Application for Planning Permission for Gravel Removal at Athea Bridge

Section 177AE of the Planning and Development Act 2000 (as amended)
Planning and Development Regulations 2002 (as amended)

Stantec

Prepared for:
Limerick City and County Council

Prepared by:
Martyna Anthony-Williams

Date:
28 October 2026

Project/File:
Athea Flood Relief Scheme

Stantec Ireland Limited

Revision Record

Revision	Description	Author	Date	Quality Check	Date	Independent Review	Date
1.0	Draft for Client Review	M Anthony-Williams	11/09/ 2026	T Migel Wasam	11/09/ 2026	J Reid	11/09/ 2026
2.0	Draft for Client Review	M Anthony-Williams	27/10/ 2026	T Migel Wasam	27/10/ 2026	J Reid	27/10/ 2026
3.0	For Planning	M Anthony-Williams	28/10/ 2026	T Migel Wasam	28/10/ 2026	J Reid	28/10/ 2026

Disclaimer

The conclusions in the Report titled Application for Planning Permission for Gravel Removal at Athea Bridge are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Limerick City and County Council (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by: Martyna Anthony-Williams

Signature

Martyna Anthony-Williams

Printed Name

Reviewed by: Thilina Migel Wasam

Signature

Thilina Migel Wasam

Printed Name

Approved by: Jonathan Reid

Signature

Jonathan Reid

Printed Name

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1 INTRODUCTION

1.1 SCOPE

The purpose of this report is to provide supporting information regarding the application for Planning Permission associated with works to be undertaken on the Athea Flood Relief Scheme. The proposed works include the removal of excess gravel from the River Galey in the vicinity of Athea Bridge. The volume of excess gravel to be removed in each round of gravel removal will be up to 240 m^3.

This report will describe above plans with more details.

1.2 SCHEME BACKGROUND

Stantec (formerly Ryan Hanley) were appointed by Limerick City and County Council (LCCC) in September 2019 to undertake a flood relief scheme (FRS) for Athea, Co. Limerick. Extensive flooding took place in Athea in 2005 and 2008, the latter of which resulted in the production of the Athea Flood Severity and Impact Report by JBA Consulting Engineers. In 2012, the National Preliminary Flood Risk Assessment (PFRA) project report and maps were produced, which provided the initial estimation of flood extents for Athea. This highlighted Athea as an Area of Further Assessment (AFA) and Community at Risk (CAR) area for the Catchment Flood Risk Assessment Management (CFRAM) study. Athea AFA was included in Unit of Management (UoM) 23 Tralee Bay-Feale in the Shannon CFRAM study. Jacobs Engineering Group completed the works on the CFRAM study for Athea. The purpose of the Athea FRS is to identify the most viable FRS to alleviate flooding in Athea Village.

The River Galey is a tributary of the River Feale, that rises on the western slopes of Knockanimpuha Hill, in a steep-sided valley, and flows in a westerly direction through Athea before joining the Feale approximately 25km downstream of Athea village. Deposition of sediments, gravels and cobbles occurs in the River Galey at Athea bridge, and a vegetated gravel bar has formed immediately up and downstream of the bridge. This deposition is impacting on the conveyance capacity at the bridge and potentially increasing flood risk locally. It is believed that historically, these deposits were removed as necessary by local landowners from the channel, however, since the river was designated as part of the Lower River Shannon SAC, this no longer happens without seeking consent. LCCC was granted planning permission by An Coimisiún Pleanála in 2022 (ABP-310301-21) to remove approximately 240 m^3 of gravel from the River Galey at Athea Bridge. The works proposed in the present Planning Application is of the same nature as that of the Planning Application (ABP-310301-21) that was lodged in 2021 by LCCC.

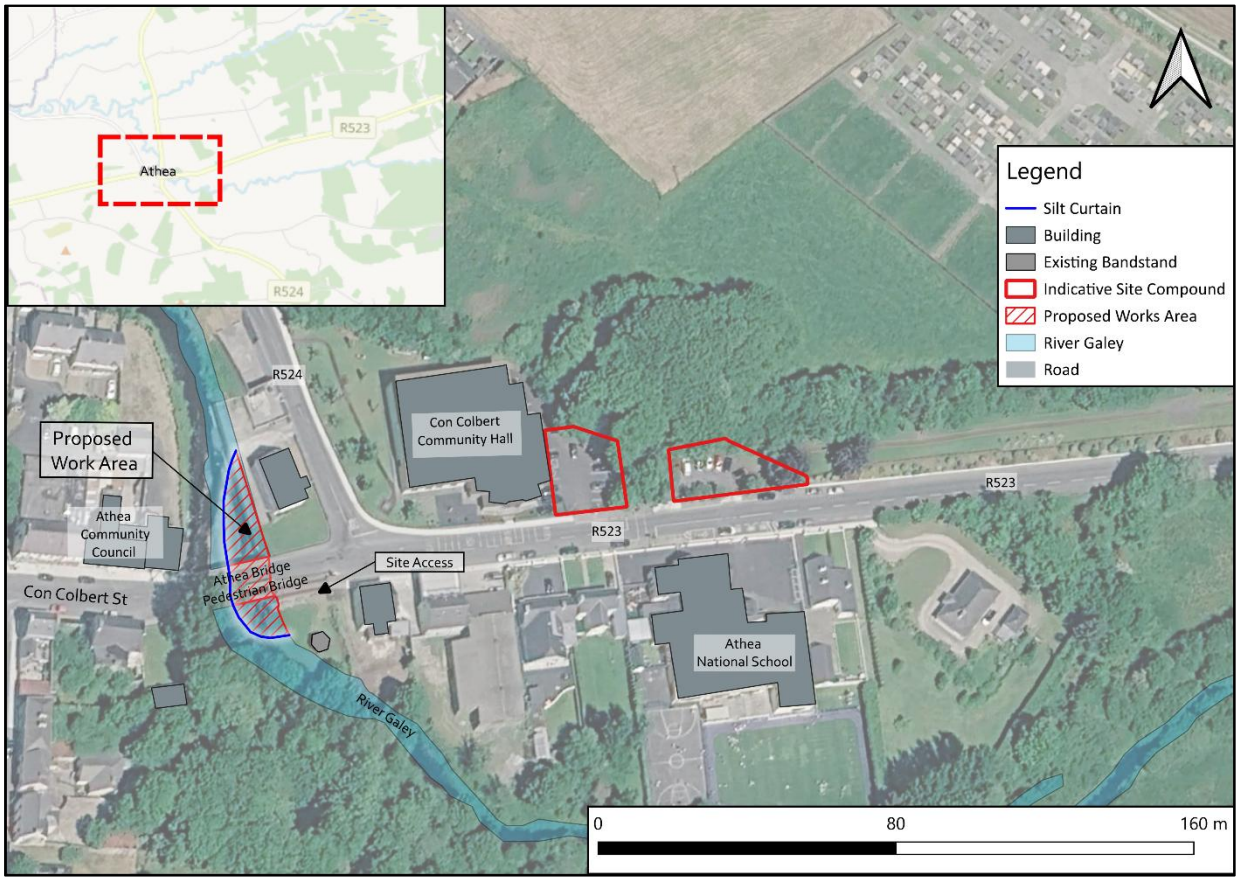


Figure 1-1: Location of Study Area, Athea, Co. Limerick

2 PROPOSED WORK

Large silt and sediment deposits have built up within two arches of Athea Bridge and a stretch up and downstream of these arches. Approximately 240 m^3 of gravel deposits at Athea Bridge were removed by LCCC in 2022. LCCC commissioned a number of topographical surveys of the gravel shoal at Athea Bridge. Topographical surveys were completed in October 2022, February 2024, December 2024, October 2025, January 2026 and August 2026. Stantec carried out an assessment of the topographical surveys on behalf of LCCC to determine the volume of gravel build up since gravel was removed from the River Galey in 2022. The assessment indicates that between 65-75% of the volume of excess gravel removed in 2022 has now reaccumulated at Athea Bridge. See Figure 2-1 which shows the location of the reaccumulated gravels at Athea Bridge. The greatest accumulation of gravels has occurred under the central arch of Athea Bridge.

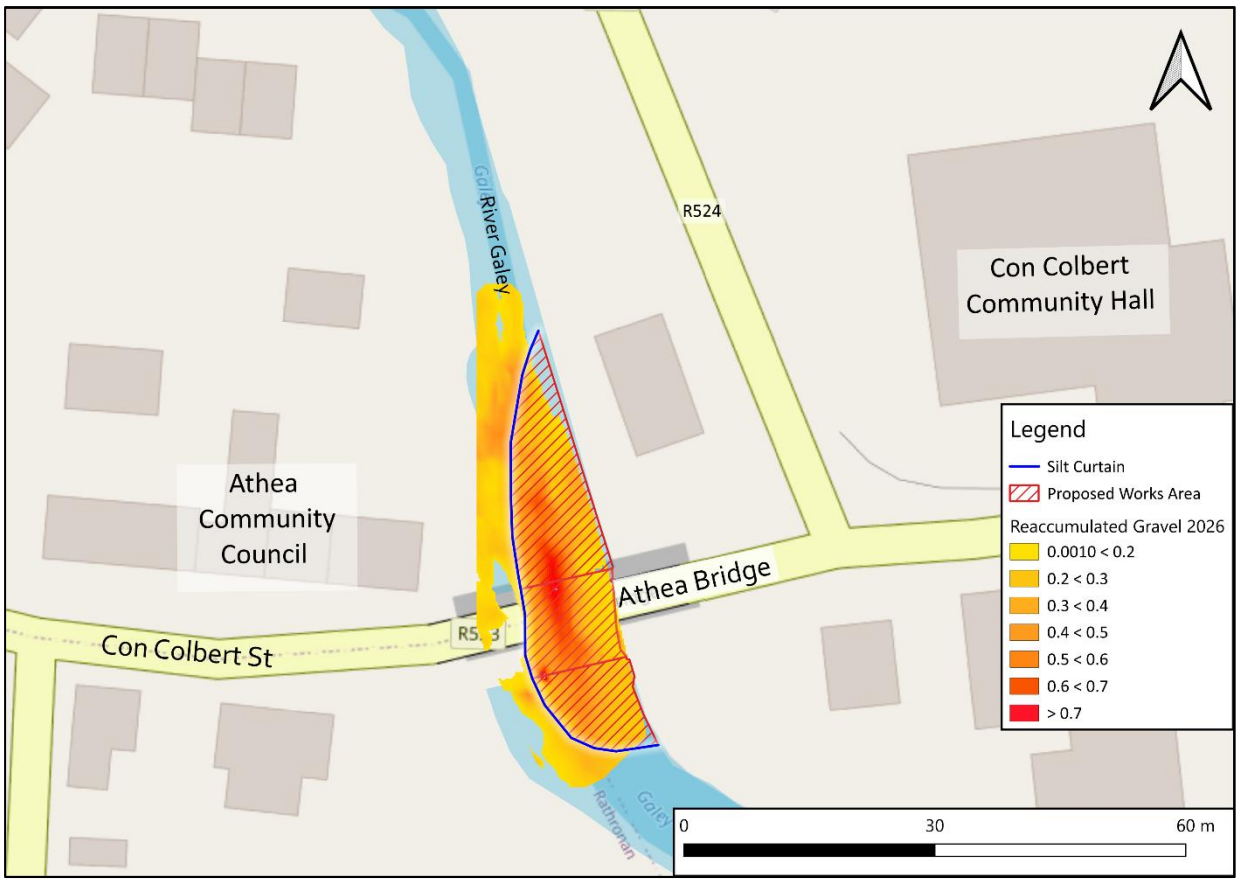


Figure 2-1: Reaccumulated gravel at Athea Bridge

As a result of the gravel reaccumulating, LCCC are seeking Planning Permission to undertake up to three rounds of gravel removal over a five-year period. LCCC are proposing to remove excess gravel from the River Galey in Year 1, 3 and 5 as required. In potentially allowing for removal of excess gravel from the River Galey every two years, it allows LCCC to maintain a baseline conveyance through the Athea Bridge without allowing for a significant build up of gravel at the bridge. By maintaining an improved conveyance through the bridge, it would reduce the flood risk at Athea.

It is proposed that LCCC will undertake the proposed works to remove the silt and sediment deposit and associated vegetation from the affected arches of the bridge and up and downstream of the bridge, using a 6t excavator and 6t dumper to extract the material. This material will be removed off-site using a

tractor and dump trailer to a dedicated LCCC facility (Gortadroma landfill, subject to EPA approval or other appropriate LCCC facility) for ongoing treatment, due to the presence (in small quantities) of the invasive plant material Himalayan Balsam (I. glandulifera) within these sediments.

The proposal includes the removal of approximately 240 m^3 of silt, sand and gravel deposits, as well as vegetation, from the River Galey to 300mm above summer-low water levels in the vicinity of Athea Bridge that have re-accumulated since the removal of gravels in 2022. The works are essential to reduce the potential risk of flooding along the proposed section of the river on an interim basis until formal flood defences are put in place as part of the proposed Athea Flood Relief Scheme. The removal of gravel at this location will result in a significant improvement in conveyance at Athea Bridge.

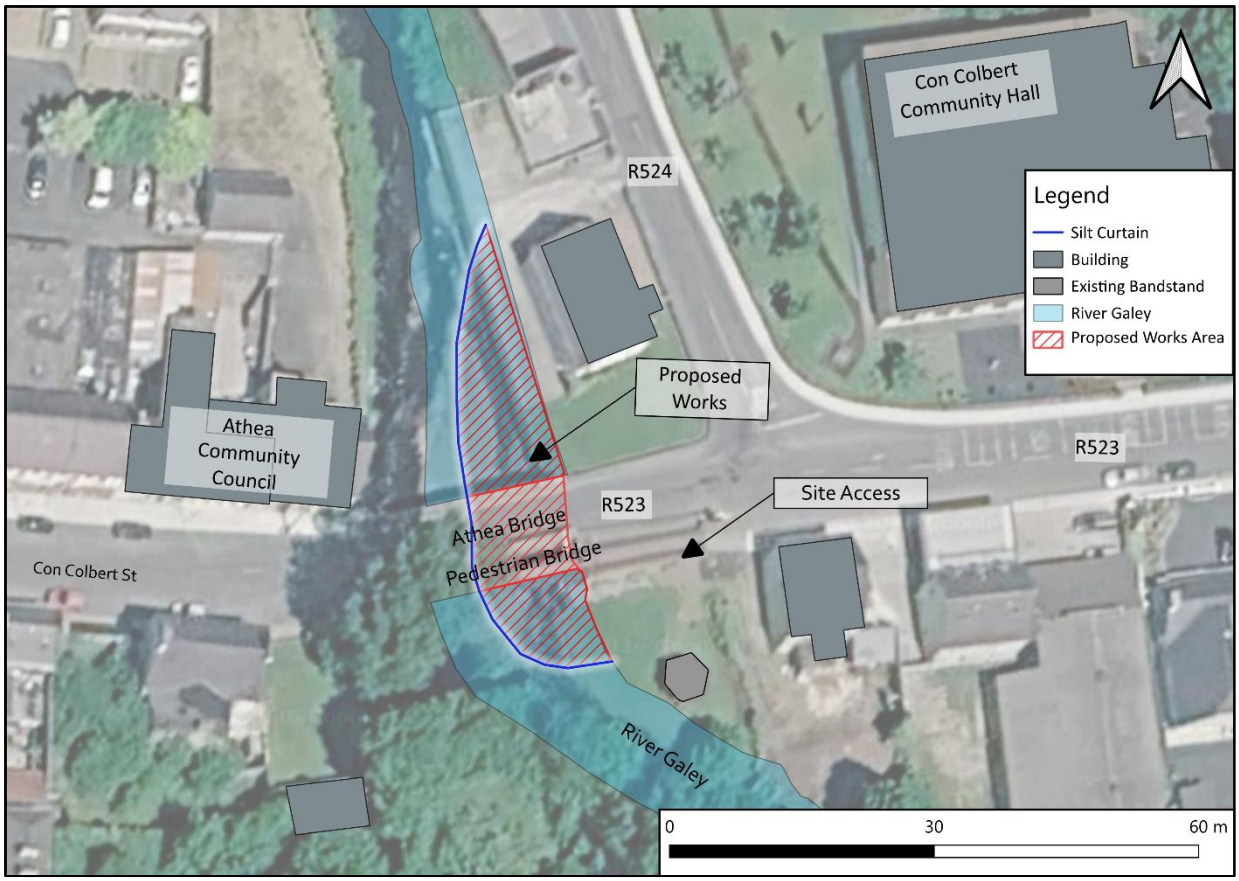


Figure 2-2: Proposed works area for gravel removal works at Athea Bridge

3 DESCRIPTION OF POTENTIAL IMPACTS

3.1 POTENTIAL ENVIRONMENTAL IMPACTS

3.1.1 Ecology/Biodiversity

A Natura Impact Statement (NIS) was undertaken for the proposed excess Gravel Removal work at Athea Bridge. A copy of the NIS is included in Appendix C.

Issues that have been considered as part of the NIS includes the potential for habitat loss, spread of invasive species, disturbance of species and water quality impacts. There will be no removal of gravels/silts below the summer-low water level and so no significant change to river hydrology or riverbank structure is foreseen.

Ecological Clerk of Work (ECoW) will carry pre works surveys as specified in the NIS prior to each round of gravel removal.

It is therefore concluded that, with the implementation of the mitigation measures specified in this report, the proposed gravel removal works alone or in-combination with other plans and/ or projects will not give rise to significant negative effects on the integrity of European Sites: Lower River Shannon SAC.

3.1.2 Biosecurity

The proposed approach to Invasive Species Management is set out in Section 9 of the NIS.

The desktop study and site visits have identified a number of invasive species within the Athea gravel clearance area, including stands of Himalayan balsam on the gravel deposit. Invasive species have the potential to spread to other locations via machinery used on site or via the river itself if plant material is disturbed. The following biosecurity measures will be put in place to ensure no spread of invasive species:

- A pre-construction survey for invasive species will be conducted at the earliest stage possible to update and inform on the status of invasive plant species in or near the works area. Particular attention should be given to identifying those invasive species identified on the Third Schedule of the Birds and Natural Habitats Regulations 2011 (as amended). This survey should be undertaken during the appropriate botanical season (April to September);
- All plant machinery and construction related vehicles arriving and leaving site will be checked for the presence of plant material e.g. leaves, roots and rhizomes from non-native invasive species;
- All staff will be trained in the identification of invasive species and noxious weeds and the associated biosecurity measures required when working on site;
- Non-native invasive species will be managed or avoided where they occur throughout the works area, in line with the NRA Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Road Schemes (NRA, 2010), and any other best practice guidance which may be available in the interim;

- Any Himalayan balsam identified during the site survey on the gravel deposit will be hand-pulled prior to the commencement of the works. Hand pulling must only take place before the plant goes to seed (June to October);
- Contaminated material will be stockpiled off site. The area will be clearly marked, lined with a root barrier membrane and be of sufficient size to hold all the material to be excavated; and
- Seeds may survive in the excavated material for up to 18 months. A two-year programme of control, which will extend beyond the works period will be required

3.1.3 Water Quality

A full set of proposed approaches to water quality management are provided in section 9 NIS.

The following methodology details the surface water monitoring to be undertaken during the gravel removal works on the River Galey:

- A suitable qualified Ecological Clerk of Works (ECoW) shall be appointed for part-time attendance for the full duration of the works and will supervise all aspects of the gravel removal process;
- The ECoW will be responsible for monitoring water quality throughout the works duration for the removal of gravels from the bridge area. This includes the authority to cease works immediately if alarmed sondes are triggered;
- Alarmed sondes will be employed to measure turbidity in the river channel upstream and downstream of the works area during gravel removal works. These will continuously measure turbidity for a suitable time ahead of the works to gather baseline data from the River Galey. They will continuously measure turbidity throughout the gravel removal works period. If there is a 20% or greater difference between upstream and downstream turbidity, works will be ceased immediately until the cause of the difference is identified and rectified (if caused by the gravel removal works). The relevant statutory authorities (NPWS, IFI & EPA) will also be notified. If necessary, water sampling and monitoring of the River Galey can also be completed to test for Total Suspended Solids (TSS) and hydrocarbon concentrations. The suitably trained ECoW will be responsible for all water quality monitoring during the gravel removal works. The most appropriate locations for the proposed turbidity monitors will be determined by the ECoW on site.

3.1.4 Noise

Mitigation will be required to ensure that disturbance levels from noise is kept to a minimum. Works will be carried out during day time hours only (08:00-18:00).

3.1.5 Cultural Heritage

A protected structure, Athea Bridge, is located adjacent to the proposed works area.

Athea Bridge is a freestanding triple-arch road bridge spanning Galey River, built c.1820, comprising central primary camber-headed arch flanked by smaller camber-headed arches having rusticated limestone voussoirs with tooled limestone soffits springing from tooled limestone piers. Tooled

limestone V-cutwaters to side (south) elevations having tooled limestone capping. Snecked rusticated limestone spandrels below roughly dressed stone parapet walls having tooled limestone coping and piers to termini with pyramidal tooled limestone capping. Rusticated stone-faced embankments to banks (east, west) flanking bridge having square-profile piers with rusticated stone coping and capping. Recent single-span iron girder footbridge, c. 2005, to south of bridge.

Located on the edge of the town of Athea, this striking bridge not only forms a boundary marker for the town but is also an important part of the town's architectural heritage. The effort of the engineers and masons is clearly visible throughout the bridge's construction, with substantial amounts of tooled and dressed stone forming its main fabric. Symmetrically designed with smaller aches flanking the large central arch, architectural details such as rusticated voussoirs and tooled limestone coping and cutwaters enliven the façades. The narrow form of the bridge attests to its age and explains the construction of the adjacent pedestrian footbridge.

A letter from the Limerick City and County Council Conservation Officer is provided in Appendix D. Accordingly, the following measures will be put in place:

- All works in the Vicinity of Athea Bridge will be supervised by a Conservation Architect accredited to Grade 2 by the RIAI.
- The fabric, fixtures and features of the Protected Structure will be protected against damage during the course of the works.
- Appropriate records of the works will be submitted to the Development Control Section of Limerick City and County Council and the Conservation Officer upon completion of the project.

3.1.6 Underwater Archaeological Impact Assessment (UAIA)

Mizen Archaeology were engaged in 2025 by Stantec to undertake an UAIA for the Athea Flood Relief Scheme. As part of the UAIA for the Athea Flood Relief Scheme, Mizen Archaeology undertook an underwater archaeological survey at the location of the gravel shoal at Athea Bridge where the gravel removal works are proposed. The UAIA comprised a desktop study and a site survey. The site surveys comprised wading and metal detection survey of the river channel. The surveys did not identify anything of archaeological significance. Findings from the survey included ceramic tableware, aluminium cans, motor vehicle components and other moder debris. It should be noted that this UAIA was completed for the wider Athea Flood Relief Scheme and therefore a far wider works area was assessed.

An UAIA was also done as part of the initial LCCC Planning Application for Gravel Removal in 2021 where no archaeological material was identified.

The full UAIA Report for the Athea Flood Relief Scheme can be found in D. No archaeological mitigation is proposed for the excess gravel removal works.

4 SUMMARY

This report provides supporting information regarding the application for Planning Permission associated with works to be undertaken on Athea Flood Relief Scheme. The proposed works include the removal of gravel from the River Galey in the vicinity of Athea Bridge up to three occasions over a five-year period. Excess gravel removal is required to remove large silt and sediment deposits, which have built up within two arches of Athea Bridge and a stretch up and downstream of these arches.

A Natura Impact Statement (NIS) was undertaken for the proposed Gravel Removal work at Athea Bridge. Accordingly, this planning application is being made under Section 177AE of the Planning and Development Act 2000 (as amended). A copy of the NIS is included in C.

Issues that have been considered as part of the NIS includes the potential for habitat loss, spread of invasive species, disturbance of species and water quality impacts. There will be no removal of gravels/silts below the waterline and so no significant change to river hydrology or riverbank structure is foreseen

It is therefore concluded that, with the implementation of the mitigation measures specified in this report, the proposed gravel removal works alone or in-combination with other plans and/ or projects will not give rise to significant negative effects on the integrity of European Sites: Lower River Shannon SAC.

Athea Bridge is a protected structure. Measures required to ensure protection of the Bridge have been identified in consultation with Limerick City and County Council's Conservation Officer. These measures are detailed in this report and will be implemented as part of this development.

APPENDICES

Appendix A - NEWSPAPER ADVERT

Comhairle Cathrach & Contae **Luimnigh**

Limerick City & County Council

PUBLIC NOTICE

ATHEA FLOOD RELIEF SCHEME

PLANNING AND DEVELOPMENT ACT 2000 (AS AMENDED) PLANNING AND DEVELOPMENT REGULATIONS 2001 (AS AMENDED)

In accordance with Section 177AE of the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended), notice is hereby given that Limerick City & County Council proposes to seek the approval of An Coimisiún Pleanála to carry out the following works located in the townlands of Templeathea West and Gortnagross;

- **Removal of excess gravel build up in the River Galey in the vicinity of Athea Bridge**

A Natura Impact Statement (NIS) has been prepared as part of the application for approval in respect of the proposed development.

Submissions and observations in respect of the proposed development relating to;

- the implications of the proposed development for proper planning and sustainable development in the area concerned,
- the likely effects on the environment of the proposed development, and
- the likely significant effects of the proposed development on a European site

may be made to An Coimisiún Pleanála, 64 Marlborough Street, Dublin 1 and must be received no later than 5.00 pm on 17 December 2026.

A copy of the NIS documents, particulars, plans, and other information relating to the application may be inspected at the following locations;

- Limerick City & County Council, Merchants Quay, Limerick, V94 EH90, between the hours of 9.00 am and 5:00 p.m on working days from 29 October 2026 to 17 December 2026 (inclusive of both dates).
- Limerick City and County Council, Dooradoyle Road, Limerick, V94 WV78, between the hours of 9.00 am and 5:00 p.m on working days from 29 October 2026 to 17 December 2026 (inclusive of both dates).
- Limerick City & County Council, Newcastle West Area Office, Áras William Smith O'Brien, Sheehan's Road, Newcastle West, V42 EH73, between the hours of 9.00 am and 5:00 p.m on working days from 29 October 2026 to 17 December 2026 (inclusive of both dates)
- The offices of An Coimisiún Pleanála, 64 Marlborough Street, Dublin 1 between the hours of 9.00 am and 5:00 p.m on working days from 29 October 2026 to 17 December 2026 (inclusive of both dates)

Alternatively, the Natura Impact Statement is available and can be downloaded from My Point, https://mypoint.limerick.ie/, the online public collaboration and consultation portal of Limerick City and County Council or alternatively purchased for a nominal fee.

In relation to the proposed development, An Coimisiún Pleanála may:

- Approve the proposed development
- Approve the proposed development with modifications
- Refuse to approve the proposed development

A person may question the validity of a decision of An Coimisiún Pleanála by way of an application for judicial review, under Order 84 of the rules of the Superior Courts (S.I. No.15 of 1986) in accordance with section 50 of the Planning and Development Act 2000, as amended.

Further information in respect of the Judicial Review process can be found on www.citizensinformation.ie. Contact 0818 07 4000 for details of the locations and operating hours of your local Citizens Information Centre.

Recruitment & Public Notices

to advertise: tel. 061 413322 email: appointments@limerickpost.ie

CASE NO: D:LIC:NEW:2026:011261

AN CHUIRT DUICHE
THE DISTRICT COURT

S.I. No. 174 of 2009

No. 68.3

LICENSING ACT (IRELAND) 1874, Sections 9 and 10

INTOXICATING LIQUOR ACT 2008, Sections 6, 7 and 8

NOTICE OF APPLICATION FOR A CERTIFICATE FOR A NEW WINE RETAILER'S OFF-LICENCE

District Court Area of Newcastle West
District No. 13

Jifu Ltd Applicant

TAKE NOTICE that the above-named Applicant Jifu Ltd of Gala Shanagolden, Main Street, Shanagolden, Limerick intends to apply to the Court at Newcastlewest District Court on the 24 Nov 2026 at 10:30 for a certificate to hold a WINE RETAILER'S OFF-LICENCE in respect of the premises situate at Shanagolden, Limerick, in court area and district aforesaid.

Dated this 27 Oct 2026

Signed Leahy Reidy Solicitors LLP
Solicitor for Applicant
Park Manor, Upper Mallow Street,
Limerick

To the Garda Superintendent,
at LK.LimerickCounty.CE@Garda.ie,
Newcastle West Garda Station, Churchtown Road, Newcastle West, Limerick, V42 YX31

To the Health Service Executive Official,
at peholimerick@hse.ie

To the District Court Clerk, Limerick District Court

Comhairle Cathrach & Contae Luimnigh
Limerick City & County Council

FÓGRA POIBLÍ

FÓGRA MAIDIR LE BUISÉAD AN ÚDARÁIS ÁITIÚIL 2027 (ALTANNA 102 – 103 DEN ACHT UM RIALTAS ÁITIÚIL 2001, ARNA LEASÚ)

Tugtar fógra leis seo go ndéanfaidh an Chomhairle breithniú ar Dhréachtbhuiséad an Údaráis Áitiúil do Chomhairle Cathrach agus Contae Luimnigh don bhliain airgeadais dar críoch an 31 Nollaig 2027 ag Cruinniú Reachtúil an Bhuiséid Údaráis Áitiúil a reáchtálfar Dé hAoine, an 20 Samhain 2026, i Seomra na Comhairle, Tuar an Daill, Luimneach ag 10.00 r.n. Beidh cóip den Dréachtbhuiséad Údaráis Áitiúil sin ar fáil in Oifigí na Comhairle i dTuar an Daill agus ar Cé na gCeannaithe, Luimneach, ón 12 Samhain 2026 i leith, agusféadfaidh aon duine den phobal í a iniúchadh ansin, saor in aisce, tráth ar bith a mbíonn na hoifigí ar oscailt chun gnó oifigiúil a dhéanamh (9.00 r.n. go 5.00 i.n., Luan go hAoine). Is féidir cóip den Dréachtbhuiséad Údaráis Áitiúil a cheannach ar tháille de €5.00.

Dáta an 19 Deireadh Fómhair 2026.

John Moran, Méara Luimnigh

PUBLIC NOTICE

NOTICE OF 2027 LOCAL AUTHORITY BUDGET (SECTION 102 – 103 LOCAL GOVERNMENT ACT 2001, AS AMENDED)

Notice is hereby given that the Draft Local Authority Budget for Limerick City and County Council for the financial year ending 31st December, 2027 will be considered by the Council at the Statutory Local Authority Budget Meeting which will be held on Friday, 20th November, 2026, at The Council Chamber, Dooradoyle, Limerick at 10.00am. A copy of the said Draft Local Authority Budget will be available in the Council Offices at Dooradoyle and Merchants Quay, Limerick from the 12th November 2026 and may be inspected there by any member of the public, free of charge, at any time that the offices are open for the transaction of official business (9.00am to 5.00pm Monday to Friday). A copy of the Draft Local Authority Budget may be purchased for a fee of €5.00.

Dated this 19th October, 2026.

John Moran
Mayor of Limerick

Limerick.ie

Comhairle Cathrach & Contae Luimnigh
Limerick City & County Council

FÓGRA POIBLÍ

AN TACHT UM BÓITHRE, 1993 – ALT 73 CEARTA BEALAIGH POIBLÍ A DHIMBRÍ BÓTHAR ÁITIÚIL L-12013 BAILE STIABHNA, CO. LUIMNIGH

Tugtar fógra leis seo go bhfuil Ordú (DG/2026/095) déanta ag **Comhairle Cathrach agus Contae Luimnigh** faoi **Alt 73 den Acht um Bóithre, 1993** lena ndimbrítear an ceart bealaigh poiblí atá sonraithe sa Sceideal thíos. Ní bhfuarthas aon agóid, barúil ná ionadaíocht laistigh den tréimhse comhairliúcháin reachtúil.
Féadfar cóip den Ordú agus den léarscáil atá ag gabháil leis, a thaispeánann an ceart bealaigh poiblí a dimbríodh, a iniúchadh le linn uaireanta oscailte poiblí in Oifig Cheantar Cathrach Ráth Caola, Bóthar na Líne Nua, Ráth Caola, Co. Luimnigh.

SCEIDEAL

Cur síos ar an gCeart Bealaigh Poiblí a Dimbríodh:
An chuid den Bhóthar Áitiúil L-12013 atá thart ar 774 méadar ar fad, ag síneadh ón ngeata isteach go Teach Bhaile Stiabhna díreach go dtí príomhtheach Theach Bhaile Stiabhna atá suite laistigh de bhailte fearainn Bhaile Stiabhna agus Bhaile an Chanánaigh, Co. Luimnigh.

P. Liddy, Stiúrthóir Seirbhísí Iompar, Soghluaisteacht agus Réimse Poiblí Comhairle Cathrach agus Contae Luimnigh

PUBLIC NOTICE

ROADS ACT, 1993 – SECTION 73 EXTINGUISHMENT OF PUBLIC RIGHT OF WAY LOCAL ROAD L-12013 AT BALLYSTEEN, CO. LIMERICK

Notice is hereby given that Limerick City and County Council has made an Order (DG/2026/095) under Section 73 of the Roads Act, 1993 extinguishing the public right of way specified in the Schedule below. No objections, observations, or representations were received within the statutory consultation period.
A copy of the Order and the accompanying map indicating the public right of way extinguished may be inspected during public opening hours at Rathkeale Municipal District Office, New Line Road, Rathkeale Co Limerick.

SCHEDULE

Description of Public Right of Way Extinguished:
The section of the L-12013 Local Road measuring approximately 774 metres in length, extending from the entrance gate of Ballysteen House directly to the main house at Ballysteen House, situated within the townlands of Ballysteen and Ballycanauna, County Limerick.

P. Liddy,
Director of Services
Transportation, Mobility & Public Realm
Limerick City and County Council

Limerick.ie

Comhairle Cathrach & Contae Luimnigh
Limerick City & County Council

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- **Removal of excess gravel build up in the River Galey in the vicinity of Athea Bridge**

A Natura Impact Statement (NIS) has been prepared as part of the application for approval in respect of the proposed development.

Submissions and observations in respect of the proposed development relating to;

- the implications of the proposed development for proper planning and sustainable development in the area concerned,
- the likely effects on the environment of the proposed development, and
- the likely significant effects of the proposed development on a European site

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In relation to the proposed development, An Coimisiún Pleanála may:

- Approve the proposed development
- Approve the proposed development with modifications
- Refuse to approve the proposed development

A person may question the validity of a decision of An Coimisiún Pleanála by way of an application for judicial review, under Order 84 of the rules of the Superior Courts (S.I. No.15 of 1986) in accordance with section 50 of the Planning and Development Act 2000, as amended.

Further information in respect of the Judicial Review process can be found on www.citizensinformation.ie. Contact 0818 07 4000 for details of the locations and operating hours of your local Citizens Information Centre.

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Longstanding issue over lack of burial plots at Abbeyfeale cemetery is laid to rest

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Appendix B – SITE NOTICE

LIMERICK CITY & COUNTY COUNCIL

ATHEA FLOOD RELIEF SCHEME

Planning and Development Act 2000 (as amended)

Planning and Development Regulations 2001 (as amended)

APPLICATION TO AN COIMISIÚN PLEANÁLA IN ACCORDANCE WITH SECTION 177AE OF THE PLANNING AND DEVELOPMENT ACT 2000 (as amended)

SITE NOTICE

In accordance with Section 177AE of the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended), notice is hereby given that Limerick City and County Council proposes to seek the approval of An Coimisiún Pleanála to carry out the following works located in the townlands of Templeathea West and Gortnagross;

- **Removal of excess gravel build up in the River Galey in the vicinity of Athea Bridge**

Limerick City and County Council has prepared a Natura Impact Statement (NIS) in respect of the proposed development. This NIS, along with plan and particulars of the proposed works are available for inspection at the following locations between the hours of 9.00am and 5:00 p.m on working days from 29 October 2026 to 17 December 2026 (inclusive of both dates)

- Limerick City & County Council, Merchants Quay, Limerick, V94 EH90
- Limerick City and County Council, Dooradoyle Road, Limerick, V94 WV78
- Limerick City & County Council, Newcastle West Area Office, Áras William Smith O'Brien, Sheehan's Road, Newcastle West, V42 EH73
- The offices of An Coimisiún Pleanála, 64 Marlborough Street, Dublin 1

Alternatively, these documents are available and can be downloaded from My Point, https://mypoint.limerick.ie/, the online public collaboration and consultation portal of Limerick City and County Council.

Submissions and observations in respect of the proposed development relating to;

- the implications of the proposed development for proper planning and sustainable development in the area concerned,
- the likely effects on the environment of the proposed development, and
- the likely significant effects of the proposed development on a European site

may be made to An Coimisiún Pleanála, 64 Marlborough Street, Dublin 1 and must be received no later than 5.00 pm on 17 December 2026.

An Coimisiún Pleanála may give approval to the application for development with or without conditions or may refuse the application for development.

Appendix C – NATURA IMPACT STATEMENT

Athea Gravel Removal Works Programme

Appropriate Assessment Screening Report & Natura Impact Statement

Stantec

Prepared for:
Limerick City and County Council

Prepared by:
K. Hamilton-Byrne & A. Fogarty

Date:
October 2026

Project/File:
326302518

Stantec Ireland Limited

Revision Record

Revision	Description	Author	Date	Quality Check	Date	Independent Review	Date
1.0	AASR & NIS	KH and AF	09.26	EB	09/26	JR	09/26
2.0	AASR & NIS - comments	KH and AF	10.26	EB	10.26	JR	10.26
3.0	AASR & NIS - comments	KH and AF	10.26	EB	10.26	JR	10.26

Disclaimer

The conclusions in the Report titled Athea Gravel Removal Works Appropriate Assessment Screening Report and Natura Impact Statement are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Limerick City and County Council (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by: Aoife Fogarty and Kyra Hamilton

Signature

K. Hamilton-Byrne & A. Fogarty

Printed Name

Reviewed by: Elaine Bennett

Signature

Elaine Bennett

Printed Name

Approved by: J. Reid Jonathan Reid

Signature

Jonathan Reid

Printed Name

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Executive Summary

Stantec was commissioned by Limerick City and County Council (LCCC) to complete an Appropriate Assessment Screening Report (AASR) and Natura Impact Statement (NIS) for the proposed gravel removal works programme from the River Galey at Athea bridge, in advance of the proposed Flood Relief Scheme (FRS) at Athea, Co. Limerick. The proposed programme comprises up to three gravel removal interventions over a five-year period, in Years 1, 3 and 5, subject to a pre-works ecological survey and Ecological Clerk of Works (ECoW) supervision during each intervention. The AASR & NIS are summarised here to represent the context and content of the assessment, comprising the required information in support of the appropriate assessment of the proposed gravel removal works programme in line with the requirements of Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC) on the Conservation of Natural Habitats and of the Wild Fauna and Flora (hereafter referred to as the Habitats Directive).

The AASR identifies European Sites that are within the zone of influence of and may be potentially impacted by the proposed gravel removal works in the absence of avoidance and mitigation measures. For this project, the potential for impacts from the proposed gravel removal works programme was considered using the “Source » Pathway » Receptor” approach. In view of best scientific knowledge and applying the precautionary principle, **one European Site (Lower River Shannon Special Area of Conservation (SAC)** was identified as having potential pathways for impacts in the absence of avoidance and mitigation measures and therefore a NIS is required.

The habitats and species designated as part of this European site were examined in further detail in the NIS and the mechanisms by which significant effects may occur on the Conservation Objectives of these Qualifying Interests (QI) and Special Conservation Interests (SCI) were identified as:

- Destruction and or loss of habitat due to the removal of substrates;
- Production of suspended solids within the water column during the works due to machinery traversing the site and the movement of silt and sediments;
- Release of hydrocarbons from machinery working on the gravel bed;
- The spread of invasive species due to the removal of material that contains these species or the movement of machinery on site; and
- Disturbance/displacement of species due to increased noise and vibration during works.

The NIS provides mitigation measures to avoid and minimise these potential impacts so that the structure, function and integrity this European site is not adversely affected by the proposed works.

The NIS concludes that, with the implementation of the mitigation measures specified in the report, the proposed gravel removal works programme alone or in-combination with other plans and/ or projects will not give rise to adverse effects on the integrity of the Lower River Shannon SAC in view of the site’s conservation objectives.

1 Introduction and Background

1.1 Introduction

Stantec was commissioned by Limerick City and County Council (LCCC) to complete an Appropriate Assessment Screening Report (AASR) and Natura Impact Statement (NIS) for proposed gravel removal works programme from the River Galey at Athea bridge, in advance of the proposed Flood Relief Scheme (FRS) at Athea. The proposed programme comprises up to three gravel removal interventions over a five-year period, in Years 1, 3 and 5, subject to a pre-works ecological survey and Ecological Clerk of Works (ECoW) supervision during each intervention.

Over a period of time, gravel and silt have deposited in and around the arches of the Athea bridge (Figure 1-1 and Figure 1-2) as the water velocity of the River Galey during low flows at this point is not sufficient to carry sediment load. This has resulted in the development of a significant gravel bar with established vegetation in the channel. A prior planning application and gravel removal works were previously completed by LCCC (ABP-310301-21) in the same location in 2022.

This report contains information required for the competent authority to undertake an Appropriate Assessment (AA) in relation to the proposed gravel removal works programme from the River Galey at Athea Bridge. It provides information and assesses the potential for the proposed works to have significant effects on the conservation objectives of European Sites (Natura 2000 sites).

This report follows the Department of the Environment, Heritage and Local Government's guidelines (DoEHLG) 'Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities' (DoEHLG, 2009) and the Office of the Planning Regulator (OPR) practice note 'Appropriate Assessment Screening for Development Management' (OPR, 2021). Furthermore, this report has regard for recent European Court of Justice Decisions (CJEU).



Figure 1-1: Gravel deposit upstream of Athea Bridge (Taken on 01/09/2026)



Figure 1-2: Gravel deposit downstream of Athea Bridge (Taken on 01/09/2026)

1.2 The Requirement for Appropriate Assessment

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as “The Habitats Directive”, provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/ECC) as codified by Directive 2009/147/EC.

The requirement for Appropriate Assessment is set out in the EU Habitats Directive in Article 6(3) which states:

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives."

The EU Habitats Directive is transposed in Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011, as amended, for public authority works. If the project requires planning permission, it is the Planning and Development Act 2000 and associated Planning and Development Regulations 2001, as amended which transpose the EU Habitats Directive.

1.3 The Aim of this Report

Appropriate Assessment is required to assess the proposed gravel removal works programme, as identified above, with regard to potential impacts on European Sites. It will identify whether the proposed works are likely to have significant effects on European Sites in view of best scientific knowledge and the conservation objectives of the sites. European Sites are those identified as sites of European Community importance, designated as SACs under the Habitats Directive or as SPAs under the Birds Directive.

1.4 Statement of Authority

This report has been completed by Stantec Ecologists Kyra Hamilton and Aoife Fogarty.

Kyra holds a BSc in Zoology from the University of Galway, awarded in 2023, and a Certificate in Environmental Planning and Legislation from South East Technological University, completed in 2026. She is currently employed as a Graduate Ecologist with Stantec, where she has been involved in a wide range of ecological surveying work. Her survey experience includes winter bird surveys, invasive plant species surveys, mammal surveys (including both general mammal surveys and targeted badger sett surveys), and habitat surveys. Kyra has also contributed to the preparation of a variety of environmental reports, including Preliminary Ecological Appraisals (PEAs), Appropriate Assessment screenings, Envirokits, Construction Environmental Management Plans (CEMPs), and Environmental Impact Assessment (EIA) screenings.

Aoife has a MSc In Marine Biology from University College Cork and a post graduate certificate in Marine Spatial Planning from the Atlantic Technological University, Galway. She has 3.5 years of experience as a professional ecologist. She has completed general walkover surveys as well as targeted bat, bird, mammal, habitat and invasives species surveys for a range of different projects including flood relief schemes, national road schemes and infrastructure upgrade projects. She is experienced in completing Appropriate Assessment and Environmental Impact Assessment Screenings, Natura Impact Statements, Preliminary Ecological Appraisals, Invasive Species Reports and Biodiversity Chapters for Environmental Impact Assessments.

This report has been reviewed by Environmental Technical Director Dr. Elaine Bennett. Elaine has over 19 years of experience in ecological and environmental assessment. She has managed a large number and variety of infrastructure projects and associated ecological reports, Environmental Impact Assessment Reports, Appropriate Assessment Screening Reports and Natura Impact Statements. Elaine holds a BSc in Biological Science and a PhD in plant ecology from University College Cork. Elaine also holds a diploma in Environmental Impact Assessment and is a Chartered Environmentalist and Chartered Water and Environmental Manager.

This report has been approved by Associate Director Jonathan Reid. Jonathan B.E (Civil) Hons National University of Ireland Galway, 2003 and is a Member of the Institution of Engineers of Ireland – MIEI § Chartered Engineer (CEng). Jonathan has 20+ years engineering experience and has worked on all stages of water services projects. Jonathan is currently project manager on a number of water services projects and flood relief schemes.

2 Appropriate Assessment Process

2.1 Guidance for the Appropriate Assessment Process

Article 6(3) of the EU Habitats Directive (92/43/EEC) defines the requirement for AA of certain plans and projects. In order to inform the requirements of this AASR & NIS, the following guidance documents have been referred to:

- DoEHLG Circular NPWS 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities;
- DoEHLG (2010) Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environmental Heritage and Local Government;
- European Commission (2000) Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg. European Commission;
- European Commission (2013). Interpretation Manual of European Union Habitats. Version EUR 28. European Commission;
- European Commission (2018) Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC;
- European Commission (2021) Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Brussels, 28.9.2021C (2021) 6913 Final;
- European Communities (Birds and Natural Habitats) Regulations 2011 (as amended);
- European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374 of 2024);
- Guidelines for Ecological Impact Assessment in the UK and Ireland. Chartered Institute of Ecology and Environmental Management (CIEEM), 2024;
- Office of the Planning Regulator (2021) Appropriate Assessment Screening for Development Management. OPR Practice Note PN01. March 2021 and;
- Planning and Development Act 2000 (as amended).

