of the proposed scheme is the area where the most significant changes in existing landscape layout will occur. The aerial photograph of this portion of the proposed scheme (fig. 10c) indicates that much of the landscape remains rural in nature with the proposed scheme extending across existing agricultural fields. The line of the old Ulster Canal which is no longer in use is displayed as a long narrow strip of unmanaged green space lined on either side by a mature treelined field boundary, indicative of the now infilled canal channel. A short access road towards an isolated dwelling along the northern side of the former canal extends for a short distance along the southern edge of the old canal but otherwise the channel remains greenfield in nature.
- 7.9.5 Inspection of the aerial photography did not reveal any obvious potential archaeological features within the boundaries of the proposed development.

8. Site Inspection

- 8.1 A site visit was undertaken as part of the original Archaeological Impact Assessment to examine the current land use and to look for previously unknown archaeological features which may not have been identified through the desktop survey. As there has been no significant change in landscape in the intervening period a summary of the relevant section is outlined below;
- 8.2 The eastern portion of the proposed scheme extends along the former canal to the complex at Gortnacarrow. The line of the original canal is still very apparent though the canal itself has been infilled at this location (Plate 1) and there are no obvious surviving remains of the former accommodation bridge upstream of Gortnacarrow noted in Section 7.8 above. The former canal stores (HB 12/02/091) which form the southeast boundary of the proposed scheme are still extant albeit in poor condition and heavily covered with vegetation growth (Plates 2 & 3). The ground floor level of the building sits

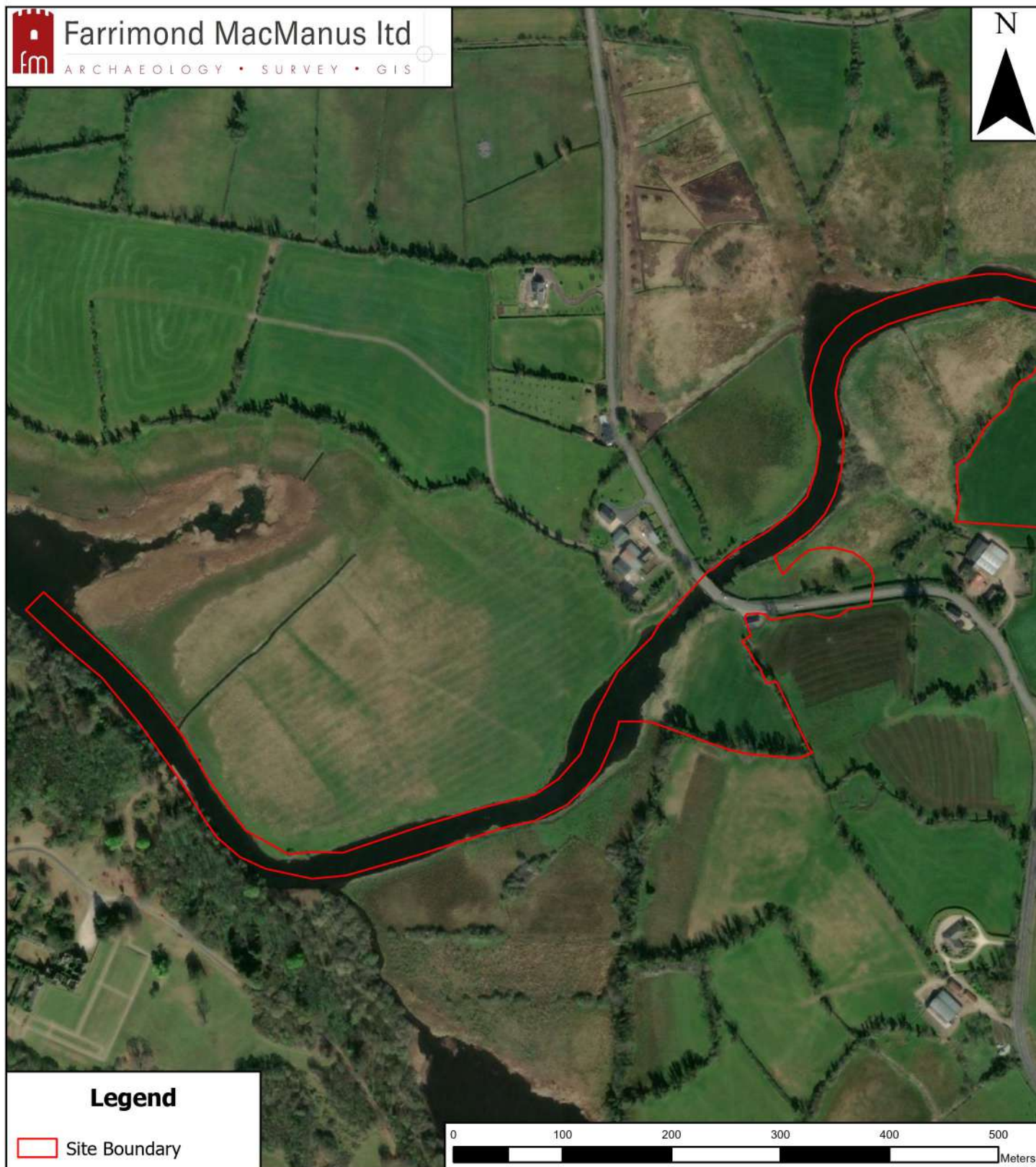


Figure 10a: Aerial photograph showing modern land use of western portion of proposed scheme

