
LEITRIM COUNTY COUNCIL

MODIFICATIONS AND IMPROVEMENT WORKS TO THE SHEEMORE HERITAGE TRAIL, FROM LEITRIM VILLAGE TO THE ACCESS POINT OF SHEEMORE HILL, SHEEMORE, CO. LEITRIM

ENVIRONMENTAL FEASIBILITY STUDY REPORT

OCTOBER 2021

Leitrim County Council
Áras an Chontae,
Townparks,
Carrick-On-Shannon,
Co. Leitrim,
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1 INTRODUCTION & DESCRIPTION

The Sheemore Heritage Trail project consists of proposed Modifications and Improvement Works to the Sheemore Heritage Trail from Leitrim Village to the access point of Sheemore Hill, County Leitrim, namely;

1. Construction of a 55m walking/cycling greenway recreational trail on private lands at Ballinwing Townland.
2. Construction of a 650m walking/cycling greenway recreational trail on the existing disused road/trackway between the R-209 and L-7420 at Ballinwing Townland.
3. Development of the Sheemore Visitors Carpark Facility at Keonbrook Townland.
4. Construction of a turnstile at the access point to Sheemore Hill at Sheemore Townland.
5. Provision of associated signage in the townlands of Tullylannan, Killarcan, Ballinwing, Keonbrook and Sheemore.

This Environmental Feasibility Report specifically refers to areas within the overall Sheemore Heritage Trail Project, i.e., the construction of 705m of walking/cycling greenway recreational trail, the development of the Sheemore Visitors Car Park Facility and turnstile access to the Sheemore Hill Trail head.

Leitrim County Council commissioned Jennings O'Donovan to provide a feasibility study to inform a proposal to develop a modifications and improvement works to the Sheemore Heritage Trail incorporating development of a new walking/cycling greenway recreational trail, a visitors carpark facility, a turnstile (on an engineered plinth to provide means of access to Sheemore Hill) as well as all directional and safety signage associated with the Sheemore Heritage Trail, which from this point forward shall be referred to as the Proposed Development.

The principal objective of this feasibility study is to identify the potential environmental effects of the proposed modifications and improvement works and make recommendations to help avoid or minimise any potential significant impacts identified.

1.1 BACKGROUND

Sheemore Hill is located just under 3 kilometres northeast of Leitrim village, County Leitrim. It is a prominent limestone hill within the local landscape.

The exposed limestone bedding outcrop making up its eastern and northern flanks display mature solution hollow cavities which indicate it being an outlier limestone hum that survived ice sheet

denudation through one or more glacial periods. Its elevated profile within the locally marked drumlin and river basin landscape it occupies may be attributed to this fact. Other than its recent geological heritage the cultural heritage significance of Sheemore Hill is a separate significant feature of note.

The summit of Sheemore is marked by a distinguished passage tomb complex and its lower slopes and immediate environs also showcase a significant number of listed, largely prehistoric, archaeological state monuments. Furthermore, Sheemore Hill has become synonymous in local folklore with a number of mythological stories and texts and music referencing the landmark and its position in the wider landscape. Indeed, the hill and its environs host a number of elements that would have been important resources for any early human settlement in prehistoric times.

1.2 GENERAL DESCRIPTION

The modifications and improvement works to the Sheemore Heritage Trail includes the construction of 705m walking/cycling greenway recreational trail which will be connected to a pre-existing tourism trail along the Shannon Erne Canal Walkway that originates on the outskirts of Leitrim village 1.6km north-west of the western extent of the walking/cycling greenway recreational trail . Heading southeast and then northeast on an existing route along local roads, the walking/cycling greenway recreational trail continues northeast on a disused road/trackway to eventually join the L7402 road which meanders east to the access point of Sheemore Hill. . The elevation of the Greenway ranges from approximately 50.6m to 67.7m.

It is proposed to develop the Sheemore Visitors Carpark Facility directly across from the access point to Sheemore Hill in Keonbrook townland to the north of the L7402. . It is also proposed to discharge surface water drainage emanating from the Sheemore Visitors Carpark Facility to a nearby drain 98m north-west of the Sheemore Visitors Carpark Facility site.

A turnstile on an engineered concrete plinth including a pedestrian counter is proposed to provide the means of access to the Sheemore Hill trail head on the south side of the L7402 (opposite the visitors' carpark facility) in Sheemore townland.