2.2 Stages of Appropriate Assessment

Article 6(3) and 6(4) of the EU Habitats Directive set out a series of procedural and substantive safeguards governing plans and projects likely to have a significant effect on a Natura 2000 site. The European Commission's guidance promotes a staged process, as set out below (see Figure 2-1) the need for each being dependent upon the outcomes of the preceding stage:

- (1) Screening
- (2) Appropriate Assessment
- (3) Assessment of Alternative Solutions
- (4) Assessment where no alternative solutions remain and where adverse impacts remain, the "IROPI test" (Imperative Reasons of Over-riding Public Interest) and compensatory measures

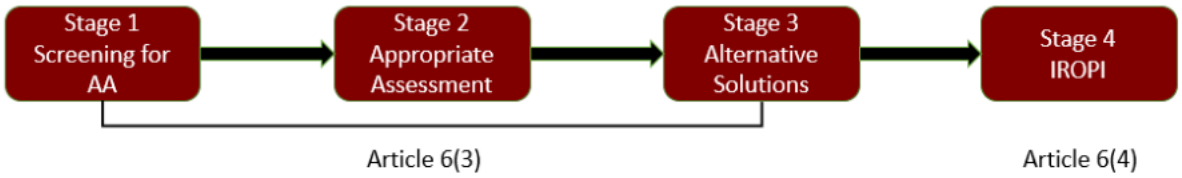


Figure 2-1: Stages of Appropriate Assessment

Within this staged process a hierarchy of avoidance, mitigation, and compensatory measures is promoted by the Habitats Directive. The process only proceeds through each of the four stages for certain plans or projects. For example, for a plan or project where no likely significant impacts are identified, the process stops at stage 1. Throughout the process, the precautionary principle must be applied, so that any uncertainties do not result in adverse impacts on a site.

Stage 1: Screening for Appropriate Assessment

Stage 1 of the process identifies whether the project, either alone, or in combination with other plans and projects, is 'likely to have a significant effect' upon a European site and its conservation objectives.

The 'likely significant effects' test is based on the precautionary principle. The precautionary principle means that, based on the most reliable available information, where there is uncertainty or doubt as to the absence of significant effects, the project cannot be screened out, and an appropriate assessment must be conducted.

Both direct and indirect effects on Qualifying Interests (QIs) and Special Conservation Interests (SCIs) of European sites must be considered. Direct effects caused by a project occur on-site and during construction i.e. at the same time and place. They include the loss of or damage to QIs and SCIs on-site through habitat degradation, habitat fragmentation, species disturbance or mortality. Indirect effects are caused by the project, but they become visible later in time or are farther removed in distance. Indirect effects include the loss or damage to QIs and SCIs off-site through habitat degradation, habitat fragmentation, species disturbance or mortality. For example, the run-off of sediment downstream of the project impacting water quality, or the spread of non-native invasive species downstream of the development.

Screening is undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan or project.

If the screening process identifies effects to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 Appropriate Assessment (AA) and the provision of a Natura Impact Statement (NIS).

Stage 2: Appropriate Assessment (Natura Impact Statement)

Stage 2 of the process considers any potential impacts in greater detail including whether mitigation measures are required to prevent an adverse impact on the habitats and species of a protected Natura 2000 site. If an adverse impact upon the site's integrity cannot be ruled out, then Stage 3 will need to be undertaken to assess whether alternative solutions exist.

Stage 3: Alternative Solutions

Where adverse impacts on the integrity of Natura 2000 sites are identified, and mitigation cannot be satisfactorily implemented, alternative ways of achieving the objectives of the plan or project that avoid adverse impacts need to be considered. If none can be found, the process proceeds to Stage 4.

Stage 4: IROPI

If no alternatives exist that have a lesser effect upon the on the integrity of Natura 2000 sites in question, the project can only be implemented in exceptional circumstances where there are 'imperative reasons of overriding public interest' (IROPI), as detailed in Article 6(4) of the EU Habitats Directive. In this case, compensatory measures will be required.

3 Methodology

The approach taken in the preparation of this AASR and NIS is based on standard methods and follows best practice guidance as listed in Section 2.1.

3.1 Desk Study

The desktop data sources used to inform this assessment are as follows (Accessed September 2026)

- Information on the location, nature and design of the proposed works as provided by the client
- Species information available from the National Biodiversity Data Centre (NBDC) www.biodiversityireland.ie
- European sites and protected habitats and species information available from the National Parks and Wildlife Service (NPWS) www.npws.ie
- Information on surface and groundwater quality and networks from the Environmental Protection Agency (EPA) www.epa.ie
- Mapping and aerial photography from Tailte Éireann www.tailte.ie
- Geological Survey Ireland online mapping and data from Geological Survey Ireland www.gsi.ie
- Limerick Development Plan 2022-2028

The habitats and species of Qualifying Interest (QI) for SACs and Special Conservation Interest (SCI) for SPAs were the main focus of the desktop studies and therefore, any supporting documentation on the NPWS website for the European Sites, was also consulted in order to identify and confirm records of habitats and species within the area. Aerial imagery was consulted in order to get a broad overview of the habitat types present within the vicinity of the proposed works.

The LCCC website (www.limerick.ie) was consulted for information on other plans/projects in the area, which could result in combination impacts with the proposed gravel removal from the River Galey.

The following plans and projects were also reviewed and considered for in-combination effects:

- Limerick Development Plan 2022-2028;
- River Basin Management Plan for Ireland 2022-2027;
- EPA database for licenced activities;
- Information on planning applications from the Department of Housing, Planning, Community and Local Government (DHPCLG) www.myplan.ie; and
- Office of Public Works (OPW) Catchment Flood Risk Assessment and Management http://www.cfram.ie/.

3.2 Consultations with Stakeholders

Consultation was undertaken with Inland Fisheries Ireland (IFI) regarding the proposed gravel removal works and existing information for the area. An email was sent to IFI regarding the proposed works on the 08/09/2026.

3.3 Field Walkover Surveys

An ecological walkover survey was carried out on the 01/09/2026 by Stantec Ecologists Aoife Fogarty and Kyra Hamilton. The walkover survey covered the gravel bar and adjacent habitats up and downstream of Athea bridge. Habitats were classified using habitat descriptions and codes published in the Heritage Council's 'A Guide to Habitat Types in Ireland' (Fossitt, 2000). The River Galey and riparian habitats adjacent to the gravel bar, as well as habitats immediately upstream and downstream (c.350m distance) of the works were examined.

During the site survey, the presence and utilisation of the area by mammal species and birds were noted and general ecological observations were made. Particular attention was given to identifying the presence of any otter holts and couches in proximity to the proposed gravel removal works at Athea Bridge. The fauna assessment was carried out using a combination of direct observation for tracks and signs, as well as determination of the suitability of the habitat for particular species. Non-volant mammal activity was assessed by checking for tracks, trails, droppings and checking for suitable holt or couch sites (rest-up locations). Areas which would be important for fish spawning (salmonids and lamprey) were searched for and the survey considered the presence of juvenile and adult fish habitat along the affected stretch. Invasive species were noted where they occurred along the survey route.

A dedicated mammal and otter survey was also conducted along a similar stretch of the River Galey on the 06th of October 2025 and the 03rd of February 2026. Hen Harrier surveys were carried out in Athea on the 16th of April 2026 and 12th of May 2026.

Surveys followed NRA (2008) "Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes" guidance. Potential bat roosting features were identified and assessed as per Collins (2023) "Bat Surveys for Professional Ecologists: Good Practice Guidelines". Hen Harrier Surveys were conducted as per the methodology used for the national Irish Hen Harrier Survey (Ruddock *et al.,* 2022). Otter surveys followed best practice survey methodology as recommended by Lenton *et al*. (1980), Chanin (2003) and Bailey & Rochford (2006).

3.4 5-year programme and pre-works ecological survey

The proposed programme comprises up to three gravel removal interventions over a five-year period, in Years 1, 3 and 5, subject to a pre-works ecological survey and Ecological Clerk of Works (ECoW) supervision during each intervention.

The 2026 description of the receiving environment in Section 5 is the baseline against which the five-year programme is assessed. Before the gravel removal works that take place in Year 3 and Year 5, an Ecological Clerk of Works (ECoW) will carry out a pre works survey prior to each intervention.

This survey will include checks for:

- habitat conditions and presence of relevant QI habitat;
- otter activity, holts/couches and other resting places;
- suitability of instream habitat for salmonids/lamprey;

- invasive species presence and distribution;
- access routes and working areas;
- extent/location/nature of accumulated gravel;
- whether the proposed methodology remains within the assessed parameters; and
- whether relevant environmental conditions have materially changed.
- the latest available EPA/WFD information will be reviewed and any material change relevant to impact pathways considered.

Where a pre-works ecological survey identifies a material change such that a proposed intervention cannot be demonstrated to remain within the nature, extent, methodology or environmental parameters assessed within this NIS, that intervention shall not proceed under the programme as assessed until the implications of the change have been appropriately considered through the relevant consenting and Appropriate Assessment.

4 Description of the Proposed Works

4.1 Description of the Proposal

The proposed programme comprises up to three gravel removal interventions over a five-year period, in Years 1, 3 and 5, subject to a pre-works ecological survey and Ecological Clerk of Works (ECoW) supervision during each intervention. Each gravel removal intervention will follow the methodology outlined below.

The proposal for each gravel removal intervention includes the removal of approximately 240m^3 of silt, sand and gravel deposits, as well as vegetation, from the River Galey to 300mm above summer-low water levels in the vicinity of Athea bridge. The works are essential to reduce the potential risk of flooding along the proposed section of the river by improving conveyance through Athea Bridge.

Table 4-1: Gravel Removal Programme Table

Programme year	Activity	Pre-works requirement
Year 1	Gravel removal	Baseline established through current 2026 assessment. Ecological survey by ECOW during supervision.
Year 2	No planned removal	N/A - Monitoring as required
Year 3	Gravel removal if required	Pre-works ecological survey and confirmation proposed works remain as per proposed works methodology outlined in this current NIS. ECOW supervision.
Year 4	No planned removal	N/A - Monitoring as required
Year 5	Gravel removal if required	Pre-works ecological survey and confirmation proposed works will remain as per proposed works methodology outlined in this current NIS. ECOW supervision.

4.1.1 General Description

Large silt and sediment deposits have built up within two arches of Athea bridge and a stretch up and downstream of these arches. It is proposed to undertake works to remove the silt and sediment deposit and associated vegetation from the affected arches of the bridge and immediately up and downstream of the bridge, using a 6t excavator and 6t dumper to extract the material. This material will be removed off-site using a tractor and dump trailer to a dedicated LCCC facility (Gortadroma landfill, subject to EPA approval or other appropriate LCCC facility) for ongoing treatment, due to the existence of the invasive plant material and seeds of Himalayan balsam (*I. glandulifera*) within these sediments.

4.1.2 Site Establishment

The foreman, site supervisor and excavator operators will walk the site in advance of the works to assess ground conditions and determine the suitability of the area for the placement of machinery.

A pre-works ecological survey and Ecological Clerk of Works (ECoW) supervision will take place during each gravel removal intervention.

A small site compound will be set up outside of the flood level of the river channel, with a mobile welfare unit including health and safety/first aid kit to service the works (See Figure 4-1). Public access to the river will be closed at the access point during the works and the works area will be fenced off.

Silt curtains and floating booms will be set up prior to works commencing. The silt curtains will extend around the margins of the gravel deposit (both upstream and downstream). The silt curtains will be left in situ for the duration of the works. Once the gravel has been removed and the machinery has left the works area, the silt curtains will be dismantled.

4.1.3 In Channel Works

Works will be undertaken in the region of a two-week period between July and September, depending on flow conditions in the channel and weather conditions being suitable.

Trees adjacent to the river access point may need to be pruned to allow for access depending on foliage at the time of the works.

An excavator and site dumper will enter the works area from the east bank upstream of Athea bridge (Figure 4-2). All works to be carried out in channel will be undertaken when the River Galey is at a low level allowing for access in almost dry conditions.

In order for the dumper and excavator to access the gravel deposit, it is proposed to form a temporary access ramp from the existing gravel material, which will be removed once works are complete.

The 6t excavator will excavate gravel from the river channel to just above low flow levels and load to the awaiting 6t dumper. Excavation will commence on the downstream extremity leaving approximately 500mm of gravels between deposition and flowing channel to act as a buffer and filter any run-off prior to entering the channel. This 500mm strip of gravels will be removed once all other gravel removal works have been completed.

A loaded 6t dumper will transport material to the upstream end of the bridge and tip at the foot of the riverbank at the green area location, where a 14t excavator situated on the riverbank will load this material to an awaiting tractor-dump trailer for removal to LCCC facility (Gortadroma landfill, subject to EPA approval or other appropriate LCCC facility).

All plant movements will take place along deposited material, where feasible, and safe to do so to minimise contact with flowing waters and prevent suspended solids entering the channel.

Fuelling of machinery will be carried out a minimum 50m away from the river channel on a hard standing surface at a safe location and all machines will have spill kits.

4.1.4 Reinstatement

Following the completion of the works, the surrounding area shall be reinstated to a condition similar to, or better than the pre-works situation.

Any areas of bank that may be disturbed due to works will be reinstated with a 360^{o} excavator, sealed and seeded. All footpaths/ street furniture that may be removed will be reinstated.

Temporary fencing and site welfare facilities will be removed post works

4.2 5-year programme and pre-works ecological verification

The proposed programme comprises up to three gravel removal interventions over a five-year period, in Years 1, 3 and 5, subject to a pre-works ecological survey and Ecological Clerk of Works (ECoW) supervision during each intervention.

The 2026 description of the receiving environment in Section 5 is the baseline against which the five-year programme is assessed. Before the gravel removal works that take place in Year 1, 3 and Year 5, an Ecological Clerk of Works (ECoW) will carry out a pre works survey prior to each intervention.

This survey will include checks for:

- habitat conditions and presence of relevant QI habitat;
- otter activity, holts/couches and other resting places;
- suitability of instream habitat for salmonids/lamprey;
- invasive species presence and distribution;
- access routes and working areas;
- extent/location/nature of accumulated gravel;
- whether the proposed methodology remains within the assessed parameters; and
- whether relevant environmental conditions have materially changed.
- the latest available EPA/WFD information will be reviewed, and any material change relevant to impact pathways considered.

Where a pre-works ecological survey identifies a material change such that a proposed intervention cannot be demonstrated to remain within the nature, extent, methodology or environmental parameters assessed within this NIS, that intervention shall not proceed under the programme as assessed until the implications of the change have been appropriately considered through the relevant consenting and Appropriate Assessment process.

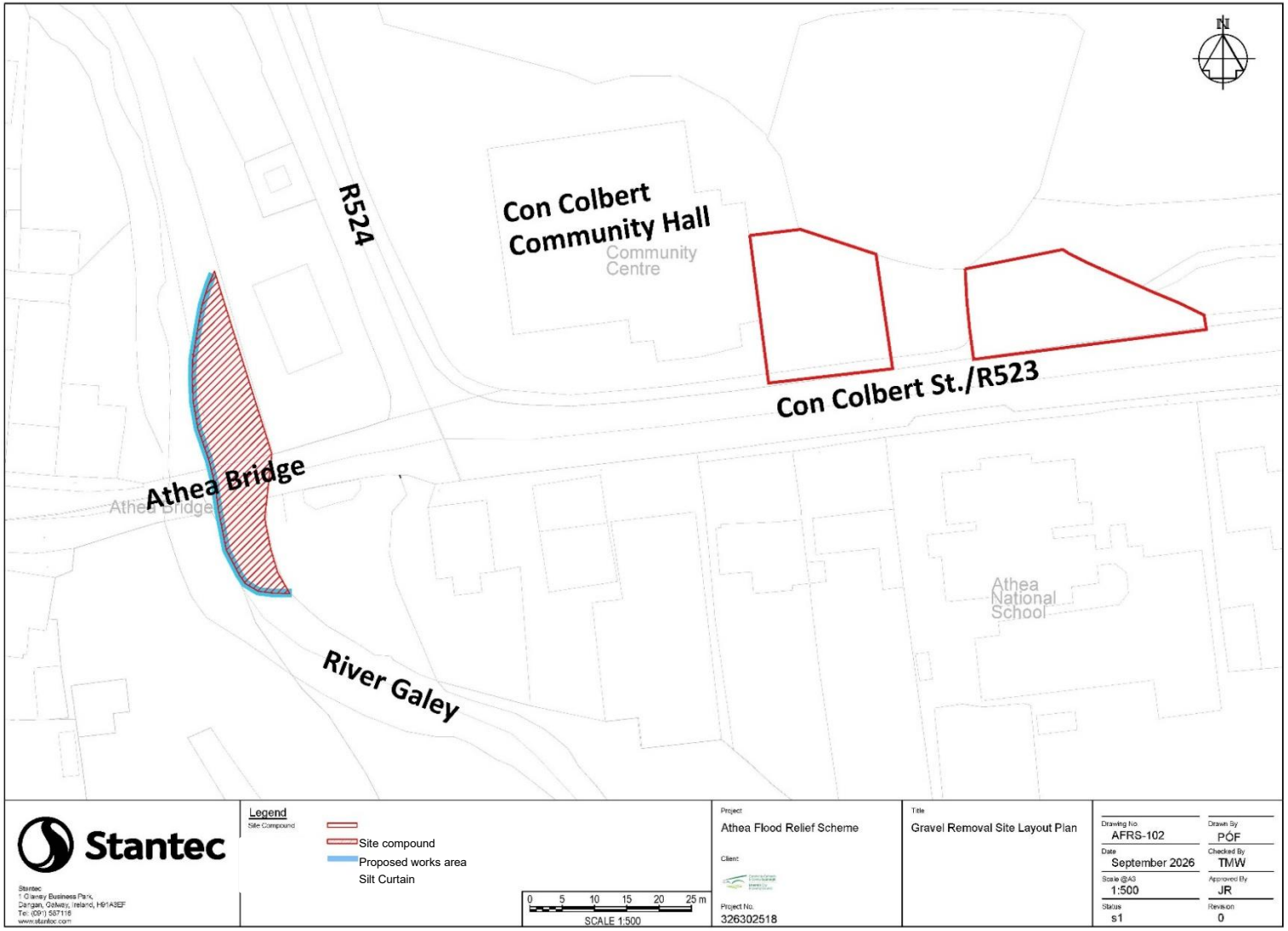


Figure 4-1: Proposed works area for gravel removal works programme at Athea bridge



Figure 4-2: Proposed access to works area in the River Galey from the R523

5 Description of the proposed works area and receiving environment

Athea village is located in west Co. Limerick, 3 km from the Limerick-Kerry border (Figure 4-1). The village is situated on the R523 Listowel to Ardagh regional road and the R524 Glin to Abbeyfeale regional road. The proposed works include the removal of gravel from the River Galey in the vicinity of Athea bridge. Athea bridge is a three-masonry arch structure comprising one central main arch and two side arches.

The River Galey is a tributary of the River Feale, that rises on the western slopes of Knockanimpuha Hill, in a steep-sided valley, and flows in a westerly direction through Athea before joining the Feale approximately 25km downstream of Athea village. Deposition of sediments, gravels and cobbles occurs in the River Galey at Athea bridge and a vegetated gravel bar has formed immediately up and downstream of the bridge. This deposition is impacting on the conveyance capacity at the bridge and increasing flood risk locally. It is believed that historically, these deposits were removed as necessary by local landowners from the channel, however, since the river was designated as part of the Lower River Shannon SAC, this no longer happens.

Following extreme weather events in 2008, high river levels along the River Galey resulted in the major accumulation of trees and debris at Athea Bridge, which significantly reduced the available flow conveyance of the structure and represented a flood risk to the immediate locality. The OPW agreed to carry out the necessary remedial works and remove the debris at the request of LCCC. Since the works in 2008, OPW have returned to Athea on 4 separate occasions to remove trapped debris from beneath Athea bridge, freeing up any blockage and alleviating the immediate flood risk. A planning application was submitted, and gravel removal works were undertaken by LCCC in the same location in 2022. The vegetated gravel bar has built back up since 2022, and recent photos taken in September 2026 can be seen in Figure 1-1 and Figure 1-2.

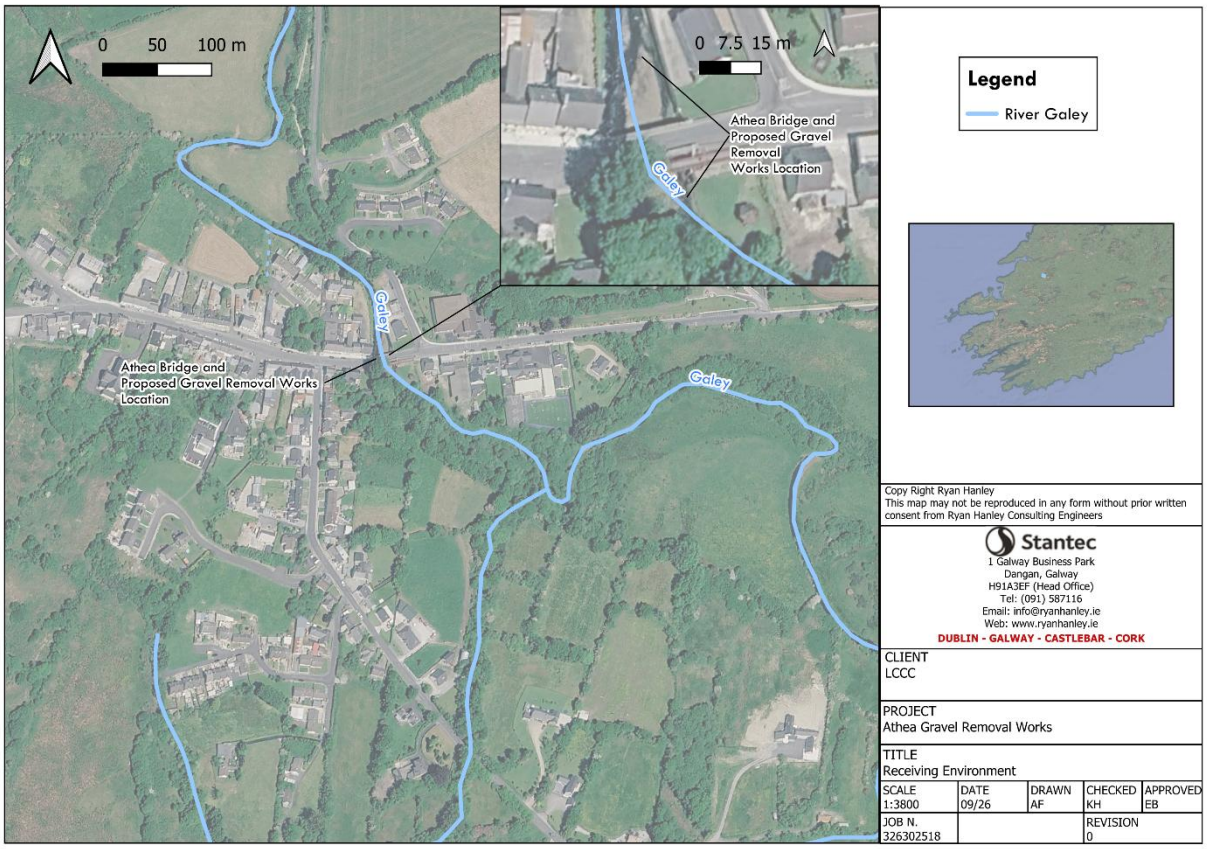


Figure 5-1: Location of the proposed works area, Athea, Co. Limerick

5.1 Description of the Receiving Environment

5.1.1 Habitats and Flora

The receiving environment was examined in detail via a desktop study using National Biodiversity Data Centre biodiversity maps to collate baseline information of the proposed works area. In addition, a site walkover survey was undertaken on the 1st of September 2026, where species and habitats of interest were recorded. The following paragraphs describe the terrestrial and aquatic habitats and dominant and rarer flora within and adjacent to the proposed works area, according to the classification detailed in 'A Guide to Habitats in Ireland' (Fossitt, 2000) and cross referenced with Annex I habitats where required.

The dominant habitats within and adjacent to the gravel removal works are Depositing/lowland rivers (FW2), Exposed sand, gravel or till (ED1) and Amenity grassland (improved) (GA2). There are no Annex I Habitats identified within or directly adjacent to the proposed works area. See Figure 5-2 for Habitat Map of the area.

Habitats within the proposed working area

Depositing/lowland rivers (FW2)

This category includes watercourses, or sections of these, where fine sediments are deposited on the river bed. Within the river channel there may be deep pools, backwaters, banks or mid-channel bars of gravel, sand or mud, in addition to vegetated islands and fringe reedbeds. The River Galey is a depositing/lowland river which is approximately 42 km long and is the largest tributary of the Feale, joining it downstream of Listowel. The watercourse, along the section of the proposed gravel removal works, was examined and it was determined that the river is a meandering spate river at this point with a mix of 50% glide, 25% riffle and 25% pool sequences. At the time of the survey, it was a slow flowing river with low water levels in the vicinity of Athea Bridge, however the watercourse is present in a flashy river catchment. The riverbed is predominantly made up of cobble and gravel. No instream vegetation was present during the survey and there was no evidence of heavy siltation or mud settlements.

Exposed sand, gravel or till (ED1)

This category includes natural or artificial exposures of unconsolidated coarse or mixed sediment. Sand and gravel are mostly made up of sediment particles that are less than 16mm in diameter. Till, or boulder clay, is an unsorted mixture of pebbles, cobbles or boulders in a matrix of finer material such as sand, silt or clay. Deposits of sand, gravel or till may be exposed through natural forces of erosion among river banks and on some lake shores. Depending on their nature, these sediments may support a wide range of broadleaved herbs and grasses. The gravel deposit is classified as a till deposit with a mixture of cobble and gravel in a matrix of sand and silt. Species recorded on the gravel deposit include plantain (*Plantago* spp.), ragwort (*Jacobaea vulgaris*), coltsfoot (*Tussilago farfara*), water figwort (*Scrophularia auriculata*), sycamore saplings (*Acer pseudoplatanus*), burdock (*Arctium* spp.), cocksfoot (*Dactylis glomerata*), false oat-grass (*Arrhenatherum elatius*), Yorkshire fog (*Holcus lanatus*), tutsan (*Hypericum androsaemum*), gorse (*Ulex europaeus*), dandelion (*Taraxacum spp*.), creeping buttercup (*Ranunculus repens*), dock (*Rumex spp*.), soft rush (*Juncus effusus*), willow saplings (*Salix spp*.) and invasive species Monbretia (*Crocosmia × crocosmiiflora*). Stands of the third schedule invasive species Himalayan balsam (*Impatiens glandulifera*) were also growing on the gravel deposit during the September 2026 survey.

Amenity grassland (improved) (GA2)

Amenity grassland is managed for purposes other than grass production and are regularly mown to maintain very short swards. The gravel deposit is proposed to be accessed from the eastern bank upstream of Athea bridge in an area classified as amenity grassland that is used as a public amenity with a bandstand and riverside seating. The habitat in this area is dominated by rye grass that is regularly maintained as a short sward. The grass was being cut on the day of the survey in September 2026, and no other plant species were noted within the sward (Figure 1-1).

Stone walls and other stonework (BL1)

This category incorporates stone walls and most other built stone structures in rural and urban situations. It includes dry stone and old mortar walls, stone walls that rise from rivers, canals or moats, stone bridges, derelict or ruinous buildings and old stone monuments, fortifications or ruins. These structures may support a diverse flora with abundant lichens, mosses and ferns and bridges can be important habitats for birds and bats in particular. The works are proposed to be undertaken in and around Athea bridge which is a freestanding triple-arch road bridge spanning the River Galey. It was built in the 1820’s and is

an important part of Athea villages architectural heritage. Athea bridge was assessed as part of dedicated bat surveys for the Athea FRS in 2021, 2022 and 2024. No evidence of roosting bat species was found. Athea bridge was considered to be of 'low' suitability for roosting bats primarily due to artificial lighting and the lack of suitable crevices. No evidence of emerging bats was found during emergence surveys and vantage point surveys carried out in the vicinity immediately adjacent to the bridge. The bridge was reassessed during the walkover survey completed in September 2026. Similar to findings from previous years, the bridge is in very good structural condition, and no holes, gaps, lifts or crevices were visible on inspection. No bat droppings or high potential roosting features were observed.

Habitats directly adjacent to the proposed working area

Buildings and Artificial surfaces (BL3)

This category incorporates all buildings, other than derelict stone buildings and ruins, and also covers areas that are covered with artificial surfaces. This is the predominant habitat in the surrounding area as the proposed works occur in Athea village. There are private dwellings located adjacent to the River Galey up and downstream of Athea bridge. The building upstream of the bridge, set back from the western bank of the river is under construction and currently being remodelled (as of September 2026) and the building adjacent to the access point for the proposed works on the right bank upstream of the bridge has been renovated in the last year (as of September 2026).

Mixed broadleaf/conifer woodland (WD2)

This general category includes woodland areas with mixed stands of broadleaved trees and conifers, where both types have a minimum cover of 25%, and a maximum of 75%. A small patch of this habitat exists directly opposite (south west) of Athea bridge and contains a number of large, mature trees. Species identified include sycamore (*Acer pseudoplatanus*), horse-chestnut (*Aesculus hippocastanum*), ash (*Fraxinus excelsior*), Scot's pine (*Pinus sylvestris*), hawthorn (*Crataegus monogyna*) and willow (*Salix* spp.) with holly (*Ilex aquifolium*), male fern (*Dryopteris* spp.), soft shield-fern (*Polystichum setiferum*), hart's-tongue fern (*Asplenium scolopendrium*), ivy (*Hedera helix*), nettle (*Urtica dioica*) and hogweed (*Heracleum sphondylium*) predominant in the understorey.

Scrub (WS1)

This broad category includes areas that are dominated by at least 50% cover of shrubs, stunted trees or brambles. The canopy height is generally less than 5m, or 4m in the case of wetland areas. Scrub can be either open, or dense and impenetrable, and it can occur on areas of dry, damp or waterlogged ground. An area of scrub was identified on the eastern bank of the River Galey upstream of the gravel deposit behind the amenity grassland and adjacent residence. An area of scrub also exists along the western bank of the River Galey downstream of the gravel deposit. Species identified primarily consists of brambles (*Rubus fruticosus*), gorse (*Ulex europaeus*), ivy (*Hedera helix*) and common nettle (*Urtica dioica*).

Habitats in the wider environment

Mixed broadleaf woodland (WD1)

This general category includes woodland areas with 75-100% cover of broadleaved trees, and 0-25% cover of conifers. A small patch of this woodland exists on the northern banks of the River Galey downstream of Athea Bridge. Species identified include sycamore (*Acer pseudoplatanus*), horse-chestnut (*Aesculus hippocastanum*), ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*) and willow (*Salix* spp.).

Wet Willow-Alder-Ash Woodland (WN6)

This broad category includes woodlands of permanently waterlogged sites that are dominated by willows, alder or ash, or by various combinations of some or all of these trees. An area of wet willow-alder-ash was identified on the southern bank of the River Galey upstream of the gravel deposit and Athea bridge. The WN6 habitat continues to occur on the southern and northern banks of the River Galey moving farther upstream (east) of the bridge. This woodland area is dominated by willow (*Salix spp*.) with occasional ash (*Fraxinus excelsior*), alder (*Alnus glutinosa*), sycamore (*Acer pseudoplatanus*) and hawthorn (*Crataegus monogyna*). Understorey vegetation comprised largely of ivy (*Hedera helix*), male fern (*Dryopteris filix-mas*), common nettle (*Urtica dioica*), hogweed (*Heracleum sphondylium*) and bracken (*Pteridium aquilinum*). Third schedule invasive species giant hogweed (*Heracleum mantegazzianum*) (2 stands) and Himalayan balsam (*Impatiens glandulifera)* (multiple vast dense patches) were identified growing in this habitat in close proximity to the River Galey. Certain parts of this habitat further upstream (east) of Athea Bridge, particularly those within the floodplain and subject to seasonal inundation are willow-dominated and exhibit structural and floristic characteristics consistent with Annex I Priority Habitat 91E0 – Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Salicion albae*). There is no Annex 1 habitat within the immediate vicinity of Athea Bridge and the proposed gravel removal works.

Riparian woodland (WN5)

This category includes wet woodlands of river margins (gallery woodland) and low islands that are subject to frequent flooding, or where water levels fluctuate as a result of tidal movement (in the lower reaches of rivers). This habitat exists on the riparian margins of the River Galey, primarily to the south east of Athea Bridge. It borders the wet willow alder ash woodland (WN6) which exists to its immediate south and north as one moves east along the River Galey. These areas contain a mosaic of tree and shrub species including willow (*Salix* spp.), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), alder (*Alnus glutinosa*), sycamore (*Acer pseudoplatanus*), oak (*Quercus* spp.), ash (*Fraxinus excelsior*), poplar (*Populus* spp.) and holly (*Ilex aquifolium*), with a field layer comprising a wide variety of riparian and mesotrophic herbs and graminoids. Species recorded include nettle (*Urtica dioica*), marsh woundwort (*Stachys palustris*), articulate rush (*Juncus articulatus*), common rush (*Juncus effusus*), hart's-tongue fern (*Asplenium scolopendrium*), hogweed (*Heracleum sphondylium*), creeping buttercup (*Ranunculus repens*), Hemlock water dropwort (*Oenanthe crocata*), meadowsweet (*Filipendula ulmaria*), wild angelica (*Angelica sylvestris*), water forget-me-not (*Myosotis scorpioides*), dock (*Rumex* spp.), water ragwort (*Jacobaea aquatica*), herb-robert (*Geranium robertianum*), coltsfoot (*Tussilago farfara*), common ragwort (*Jacobaea vulgaris*), prickly sow-thistle (*Sonchus asper*) and purple loosestrife (*Lythrum salicaria*). Himalayan balsam (*Impatiens glandulifera)* (multiple vast dense patches) was identified growing in this habitat in close proximity to the River Galey. Certain parts of this habitat further upstream (east) of Athea Bridge, particularly those within the floodplain and subject to

seasonal inundation are willow-dominated and exhibit structural and floristic characteristics consistent with Annex I Priority Habitat 91E0 – Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Salicion albae*). There is no Annex I habitat within the immediate vicinity of Athea Bridge and the proposed gravel removal works.

Treelines (WL2) and Hedgerows (WL1)

Treeline and Hedgerow habitats typically form field or property boundaries, roads or avenues narrow shelter belts and are interspersed with one another. Treelines are typically a narrow row or single line of trees that is greater than 5m in height. Hedgerows are typically less than 5 m high and 4 m wide. Both habitats are present in the wider area in Athea. Species observed included willow (*Salix* spp.), sycamore (*Acer pseudoplatanus*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), oak (*Quercus spp*.), birch (*Betula* spp.), beech (*Fagus sylvatica*), ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), and bramble (*Rubus fruticosus* agg.).

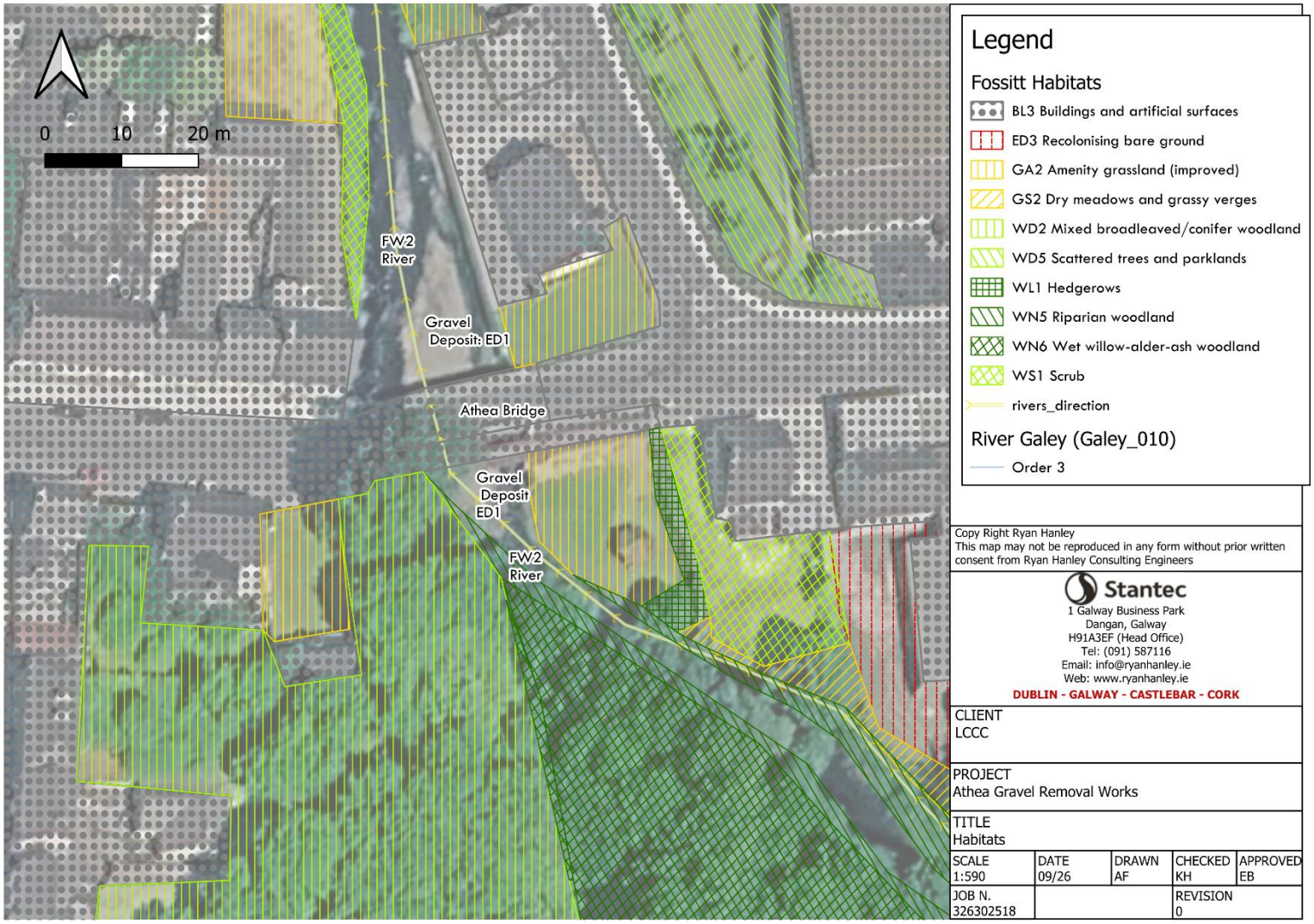


Figure 5-2: Fossitt Habitat Classification within the vicinity of the Proposed Works

5.1.2 Fauna

Otters

Eurasian otters (*Lutra lutra*) are protected under Annex II and Annex IV of the EU Habitats Directive and are a Qualifying Interest of the Lower River Shannon SAC. Their resting place is fully protected and any interference with or access to a holt is prohibited, except under an EU derogation.

During the walkover survey in September 2026, the banks of the River Galey were checked for signs of otter activity. The area was searched for signs of tracks, rest sites (couches), holts and spraints. No signs of otter were found in the area 350m upstream and downstream of Athea Bridge.

A dedicated otter survey was undertaken in Athea on the 06th of October 2025 and the 03rd of February 2026. Where practical and safe, watercourses were surveyed for signs of otter from within the channel as well as along both banks for a corridor of approximately 350m up and downstream of Athea bridge. Otter prints were recorded in October 2025 along the banks of the River Galey c. 200m east (upstream) of Athea Bridge. No other signs of otter were detected in the area 350m upstream and downstream of Athea Bridge during either survey.

Otter surveys completed in 2021 for the previous gravel removal works found tracks and spraint along the gravel deposit underneath Athea Bridge. In 2021, a camera trap was placed in the area where the tracks and spraint had been identified. The camera was left in situ for one week and otters were detected on five separate camera triggers during the deployment period. Two otters were detected together during one trigger, and the remaining detections were of a single otter passing or sprainting.

Otter are active in the wider area along the River Galey however limited opportunity for holting exists within or in proximity to the gravel deposit due to the open nature of the area adjacent to the bridge and the use of the neighbouring amenity grassland area by local residents (bandstand, park area). The construction works that are taking place in the residence on the western bank near the bridge, as well as the regular car traffic along the bridge would likely deter otter from resting and holting in this area.



Figure 5-3: Otter prints recorded during a survey in October 2025

Aquatic Environment and Fisheries

This River Galey is a tributary of the River Feale and is regarded as a good brown trout fishery with the average catch being recorded as 0.5 lbs in weight. There are no records of white-clawed crayfish (*Austropotamobius pallipes*) from the River Galey.

During the walkover survey in September 2026, areas which would be important for fish spawning (smelt, salmonids and lamprey) were searched for and the survey considered the presence of juvenile and adult fish habitat along the affected stretch. The River Galey has a meandering spate riverine profile. At the time of the survey, it was a slow flowing river with low water levels in the vicinity of Athea Bridge, however the watercourse is present in a flashy river catchment. The substrata of the river is mainly composed of cobble and gravel. The river in the vicinity of the proposed works consists of a riffle and glide/pool which provides potential spawning habitat for salmonids and lamprey species, though there are no silt beds suitable for lamprey ammocoetes.

An Aquatic Baseline Survey was carried out as part of the Athea FRS in September 2022 by Triturus Environmental. Survey points along the River Galey included Athea Bridge, as well as upstream and downstream of the bridge. The watercourse had been modified historically in the vicinity of the bridge crossing, with short sections of retaining walls, bank modifications and a rendered bridge apron (westernmost arch). The river was at summer low flow water levels in 2022 at the time of the survey. The river averaged 6-7m wide in vicinity of the bridge (in a channel up to 15m wide) and 0.15-0.25m deep. Deeper glide and pool areas (to 1.2m) were present upstream and downstream of the bridge. The flow profile was dominated by shallow glide and riffle with localised small pool areas. The substrata were dominated by mobile cobble and boulder with frequent interstitial mixed gravels (especially at tailing of pool/glide areas). Siltation was low with only flocculent deposits on the bed substrata.

Note: At the time of this survey in 2022, gravel extraction works had recently taken place as per the permitted planning consent (ABP-310301-21)*. The riverbed in the vicinity of the bridge had also been recently modified with the bed graded and material removed.*

At Athea Bridge

Atlantic salmon (*Salmo salar*), brown trout (*Salmo trutta*), European eel (*Anguilla anguilla*) and stone loach (*Barbatula barbatula*) were the fish species recorded via electro-fishing at Athea Bridge. The site was of very high value for salmonids, supporting very abundant juvenile Atlantic salmon (n=78) with lower numbers of primarily juvenile brown trout (n=19 total). The river at this location provided excellent quality salmonid nursery habitat given an abundance of mobile cobble refugia and fast, shallow glide and riffle areas. Spawning habitat was also of excellent quality (particularly for salmon) with abundant clean cobble and mixed gravels. Holding habitat was poor given a paucity of deeper pool or glide areas although such areas were present upstream and downstream of Athea Bridge. The westernmost arch was <0.1m deep at the time of survey and was an impediment to adult fish migration. Suitability for European eel was good overall given an abundance of cobble and boulder refugia in addition to scoured banks (upstream). However, despite optimal habitat only a low density were recorded via electro-fishing (n=5). Whilst some finer areas suitable for lamprey spawning were present, no lamprey were recorded with suitable larval habitat absent. The September 2026 survey confirmed that these habitat characteristics remained present.

c. 550m upstream of Athea Bridge

High densities of Atlantic salmon (n=67) and brown trout (n=30) were recorded via electro-fishing upstream of Athea Bridge. This area was considered of very high value for salmonids, supporting abundant juvenile Atlantic salmon and brown trout, with lower numbers of adult trout. The river at this location provided excellent quality salmonid nursery habitat given an abundance of mobile cobble refugia and fast, shallow glide and riffle areas. Spawning habitat was also of excellent quality (particularly for salmon) with abundant clean cobble and mostly coarse gravels. The site also offered excellent quality holding habitat for adult (migratory) salmonids given the presence of frequent deep pool, typically on meanders. Despite some moderate suitability, no European eel was recorded via electro-fishing.

c.290m downstream of Athea Bridge

Atlantic salmon, brown trout, sea trout, European eel and minnow (*Phoxinus phoxinus*) were recorded via electro-fishing downstream of Athea Bridge. This area was of high value for salmonids, supporting very abundant juvenile Atlantic salmon (n=82) with lower numbers of mixed-cohort brown trout (n=8). A low number of adult sea trout (n=2) were also recorded. The River Galey at this location provided excellent quality salmonid nursery habitat given an abundance of mobile cobble refugia and fast, shallow glide and riffle areas. Spawning habitat was also of excellent quality (particularly for salmon) with abundant clean cobble and mixed gravels. However, the site was of highest value as a holding habitat for adult salmonids (including sea trout), with frequent deep pools with high shading. Suitability for European eel was good overall given an abundance of cobble and boulder refugia in addition to deep pool and glide areas, although the species was only present in very low numbers. Whilst some finer areas suitable for lamprey spawning were present, no lamprey were recorded with suitable larval habitat absent.

Hen Harrier

Suitable Hen Harrier foraging habitat is available particularly to the immediate West and South of the Athea Village in the form of wet (rank) grassland, scrub, hedgerows and treelines. These areas are located within the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161), of which breeding Hen Harrier is a special conservation interest.

Hen Harrier (*Circus cyaneus*) surveys were carried out in Athea on the 16th of April 2026 and 12th of May 2026. Vantage point surveys were carried out in 2 locations as per the methodology used for the national Irish Hen Harrier Survey (Ruddock *et al.,* 2022). Visibility was good, with low winds and slight drizzle.

No Hen Harriers were observed.