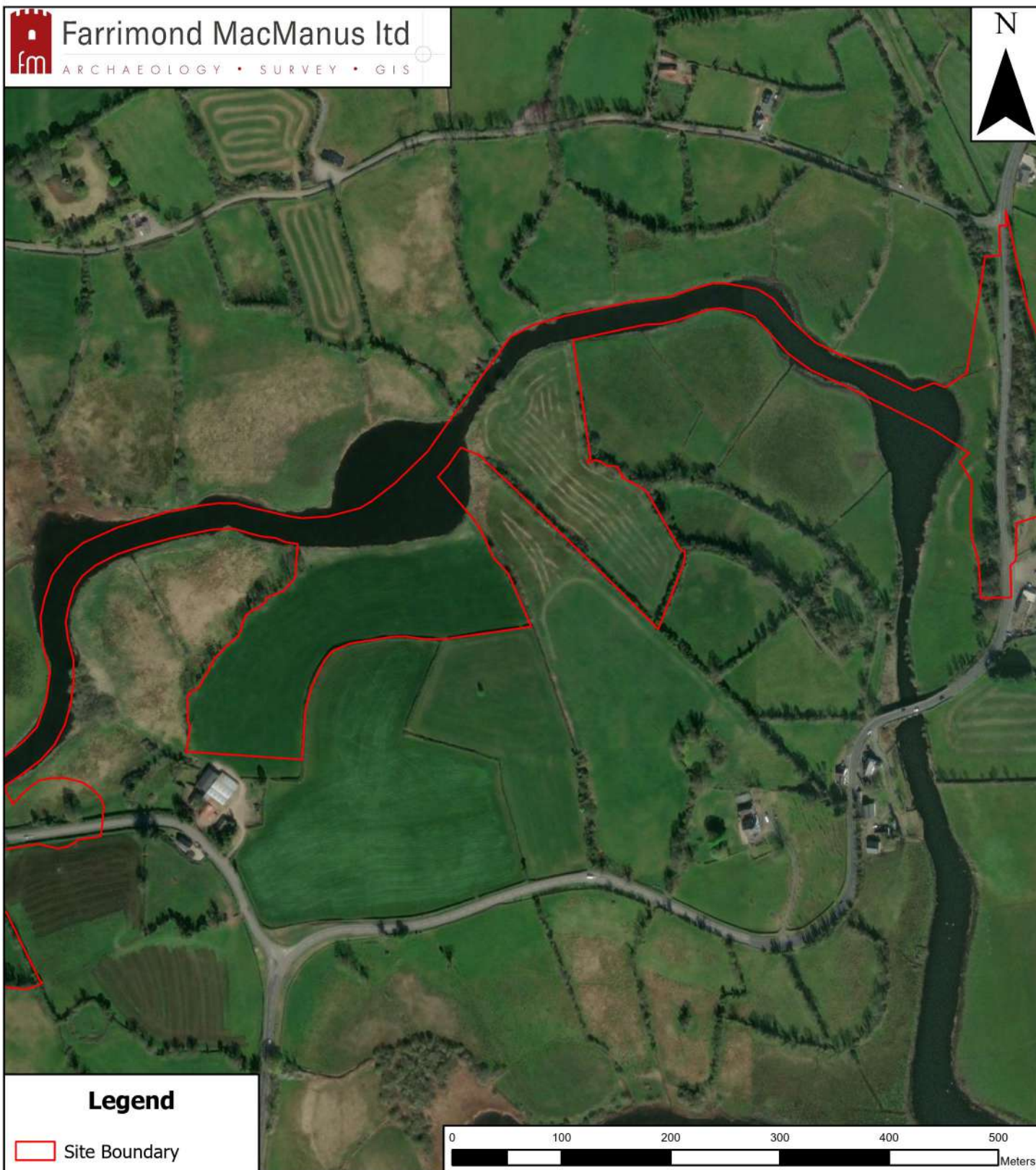


Figure 10b: Aerial photograph showing modern land use of middle portion of proposed scheme



Figure 10c: Aerial photograph showing modern land use of eastern portion of proposed scheme

elevated above the existing track along its northwest side indicative of the location of the filled in canal. The area of the proposed marina at Gortnacarrow to the north of the canal stores is currently a large, level field currently under pasture (Plate 4).