Fingerpost directional signage will be provided at road junctions between Leitrim village and Sheemore Hill trail posts will be provided at approximately every 500 metres along the total length of the Sheemore heritage trail. Safety signage will be provided where the trail route intersects with public roads.

The proposed Detailed drawings of the proposed development can be found in Appendix A.

1.3 SITE DESCRIPTION

The feasibility study area location and scope are limited to two key elements.

1. The development of a 921m² area Sheemore Visitors Carpark Facility on the L7402 public road, directly opposite the existing informal Sheemore Hill trail start point. The carpark will

accommodate 19 car park spaces (including two disability car park spaces), six bike racks and information boards detailing Sheemore’s archaeological, cultural, and ecological heritage. The Sheemore Visitors Carpark Facility will comprise a separate entrance and exit gate with directional signage installed to advise on route of travel to onward destinations. A 98m long section of discharge pipe will be laid on an approximate north-west south-east direction axis, commencing from the north-west corner of the Sheemore Visitors Carpark Facility. The drainage pipe will discharge (via a hydrocarbon interceptor) treated surface water runoff from the Sheemore Visitors Carpark Facility area.

2. Installation of kissing gates and upgrade of an existing 650m disused road between L3390 and L7402 to form a walking/cycling greenway recreational trail from Shannon Erne Canal to a proposed car park on L7402 and construction of a 55m walking/cycling greenway recreational trail on private lands at Ballinwing Townland.

The listed elements described above are being proposed to with minimal intervention facilitate safe and managed visitor access to Sheemore Hill and its surrounding hinterland and reduce related car parking problems that in recent years has been experienced at Sheemore Hill.