Bird activity during the surveys was low with species heard and observed including common gull (*Larus canus*), hooded crow (*Corvus cornix*), jackdaw (*Coloeus monedula*), magpie (*Pica pica*), woodpigeon (*Columba palumbus*), swallow (*Hirundo rustica*), kestrel (*Falco tinnunculus*) and buzzard (*Buteo buteo*), jay (*Garrulus glandarius*), goldfinch (*Carduelis carduelis*), wren (*Troglodytes troglodytes*), robin (*Erithacus rubecula*), blackbird (*Turdus merula*), herring gull (*Larus argentatus*), chiffchaff (*Phylloscopus*

collybita) and pheasant (*Phasianus colchicus*), long-tailed tit (*Aegithalos caudatus*), willow warbler (*Phylloscopus trochilus*), great tit (*Parus major*), blue tit (*Cyanistes caeruleus*), cormorant (*Phalacrocorax carbo*), starling (*Sturnus vulgaris*), dunnock (*Prunella modularis*), blackcap (*Sylvia atricapilla*), pied wagtail (*Motacilla alba yarrellii*), house sparrow (*Passer domesticus*), goldcrest (*Regulus regulus*), chaffinch (*Fringilla coelebs*), meadow pipit (*Anthus pratensis*), song thrush (*Turdus philomelos*) and rook (*Corvus frugilegus*).

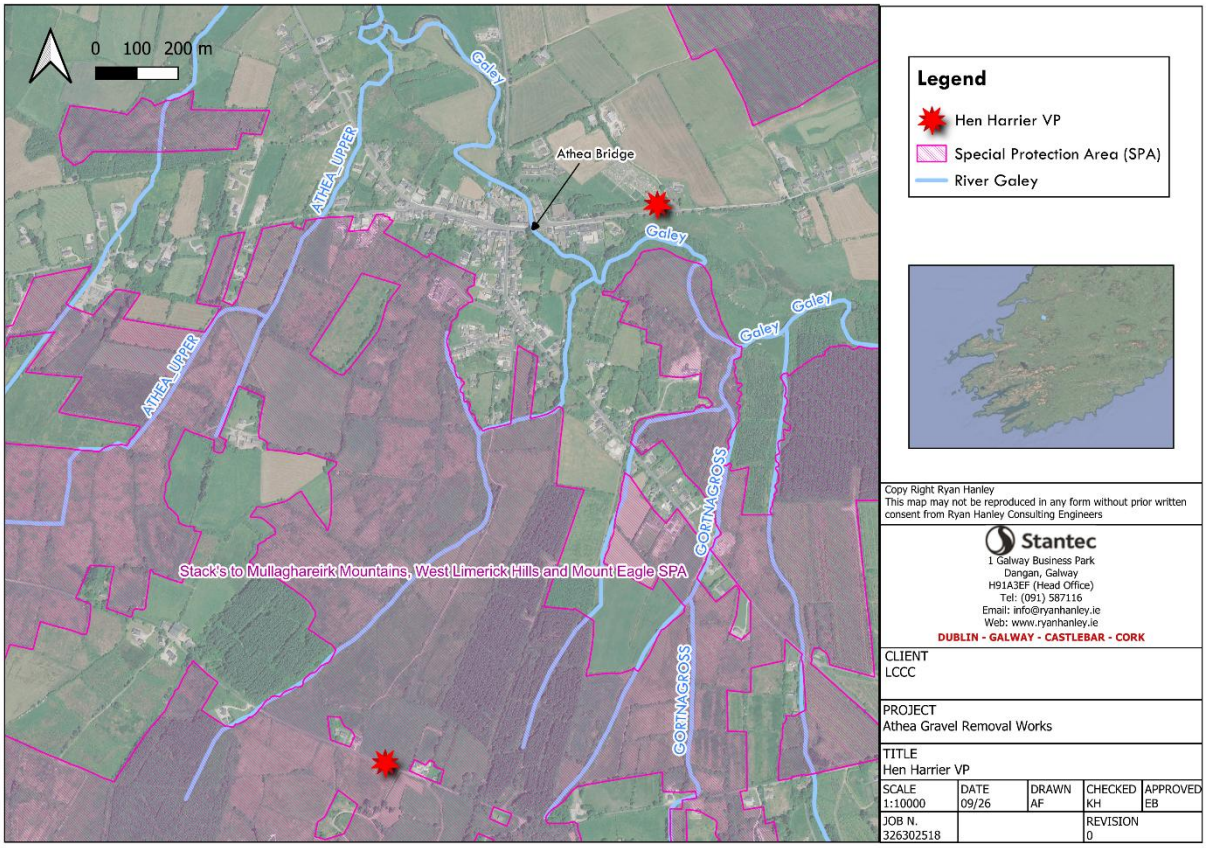


Figure 5-4: Hen Harrier Vantage Points from the surveys in 2026

5.1.3 Water and Soils

Surface Water

The River Galey runs through Athea Village. It is a large tributary of the River Feale which flows westwards towards the Atlantic Ocean from the hills east of Athea, meeting the lower River Feale in Cashen Estuary. The River Galey at Athea is classified as Galey_010 under the Water Framework Directive (WFD).

The latest Q Value for the Galey_010 is reported as 4 (Good) in 2023 at RS23G010200 (Br d/s) station (c.4km downstream of Athea Bridge) by the EPA. A Q Value for the Galey_010 at Athea Bridge was

reported as 4 (Good) in 2022 by Triturus Environmental. The Galey_010 has a current “Good” WFD status (2019-2024) and under a risk status of “Review” of not meeting its WFD objectives by 2027.

The Galey_010 river is part of the 23_3 Galey_SC_010 sub catchment. Significant pressures impacting at risk waterbodies in this subcatchment are reported by catchments.ie as Urban Wastewater, Hydromorphology and Agriculture. Impacts of these pressures are listed as Nutrient Pollution and Habitat Morphological Impact. The significant issues appear to be siltation from forestry and agricultural point sources.

Flooding

Floodinfo.ie indicates that the proposed works area is within a high probability* flood zone under the Office of Public Works (OPW) and National Indicative Fluvial Mapping (NIFM) assessments. There are multiple past flood events reported in Athea Village in close proximity to the bridge.

**10% Annual Exceedance Probability (High Probability) is equivalent to a 10-year return period, or a 1-in-10 chance of flooding in any given year.*

Soils

The proposed works are located in an area with Soil Information System (SIS) National Soil River Alluvium (poorly draining). Urban (soil concreted over) and Kilrush (Fine loamy drift with siliceous stones, poorly drained mineral soil) are located close by in Athea Village. The subsoil is reported by Teagasc as Alluvium with man-made concrete or artificial surface directly adjacent to the bridge.

Hydrogeology

The proposed works area is located within the “Abbeyfeale” groundwater body which has a “Good” WFD 2019-2024 status and is “Not at Risk”. The groundwater in the proposed works area is reported by Geological Survey Ireland (GSI) as a “Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones”. The groundwater in the proposed works area is also listed as “Extreme Vulnerability: Groundwater here has natural characteristics that make it extremely vulnerable to contamination by human activities”. This indicates that bedrock is within 3m of the ground surface. There are also areas where the bedrock is at the surface.

6 Screening for Appropriate Assessment

6.1 Designated Sites in the Zone of Influence of the Project

Section 3.2.3 of the Guidance for Planning Authorities (DoEHLG, 2010) states that the approach to screening can vary for different plans and projects and will depend on the scale and the likely effects of the works. A key variable that will determine whether a particular European Site is likely to be negatively affected is its physical distance from the works.

As per Appropriate Assessment Screening for Development Management (OPR, 2021) the Zone of Influence (ZOI) is the criteria for screening any potential impact on the Natura 2000 network. A Zone of Influence for a project is established on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors within the vicinity of the proposed works. The ZOI takes into account the potential for connectivity to ecological receptors through the Source » Pathway » Receptor (S-P-R) model and assesses the potential impacts of the proposed works on both immobile and mobile qualifying interests of identified European sites.

Given the size, scale and nature of the gravel removal works programme and the nature of the ecological receptors in the surrounding environment, it is considered for the purpose of this screening exercise that the potential sources of impact are noise, vibrations, light, dust, disturbance and the potential release of pollutants to surface waterbodies (sediment, hydrocarbons).

Given the scale of the works, the likely zone of impact for noise, vibrations, light, dust and disturbance is the zone immediately surrounding the proposed development works (c. 350 meters).

Given the potential impact of sediment and hydrocarbon run off and the fact works take place on a gravel deposit within the Galey_010 channel, the zone of influence for construction related sediment and hydrocarbon run off is considered to be the zone immediately surrounding the proposed works and any sites with a hydrological connection to the adjacent watercourse (Galey_010). The zone of influence was also considered not only in physical terms but also in relation to biological connectivity, particularly mobile aquatic species, which may be affected by changes in water quality beyond the localised area of impacts. The River Galey runs through Athea Village. It is a large tributary of the River Feale which flows westwards towards the Atlantic Ocean from the hills east of Athea, meeting the lower River Feale in Cashen Estuary. The Cashen Estuary is a transitional waterbody that would experience dynamic tidal influence and pass flow to the wider coastal waters of the Mouth of the Shannon only after extensive hydrological attenuation and dilution in the estuary. Considering this, the zone of influence for sediment and hydrocarbon run off is considered to extend down as far as the start of the Cashen Estuary (c.30km downstream). The transport of sediments upstream from an area of works is typically much more limited, however due to the presence of mobile aquatic fish species in the receiving environment, the upstream zone of influence was considered to extend to the farthest upstream reaches of the Galey_010 (c.10km upstream).

A review of the National Parks and Wildlife Service (NPWS) database has identified two European Sites as being potentially within the ZOI. Table 6-1 and Figure 6-1 below summarise the S-P-R connections between the proposed works and European sites.

Table 6-1: European Sites within the zone of influence of the proposed works

European Site Name and Code	Qualifying Interests (QI's)	Distance	Source – Pathway – Receptor exists?
Lower River Shannon SAC (002165)	• Sandbanks, which are slightly covered by seawater all the time [1110]; • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140]; • Coastal lagoons [1150]; • Large shallow inlets and bays [1160]; • Reefs [1170] • Perennial vegetation of stony banks [1220]; • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]; • *Salicornia* and other annuals colonising mud and sand [1310]; • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]; • Mediterranean salt meadows (*Juncetalia maritime*) [1410]; • *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]; • *Tursiops truncates* (Common Bottlenose Dolphin) [1349]; • Watercourses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]; • Molinia meadows on calcareous, peaty or clayey-silt laden solids (*Molinion caeruleae*) [6410]; • Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incane, Salicion albae*) [91E0]; • *Petromyzon marinus* (Sea Lamprey) [1095]; • *Lampetra planeri* (Brook Lamprey) [1096]; • *Lampetra fluviatilis* (River Lamprey) [1099]; • *Salmo salar* (Salmon) [1106]; and • *Lutra lutra* (Otter) [1355].	Works directly within the SAC	A source-pathway-receptor exists. Works are directly within the SAC. Deterioration of water quality from sediment or hydrocarbons released during the works has the potential to effect water quality dependent species, along with the possible loss of habitat and disturbance during the removal of silt, gravels and boulders from the river. This SAC will be assessed further in Table 6-2 in light of the conservation objectives for its qualifying interests.
Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161)	• Hen Harrier (*Circus cyaneus*).	171m distance to the SPA boundary	A potential source-pathway-receptor exists. SPA boundary is within the 350m distance zone of influence for noise and disturbance. Given the location and nature of the works and the results of the Hen Harrier surveys carried out in April and May 2026, impacts on Hen Harrier are considered unlikely. This SPA will be assessed further in Table 6-2 in light of the conservation objectives for Hen Harrier.

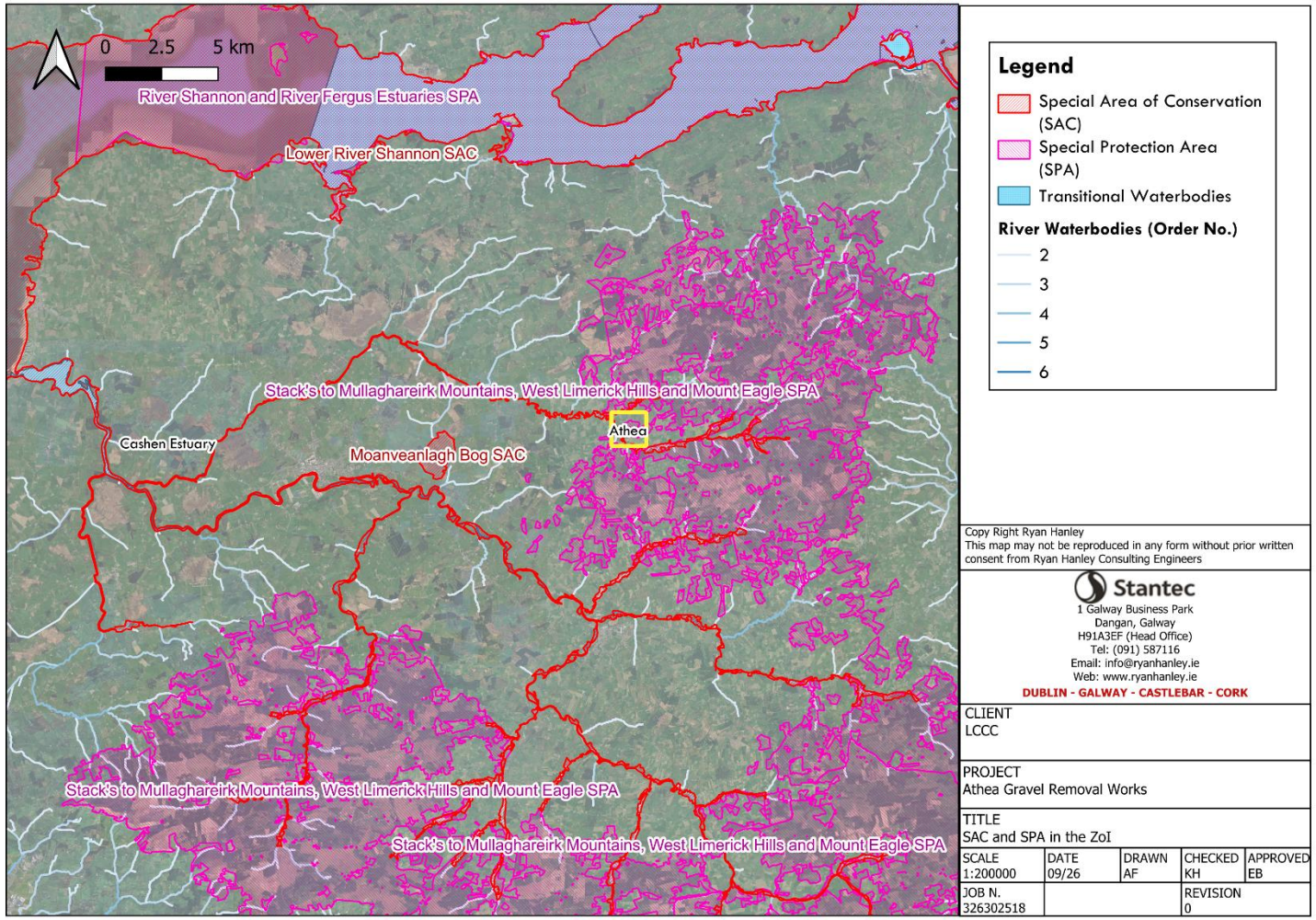


Figure 6-1: European sites within the zone of influence of the proposed works area

(Note: Moanveanlagh Bog SAC and River Shannon and River Fergus Estuaries SPA not considered within the Zone of Influence (no hydrological connection))

6.2 Description of European Sites and Current Trends

Lower River Shannon SAC Site Synopsis (NPWS, 2013 Site Synopsis Document)

The Lower River Shannon SAC is a large site within the Shannon valley from Killaloe in Co. Clare to Loop Head/Kerry Head, a distance of some 120 km. The site encompasses the Shannon, Feale, Mulkear and Fergus estuaries, the lower freshwater reaches of the River Shannon (between Killaloe and Limerick), the freshwater stretches of much of the Feale and Mulkear catchments and the marine area between Loop Head and Kerry Head. The extent of the SAC includes the section of the River Galey, within which the works are proposed. The River Galey is within the sub-catchment of the River Feale, which flows into the Cashen Estuary south of Ballybunion, Co. Kerry. Semi-natural habitats such as wet grassland, wet woodland and marsh occur by the rivers, but improved grassland is the most common habitat type. One Annex I grassland type of particular conservation significance, Molinia meadows, occurs in several parts of the SAC and the examples at Worldsend, Castleconnell, Co. Limerick on the River Shannon are especially noteworthy. This habitat type comprises wet meadow dominated by rushes and sedges, and supports a diverse and species-rich vegetation, including species such as blue-eyed grass (*Sisyrinchium bermudiana*) and pale sedge (*Carex pallescens*).

This site is of great ecological interest as it contains a high number of habitats and species listed on Annexes I and II of the E.U. Habitats Directive, including the priority habitats coastal lagoon and alluvial woodland, and the only known resident population of bottlenose dolphin (*Tursiops truncatus*) in Ireland, as well as all three Irish lamprey species.

Floating river vegetation characterised by species of water-crowfoot (*Ranunculus* spp.), pondweeds and the moss (*Fontinalis antipyretica*) are present throughout the major river systems within the site.

Five species of fish listed on Annex II of the EU Habitats Directive are found within the SAC including lamprey species (sea lamprey (*Petromyzon marinus*), brook lamprey (*Lampetra planeri*) and river lamprey (*Lampetra fluviatilis*)), twaite shad (*Alosa fallax fallax*) and Atlantic salmon (*Salmo salar*). The three lamprey species and salmon have all been observed spawning in the lower Shannon or its tributaries. Twaite shad is not thought to spawn within the site. There are few other river systems in Ireland which contain all three species of lamprey. Fishing is a main tourist attraction on the Shannon and there are a large number of angler associations, some with a number of beats. The River Feale is a designated Salmonid Water under the E.U. Water Framework Directive.

There is a wide range of land uses within the site. The most common use of the terrestrial parts is grazing by cattle, and some areas have been damaged through over-grazing and poaching. Much of the land adjacent to the rivers and estuaries has been improved or reclaimed and is protected by embankments (especially along the Fergus estuary). Further reclamation continues to pose a threat, as do flood relief works (e.g. dredging of rivers). Gravel extraction poses a major threat on the Feale. Domestic and industrial wastes are also discharged into the Shannon. The Lower Shannon Estuary has a current “Good” WFD Status (2019-2024) however the Upper Shannon Estuary has a “Poor” WFD Status (2019-2024).

Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA [004161] Site Synopsis (NPWS, 2015 Site Synopsis Document)

The Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA is a large site centred on the borders between the counties of Cork, Kerry and Limerick. The site consists of a variety of upland habitats, though almost half is afforested. The coniferous forests include first and second rotation plantations, with both pre-thicket and post-thicket stands present. Substantial areas of clear-fell are also present at any one time. A substantial part of the site is unplanted blanket bog and heath, with both wet and dry heath present. The remainder of the site is mostly rough grassland that is used for hill farming. This varies in composition and includes some wet areas with rushes and some areas subject to scrub encroachment.

This site is a SPA under the EU Birds Directive, of special conservation interest for hen harrier (*Circus cyaneus*) which is listed on Annex I of the EU Birds Directive. The SPA is a stronghold for hen harrier and supports the largest concentration of the species in the country. A survey in 2005 resulted in 40 confirmed and 5 possible breeding pairs, which represents over 29% of the national total. A similar number of pairs has been recorded in the 1998-2000 period. A notable decline was observed during the 2010 survey where only 18 pairs were confirmed (a decline of 35.6%). The mix of forestry and open areas provides optimum habitat conditions for this rare bird with the early stages of new and second-rotation conifer plantations being the most frequently used nesting sites, though some pairs may still nest in tall heather of unplanted bogs and heath. Hen Harriers will forage up to 5km from the nest site, utilising open bog and moorland, young conifer plantations and hill farmland that is not too rank. Birds will often forage in openings and gaps within forests. In Ireland, small birds and small mammals appear to be the most frequently taken prey.

Table 6-2: Screening of European Sites and their qualifying interests & special conservation interests within the zone of influence of the proposed gravel removal works

Site	CO Code	Qualifying Interests and Conservation Objectives	Potential Presence within the Zone of influence	Potential Connectivity/ Source » Pathway » Receptor Link	Screened in for NIS?
Lower River Shannon SAC 002165	1110	To maintain the favourable conservation condition of Sandbanks which are slightly covered by sea water all the time.	No sandbanks which are slightly covered by sea water are located within the zone of influence of the works. This habitat consists of sandy sediments that are permanently covered by shallow sea water, typically at depths of less than 20m below chart datum. This habitat has been recorded approximately 47km downstream of the proposed gravel removal works and approximately 2.5km off the coast from Ballybunion in the mouth of the Shannon Estuary coastal waterbody.	There is a hydrological link between the works and this habitat as the River Galey discharges into the Cashen Estuary which then discharges to the mouth of the Shannon. However, due to the significant distance from the proposed works and the high level of attenuation and dilution provided in the downstream river and transitional waterbodies, the proposed gravel removal works will not result in any potential impacts on this Annex I habitat within the Lower River Shannon SAC. There will be no significant effects on the conservation objective attributes of habitat distribution, habitat area and community distribution.	No
	1130	To maintain the favourable conservation condition of Estuaries.	Estuaries are habitat complexes which comprise an interdependent mosaic of subtidal and intertidal habitats. No estuaries are located within the zone of influence of the works. This habitat type has been located approximately 30km downstream of the proposed gravel removal works within the Cashen Estuary.	There is a hydrological link between the works and estuary habitats as the River Galey discharges into the Cashen Estuary. However, due to the significant distance from the proposed works and the high level of attenuation and dilution in this downstream river and transitional waterbodies, the proposed gravel removal works will not result in any potential impacts on this habitat within the Lower River Shannon SAC. There will be no significant effects on the conservation objective attributes of habitat area and community distribution.	No
	1140	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide.	Intertidal mudflats and sandflats are submerged at high tide and exposed at low tide. Intertidal flats have been recorded within the Cashen Estuary approximately 38km downstream of the proposed gravel removal site. No intertidal mud and sandflats are located within the works area or in the zone of influence of the works.	There is a hydrological link between the works and mudflat habitats as the River Galey discharges into the Cashen Estuary. However, due to the significant distance from the proposed works and the high level of attenuation and dilution in this downstream river and transitional waterbodies, the proposed gravel removal works will not result	No

			in any potential impacts on this habitat within the Lower River Shannon SAC. There will be no significant effects on the conservation objective attributes of habitat area and community distribution.	
1150	To restore the favourable conservation condition of Coastal lagoons.	No coastal lagoons are located within the zone of influence of the works. Coastal lagoons are areas of shallow, coastal saltwater, wholly or partially separated from the sea by sandbanks, shingle or less frequently rocks. Four coastal lagoons have been identified within this SAC, all of which are located in the main channel of the Shannon Estuary.	There is no direct hydrological link between the works and coastal lagoon habitats as the River Galey discharges into the Cashen Estuary which then discharges to the mouth of the Shannon downstream of the four known lagoon locations. The proposed gravel removal works will not result in any potential impacts on this Annex I habitat within the Lower River Shannon SAC. No potential Source-Pathway-Receptor links to this habitat, therefore no potential impact. There will be no significant effects on the conservation objective attributes of habitat area, habitat distribution, salinity regime, hydrological regime, barrier connectivity, water quality, depth of macrophyte colonisation, typical plant and animal species and negative indicator species.	No
1160	To maintain the favourable conservation condition of Large shallow inlets and bays.	Shallow inlets and bays are indentations of the coastline that have no freshwater input or only a low level i.e. small streams and/or local rainfall runoff. They experience coastal salinities continuously. These habitats have been identified in the mouth of the Shannon coastal waterbody approximately 43km downstream of the proposed gravel removal. No large shallow inlets and bays are located within the zone of influence of the works.	There is a hydrological link between the works and this habitat as the River Galey discharges into the Cashen Estuary which then discharges to the mouth of the Shannon. However, due to the significant distance from the proposed works and the high level of attenuation and dilution in the downstream river and transitional waterbodies, the proposed gravel removal works will not result in any potential impacts on this Annex I habitat within the Lower River Shannon SAC. There will be no significant effects on the conservation objective attributes of habitat area and community distribution.	No
1170	To maintain the favourable conservation condition of Reefs.	No reefs in proximity to the gravel removal works or within the zone of influence. Reefs are rocky marine habitats or biological concretions that rise from the seabed. They are generally subtidal but may extend as an unbroken transition into the intertidal zone, where they are exposed to the air at	There is a hydrological link between the works and this habitat as the River Galey discharges into the Cashen Estuary which then discharges to the mouth of the Shannon. However, due to the significant	No

		low tide. Reef habitats have been identified in the mouth of the Shannon coastal waterbody approximately 43km downstream of the proposed gravel removal. No reef habitats are located within the zone of influence of the works.	distance from the proposed works and the high level of attenuation and dilution in the downstream river and transitional waterbodies, the proposed gravel removal works will not result in any potential impacts on this Annex I habitat within the Lower River Shannon SAC. There will be no significant effects on the conservation objective attributes of habitat distribution, habitat area and community distribution.	
1220	To maintain the favourable conservation condition of Perennial vegetation of stony banks.	This habitat occurs along the coast where shingle (cobble and pebbles) and gravel have accumulated to form elevated ridges or banks above the high tide mark with vegetation dominated by perennial species. The full extent of this habitat within the SAC is unknown, however nine shingle beach sites have been identified to contain perennial vegetation to stony banks. The closest mapped location is located approximately 45km downstream at Ballybunion. No perennial vegetation exists in proximity to the works or in the zone of influence.	This is a terrestrial coastal habitat that has no potential Source-Pathway-Receptor links to the proposed gravel removal. Therefore, there is no potential impact on this Annex I habitat within the Lower River Shannon SAC. There will be no significant effects on the conservation objective attributes of habitat area, habitat distribution, physical structure, vegetation structure and vegetation composition.	No
1230	To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts.	A sea cliff is a steep or vertical slope located on the coast. Sea cliffs support a range of plant communities such as grassland, heath, scrub and bare rock communities. Sea cliffs are concentrated around the mouth of the Shannon from Kilcredaun Point in Co Clare to Kilconly Point in Co Kerry approximately 43km downstream of the proposed gravel removal works. No vegetated sea cliffs exists in proximity to the works or in the zone of influence.	This is a terrestrial coastal habitat that has no potential Source-Pathway-Receptor links to the proposed gravel removal. Therefore, there is no potential impact on this Annex I habitat within the Lower River Shannon SAC. There will be no significant effects on the conservation objective attributes of habitat length, habitat distribution, physical structure, vegetation structure and vegetation composition.	No
1310	To maintain the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand.	*Salicornia* and other annuals colonising mud and sand is a pioneer saltmarsh community that may occur on muddy sediment seaward of established saltmarsh, or from patches within other saltmarsh communities where the elevation is suitable and there is regular tidal inundation. Within the SAC the areas of *Salicornia* habitat was recorded to be limited to six sites all of which are located in the main channel of the Shannon Estuary. No *Salicornia* and other annuals exist in proximity to the works or in the zone of influence.	There is no direct hydrological link between the works and this habitats as the River Galey discharges into the Cashen Estuary which then discharges to the mouth of the Shannon downstream of the six known *Salicornia* habitat locations. The proposed gravel removal works will not result in any potential impacts on this Annex I habitat within the Lower River Shannon SAC. No potential Source-Pathway-Receptor links to this habitat, therefore no potential impact. There will be no significant effects on the conservation objective attributes of habitat	No

			area, habitat distribution, physical structure, vegetation structure and vegetation composition.	
1330	To restore the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*).	Atlantic salt meadows develop when halophytic vegetation colonises soft intertidal sediments of mud and sand in areas protected from strong wave action. This vegetation forms the middle and upper reaches of saltmarshes, where tidal inundation still occurs but with decreasing frequency and duration. Atlantic salt meadows are the dominant saltmarsh habitat within the SAC, being recorded at ten sub-sites. This habitat has been recorded as potentially present within the Cashen Estuary approximately 38km downstream of the proposed gravel removal. No Atlantic salt meadows exist in proximity to the works or in the zone of influence.	There is a hydrological link between the works and Atlantic salt meadows as the River Galey discharges into the Cashen Estuary. However, due to the significant distance from the proposed works and the high level of attenuation and dilution in the downstream river and transitional waterbodies, the proposed gravel removal works will not result in any potential impacts on this habitat within the Lower River Shannon SAC. There will be no significant effects on the conservation objective attributes of habitat area, habitat distribution, physical structure, vegetation structure and vegetation composition.	No
1410	To restore the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*).	Mediterranean salt meadows occupy the upper zone of saltmarshes and usually occur adjacent to the boundary with terrestrial habitats. This habitat is distinguished from Atlantic salt meadows by presence of rushes such as sea rush and/or sharp rush. Mediterranean salt meadows are restricted in their distribution and size, being recorded at eight sub-sites within the SAC. This habitat has been recorded as potentially present within the Cashen Estuary approximately 40km downstream of the proposed gravel removal. No Mediterranean salt meadows exist in proximity to the works or in the zone of influence.	There is a hydrological link between the works and Mediterranean salt meadows as the River Galey discharges into the Cashen Estuary. However, due to the significant distance from the proposed works and the high level of attenuation and dilution in the downstream river and transitional waterbodies, the proposed gravel removal works will not result in any potential impacts on this habitat within the Lower River Shannon SAC. There will be no significant effects on the conservation objective attributes of habitat area, habitat distribution, physical structure, vegetation structure and vegetation composition.	No
3260	To maintain the favourable conservation condition of Watercourses of plain to montane levels with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation.	Floating river vegetation has a broad definition, covering river habitats as diverse as upland, flashy, oligotrophic, bryophyte and algal dominated stretches, to tidal reaches dominated by high plants. Three sub-types of this habitat have been recorded in the Lower River Shannon SAC. Two of these sub-types are associated with tidal reaches of rivers and the third sub-type is found in fast-flowing stretches of unmodified streams and rivers. Six rivers have been identified as high conservation value areas for this habitat including the Shannon, the Cloon, the Fergus, the Mulkear, the Maigue	There is a potential Source-Pathway-Receptor link between the proposed gravel removal works and areas of floating river vegetation in the downstream reaches of the River Galey. Conservation objective attributes for this habitat include habitat area, habitat distribution, substratum composition, water quality, hydrological regime, vegetation composition, floodplain connectivity and	Yes

		and the Feale. The River Galey had very little submerged or emerged vegetation in the vicinity of the proposed gravel removal works and no *Ranunculus* sp. were recorded in the area. However, it is likely that this habitat is present in patches along the River Galey downstream of the works area.	riparian habitat. Potential impacts due to sediment runoff and impact on water quality.	
6410	To maintain the favourable conservation condition of *Molina* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae).*	*Molinia* meadows are found mainly on moist, moderately base-rich, peats and peaty gley soils, often with fluctuating water tables. They usually occur as components of wet pastures or fens and often from mosaics with dry grassland, heath, mire and scrub communities. This habitat has been recorded on the eastern bank of the Shannon, north of Castleconnell, Co. Limerick. No *Molina* meadows recorded in proximity to or within the works area but there is potential for it to occur in the floodplains of the River Galey downstream.	Conservation objective attributes for this habitat include habitat area, habitat distribution, vegetation structure, vegetation composition, and physical structure. There is a potential Source-Pathway-Receptor link between the proposed gravel removal works and areas of potential *Molina* meadows habitats via sediment run off and impacts on water quality which may affect habitat area, distribution, vegetation structure and composition.	Yes
91E0	To restore the favourable conservation condition of Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*).	Alluvial forests comprise woods dominated by alder (*Alnus glutinosa)* and willow (*Salix sp*.) on flood plains in a range of situations from islands in river channels to low-lying wetlands alongside the channels. Within the SAC, five sites have been identified for alluvial woodlands and have been described as small stands, restricted to narrow bands where the ground is subject to flooding or flushing. While the total extent of alluvial woodland within the SAC is considered to be greater than the five sites identified it is noted that there is an absence of suitable terrain for extensive alluvial woodland to occur. This habitat exists c. 100m upstream (east) of Athea Bridge. There is no Annex I habitat within the immediate vicinity of Athea Bridge and the proposed gravel removal works area. There is potential for alluvial woodlands to occur along the banks of the Galey downstream of the proposed gravel removal.	Conservation objective attributes for this habitat include habitat area, habitat distribution, woodland size, woodland structure, hydrological regime, and vegetation composition. There is a potential Source-Pathway-Receptor link between the proposed gravel removal works and areas of potential alluvial woodland habitats via sediment run off, invasive species spread and impacts on water quality which may impact habitat area, vegetation composition and woodland structure.	Yes
1029	To restore the favourable conservation condition of Freshwater Pearl Mussel (*Margaritifera margaritifera).*	Freshwater pearl mussel are a large, long-lived, bivalve mollusc found in clean, fast-flowing rivers. The habitat for freshwater pearl mussel in Ireland is restricted to near natural, clean flowing waters, with stable cobble and gravel substrate with very little below pea sized gravel. The freshwater pearl mussel conservation objectives for the Lower River Shannon SAC relates specifically to the Cloon River population in Co. Clare which is located within a different river catchment approximately 20km across the	There is no direct hydrological link between the works and freshwater pearl mussel as the River Galey discharges into the Cashen Estuary which then discharges to the mouth of the Shannon downstream of the Cloon River site. The proposed gravel removal works will not result in any potential impacts on freshwater pearl mussel within the Lower River Shannon SAC. No potential Source-	No

		Lower Shannon Estuary transitional waterbody from the proposed gravel removal works. The River Galey previously held records of freshwater pearl mussel, however an assessment of pearl mussel populations in the River Galey undertaken in 2009 by the NPWS did not record the species within the catchment and this species is thought to be extinct in this river.	Pathway-Receptor links to this species, therefore no potential impact. There will be no significant effects on the conservation objective attributes of distribution, population size, population structure, habitat extent, water quality, substratum quality, hydrological regime, and host fish.	
1095	To restore the favourable conservation condition of Sea lamprey (*Petromyzon marinus).*	The life cycle of the sea lamprey contains both a marine phase and a freshwater phase. Adult lamprey migrate in spring into freshwater to excavate redds or spawning nests in gravelled areas of large rivers. Artificial barriers can block or cause difficulties to Lamprey's upstream migration, thereby limiting the species to lower stretches and restricting access to spawning areas. There are specific barriers constraining the upriver migration of Sea Lamprey. The upper extent of the Lower River Shannon SAC in the River Fergus is delineated by a barrier to migration and there are also barriers in the Mulkear and Feale. The River Galey is the largest tributary of the Feale. Sea lamprey were not detected in the area during ecological field surveys, however the River Galey in the vicinity of the proposed gravel removal works is considered to provide suitable spawning habitat for sea lamprey during their freshwater phase.	Conservation objective attributes for this species include distribution, population structure of juveniles, juvenile density in fine sediment, extent and distribution of spawning habitat, availability of juvenile habitat. Due to the potential presence of Sea Lamprey in close proximity to the proposed gravel removal works a potential Source-Pathway-Receptor link has been identified via potential sediment runoff and impact on water quality and disturbance to suitable spawning habitats during each gravel removal intervention.	Yes
1096	To maintain the favourable conservation condition of Brook lamprey *(Lampetra planeri).*	Brook and River Lamprey juveniles are indistinguishable in the field so they are considered together here. Artificial barriers can block or cause difficulties to Brook and River Lampreys' migration, both up and downstream, thereby possibly limiting the species to specific stretches and creating genetically isolated populations. The nearest recorded weir in the Feale catchment is at Finuge, located approximately 18km downstream of Athea. Brook and River Lamprey may not travel upstream across the weir. Lamprey species were not detected in the area during ecological field surveys however the River Galey in the vicinity of the proposed gravel removal works is considered to provide suitable spawning habitat for these lamprey species.	Conservation objective attributes for these species include distribution, population structure of juveniles, juvenile density in fine sediment, extent and distribution of spawning habitat, availability of juvenile habitat. Due to the potential presence of lamprey species in close proximity to the proposed gravel removal works a potential Source-Pathway-Receptor link has been identified via potential sediment runoff and impact on water quality and disturbance to suitable spawning habitats during each gravel removal intervention.	Yes
1099	To maintain the favourable conservation condition of River lamprey *(Lampetra fluviatilis).*			

1106	To restore the favourable conservation condition of Atlantic salmon (*Salmon salar).*	Salmon is an anadromous species (i.e. adults migrate from the sea to breed in freshwater). Spawning takes place in shallow excavations called redds, found in shallow gravelly areas in clean rivers and streams. Artificial barriers can block Salmons' upstream migration, thereby limiting the species to lower stretches and restricting access to spawning areas. Weirs on the Shannon main channel restrict access to spawning areas for Salmon. The weir at Finuge (18km downstream) had a fish pass installed in recent years which allows for salmonid passage within the river network. The River Galey in the vicinity of the proposed gravel removal works is considered to provide suitable spawning and nursery habitats for Salmon.	Conservation objective attributes for this species include distribution, adult spawning fish, salmon fry abundance, out migrating smolt abundance, number and distribution of redds, water quality. Due to the potential presence of salmon in close proximity to the proposed gravel removal works a potential Source-Pathway-Receptor link has been identified via potential sediment runoff and impact on water quality and disturbance to suitable spawning habitats during each gravel removal intervention.	Yes
1349	To maintain the favourable conservation condition of Bottlenose Dolphin (*Tursiops truncatus).*	Bottlenose dolphins are primarily inshore species, with most sightings within 10km of land, but they can also occur offshore, often in association with other cetaceans. Bottlenose dolphins occur within the mouth of the Shannon coastal waterbody approximately 43km downstream of the proposed gravel removal. No suitable habitats for bottlenose dolphins in proximity to the works or in the zone of influence.	There is a hydrological link between the works and the mouth of the Shannon as the River Galey discharges into the Cashen Estuary which then discharges to the mouth of the Shannon. However, due to the significant distance from the proposed works and the high level of attenuation and dilution in the downstream river and transitional waterbodies, the proposed gravel removal works will not result in any potential impacts on this species within the Lower River Shannon SAC. There will be no significant effects on the conservation objective attributes of access to suitable habitat, habitat use of critical areas and disturbance.	No
1355	To restore the favourable conservation condition of Otter *(Lutra Lutra).*	Otter are a semi-aquatic mammal, which occurs in a wide range of ecological conditions, including inland freshwater and coastal areas. Evidence of otter in the form of tracks on the river banks along the Galey were recorded upstream of the proposed gravel removal area and it is considered that the river at this point is suitable otter foraging and commuting habitat.	Conservation objective attributes for this species include distribution, extent of terrestrial, marine and freshwater habitat, couching sites and holts, fish biomass available and barriers to connectivity. Due to the potential presence of otter in close proximity to the proposed gravel removal works a potential Source-Pathway-Receptor link has been identified via potential sediment runoff and impact on water quality which could impact on otter prey species and disturbance to otter	Yes

				foraging in the area during each gravel removal intervention.	
Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA	A082	To restore the favourable conservation condition of Hen Harrier (*Circus cyaneus*).	The SPA is a composite site which comprises a variety of upland habitats, much of which is afforested and has been designated solely for the protection of Hen Harrier. Hen Harrier are predominately ground nesting birds and tend to breed in mainly upland and bog areas as well as open moorland. They also use conifer plantations for nesting and hunting in this SPA. Hen Harriers forage up to 5km from the nest site where they mainly hunt small ground nesting birds and mammals. The species is more widespread in the winter and is found in open low-lying countryside and along the coast. The proposed gravel removal works are not located in any suitable breeding or foraging habitats for Hen Harriers; however, the River Galey floodplains and surrounding farmland may provide some foraging habitat for this species.	A potential source-pathway-receptor exists. The SPA boundary is within the 350m distance zone of influence for noise and disturbance. However, given the location and nature of the works which are limited to the gravel deposit within the urban environment of Athea Village and the results of the Hen Harrier surveys carried out in April and May 2026 which found no signs of breeding Hen Harrier within the wider vicinity of Athea, there are no anticipated impacts on Hen Harrier. Hen Harrier predominantly breed within heather and moorland and young forestry plantations, where they nest on the ground. The areas of the SPA within and adjacent to the works do not contain suitable breeding habitats and are more likely to be used for foraging, if used at all. Much more suitable foraging habitats are present in the wider SPA. The SPA boundary is located approximately 171m from the proposed gravel removal works and it is considered that any increased noise generated during the gravel removal works will be temporary and not have any significant effect on breeding Hen Harrier within the SPA. In the unlikely event Hen Harriers are foraging in close proximity to the proposed works, it is considered that any localised temporary disturbance will not have a significant effect on restoring their favourable conservation condition. There will be no significant effects on the conservation objective attributes of population size, productivity rate, spatial utilisation by breeding pairs, extent and	No

		condition of heath and bog and associated habitats, extent and condition of low intensity management grasslands and associated habitats, extent and conditions of hedgerows, age structure of forest estate, disturbance to breeding sites. Therefore, Hen Harrier and the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA are screened out and will not be brought forward to NIS.

6.3 In-combination effects from other plans/projects

IIn accordance with Article 6(3) of the Habitats Directive, consideration has been given to whether the proposed five-year gravel removal programme, either alone or in combination with other plans or projects, is likely to have a significant effect on a European site. The assessment has been undertaken having regard to the nature, scale, location and duration of the proposed programme, the identified pathways to European sites, and other plans and projects that could result in cumulative or in-combination effects.

The proposed programme comprises up to three gravel removal interventions at Athea Bridge over a five-year period, anticipated to occur in Years 1, 3 and 5. For the purposes of Appropriate Assessment Screening, the programme has been considered as a whole, including the potential for repeated effects arising from successive interventions. These include potential effects associated with disturbance, sediment mobilisation, water quality, invasive species spread and effects on aquatic and riparian species.

A review of the Limerick City and County Council planning register was undertaken to identify existing and proposed developments in the vicinity of the proposed works that could potentially act in combination with the proposed gravel removal programme. The following recent developments were identified:

- 2560903: Grant Date: 27/4/2026 (directly adjacent to Athea Bridge): changes to an existing house as-built to include an attic conversion, the construction of a basement and associated changes to original design. Retention application. No potential for in-combination effects.
- 24257: Grant Date: 23/9/2024 (Collins Retail Shop, Con Colbert Street, Athea c. 60m west of the proposed works): the extension of the existing shop, pub premises into the adjacent dwelling house to include; retention of changes to the front elevation of the former dwelling house, namely closing up to 2 No. windows and a door. Retention of the existing signage and awnings, retention of the rear extension to the existing shop/pub premises, retention permission for the lean-to store attached to the existing store building and permission for the removal of a chimney stack and the change of use from public house to retail to include the installation of a new glass facade/shop front with sliding doors at the entrance and all ancillary site works. Retention application. No potential for in-combination effects.
- 2461156: Grant Date: 5/3/2025 (Con Colbert Street, Athea, Co. Limerick c.20m west of proposed works): A change of use of existing commercial building from Retail to Community Facilities with Residential Accommodation on the First Floor. The development will consist of the partial demolition of a two-storey return to the rear of the existing two-storey building to provide: Administration Space, Meeting Rooms, WC Facilities, Tea Point on the Ground Floor; 1 no. 2-Bedroom Apartment on the First Floor, with a two-storey Parish Workshop to the rear of the site and ancillary site works. Potential in-combination impacts on water quality with regards to surface water run-off from this development in association with the proposed gravel removal works in the absence of mitigation measures to protect water quality.

The Athea Flood Relief Scheme (FRS) is also relevant to the in-combination assessment. The gravel removal programme is proposed in advance of the wider Athea FRS; however, the FRS may progress during the five-year period covered by the proposed programme. The potential for interaction between

the FRS and the gravel removal programme has therefore been considered insofar as details of the FRS are known at the time of preparation of this assessment. Potential pathways for in-combination effects include disturbance, sediment mobilisation, deterioration of water quality, spread of invasive species and effects on aquatic and riparian habitats and species.

The Limerick Development Plan 2022–2028 includes objectives relating to the protection, conservation, management and restoration of European sites and was itself subject to Appropriate Assessment. The Development Plan has been considered in the context of potential in-combination effects associated with development and land-use activity within the wider area. The development plan produced a Natura Impact Report (NIR) which identifies policies and objectives which had a potential significant adverse effect on European sites and, as a result, measures were prescribed to mitigate against adverse effects and to ensure the protection and conservation of Qualifying Interests and Special Conservation Interests for European sites. Impacts on water quality and the spread of invasive species as a result of the gravel removal works would not be consistent with the environmental protection objectives of the Development Plan.

The Water Action Plan 2024: A River Basin Management Plan for Ireland 2022–2027 provides the river basin planning framework applicable at the time of preparation of this assessment. Potential impacts associated with sediment release, pollution and disturbance of aquatic habitats associated with the gravel removal works would not be consistent with the environmental protection objectives of the Development Plan. The River Galey forms part of the wider Lower Shannon catchment and occurs within the Lower River Shannon SAC. The River Galey at Athea is classified as Galey_010 under the Water Framework Directive (WFD). This waterbody has a “Good” WFD 2019-2024 status and under a risk status of “Review” of not meeting its WFD objectives by 2027. The Galey_010 river is part of the 23_3 Galey_SC_010 sub catchment. Significant pressures impacting at risk waterbodies in this subcatchment are reported by catchments.ie as Urban Wastewater, Hydromorphology and Agriculture. Impacts of these pressures are listed as Nutrient Pollution and Habitat Morphological Impact. The significant issues appear to be siltation from forestry and agricultural point sources. Baseline information reviewed for this assessment identifies existing pressures within the Galey_SC_010 subcatchment, including urban wastewater, hydromorphology and agriculture, with nutrient pollution and habitat/morphological impacts also identified. These existing pressures have been considered in determining whether the proposed programme could contribute to cumulative or in-combination effects on the Lower River Shannon SAC. Existing WFD subcatchment pressures may cause in-combination impacts on water quality in the Lower River Shannon SAC in association with the proposed gravel removal works in the absence of mitigation measures to protect water quality.

As the proposed programme extends over five years, the planning and environmental context may change during the lifetime of the programme. Additional plans or projects may be permitted or commenced, the Athea FRS may progress, relevant catchment pressures may change, and applicable plans and environmental information may be updated. The screening assessment has therefore considered the proposed Years 1, 3 and 5 interventions collectively and the potential for repeated effects over the duration of the programme.