- 8.3 The original line of the canal where it turn north at Gortnacarrow extends along the east side of the existing A3 Cavan Road on a slightly elevated platform and currently an area used for storage of modern materials at its southern end and dense tree growth at its northern end. The lock, bridge and mooring post (IHR 00030:072:00) was located to the immediate north of this area. These features have been largely with thick vegetation obscuring along the adjacent to the road obscuring whether any remains of the lock or milepost still survive (Plate 5). The former lock house (HB 12/02/090) is located in a prominent position overlooking the Cavan Road just outside the southwest boundary of the proposed scheme (Plate 6).
- 8.4 The line of the restoration diverges from the original line of the canal at Gortnacarrow with a new stretch of canal running northwest past the lock house, beneath the Cavan Road into the adjacent field to feed into the River Finn. This field is a mix of pasture and wetland reed growth and river floodplain (Plates 7 & 8). A car park is to be constructed on the east side of the Cavan Road adjacent to the new road bridge. This car park will be located on the former line of the canal though this area is overgrown with vegetation and there are no visible signs of the canal though these are possibly obscured by vegetation (Plate 9).
- 8.5 The proposed scheme continues along the course of the River Finn until Wattlebridge. At this point two areas of new site access/tow path and a new canal section will be constructed with a second bridge constructed over the new canal section. The area of proposed canal works on either side of Wattle Bridge (IHR 01326:000:00; Plate 10) are both currently a combination of pastureland and river floorplan (Plates 11 & 12).
- 8.6 No previously unknown features of archaeological interest were noted during the site visit.

9. Assessment of Archaeological Potential

- 9.1 The assessment of the topographic potential and the examination of the type, density and distribution of archaeological sites within that landscape give rise to the identification of the archaeological potential of any given landscape. These areas of archaeological potential may be indicated given their:
 - a. close proximity to recorded archaeological monuments (as depicted on the SMR and IHR maps)
 - b. close proximity to newly identified potential archaeological sites.
 - c. Topographic setting within the landscape
- 9.2 *Summary of Findings- Desk Based Assessment*
 - 9.2.1 Consultation of the records maintained by DfC:HED revealed that the wider study area has a proven archaeological heritage with 15 SMR sites and 6 IHR sites located within 1km of the PDA. There is one Scheduled Monument located within 50m of the southeast boundary of the proposed scheme at its western end. Nine Historic Buildings were also recorded with 250m of the PDA two of which are located immediately adjacent to the scheme boundary.

- 9.2.2 Consultation of early historical records, maps from the 19th to 20th centuries and aerial photography indicate that the proposed scheme primarily follows the existing channel of the River Finn while also extending across un-developed agricultural land and along a section of the alignment of the now infilled 19th century canal at the eastern portion of the scheme. The un-developed rural nature of the landscape within which the scheme is situated would suggest a higher potential for survival of un-recorded sub-surface archaeological remains, while buried Industrial Heritage remains associated with the former canal may also still survive below surface.
- 9.2.3 Based solely on the desk top study, the area of the proposed development can be assessed as being of moderate to high archaeological potential.

9.3 *Summary of findings – Topographic Assessment: interpretation of the archaeological landscape*

- 9.3.1 Consideration of the topographic setting of any proposed development is fundamental in the interpretation of the archaeological landscape of a given area. Three topographical characteristics may be considered as of archaeological importance within the landscape setting:

- High ground/elevated areas: These may be deemed as being of archaeological potential given their prominence in the local landscape. Numerous examples of the importance of areas of high/elevated land are recorded within the archaeological record, with specific emphasis upon early Christian defensive sites (i.e., raths/forts), prehistoric funerary (i.e., Barrows/Megalithic tombs) and ritual (i.e., prehistoric enclosures) sites.
- Areas in proximity to river courses: These areas may be deemed as being of archaeological potential given their ease of access to both natural resources such as water, food, and water energy (i.e., mills).
- Areas in proximity to lakes/coastal areas: As with those areas in proximity to river courses, these may also be deemed as being of archaeological potential due to their ease of access to water and food sources.

- 9.3.2 Topographically the PDA is located along the course of the existing River Finn, an important natural resource and transportational route throughout history and pre-history.

- 9.3.3 The access to resources afforded by the location of the PDA would suggest a high potential for survival of archaeological remains both along the banks of the river and also from within the river channel.

9.4 *Summary of Findings – Site Visit*

- 9.4.1 The site visit, the purpose of which was to verify the results of the desk-based assessment and identify any previously unrecorded archaeological/industrial heritage features which may survive within the site boundaries, confirmed that the PDA is located within a rural landscape which remains un-developed green field in nature with elements of the former Ulster Canal still visible in the landscape. Based upon the results of the site visit, the proposed scheme may be considered have having a moderate to high potential for survival of below ground archaeological remains.

10. Assessment of Archaeological Impact of the Development

10.1 *Assessment of Archaeological Impact: Previously Identified Cultural Heritage Features.*