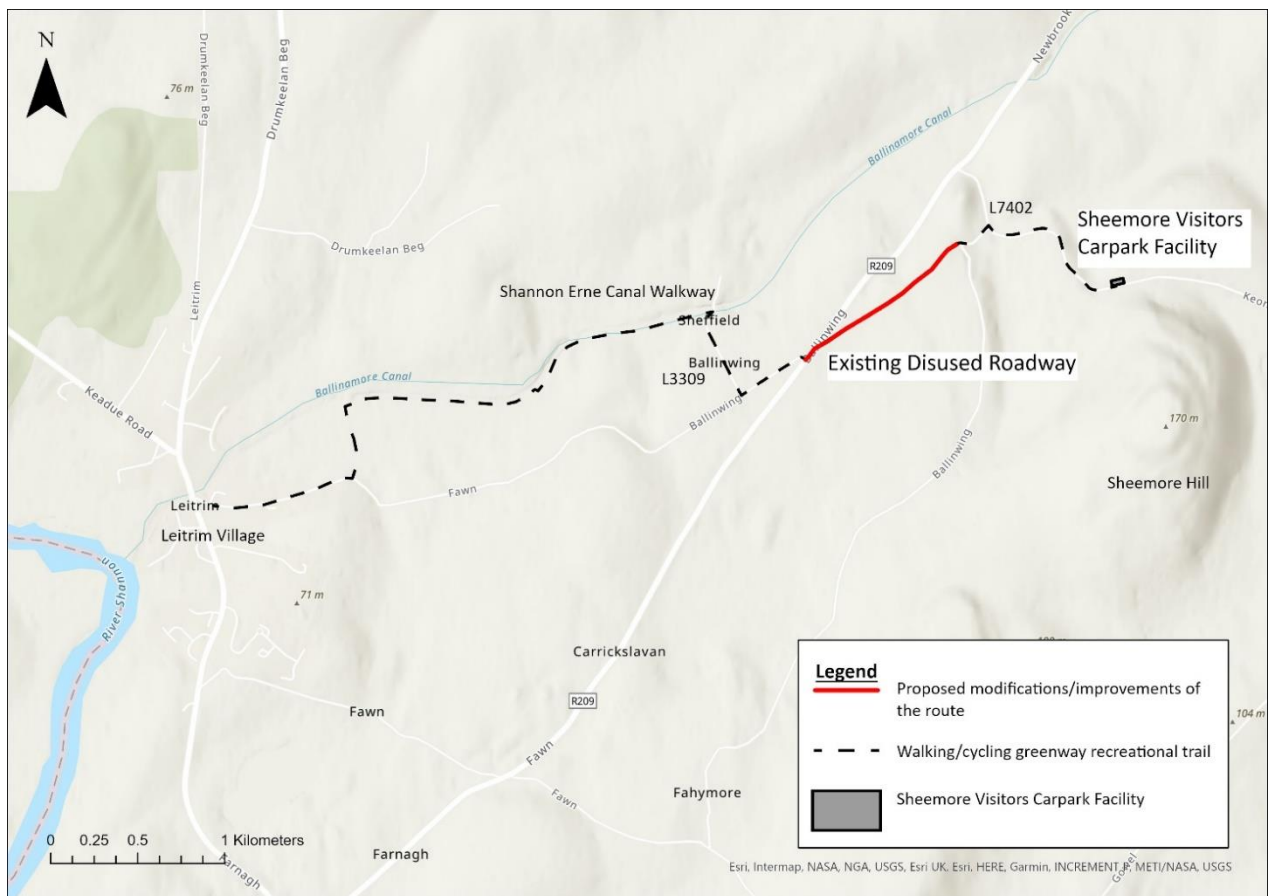


Figure 1.1 Site Location

1.4 PROPOSED BENEFITS

In recent years the Sheemore summit trail has become increasingly popular. Sheemore Hill has traditionally been the setting of Easter associated Christian pilgrimage and related ceremonies. It still attracts many local people walking to the summit each Good Friday and this has resulted in traffic and car parking obstruction problems on the L7402 road around the head of the proposed development. In tandem with the popularity of the Good Friday event Sheemore Hill is also attracting a wider number of recreational users both local and from further afield. With the development of other recreational and tourism facilities in nearby Leitrim village and in Carrick on Shannon, including the development of improved cycling and river boat facilities, Sheemore Hill is year on year witnessing an ever-increasing number of visitors throughout the year.

The terms of reference associated with the proposed development Environmental Feasibility Study as established by Leitrim County Council are;

'...to assess the objective of making Sheemore Hill safely accessible to visitors using minimal interventions, while being compatible with archaeology preservation, ecological conservation and current farming practices on site. The study also aims to celebrate and promote Sheemore's rich archaeological, cultural and natural heritage by consideration of locations and format of discrete interpretation features'.

The proposed development will preserve and promote a cultural connection to natural heritage and history by providing access to monuments and sites of interest while also providing a service for walkers, cyclists and tourists.

1.5 LEGISLATION

Consideration of applicable environmental legislation and policy at national and EU level may influence the development of the proposed development. It is prudent to consider such issues at an early stage to ensure the project progresses in line with such legislation and policy. The relevant legal, planning and policy related requirements are set out in **Table 1.1**.

Table 1.1 Legislation, Policy and Planning

Legislation, Policy & Planning	Constraints/Requirements
EU Legislation	
EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU)	Environmental Impact Assessment (EIA) is a very significant instrument in the implementation of EU environmental policy. The EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU) requires that there is an assessment

Legislation, Policy & Planning	Constraints/Requirements
	of the effects of certain public and private projects on the environment and is designed to ensure that projects likely to have significant effects on the environment are subject to a comprehensive assessment of environmental efforts prior to development consent being given.
Water Framework Directive (2000/60/EC, as amended by Directive 2014/101/EU)	The Water Framework Directive, Commission Directive 2000/60/EC (as amended by Directive 2014/101/EU). All works during the development and operation of the project must aim to protect surface and groundwater. River Basin Management Plan for Ireland 2018-2021.
Habitats Directive (92/43/EEC)	<p>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. During the construction and operation of any plan or project, the integrity of any European Site (i.e., Special Areas of Conservation (SAC), 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) must not be adversely impact, either directly or indirectly.</p> <p>An Appropriate Assessment screening for the project will occur in accordance with Article 6(3) of the Directive.</p>
Birds Directive (2009/147/EC)	The conservation and maintenance of wild bird species present within the study area throughout the year (i.e., both native and seasonal visitors) must be protected during the construction and operation of the project.
Regulation (EU) No. 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species	The prohibition of the spread of invasive species.