The proposed gravel removal works are located directly within the Lower River Shannon SAC, with hydrological connectivity to habitats used by Qualifying Interest species upstream and downstream of the works area. Potential pathways for effects on the SAC have been identified, including effects associated with water quality, sediment mobilisation, disturbance, alteration of aquatic habitat and the spread of invasive species. The recurrence of the proposed works over the five-year programme also

has the potential to interact with existing pressures and other plans or projects during the programme period.

On the basis of the source-pathway-receptor linkages identified, and taking account of the proposed five-year programme as a whole and potential in-combination effects with other plans and projects, likely significant effects on the Lower River Shannon SAC cannot be excluded at the Appropriate Assessment Screening stage. Consequently, Stage 2 Appropriate Assessment is required, and a Natura Impact Statement has been prepared in Section 7 to provide the information necessary to inform that assessment.

6.4 AA Screening Conclusion

The AA Screening evaluated the gravel removal works programme proposed, taking consideration of the proposed works elements; however, the evaluation does not presuppose that the construction requirements specified in the design, or to be implemented on site by the Contractor, are integral to avoid or reduce harmful effects on any European site.

Two European sites (The Lower River Shannon SAC and the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA) were identified within the zone of influence of the proposed works (Table 6-1). Table 6-2 assesses the potential for significant effects on the qualifying interests and special conservation interests of these sites in light of their conservation objectives.

Table 6-2 has identified that there are potential pathways for impacts to the conservation objectives of the Lower River Shannon SAC in the absence of avoidance and mitigation measures. Impacts may arise via the release of suspended solids or hydrocarbons during the removal of instream gravels from Athea bridge, which could have a negative impact on qualifying interests of the Lower River Shannon SAC. There is also the potential for impacts due to disturbance to species and spread of invasive species during instream works.

Considering the location, nature and scale of the proposed works and in light of the conservation objectives of the site, it is not considered that there is any potential for significant effects on the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA or any other European site.

Therefore, it is concluded, in accordance with Article 6(3) of the Habitats Directive, that the proposed gravel removal works, individually or in-combination with other plans or projects, would be likely to have a significant effect on the Lower River Shannon SAC in view of its conservation objectives. Stage 2 of the Appropriate Assessment process (Natura Impact Statement) is required.

7 Natura Impact Statement

The Appropriate Assessment Screening undertaken in Section 6 identified that likely significant effects on the Lower River Shannon SAC as a result of the proposed five-year gravel removal programme, either alone or in combination with other plans or projects, cannot be excluded. The Lower River Shannon SAC has therefore been brought forward for Stage 2 Appropriate Assessment.

This Natura Impact Statement (NIS) has been prepared to provide the information necessary to inform the Competent Authority in undertaking the Appropriate Assessment required under Article 6(3) of the Habitats Directive. The NIS considers, in light of best scientific knowledge and the conservation objectives of the Lower River Shannon SAC, the potential for the proposed programme, either alone or in combination with other plans or projects, to adversely affect the integrity of the European site.

The proposed programme comprises up to three gravel removal interventions at Athea Bridge over a five-year period, anticipated to occur in Years 1, 3 and 5, subject to gravel accumulation and each intervention remaining within the nature, extent and methodology of the programme assessed within this NIS. The assessment therefore considers the effects of the programme as a whole rather than considering each intervention as an independent project. This includes consideration of effects arising from individual gravel removal interventions and the potential for repeated, interactive and cumulative effects over the five-year programme.

The assessment considers the Qualifying Interests of the Lower River Shannon SAC screened in for further assessment in Section 6, their site-specific conservation objectives, relevant attributes and targets, the ecological characteristics of the receiving environment and the identified pathways through which effects could arise.

Where the assessment identifies the potential for adverse effects on the integrity of the Lower River Shannon SAC, appropriate avoidance and mitigation measures are identified in Section 9. These measures form part of the assessment of whether adverse effects on site integrity can be excluded.

7.1 Impact Prediction

The methodology for the assessment of impacts is derived from the Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites (EC, 2001).

The assessment considers the nature, extent, duration and frequency of potential effects associated with implementation of the five-year gravel removal programme.

The assessment considers, where relevant:

- direct and indirect effects;
- temporary and longer-term effects;
- effects associated with each gravel removal intervention;
- effects occurring during the periods between gravel removal interventions;
- repeated effects associated with interventions undertaken in Years 1, 3 and 5;

- isolated and interactive effects;
- cumulative effects arising from implementation of the programme as a whole; and
- in-combination effects with other relevant plans and projects.

Particular consideration has been given to whether repeated gravel removal within the same section of the River Galey could result in effects that differ in nature, magnitude, frequency or duration from those associated with a single gravel removal intervention.

The assessment also considers the potential for ecological recovery between successive interventions, where relevant, and whether repeated disturbance could affect the ability of habitats and species to recover between interventions.

Potential effects arising from implementation of the programme are assessed in relation to the following broad categories:

- loss or reduction of habitat area;
- alteration or degradation of habitat;
- disturbance or displacement of Qualifying Interest species;
- habitat or species fragmentation;
- reduction in species distribution or abundance;
- changes to species access or connectivity;
- deterioration of water quality;
- sediment mobilisation and deposition;
- changes to riverbed substrate or local hydromorphological conditions;
- spread of invasive non-native species; and
- changes to other attributes or targets relevant to the conservation objectives of the Lower River Shannon SAC.

7.2 Types of Impacts Arising from the Works

The proposed gravel removal programme is located within the Lower River Shannon SAC. The River Galey in the vicinity of Athea Bridge provides aquatic and riparian habitat and is hydrologically and ecologically connected to habitats and species for which the SAC is designated. The ecological baseline described in Section 5 identifies suitable spawning and nursery habitat for salmonids and potential spawning habitat for lamprey in the vicinity of the works. Suitable foraging and commuting habitat for otter is also present, while Annex I alluvial woodland occurs upstream and likely elsewhere downstream along the River Galey.

The principal pathways through which adverse effects on the conservation objectives of the Lower River Shannon SAC could potentially arise from the five-year programme are described below.

Alteration of local aquatic habitat:

Gravel removal will involve the physical removal of accumulated silt, sand, gravel and associated vegetation from within the River Galey. Suitable spawning and nursery habitat for salmonids and suitable spawning habitat for lamprey is present at Athea Bridge directly adjacent to the gravel deposit. The removal and disturbance of substrate therefore has the potential to result in localised alteration of suitable aquatic habitat and temporary disturbance or displacement of aquatic species. As the programme provides for up to three interventions over five years, consideration is also required of the potential effects of repeated substrate disturbance and removal. This includes the potential for repeated alteration of the same section of riverbed and whether natural recovery, recolonisation and subsequent gravel deposition between interventions would avoid a cumulative adverse effect on the relevant habitat and species conservation objectives.

Disturbance and Displacement of Qualifying Interest Species

Operation of machinery within and adjacent to the river channel will generate noise, vibration, movement and human activity. These activities have the potential to cause temporary disturbance or displacement of aquatic species and otter using the River Galey in the vicinity of Athea Bridge. Otter activity has previously been recorded along this section of the River Galey, and the river provides suitable foraging and commuting habitat. Suitable spawning and nursery habitat for salmonids and suitable spawning habitat for lamprey is present at Athea Bridge directly adjacent to the gravel deposit. The assessment therefore considers both disturbance arising from each individual intervention and the implications of disturbance recurring during up to three separate intervention periods over the five-year programme.

Suspended Solids and Sediment Mobilisation

The accumulated material within the works area comprises cobble and gravel together with finer sands, silts and other material. Disturbance and removal of these deposits and movement of machinery within the works area therefore have the potential to mobilise suspended solids within the water column. Elevated suspended sediment concentrations and subsequent deposition may affect downstream water quality and aquatic habitats through increased turbidity, alteration or smothering of riverbed substrate and effects on aquatic vegetation and fauna. Potential effects are of particular relevance to salmonids and lamprey and their spawning or nursery habitats. Effects on fish and other aquatic fauna could also indirectly affect prey availability for otter. As gravel removal may be undertaken on up to three occasions during the programme, the assessment considers the potential for repeated episodes of sediment mobilisation as well as the effects associated with each individual intervention.

Hydrocarbons

The use of excavators, dumpers and other plant within or adjacent to the River Galey creates a potential pathway for accidental release of fuel, oils, hydraulic fluids or other pollutants to the aquatic environment. A release of hydrocarbons within the river has the potential to adversely affect water quality and aquatic habitats and species. Such effects could directly affect aquatic Qualifying Interests and indirectly affect otter through effects on fish and other aquatic prey. This pathway applies

separately to each gravel removal intervention and is therefore considered across the full five-year programme.

Spread of Invasive Non-native Species

Himalayan balsam (*Impatiens glandulifera*) was identified growing on the gravel deposit during the September 2026 survey. Himalayan balsam and giant hogweed (*Heracleum mantegazzianum*) were also recorded within riparian habitats upstream of Athea Bridge.

Disturbance or transportation of contaminated sediment and vegetation, together with movement of machinery and equipment into, within and away from the works area, creates a potential pathway for invasive plant material to be transported to currently unaffected locations. River flow also provides a pathway through which invasive species disturbed during the works could potentially spread downstream.

This pathway is particularly relevant to the multi-year programme because invasive species distribution and abundance may change between Years 1, 3 and 5. The potential for the programme to contribute to repeated or progressive spread of invasive non-native species is therefore considered within the assessment, with programme-wide biosecurity and pre-gravel removal ecological survey measures specified in Section 9.

Potential Changes to Hydrological and Hydromorphological Conditions

Removal of accumulated gravel from the bridge arches is intended to increase conveyance through Athea Bridge. The works therefore have the potential to result in localised changes to channel conditions relative to those occurring when the gravel deposit is present. Potential effects on river flow, substrate composition, sediment transport and the hydrological conditions supporting aquatic and riparian habitats have therefore been considered, particularly in relation to the conservation objective attributes of aquatic habitats and alluvial woodland. The assessment considers not only the initial gravel removal intervention but the proposed recurring cycle of gravel accumulation and subsequent removal during the five-year programme.

Repeated and Cumulative Effects of the Five-year Programme

The proposed programme comprises up to three gravel removal interventions over a five-year period, in Years 1, 3 and 5, subject to a pre-works ecological survey and Ecological Clerk of Works (ECoW) supervision during each intervention. The potential for repeated effects is therefore considered explicitly within this NIS.

Potential repeated effects include:

- repeated disturbance and displacement of aquatic species and otter;
- repeated disturbance and removal of riverbed substrate;
- repeated mobilisation of suspended sediment;

- repeated risk of accidental pollution from hydrocarbons;
- repeated disturbance of invasive non-native plant material and associated risk of spread; and
- repeated changes associated with removal and subsequent re-accumulation of gravel within the works area.

The assessment of each screened in Qualifying Interest in Section 8 therefore considers the effects of the five-year programme as a whole, including whether the frequency and recurrence of the interventions could result in an adverse effect that would not arise from a single intervention.

Avoidance and mitigation measures identified in Section 9 will apply to each gravel removal intervention undertaken under the programme.

Prior to interventions anticipated in Years 1, 3 and 5, a pre-works ecological survey will be undertaken by an ECOW to confirm that the ecological baseline, the proposed gravel removal works and relevant environmental circumstances remain within the parameters assessed within this NIS. Where a material change is identified such that a proposed gravel removal intervention can no longer be demonstrated to remain within the nature, extent or environmental parameters assessed within this NIS, that intervention will not proceed under the programme as assessed until the implications of the change have been appropriately considered through the applicable consenting and Appropriate Assessment process.

8 Assessment of the effects of the proposed gravel removal on the Lower River Shannon SAC

Appropriate Assessment Screening identified eight Qualifying Interests (QIs) of the Lower River Shannon SAC for which likely significant effects arising from the proposed five-year gravel removal programme could not be excluded. These QIs are assessed below in view of their site-specific conservation objectives and taking account of the nature, extent, duration and frequency of the proposed works.

The proposed programme comprises up to three gravel removal interventions during Years 1, 3 and 5. Accordingly, the assessment considers not only effects associated with each individual intervention, but also the potential for repeated and cumulative effects arising from successive interventions within the same section of the River Galey. This includes consideration of the capacity for affected habitats and species to recover between interventions and whether repeated works could result in effects of a greater magnitude or duration than those associated with a single gravel removal event.

The assessment is based on the works described in Section 4 and the ecological baseline described in Section 5. Avoidance and mitigation measures required to prevent adverse effects on the integrity of the Lower River Shannon SAC are specified in Section 9 and will apply to each gravel removal undertaken during the programme.

8.1 Watercourses of Plain to Montane Levels with *Ranunculion fluitantis and Callitricho-Batrachion* Vegetation [3260]

This is a broadly defined habitat, found in most watercourses in Ireland over a wide range of physical conditions, from acid, oligotrophic, flashy upland streams dominated by bryophytes to more eutrophic, slow flowing streams dominated by *Ranunculus* and *Callitriche* species. While the former will be sensitive to diffuse pollution, the latter, especially in shallow streams, will be relatively more resistant. Three sub-types of high conservation value are known to occur in this SAC namely; Opposite-leaved Pondweed (*Groenlandia densa*), Triangular Club-rush (*Schoenoplectus triqueter*) and Bryophyte-rich streams and rivers (NPWS, 2012). The first two sub-types are associated with tidal reaches of rivers, while the latter sub-type is found in fast-flowing stretches of unmodified streams and rivers. In addition to these three sub-types, it is likely that other high conservation value sub-types exist within the site.

The site-specific conservation objective for [3260] is to maintain the favourable conservation condition. Specific attributes and targets are:

- Habitat area stable or increasing and no decline in habitat distribution subject to natural processes;
- Maintain appropriate river flow, tidal influence and freshwater seepage hydrological regimes;
- Maintain appropriate substratum particle size range, appropriate to the habitat sub-type;
- Maintain concentrations of nutrients in a sufficiently low level in the water column to prevent changes in species composition or habitat condition;
- Typical species of the relevant habitats sub-type should be present and in good condition;

- Active floodplain area at the upstream of the habitat should be maintained; and
- Maintain the area of riparian woodland at and upstream of the bryophyte-rich sub-type.

The main pressures and threats to this habitat are: Diffuse pollution to surface waters due to agricultural and forestry activities; pollution to surface waters by industrial plants; mechanical removal of peat; and modification of hydrographic functioning.

This habitat type was not identified within the works area footprint during site walkover surveys. However, there is potential for the Bryophyte-rich streams and rivers sub-type to occur in the River Galey downstream of the works and therefore, there is potential to impact this habitat.

8.1.1 Direct Effects

There will be no works within or adjacent to this habitat. The only physical works within the SAC will be during the period when the accumulated gravel is being removed from the bridge arches. No habitat [3260] exists at this location thus, there will be no direct loss in the area covered or changes to the distribution of this habitat within the SAC as a result of the works during any of the three proposed gravel removal interventions. The repeated nature of the programme does not alter this conclusion, provided the works remain within the spatial and methodological parameters assessed within this NIS.

8.1.2 Indirect, Repeated and Cumulative Effects

The potential for indirect, repeated and cumulative effects on this habitat via a number of pathways was considered. Effects were considered in respect of the site-specific conservation objectives for the habitat. The potential for effects was considered in relation to construction and operation stages. There is no foreseen decommissioning stage for the proposed works.

Construction

Each intervention has the potential, in the absence of mitigation, to mobilise fine sediment or result in an accidental release of hydrocarbons or other pollutants to the River Galey. Such effects could result in temporary deterioration of downstream water quality, sediment deposition or alteration of substrate conditions within downstream aquatic habitat. These pathways are relevant to conservation objective attributes relating to water quality, substratum composition, vegetation composition and hydrological conditions.

As works may occur during Years 1, 3 and 5, these pathways have the potential to arise on up to three separate occasions. The programme therefore introduces the potential for repeated sediment mobilisation and repeated pollution risk.

Mitigation measures will be required. Each intervention will be undertaken as a separate, short-duration mobilisation and will remain spatially confined to the assessed works area. The avoidance, sediment-control, pollution-prevention and water-quality monitoring measures specified in Section 9 will be implemented during each intervention. Subject to implementation of these measures during each intervention, no deterioration in the specific targets and attributes for habitat [3260] (floating river

vegetation) is predicted. No adverse effect on this QI as a result of the five-year programme is therefore anticipated.

Operational

The removal of the gravel berm substrate has the potential to alter river flow during high flow conditions. Bank full flow will be restored following the removal of the gravel deposit and the exposed habitat is likely to be colonised with aquatic species which are currently present in the river. No impacts are anticipated on this habitat during the operational stage.

The proposed works comprise the removal of accumulated gravel deposits from beneath two bridge arches and are confined to the immediate vicinity of Athea Bridge. Three gravel removals will occur over a period of 5 years. Works will be undertaken during low flow events only. Excavation will be limited to the deposited gravels and will not involve alteration of the upstream channel, riverbanks or floodplain. As the works are localised in nature and do not result in any significant modification of the upstream or downstream hydrological regime, significant changes to river flow or the active floodplain area supporting this habitat are not anticipated. Removing the localised gravel build-up beneath the bridge arches is restoring conveyance at the structure and will not alter the wider flood regime upstream and downstream. Floating River vegetation (3260) habitats that exist in the SAC along the River Galey will remain subject to the same river-floodplain processes that support the existing habitat. No significant effects on Floating River vegetation (3260) habitat are predicted. The recurrence of gravel removal in Years 1, 3 and 5 is not predicted to result in progressive and significant alteration of the hydrological regime supporting this habitat.

8.2 Molinia Meadows on Calcareous, Peaty or Clayey-Silt-Laden Soils (*Molinia caeruleae*) [6410]

Molinia meadow habitats have been recorded on the eastern bank of the Shannon, just north of Castleconnell, Co. Limerick. This Annex I habitat is found mainly on moist, moderately base-rich, peats and peaty gley soils, often with fluctuating water tables. They usually occur as components of wet pastures or fens, and often form mosaics with dry grassland, heath, mire and scrub communities.

The site-specific conservation objective for [6410] is to restore the favourable conservation condition. Specific attributes and targets are:

- Habitat area stable or increasing and no decline in habitat distribution subject to natural processes;
- Maintain the broadleaf herb: grass ratio structure between 40 and 90%;
- Maintain sward height between 10 and 80cm;
- Maintain the vegetation composition of typical species including no decline of notable species subject to natural processes;
- Absence or control of negative indicator species, particularly non-native invasive species and moss species;
- Cover of woody species and bracken not more than 5% cover; and
- Not more than 10% bare ground.

The main pressures and threats to this habitat are agricultural intensification, application of fertiliser, ploughing and land abandonment.

This habitat type was not identified within the works area footprint during site walkover surveys. However, there is potential for *Molinia* meadows to occur in the floodplains of the River Galey downstream of the works and therefore, there is potential to impact this habitat.

8.2.1 Direct Effects

There will be no works within or adjacent to this habitat type. The only physical works within the SAC will be during the period when the accumulated gravel is being removed from the bridge arches. No habitat [6410] exists at this location thus; there will be no direct loss in the area covered or changes to the distribution of this habitat within the SAC as a result of the works during any of the three proposed gravel removal interventions. The repeated nature of the programme does not alter this conclusion, provided the works remain within the spatial and methodological parameters assessed within this NIS.

8.2.2 Indirect, Repeated and Cumulative Effects

The potential for indirect, repeated and cumulative effects on this habitat via a number of pathways was considered. Effects were considered in respect of the site-specific conservation objectives for the habitat. The potential for effects was considered in relation to construction and operation stages. There is no foreseen decommissioning stage for the proposed works.

Construction

Each intervention has the potential, in the absence of mitigation, to mobilise fine sediment or result in an accidental release of hydrocarbons or other pollutants to the River Galey. Such effects could result in temporary deterioration of downstream water quality and increase silt levels in the water column. This may impact the vegetation composition and structure of this habitat as it is closely associated with the water table. Gravel disturbance may result in the release of Himalayan balsam seeds from the substrate into the river downstream which could result in the spread of balsam to areas of *Molinia* meadow where previously absent.

As works may occur during Years 1, 3 and 5, these pathways have the potential to arise on up to three separate occasions. The programme therefore introduces the potential for repeated sediment mobilisation and repeated pollution risk. Disturbance of contaminated sediment and invasive plant material has the potential to recur during the programme. Changes in invasive-species abundance or distribution between interventions are also possible.

Mitigation measures will be required. Each intervention will be undertaken as a separate, short-duration mobilisation and will remain spatially confined to the assessed works area. The avoidance, sediment-control, pollution-prevention and water-quality monitoring measures specified in Section 9 will be implemented during each intervention. Prior to each intervention, invasive-species presence and distribution will be verified and the biosecurity measures specified in Section 9 will be implemented. Subject to implementation of these measures during each intervention, no deterioration in the specific

targets and attributes for habitat [6410] is predicted. No adverse effect on this QI as a result of the five-year programme is therefore anticipated.

Operational

The removal of the gravel berm substrate has the potential to alter river flow during high flow conditions. Bank full flow will be restored following the removal of the gravel deposit and the exposed habitat is likely to be colonised with aquatic species which are currently present in the river. No impacts are anticipated on this habitat during the operational stage.

The proposed works comprise the removal of accumulated gravel deposits from beneath two bridge arches and are confined to the immediate vicinity of Athea Bridge. Three gravel removals will occur over a period of 5 years. Works will be undertaken during low flow events only. Excavation will be limited to the deposited gravels and will not involve alteration of the upstream channel, riverbanks or floodplain. As the works are localised in nature and do not result in any significant modification of the upstream or downstream hydrological regime, significant changes to river flow or the active floodplain area supporting this habitat are not anticipated. Removing the localised gravel build-up beneath the bridge arches is restoring conveyance at the structure and will not alter the wider flood regime upstream and downstream. Molina Meadow (6410) habitats that exist in the SAC along the River Galey will remain subject to the same river-floodplain processes that support the existing habitat. No significant effects on Molina Meadow (6410) habitat are predicted. The recurrence of gravel removal in Years 1, 3 and 5 is not predicted to result in progressive and significant alteration of the hydrological regime supporting this habitat.

8.3 Alluvial Forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicon albae) [91E0]

The Lower River Shannon SAC lies mostly within an intensively managed agricultural region and it contains only a small amount of woodland. Alluvial woodlands occur along the Shannon, in the valley bottoms of the tributaries and on seepage zones on valley sides. The principal woodland communities within the SAC consist of; Riparian woodlands (WN5) habitats dominated by tree willows forming small, narrow stands on river banks and islands where trees are subject to frequent flooding and/or have their roots permanently in water and Wet willow-alder-ash woodlands (WN6) in valley bottoms and locally in flushed areas on the side of steep valleys in the upper reaches of tributaries. Periodic flooding or constant flushing is essential for the maintenance of alluvial woodlands.

The site-specific conservation objective for [91E0] is to restore the favourable conservation condition of subtypes with high conservation value. Specific attributes and targets are:

- Habitat area stable or increasing and no decline in habitat distribution and woodland size subject to natural processes;
- Maintain appropriate cover and height, community diversity and extent, dead wood, and natural regeneration of woodland structure;

- Maintain appropriate hydrological regime (flooding depth/height of water table) necessary for alluvial vegetation;
- No decline in veteran trees and indicators of local distinctiveness of woodland structure;
- No decline of native tree cover vegetation composition;
- Maintain the vegetation composition of a variety of the typical native species present; and
- Absence or control of negative indicator species, particularly non-native invasive species.

The main pressures and threats to this habitat are grazing pressure being too high or too low negatively effecting the herb layer; agricultural and forestry activities including clear-felling; infrastructural development; and pollution to surface waters.

There is a small pocket of wet woodland corresponding to alluvial woodland upstream of Athea bridge (c.100m upstream minimum). It is also possible this habitat occurs in the floodplains of the River Galey downstream of the works.

8.3.1 Direct Effects

There are sections of alluvial woodland c. 100m upstream of the works area. Physical works within the SAC will be during the period when the accumulated gravel is being removed from the bridge arches. No alluvial woodland is present in this section. There will be no loss or destruction of this habitat or changes to its distribution within the SAC during any of the three proposed gravel removal interventions. The repeated nature of the programme does not alter this conclusion, provided the works remain within the spatial and methodological parameters assessed within this NIS.

8.3.2 Indirect, Repeated and Cumulative Effects

The potential for indirect, repeated and cumulative effects on this habitat via a number of pathways was considered. Effects were considered in respect of the site-specific conservation objectives for the habitat. The potential for effects was considered in relation to construction and operation stages. There is no foreseen decommissioning stage for the proposed works.

Construction

Each intervention has the potential, in the absence of mitigation, to mobilise fine sediment or result in an accidental release of hydrocarbons or other pollutants to the River Galey. Such effects could result in temporary deterioration of downstream water quality and increase silt levels in the water column. Increase in silt levels in the water column and resuspension of riverbed sediments may result in alteration to the flood depths. Silt deposition may impact community diversity and extent through smothering of coarser substrate.

Gravel disturbance may result in the release of Himalayan balsam seeds from the substrate into the river downstream which could result in the spread of Himalayan balsam to areas of alluvial woodland habitat. The spread of balsam would result in a change of native vegetation composition of alluvial woodland.

As works may occur during Years 1, 3 and 5, these pathways have the potential to arise on up to three separate occasions. The programme therefore introduces the potential for repeated sediment mobilisation and repeated pollution risk. Disturbance of contaminated sediment and invasive plant material has the potential to recur during the programme. Changes in invasive-species abundance or distribution between interventions are also possible.

Mitigation measures will be required. Each intervention will be undertaken as a separate, short-duration mobilisation and will remain spatially confined to the assessed works area. The avoidance, sediment-control, pollution-prevention and water-quality monitoring measures specified in Section 9 will be implemented during each intervention. Prior to each intervention, invasive-species presence and distribution will be verified and the biosecurity measures specified in Section 9 will be implemented. Subject to implementation of these measures during each intervention, no deterioration in the specific targets and attributes for habitat [91E0] is predicted. No adverse effect on this QI as a result of the five-year programme is therefore anticipated.

Operational

The removal of the gravel berm substrate has the potential to alter river flow during high flow conditions. Bank full flow will be restored following the removal of the gravel deposit and the exposed habitat is likely to be colonised with aquatic species which are currently present in the river. No impacts are anticipated on this habitat during the operational stage.

The proposed works comprise the removal of accumulated gravel deposits from beneath two bridge arches and are confined to the immediate vicinity of Athea Bridge. Three gravel removals will occur over a period of 5 years. Works will be undertaken during low flow events only. Excavation will be limited to the deposited gravels and will not involve alteration of the upstream channel, riverbanks or floodplain. As the works are localised in nature and do not result in any significant modification of the upstream hydrological regime, significant changes to the frequency, extent or duration of inundation supporting the upstream alluvial woodland habitat are not anticipated. Removing the localised gravel build-up beneath the bridge arches is restoring conveyance at the structure and will not alter the wider flood regime upstream and downstream. The alluvial woodland will remain subject to the same river-floodplain processes that support the existing habitat. No significant effects on the structure, function or supporting hydrological conditions of the alluvial woodland habitat are predicted. The recurrence of gravel removal in Years 1, 3 and 5 is not predicted to result in progressive and significant alteration of the hydrological regime supporting this habitat.

8.4 Sea Lamprey (*Petromyzon marinus*) [1095]

Sea lamprey life cycle contains both marine and freshwater phases. Adult Sea Lamprey (60-100 cm length) live at sea as external parasites on host fish and migrate in spring to freshwater to excavate redds or spawning nests in gravelled areas of large and small rivers. Once hatch, the larvae called ammocoetes swim out of the nest and are washed downstream, where they accumulate in areas with slower water currents where they burrow into fine river sediments e.g., backwaters, current eddies or behind big stones on the riverbed. They favour partially shaded areas, and the presence of aquatic

plants. Larvae live as filter feeders and may remain in fine sediments for several years before transforming into adults. The seaward migration of young adults occurs in the autumn/winter months.

The site-specific conservation objective for [1095] is to restore to favourable conservation condition. Specific attributes and targets are:

- River accessibility from estuary >75% of main stem length; of rivers accessible from estuary;
- > three age/size groups present and mean catchment juvenile density at least 1/m²;
- No decline in extent and distribution of spawning beds; and
- >50% sample sites positive and >four positive sites (5 km apart) in a catchment.

The main pressures and threats to sea lamprey are migration barriers; pollution; bait digging/ collection.

Potential Impacts

The River Galey in the vicinity of the proposed gravel removal works is considered to provide suitable habitat for Sea Lamprey during their freshwater phase. The river in the vicinity of the proposed works consists of a riffle and glide/pool which provides potential spawning habitat for lamprey, though there are no silt beds suitable for lamprey ammocoetes. Potential impacts resulting from the removal of the gravel deposit include:

- Water quality impacts in the form of sediment runoff and pollution spillages;
- Direct loss of habitat or species as a result of the removal of the gravel deposit; and
- Temporary disturbance/displacement of species during works.

8.4.1 Direct Effects

Potential impacts may result in temporary displacement of sea lamprey and changes to their distribution and composition in the vicinity of the proposed works area. No barriers to natural migration will be created during the gravel removal works as instream works will be undertaken outside the migration/spawning season. There will be no loss of spawning habitats as the gravel will be removed to summer water levels. On completion of works, habitats will be comparable to those present before the gravel deposition build up. The repeated nature of the programme does not alter this conclusion, provided the works remain within the spatial and methodological parameters assessed within this NIS.

8.4.2 Indirect, Repeated and Cumulative Effects

The potential for indirect, repeated and cumulative effects on this species via a number of pathways was considered. Effects were considered in respect of the site-specific conservation objectives for this species. The potential for effects was considered in relation to construction and operation stages. There is no foreseen decommissioning stage for the proposed works.

Construction

Each intervention has the potential, in the absence of mitigation, to mobilise fine sediment or result in an accidental release of hydrocarbons or other pollutants to the River Galey. Such effects could result in

temporary deterioration of downstream water quality and increase silt levels in the water column. This may have an effect on the extent and distribution of spawning habitat and overall lamprey population and juvenile density.

As works may occur during Years 1, 3 and 5, these pathways have the potential to arise on up to three separate occasions. The programme therefore introduces the potential for repeated sediment mobilisation and repeated pollution risk.

Mitigation measures will be required. Each intervention will be undertaken as a separate, short-duration mobilisation and will remain spatially confined to the assessed works area. The avoidance, sediment-control, pollution-prevention and water-quality monitoring measures specified in Section 9 will be implemented during each intervention. Subject to implementation of these measures during each intervention, no deterioration in the specific targets and attributes for Sea Lamprey is predicted. No adverse effect on this QI as a result of the five-year programme is therefore anticipated.

Operational

The removal of the gravel berm substrate has the potential to alter river flow during high flow conditions. Bank full flow will be restored following the removal of the gravel deposit and the exposed habitat is likely to be colonised with aquatic species which are currently present in the river. No impacts are anticipated on this species during the operational stage. Upstream river access will not be affected for adults migrating upstream.

8.5 Brook Lamprey (*Lampetra planeri*) [1096]

Brook Lamprey (15-18cm length) is non-parasitic and non-migratory as an adult, living its entire life in freshwater. Adults spawn in spring, excavating shallow nests in relatively small sized gravels in areas of reduced flow. Its overall status is ‘favourable’ (NPWS, 2012).

The site-specific conservation objective for [1096] is to maintain their favourable conservation condition. Specific attributes and targets are:

- Access to all watercourses down to first order streams and >three age/size groups present;
- Mean catchment juvenile density at least 5/m² and >50% of sample sites positive; and
- No decline in extent and distribution of spawning beds and spawning habitat is not a limiting feature.

The main pressures and threats to this species are bait digging; point source and diffuse pollution to surface water; dredging; siltation and invasive non-native species.

Potential Impacts

The River Galey in the vicinity of the proposed gravel removal works is considered to provide suitable habitat for Brook Lamprey. The river in the vicinity of the proposed works consists of a riffle and glide/pool which provides potential spawning habitat for lamprey, though there are no silt beds suitable for lamprey ammocoetes. Potential impacts resulting from the removal of the gravel deposit include:

- Water quality impacts in the form of sediment runoff and pollution spillages;
- Direct loss of habitat or species as a result of the removal of the gravel deposit; and
- Temporary disturbance/displacement of species during works.

8.5.1 Direct Effects

Potential impacts may result in temporary displacement of brook lamprey and changes to their distribution and composition in the vicinity of the proposed works area. No barriers to natural migration will be created during the gravel removal works as instream works will be undertaken outside the migration/spawning season. There will be no loss of spawning habitats as the gravel will be removed to summer water levels. On completion of works, habitats will be comparable to those present before the gravel deposition build up. The repeated nature of the programme does not alter this conclusion, provided the works remain within the spatial and methodological parameters assessed within this NIS.

8.5.2 Indirect, Repeated and Cumulative Effects

The potential for indirect, repeated and cumulative effects on this species via a number of pathways was considered. Effects were considered in respect of the site-specific conservation objectives for this species. The potential for effects was considered in relation to construction and operation stages. There is no foreseen decommissioning stage for the proposed works.

Construction

Each intervention has the potential, in the absence of mitigation, to mobilise fine sediment or result in an accidental release of hydrocarbons or other pollutants to the River Galey. Such effects could result in temporary deterioration of downstream water quality and increase silt levels in the water column. This may have an effect on the extent and distribution of spawning habitat and overall lamprey population and juvenile density.

As works may occur during Years 1, 3 and 5, these pathways have the potential to arise on up to three separate occasions. The programme therefore introduces the potential for repeated sediment mobilisation and repeated pollution risk.

Mitigation measures will be required. Each intervention will be undertaken as a separate, short-duration mobilisation and will remain spatially confined to the assessed works area. The avoidance, sediment-control, pollution-prevention and water-quality monitoring measures specified in Section 9 will be implemented during each intervention. Subject to implementation of these measures during each intervention, no deterioration in the specific targets and attributes for Brook Lamprey is predicted. No adverse effect on this QI as a result of the five-year programme is therefore anticipated.

Operational

The removal of the gravel berm substrate has the potential to alter river flow during high flow conditions. Bank full flow will be restored following the removal of the gravel deposit and the exposed habitat is

likely to be colonised with aquatic species which are currently present in the river. No impacts are anticipated on this species during the operational stage. Upstream river access will not be affected for adults migrating upstream.

8.6 River Lamprey (*Lampetra fluviatilis*) [1099]

River Lamprey reproduces in freshwater rivers and streams. Adults spawn in spring, excavating shallow nests in gravels and stones. After hatching, the ammocoetes drift or swim downstream to areas of riverbed with a fine silt composition. They burrow into this bed material and live as filter feeders over a period of years before transforming into young adult fish. As adults they are parasitic, attaching to and feeding on larger fish in coastal waters.

The site-specific conservation objective for River Lamprey is to maintain the favourable conservation condition. Specific attributes and targets are:

- Access to all watercourses down to first order streams and >three age/size groups present;
- Mean catchment juvenile density at least 5/m² and >50% of sample sites positive; and
- No decline in extent and distribution of spawning beds and spawning habitat is not a limiting feature.

The main pressures and threats to this species are bait digging; point source and diffuse pollution to surface water; dredging; siltation and invasive non-native species.

Potential Impacts

The River Galey in the vicinity of the proposed gravel removal works is considered to provide suitable habitat for River Lamprey. The river in the vicinity of the proposed works consists of a riffle and glide/pool which provides potential spawning habitat for lamprey, though there are no silt beds suitable for lamprey ammocoetes. Potential impacts resulting from the removal of the gravel deposit include:

- Water quality impacts in the form of sediment runoff and pollution spillages;
- Direct loss of habitat or species as a result of the removal of the gravel deposit; and
- Temporary disturbance/displacement of species during works.

8.6.1 Direct Effects

Potential impacts may result in temporary displacement of River lamprey and changes to their distribution and composition in the vicinity of the proposed works area. No barriers to natural migration will be created during the gravel removal works as instream works will be undertaken outside the migration/spawning season. There will be no loss of spawning habitats as the gravel will be removed to summer water levels. On completion of works, habitats will be comparable to those present before the gravel deposition build up. The repeated nature of the programme does not alter this conclusion, provided the works remain within the spatial and methodological parameters assessed within this NIS.

8.6.2 Indirect, Repeated and Cumulative Effects

The potential for indirect, repeated and cumulative effects on this species via a number of pathways was considered. Effects were considered in respect of the site-specific conservation objectives for this species. The potential for effects was considered in relation to construction and operation stages. There is no foreseen decommissioning stage for the proposed works.

Construction

Each intervention has the potential, in the absence of mitigation, to mobilise fine sediment or result in an accidental release of hydrocarbons or other pollutants to the River Galey. Such effects could result in temporary deterioration of downstream water quality and increase silt levels in the water column. This may have an effect on the extent and distribution of spawning habitat and overall lamprey population and juvenile density.

As works may occur during Years 1, 3 and 5, these pathways have the potential to arise on up to three separate occasions. The programme therefore introduces the potential for repeated sediment mobilisation and repeated pollution risk.

Mitigation measures will be required. Each intervention will be undertaken as a separate, short-duration mobilisation and will remain spatially confined to the assessed works area. The avoidance, sediment-control, pollution-prevention and water-quality monitoring measures specified in Section 9 will be implemented during each intervention. Subject to implementation of these measures during each intervention, no deterioration in the specific targets and attributes for River Lamprey is predicted. No adverse effect on this QI as a result of the five-year programme is therefore anticipated.

Operational

The removal of the gravel berm substrate has the potential to alter river flow during high flow conditions. Bank full flow will be restored following the removal of the gravel deposit and the exposed habitat is likely to be colonised with aquatic species which are currently present in the river. No impacts are anticipated on this species during the operational stage. Upstream river access will not be affected for adults migrating upstream.

8.7 Atlantic Salmon (*Salmo salar*) [1106]

Salmon use rivers to reproduce and as nursery areas during their juvenile phase. The Irish population generally comprises fish that spend two winters in freshwater before going to sea in spring as smolts. The smolts migrate to sea mainly from April to June. The majority of Irish fish spend one winter at sea before returning to their natal rivers, mainly during the summer as grilse. Smaller numbers spend two winters at sea. No artificial barriers causing significant fish passage issues for salmon have been identified on the Feale.

The site-specific conservation objective for [1106] is to restore the favourable conservation condition. Specific attributes and targets are:

- No significant decline and 100% of river channels (2nd order) accessible from estuary;
- Conservation limit (CL) for each system consistently exceeded. The main channel of the Shannon is significantly below its CL while the Feale and Mulkear rivers are above their CL;
- Maintain/ exceed 0+ fry mean catchment-wide abundance (17 salmon fry/5 minutes sampling);
- No decline in number and distribution of spawning redds due to anthropogenic causes; and
- At least Q4 water quality status at all sites sampled by EPA.

The main pressures and threats to this species are agricultural intensification (incl. fish farming); fertilisation; forestry activities; peat extraction; surface water pollution; invasive non-native species; poaching; surface water abstractions; predation; and modification of hydromorphology and hydrographic functioning of habitat.

Potential Impacts

Suitable spawning and nursery habitats for salmonids were identified within the footprint of the works area during the ecological field surveys. Potential impacts resulting from the removal of the gravel deposit include:

- Water quality impacts in the form of sediment runoff and pollution spillages;
- Direct loss of habitat or species as a result of the removal of the gravel deposit; and
- Temporary disturbance/displacement of species during gravel removal works.

8.7.1 Direct Effects

The section of river channel is considered an important spawning and nursery habitat for the species. Potential impacts may result in temporary displacement of salmonids and changes to their distribution and composition in the vicinity of the proposed works area. There will be no decline in extent or distribution of spawning beds as the gravel will be removed to summer water levels and works will be undertaken outside the spawning season. The river will not be completely dammed during the works, thereby maintaining a route for fish passage. On completion of works, habitats will be comparable to those present before the gravel deposition build up with increased habitat and commuting space for salmon that had been taken up by the gravel deposit. The repeated nature of the programme does not alter this conclusion, provided the works remain within the spatial and methodological parameters assessed within this NIS.

8.7.2 Indirect, Repeated and Cumulative Effects

The potential for indirect, repeated and cumulative effects on this species via a number of pathways was considered. Effects were considered in respect of the site-specific conservation objectives for this species. The potential for effects was considered in relation to construction and operation stages. There is no foreseen decommissioning stage for the proposed works.

Construction

Each intervention has the potential, in the absence of mitigation, to mobilise fine sediment or result in an accidental release of hydrocarbons or other pollutants to the River Galey. Such effects could result in temporary deterioration of downstream water quality and increase silt levels in the water column. This may have an effect on the extent and distribution of spawning habitat and overall salmon populations. Salmon require good water quality status (Q4, EPA).

As works may occur during Years 1, 3 and 5, these pathways have the potential to arise on up to three separate occasions. The programme therefore introduces the potential for repeated sediment mobilisation and repeated pollution risk.

Mitigation measures will be required. Each intervention will be undertaken as a separate, short-duration mobilisation and will remain spatially confined to the assessed works area. The avoidance, sediment-control, pollution-prevention and water-quality monitoring measures specified in Section 9 will be implemented during each intervention. Subject to implementation of these measures during each intervention, no deterioration in the specific targets and attributes for Salmon is predicted. No adverse effect on this QI as a result of the five-year programme is therefore anticipated.

Operational

No barriers or decline to natural migration will be created as instream works will be undertaken outside migration/spawning season. There will be no loss of spawning habitats as the gravel will be removed to summer water levels. On completion of works, habitats will be comparable to those present before the gravel deposition build up.

The removal of the gravel berm substrate has the potential to alter river flow during high flow conditions. Bank full flow will be restored following the removal of the gravel deposit and the exposed habitat is likely to be colonised with aquatic species which are currently present in the river. No impacts are anticipated on this species during the operational stage. Upstream river access will not be affected for adults migrating upstream.

8.8 Otter (*Lutra lutra*) [1355]

Ireland is a strong-hold for Otter owing to plentiful aquatic prey and safe refuges. Found along clean rivers and lakes, the otter is an opportunistic predator with a broad and varied diet (fish, crayfish, frogs, and infrequently, birds and mammals are taken). Favourable Conservation Status target, based on 1980/81 survey findings, is 88% in SACs. Current range in the Shannon is estimated at 70.5% (Bailey and Rochford, 2006). Otters are largely solitary animals, occurring at low population densities. They are highly territorial towards members of the same sex, so although this means ranges of males and females can overlap; it has implications for the number of otters which will potentially occupy a given stretch of waterway. Home ranges can comprise 20km of watercourse for females and in excess of 32km for males. A key requirement of potential territory is a sufficient source of prey. Otters feed primarily on fish and the amount of time spent in different parts of their home-range is related to the abundance of prey. Otters are mainly nocturnal creatures and so require safe refuges, known as holts, in which they rest during the day. These holts are the main den sites and are often situated

underground along a river bank or under tree roots. An otter's territory will typically contain several holts as well as resting sites, known as couches. These are above-ground lying-up areas concealed within vegetation and often linked to a nearby watercourse by a regularly used track.

The site-specific conservation objective for [1355] is to maintain the favourable conservation condition. Specific attributes and targets are:

- No significant decline in distribution, extent of terrestrial and freshwater habitats and couching sites and holts; and
- No significant decline in fish biomass available and no significant increase in barriers to connectivity.

The main pressures and threats to the otter are transport routes; fishing, surface water pollution and net entanglement. Diffuse and point source pollution of freshwaters and coastal waters is likely to have indirect effect on otters through impacts on prey abundance.

Potential Impacts

Suitable foraging and commuting habitat for otter occurs within proximity to, upstream and downstream of the proposed works. No holts were detected within 350m of the proposed works area and available areas are likely limited due to the urban nature of the area in the immediate vicinity of the bridge. Potential impacts include:

- Water quality impacts in the form of sediment runoff and pollution spillages impacting on prey species availability;
- Temporary disturbance/displacement of species during works.

These potential impacts may result in changes to otter distribution and prey species composition in the vicinity of the proposed works. Impacts on water quality could result in a reduction of prey availability for otter to feed on.

8.8.1 Direct Effects

The section of the river channel where the gravel removal works will take place is in an urban setting where existing disturbance from cars and local residents already occurs. The removal of gravel berm may result in temporary increased levels of disturbance to any foraging otter during the works, however, there were no holts or couches found within 350m of the works during the 2026 surveys. On completion of works, habitats will be comparable to those present before the gravel deposition build up. The programme could result in temporary disturbance to commuting/foraging otter during each of the three proposed gravel removal interventions. Pre-works ecological surveys will include checks for otter activity, holts, couches and other resting places prior to each gravel removal occasion.

8.8.2 Indirect, Repeated and Cumulative Effects

The potential for indirect, repeated and cumulative effects on this species via a number of pathways was considered. Effects were considered in respect of the site-specific conservation objectives for this species. The potential for effects was considered in relation to construction and operation stages. There is no foreseen decommissioning stage for the proposed works.

Construction

Each intervention has the potential, in the absence of mitigation, to mobilise fine sediment or result in an accidental release of hydrocarbons or other pollutants to the River Galey. Such effects could result in temporary deterioration of downstream water quality and increase silt levels in the water column. Impacts to water quality may disperse or reduce the number of fish prey species available to otters along the river.

As works may occur during Years 1, 3 and 5, these pathways have the potential to arise on up to three separate occasions. The programme therefore introduces the potential for repeated sediment mobilisation and repeated pollution risk.

Mitigation measures will be required. Each intervention will be undertaken as a separate, short-duration mobilisation and will remain spatially confined to the assessed works area. The avoidance, sediment-control, pollution-prevention and water-quality monitoring measures specified in Section 9 will be implemented during each intervention. Subject to implementation of these measures during each intervention, no deterioration in the specific targets and attributes for Otter is predicted. No adverse effect on this QI as a result of the five-year programme is therefore anticipated.