- 10.1.1 The proposed development site lies within an area of moderate to high archaeological potential as indicated in Section 8 above. The majority of cultural heritage features lie outside the site boundaries and will therefore not be directly or indirectly impacted upon by the proposed development. However, there are two cultural heritage sites within the boundaries of the proposed scheme – Ulster Canal Lock and Mooring post site IHR0030:072 at Gortnacarrow and Wattle Bridge site IHR1326:000:00 / HB12/02/084. There are also number of sites located adjacent to the boundary of the proposed scheme, these being; Scheduled Monument FER:272:006 and Historic Buildings HB12/02/086, HB12/02/090, HB12/02/091.
- 10.1.2 In relation to Scheduled Monument FER:272:006 part of planning approval of the scheme condition 18 of the approval document requires that *“No site works of any nature or development shall take place until appropriate fencing has been erected around specified areas to be agreed with the Department’s NI Environment Agency: Historic Monuments Unit. No works of any nature or development shall be carried out within the areas to be fenced including no erection of huts or other structures, no storage of building materials, no dumping of spoil or topsoil or rubbish, no bonfires and no turning or parking of plant or machinery. The fence shall not be removed until the site works and development have been completed.”* Implementation of this condition would mitigate any potential impact the scheme could potentially have on the designated monument.
- 10.1.3 In relation to Historic Buildings HB12/02/086, HB12/02/090, HB12/02/091, these are to remain in private ownership beyond the curtilage of site works and will therefore not be directly impacted upon
- 10.1.4 There are little existing upstanding remains of Ulster Canal Lock and Mooring Post (IHR0030:072), proposed development plans indicate that this will be taken down as part of the works to facilitate road visibility splays. The area will also be excavated to install road drainage to comply with DfI requirements. As such any remains which may still survive of this site will potentially be adversely / negatively impacted upon by the proposed scheme.
- 10.1.5 In relation to the Wattle Bridge (IHR1326:000:00 / HB12/02/084) a Canal bypass section is to be constructed around bridge and the Road level of bridge to be raised c.200mm. A section of the bridge wall is also to be removed and reinstated on completion of new bridge over new canal section. As such works associated with the proposed scheme will have an adverse impact upon the existing condition of this structure.
- ### 10.2 *Assessment of Archaeological Impact: Previously Unidentified/Potential Archaeological Remains*
- 10.2.1 Previous archaeological investigations associated with development works within Northern Ireland have highlighted the potential for subsurface archaeological remains associated with both prehistoric and historic activity to be adversely impacted upon during development works such as those carried out during development for housing, infrastructure, public and commercial development.
- 10.2.2 The desk-based assessment suggests that the proposed development is located within an area of moderate to high archaeological/industrial heritage potential considering the siting of a Scheduled Monument adjacent to the site boundaries, known Industrial Heritage Sites within the site boundaries and its location within a wider archaeological landscape.

- 10.2.3 The proposed scheme will comprise of the reinstatement of a section of the former Ulster Canal including creation of a new channel between Gortnacarrow and Clonoony along with River Finn dredging works and creation of a 13m wide navigation channel. At Gortnacarrow a new Locks and Amenity Area a Gortnacarrow Access Bridge and a new Tow Path along the newly opened channel is also proposed. Elements of the proposed works will require invasive ground works within existing areas of green space which have not undergone previous ground works.
- 10.2.4 The magnitude of impact of the proposed invasive ground works upon any previously unidentified remains can be considered. The impact upon previously unidentified sub-surface remains within the proposed scheme has the potential to be adverse should ground disturbance and landscaping planned as part of development proposals extend beyond existing topsoil depth. There is also the potential for River Dredging to impact upon any previously un-identified archaeological remains along the river channel.
- 10.2.5 As it would appear that there is a potential for the survival of sub-surface archaeological remains and the potential for the proposed development to have an adverse impact upon these, it is proposed that archaeological works be carried out within the boundaries of the proposed scheme in order to preserve any archaeological remains which may survive on the site.

11. Project Aims and Objectives

- 11.1 As the desktop study has confirmed that the proposed development site is located within an area of moderate - high archaeological/industrial heritage potential given its location within an established archaeological landscape and topographic setting, it is recommended that archaeological investigations should be undertaken. Given the nature of the proposed development these investigations should take the form archaeological monitoring associated with construction phase development. Archaeological monitoring should be implemented for both land based and river based development works.
- 11.2 The aims of the archaeological monitoring would be to establish the presence or absence of archaeological/industrial heritage remains in those areas which will be disturbed by the proposed development, establish the character, date and extent of those that survive and preserve such remains either in situ or by record in accordance with planning policy guidelines.
- 11.3 Preservation in situ of any archaeological/industrial heritage remains is to be preferred (DoENI 1999). Where possible, it is recommended that any archaeological remains identified during monitoring be preserved in situ. In cases where in situ preservation is possible, scale drawing of archaeological deposits and a record of their exact location will be required.
- 11.4 In cases where in situ preservation is not a viable option, preservation through archaeological excavation and recording should be carried out. However, given that there are no known archaeological remains in existence within the areas of proposed invasive groundworks, it is difficult to precisely establish locations of archaeological sensitivity. Should archaeological remains be uncovered where in situ preservation is not a viable option, a methodology for archaeological mitigation measures for application to development work affecting areas of potential archaeological sensitivity which will allow preservation by record is detailed below.

12. Methodology

12.1 Mitigation of Impact on Previously Identified Cultural Heritage Features.

- 12.1.1 As noted in Section 10.1 above the proposed scheme will have a potential adverse impact upon a number of existing Cultural Heritage sites, namely Wattle Bridge (IHR1326:000:00 / HB12/02/084) and Ulster Canal Lock and Mooring Post (IHR0030:072).
- 12.1.2 Development works associated with Wattle Bridge are being carried out in association with Listed Building consent and as such all works will adhere to any conditions associated with such consent in terms of change in building fabric and condition. A condition report is being compiled as part of the Listed Buildings consent which will represent a record of the existing condition of the structure prior to its alteration which will assist in mitigating impact of the scheme on this structure.
- 12.1.3 It is currently unclear whether any remain of Industrial Heritage site IHR0030:072 survive as the area is currently heavily overgrown. As such archaeological supervision of removal of vegetation in this area is proposed in order to establish whether any upstanding remains survive and if so provide for their preservation through record (i.e. photographic, descriptive and measured) prior to their removal. Should no upstanding remains prove to survive, it is recommended that further monitoring of ground works is carried out as outlined below.