Legislation, Policy & Planning	Constraints/Requirements
Commission implementing regulation (EU) 2019/1262 of 25 July 2019 amending implementing regulation (EU) 2016/1146 to update the list of invasive alien species of Union Concern	A list of invasive alien species of Union concern.
Directive 2007/60/EC on the Assessment and Management of Flood Risks	This Directive establishes a framework for the assessment and management of flood risks and aims to reduce and manage the risks to human health, the environment, the economy and cultural heritage related to flooding.
National Legislation	
Wildlife Acts 1976 to 2018	Prohibits the spread of invasive alien species.
Planning and Development Act, 2000 (as amended) Planning and Development Regulations, 2001 (as amended)	Both primary and secondary legislation (acts and regulations) make up the planning code. The Planning and Development Acts, 2000-2017 set out the framework and the Development Regulations, 2001 (as amended) prescribe the detail for the screening for Environmental Impact Assessment which must be undertaken in accordance with these regulations.
European Communities (Birds and Natural Habitats) Regulations 2011, SI 477/2011, as amended	This legislation gives effect to the Birds Directive 2009/147/EC and the Habitats Directive 92/43/EEC. It also prohibits the spread of invasive species by restricting the distribution of plants considered to be harmful.
The Inland Fisheries Act 2010. EU (Quality of Salmonid Waters) Regulations 1988	The development and operation of the project must aim to conserve fish and other species of fauna and flora habitat.; biodiversity of inland fisheries and ecosystems and protect spawning salmon and trout.
The National Monuments Acts 1930-2004. The Heritage Act 1995 Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999.	All works during development and operation of the project must aim to ensure the satisfactory protection of archaeological remains, which are held to include all man-made structures and to protect and where possible preserve architectural heritage.

1.6 PLANNING AND POLICY

1.6.1 PROJECT IRELAND 2040 (NATIONAL PLANNING FRAMEWORK)

The Planning Framework was launched in 2018 and is a high-level strategy guiding planning and development throughout Ireland to ensure that future growth is economically, socially and environmentally sustainable.

The Framework aims to ensure that cities, towns and villages are attractive and can offer a good quality of life through the investment in well-designed public realm including public spaces, streets and recreational infrastructure. Amenities in rural areas, such as activity-based tourism and trails are also included. Built, cultural and natural heritage must be integrated as these intrinsic values define the character of urban and rural areas, adding to their attractiveness and sense of place.

1.6.2 LEITRIM COUNTY DEVELOPMENT PLAN 2015 - 2021

Policies and Objectives supporting the project are set out under the following sections of the Leitrim County Development Plan 2015-2021.

Table 1.2 Policy and objectives of the Leitrim County Development Plan relevant to this project.

Legislation, Policy Planning &	Constraints/Requirements
Tourism	
Policy 1d	<i>It is a policy of the Council to deliver a County Tourism Strategy which will promote the development of tourism in a sustainable manner and encourage the provision of a comprehensive range of tourism accommodation and facilities, subject to location, design criteria, the protection of environmentally sensitive areas and other planning considerations.</i>
Objective 1h	<i>It is an objective of the Council to deliver a County Tourism Strategy which will establish touring routes around the County's natural assets to reduce the 'corridor effect'.</i>
Walking and Cycling	
Objective 29a	<i>It is an objective of the Council to seek opportunities for the development of suitable walking routes, cycle tracks and bridle paths along redundant railway lines and other suitable locations such as along waterways and historical access routes.</i>
Objective 29 (b)	<i>It is an objective of the Council to map suitable recreational routes within the County and to promote and facilitate the development of such routes having cognisance of National policy in this regard and subject to the availability of resources.</i>
Policy 47	<i>It is the policy of the Council to seek to improve the facilities for pedestrians and access facilities for people with special mobility needs in line with the aims of the European Charter of Pedestrian Rights.</i>