Removal of the instream gravel deposit at Athea bridge will require otter to travel up and downstream via the river channel or around the gravel removal works, however there is sufficient space around the works to ensure that otter are not forced onto the R524 during works. Furthermore, otters are largely nocturnal animals and will be largely active outside of the working day. There will be no permanent loss of habitat suitable for otter as a result of the instream gravel removal programme.

Operational

The removal of the gravel berm substrate has the potential to alter river flow during high flow conditions. Bank full flow will be restored following the removal of the gravel deposit and the exposed habitat is likely to be colonised with aquatic species which are currently present in the river. No impacts are anticipated on this species during the operational stage. River access will not be affected. There will be no significant or permanent disruption for otter commuting as they can remain within the river channel, post works completion.

9 Avoidance and Mitigation Measures

Section 8 identifies potential effects on the Qualifying Interests of the Lower River Shannon SAC arising from the proposed five-year gravel removal programme. The programme comprises up to three gravel removal interventions in Years 1, 3 and 5. The mitigation measures set out below form an integral part of the proposed programme and shall be implemented during each gravel removal intervention.

The purpose of these measures is to avoid or reduce the potential for adverse effects on the conservation objectives and integrity of the Lower River Shannon SAC arising from sediment mobilisation, accidental pollution, disturbance or displacement of Qualifying Interest species and the introduction or spread of invasive non-native species.

The programme assessed within this NIS is limited to the nature, extent, location and methodology of the works described in Section 4. Prior to the interventions in Years 1, 3 and 5, an ecological survey shall be undertaken in accordance with Section 9.1 to confirm that the proposed gravel removal intervention and ecological circumstances remain within the parameters assessed within this NIS.

9.1 Pre-works ecological survey

The proposed programme comprises up to three gravel removal interventions over a five-year period, in Years 1, 3 and 5, subject to a pre-works ecological survey and Ecological Clerk of Works (ECoW) supervision during each intervention.

The 2026 description of the receiving environment in Section 5 is the baseline against which the five-year programme is assessed. Before each of the gravel removal interventions takes place in Year 1, 3 and 5, an Ecological Clerk of Works (ECoW) will carry out a pre works survey prior to each intervention to verify that the ecological circumstances remain in line with those assessed by the NIS.

This survey will include checks for:

- habitat conditions and presence of relevant QI habitat;
- otter activity, holts/couches and other resting places;
- suitability of instream habitat for salmonids/lamprey;
- invasive species presence and distribution;
- access routes and working areas;
- extent/location/nature of accumulated gravel;
- whether the proposed methodology remains within the assessed parameters; and
- whether relevant environmental conditions have materially changed.
- the latest available EPA/WFD information will be reviewed and any material change relevant to impact pathways considered.

The pre-works survey is an ecological verification and mitigation measure only and does not substitute or defer the assessment of the five-year programme undertaken within this NIS. Where ecological verification identifies a material change such that a proposed intervention cannot be demonstrated to remain within the nature, extent, methodology or environmental parameters assessed within this NIS, that intervention shall not proceed under the programme as assessed until the implications of the change have been appropriately considered through the relevant consenting and Appropriate Assessment process.

The following sections are applicable to each gravel removal occasion:

9.2 General Mitigation for each gravel removal occasion

All works proposed for the removal of gravel from Athea bridge will be conducted as identified in Section 6 of this report. In addition, the following mitigation measures are proposed:

- A suitable qualified Ecological Clerk of Works (ECoW) shall be appointed for part-time attendance for the full duration of the works and will supervise all aspects of the gravel removal process:
    - The ECoW will hold a minimum of 5 years' post-graduate experience in ecological assessment, appraisal techniques and mitigation monitoring;
    - The ECoW will be responsible for biodiversity monitoring elements and providing toolbox talks; and
    - The ECoW will be responsible for monitoring water quality throughout the works duration for the removal of gravels from the bridge area. This includes the authority to cease works immediately if alarmed sondes are triggered (see Water Quality Monitoring below).
- All personnel involved with the project shall be informed of the requirement for protection of designated habitats including the aquatic environment, i.e. Lower River Shannon SAC, and best practice methodologies to be employed via toolbox talks or formal presentation from the ECoW;
- The ECoW shall be onsite part time until all works have finished, and all machinery has been demobilised and has left the site;
- The access location to the proposed works shall be clearly marked out prior to the commencement of works. No works will be permitted outside of this works area;
- Appropriate fencing shall be installed and maintained for the duration of the works to prevent the public from entering the works site;
- Clearance of vegetation from the gravel deposit shall be undertaken as early as possible prior to the commencement of works in line with biosecurity measures outlined below and maintained until work commences to prevent bird nesting. In the event that vegetation clearance is not possible before the commencement of works, upon agreement by the NPWS, a check to confirm the absence of nesting birds should be carried out by a suitably experienced ecologist no more than 48 hours prior to works;
- Works shall only be carried out in dry, low flow conditions. Met Eireann five-day forecasts will be monitored on a daily basis prior to works commencing and no gravel removal will be carried out during prolonged wet weather;
- Works shall be carried out during day time hours only (08:00-18:00);

- Excavated material shall not be stored beyond the working day, however in the event that this is not practical, appropriate precautions in relation to the material will be taken. These precautions will include appropriate storage and biosecurity measures as outlined in Section 9.4;
- Full method statements and Risk Assessments shall be provided and approved prior to the commencement of works;
- The guidelines provided by Inland Fisheries Ireland shall be adhered to in order to ensure that there is a neutral impact on the water environment during the gravel removal works of the proposed works.

9.3 Suspended Solids and Hydrocarbons Mitigation

Suspended solids, hydrocarbons and other pollutants must be controlled by minimising the creation of sediment-laden run off and by the control of hydrocarbons and other pollutants.

9.3.1 Silt Curtains and Floating Booms

Silt movement within the working area will be managed through the use of silt curtains and floating booms that will provide instream sediment control by isolating sediment-laden waters behind the curtain from passing river flows thus allowing sedimentation of disturbed waters within the enclosed area, while the booms capture and prevent any floating hydrocarbons from escaping downstream. Silt curtains comprise a linear float and load-line/ rope, a curtain skirt which hangs from the linear float, and a ballast weight (e.g. chain) at the base of the curtain, and possible anchors. The curtain skirt generally comprises of woven geotextile, canvas / tarp material or nylon reinforced PVC. The following measures are proposed:

- Silt curtains will be installed as part of in stream works before machinery enter the watercourse and will be removed once the works have been completed and will be disposed of off-site;
- Silt curtains will be positioned instream at the downstream end of the gravel deposit and extend from the riverbank in a semi-circle around the gravel deposit for the length of the deposit as identified in the proposed works figure (Figure 4-1) They will prevent potential sediment-laden waters from the works area entering the River Galey;
- The project contractor will ensure that the silt curtains are fit for purpose and that it achieves the prevention of sediment-laden water generated from instream works from entering the River Galey and prevents degradation of water quality;
- The contractor shall carefully choose the type and depth of silt curtain in agreement with the ECoWs to ensure it is not damaged/swept away during flood conditions. Maintenance will be conducted daily; and
- In the event of a significant flood warning, silt curtains will be removed to manage and limit the potential for generation of sediment and mobilisation of both sediment and pollutants downstream.

9.3.2 Hydrocarbon Control

Accidental release of hydrocarbons within the working area during refuelling or machinery working in the river channel will be managed through the use of silt curtains and floating booms. The following measures are proposed:

- An emergency-operating plan will be established to deal with incidents or accidents during in channel works that may give rise to pollution within the river. This will include means of containment in the event of accidental spillage of hydrocarbons or other pollutants (including oil booms, soakage pads etc.);
- Fuels, oils, greases and hydraulic fluids will be fully bunded (110% bunding) and will be located in a designated hard standing area located within a minimum distance of 50m from any watercourse/waterbody linked to the designated sites. Refuelling of machinery will be carried out off site or in a contained bunded area on a hard surface;
    - All machinery operating within and adjacent to the river use biodegradable hydraulic oil; and
    - All plant and machinery are regularly maintained and serviced to minimise the release of hydrocarbons.
- Spill kits will be made available close to the works area and all staff will be trained in the correct use. Any waste oils or hydraulic fluids shall be collected, stored in appropriate containers and disposed of offsite in an appropriate manner;
    - Appropriate training will take place prior to the commencement of works. Training will be provided by the ECoW.
- All machinery and plant used will be regularly maintained and serviced and will comply with appropriate standards to ensure that leakage of diesel, oil and lubricants is minimised;
- Biodegradable fuels will be used in all machinery on site; and
- Machinery will never be washed in watercourses. The location for any washing of machinery will be agreed with the ECoW prior to the commencement of works.

9.4 Mitigation for Works in Channel

The following methodology details the mitigation to be implemented for in stream works during the gravel removal works on the River Galey:

- To reach the gravel deposit within the channel a defined access route will be created and agreed by the relevant authorities. The access route will use existing exposed material from the deposit and will prevent machinery entering the watercourse directly, avoiding the mobilisation of silts and minimising the potential for hydrocarbon release into the watercourse;
- Access will only take place along the defined route once silt curtains and floating booms are in place;
- Riparian vegetation near the access point should be left intact where possible. If areas have to be disturbed, all practicable measures should be taken to prevent soil from entering the River Galey;

- The removal of silts and sediments will be to a dumper vehicle with a toothless bucket excavator. All sediments not cleared for beneficial use on-site will be transported off site for appropriate disposal;
- There will be no removal of gravel below the 300mm summer-low water levels;
- The proposed works will not be undertaken during the salmonid spawning season. Gravel removal works will be undertaken between July 1st to September 30th, to protect spawning salmonids and the times during the early life stages of salmonid fish;
- At no time will the river be completely dammed as a result of the works. The works will be carried out in a dry section on one side of the river, with the other side of the river being allowed to flow normally. This will allow fish passage through the River Galey at all times during the works;
- No machinery will be left overnight in the river. All machinery will be taken offsite and stored on a hard standing surface within a bunded area to ensure that, in the event of a hydraulic failure or fuel leak when unattended, there is no risk to the river;
- All in-stream works will comply with current best practice, including Inland Fisheries Ireland Guidance on protection of fisheries during construction works in and adjacent to waters (IFI, 2016); and
- At least one week's notice will be sent to the NPWS and IFI of the commencement of works.

9.5 Biosecurity Measures

The desktop study and site visits have identified a number of invasive species within the Athea gravel clearance area, including stands of Himalayan balsam on the gravel deposit. Invasive species have the potential to spread to other locations via machinery used on site or via the river itself if plant material is disturbed. The following biosecurity measures will be put in place to ensure no spread of invasive species:

- A pre-construction survey for invasive species will be conducted at the earliest stage possible to update and inform on the status of invasive plant species in or near the works area. Particular attention should be given to identifying those invasive species identified on the Third Schedule of the Birds and Natural Habitats Regulations 2011 (as amended). This survey should be undertaken during the appropriate botanical season (April to September);
- All plant machinery and construction related vehicles arriving and leaving site will be checked for the presence of plant material e.g. leaves roots and rhizomes from non-native invasive species; All machinery to be used will be power washed and allowed dry before arriving on site – tracks, inner wheels and other areas with complex structures capable of holding biological material should be power washed and allowed dry prior to going on site;
- All staff will be trained by the ECoWs in the identification of invasive species and noxious weeds and the associated biosecurity measures required when working on site;
- Non-native invasive species will be managed or avoided where they occur throughout the works area, in line with the NRA Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Road Schemes (NRA, 2010), and any other best practice guidance which may be available in the interim;

- Any Himalayan balsam identified during the site survey on the gravel deposit will be hand-pulled prior to the commencement of the works. Hand pulling must only take place before the plant goes to seed around mid-June depending on the growing season;
- Contaminated material will be stockpiled off site in a clearly marked and lined containment area. Material will be removed off-site using a tractor and dump trailer to a dedicated LCCC facility (Gortadroma landfill, subject to EPA approval or other appropriate LCCC facility) for ongoing treatment;
- Seeds may survive in the excavated material for up to 18 months. A two-year programme of control, which will extend beyond the works period will be required;
- Any machinery, equipment, clothing or footwear involved in managing or handling contaminated material will be cleaned and dried pre and post works. Cleaning should take place at least c.50m from watercourses and on a hardstanding surface.

9.6 Water Quality Monitoring

An additional mitigation measure to monitor the potential suspension and transfer of sediment and pollutants downstream will be implemented using a standard scientific methodology, given the sensitivity of the SAC site, as follows:

Alarmed sondes will be employed to measure turbidity in the river channel upstream and downstream of the works area during gravel removal works. These will continuously measure turbidity for a suitable time ahead of the works to gather baseline data from the River Galey. They will continuously measure turbidity throughout the gravel removal works period. If there is a 20% or greater difference between upstream and downstream turbidity, works will be ceased immediately until the cause of the difference is identified and rectified (if caused by the gravel removal works). The relevant statutory authorities (NPWS, IFI & EPA) will also be notified. If necessary, water sampling and monitoring of the River Galey can also be completed to test for Total Suspended Solids (TSS) and hydrocarbon concentrations. The suitably trained ECoW will be responsible for all water quality monitoring during the gravel removal works. The most appropriate locations for the proposed turbidity monitors will be determined by the ECoW on site.

9.7 Otter

- Pre-works ecological surveys to confirm the absence of otter holts from within 150m of the proposed works area. If a holt is discovered within 150m, works will stop and the ECoW will be consulted for advice on required actions.
- During each gravel removal:
    - works shall be confined to daylight hours;
    - the river corridor shall not be completely obstructed;
    - sufficient passage through or around the working area shall be retained;

- pollution and sediment-control measures shall be implemented to protect aquatic prey resources.

9.8 Post Construction Works / Reinstatement

Following completion of the gravel removal works, the riverbed will be reinstated as far as is practicable. The following measures are proposed:

Where opportunity exists, enhancement measures may be employed. This will be carried out in liaison with IFI and the ECoW;

- Silts/ sediment which have collected behind the silt curtain will be removed and disposed of offsite;
- Upon completion of the site works, all plant and machinery will be removed. The adjacent grasslands to the site will be left to regenerate naturally or reinstated to its original condition and site fencing will be removed; and
- Any reinstatement of breaches in hedgerows and tree lines will be carried out in consultation with a suitably qualified ecologist. Local strains of native species shall be planted, and hedge management shall reflect local traditional styles. However, it is unlikely that hedgerow will be damaged or removed as a result of the works and the removal of woody vegetation will be limited to isolated sections of scrub and occasional riparian trees.

9.9 Assessment of In-Combination and Residual Effects following Mitigation

Following implementation of the avoidance and mitigation measures specified in Section 9, there will be no potential for in combination effects with other plans and projects that would adversely affect the integrity of the Lower River Shannon SAC.

Some temporary and localised residual ecological effects may remain during individual gravel removal interventions. These comprise temporary disturbance and displacement of fauna associated with the presence and operation of personnel and machinery, localised disturbance and alteration of gravel substrate and aquatic habitat within the defined works area, and minor temporary mobilisation of suspended sediment associated with the physical removal of gravel. These effects will be limited to the individual works periods and the immediate works area and are not anticipated to result in permanent habitat loss or a sustained deterioration in aquatic habitat or water quality. On completion of works, habitats will be comparable to those present before the gravel deposition build up. Bank full flow will be restored following the removal of the gravel deposit and the exposed habitat is likely to be colonised with aquatic species which are currently present in the river, increasing the potential habitat available to be used by qualifying interests associated with the Lower River Shannon SAC.

The potential for these residual effects to recur during interventions in Years 1, 3 and 5, including their potential to act cumulatively and in combination with other relevant plans or projects, has been considered as part of the assessment of the five-year programme. On the basis of the information available, the

defined programme parameters and the full implementation of the prescribed avoidance and mitigation measures, the identified residual effects are not considered capable, either individually, cumulatively or in combination with other plans or projects, of adversely affecting the conservation objectives of the Qualifying Interests assessed or undermining the integrity of the Lower River Shannon SAC. This conclusion applies to the five-year programme as assessed and is subject to subsequent interventions remaining within the nature, extent, location and methodology assessed within this NIS.

10 Conclusions

This Natura Impact Statement (NIS) has been prepared to provide the information necessary to inform the Competent Authority in undertaking Appropriate Assessment of the proposed five-year gravel removal programme at Athea Bridge.

The proposed programme comprises up to three gravel removal interventions over a five-year period, anticipated to occur in Years 1, 3 and 5, subject to gravel accumulation and each intervention remaining within the nature, extent, location and methodology of the programme assessed within this NIS. The programme has been assessed as a whole, rather than as three separate projects, including consideration of potential direct, indirect, repeated and cumulative effects arising from successive interventions.

The Appropriate Assessment Screening identified that likely significant effects on the Lower River Shannon SAC could not be excluded in the absence of further assessment. Consequently, the potential effects of the proposed programme on the relevant Qualifying Interests of the Lower River Shannon SAC were examined in detail in view of the site's conservation objectives.

Potential pathways for adverse effects considered within the NIS include:

- disturbance or alteration of aquatic habitat;
- disturbance or displacement of Qualifying Interest species;
- mobilisation and downstream transport of suspended sediment;
- deterioration of water quality arising from accidental release of hydrocarbons or other pollutants;
- introduction or spread of invasive non-native species;
- localised changes to hydrological or hydromorphological conditions; and
- repeated and cumulative effects associated with gravel removal interventions occurring during Years 1, 3 and 5.

Particular consideration has been given to the location of the proposed works within the Lower River Shannon SAC and the presence of suitable habitat for Qualifying Interest species adjacent to, upstream and downstream of the proposed works area. The assessment has also considered the potential for effects arising from the proposed programme acting in combination with other relevant plans and projects.

The assessment identified a requirement for avoidance and mitigation measures to ensure that potential adverse effects are avoided or sufficiently reduced. These measures are specified in Section 9 and form an integral part of the proposed programme. They include ecological supervision, restrictions on the timing, extent and methodology of gravel removal, maintenance of fish passage, sediment-control measures, pollution-prevention measures, water-quality monitoring, invasive-species and biosecurity controls, otter protection measures, and appropriate reinstatement following each intervention.

The mitigation measures specified within this NIS will apply independently to each gravel removal intervention undertaken during the five-year programme.

In recognition that ecological and environmental circumstances may change over the lifetime of the programme, pre-works ecological surveys will be undertaken prior to each gravel removal intervention. This will confirm that the ecological baseline, relevant in-combination context and nature, extent and methodology of the proposed gravel removal intervention remain within the parameters assessed within this NIS. This verification constitutes an additional safeguard and does not substitute or defer the assessment of the five-year programme undertaken within this NIS.

Where a material change is identified such that a subsequent intervention cannot be demonstrated to remain within the parameters assessed within this NIS, that intervention will not proceed under the programme as assessed until the implications of the change have been appropriately considered through the applicable consenting and Appropriate Assessment process.

On the basis of the information available, the assessment undertaken in this NIS, the defined parameters of the proposed five-year gravel removal programme and the full implementation of the avoidance and mitigation measures specified herein, it is concluded that the proposed programme, either alone or in combination with other plans or projects, will not adversely affect the integrity of the Lower River Shannon SAC in view of the site's conservation objectives.

This conclusion applies to the five-year gravel removal programme as assessed within this NIS, comprising up to three interventions anticipated in Years 1, 3 and 5. It does not extend to works that materially differ in their nature, extent, location or methodology from those assessed herein.

11 References

Bailey, M & Rochford, J., (2006) Otter survey of Ireland 2004/2005. Irish Wildlife Manual, No 23. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin.

Chanin, P.R.F. (2003). Ecology of the European otter. Conserving Natura 2000 Rivers Ecology Series No. 10. English Nature, Peterborough.

Collins, J. (Ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

CJEU Case C 164/17 Edel Grace Peter Sweetman v An Bord Pleanála

DEHLG (2010). Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities. Produced by the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.

Fossitt, J. A. (2000). A Guide to Habitats in Ireland. The Heritage Council of Ireland Series

King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K., Cassidy, D. (2011). Red Lists Ireland Red List No. 5: Amphibians, Reptiles & Freshwater Fish. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

Lenton, E.J., Chanin, P.R.F. & Jefferies, D.J. (1980). Otter Survey of England, 1977-79. Nature Conservancy Council, London

NPWS (2012) Conservation Objectives: Lower River Shannon SAC 002165. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2012) Lower River Shannon SAC (002165) Conservation objectives supporting document-water courses [Version 1]. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2012) Lower River Shannon SAC (002165) Conservation objectives supporting document-woodland habitats [Version 1]. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2013) Article 17 Habitat Conservation Assessments (Vol. 2) Version 1.1. The Status of EU Protected Habitats and Species in Ireland.

NPWS (2013) Article 17 Species Conservation Assessments (Vol. 3) Version 1.1. The Status of EU Protected Habitats and Species in Ireland.

NPWS (2021) Conservation objectives for Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA [004161]. Generic Version 8.0. Department of Housing, Local Government and Heritage.

NRA (2008) Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Road Schemes.

O'Connor W. (2006) A baseline survey of juvenile Lamprey populations in the River Feale catchment. *Irish Wildlife Manuals,* No. 22. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

OPR (2021) Practice Note: Appropriate Assessment Screening for Development Management. Office of the Planning Regulator Fourth Floor (West Wing), Park House, Grangegorman, 191-193A North Circular Road, Dublin 7, D07 EWV4

Reid, N., Hayden, B., Lundy, M.G., Pietravalle, S., McDonald, R.A. & Montgomery, W.I. (2013) National Otter Survey of Ireland 2010/12. Irish Wildlife Manuals No. 76. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Rooney, S.M., O'Gorman, N.M., Greene, F., King, J.J. (2013) Aspects of brook lamprey (*Lampetra planeri* Bloch) spawning in Irish waters. Proc R Irish Acad B 113:13–26

Ruddock, M., Wilson-Parr, R., Lusby, J., Connolly, F., J. Bailey, & O'Toole, L. (2024). The 2022 National Survey of breeding Hen Harrier in Ireland. Report prepared by Irish Raptor Study Group (IRSG), BirdWatch Ireland (BWI), Golden Eagle Trust (GET) for National Parks & Wildlife Service (NPWS). Irish Wildlife Manuals, No. 147. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

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Appendix D – UNDERWATER ARCHAEOLOGICAL IMPACT ASSESSMENT (UAIA)

PROJECT:

Athea Flood Relief Scheme

Underwater Archaeological Impact Assessment

LICENCE NO.: 24D0213; 24R0336

TOWNLANDS: Athea Upper, Gortnagross, and Templeathea West, Co. Limerick

SITE TYPE: River and Surrounds

LOCATION: E 512611, N 635099

ARCHAEOLOGICAL DIRECTOR: Julianna O'Donoghue

REPORT AUTHORS: Dr Carolyn Howle Outlaw and Julianna O'Donoghue

DATE: July 2025

REPORT STATUS: Draft

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Summary

Human activity within the area of Athea, Co. Clare began as early as the Bronze Age with a notable increase in settlement and land use in the Early Medieval period. By the Late Medieval, a church had been constructed in Athea and a village had been established. However, the village remained relatively isolated until the 19th century, when the completion of the Abbeyfeale–Glin road, which passed through Athea, significantly improved accessibility.

This Archaeological Impact Assessment (AIA) includes a detailed desktop study, an in-river survey of the River Galey and its tributaries, and a walk-over survey of surrounding terrestrial areas. An accompanying metal detection survey was undertaken during the wade survey.

The results of the assessment identified several features of potential cultural heritage significance that may be impacted by the proposed works, including Athea Bridge (RPS 955), as well as historic stone structures and walls. While the development does not extend into the Zone of Notification for any recorded archaeological monuments, it will involve modifications to the bridge, which is a protected structure. These alterations are considered to be, on balance, positive.

There is a likelihood of encountering previously unrecorded sub-surface archaeological material within the town. All identifiable impacts have been addressed, and appropriate archaeological mitigation measures have been recommended, proportionate to the nature and extent of the anticipated impacts.

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1 Introduction

1.1 General

This report relays the results of an Underwater Archaeological Impact Assessment (AIA) of a proposed Flood Relief Scheme (FRS) in the village of Athea, Co. Limerick. *Mizen Archaeology* was engaged by *Ryan Hanley* in partnership with the *Office of Public Works* and *Limerick City & County Council* to undertake the assessment of both terrestrial and underwater elements of the scheme.

1.2 Description of Proposed Scheme

The River Galey is a high energy system, creating a dynamic environment of sediment transportation and channel alterations. Its tributaries, particular that of Athea East and Athea West Streams, are narrow and steep and are influenced by extensive historic land drainage and diversions. A number of potential flood relief/ protection measures have been identified in the area of Athea to reduce flooding in the village (Figure 2). Two river gauges have already been installed as part of the Flood Relief Scheme on either side of Athea Bridge.

The measures proposed by the Flood Relief Scheme include works on the following:

- *Construction of new flood walls and a short section of flood embankment along the banks of the River Galey in Athea;*
- *A new coarse screen in the channel of the River Galey upstream of Athea, the purpose of which is to prevent large debris from the upstream catchment blocking the River Galey at Athea Bridge during a flood event. An access track will also be constructed at this location to facilitate construction and maintenance;*
- *New surface water pipelines, the purpose of which are to divert water away from flood prone areas in Athea Village;*
- *Three new pumping stations;*
- *Allowance for periodic removal of river sediment (mainly gravels and cobbles) at Athea Bridge;*
- *New screens and other improvements to culvert inlets. These culverts are located on a local tributary of the River Galey, the Athea West Stream;*
- *A new open diversion channel, which will transfer flood waters from the Athea West Stream to the Athea East Stream,*

- *Replacement of an existing farm access culvert on the Athea East Stream with a larger culvert, together with local regrading and localised conveyance improvements on the Athea East Stream,*
- *Utility diversions where required; and*
- *Maintenance activities and other non-structural measures.* (Ryan Hanley 2024)

Prior to the commencement of construction, existing walls, fences, and vegetation within the works areas will need to be removed.. Vegetation clearance may necessitate excavation to remove root systems. Temporary working areas are expected to require topsoil stripping and associated groundworks.

1.3 Physical and Cultural Landscape

The proposed works are located along a bend in the River Galey. The river here shifts from running roughly south to north for a short stretch at Athea. Athea is in an area of fluvio-deltaic and basinal marine (Turbiditic) geology of shale, sandstone, siltstone, and coal bedrock. The subsoil is a combination of made ground, post glacial sand and gravel deposits, and glacial till (GSI). The peak of Knockathea lies less than 2km southwest of the proposed works and the peak of Knocknalaght lies a similar distance to the southeast, creating a gradient of *c.* 230m OD to *c.* 70m OD in the village.

The Lower River Shannon, including the Galey River as part of its catchment area, is a Special Area of Conservation (SAC 002165). The area, particularly south and east of the proposed works, is also a Special Protection Area (SPA 004161). Numerous environments and species are protected within the SAC. The SPA is a known breeding area of hen harriers (NPWS).

Athea did not emerge as a focal point of settlement until the construction of the 19th-century road through the village, which greatly enhanced its accessibility. However, the broader surrounding area has been associated with human activity and significant archaeological sites since prehistoric times. Evidence of Mesolithic occupation has been identified along the Shannon Estuary to the north of Athea. Approximately 15km to the west lies one of the largest concentrations of Neolithic stone axes recorded in Co. Kerry. To the northeast, about 15km from the village, is one of the largest hillforts in Ireland, dating to the Late Bronze Age. A Bronze Age hoard was discovered approximately 2km south of Athea, while Iron Age artefacts have been recovered around 12km to the north.

An early church site was founded *c.* 8km northwest and a church is cited in the parish of Rathronan in 1260. A medieval coin hoard was found within Athea Upper dating to *c.* 1370 and a church was established in Templeathea by 1410.

2 Site Description

2.1 Location

The proposed works are located within townlands of Athea Upper, Gortnagross, and Templeathea West. These are all within the parish of Rathronan in the barony of Shanid. The Galey River flows roughly along the border between Templeathea West in the north and Athea Upper and Gortnagross in the south. Near Athea village (Plate 1), the border between Athea Upper and Gortnagross roughly follows the historic line Athea West Stream (Figure 1). The Galey flows into the River Feale, *c.* 30km west of Athea, which then leads to the Mouth of the Shannon Estuary. The village of Athea is located *c.* 3km east of the county boundary between Kerry and Limerick.

2.2 Summary of Archaeological Heritage

The Galey River forms part of the broader Shannon Estuary catchment. The estuary itself has a long and well-documented history of human habitation and use, beginning as early as the Mesolithic period. One of the earliest known burial sites in Ireland, dated to approximately 9,500 years ago, was discovered at Hermitage, Co. Limerick.

The Neolithic is represented in the region, particularly along the Shannon Estuary and in nearby inland areas. Notable concentrations of Neolithic stone axes have been identified in the townlands of Listowel and Lixnaw, Co. Kerry, located approximately 15km and 25km west of Athea, respectively, highlighting sustained activity in the wider landscape during this period.

During the Bronze Age, activity appears to have shifted further inland compared to earlier periods, as evidenced by sites such as Ballylin Hillfort. This hillfort, located *c.* 15km northeast of Athea, is one of the largest hillforts in Ireland and was dated to the Late Bronze Age. Approximately 2km south of the proposed works, in the townland of Tooradoo, a Bronze Age hoard was identified in 1926. Though Iron Age evidence is more difficult to identify in the archaeological record, an example of La Tène artefacts have been identified near Glin, Co. Limerick, *c.* 12km north of Athea.

An early church was founded in the 8th century in the townland of Murhur, Co. Kerry, *c.* 8km northwest of the proposed works. Six ringforts, likely dating to the Early Medieval period, have also been identified within 5km of the proposed works. This evidence, together with the numerous fish traps identified within the Shannon Estuary to the north, suggests the emergence of more sustained and widespread occupation of the region.

Between the early 12th and late 14th centuries, the region was under recurring shifts in political control. In the late 14th century, a hoard of 8 silver coins was deposited in Athea Upper, perhaps making up part of the spoils from one of the many battles for power at the time. In 1260, a church was built in the parish of Rathronan and by 1410, a church is also recorded at Athea. The village appears in civil surveys of the area as early as 1586 with mixed land use. Over time, land in the area was increasingly reclaimed, with much of it eventually brought under tillage or pasture. However, Athea remained relatively isolated until the 19th century, when the completion of the Abbeyfeale–Glin road, passing directly through the village, significantly improved its accessibility.

3 Conventions, Legislations, and Guidelines

The following relevant conventions, legislations, and guidelines informed the assessment:

- Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023
    - Section 225 and a number of non-heritage related "miscellaneous" provisions in Part 13 of the Act have entered into force
    - National Monuments Act, 1930 to 2014 remains in effect
- National Monuments Act, 1930, amended 1954, 1987, 1994, 2004 and 2014
- Heritage Act, 1995
- National Cultural Institutions Act, 1997
- The Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous) Provisions Act, 1999
- Planning and Development Act, 2000
- *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
- Archaeology and Flood Relief Schemes: Guidelines, 2023

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, 2022

4 Consultation

Consultation was carried out with the design team prior to the surveys and statutory consultation was conducted with the National Monuments Service (NMS) of the Department of Housing, Local Government, and Heritage. Pat McSweeney of *Gleeson McSweeney Architects* provided the Architectural Heritage Impact Assessment (AHIA) in consultation with the design team. The geophysical survey was conducted by *Earthsound Geophysics Ltd* in consultation with the design team.

5 Methodology

5.1 Aims and Objectives

The assessment was undertaken in order to accomplish the following:

- Ascertain the character, condition, and extent of any archaeological areas, features, or objects likely to be affected by the proposed works, including any associated temporary works, and the likely impact of the proposed works on these remains;
- Accurately locate these archaeological areas, features, or objects and document the findings in documented and map/digital format;
- Describe same and discusses their likely provenance;
- Recommend appropriate measures for the avoidance of these remains or, where this cannot be achieved;
- Recommend measures to mitigate the impact of the works;
- Incorporate all the above into a report to inform the flood relief project.

5.2 Desktop Study

A detailed desktop study was undertaken to ensure all available literature and background information was considered to inform the underwater archaeological potential of the area under investigation. The following sources were consulted as part of the desktop survey:

- The 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 Service (NMS) of the Department of Housing, Local Government and Heritage via Historic Environment Viewer, accessible at www.archaeology.ie.

- The Wreck Inventory of Ireland Database (WIID) and the Wreck Viewer include a broad range of cartographic, archaeological, and documentary sources concerning wreck data. Each entry in the inventory gives information on the ship's name, type of vessel, port of origin, owner's name, cargo, date of loss, and other relevant information where available. While the WIID contains information on approximately 18,000 shipwreck records (both those with known and unknown locations), the Wreck Viewer contains the same information for those wrecks but only those with known locations; see Wreck Viewer, accessible at www.archaeology.ie
- Ordnance Survey of Ireland (OSI) historic and contemporary maps were examined to measure the changing landscape.
- The Record of Protected Structures (RPS) is a list of all protected buildings in a given area, as designated by the Local Authority. This may be due to a structure's architectural, historical, archaeological, artistic, cultural, social, scientific, technical, or industrial importance.
- The Excavations Bulletin online database, known as the Database of Irish Excavation Reports (www.excavation.ie) was consulted to review past archaeological investigations in the area.
- National Museum of Ireland Topographical Files hold details of any artefactual material recovered in Ireland from the 18th century to the present. These are categorised according to County and Townland.
- Cartography: Several historic maps and charts were examined (see references below for a full list). These maps provide insight into the changes to the coastline over time along with changes in structure locations and navigational routes that may inform ship traffic and ship losses.
- Aerial Photography: A variety of low and high-altitude aerial photography was examined along with Open Topographic Data LiDAR (see bibliography below for a full list of referenced aerial and LiDAR data).
- Documentary sources: Several historical and archaeological sources were examined (see references below for a full list).
- Other National and International Monument Lists were also referenced. The international lists include: UNESCO World Heritage Sites (WHS) and Tentative World Heritage Sites. National lists include: National Monuments in State Care; Sites with Preservation Orders; Record of Historic Monuments (RHM); County Council Architectural Conservation Areas (ACAs); the

Urban Archaeology Survey; the Walled Towns of Ireland; the Inventory of Historic Gardens and Designed Landscapes; the Irish Historic Towns Atlas; the National Inventory of Intangible Cultural Heritage.

5.3 Site Survey

Field surveys were conducted under licence from the National Monuments Service (Licence Nos. 24D0213 & 24R0336) in May 2024.

Weather conditions during the survey were partially cloudy with no precipitation; the ground was dry following several days of similar conditions, and the river exhibited low depth and low velocity. The survey included a visual inspection and walk-over survey of the terrestrial works area and adjacent cultural heritage features (Plate 2), as well as a wading and metal detection survey of the river channel and associated streams (Plate 3).

All archaeological material encountered was examined to determine its probable date, function, and the circumstances of its deposition.

6 Results of Desktop Study

6.1 Archaeological and Cultural Background

Early Prehistory (up to *c.* 2400 BC)

Until quite recently, the earliest archaeological evidence of human habitation in Ireland dated to the Mesolithic (*c.* 8000–4000 BC) with the earliest site of Mount Sandel, Co. Derry dating to *c.* 8000 BC (Woodman *et al.* 1999, 131–51). A recent study by Dowd and Carden, however, have identified evidence of man-made cut marks on a bear patella from Gwendoline Cave, Co. Clare. The bone has been dated to *c.* 10,500 BC during the Palaeolithic period and may push back the date of Irish colonisation some *c.* 2500 years (Dowd and Carden 2016).

Many of the earliest Mesolithic settlement sites in Ireland have been identified along freshwater, including the earliest dated site of Mount Sandel on the River Bann (dated to *c.* 8000 BC) (Waddell 2010, 4–23; Woodman *et al.* 1999, 131–51). 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. At that time too, the local population would have exploited the landscape for fishing and wildfowling

along its channels and creeks, as well as a plethora of seasonally-gathered fruits and edible roots and plants (O'Sullivan 2001, 1–2). As the River Galey is part of the River Shannon catchment, it is likely that the earliest inhabitants would have made use of this freshwater resource.

Prehistoric burial evidence from this period has also been identified at Hermitage, Co. Limerick. Dating to approximately 9,500 years ago, it represents the earliest known graveyard site discovered in Ireland to date. Along with the identification of several cremated individuals, a remarkable collection of stone axes was 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 Shannon river, using it as a strategic trading location, as well as the use of the river itself as a means of transport (Collins and Coyne 2003, 26–7; 2006, 21).

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 nearby Shannon using wooden, dugout canoes or similar wooden craft, similar to earlier Mesolithic craft. Intertidal studies of the Shannon Estuary have identified some evidence of human activity in the area including a Late Neolithic submerged forest with a ground stone axe and bones of cattle, pig, and dog and a lithic scatter along with organic artefacts including a basket fragment, and animal and human bone (O'Sullivan 2001, 61–3 and 73–86).

An unclassified megalithic tomb (KE010-007) is located in Ballydonohoe, Co. Kerry, approximately 20km west of Athea. Notably, the greatest concentration of stone axes discovered in County Kerry has been recorded in the vicinity of Listowel and Lixnaw, situated approximately 15km and 25km west of Athea, respectively (Kerry County Council 2022).

Late Prehistory (*c.* 2400 BC–AD 400)

The Bronze Age (*c.* 2400–500 BC) saw the use of metal in Ireland for the first time along with shifts in ritual monuments. The nearby River 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. 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 (Bourke 1996, 9–10).

The activity in the region closest to the Shannon Estuary appears to have been focused more on inland sites, such as the Ballylin Hillfort, located approximately 15km northeast of Athea (O'Sullivan 2001, 121). This is one of the largest hillforts in Ireland and has dated activity to the Late Bronze Age (LI028-085). Again, intertidal studies of the Shannon Estuary have identified Bronze Age evidence at Carrigdirty Rock of a Middle bronze Age house site (Site 1), a probable late prehistoric hut site (Site 2), a probably late prehistoric pit with animal bone (Site 3), and a probably late prehistoric post feature (Site 4) (O'Sullivan 2004, 93–4). Approximately 6km southwest of Athea are two standing stones (KE011-042002; KE011-043) and a ring barrow (KE011-042001), likely dated to the Bronze Age. An excavation in 1926 recorded a Bronze Age hoard in the nearby townland of Tooradoo (NMI 1927:2). This included four solid bronze rings, two hollow bronze rings, four penannular rings (gold and tin), 107 amber beads, and a lignite bead (Eogan 1983; Curtin 2012).

The Irish Iron Age (c. 500 BC–AD 400) is often challenging to identify in the archaeological record due to its generally aceramic nature, the relative scarcity of distinctive monumental structures, and the frequent deterioration of diagnostic metalwork, which is often too corroded to allow precise dating (Waddell 1998, 3). However, recent road development projects have significantly enhanced the body of evidence for Iron Age activity in Ireland, including the discovery of sites in proximity to the proposed works such as a La Tène, artefact from near Glin, Co. Limerick (Becker *et al.* 2008, Map 1).

Medieval (*c.* AD 400–1600)

The Early Medieval period (*c.* AD 400–1200) saw the influence of Christianity, the first use of the written word in Ireland, and the arrival of the Vikings. There is more settlement evidence for the Early Medieval period in the area under investigation than seen previously. For instance, there are a total of 6 ringforts, the typical embanked settlement or farmstead associated with lords and other land owners of the time, within 5km of the planned FRS works. This includes one possible ringfort (LI032-001001) located *c.* 1.7km southwest of the development. There are also over 100 fish traps dating to *c.* AD 400–800 in the region of the upper Shannon Estuary to the north of Athea (O'Sullivan 2001, 135). An Early Medieval church was founded *c.* 8km northwest of the site Murhur, Co. Kerry (KE006-015002). This site was founded before the 8th century when it is cited as having been founded by Bishop Fáelán.

Vikings arrived in Ireland in AD 795 century as raiders and traders. They used the inland waterways, particularly the River Shannon, as conduits to the interior. By the mid-9th century, they were establishing permanent bases in Ireland. Some of these bases, such as nearby Limerick, developed

into trading towns by the early 10th century, with the Vikings integrating with the local communities. These towns were strategically located along these watercourses to ensure control of trade, transport, and communication (Krogsrud 2012–3, 61; Stout 2017). The Vikings, once they had established themselves in Limerick, are recorded as carrying their ships around the falls of Doonass, placing them in the river, and then plundering the whole length of the Shannon (Ó Danachair 1971, 54). There is no evidence of the Vikings or the native Gaelic-Irish fleet reaching as far inland as the church in Murhur or Athea.

The Late Medieval Period (*c.* AD 1200–1600) is one defined by an influx of new religious orders beginning in the 12th century and by the Anglo-Norman invasion of 1169. The latter invasion pushed the Gaelic lords of Ireland westwards.

Approximately 50 years before the Anglo-Norman invasion, the province of Munster, or *Mumu,* was subdivided into two smaller provinces after an invasion by the king of Connacht, Toirdelbach Ua Conchobair. He split the province into Thomond and Desmond in 1118 (Lomas 2021). The area of Desmond was given to the McCarthy's (Carthaigh) and Thomond was given to the O'Briens (the sons of Diarmaid Ua Briain) (Priour and Beechinor 2008, M1118.6). At this time, much of what is now County Limerick formed part of the Kingdom of Thomond (O'Halloran 1916). Following the Anglo-Norman arrival, territorial boundaries were redefined. Gaelic Desmond—corresponding to South Munster—included present-day County Kerry south of the River Maine and extended eastwards to encompass areas west and north of Cork City. In contrast, Anglo-Norman Desmond comprised the lands north of the River Maine in County Kerry, most of County Limerick, the southwest of County Tipperary, eastern County Waterford, and the eastern and southern environs of Cork City (Britannica 2024).

Athea, therefore, was within the territory of Thomond under the control of the O'Briens prior to Anglo-Norman influence when it was included within the redefined boundaries of Desmond. Battles for power between the O'Briens and other Gaelic lords and the Anglo-Normans continued into the late 14th century (O'Byrne 2009, 43–55; Harbison 1989, 98–100).

In 1197, Lord John, son of Henry II, reasserted English control in Limerick following a struggle with the Gaelic lords. He granted two cantreds, now the baronies of Upper and Lower Connello, to Hamo de Valognes to establish the English feudal system in the area (O'Byrne 2009, 50). Shanid Barony, in which Athea is located, was considered a subdivision of the barony of Lower Connello into the 19th century (Down Survey; Lewis 1837).

According to Westropp (1905, 403), there was a church in the parish of Rathronan by 1260 when there 'was a suit between Lismore and Cashel as to Rathronan and other churches in Limerick.' A church is cited within the parish again in 1291, 1302, and throughout the 15th century. A Church of Ireland, built in 1827, now sits on the site of the old church. The church in Athea, Temple Athea (LI034-004001), likely dates to before 1410. Similar references are made in 1418 and 1586. Westropp further suggests that this may be the chapel 'de Monte Maledictionis' related to a legend telling of a curse of St. Patrick in Athea (Westropp 1905, 403).

In the late 14th century, a hoard of eight silver coins was deposited in the area now known as Athea Upper townland. It is believed that the hoard represents part of the spoils taken following the O'Brien victory at the Battle of Monasteranenagh, near Croom, Co. Limerick, in 1370 (Dolley 1969, 30). This battle was part of the ongoing struggle for control in Thomond and Desmond following the arrival of the Anglo-Normans. The defeat of the Anglo-Norman Richard de Clare in 1318 led to ongoing power struggles involving rival factions of the O'Briens and their MacNamara vassals, as well as the Anglo-Norman FitzGeralds. In 1370, Brian Sreamhach O'Brien, supported by his vassal John MacNamara, secured a notable victory at the Battle of Monasteranenagh (Harbison 1989, 98–100).

In 1586, the Desmond and Peyton Survey gives the value of the 'Manor of Portrynard' which included land in 'Athdee alias Athea' as 8*l.* 6*s.* 8*d.* in money and 4 cows. It cites the seat of the manor as 'a castle built of round form with divers villates' also known as 'the fforte of three enemies' located in the mountains of Slewlogher, Co. Limerick. The entire manor included the parishes of Templeclay, Old Abbey, and Abbeyfeale along with land in Athea, Kockoweny, and Direemaymore in Slewlogher (Murphy 2009, 448).

Post Medieval and Early Modern (post - *c.* AD 1600)

Approximately seventy years after the Desmond and Peyton Survey, landholdings were recorded in a restructured form in the Civil Survey of 1654–1656. According to the survey, Colonel Francis Courtenay of Newcastle West held the townlands of Templeathea, Dronada, and Cratloe, while the townlands of Athea, Knocknagornagh, and Derivimore were owned by William Collume (Simington 1938, 319–20).

n the 17th and 18th centuries, Athea formed part of the Courtenay Estate. In 1709–10, Templeathea was recorded in a survey of the estate conducted by Thomas Moreland, who described a landscape of enclosed farms, dairy houses, and good-quality cabins. He noted that the area's topography made for excellent drainage and springs of fresh, and that turf also available in the area (Curtin 2012, 23).

Though the village was large enough to support the 15th century church in Templeathea and an 18th century thatched mass house, it was still relatively isolated until the 19th century (Curtin 2012, 23). One of the earliest maps to indicate Athea is Rocque's 1790 *Map of the Kingdom of Ireland* (see Section 6.3). The Abbyfeale - Glin Road was completed in 1836 which improved patterns of movement along the Listowel-Rathkeale turnpike road. This road can be seen illustrated on Lewis' *Atlas Comprising the Counties of Ireland* (1837) and the Ordnance Survey maps of the area (see Section 6.3). During the 1830s, a chapel was built in the village and by the 1840s, the village had a dispensary and police barracks (O'Connor 1987, 153). The Abbyfeale to Glin Road would have included a bridge across the River Galey. This was a wooden structure that was then replaced in 1860 by the current bridge (RPS 955) (Curtin 2012, 23–6; Spellissy 1989, 89).