12.1 Supervision of Dredging and Groundworks

- 12.1.1 The nature of the proposed development suggests that the most appropriate method of archaeological mitigation would be archaeological monitoring of both river dredging and topsoil stripping / invasive groundworks down to natural subsoil, reduced level dig OR archaeological deposits, whichever is uncovered first. Archaeological supervision of dredging will entail manual inspection of the seabed material which is being deposited onto the hopper barge by the nominated supervising archaeologist so as to identify any potential maritime archaeological artefacts which are recovered during the excavation process. Archaeological supervision of topsoil stripping is to be carried out on a machine to archaeologists 1:1 basis.
- 12.1.2 All mechanical ground-breaking work should be conducted by means of a mechanical excavator furnished with a toothless, flat-bottomed ditching/grading bucket operating under strict archaeological supervision.
- 12.1.3 It is proposed that topsoil stripping be undertaken under the close supervision of a suitably qualified archaeologist to identify any previously unrecorded archaeological remains which may survive in-situ.
- 12.1.4 All archaeological supervision should be carried out under the direction of an archaeologist licensed under Article 41 of the Historic Monuments and Archaeological Objects (NI) Order 1995 (HMAOO 1995) to ensure the identification and appropriate treatment of any archaeological remains which may survive in-situ within the boundaries of the proposed development site
- 12.1.5 All monitoring and recording will be performed in compliance with all relevant professional standards put forward by HED, IAI, and CIFA.
- 12.1.6 All excavation and recording will be performed in compliance with all relevant professional standards put forward by HED, IAI, and CIFA with specific reference to DfC:HED document "Guidance for Conducting Licensed Archaeological Excavations in Northern Ireland" (2025).
- 12.1.7 Any changes to the works proposed in the Planning Application or within this Programme of Archaeological Works, or any additional works, shall be discussed in advance and approved by HED and may require additional Consents or Approvals.

12.2 Archaeological Mitigation

12.3 *Maritime Findings:*

- 12.3.1 The supervising archaeologist on site is responsible, on behalf of the developer, for the identification and appropriate treatment of any archaeological remains encountered.
- 12.3.2 In the event of the discovery of any maritime archaeological artefacts, time will be allowed for the archaeologist to undertake appropriate inspection and level of recording. Any small scale archaeological remains such as an anchor, isolated animal bone, isolated ships timbers or concretions will be allocated a finds number and transported from the barge to a designated holding site/storage area located on land (e.g. contractor's compound/pier) to allow for archaeological inspection, recording and archiving to be implemented. Where possible the position of the archaeological finding will be recorded utilising hand-held GPS (e.g. Garmin e-trex/gpsmap) prior to its removal onshore.
- 12.3.3 In instances where archaeological material recovered from the sea bed indicates the existence of an "archaeological site" such as a shipwreck/log boat/human remains, and in order to fulfil the responsibilities of the marine licence, the supervising archaeologist shall have the authority to temporarily stop machining activity in an area where potential archaeological material has been identified and establish a Temporary Archaeological Exclusion Zone (TAEZ). In this instance, the supervising archaeologist will be responsible for communicating this to the client or appointed representative (e.g. the site manager of the main contractor or site agent), as well as to the Department of Communities: Historic Environment Division (DfC:HED), Marine Historic Environment Advisor.
- 12.3.4 Implementation of a TAEZ will initiate consultation with DfC:HED in order to establish additional investigations aimed at fully establishing the extent and nature of the archaeological site. Dredging will not recommence within the area of the TAEZ until confirmation has been received from DfC:HED that the TAEZ can be removed.
- 12.3.5 In situ preservation is the preferred method of archaeological mitigation. It is therefore recommended that any maritime archaeological remains identified during monitoring, which can be established as being part of a larger "archaeological site" be preserved *in situ*. In cases where in situ preservation is possible, the exact nature and extent and a record of their exact location will be required, and a permanent Archaeological Exclusion Zone established.
- 12.3.6 Additional measures associated with verification of an archaeological site and its in situ preservation may include but are not limited to:
- Use of marine geophysical to characterise potential wreck or other related debris
 - Use of ROV or dive team to establish exact nature of surviving archaeological material and provide for a written and descriptive record.
- 12.3.7 Any archaeological sites identified during the watching brief which are not capable of preservation in situ will be required to be archaeologically excavated and recorded. DfC:HED shall be the ultimate arbiter of the definition of appropriate levels of archaeological recording. Sampling strategies adopted will depend upon the dimensions, make up and complexity of any archaeological remains encountered and will be determined in consultation with DfC:HED. Recording will be by means of the standard methods employed during maritime archaeological fieldwork.