Legislation, Policy Planning	Constraints/Requirements
Traffic Management and Car Parking in Towns and Villages	
Objective 42	<i>It is an objective of the Council to seek to upgrade and augment car-parking facilities in towns and villages where the need arises.</i>
Natural Heritage Areas	
Objective 67	<i>It is an objective of the Council to protect the following proposed Natural Heritage Areas and all others as they become proposed during the lifetime of this plan. i.e., 001421 Sheemore Wood.</i>
Trees, Woodlands & Hedgerows	
Policy 83	<i>It is the Council's policy to ensure the preservation of sound deciduous trees, woodlands and native hedgerows, without excessively inhibiting development</i>
Objective 76	<i>It is an objective of the Council to discourage the felling of healthy mature trees to facilitate development and to encourage the retention of healthy mature trees within developments.</i>
Objective 78	<i>It is an objective of the Council to protect and preserve existing hedgerows and minimise their removal. Where their removal is necessary to seek their replacement with new hedgerow material native to the area.</i>
Objective 79	<i>It is an objective of the Council to require a bond in all relevant permissions relating to the retention, relocation or re-establishment of hedgerows, which will be returned on the successful retention, relocation or re-establishment of the hedgerow concerned within a given period.</i>
Landscape	
Policy 100	<i>It is the policy of the Council to permit development in an Area of Outstanding Natural Beauty where the applicant can satisfy the planning authority that it is not practicable to develop in a less-sensitive location and where it is demonstrated that the development will not impinge in any significant way on the character, integrity or uniformity of the landscape.</i>
Objective 80	<i>It is an objective of the Council to protect the following Areas of Outstanding Natural Beauty</i> <i>A1 The Coast</i> <i>A2 Lough Melvin North</i> <i>A3 Aroo, Glenade, Truskmore, Glencar and environs</i> <i>A4 The Doons, Lough Gill and environs</i> <i>A5 Benbo</i> <i>A6 O'Donnell's Rock and Boleybrack</i> <i>A7 Sheemore</i>
Policy 102	<i>It is the Council's policy to protect these views from intrusive development and enhance them by the removal of dereliction and eyesores. Lay-bys and viewing areas will be developed, as appropriate and as funds allow.</i>
Archaeological Heritage	
Policy 105	<i>It is the policy of the Council to promote public awareness of the rich archaeological heritage that exists in County Leitrim.</i>
Objective 92	<i>It is an objective of the Council to promote the County's archaeological heritage as a tourism resource, in partnership with key tourism organisations.</i>
Objective 93	<i>It is an objective of the Council to ensure that any development (above or below ground), within the vicinity of a site of archaeological interest shall not be detrimental to the character of the archaeological site or its setting.</i>

Legislation, Policy Planning &	Constraints/Requirements
Objective 94	<i>It is an objective of the Council to require, where appropriate, that an archaeological assessment be carried out by a suitably qualified person prior to the commencement of any activity that may impact upon the archaeological heritage.</i>
Objective 95	<i>It is an objective of the Council to protect the zones of archaeological potential, as identified in the Record of Monuments and Places.</i>
Objective 96	<i>It is an objective of the Council to protect archaeological sites discovered since the publication of the Record of Monuments and Places.</i>
Recreation & Sports	
Policy 111	<i>It is the policy of the Council to ensure appropriate high-quality recreational and amenity facilities are available in urban and rural areas.</i>
Objective 10.3b	Objective 10.3b – <i>It is an objective of the Council to secure the development of a network of green corridors in a manner that will integrate them with existing and future developments.</i>
Cycling Routes	
Policy 117	<i>It is the policy of the Council to co-operate with representative bodies to support the improvement and development of cycling routes throughout the County in an environmentally-sustainable manner.</i>

1.7 ASSESSMENT OF REQUIRED STATUTORY APPROVAL PROCESS

In addition to a Part 8 Planning Application, Leitrim County Council will have to assess the proposed development in accordance with the legislative requirements for Appropriate Assessment under Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC), the Planning and Development Act 2000 (as amended), and the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477/2011) as amended. An Appropriate Assessment screening is required under Articles 6(3) of the Habitats Directive 92/43/EEC, to determine the extent of constraints regarding European Sites.

2 CONSTRAINTS STUDY

2.1 POPULATION & HUMAN HEALTH

2.1.1 INTRODUCTION

This chapter examines the potential impacts that the proposed development may have on the population and health of residents of the area, during both the construction and operational phases.