By the 19th century, Lord Courtenay was in possession of a majority of the lands in Limerick. In 1817, Thomas Goold of Cork City bought 11,000 acres, including the townlands of Athea Upper, Clash North and South, Cool East and West, Cratloe East and West, Gortnagross, and Tooradoo (Curtin 2012; University of Galway 2024). The Goold family remained in the area into the 20th century when in 1906, the representative of the Venerable F. F. Goold held about 400 acres of untenanted land in Athea Upper (University of Galway 2024). By the time of the publication of A Genealogical and Heraldic History of the Landed Gentry of Ireland in 1912, the Goold family seat was recorded as Athea House, Athea, Co. Limerick (Burke and Fox-Davies 1912, 726). This may correspond to New Park House (NIAH 21903501), constructed around 1850.

The Archdeacon Goold was one of 9 landowners whose domicile was located within Co. Limerick out of the 18 landowners in the county in the 19th century (Cherry 2009, 535–6. In 1863, a cross was erected in memory of Thomas F. Goold, son of Archdeacon Goold by 'a sorrowing and grateful tenantry' after his death in 1861 (RPS 958; NIAH 21834001).

The parish of Rathronan, once noted for containing a great deal of 'waste land' including bog and 'underwood' (Murphy 2009, 448), was rapidly reclaimed during the 19th century. By 1837, the parish consisting of 12,153 acres included less than 300 acres of 'waste land' (Lewis 1837). In the townlands of Crataloe West and Athea Upper alone, 50–60% of the land had been reclaimed by 1840 (Curtin 2009, 343). The reclaimed fields were used for tillage and grazing sheep while the mountainous areas were used for grazing cattle (Lewis 1837). The population of the parish grew from 3,104 in 1841 to 3,266 in 1851, with the village itself growing from 215 to 337 inhabitants during the 1840s (Curtin 2012, 23).

A co-operative creamery was founded in the townland of Gortnagross in 1895. It was sold to the Cork and Kerry Creamery in 1898 and was burned down by the Royal Irish Constabulary in 1921 (Curtin

2012, 23). At the time, creameries were frequently targeted by Crown forces due to their central role in the rural economy, with such actions often carried out in retaliation for IRA operations (Breathnach 2017, 555–6). Seventeen years prior to the fire, another creamery had been opened in Athea village. This later amalgamated with the creamery at Crataloe in 1950 and was acquired by the company that would become the Kerry Group in 1974 (Curtin 2012, 23).

6.2 Place Names and Townlands

Ireland is known for its defining place names applied to cities and towns to villages, roads, fields, bays, inlets, streams, and even rocks. Townlands in particular may hold important historical information. These areas are the smallest unit of official land division in Ireland and are thought to preserve some pre-Anglo Norman Conquest territorial boundaries and names. The Irish roots of these names may refer to natural or cultural features of the landscape. The layout and nomenclature of the townlands were recorded and standardised by the Ordnance Survey in the 19th century. *Logainm* holds an online database of Irish placenames, their meaning, and related historical references. Other sources may also be used to track place names such as oral traditions, historic sources (e.g. 19th century or earlier charts), and documentary sources (e.g. the School's Folklore Collections).

The town of Athea and the townland of Athea Upper are named in reference to a river crossing at the base of the mountain. It can be assumed that the river is Galey River and the mountain is Knockathea (or the full mountain range to the south of the village).

The origin of the name "Galey River" is not definitively recorded, though it may represent a grammatical variation of *gal* meaning 'blusterer' or *gál* meaning 'Gall/Gaul.' It could also be a term referring to 'wind/breath/steam' as seen in Folklore Collection stories (NFCS 1068: 486–9; NFCS 1055: 361–73). In fact, one participant in the National Folklore Schools' Collection asserts that 'the name is derived from the Irish "Abha na Gaile" or the " River of the Fog" (NFCS 485: 245). The River runs through a parish by the same name in County Kerry near its entrance into the River Feale. The barony of Shanid also has no clear meaning, though it shares a strong resemblance to the modern Irish word for 'senate.' Broken down, *sean* may refer to something old, though it is unclear what. Historically, Athea was part of the barony of Connello (see Section 6.3). This placename refers to the descendants of Conall (Gabhra), a ruling family in West Limerick.

The townland name Gortnagross is thought to refer either to a holy site in the area or to a crossing of roads or watercourses. A crossroads is clearly depicted in Athea village on the First Edition Ordnance Survey map (1843–6), and, as previously established, the place name Athea itself indicates a river

crossing at this location. The townland boundary also crosses the river following one of its many tributaries. The National Folklore Schools' Collection records a local tradition about this placename suggesting that after a local battle, crosses were erected over the graves of people killed (NFSC 485: 302).

Two other local placenames more explicitly reference archaeological features (Table 1). The nearby mountain, Knocknalaght, may derive from the Irish Cnoc na Leachta, possibly referring to a grave mound or commemorative monument. This interpretation aligns with the possible meaning of Gortnagross, which may reference a "field of crosses," suggesting the presence of a sacred or funerary landscape in the area. It is suggested in the Folklore Collection that there was a tradition of a poor man's mass grave on this hill during the famine (NFCS 0592: 409–10). The parish name of Rathronan refers to a rath or ringfort. There are twenty-six known ringforts within the parish to which this may refer, three of which are within *c.* 2km of the works in Athea (LI034-001001, LI034-002, LI035-001). It may also refer to a ringfort since destroyed.

The parish name Rathronan derives from the Irish Ráth Ronáin, indicating the presence of a rath or ringfort. This may refer to one of the twenty-six known ringforts recorded within the parish, three of which are located within approximately 2 km of the proposed works in Athea (LI034-001001, LI034-002, LI035-001). Though it may also refer to a ringfort that has since been destroyed.

Table 1: Townlands and Place names within the study area in English and Irish with their translations.

English	Irish	Translation
Athea	*Áth an tSléibhe*	'Ford of the mountain'
Connello (historic barony)	*Connalaigh*	refers to the descendants of Conall (Gabhra)
Galey River	*An Ghái*le	Meaning unclear possible grammatical form of *gal,* 'blusterer' or *gál,* 'Gall/ Gaul'
Gortnagross	*Gort na gCros*	'Field of the crosses'
Knockathea	*Cnoc Áth an tSéibhe*	'Hill of the ford of the mountain'
Knocknalaght	*Cnoc na Leacht*	'Hill of the grave-mound'
Rathronan (parish)	*Ráth Rónáin*	'Ringfort of Ronan'
Shanid (barony)	*Seanaid*	Meaning unclear possible grammatical form of s*eanad,* 'senate' or from *sean,* 'old' and an unknown word
Templeathea	*Teampall an tSéibhe Thair*	'The church of the mountain'

6.3 Cartographic Information

The Down Survey (1656–8) is one of the earliest maps to depict Athea ('Atheah') (Figure 3). The map of County Limerick shows a structure at Athea and the placename appears as the primary place within

Rathronan Parish. The specific structure referenced on the map is uncertain, though it may correspond to the 15th-century church located in Templeathea (LI034-004001). Athea is also included in the Barony Map of Connello (a barony covering all of West Limerick at this time). Again, the placename is the only one indicated within the portion of Rathronan Parish that was surveyed, suggesting its particular significance in the historical or cartographic record of the area. A section of this parish was not forfeited along with a little under half of the barony.

Many other 17th and later 18th century maps omit Athea entirely and typically do not illustrate the River Galey, focusing instead on the River Cashin. A 1728 map by H. Moll of *The Counties of Clare and Limerick* shows Rathronan parish at the end of the unlabelled Galey River, which here begins at the Kerry border (Figure 5). Rocque's 1790 *Map of the Kingdom of Ireland* again shows 'Atheah' near a branch of 'R. Galley' (Figure 4). Again, the river is shown as beginning at the Kerry border.

By the 19th century, cartographic accuracy improved significantly. Lewis' *Atlas Comprising the Counties of Ireland* (1837) indicates Athea at the crossing of two roads through which the 'River Geale' flows (Figure 6). The river is illustrated several kilometers east of Athea in Co. Limerick. The first detailed to-scale map of the area was created in the mid-19th century: The First Edition 6-inch Ordnance Survey map (1843–6) (Figure 7).

The First Edition 6-inch Ordnance Survey map shows the village of Athea centred on the east to west road now known as Con Colbert Street or R523. Fewer than 50 structures are recorded with the settlement confined the west of the Galey River. A stream (Athea West Stream) flows south to north through the village before discharging into the river. Within the village is a Roman Catholic Chapel (RPS 957), a dispensary, a pound, and Athea Bridge (RPS 955). Much of the land to the south of the village is illustrated as marsh or bog, although a significant portion appears to have been reclaimed and is shown as enclosed fields. To the southeast of Athea Bridge, the fields are labelled as liable to flood.

The Second Edition 25-inch Ordnance Survey map (1900) illustrates continued development in the intervening years (Figure 8). The village remains concentrated along the east-west road now known as Con Colbert Street or R523, with additional buildings extending southwards along what is now known as Barrack Street, Dalton Street, or R524. The village is still confined to the west of Athea Bridge (RPS 955). Within the village is St. Bartholomew's Roman Catholic Chapel (RPS 957), a dispensary, a school, a constabulary barracks, a post office, a smithy, and a pump. On the southern outskirts is a creamery, and a presbytery. While some new structures are evident to the south of the village, the area is mainly reclaimed and primarily occupied by enclosed field system, though some rough pastures are indicated. There are now indications of enbankments on the southern bank of the River Galey and

along the Athea East Stream. The fields to the north of these earthworks are still labelled as 'liable to flood'.

A modern LiDAR survey of Athea was recorded in 2011. This revealed a possible enclosure with a diameter of 30m in a greenfield to the south of the village (Figure 9). This feature is not recorded in the Sites and Monuments Record and does not appear on any of the historic mapping. However, satellite imagery dating from as early as 2001–2005 shows a circular feature at this location. The feature lies outside the proposed area of works.

6.4 Recorded Archaeological Sites

6.4.1 Record of Monuments and Places (RMPs)

Section 12 (1) of the National Monuments Act 1994 made provision for the establishment and maintenance of a Record of Monuments & Places (RMP). Under this Act, each site recorded in the RMP is granted statutory protection. When the owner or occupier of a property, or any other person proposes to carry out, or to cause, or to permit the carrying out of any work at or in relation to a recorded archaeological monument they are required to give notice in writing to the Minister for Housing, Local Government and Heritage 2 months before commencing that work.

There are no archaeological monuments recorded directly within the proposed works area. There are seven monuments within 2km of the works: two ringforts, two holy wells, a children's burial ground, a church, and a graveyard (Table 2; Figure 10). All of these sites are included in the Record of Monuments and Places with the exception of the possible ringfort (LI034-001001) enclosing the children's burial ground (LI034-001). Although not afforded legal protection in its own right the monument, however, would lies within the ZON of the burial ground. The two ringforts likely date to the Early Medieval period. The church may date as early as the early 14th century, though a 15th-century construction is more probable. The graveyard and associated holy well may be contemporary with the church, although the earliest evidence for both is Post-Medieval in date. Similarly, the children's burial ground and the second, unlocated holy well are likely Post Medieval in date.

Table 2: Sites on the Sites and Monuments Record within 2km of proposed works.

SMR No.	Townland	Site Type	ITM
LI034-001	Athea Upper	Children's burial ground	510735E, 634531N

Description (archaeology.ie):	Possible ringfort (LI034-001001-) reused as a children's burial ground. In pasture, on N-facing slope. Egg-shaped area enclosed by broad eroded earthen bank with external fosse SW->NW. Field boundary truncates enclosing bank at narrowest point to E. Interior slopes down gently towards centre; no visible surface trace of burials or burial markers.In 1838 the Ordnance Survey Name Books recorded that in the townland of Athea Upper. A large fort (LI034-001001-), in which children, who die without baptism, are buried' (OSNB Rathronan Parish, 1482).		
LI034-001001	Athea Upper	Ringfort-rath	510735E, 634531N
Description:	Possible ringfort reused as a children's burial ground (LI034-001----). In pasture, on N-facing slope. Egg-shaped area (broad end to W; 50m E-W; 36m N-S) enclosed by broad eroded earthen bank (H c. 0.6m; Wth c. 8m) with external fosse SW->NW (D 0.3m; Wth 2.4m). Field boundary truncates enclosing bank at narrowest point to E. Interior slopes down gently towards centre; no visible surface trace of burials or burial markers.In 1838 the Ordnance Survey Name Books recorded that in the townland of Athea Upper. A large fort, in which children, who die without baptism, are buried (LI034-001-)' (OSNB Rathronan Parish, 1482).		
LI034-002	Gortnagross	Ringfort-rath	512326E, 633741N
Description:	In pasture, on terrace in N-facing slope. Area of site covered by dense overgrowth of scrub and tall grasses. Roughly circular area (36m E-W) enclosed by earthen bank. Bank overlain/replaced by field boundary NE->SE and covered by dense overgrowth SE->WSW. Bank (int. H 0.3m; ext. H 0.45m) best preserver WSW->NW. From NW->NE bank becomes scarp-like (int. H 0.2; ext. H 1.3m); along here ground falls away from external face of scarp in series of steps. Field boundary which abutted external bank face at NW has been removed. Interior surface noticeably uneven, and slopes down gently to ENE. In E quadrant is irregular-shaped depression (2m N-S; 2.5m E-W; D c. 0.4m).		
LI034-003	Gortnagross	Ritual site- holy well	512176E, 633840N
Description:	According to Ó Danachair (1955, 215) in this townland was a well named 'Tobar Mhichíl ... now used to supply water to Athea ... an old man, born in 1816, stated that his grandfather used to make rounds at this well' (ibid.). There is no well marked on the OS maps in the location given by Ó Danachair and an extensive search of the area did not reveal an such well nor is there any local knowledge of its existence.		
LI034-004001	Templeathea West	Church	513429E, 636155N
Description:	North-of-centre in graveyard (LI034-004002-) with holy well known locally as Tobermurry(LI034-005----) 70m to N. Roofless ivy-clad ruin of rectangular church (int.: 18.9m E-W; 7.4m N-S). Entered through re-built doorway near W end of S wall; inserted doorway near E end of N wall. Interior lit by central window in E wall and similar window near E end of S wall; both have single ogee-headed light and splayed embrasure. Interior filled with burial plots with numerous headstones, the earliest noted dated 1796.In 1838 the Ordnance Survey described the site as following; 'In the townland of Teampul a tSleibhe (Templeatlea) are the ruins of a Church in a large burial ground, but all of its features are destroyed' (OSL Rathronan Parish, 26). Westropp recorded the following details about Temple Athlea or Athea; 'Mount Temple belongs to Rathrunan," 1410; "In Ardacha, Ecclesia Donergismathmore, alias Eaglas Montin," 1418; Temple Clea on Le Granogh, or Slelogher, in Rathronan, in Tog Meaghan, 1586 (Peyton, p. 120). A separate parish, Athee, Athdee, or Temple Clee (lb., p. 170). It may be the chapel "de Monte Maledictionis," 1302, as there is some legend of a curse of St. Patrick at Athlea. Teampull Atsleibhe, locally, Atlea or Athlea, the church of the mountain.' Fabric - All its featureswere defaced before 1840 (O.S.L. 9, p. 74).		
LI034-004002	Templeathea West	Graveyard	513420E, 636149N
Description:	On W side of trackway which also gives access to holy well (LI034-005---) c. 70m to N. Rectangular graveyard (66m E-W; 50m N-S) enclosed by stone wall which has been repaired with concrete. Entrance at NE corner through recent gateway. North-of-centre is ruin of late-medieval church of Temple Athea (LI034-004001-). Burials throughout yard and inside church; many inscribed headstones, the earliest noted inside church dated 1796. North of church is 19th century burial vault; another burial vault in separate plot immediately outside E wall of graveyard.		

LI034-005	Templeathea West	Ritual site- holy well	513446E, 636242N
Description:	On W side of trackway, c. 70m N of Temple Athea church and graveyard (LI034-004001-/002-). Well still in holy use and area around it maintained for use of visitors to well. Gate from trackway gives access to rectangular area (6.5m N-S; 4.5m E-W), c. 0.4m lower than level of trackway, defined by low kerb, outside which trees and shrubs shelter site. Well itself in N half of this area, with altar to its E, and a sunken feature with water flowing through a drain at its base. Well is circular in plan (diam. 0.7m) enclosed by stone facing, with opening facing W part of which is also stone faced. However well now encased in concrete setting with steps down to well area and low perimeter walling. On latter sit numerous cups; rags are tied to surrounding trees. Ó Danachair (1955, 215) recorded the following details about Tobermurry; 'A spring well. Enclosed and embellished with statues of Our Lady, St John the Baptist and St Bartholemew. Rounds are still made frequently. Days of special devotion are 25th March, 1st May, 24th June, 15th August and 24th August and the Saturdays before these dates. Formerly a pattern was held on 24th August, the feast of St Bartholemew, the patron of the ecclesiastical parish of Athea, but was discontinued in the 1880's. The water cures many afflictions; rags and small religious objects are left as offerings and there is a collection box for coins. Legends: The well moved when profaned. A trout is seen by the suppliant whose request will be granted. The well sprang up on the spot where a woman died during a famine. The water will not boil. A blind horse was brought to make the rounds; the horse was cured and the owner blinded. A treasure, guarded by a phantom bull, is buried near the well'.		

6.4.2 National Monuments

National monuments fall into three categories; National Monuments in the ownership or guardianship of the state; National Monuments in the ownership or guardianship of a local authority and monuments that are subject to a Preservation Order. Section 12 of the National Monuments (Amendment) Act 1994, providing the requirement that 2 months' notice must be given to the Minister for Housing, Local Government and Heritage, where work is proposed to be carried out at or in relation to a monument, also applies to National Monuments.

There are no National Monuments located within the study area.

6.4.3 Sites with Preservation Orders

The National Monuments Act 1930-2004 provide for the making of Preservation Orders and Temporary Preservation Orders in respect of National Monuments. Under Section 8 of the National Monument Act 1930 (as amended) the Minister for Housing, Local Government and Heritage, can place a Preservation Order on a monument if, in the Ministers' opinion, it is a monument the significance of which, warrants protection and that it is in danger of being or is actually being destroyed, injured or removed or is falling into decay through neglect. The Preservation Order ensures that the monument shall be safeguarded from destruction, alteration, injury, or removal, by any person or persons without the written consent of the Minister.

There are no sites with preservation orders located within the study area.

6.5 Architectural Heritage

6.5.1 Record of Protected Structures (RPSs)

Section 10(2)(f) of the Planning and Development Act 2000 (as amended) states that the Local Authority's County Development Plan shall include objectives for: "The protection of structures, or parts of structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest."

Section 51(1) of the Planning and Development Act 2000 (as amended) indicates the rationale for providing a Record of Protected Structures, stating that:

'For the purpose of protecting structures, or parts of structures, which form part of the architectural, heritage and which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, every development plan shall include a record of protected structures, and shall include in that record every structure which is, in the opinion of the planning authority, of such interest within its functional area.'

Accordingly, Limerick City and County Council has prepared a Record of Protected Structures for their Development Plan 2022–2028 which was utilised in the preparation of this assessment. There are nine structures on the Record of Protected Structures (RPS) within the townlands of Athea Upper, Gortnagross, and Templeathea West (Table 3; Figure 11). Six of these are listed on the National Inventory of Architectural Heritage. All but one of these structures are 19th century in date; Athea Carnegie Library (RPS 960) is dated to 1917. Works are proposed directly adjacent to four structures on the RPS: a house of unknown date (RPS 953), Athea Bridge dated to *c.* 1820[1] (RPS 955), a *c.* 1860 house (RPS 956), and Saint Bartholomew's Church dated to 1832 (RPS 957).

Pat McSweeney undertook an architectural heritage impact assessment focused on Athea Bridge (RPS 955). The bridge was described as 'an important part of the town's architectural and historic heritage which adds to the 19th-century streetscape at the eastern approach to the village' (McSweeney 2024, 5). This report is included as an appendix to the Environmental Impact Assessment Report (EIAR) for this Scheme.

Table 3: Structures on the Record of Protected Structures within the townlands affected by the proposed works.

NIAH	RPS	Name	Type	Townland	Date	ITM
21903402	440	Timmes's	House	Gortnagross	*c.*1860	513242E, 634108N
-	953	C. O'Sullivan (Athea Community Council)	House	Templeathea West	-	512521E, 635150N

[1] Other sources point to the bridge dating to 1860 (see Section 6.1).

-	954	Brownes	Shop/retail outlet	Athea Upper	-	512242E, 635199N
21834011	955	Athea Bridge	Bridge	Athea Upper, Templeathea West	*c.*1820	512558E, 635143N
21834006	956	C.P. Mullane	House	Gortnagross	*c.*1860	512525E, 635126N
21834003	957	Saint Bartholomew's Church	Church/chapel	Athea Upper	1832	512306E, 635119N
21834001	958	Goold Monument	Monument	Athea Upper	1863	511719E, 635091N
21834004	959	Maighgread McGrath's	House	Athea Upper	*c.*1860	512391E, 635064N
21834008	960	Athea Carnegie Library	Library/ Archive	Gortnagross	1917	512483E, 635036N

6.5.2 Architectural Conservation Area (ACA)

An architectural conservation area (ACA) is a place, area, group of structures or townscape, taking account of building lines and heights, that is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or that contributes to the appreciation of a protected structure, and whose character it is an objective of a development plan to preserve. A planning authority recognises, by making provision in the development plan for the protection of these areas, that in many cases, the protection of the architectural heritage is best achieved by controlling and guiding change on a wider scale than the individual structure, in order to retain the overall architectural or historic character of an area (Architectural Heritage Protection, 2011).

There are no architectural conservations areas within the study area.

6.5.3 Undesignated Elements of Built Heritage

Some features of built heritage are undesignated but nonetheless contribute to the character of the area. Such features include stone walls, culverts, historic ironwork, foot bridges, fording points, and street furniture. The desktop study drew from several cartographic sources and previous published surveys to compile a list of such features within the Scheme Area. Additional features were identified during the site inspection (see Table 5; Figure 12).

There are six structures within the study area that are listed in the National Inventory of Architectural Heritage (NIAH) but are not included in the Record of Protected Structures (RPS) (Table 4). Works are proposed directly adjacent to three structures on the NIAH: a 19th century house (NIAH 21834005), a Garda station from *c.* 1920 (NIAH 21834007), and a handball alley from *c.* 1950 (NIAH 21834010).

Table 4: Structures on the National Inventory of Architectural Heritage within the townlands affected by the proposed works.

NIAH	Name	Type	Townland	Date	ITM
21834005	-	House	Templeathea West	*c.* 1840	512507E, 635151N
21834007	Athea Garda Síochána Station	Garda station/ constabulary barracks	Gortnagross	*c.* 1920	512508E, 635055N
21834009	-	Water pump	Gortnagross	*c.* 1920	512646E, 634762N
21834010	-	Handball alley	Templeathea West	*c.* 1950	512563E, 635200N
21834012	-	Water pump	Athea Upper	*c.* 1920	512430E, 635147N
21903501	New Park House	Country house	Templeathea West	*c.* 1850	513727E, 635469N

6.6 Wreck Inventory

The National Monuments Service (NMS) has compiled a database of shipwrecks from around the coast of Ireland – the Wreck Inventory of Ireland Database (WIID). The inventory lists *c.* 18,000 wrecks comprising both known and unknown losses, and with both known and uncharted locations, from within Ireland's territorial waters and to the edge of Ireland's Continental Shelf. Wrecks with known locations, numbering nearly 4000, are mapped and can be viewed on the NMS's online Wreck Viewer.

There are no recorded wrecks in the Galey River or in the surrounding area.

6.7 Topographical Files

The Topographical Files of the National Museum of Ireland (NMI) holds details of any artefactual material recovered from the 18th century to modern day. The files were consulted for the townlands in which proposed works are to take place. One coin hoard was recorded from Athea Upper (see Section 6.1: Medieval).

6.8 Previous Archaeological Investigations

An Underwater Archaeological Impact Assessment was carried out in September 2021 prior to gravel removal works near Athea Bridge, Athea, Co. Limerick (Licences: 21D0079; 21R0222). The gravel works were monitored in September 2022 under extended licences. Both studies were undertaken by *Mizen*

Archaeology Ltd. While the impact assessment identified a low to moderate potential for archaeological material, the monitoring revealed no finds or features of archaeological significance.

6.9 Intangible Assets and Folklore

In December 2015 Ireland ratified the UNESCO 2003 Convention for the Safeguarding of the Intangible Cultural Heritage. Intangible cultural heritage 'refers to the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity' (https://uis.unesco.org/en/glossary-term/intangible-cultural-heritage).

Caoimhín Ó Danachair (Kevin Danaher) was a prominent Irish folklorist born in Athea in 1913. He officially joined the Folklore Commission in January 1940, though much of his work with the commission began in 1946 after he served in the Irish Defence Forces during World War II (Lysaght 2002). Prior to officially joining the commission, Ó Danachair collected in his native Athea in 1934 (dúchas.ie 2002).

Three classes within two schools in Athea took part in the National Folklore Schools' Collection (NFSC 485; NFSC 486). Five manuscripts within the Main Manuscript Collection of the National Folklore Collection also have stories from Athea (NFC 93; NFC 96; NFC 302; NFC 628; NFC 628). Caoimhín Ó Danachair collected in the area in 1934 (NFC 93) and 1935 (NFC 96). Seosamh Ó Dálaigh collected in the area in 1939 (NFC 628; NFC 629). Multiple collectors contributed to a manuscript in 1936 (NFC 302). The stories are a mixture of English and Irish with more Irish in the Main Manuscripts than the Schools' Collection.

There is also a collection of 15 photographs from Gortnagross townland in the collection stored on dúchas. Another 155 photographs from Athea are stored in the UCD Digital Library National Folklore Collection. All of the available photographs primarily date to the early 20th century, though photographs are available throughout the 20th century, into the 1990s. Many of these were collected by Caoimhín Ó Danachair.

The folklore for Athea is plentiful and is incorporated into the Athea Heritage Trail sponsored by Athea Tidy Towns. A mass rock, used during the time of the Penal Laws when Catholic services were

outlawed, was traditionally cited in a field to the southeast of Holy Cross Cemetery (near Survey Area 11). A cross was erected at the site in 1914.

To the north of the mass rock is the Giant's Garden. The National School to the west also depicts a giant on its sign and as you enter the village, the welcome sign reads: 'Fáilte go Áthe an tSleéibhe; Athea; The Giant's Village.' Today the legend states that a local giant was carrying the body of his deceased mother to bury her in the graveyard. As he walked, parts of her body were dropped in the area. Where these body parts fell are now seen in local placenames such as 'Drommadda (where her back fell) [and] Lurriga (wehre her shin bones fell)' (Limerick County Council and Athea Tidy Towns 2024).

At least two versions of the story can be found within the National Folklore Schools' Collection, one in English (NFSC 485:246–52) and another in Irish (NFSC 485:331–2). Both stories assert that Fionn Mac Cumhail was attacked by a giant coming from Kerry, who threw a boulder at him but missed. The English tale says that after a battle of several days, Fionn triumphed and spread the remains of the giant throughout the parish. The Irish tale, however, states that the giant fell due to the effort he made in throwing the boulder and that Fionn sat on top of him and plunged his sword into this heart. Fionn then went home after which the 'madraí na seacht bparóisdí,' or dogs of the seven parishes, tore the body into the pieces scattering them throughout the area. All versions of the story agree that the body of a giant, scattered throughout the area, gives rise to many of the local place names, though none of these are located in the vicinity of the proposed works.

7 Results of Site Survey

Sites of proposed works in Athea Village were surveyed by a four-person team during fair weather in May 2024. The survey comprised a visual walk-over survey of terrestrial areas and a wade and metal detection survey of the Galey River and its tributary stream. The areas of proposed works were numbered 1–19 (Figure 12). Observations from the survey are discussed below. Maps indicating the locations and directions of the photographs taken during the survey are provided in Figures 13–18.

7.1 Areas Northwest of Athea Bridge

Areas 1, 2, and 3 encompass the north-western extent of the survey area. Area 3 is separated from Area 4 by Athea Bridge (RPS 955). All four areas are situated to the north of Con Colbert Street (R523), the main thoroughfare through the town.

7.1.1 Area 1

Area 1 is located between a house and the apartment building and to the north of the latter (Plates 51 & 52). The northern portion of this area comprises a grassed field enclosed by mature tree cover (Plate 4). The Galey River forms the northern boundary of the field, while a straight-sided stream runs along its western edge. The eastern treeline marks the boundary with a farm track, which forms part of Area 2. A storage shed is located along the southern edge of the field.

The area to the south of the storage shed, located between the Blue House and Apartment Building 1, is heavily overgrown with trees, brambles, and tall grasses reaching up to 2m in height (Plate 6). This overgrown plot corresponds to the site of Shine's Forge (CHS7). The roadside entrance to the site is secured with a gate, chain, and padlock. A dense treeline immediately south of the storage shed marks a natural division between the northern and southern portions of Area 1.

The western stream is characterised by near-vertical banks measuring approximately 0.3m in height (Plate 5). The streambed comprises sandy silt interspersed with frequent medium to large sub-angular stones. Water depth is shallow, generally less than 0.05m, with a slow to moderate flow rate. A partially filled-in concrete pipe was observed near the treeline separating the northern and southern sections of Area 1. In the southern portion, the stream broadens to a maximum width of approximately 1m, whereas in the northern section it narrows to no more than 0.4m in width.

7.1.2 Area 2

Area 2 is located to the north of a row of terraced houses including E.E. O'Connor's and Liston's (Plate 52). It encompasses a north-south laneway running from Con Colbert Street to the rear of the dwellings and lies to the north of the site of a thatched chapel and Athea's first National School.

The primary field is grassed and surrounded by trees similar to the northern portion of Area 1 (Plate 7). It is surrounded by electric fencing. The Galey River borders the northern extent of the field. A farm roadway lies along the western border and the southern boundary comprises the laneway off Con Colbert Street. A shed is located at the south-eastern corner of the field.

On the southern edge of the laneway, approximately 4m from the fence line into the primary field of Area 2 is an old stone building (CHS23). It has a central door and a window on either side on the northern elevation (Plate 8). The structure which measures c. 3m in height is roofed with corrugated metal and includes a loft window in the eastern gable. The eastern gable is plastered, but exposed stone bonded with mortar is visible on most of the building. Similarly constructed stone boundary walls are present along the same side of the street.

7.1.3 Area 3

Area 3 includes areas in Cois Na Gaile housing development along Barrack Street and Markievicz Park (Plates 53 & 54) as well as the River Galey where it borders this estateto the north and east. The area is primarily characterised by modern residential development and infrastructure, including paved surfaces and landscaped lawns (Plate 9). The closest wall to the river sits *c.* 3m southwest of its southern bank. The southern bank of the River Galey at this location has a raised bank 0.8m above the surrounding ground level (Plate 10).

A stream, (*Ryan Hanley* Instream Works Area A), runs south to north into the Galey River at the western edge of Area 3. At the time of survey, the banks were overgrown with briars, impending a comprehensive survey of the streambed. The stream does not appear on the First Edition 6-inch map (1843–6) but can be seen on the Second Edition 26-inch map (1900). Because of this, and its notably straight character, this is likely a late 19th century artificial channel excavated to alleviate drainage issues within the agricultural land.

The area of the River surveyed downstream/north of Athea Bridge encompass 1888m^2 of river, (*Ryan Hanley* Instream Works Area B) (Plate 11). It flows in a north-westerly direction from Athea Bridge, then briefly a northerly direction before curving the northwest again to the end of the survey area. Here, the river had a maximum width of 18m. The water depth was generally shallow, measuring less than 0.3m for most of the survey area, though deeper pools of up to 0.7m were also encountered. The water velocity was moderate throughout this section of the survey.

The composition of the riverbed varied throughout its course with gravel and small stones recorded for the majority of its length, but areas of rock outcropping and sand were also noted. Deposition of riverine sediments have resulted in several gravel ‘islands’ exposed above the water level at the time of the survey. Ceramic tableware, aluminium cans, motor vehicle components, and other modern debris were all recovered from this section of the river.

The riverbanks in this area are steep to vertical. The southern bank ranges from 0.8m to 2.3m in height above the riverbed, while the northern bank ranges from 0.9m to approximately 5m in height, the latter adjacent to a rock outcrop. Exposed riverbank material, visible in certain locations, consists of greyish-brown sandy clay.

Four features of cultural heritage significance were identified within the Galley River in Area 3: riverbed materials (CHS27), a possible stone feature (CHS28), a drain (CHS29), and Athea Bridge itself (CHS1).

CHS28, the possible stone feature consists of four horizontally placed stones on top of one another (Plate 12). It is unlikely to be a naturally-formed feature though its date and function are unknown. It may represent the remains of crudely constructed steps or access to the river. The feature measures 0.6m in height and 0.4m in width.

CHS29, a limestone drain is located on the western bank of the Galey River downstream of Athea Bridge built into a retaining wall connected to the bridge (Plate 13). Although much of the wall is obscured by later concrete cladding, the drain remains visible. The drain consists of a limestone slab floor, sidewalls comprising 4–6 courses of roughly squared stones and a lintelled roof. The opening measured 0.43 by 0.5m externally and 0.4 by 0.46m internally. It curves to the southwest.

CHS1 Athea Bridge was surveyed by the conservation architect, Pat McSweeney, for the Architectural Heritage Impact Assessment appendix to the EIAR chapter.

7.2 Areas Southeast of Athea Bridge

Areas 4–9 are situated to the south of Athea Bridge and extend eastward along the course of the Galey River. All of these areas lie to the south of Con Colbert Street (R523), the principal thoroughfare through the town.

7.2.1 Area 4

Area 4 comprises a roughly triangular, landscaped area on the eastern bank of the Galey River. The area contains a bandstand and several benches (Plates 14 & 54). Hedgerows form the eastern boundary, while Athea Bridge marks the northern extent. The Galey River defines the southern and western limits of the area (Plates 15 & 16). On the opposite bank, to the southwest, a stone cottage (CHS22) is visible (Plate 17), located within Area 10.

The section of the Galey River in Area 4 and into Area 5, immediately upstream of Athea Bridge, encompasses an area of 820m^2, (*Ryan Hanley* Instream Works Area C). The riverbed consists of small stones and gravel (Plate 15). A large amount of modern metal debris was recorded in this stretch of the watercourse. The only cultural heritage feature identified in this section of the river was the artefact-bearing potential of the riverbed (CHS27).

7.2.2 Area 5

Area 5 consists of the land between the public park in Area 4 and Athea National School bordering Area 6 (Plate 54). It is separated from Area 4 by a hedgerow and from Area 6 by woods. Nothing of archaeological potential was noted within this area. This section of the Galey River, *Ryan Hanley* Instream Works Area C, was discussed in Area 4.

7.2.3 Area 6

Area 6 is bounded by Athea National School to the north and the Galey River to the south. It consists of woodland which was very heavily overgrown with shrubs and briars at the time of the survey. The ground rises to the National School from the river bank.

The section of the Galey River surveyed here, (*Ryan Hanley* Instream Works Area D), encompasses an area of 178m^2. The eastern bank measured 1.4m in height and is separated from the National School by the densely vegetated woodland. The western bank is lower measuring 0.4m in height and consists of a low-lying wooded area. The river channel at this location reaches a maximum width of 15m; however, water flow is confined to approximately half this width due to significant deposition of cobbles and gravels. At the time of survey, the water depth did not exceed 0.35m (Plate 18).

7.2.4 Area 7

The section of the Galey River surveyed in Area 7, (*Ryan Hanley* Instream Works Area E), encompasses an area of 108m^2. The channel narrows significantly at this point. At the time of the survey, the maximum depth was recoded as 0.5m and the width of the channel was restricted to less than a meter as a result of sediment deposition. The riverbed is made up of gravel, small stones, and sand. The western bank measures 0.4m in height with low-lying wet grassland and the eastern bank is lined with trees (Plate 21).

7.2.5 Area 8

Area 8 is located along the northern extent of the private residence located to the east of Area 7. It also includes a greenfield area extending from Con Colbert Street south to the Galey River (Plate 55). Where the area borders Con Colbert Street a stone wall (CHS19) is intermittently visible through the roadside hedge and is particularly evident adjacent to a road sign for the R523 and R524 (Plate 22).

The greenfield portion of Area 8 comprises rough pasture, enclosed by an electric fence (Plate 25). This fencing continues around both Area 8 and the adjoining field of Area 9. Dense trees line the western and southern border of Area 8 and to the south of the tree line is the River Galey (Plate 24). Within the western tree belt is an embankment orientated approximately north-south (CHS18) (Plate 23). This measured approximately 1m in height and 2m in width at the base with a rounded top. Barbed wire fencing is placed along the embankment.

The section of the Galey River surveyed here, (*Ryan Hanley* Instream Works Area F), encompasses an area of 310m^2. At the time of the survey, the maximum depth was recorded as 0.3m and the width of the channel was *c.* 5m. The riverbed is made up of gravel, small stones, and sand. The western bank measures 0.4m in height with low-lying wet grassland and the eastern bank is lined with trees (Plate 26).

7.2.6 Area 9

Area 9 is located on Con Colbert Street opposite Holy Cross Cemetery. It consists of a field in rough pasture surrounded by same electric fencing (Plates 27 & 55).

7.3 Areas East of Athea Garda Síochána Station

Area 10 and 11 lie to the east of the Athea Garda Station on Barrack Street (R524). The areas are located to the south of Area 4. Area 10 extends from the road on the west of the Garda Station, across the north of the station, and through the field to the east. Area 11 includes the northwest corner of the field to the east of Area 10. Area 11 is connected to Area 5 via a northeast to southwest channel.

7.3.1 Area 10

From Barrack Street (R524), Area 10 is accessed through a metal gate on the northern side of Athea Garda Station. This leads into a well-manicured garden (Plate 28). Along the northern boundary of the garden, to the east, stands a modern but dilapidated shed, which is adjoined to an older stone shed (CHS21). The latter retains fragments of a slate roof, with possible remains of an earlier thatch visible on its southern gable (Plate 29). Approximately 2m to the east, beyond the garden, is another stone building with E-W aligned gables (CHS22), the structure seen from Area 4 (Plate 30). Its southern elevation contains narrow window openings, while a wide entrance is present on the northern side.

An embankment with a trackway on top extends south of this structure, measuring approximately 2m in width (north–south) and 20m in length (east–west), leading towards a riparian woodland. A drystone retaining wall, measuring approximately 0.75m in height, runs along the northern edge of the embankment. The remains of a former tree line are evident along this wall, marked by several surviving stumps.

7.3.2 Area 11

Areas 10 and 11 and separated by a drystone wall and tree line. The topography within Area 11 features raised ground on all sides a with a distinct central depression (Plate 31). Electric fencing runs along the tree line, enclosing the field. A narrow, straight stream connects this area to Area 5; its regular alignment and shallow depth suggest it is a man-made or modified drainage channel (Plate 32).

7.4 Area Southeast of St. Bartholomew's Catholic Church

7.4.1 Area 12

Area 12 lies between the south-eastern corner of St. Bartholomew's Catholic Church (RPS 957) and the north-south laneway off Con Colbert St on which Maighgread McGrath's (RPS 959) is located (Plate 56). The eastern section of area 12 lies within a green area of a housing development (Plate 33). At the western end of this field, at the tree line, is an embankment (CHS17) measuring *c.* 1.4m high to the base of a stream on its western side (Plate 34). The eastern face of the embankment measures *c.* 0.6m high. The western face is straight to near vertical while the eastern face was steeply sloped. Dense woodland and undergrowth are present to the west of the embankment.

7.5 Areas South of Rathronan

Two survey areas are located to the south of Rathronan Housing Development (Plate 13). The areas area separated by a stream within mature woods (Plate 35). The eastern bank of the stream measures c. 2.5m in height and is very steep, while the western bank measures c. 1m in height and is near vertical. The stream channel measured approximately 1.5m in width, with a water depth of less than 0.05m. The streambed consists of gravel and sandy silt, with frequent medium to large sub-angular stones. A fence runs along the top of the eastern bank.

7.5.1 Area 13

Area 13 lies to the west of the stream between Areas 13 and 14 (Plate 57). This was an area of rough pasture with grasses up to 1m in height (Plate 36).

7.5.2 Area 14

Area 14 is situated to the east of the stream separating Areas 13 and 14 (Plate 58). The ground surface slopes gently from east to west, descending towards the stream. It comprises a grassed field interspersed with patches of clean gravel (Plates 37 & 38). A modern concrete wall defines the northern boundary, while a row of residential houses borders the southern edge.

7.6 Areas South of Hillside Drive

Hillside Drive is a north- south running road off of R524. A section of this road is included in the survey area, Area 17. The road bisects a stream running east to west, Area 19. South of the stream, the road continues through agricultural fields, dividing Area 18 to the east and Area 16 to the west. A farm track, designated Area 15, connects Area 16 with Con Colbert Street Upper to the west.

7.6.1 Area 15

Con Colbert Street Upper terminates at a farmhouse, beyond which the path continues past a series of green fields—some maintained as pasture, others overgrown (Plate 40). The first field is subdivided by an electric fence, with cattle observed in the eastern section. This field is separated from the next by a line of trees and a boundary ditch (CHS14). The ditch measures approximately 0.95m in depth and contains a concrete drainage pipe with a diameter of c. 0.3m running beneath the path. At the time of survey, the ditch was dry and heavily overgrown, obscuring the banks (Plate 41). The track is raised over the ditch using concrete blocks.

A similar ditch (CHS15) and tree line also separates the next two fields. This was slightly more overgrown which did not allow for a view of the culvert beneath the farm track, but it was built up of a hardcore material. Along the southern edge of the east–west portion of the track is another ditch (CHS16), running parallel to the path (Plate 42). This feature lies beneath a tree line and dense overgrowth, obscuring its eastern extent. The ditch likely begins near the second field boundary and continue westward, passing beneath the track where it curves south. This ditch contained stagnant water at the time of the survey. The farm track continues into Area 16 (Plate 43).

7.6.2 Area 16

Area 16 is bisected by a dense treeline (Plate 60). To the east of the treeline is a field of rough pasture bounded by wire and concrete fencing along the east, beside a farm track (Plate 45). To the west of the treeline, the field is covered in thick marsh grass up to 1m in height (Plate 44), and the vegetation is notably denser than on the eastern side. The northern boundary of the field is defined by the stream (Area 19), which is lined with mature trees and dense undergrowth.

7.6.3 Area 17

Area 17 comprises a driveway with two houses located on its western side. South of the stream crossing (Area 19), the driveway transitions into a farm lane (Plate 46). The road crosses the stream via a concrete culvert. The crossing measures *c.* 4m wide (CHS30). The piped culvert is *c.* 1m in diameter and the bridge deck stands *c.* 1 6m above the stream bed.

7.6.4 Area 18

Area 18 lies to the east of the farm track in Area 17, opposite Area 16. It is similar to the eastern portion of Area 16, comprising a field of rough pasture enclosed by trees on three sides. A wire and concrete fence runs along the western field boundary adjacent to the farm track (Plate 47). Later in the day, the field was seen under plough (Plate 61).

7.6.5 Area 19

Area 19 (*Ryan Hanley* Instream Works Area G) consists of a stream and its banks extending along the northern boundary of Areas 16 and 18 and the southern end of Area 17. The stream flows in a general east to west direction and is lined with a band of riparian woodland. The trees have fallen across the stream in several areas which impeded the survey in places. Overall, the stream is narrow and shallow measuring between 1 and 4m in width with an average depth of 0.3m (Plate 48). There is a deeper pool of water at the exit to a culvert (CHS30) measuring 0.78m in depth at the time of survey. The stream is depicted on the First Edition Ordnance Survey map (1843–6) indicating a potential for, at least, Post Medieval artefactual remains within the stream sediments (CHS32).

Close to the western extent of the survey area, a culvert facilitates the crossing of a farm trackway (Survey Area 17). A concrete culvert (CHS30) with a diameter of 1m has been inserted into the stone

structure and the structure is faced with concrete. The culvert measures 1.55m in height. Only the basal course of stone is partially visible. An adjoining wing wall with a height of 2m is located to the south of the culvert. The lower half is constructed of four courses of horizontally laid limestone with no bonding visible. Above this is a concrete wall (Plate 49). Lightly dressed stones are visible on the riverbed adjacent to the culvert. These are most likely displaced from the original stone structure.

Further downstream a poorly preserved section of a drystone retaining wall (CHS31) survives for a length of 2.3m on the southern riverbank (Plate 50). This measured 1m in height. It is constructed of uncoursed rubble stone measuring *c.* 0.2m x 0.15m x 0.10m. Immediately east of the drystone wall are the remains of a pillar or abutment. This feature measures 1.65m in height and 1.2m in width and displays a slight batter. It is constructed of 20 courses of horizontally laid stones with no evidence of bonding material. The stones are roughly squared and measured between 0.07m and 0.55m. Smaller filler stones are visible behind the outer face of the wall. Six heavily eroded but squared timbers were noted on the riverbed which may be associated with this structure. The stone feature and timbers may represent a crossing of the stream. It is the narrowest point of the stream measuring just 1.1m in width.

Table 5: Cultural Heritage Sites identified during the assessment.