12.4 *Terrestrial Findings:*

- 12.4.1. The licensed archaeologist on site is responsible, on behalf of the developer, for the identification and appropriate treatment (e.g. excavation and recording) of any archaeological remains encountered. In order to fulfil the responsibilities of the developer. Therefore, the licensed archaeologist shall have the authority to temporarily stop machining activity in an area of the site where potential archaeological material has been identified, in order to evaluate the character of said remains. Should archaeological remains be present, the licensed archaeologist will be responsible for communicating this to the client or appointed representative (e.g. the site manager of the main contractor or site agent), as well as to the Department of Communities: Historic Environment Division (DfC:HED).
- 12.4.2. In the event of the discovery of any archaeological remains time will be allowed for the archaeologist to undertake an appropriate level of recording. The level of recording appropriate will depend on the nature, extent and complexity of the remains encountered and, in all cases, sufficient time will be allowed by the main contractor for this purpose. The archaeologist(s) will clearly mark off any archaeological feature or area for the duration of the recording process, so as to allow the main construction programme to continue around it without delay while archaeological excavation and recording take place.
- 12.4.3. DfC:HED shall be the ultimate arbiter of the definition of appropriate levels of archaeological recording. In the event of any disagreement between the developer and the licensed archaeologist, both parties shall be free to contact DfC:HED to achieve resolution of the matter.
- 12.4.4. In circumstances where straightforward archaeological remains are encountered (e.g., small, isolated features) which can be dealt with by the on-site archaeologist(s) in a period of up to a few hours, should it be determined preservation in situ of those remains is not a viable option, excavation and recording work will proceed as rapidly as possible. In the event of the identification of significant remains i.e. those of potentially great importance or extent, work in the affected area will be stopped, the area will be marked off, all parties will be notified immediately and no further action by either the archaeologist(s) or the main contractor will take place within the area, until the level of further work necessary has been determined in consultation with the developer, the licensed archaeologist and DfC:HED.
- 12.4.5. In situ preservation is the preferred mitigation strategy. Where possible it is proposed to preserve any archaeological deposits identified beneath modern construction levels with the agreement of DfC:HED. In such a case, the archaeological material will undergo rapid recording to include;
 - i. The cleaning up by hand (trowel/hoe) the areas defined as being of archaeological in nature and exposing their full nature and extent.
 - ii. Photographic and descriptive record of each archaeological feature uncovered
 - iii. Scale plan drawing of the archaeological features uncovered
 - iv. Total station survey of the exact location of archaeological features uncovered referenced to Irish Grid.
- 12.4.6. Once archaeological recording is completed archaeological deposits which are to be preserved in situ are to be covered with a breathable membrane prior to backfilling, in the first instance with a fine buffer material before infill with formation material. This should be carried out under archaeological supervision. Where appropriate, the archaeological material which is to be preserved in situ should be cordoned off from all construction traffic and operations until such times as formation material is built over the covered archaeological remains and the preservation of remains is set.

12.4.7. All archaeological remains identified during the archaeological monitoring and not capable of preservation in situ will be fully excavated and recorded. Sampling strategies adopted will depend upon the dimensions, make up and complexity of any archaeological remains encountered and will be determined in consultation with DfC:HED. Recording will be by means of the standard methods employed during archaeological fieldwork. This will entail:

- The cleaning up by hand (trowel/hoe) the areas defined as being of archaeological in nature and exposing their full nature and extent.
- The archaeological resolution will involve hand excavation of each of the features identified during initial site clearance.
- Appropriate plan and section drawings and contextual record and descriptions will be taken.
- Soil samples taken from each of the archaeological features deemed as being significant to the interpretation of the archaeological site investigated during the course of the excavation.
- Preparation of complete finds and environmental register
- Initial artefact/find retrieval, stabilisation and storage.
- The archaeological features revealed will be cleaned by hand and recorded using customised field record sheets or 'context sheets', as well as supporting records in the form of registers or lists of drawings, photographs, samples and the excavation director's field diary.
- Where features are found they will be described and drawn to scale, photographed and levels taken. Comprehensive plans and cross-sectional drawings will be produced at a scale of 1:10, 1:20 or 1:50 as appropriate. Digital camera equipment will be used, and each feature will be recorded three dimensionally using a combination of scale drawings and surveying equipment (total station and/or GPS).

13. Project Reporting Procedures

- 13.1 The nominated director / licence holder will contact the DfC:HED case officer with contact details, i.e. mobile phone number, in advance of site works. The director will contact and inform the DfC:HED case officer, in advance, of the date when archaeological mitigation measures are due to begin on site. Both the client and DfC:HED case officer will be given regular verbal updates regarding the progress of site work and notified immediately of all new discoveries which may affect the current programme of work. The director will contact and inform the DfC:HED case officer of instances when archaeological material is encountered so that an agreed mitigation strategy can be agreed and in advance, of the date when archaeological mitigation measures are due to finish on site.
- 13.2 DfC:HED will be afforded access to the archaeological work on site for monitoring purposes at any reasonable time (i.e. during normal working hours), with special access (such as outside working hours) by prior arrangement. All site visits will be required to comply with the site safety plan.