The effect of a development on population and human health is also known as the Socio-Economic Impact and as such includes the following broad areas of investigation: -

- Population
- Employment
- Settlement Patterns and Land Use
- Health and Safety
- Tourism

The following resources were used to research this section:

- Central Statistics Office (CSO) Census 2011 www.cso.ie
- Central Statistics Office (CSO) Live Register www.cso.ie
- Central Statistics Office (CSO) Census 2016 www.cso.ie

2.1.2 EXISTING ENVIRONMENT

2.1.2.1 POPULATION

Ireland saw a rapid population growth in the early part of this century with improved standards of living and infrastructure growth. Despite the worsening economic situation in the country since 2008, the 2016 Census showed an increase in population from the 2006 Census. The country has seen a population surge since 1956 from 2,898,264 to 4,761,865 (40% increase) as per the 2016 Census as shown in **Figure 2.1**.

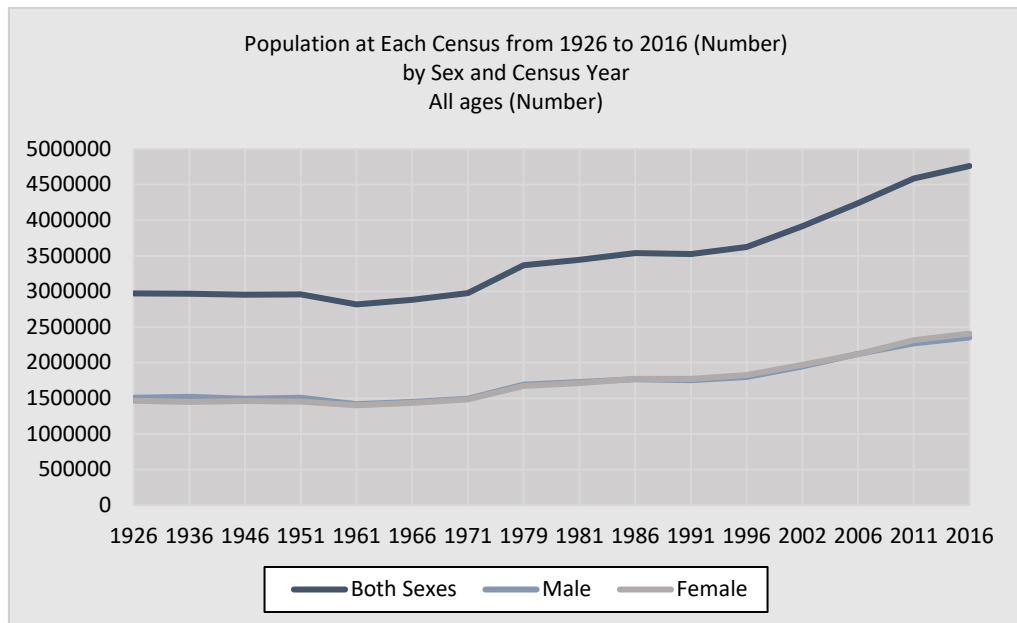


Figure 2.1 Population Trend in Ireland 1926 – 2016 (CSO, 2016)

The population of County Leitrim was 32,044 at the time of the 2016 Census, a 0.7% increase on the 2011 figure of 31,798. The population was at its lowest in 1996 at 25,057 and has slowly grown at an increasing rate since. The population trend from 1926 to 2016 in County Leitrim is displayed on **Figure 2.2**.