Cultural Heritage Site No.	Survey Area	Townland	ITM	Description	Baseline Significance/ Sensitivity
CHS1	*3,4*	Athea Upper, Templeathea West	512558E, 635143N	Athea Bridge (RPS 955)	High
CHS2	*3*	Templeathea West	512563E, 635200N	Handball Alley (NIAH 21834010)	Medium
CHS3	3	Templeathea West	512507E, 635151N	House (NIAH 21834005)	Medium
CHS4	*10*	Gortnagross	512508E, 635055N	Athea Garda Cíochána Station (NIAH 21834007)	Medium
CHS5	*12*	Athea Upper	512306E, 635119N	Saint Bartholomew's Catholic Church (RPS 957)	High
CHS6	-	Athea Upper	512242E, 635199N	Old Landlord's House (Brownes) (RPS 954)	High
CHS7	*1*	Athea Upper	512302E, 635202N	Site of Shine's Forge	Low
CHS8	*2*	Templeathea West	512216E, 635242N	Site of Thatched Chapel and First National School	Low
CHS9	*6,7*	Templeathea West	512680E, 635142N	Athea National School	Medium
CHS10	-	Templeathea West	512974E, 635148N	Site of Mass Rock; Cross erected 1914	Medium
CHS11	*1*	Athea Upper	512279E, 635227N	Site of Athea Creamery	Low
CHS12	13,14	Athea Upper, Gortnagross	512363E, 634924N	Townland boundary between Athea Upper and Gortnagross	Low

CHS13	2 *3,4,5,6*	Athea Upper, Gortnagross, Templeathea West	512430E, 635244N	Townland boundary between Templeathea West and Gortnagross and Athea Upper	Low
CHS14	15	Athea Upper	511983E, 634606N	West field boundary ditch in Survey Area 15	Low
CHS15	15	Athea Upper	512075E, 634583N	Eastern field boundary ditch in Survey Area 15	Low
CHS16	15	Athea Upper	512025E, 634596N	East-west field boundary ditch in Survey Area 15	Low
CHS17	12	Athea Upper	512334E, 635051N	Embankment in Survey Area 12	Low
CHS18	8	Templeathea West	512802E, 635165N	Embankment in Survey Area 8	Low
CHS19	8 *7,9*	Templeathea West	512792E, 635166N	Stone Wall along Survey Area 8	Medium
CHS20	10	Gortnagross	512552E, 635069N	Stone Wall along Survey Area 10 with raised causeway and old tree line	Medium
CHS21	*10*	Gortnagross	512532E, 635071N	Stone structure on western side of Survey Area 10	Medium
CHS22	*10*	Gortnagross	512544E, 635071N	Stone structure on eastern side of Survey Area 10	Medium
CHS23	*2*	Athea Upper	512401E, 635208N	Stone structure in Survey Area 2	Medium
CHS24	-	Athea Upper	512173E, 634790N	Possible enclosure	Low
CHS25	*3*	Templeathea West	512522E, 635150N	C. O'Sullivan (Athea Community Council) (RPS 953)	Medium
CHS26	*4*	Gortnagross	512525E, 635126N	C.P. Mullane (RPS 956)	Medium
CHS27	3–8	Templeathea West, Gortnagross	512551E, 635188N	Riverbed materials in the River Galey	Low
CHS28	3	Templeathea West	512503E, 635239N	Possible stone feature in the River Galey, Area 3	Low
CHS29	3	Templeathea West	512547E, 635148N	Limestone drain upstream from Athea Bridge in Area 3	Low
CHS30	19	Gortnagross	512461E, 634659N	Stone crossing replaced with concrete culvert in Stream Area 19	Low
CHS31	19	Gortnagross	512554E, 634682N	Stone structure and timbers in Stream Area 19	Medium
CHS32	19	Gortnagross	512522E, 634674N	Streambed materials in the unnamed southern stream	Low

8 Results of Geophysical Survey

An electromagnetic resistivity survey was undertaken by Earthsound Geophysics in December 2024 under licence from the NMS (Licence Number: 24R0541). The greenfields in Survey Areas 1 and 2 were covered by the survey. Four low resistivity anomalies were identified within the survey area. These may 'represent waterlogged or disturbed soil and could be archaeological or agricultural in origin' (Gimson 2024, 3).

9 Catalogue of Archaeological Objects

No archaeological material was recovered during the survey of the proposed works.

10 Constraints

The survey of Instream Works Area A, located in Survey Area 3, was impeded due to heavy overgrowth of this unnamed stream. Similarly, the survey of Instream Works Area G, within Survey Area 19, was obstructed in places by fallen trees across the stream channel.

11 Discussion

Evidence of human activity within the region of Athea dates back to the Bronze Age and potentially even further into the Neolithic. While archaeological evidence remains sparse for much of this early occupation, more distinct traces emerge during the Early Medieval period. By the Late Medieval, a church had been constructed in Athea and a village was definitively established. Over time, the surrounding landscape was progressively reclaimed, rendering much of the land suitable for tillage or pasture. However, the village remained relatively isolated until the 19th century when the road between Abbeyfeale and Glin was completed running through the village.

There are no recorded shipwrecks in the Galey River or the surrounding area, nor are there any documented archaeological finds from within the river at Athea. However, a coin hoard was recorded from Athea Upper. There are no recorded archaeological monuments recorded directly within the area of works, though seven monuments are recorded within 2km. There are also nine structures on the Record of Protected Structures (RPS) within the townlands of Athea Upper, Gortnagross, and Templeathea West. Works are proposed directly adjacent to four of these including a church, a bridge, and two houses. There are an additional six structures listed on the National Inventory of Architectural Heritage. Works are proposed directly adjacent to three of these including a house, a Garda station, and a handball alley.

Twenty-four features of cultural heritage significance were identified during the survey and desktop assessment including old stone walls, stone structures, and an embankment. The surveys informed on the potential level of impact that works will have on possible terrestrial and underwater heritage. In turn, it was possible to attribute a low, medium, and high ranking to the level of perceived impact.

This is set out in Sections 13 and 14 below which lists the known and potential impacts for the proposed works and recommendations made based on those perceived levels of impacts.

12 Significance

It is likely that the village of Athea dates to the 15th century when a church was built in Templeathea. Another, thatched church, was built in what is now the village centre during the 18th century. However, the village remained relatively isolated until the 19th century when the Abbyfeale to Glin Road which passes through Athea was completed.

There is little evidence predating the Late Medieval and Post Medieval development of the village within the area of works, though there are Early Medieval ringforts within 2km and Bronze Age and Iron Age evidence within 15km. The Galey River, which forms part of the Shannon catchment area, has the potential to reveal further archaeological evidence of earlier phases of human activity in the area.

The most significant extant cultural asset associated with the Flood Relief Scheme is Athea Bridge (RPS 955). This current bridge dates to 1860, but replaced an earlier wooden structure of unknown antiquity. The bridge is an active and central structure in the community. Cultural material related to the use of this structure and its predecessor may be found within the River Galey. Other nearby cultural assets with high significance include Saint Bartholomew's Catholic Church (RPS 957) and the Old Landlord's House (RPS 954), though these are outside of the areas of work.

The baseline significance of cultural heritage in the area is moderate to significant with low to medium sensitivity.

13 Predicted Impacts

A summary of all potential impacts, proposed mitigation measures, and potential residual impacts is given in Table 6 below.

13.1 Do-Nothing Scenario

Under the do-nothing scenario there would be no direct impacts on the architectural or archaeological sites in Athea town. The area, however, would continue to be affected by flooding events. During such

flooding, hydrological impacts on known historic structures such as Athea Bridge (RPS 955) and the handball alley (NIAH 21834010) would be seen. More severe impacts may occur at the instream cultural heritage sites (CHS27–31), where flood water may cause scouring and undercutting. These processes also have the potential to impact potential unrecorded cultural heritage features. Consequently, periodic flood events may result in cumulative adverse impacts on both recorded and unrecorded cultural heritage features, potentially leading to long-term deterioration.

13.2 Architectural Heritage

Four protected structures (RPS) and twelve non-designated architectural heritage structures were identified adjacent to or within areas of proposed works. One of protected structures (CHS1) and seven of the non-designated architectural heritage structures (CHS17-20 and 29-31) will be directed impacted by the proposed works. While the proposed scheme will not directly affect the remaining protected structures and non-designated structures, indirect impacts may arise due to their proximity to construction activities.

Two stone walls (CHS19 and CHS20) and two embankments (CHS17 and CHS18) may be directly impacted by construction works. The stone wall in survey Area 10 (CHS20) is directly within the proposed path of a surface water diversion. Sections of this wall may be removed or altered to facilitate works, resulting in a direct negative impact, moderate and permanent in nature. Similarly, the stone wall in survey Area 8 (CHS19) located between Con Colbert Street and the proposed access route in this area and the embankment (CHS18) which lies within the route itself, are also likely to be affected. If the proposed access route goes ahead, the stone wall and embankment would have to be removed or altered, resulting in a direct negative impact, of slight (embankment) to moderate (wall) significance and permanent in nature. The embankment in Area 12 (CHS17) runs parallel to an existing stream which will form the eastern terminus of a flow diversion at which point a trash screen is proposed. Works may require the removal or damage of this embankment, resulting in a direct negative impact, slight and permanent in nature.

Similarly, the drain in the western, downstream wing wall of Athea Bridge (CHS29) may be negatively affected by works on the bridge; an upgrade of the culvert (CHS30) in the southern unnamed stream will require alterations to this structure; and the stone structure and timbers (CHS31) in the same stream could be removed or damaged during regrading. These would all be direct negative impacts, slight and permanent in nature.

Works related to the protected Athea Bridge (RPS 955; CHS1) are expected to have an overall positive impact provided care is taken to avoid indirect damage to the bridge. This includes exposing the 'the full face of the outer pier of the wing wall' on both the east and west downstream banks (McSweeney 2024, 7 & 10). The reconstruction of a significant portion of the west bank wing wall is a necessary conservation measure that will contribute to the long-term preservation of the structure. In addition, landscaping works upstream of the bridge are expected to enhance the visual setting by screening views of 'an existing unsightly wall' (*ibid*. 10).

As part of the scheme's operational phase, gravel management at Athea Bridge will be undertaken as a routine maintenance activity. This may have a negative impact on sub-surface archaeological remains in the riverbed and its banks including the potential for disturbance of artefacts which may have been deposited along with the gravels and sediment.

13.3 Archaeology

Seven archaeological sites are located within 2km of the proposed works. The closest of these is a holy well with an unconfirmed location (LI034-003) reputedly located *c.* 700m to the south of the proposed works.

The proposed scheme will not directly or indirectly impact archaeological features included in the RMP or SMR.

Ground disturbance works within greenfield areas specifically, Survey Areas 1, 2, 4, 8–14, 16, and 18 have a low to medium potential to uncover and directly impact on unrecorded subsurface features, deposits, structures and objects of archaeological potential. However, the significance of such impacts cannot be fully assessed based on existing information because these areas comprise greenfield sites with no current indication of archaeological remains. Nonetheless, any such impact would be considered negative, moderate, and permanent.

In-stream works within the Galey River and its tributaries—including excavation, regrading, and sediment management (expected to occur on a biennial basis)—have the potential to affect unrecorded buried archaeological material (CHS27). The archaeological potential of these riverbeds remains uncertain, and as such, the full significance of potential impacts cannot currently be determined. However, these impacts are likely to be direct, negative, moderate, and permanent.

Similarly, works within the unnamed southern stream have the potential to directly impact unrecorded buried archaeological material (CHS32). Again, the significance of such impacts cannot be accurately assessed. The impact is likely to be negative, moderate, and permanent.

13.4 Intangible Cultural Heritage Assets

The proposed scheme is not expected to result in any significant negative impacts on intangible cultural heritage assets.

14 Recommendations

A number of mitigation measures are proposed in advance of the Construction Phase. Construction should not commence until these mitigation measures have been fully implemented and adhered to. A summary of all potential impacts, proposed mitigation measures, and potential residual impacts is provided in Table 6 below. The following section outlines the recommended mitigation measures to address the potential impacts presented in Section 13. **All proposed recommendations are subject to approval by the Office of Public Works, and the National Monuments Service, Department of Housing, Local Government and Heritage.**

14.1 Pre-Construction Phase

- Based on the results of the geophysical assessment in Survey Areas 1 and 2, a programme of licenced archaeological testing targeting identified anomalies should be undertaken in advance of the Construction Phase. A report detailing the results of the archaeological testing and including an impact statement with respect to any potential archaeological features uncovered and recommended mitigation measures should be submitted to the National Monuments Service.
- Further licenced archaeological testing should take place in advance of the Construction Phase within greenfields areas which were unsuitable for geophysical survey (Survey Areas 4, 8–14, and 16). The results of archaeological testing will inform on the requirement for additional archaeological mitigations measures which may include avoidance, archaeological excavation, or archaeological monitoring.
- All archaeological testing should be scheduled with sufficient lead-in time prior to construction to allow for additional mitigation, if required.

14.2 Construction Phase

- A programme of licenced archaeological monitoring should be conducted during Construction Stage. The programme should include archaeological monitoring of any vegetation removal. Any additional unrecorded cultural heritage features such as earthworks or culverts obscured by overgrowth should be fully recorded.
- The programme of licenced archaeological monitoring should target areas based on the results of the geophysical survey and test excavation along with works in the greenfield areas (Survey Areas 1, 2, 4, 8–14, 16, and 18) and within the river and streams (Instream Works Areas A–G).
- If cultural heritage sites CHS17–22 and CHS28–31 cannot be avoided in Survey Areas 3 (Instream Works Area B), 8, 10, 12, and 19 (Instream Works Area G), a full detailed recording of these features should be undertaken after monitored vegetation removal. The recording should include written descriptions, photography and measured drawings.
- Toolbox talks and appropriate signage should be provided to ensure construction personnel aware of cultural heritage features adjacent to works which are to be avoided including CHS1–5, 14–16, 23, and 25–26 along with CHS17–22 and CHS28–31 if possible to avoid.
    - Particular care is recommended around Athea Bridge (CHS1; RPS 955) *'to ensure no damage is caused to the bridge, its wing walls and piers'* as extensive works are to take place on and around the bridge (McSweeney 2024, 11).
- Reconstruction work on the downstream, west wing wall and its pier *'is to be carried out in accordance with traditional methods of construction with a particular emphasis on recording and replicating the existing stone detailing using lime mortar and hand-dressing any new capping that may be required'* (McSweeney 2024, 10).
- All archaeological testing and monitoring should be undertaken under a licence approved by the National Monuments Service. All instream archaeological works should be carried out by underwater archaeologists. A minimum of four weeks is required for licence processing. Preliminary reports must be submitted within four weeks of completion.Final reports, including post-excavation analysis, are due within one year of licence completion.

With the implementation of the above measures, residual impacts on archaeological, architectural, and cultural heritage are anticipated to be imperceptible to slight, as significant features will be preserved either in situ or by comprehensive recording. All residual effects would be offset by archaeological recording to preserve disturbed features and materials by record.

14.3 Operational Phase

It is recommended that the periodic gravel removal at Athea Bridge be subject to licensed archaeological monitoring by suitably qualified underwater archaeologists.

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Table 6: Summary of potential impacts, proposed mitigation measures and residual impacts.

Location	Townland	CHS	Potential Cultural Heritage Site	Description of Potential Impact	Significance of Asset	Magnitude of Impact	Significance of Effect	Proposed Mitigation	Residual Impact
Greenfields: Survey Areas 1, 2, 4, 8–14, & 16	Athea Upper, Gortnagross, Templeathea West	CHS12-23	Possible unrecorded subsurface features	Excavation including topsoil stripping	Low to Medium	Medium	Slight to Moderate	Archaeological testing and, pending results, monitoring	Imperceptible to Slight
Greenfield: Survey Area 18	Gortnagross	-	Possible unrecorded subsurface features	Excavation including topsoil stripping	Low	Low	Slight	Archaeological monitoring	Imperceptible
River Galey: Survey Area 3 (Instream Works Area B)	Templeathea West	CHS29	Limestone drain in western downstream wall of Athea Bridge	Works on Athea Bridge and Wing Walls	Low	Medium	Slight	Avoidance of features if possible with Toolbox talk and Signage OR Archaeological monitoring and full detailed recording after vegetation clearance	Imperceptible
River Galey: Survey Area 3 (Instream Works Area B)	Templeathea West	CHS28	Possible stone feature	Use of machinery for nearby works	Low	Medium	Slight	Toolbox talk and Signage	Imperceptible
River Galey: Survey Areas 3–8 (Instream Works Areas B–F)	Gortnagross, Templeathea West	CHS27	Possible unrecorded archaeological materials	Excavation and gravel removal	Low	Medium	Slight	Archaeological monitoring	Imperceptible
Athea Bridge: Survey Areas 3–4	Gortnagross, Templeathea West	CHS1	Athea Bridge (RPS 955)	Use of machinery for nearby works Reconstruction work Recommended repair and refurbishment	High	Medium Medium (Positive) Unknown	Significant Significant (Positive) Unknown	Toolbox talk and Signage Use of traditional methods Further Impact Assessments	Imperceptible Significant (Positive) Unknown
Survey Area 2	Athea Upper	CHS23	Stone structure	Use of machinery for nearby works	Medium	Medium	Moderate	Toolbox talk and signage	Imperceptible
Survey Area 3	Templeathea West	CHS2-3, 25	C. O'Sullivan (RPS 953) and Handball Alley and House listed on NIAH	Use of machinery for nearby works	Medium	Medium	Moderate	Toolbox talk and Signage	Imperceptible
Survey Area 4	Gortnagross	CHS26	C.P. Mullane (RPS 956)	Use of machinery for nearby works	Medium	Medium	Moderate	Toolbox talk and Signage	Imperceptible

Survey Area 8	Templeathea West	CHS18-19	Embankment and stone wall	Removal or damage for access route	Low to Medium	Medium	Slight to Moderate	Avoidance of features if possible with Toolbox talk and Signage OR Archaeological monitoring and full detailed recording after vegetation clearance; stone wall should be reconstructed at completion of works	Imperceptible to Slight
Survey Area 10	Gortnagross	CHS20	Stone wall beside causeway	Removal or damage for surface water diversion	Medium	Medium	Moderate	Avoidance of features if possible with Toolbox talk and Signage OR Archaeological monitoring and full detailed recording after vegetation clearance; stone wall should be reconstructed at completion of works	Imperceptible to Slight
Survey Area 10	Gortnagross	CHS4 & 21-22	Stone structures and Athea Garda Station	Use of machinery for nearby works	Medium	Medium	Moderate	Toolbox talk and Signage	Imperceptible
Survey Area 12	Athea Upper	CHS5	St Bartholomew's (RPS 954)	Use of machinery for nearby works	High	Medium	Significant	Toolbox talk and Signage	Imperceptible
Survey Area 12	Athea Upper	CHS17	Embankment	Removal or damage for flow diversion and trash screen	Low	Medium	Slight	Avoidance of features if possible with Toolbox talk and Signage OR Archaeological monitoring and full detailed recording after vegetation clearance	Imperceptible
Survey Area 15	Athea	CHS14-16	Field boundary ditches	Use of machinery for nearby works	Low	Medium	Slight	Toolbox talk and Signage	Imperceptible
Survey Area 19 (Instream Works Area G)	Gortnagross	CHS30	Stone culvert	Culvert upgrade	Low	Medium	Slight	Archaeological monitoring and full detailed recording after vegetation clearance	Imperceptible

Survey Area 19 (Instream Works Area G)	Gortnagross	CHS31	Stone structure and timbers	Regrading of stream	Medium	Medium	Moderate	Avoidance of features if possible with Toolbox talk and Signage OR Archaeological monitoring and full detailed recording after vegetation clearance	Imperceptible to Slight
Survey Area 19 (Instream Works Area G)	Gortnagross	CHS32	Possible unrecorded archaeological materials	Excavation and gravel removal	Low	Medium	Slight	Archaeological monitoring	Imperceptible
Do Nothing Scenario	-	-	*Cultural Heritage near or within water courses including unrecorded heritage and historic structures (RPS sites)*	*Flooding creating hydrological impacts such as scouring and undercutting.*	*Low to High*	*Medium*	*Slight to Significant*	*Overtime, impacts can build creating more long-term and intensive damage*	*Moderate to Very Significant*

15 Bibliography

15.1 Documentary Sources

Becker, K., Ó Néill, J., and O'Flynn, L. 2008. Iron Age Ireland: Finding an Invisible People. Final Report to the Heritage Council. Project 16365.

Bourke, L. 1996. A Watery End: Prehistoric Metalwork in the Shannon. *Archaeology Ireland* 10(4), 9–11.

Breathnach, P. 2017. *Creamery Attacks.* In Crowley, J., O Drisceoil, D., Murphy, M., and Borganovo, J. (eds.) *Atlas of the Irish Revolution.* Cork. Cork University Press.

The Editors of Encyclopaedia Britannica. 2024. Desmond. *Britannica.* *https://www.britannica.com/place/Desmond-historical-region-Ireland*

Burke, B., Fox-Davies, A. 1912. *A Genealogical and Heraldic History of the Landed Gentry of Ireland.* London. Harrison.

Cherry, J. 2009. Landlords, Estates, Demesnes and Mansion Houses in County Limerick. In Irwin, L., Ó Tuathaigh, G., and Potter, M. (eds.) *Limerick: History and Society.* Dublin. Geography Publications.

Collins, T. and Coyne, F. 2003. Fire and Water… Early Mesolithic Cremations at Castleconnell, Co. Limerick. *Archaeology Ireland* 17(2), 24–7.

Collins, T. and Coyne, F. 2006. As Old as We Felt… *Archaeology Ireland* 20 (4), 21.

Curtin, G. 2009. Land Tenure, Farm Economy, Labour and Society in West Limerick 1820–45. In Irwin, L., Ó Tuathaigh, G., and Potter, M. (eds.) *Limerick: History and Society.* Dublin. Geography Publications.

Curtin, G. 2012. *Every Field Had a Name: The Place-Names of West Limerick*. Gneeveguilla. Sliabh Luachra Historical Society.

Dolley, M. 1969. The Medieval Coin-Hoards of Thomond. *Journal of the North Munster Archaeological Society* 12, 23–34.

Dowd, M. and Carden, R. 2016. First evidence of a Late Upper Palaeolithic human presence in Ireland. *Quaternary Science Reviews* 139, 158–63.

Eogan, G. 1983. *The Hoards of the Irish Later Bronze Age.* Dublin. University College Dublin.

Harbison, S. 1989. William of Windsor and the Wars of Thomond. *The Journal of the Royal Society of Antiquaries of Ireland* 119, 98–112.

Kerry County Council. 2022. The Archaeology of Kerry - An Overview. *Draft Kerry County Development Plan 2022-2028.* Vol. 3. Kerry County Council.

Krogsrud, L. M. 2012–3. Checklist of Viking-Age Silver Hoards from Ireland. *Journal of the Royal Society of Antiquaries of Ireland* 142/143, 59–73.

Lewis, S. 1837. *A topographical dictionary of Ireland*. London. S. Lewis & Co.

Lomas, R. 2021. *The Normans in Ireland: Leinster, 1167–1247.* Edinburgh. John Donald.

McSweeney, P. 2024. Architectural Heritage Impact Assessment On Flood Defence Proposals for the Athea Flood Relief Scheme in the Vicinity of Athea Bridge, Athea, Co. Limerick by Limerick City & County Council. Unpublished impact assessment.

Murphy, J. (ed.) 2009. *The Desmond Survey.* Cork. Corpus of Electronic Texts, University College Cork. https://celt.ucc.ie/published/E58000-001.html

Ó Danachair, C. 1971. The Shannon in Military History. *North Munster Antiquarian Journal* 14(9), 53–64.

O'Byrne, E. 2009. The Crown of England, the Common Law, and Conflict: The Communities of Limerick 1170–1270. In Irwin, L., Ó Tuathaigh, G., and Potter, M. (eds.) *Limerick: History and Society.* Dublin. Geography Publications.

O'Halloran, W. 1916. *Early Irish History and Antiquities and the History of West Cork.* Dublin. Sealy, Bryers and Walker.

O'Sullivan, A. 2001. *Foragers, Farmers and Fishers in a Coastal Landscape: An Intertidal Archaeological Survey of the Shannon Estuary.* Dublin. Royal Irish Academy.

Pirour, M. and Beechinor, S. (eds.) 2008. *Annals of the Four Masters.* Cork. Corpus of Electronic Texts, University College Cork. https://celt.ucc.ie/published/T100005B/index.html

Simington, R.C. 1938. *The Civil Survey County of Limerick A.D. 1654-1656.* Vol. IV. Dublin. The Stationery Office.

Spellissy, S. 1989. *Limerick: The Rich Land.* Dublin. Spellissy and O'Brien Publishers.

Stout, M. 2017. *Early Medieval Ireland 431–1169.* Dublin. Wordwell Ltd.

University of Galway. 2024. Goold/Verschoyle Goold. *Landed Estates.* *https://landedestates.ie/estate/2195*

Waddell, J. 2010. *The Prehistoric Archaeology of Ireland.* Galway. Galway University Press.

Westropp, T. 1905. A Survey of the Ancient Churches in the County of Limerick. *Proceedings of the Royal Irish Academy* 25, 327–480.

Woodman, P., Anderson, E. and Finlay, N. 1999. *Excavations at Ferriter's Cove, 1983–95: Late Foragers, First Farmers in the Dingle Peninsula.* Wicklow. Wordwell Ltd.

15.2 Other Sources

Down Survey of Ireland: https://downsurvey.tchpc.tcd.ie/index.html

Geological Survey of Ireland (GSI): www.gsi.ie

Historic Environment Viewer, National Monuments Service (NMS): www.archaeology.ie

Irish Statute Book (ISB): www.irishstatutebook.ie

Limerick Development Plan 2022–2028: https://www.limerick.ie/council/services/planning-and-placemaking/development-plan-strategies/limerick-development-plan-0

National Folklore Collection: www.duchas.ie

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

National Parks & Wildlife Service: www.npws.ie

Open Topographical Data Viewer: https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=b7c4b0e763964070ad69bf8c1572c9f5

Ordnance Survey of Ireland (OSi): www.osi.ie

Place names Database of Ireland: www.logainm.ie

16 Appendix 1: Figures and Plates

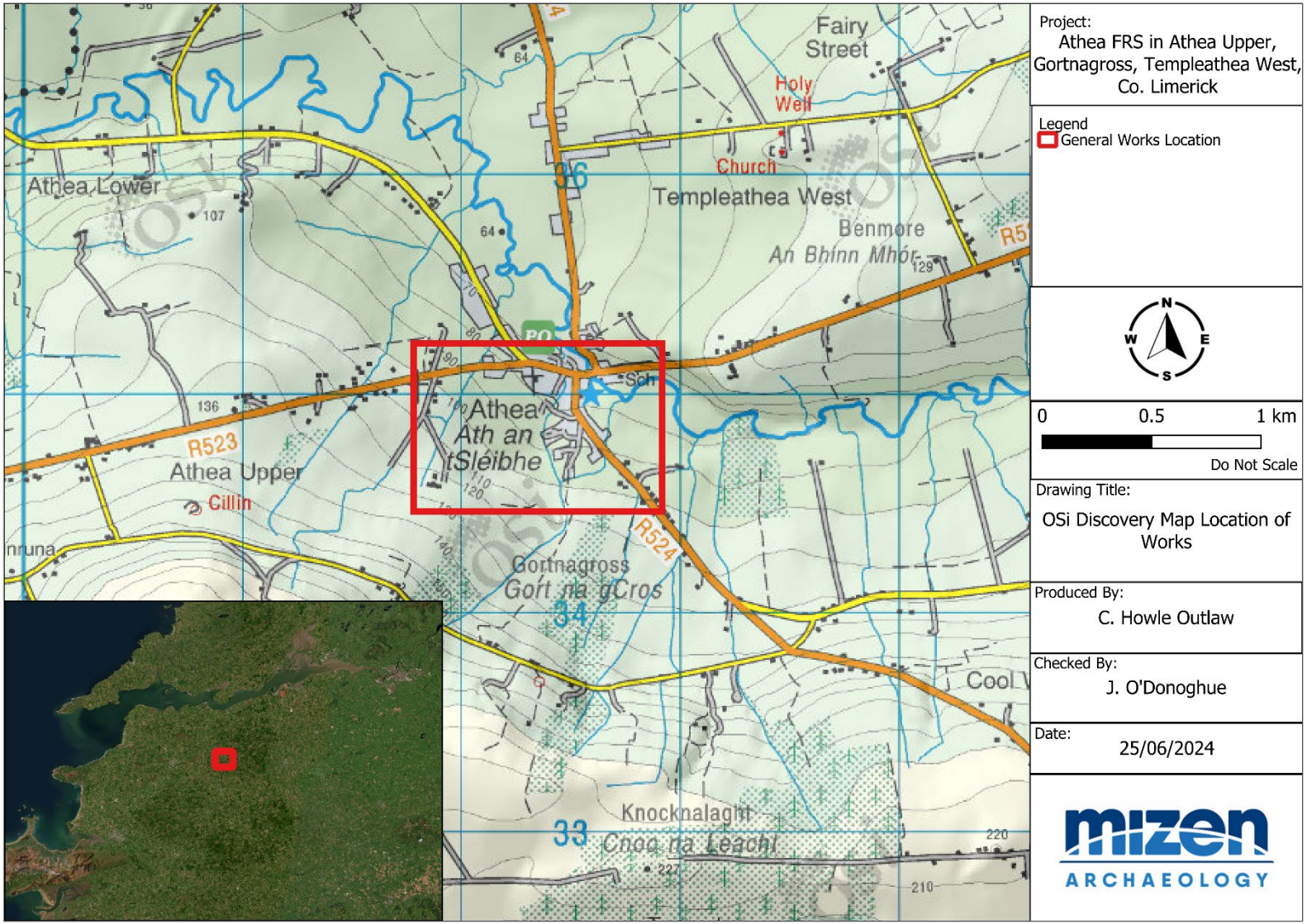


Figure 1: Discovery Map showing location of proposed works

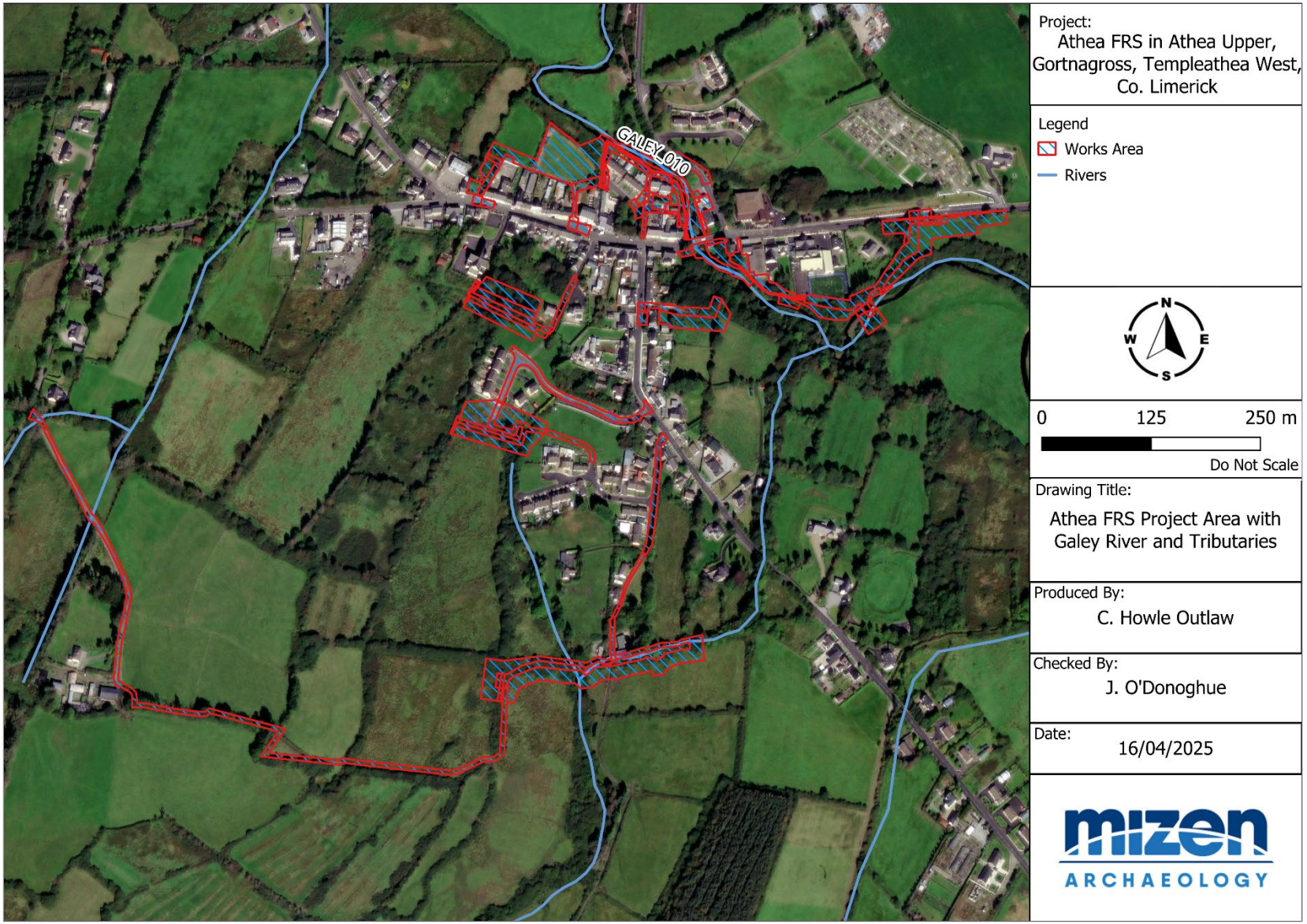


Figure 2: Proposed work areas under consideration for assessment along with relevant watercourses.

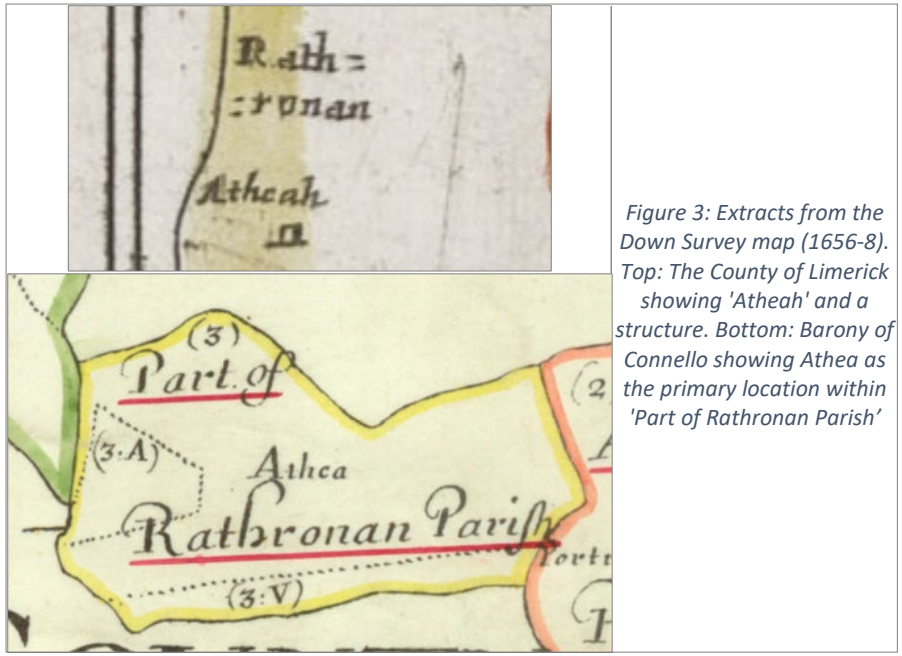


Figure 3: Extracts from the Down Survey map (1656-8). Top: The County of Limerick showing 'Atheah' and a structure. Bottom: Barony of Connello showing Athea as the primary location within 'Part of Rathronan Parish'



Figure 5: Excerpt from Rocque's 1790 Map of the Kingdom of Ireland *showing 'Atheah' at the end of 'R. Galley' off of 'Chasin R.'*



Figure 6: Excerpt from Moll's 1728 The Counties of Clare and Limerick *showing Rathronan at the end of an unnamed river off of 'R. Cashin'.*



Figure 4: Excerpt from Lewis' 1837 Atlas Comprising the Counties of Ireland *Showing the village of Athea on the 'River Geale.'*

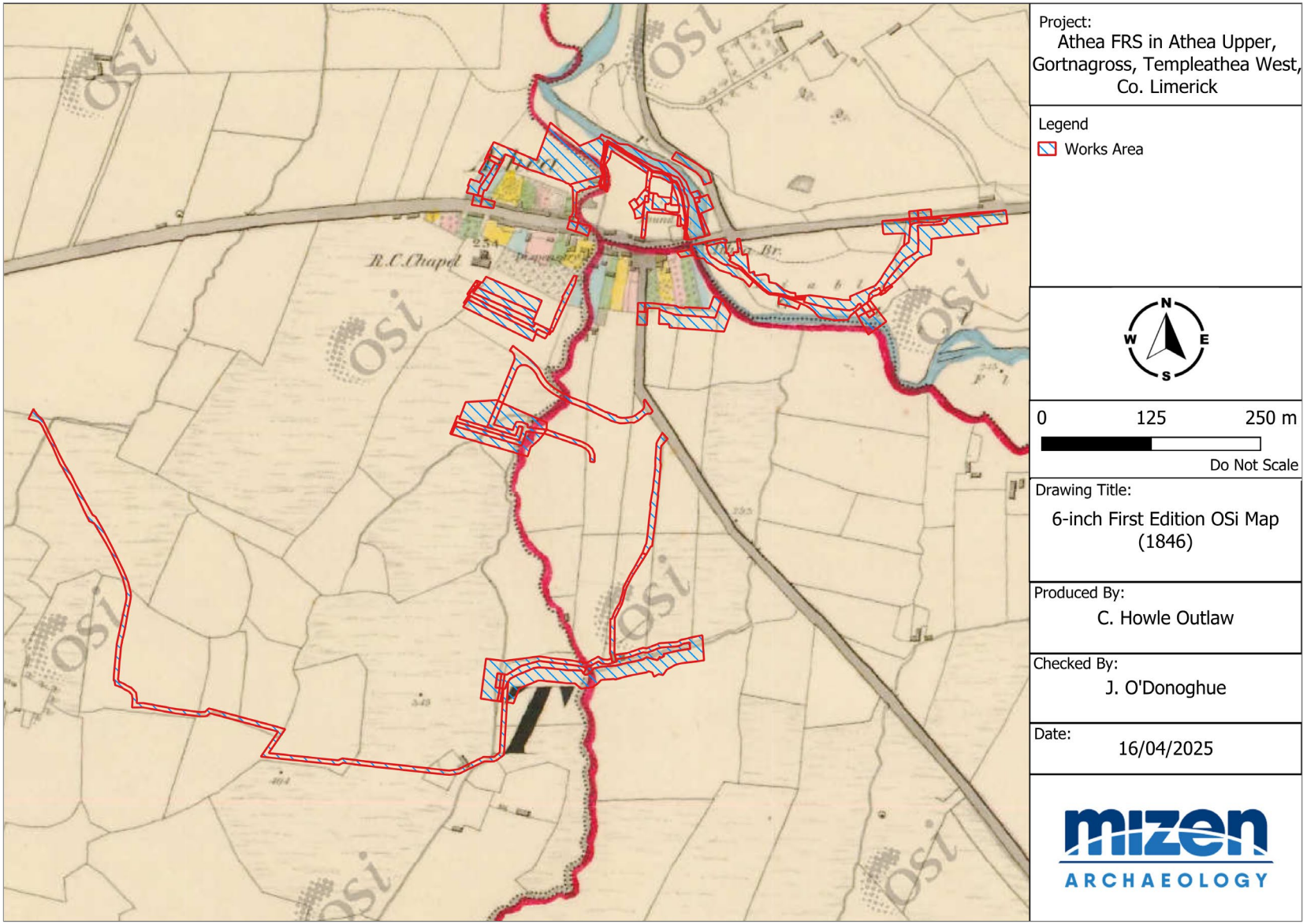


Figure 7: OSi First Edition 6-inch map (1846) of the area of works.

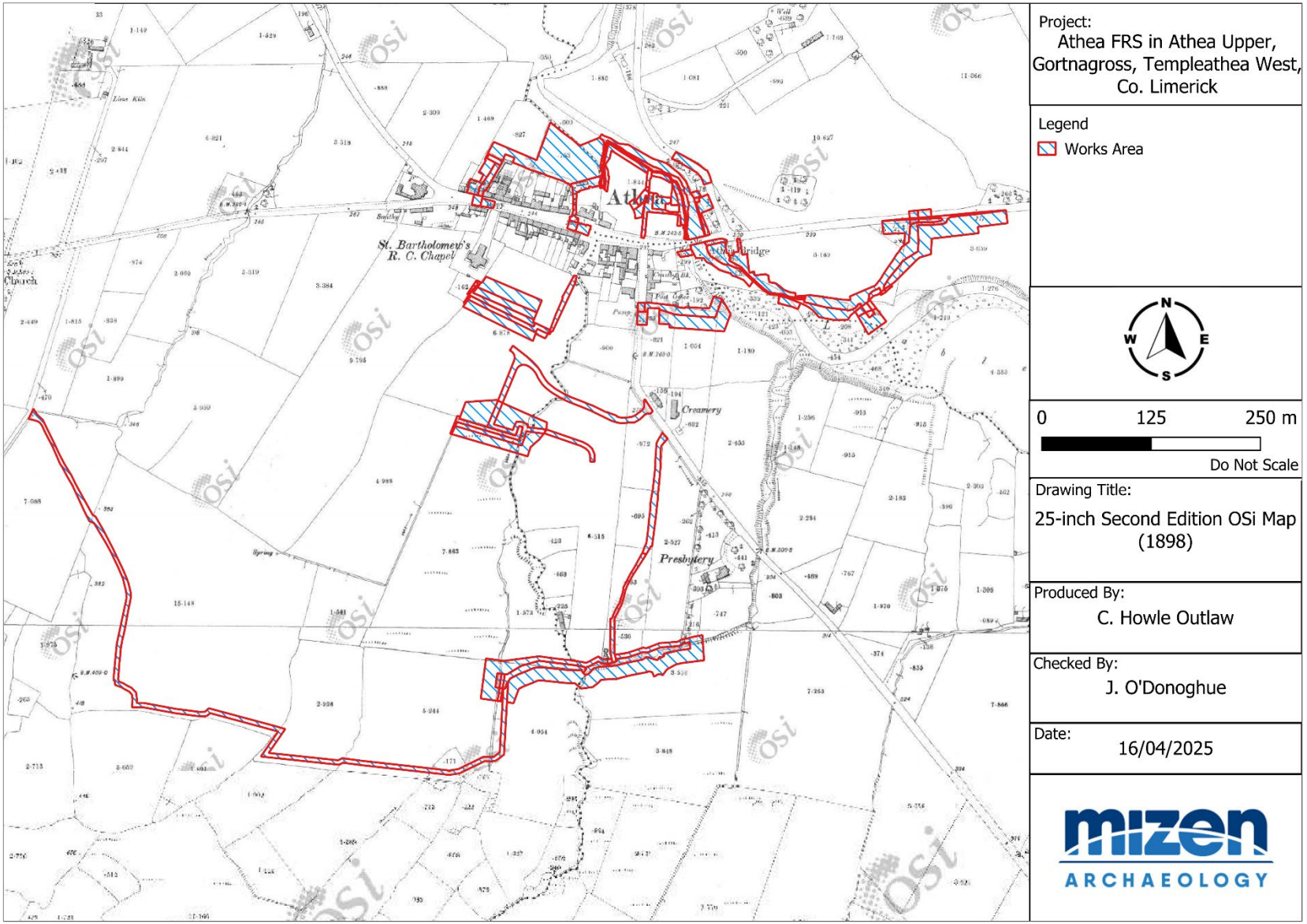


Figure 8: OSi Second Edition 25-inch map (1898) of the area of works.

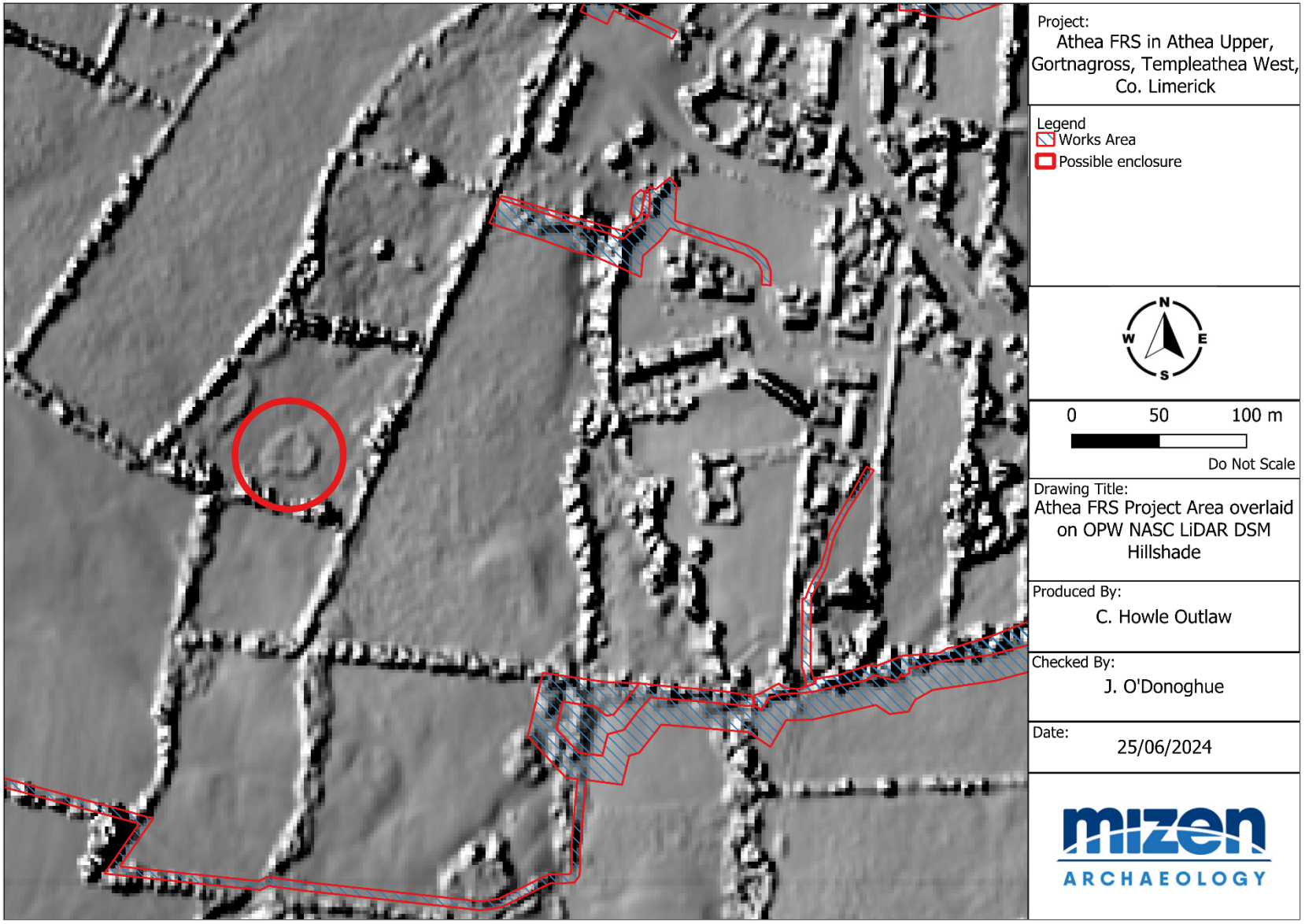


Figure 9: OPW LiDAR hillshade of a section of Athea revealing a potential enclosure.