14. Discovery of Human Remains

- 14.1 Should any human remains be encountered during the course of the work, standard archaeological and legal procedures will be followed, by leaving any such remains in situ and notifying the local police, DfC:HED and the client, as soon as practicable. If possible, inspection of any human remains shall be arranged to involve the police with DfC:HED visiting at the same time. Only if and after clearance has been received from all of these organisations will work be permitted to continue on or in the vicinity of such material.
- 14.2 Excavation, recording and treatment of human remains will be carried out in accordance with HED guidelines "Guidance for the treatment and care of human remains from archaeological excavations in Northern Ireland 2024"

15. Treasure

- 15.1 Where items are identified that may fall under the provisions of the Treasure Act 1996 and the amendments in the Treasure (Designation) (Amendment) Order 2023, such finds of treasure will be reported to the coroner for the district in which they were found (in person, by letter or by telephone), within 14 days after the day on which they were found (or within 14 days after the day on which they were identified as being potential treasure).
- 15.2 The instructions of the coroner will be followed regarding next steps e.g. submission of items to museum.
- 15.3 *Definition of treasure*
- 15.3.1 The following finds are treasure under the Act. More detailed guidance is given in the Code of Practice
- 15.4 *Objects other than coins*
- 15.4.1. Any object other than a coin that is at least 300 years old when found and provides exceptional insight into an aspect of national or regional history, archaeology or culture by virtue of its rarity, location, or connection to person or event.
- 15.5 *Coins*
- 15.5.1. All coins from the same find provided that they are at least 300 years old when found (but if the coins contain less than 10% of gold or silver there must be at least 10 of them). An object or coin is part of the same find as another object or coin if it is found in the same place as, or had previously been left together with, the other object. Finds may have become scattered since they were originally deposited in the ground. Only the following groups of coins will normally be regarded as coming from the same find;
- hoards that have been deliberately hidden
 - smaller groups of coins, such as the contents of purses, that may have been dropped or lost
 - votive or ritual deposits
 - Single coins found on their own are not treasure. Groups of coins lost one by one over a period of time (for example those found on urban sites) will not normally be treasure.
- 15.6 *Associated objects*
- 15.6.1. Any object, whatever it is made of, that is found in the same place as, or that had previously been together with, another object that is treasure.

15.7 *Prehistoric objects*

- 15.7.1. Two or more associated objects of base metal (e.g., bronze or iron) and of prehistoric date (i.e., Iron Age or earlier).

15.8 *Objects of outstanding historical, archaeological or cultural importance*

- 15.8.1. Any object, at least 200 years old, any part of which is metal that provides and exceptional insight into an aspect of national or regional historic, archaeology or culture by virtue of rarity, location, and its connection to a particular person or event as well as any object when found is part of the same find as one or more other objects and provides such an insight when taken collectively.

15.9 *Objects that would have been treasure trove*

- 15.9.1. Any object that would previously have been treasure trove but does not fall within the specific categories given above. These objects have to be made substantially of gold or silver; they have to have been buried with the intention of recovery, and the owners or their heirs cannot be traced.

15.10 The following types of finds are not treasure;

- objects whose owners can be traced
- unworked natural objects
- objects are designated a wreck within the meaning of Part IX of the Merchant Shipping Act 1995
- Any object which falls under the Church of England's statutory system for moveable objects.

- 15.11 If a museum wants to acquire part or all of a find, the coroner will hold an inquest to decide whether it is treasure. They will inform the finder, occupier and landowner and can question witnesses at the inquest. The inquests will not normally be held with a jury. If the find is declared treasure, it will be taken via HED to be valued by the Treasure Valuation Committee.

- 15.12 Where the finder has permission to be on land, rewards should continue to be paid in full to the finder. Proof as to whether they have permission will rest with the finder. If the finder makes an agreement with the occupier/ landowner to share a reward, the Secretary of State for Culture, Media and Sport will normally follow it.

- 15.13 Rewards will not normally be payable when the find is made by an archaeologist.

- 15.14 Where the finder has committed an offence in relation to a find, has trespassed, or not followed best practice as set out in the Code of Practice, they may expect no reward at all or a reduced reward. Landowners and occupiers will be eligible for rewards in such cases.

16. Timetable

- 16.1 The archaeological test trenching works will commence at the site as soon as practicable, once all necessary licences are in place.

17. Health & Safety and Insurance

- 17.1 All archaeological work will adhere to the guidelines and standards prescribed for archaeological fieldwork in the Health & Safety document and in accordance with all relevant H&S legislation. Prior to fieldwork commencing, a risk assessment will be carried out leading to the preparation of a project safety plan, the prescriptions of which will be strictly followed for the duration of all archaeological fieldwork. The archaeologist will also liaise with the main contractor and the client over H&S on site, prepare and submit such documentation as may be necessary to the planning supervisor and incorporate any rules or procedures required by the developer's project safety plan.
- 17.2 All archaeological work will be undertaken with the necessary insurance cover, proofs of which may be supplied upon request.