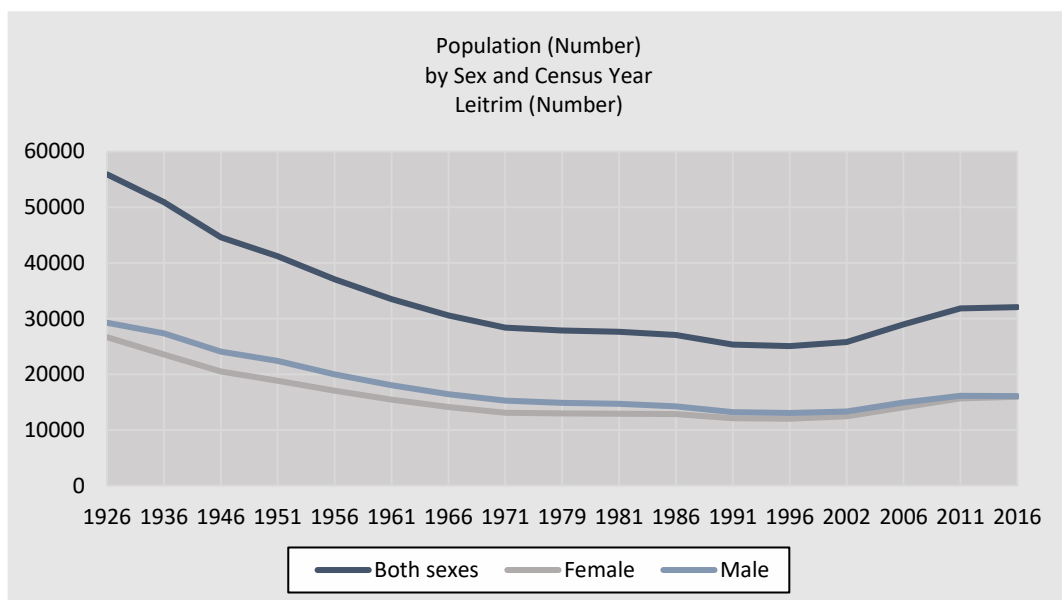


Figure 2.2 Population Trend in County Leitrim 1926 – 2016 (CSO, 2016)

There were 184 individuals resident in Sheemore (Statistical Small Area 117059001, Leitrim) at the time of the 2016 Census.

2.1.2.2 EMPLOYMENT

Employment figures by industry for County Leitrim have been compiled by the Central Statistics Office (CSO). The total number of people employed in each broad occupational group in the County is given in **Table 2.1**.

Table 2.1 Workers by Industry in County Leitrim (CSO, 2011)

Industry	Total
Agriculture, Forestry and Fishing	1,091
Building and Construction	689
Manufacturing	1,465
Commerce and trade	2,383
Transport and communications	567
Public administration	1,005
Professional services	3,201
Other	2,327
Total	12,728

The Commerce and Trade and Professional Services sectors both employ high numbers in County Leitrim. Employment in rural areas is mainly related to agriculture, whereas the towns host most of the manufacturing industries.

Live Register figures for County Leitrim are available from the CSO. At the beginning of the last economic recession, live register figures showed a dramatic increase in unemployment in Leitrim. These figures, presented in **Figure 2.3**, show a marked increase in the numbers of people on social welfare payments, particularly in the years from 2008 to 2011. The Live Register figures for County Leitrim increased by over 200% between 2008 and 2011, from 1,132 in January 2006 to 3,666 in January 2011. Since its peak in 2011, live register figures have improved. Figures from the Central Statistics Office show that there were 1,610 people in County Leitrim on the Live Register at the end of January 2020. This figure is a decrease of approximately 56% since its peak in 2011. However, this figure has increased to 1,647 by the end of January 2021.