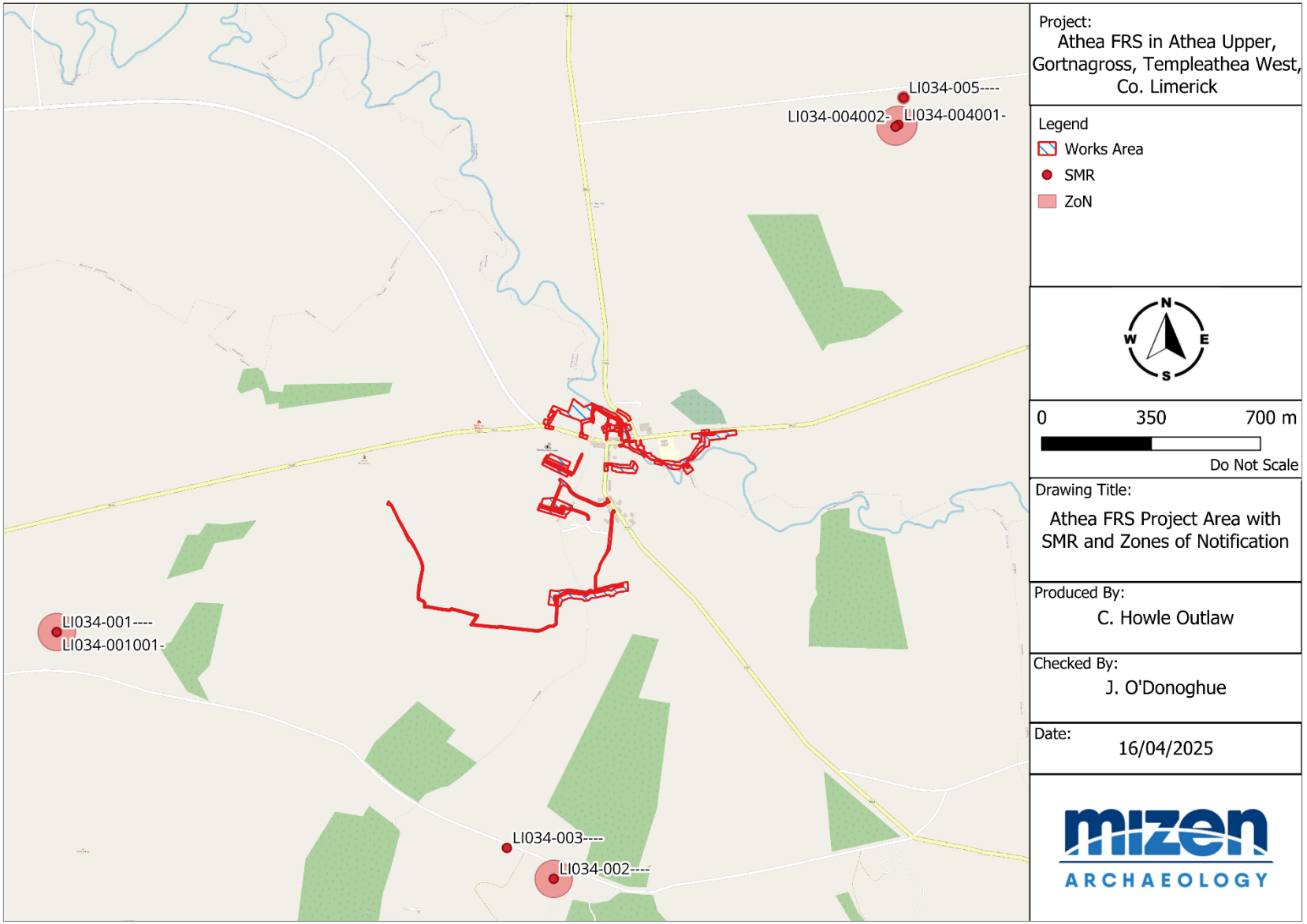


Figure 10: Sites listed on the Sites and Monuments Record within 2km of proposed works.

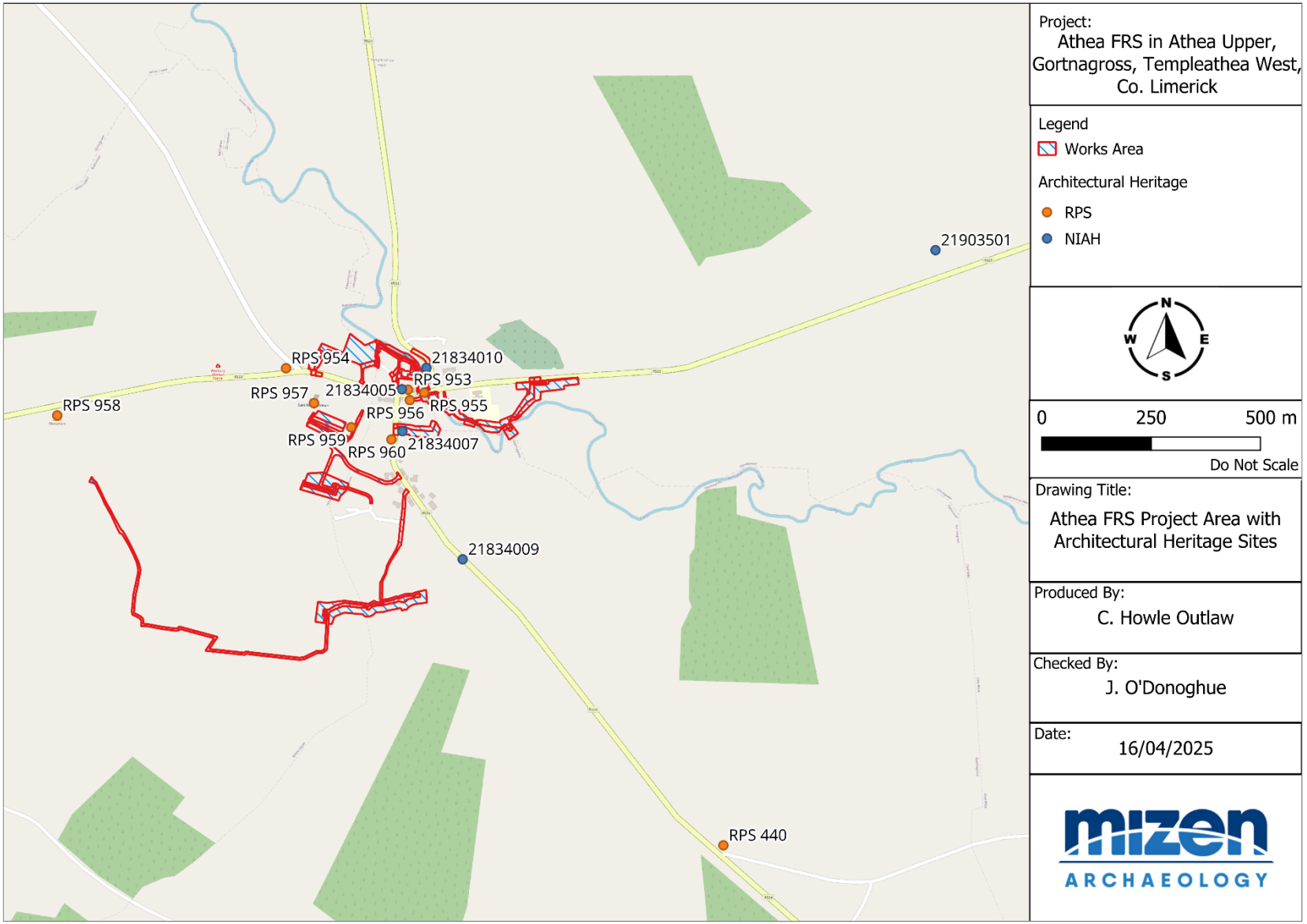


Figure 11: Structures listed on the Record of Protected Structures (RPS) and the National Inventory of Architectural Heritage (NIAH) within the townlands of proposed works.

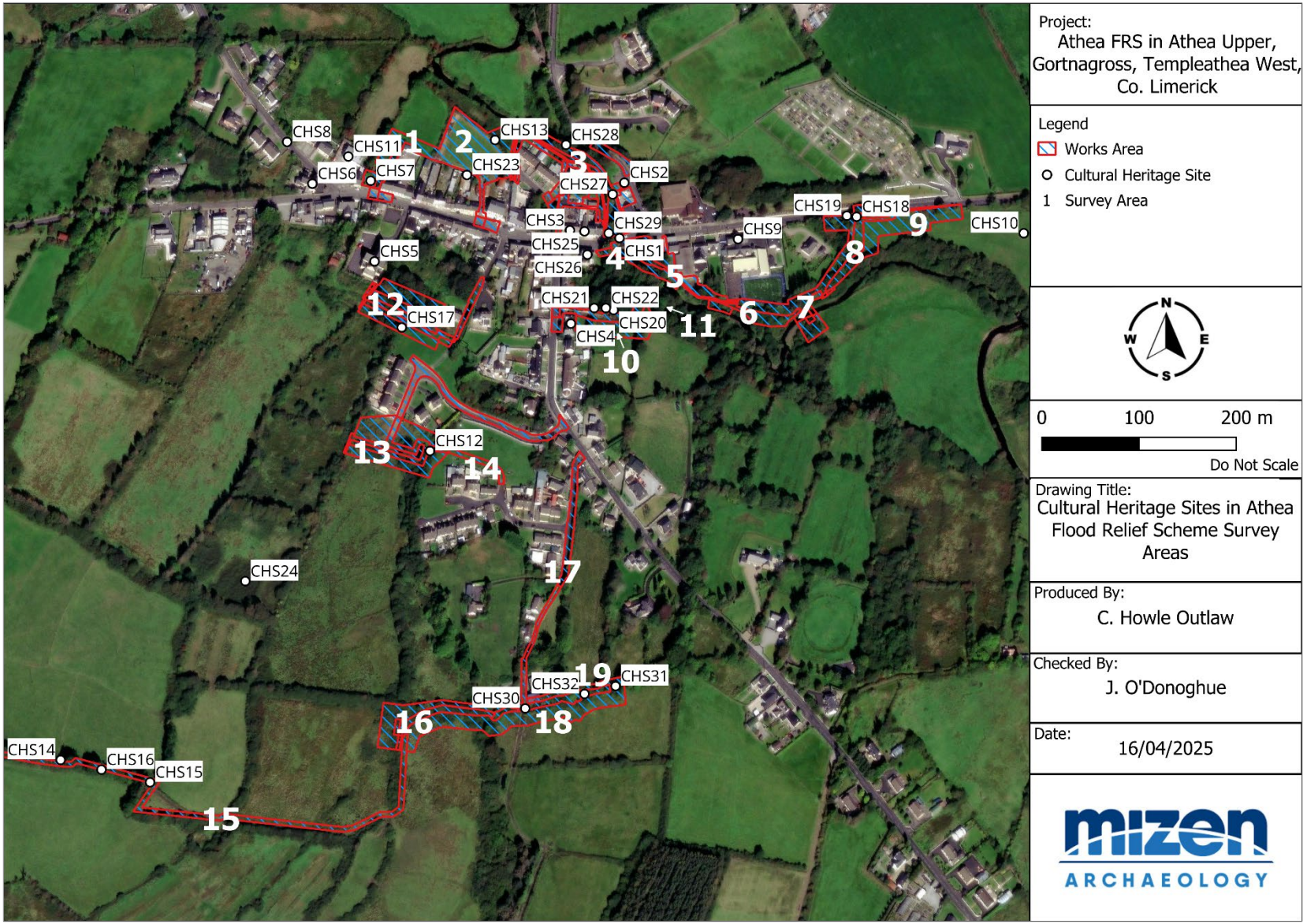


Figure 12: Cultural Heritage Sites and numbered areas surveyed based on proposed works.

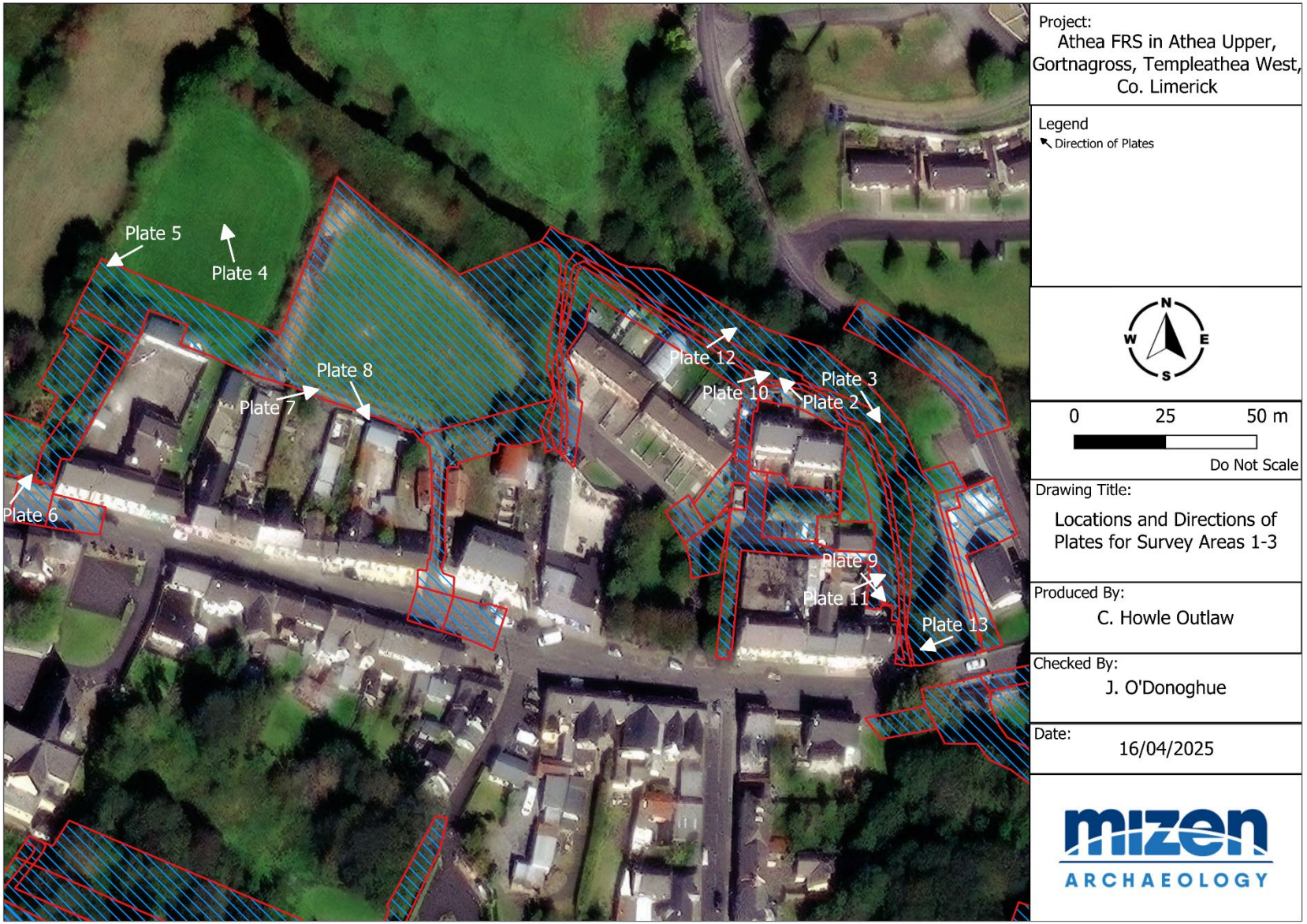


Figure 13: Locations and Directions of Plates for Survey Areas 1-3.

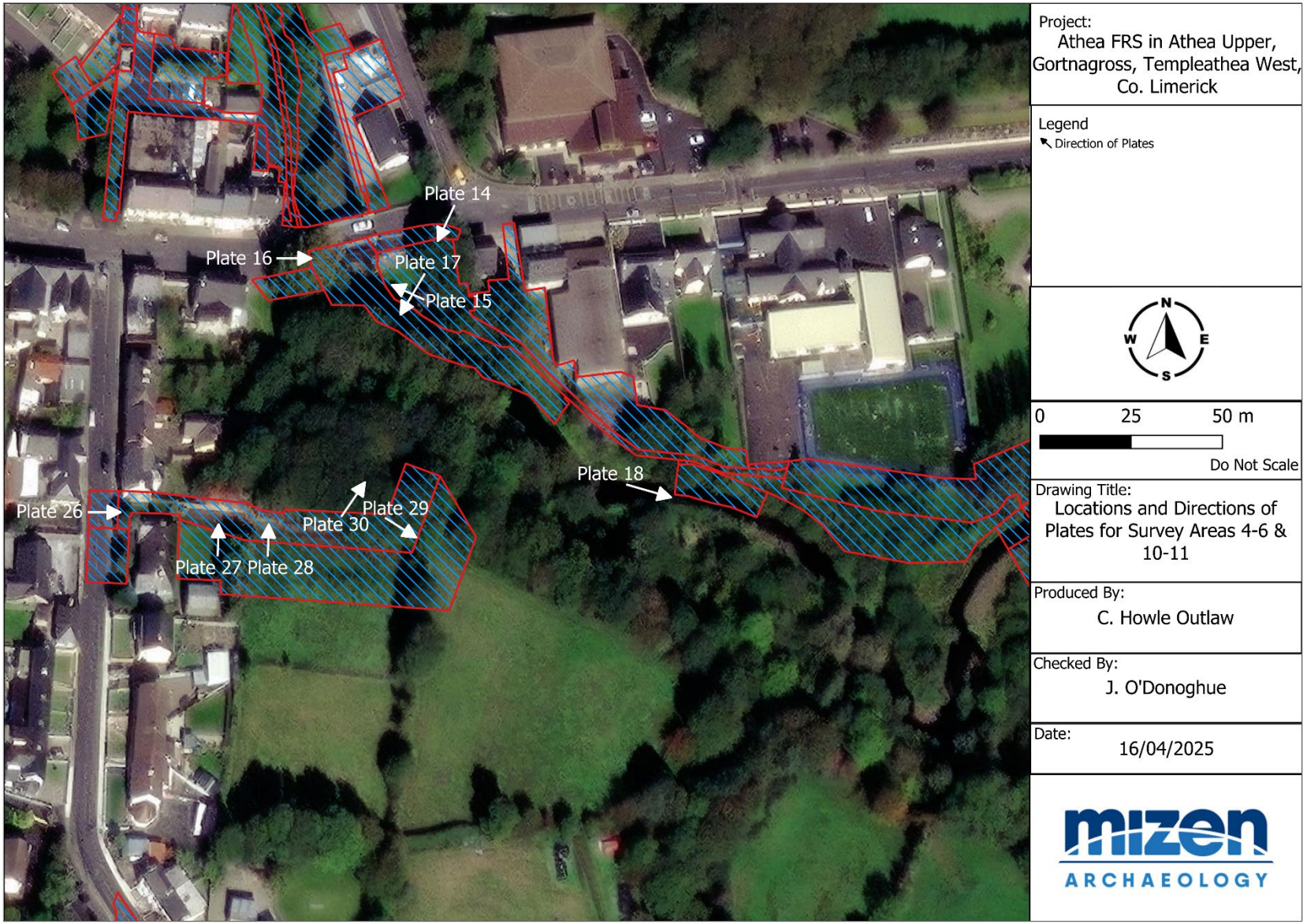


Figure 14: Locations and Directions of Plates for Survey Areas 4-6 and 10-11.

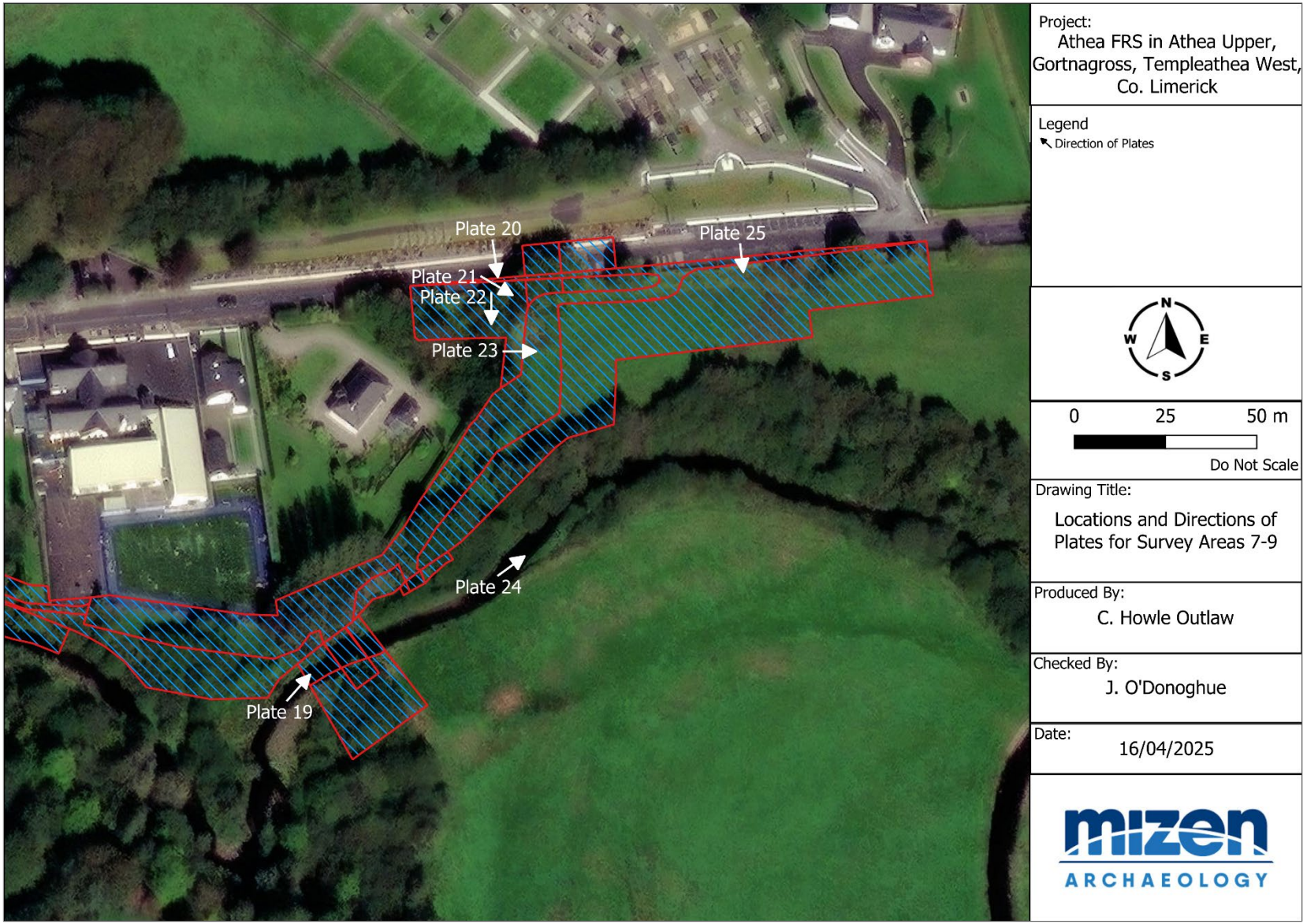


Figure 15: Locations and Directions of Plates for Survey Areas 7-9.

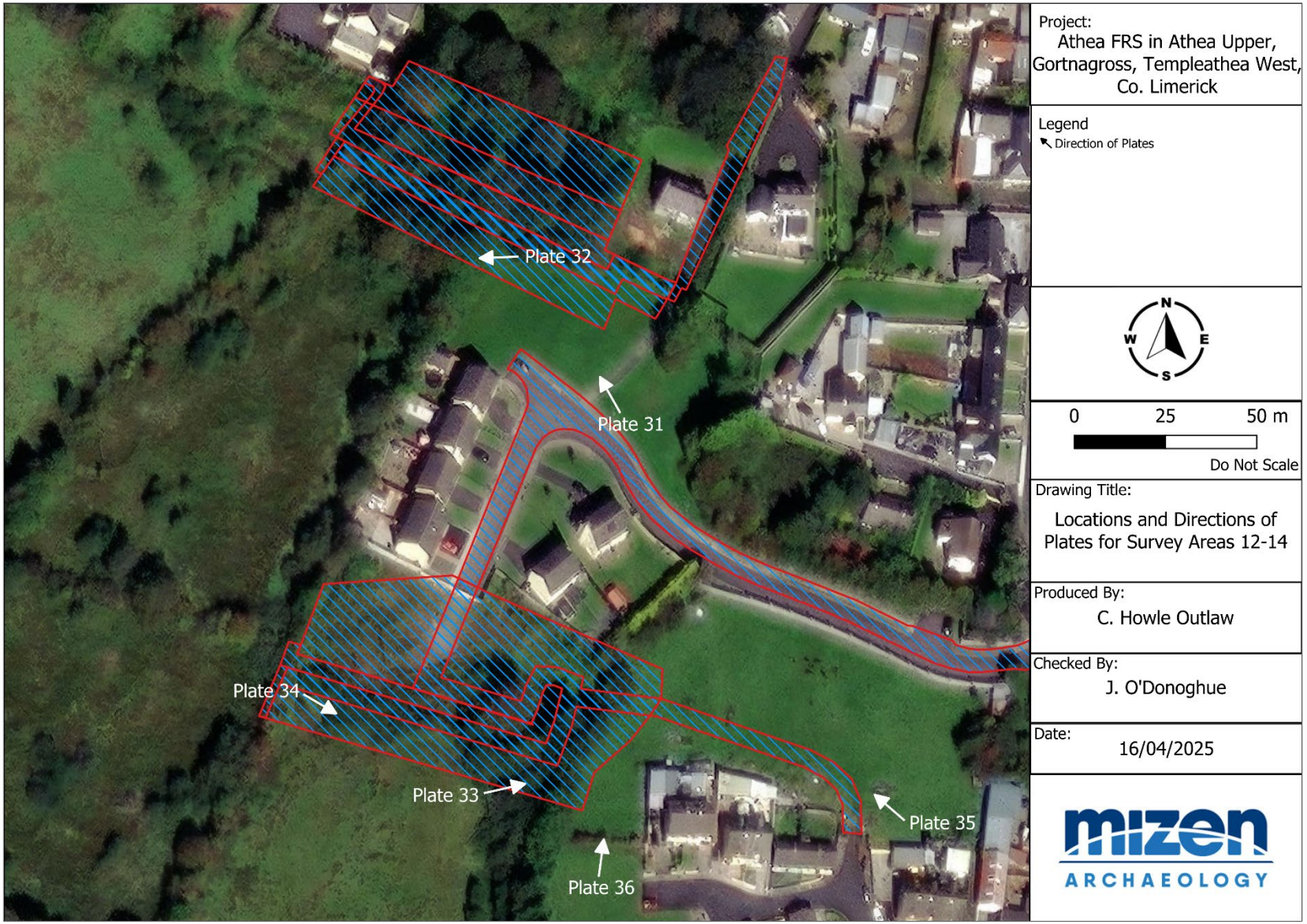


Figure 16: Locations and Directions of Plates for Survey Areas 12-14.

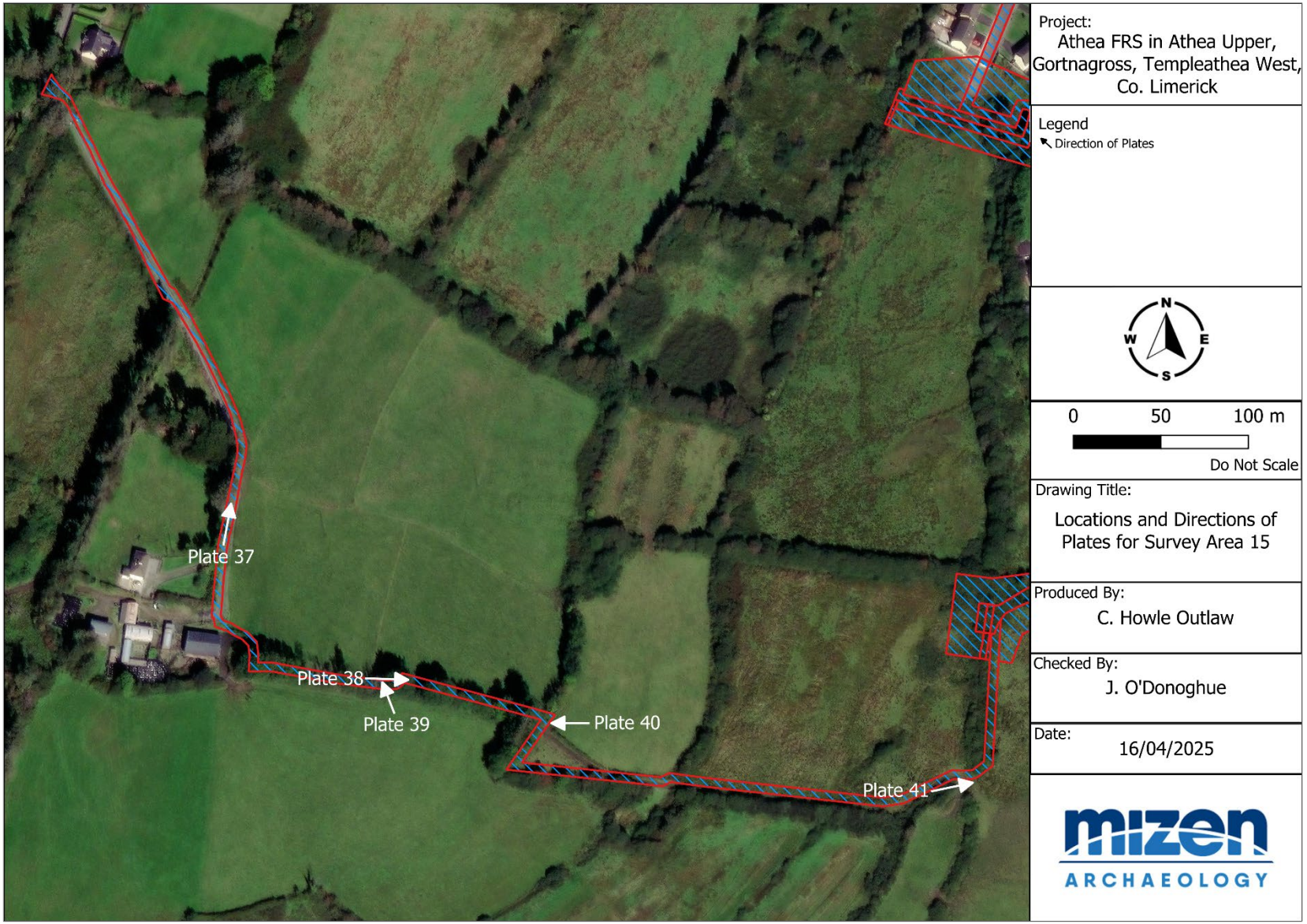


Figure 17: Locations and Directions of Plates for Survey Area 15.

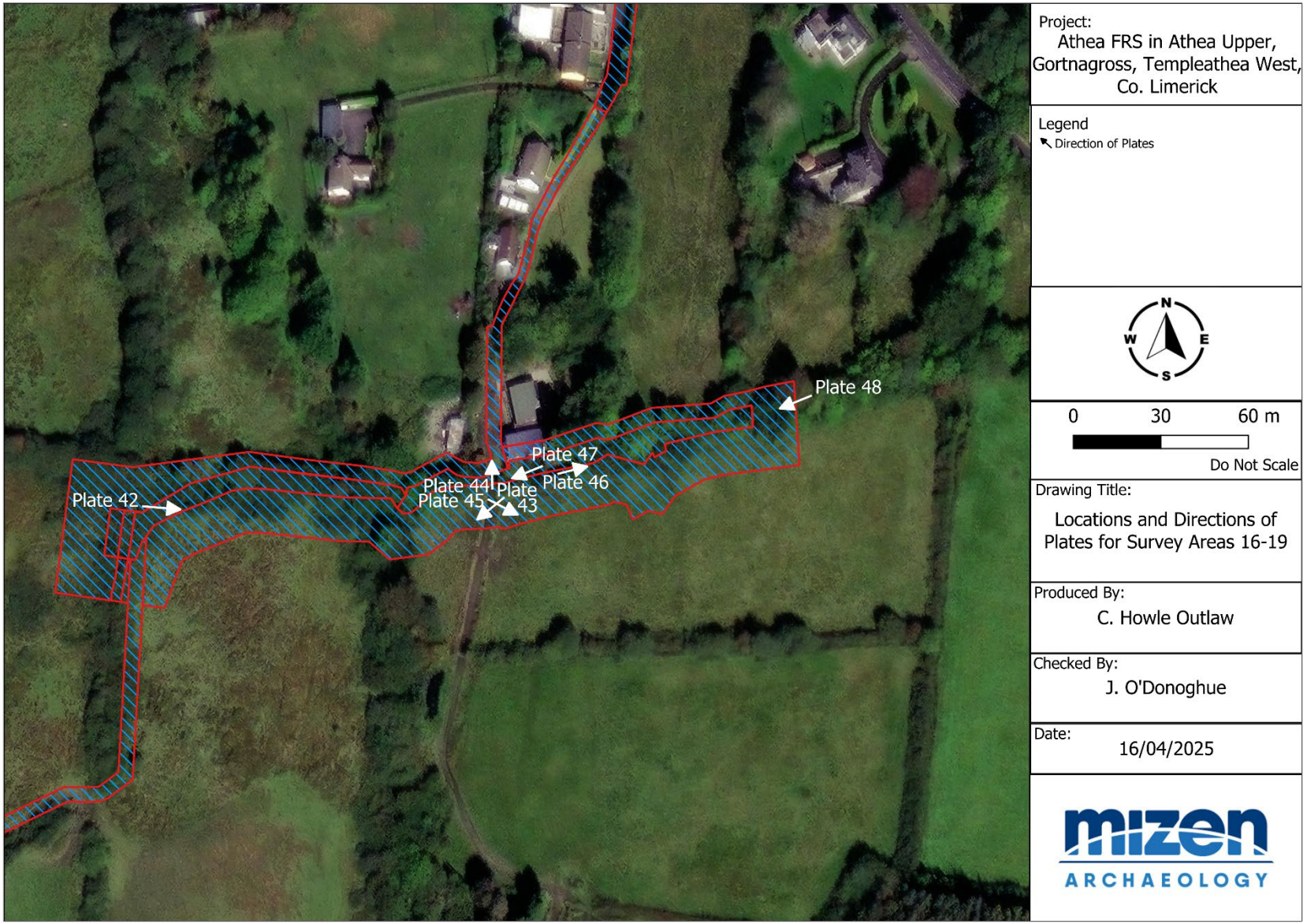


Figure 18: Locations and Directions of Plates for Survey Areas 16-19.



Plate 1: Aerial view of Athea from the northeast.



Plate 2: Working shot of terrestrial survey in Survey Area 3, northwest of Athea Bridge, from the southeast.



Plate 3: Working shot of wade survey in Survey Area 3, Instream Works Area B, from the northwest.



Plate 4: Northern field of Survey Area 1, northwest of Athea Bridge, from the southeast.



Plate 5: Western field boundary ditch in Survey Area 1, northwest of Athea Bridge, from the northeast.



Plate 6: Southern entrance area of Survey Area 1, northwest of Athea Bridge, from the south.



Plate 7: Field in Survey Area 2, northwest of Athea Bridge from the southwest.



Plate 8: Stone structure to the south of the access road in Survey Area 2, northwest of Athea Bridge, from the northwest.



Plate 9: Eastern portion of Survey Area 3, northwest of Athea Bridge, from the northwest.



Plate 10: Northern portion of Survey Area 3, northwest of Athea Bridge, along the Galey River, from the southwest.



Plate 11: Galey River from Survey Area 3, northwest of Athea Bridge, from the southwest.



Plate 12: Possible stone feature (CHS28) in Survey Area 3, Instream Works Area B, from the southwest.



Plate 13: Limestone drain (CHS29) in Survey Area 3, Instream Works Area B, from the east.



Plate 14: Bandstand in Survey Area 4, southeast of Athea Bridge, from the northeast.



Plate 151: Survey Area 4, southeast of Athea Bridge, including Athea Bridge, from the southeast.



Plate 16: Squeeze stile between Athea Bridge and pedestrian bridge in Survey Area 4, southeast of Athea Bridge, from the west.



Plate 17: Stone structure (CHS22) seen from Survey Area 4, southeast of Athea Bridge, from the northeast.



Plate 18: River Galley (CHS27) in Survey Area 6, Instream Works Area D, from the northwest.



Plate 19: The River Galey in Survey Area 7, Instream Works Area E, from the southwest.



Plate 20: Stone wall (CHS19) along Survey Area 8, southeast of Athea Bridge, from the north.



Plate 21: North to south embankment (CHS18) in Survey Area 8, southeast of Athea Bridge, from the northwest.



Plate 22: Trees and brush on west side of Survey Area 8, southeast of Athea Bridge, from the north.



Plate 23: Field on east side of Survey Area 8, southeast of Athea Bridge, from the west.



Plate 24: The River Galey in Survey Area 8, Instream Works Area F, from the west.



Plate 25: Field of Survey Area 9, southeast of Athea Bridge, from the north.



Plate 26: Entrance path alongside the Garda Station of Survey Area 10, east of Athea Garda Station, from the west.



Plate 27: Modern dilapidated shed and older stone structure (CHS21) along northern border of Garda Station garden in Survey Area 10, east of the Garda Station, from the south.



Plate 28: Stone structure (CHS22) to the east of CHS21 in Area 10, east of the Garda Station, from the south. Raised causeway with old tree line borders the south with supporting stone wall (CHS20) continuing east from the southern wall.



Plate 29: Field of Survey Area 11, east of Garda Station, from the northwest.



Plate 30: Stream connecting Survey Areas 11 and 5 from the southwest.



Plate 31: Greenfield in Survey Area 12, southeast of St. Bartholomew's, from the southeast.



Plate 32: Overgrown embankment in Survey Area 12, southeast of St. Bartholomew's, from the east.



Plate 33: Stream between Survey Areas 13 and 14, south of Rathronan, from the southwest.



Plate 34: Field in Survey Area 13, south of Rathronan, from the northeast.



Plate 35: East side of field in Survey Area 14, south of Rathronan, from the southeast.



Plate 36: West side of field in Survey Area 14, south of Rathronan, from the south.



Plate 37: A portion of Con Colbert Street Upper in Survey Area 15, south of Hillside Drive, from the south.



Plate 38: Part of the farm access path in Survey Area 15, south of Hillside Drive, from the west.



Plate 39: West field boundary ditch (CHS14) in Survey Area 15, south of Hillside Drive, from the southeast.



Plate 40: East to west field boundary ditch (CHS16) in Survey Area 15, south of Hillside Drive, from the east.



Plate 41: Continuation of Survey Area 15 into western field of Survey Area 16, south of Hillside Drive, from the southwest.



Plate 42: Western field of Survey Area 16, south of Hillside Drive, from the west.



Plate 43: Eastern field of Survey Area 16, south of Hillside Drive, from the northeast.



Plate 44: Portion of farm lane in Survey Area 17, south of Hillside Drive, from the south atop the culvert.



Plate 45: Field of Survey Area 18, south of Hillside Drive, from the northwest.



Plate 46: Unnamed stream (CHS32) in Survey Area 19, Instream Works Area G, from the west.



Plate 47: Stone crossing with concrete culvert (CHS30) in Survey Area 19, Instream Works Area G, from the south.



Plate 48: Stone feature (CHS31) in Survey Area 19, Instream Works Area G, from the east.



Plate 49: Aerial view of Survey Area 1, northwest of Athea Bridge.



Plate 50: Aerial view of Survey Areas 1 and 2, northwest of Athea Bridge.



Plate 51: Aerial view of Survey Area 3 and part of Area 2, northwest of Athea Bridge.



Plate 52: Aerial view of part of Survey Area 3 and Areas 4 and 5 along the River Galey.



Plate 53: Aerial view of Survey Areas 7, 8, and 9, southeast of Athea Bridge.



Plate 54: Aerial view of Survey Area 12, southeast of St. Bartholomew's Church.



Plate 55: Aerial view of Survey Area 13, south of Rathronan.



Plate 56: Aerial view of Survey Area 14, south of Rathronan.



Plate 57: Aerial view of Survey Area 15, south of Rathronan, from the east.



Plate 58: Aerial view of Survey Area 16, south of Rathronan, with a portion of Area 17 path visible.



Plate 59: Aerial view of Survey Area 18, south of Rathronan, with a portion of Area 17 path visible.

Appendix E - LETTER FROM LCCC CONSERVATION OFFICER

Comhairle Cathrach & Contae Luimnigh
Limerick City & County Council

Pleanáil, Oidhreacht agus Corn Ryder
Comhairle Cathrach agus Contae Luimnigh
Cé na gCeannaithe
Luimneach

Planning, Heritage and Ryder Cup
Limerick City and County Council
Merchant's Quay
Limerick

15th October 2026

An Coimisiun Pleanala,
64 Marlborough Street,
Dublin 1
D01 V902

RE: Proposed Gravel Removal Works at Athea Bridge, Co. Limerick;
Record of Protected Structures Reg. No. 955;
National Inventory of Architectural Heritage Ref. No. 21834011.

To Whom it Concerns,

I refer to the above project and can confirm that I have been briefed on the scope of the proposed interventions.

From the perspective of safeguarding the architectural heritage I recommend, at a minimum, that the following Conditions be attached:

A/. All works in the vicinity of Athea Bridge, a Protected Structure, and within its setting, shall be supervised on an ongoing basis by a Conservation Architect accredited to Grade 2 by the Royal Institute of the Architects of Ireland. The supervising conservation architect shall be empowered to participate fully in all briefings and meetings, will be responsible for ensuring that interventions made accord with the statutory and regulatory provisions allowed for in respect of protected structures, and that materials and methodologies utilised are compatible with historic and traditionally built fabric and are not harmful to sites of ecological significance.

Upon completion of the works, the supervising architect shall certify to the planning authority, to the authority's satisfaction, that the specified works have been carried out in accordance with best conservation practice in the field architectural heritage.

Reason- To protect the architectural heritage in the interests of the common good and the proper planning and sustainable development of the area.

B/. The fabric, fixtures and features of the Protected Structure are to be protected against damage during the course of the works. Any shields or protective barriers erected or installed should not be attached to any element of the bridge's structure insofar as practicable, and must be wholly reversible without loss of material, or damage to the structure, in accordance with the Principles of Conservation.

Reason – To protect the architectural heritage in the interests of the proper planning and sustainable development of the area.

Comhairle Cathrach & Contae Luimnigh
Limerick City & County Council

Pleanáil, Oidhreacht agus Corn Ryder
Comhairle Cathrach agus Contae Luimnigh
Cé na gCeannaithe
Luimneach

Planning, Heritage and Ryder Cup
Limerick City and County Council
Merchant's Quay
Limerick

C/. Appropriate records must be kept of all works undertaken. These records should include: Archival Standard Photographs taken before, during, and after the completion of each stage of the work; Specifications; Schedule of Works undertaken; Difficulties encountered and their resolution; Modifications to Method Statements, and so forth. Two Copies of the final report, including photographs and records, are to be submitted to Limerick City and County Council (one to the Development Control Section of the Planning Department, the second to the Conservation Officer) upon completion of the project.

Reason – To protect and record the architectural heritage in the interests of the common good and the proper planning and sustainable development of the area.

Yours faithfully,

Shona O Keeffe
Executive Architectural Conservation Officer.

Appendix F - LETTERS OF CONSENT FROM LANDOWNERS

Damien Ahern

~~Domhnall~~ Barry
Chairperson,
Athea Community Council,
Athea,
Co. Limerick
Folio No. LK55301F
19th October 2026

An Coimisiun Pleanala,
64 Marlborough Street,
Dublin 1,
D01 V902.

Re: Proposed gravel removal works at Athea Bridge, Athea, Co. Limerick

Dear Sir/Madam,

With reference to the proposed works above, I wish to confirm that I hereby give my consent to Limerick City and County Council and/or their agents to undertake these works on our lands (Folio No. LK55301F).

Yours faithfully,

Damien Ahern
Chairperson
Athea Community Council

Tony Costello,
Gale View,
Templeathea,
Co. Limerick
Folio No. LK20540
02nd October 2026

An Coimisiun Pleanala,
64 Marlborough Street,
Dublin 1,
D01 V902.

Limerick City & County Council
RECEIVED
20 OCT 2026
Customer Service Post
Boorddaya

Re: Proposed gravel removal works at Athea Bridge, Athea, Co. Limerick

Dear Sir/Madam,

With reference to the proposed works above, I wish to confirm that I hereby give my consent to Limerick City and County Council and/or their agents to undertake these works on my lands (Folio No. LK20540).

Yours faithfully,

Tony Costello

Margaret & Timothy Scanlon,
Templeathea,
Co. Limerick
Folio No. LK28130
02nd October 2026

Limerick City & County Council
RECEIVED
13 OCT 2026
Customer Services Post
Kilradoyle

An Coimisiun Pleanala,
64 Marlborough Street,
Dublin 1,
D01 V902.

Re: Proposed gravel removal works at Athea Bridge, Athea, Co. Limerick

Dear Sir/Madam,

With reference to the proposed works above, we wish to confirm that we hereby give my consent to Limerick City and County Council and/or their agents to undertake these works on our lands (Folio No. LK28130).

Yours faithfully,

Margaret Scanlon & Tim Scanlon SNR. 12-OCT-2026

Margaret & Tim Scanlon

With every community, we redefine what's possible.

Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

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