18. Archaeological Monitoring / Excavation Report

- 18.1 Post-excavation is the process by which a full understanding of the significance of the archaeological remains excavated can be understood, the means by which the excavation can be preserved for the future and is a requirement under both planning and archaeological licencing conditions. A detailed report outlining the results of the test-trenching and further recommendations will be submitted to DfC:HED within two weeks of completion of the excavation and will be compiled according to relevant legislation and best professional practice.
- 18.2 In those instances where archaeological remains are uncovered and require archaeological excavation, once all of the required fieldwork is completed, the results will be presented in the form of a data structure report within six weeks of the completion of fieldwork. This will be accompanied by a full post-excavation research design with recommendations for further specialist analyses, should such be necessary. The report will be prepared to standards outlined in the HED Guidance for the creation and care of archaeological archives in Northern Ireland 2024.
- 18.3 Post-excavation and dissemination works will consist of all required post-excavation analyses, conservation work, reporting, or other dissemination products, arising from the excavation – which may include detailed illustrated technical reports on this work, report summaries fit for publication in monograph or periodical form, popular publications, lectures and posters or an exhibition (subject to further funding), as may be appropriate (i.e. depending on the significance and scale of the results) – archiving of the excavation records and materials, and any other work that may be required for the proper execution of the post-excavation programme arising from the project.
- 18.4 Post-excavation works may include, amongst other things, the following tasks:
- temporary storage of finds, samples and records
 - checking and reconciliation of site records
 - analysis of site records, including generation of a phased stratigraphic matrix
 - compilation of a detailed descriptive catalogue of artefacts
 - compilation of Excavation Finds Register Database
 - preparation of an ordered archive and contents list for same
 - specialist examination and conservation of artefacts
 - specialist analysis of palaeoenvironmental materials or other sample materials if required
 - scientific dating of sample materials
 - preparation of report illustrations to publication standard
 - preparation of report texts and associated research

- dissemination of the excavation results
- preparation of summaries for excavations bulletin
- accession of all archaeological objects to the Museum.
- Any dissemination items detailed below

18.5 *Research*

- 18.5.1 This will include the compilation of background information for the landscape on the scheme/site including a detailed account of the geography, geology and land-use as well as the prehistoric and early medieval to post-medieval landscapes.

18.6 *Analysis and interpretation of excavation records*

- 18.6.1. This shall contain a detailed description of each context identifying stratigraphical relationships. A summary of the site stratigraphy will be supplied. Each phase of the site, including interpretation of these phases will be demonstrated. Discussion of the site shall include local, regional, national context and where appropriate international contexts. The discussion of the site shall include the integration of results of specialist reports which will also be cross referenced to the Appendices.

18.7 *Conservation & Analysis of artefacts*

- 18.7.1. Conservation of artefacts will be carried out in consultation with the statutory bodies and to relevant statutory guidelines. Analysis of artefacts will be carried out by a relevant specialist who will produce an analytical report outlining the nature, function and interpretation of artefacts recovered during the course of excavation works.

18.8 *Analysis of Faunal & human skeletal remains*

- 18.8.1. Analysis of human skeletal remains will be carried out on any surviving bone or cremated material. Analysis will be carried out by a relevant specialist who will produce an analytical and interpretative report to be included within the overall site interpretation.
- 18.8.2. As a minimum, where relevant, the faunal analysis will contain tables outlining the main number of species parts (NISP) and minimum number of individuals (MNI) values for the main phases/contexts of the site. The basic ageing data for both tooth eruption and wear and epiphyseal fusion data will be presented in such a way that it can be used in comparison with other sites. Also, a summary of the metrical information will be presented and complete bone dimensions, especially those of the less frequently encountered species, will be recorded individually. Any palaeopathological lesions and butchery marks will also be recorded.

18.9 *Analysis of environmental samples*

- 18.9.1. FarrimondMacManus Ltd archaeological staff is aware of appropriate sampling strategies employed in the course of the excavation works. It is anticipated that the premium sampling opportunities will be provided by:
- stable, waterlogged contexts – especially where this appears to represent a single event
 - intact natural layers including both overlying peat and sealed old ground surface
 - any undisturbed single event cut features
- 18.9.2. Samples will be described on site and packaged in rigid self-sealing plastic buckets or grip lock bags.

18.9.3. Where applicable, environmental samples from significant archaeological features shall be analysed. This work will be carried out in accordance with the '*Environmental Sampling: Guidelines for Archaeologists*' compiled by the Environmental Subcommittee of the Institute of Archaeologists of Ireland: http://iai.ie/Publications_Files/IAIEnvironmentalSamplingGuidelinesFINAL.pdf

18.10 *Finds*

18.10.1. Provision for the allocation of any finds will be agreed with the client, prior to start of work on site. Any finds made during the works will be reported to DfC:HED and will ultimately be transferred to the designated repository, in accordance with legal requirements.

18.10.2. The Excavation Director will be the nominated responsible individual for ensuring the proper recording and treatment of archaeological objects. All archaeological objects will be recorded in the field and packaged using sympathetic materials and rigid containers.

18.10.3. Where necessary any finds requiring immediate conservation will be referred to a specialist.

18.10.4. All archaeological artefacts will be numbered in accordance best practice.

18.11 *Dating*

18.11.1. It is standard archaeological practice that dates from a selection of significant phases of site activity shall be obtained. However, dates for each phase of activity may not be necessary if it can be clearly demonstrated that a particular phase of activity can be dated either through the identification of diagnostic material from a secure context or through assured stratigraphical relationships.

18.12 *Specialists*

18.12.1. Specialists may be nominated as appropriate for the finds and environmental samples recovered.