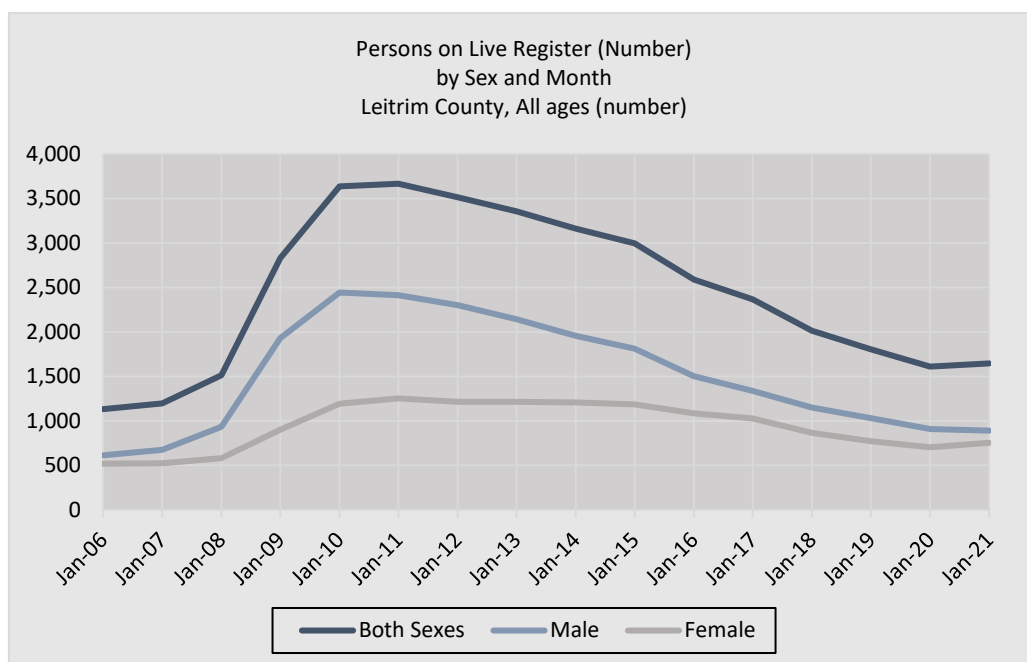


Figure 2.3 Live Register Figures in Co. Leitrim from Jan 2006 – Jan 2021 (CSO, 2018)

The Live Register figures for January 2021 show that 5% of the total population of County Leitrim are unemployed.

Table 2.2 lists the Live Register figures for County Leitrim between January 2006 and January 2021 and breaks these figures down to the two County offices in Carrick-On-Shannon and Manorhamilton. The live register figures in the Carrick-On-Shannon social welfare office, the closest social welfare office to Sheemore shows that the number of people unemployed more than trebled between January 2006 and January 2011, but has since come down, although is still higher than in 2006.

Table 2.2 Live Register figures for County Leitrim and local offices 2006 – 2021 (CSO)

	Jan-06	Jan-07	Jan-08	Jan-09	Jan-10	Jan-11	Jan-12	Jan-13	Jan-14	Jan-15	Jan-16	Jan-17	Jan-18	Jan-19	Jan-20	Jan-21
Carrick-On-Shannon	835	885	1133	2098	2708	2771	2667	2555	2431	2330	2021	1819	1528	1355	1225	1269
Manorhamilton	297	311	381	733	927	895	848	802	732	666	567	547	486	449	385	378
Leitrim County	1132	1196	1514	2831	3635	3666	3515	3357	3163	2996	2588	2366	2014	1804	1610	1647

2.1.2.3 SETTLEMENT PATTERNS

Leitrim has a higher rural population, with approximately 89% of the population living in rural areas (outside of towns of less than 1,000 population). Of the urban based population, the largest population centre is Carrick-On-Shannon, with a population of over 4,062, followed by Manorhamilton with 1,466 and Kinlough with 1,032.

2.1.2.4 POPULATION HEALTH AND SAFETY

From results of the 2016 census 27,497 persons in County Leitrim stated they were in very good or good health, representing approximately 85.8% of total persons. This compares to approximately 87% of total persons nationally. 520 persons stated they were in bad or very bad health, representing 1.6% of total persons in this county. This compares with approximately 3% of total persons nationally for the same year.

Any development project, in its construction phase in particular, has the potential to affect health and safety of workers and the public.

2.1.2.5 LAND USE

The CORINE 2018 landcover for the proposed development is dominated by agricultural lands including pasture lands (CORINE Code 231) and land principally occupied by agriculture with significant areas of natural vegetation (CORINE Code 243).

The proposed development are located entirely within the Bricklieve Limestone Formation. This bedrock formation is described by the Geological Survey of Ireland as a '*Bioclastic cherty limestone*'. The quaternary sediments at the site of the proposed development are classified 'Till derived from limestones'. Other subsoils within the vicinity of the proposed development include Sandstone till (Devonian), Alluvium (undifferentiated), Limestone till (Carboniferous) and Karstified limestone bedrock at surface.

The proposed development overlies bedrock which is classified as a 7,063km² "*Regionally Important Aquifer – Karstified (conduit)*" with groundwater vulnerability ranges from '*Extreme*' vulnerability – '*E*' to '*Rock near surface or karst - X*'. This suggests that the groundwater in this area is more susceptible to pollution. However, the Carrick-On-Shannon Ground Waterbody (IE_SH_G_048) which underlies the proposed development was classed as having a Ground Waterbody Water Framework Directive (WFD) Status 2013-2018 of 'Good' with a Ground Waterbodies risk under '*Review*'. This same aquifer caters for many boreholes, wells and springs throughout its 7,063km² area.

There was a spring recorded on a historic map (1888-1913) approximately 390m to the south-east of the proposed location of the Sheemore Visitors Carpark Facility and a well recorded approximately 475m southwest of the Sheemore Visitors Carpark Facility (**Figure 2.1.4**). However, there are no springs or wells recently recorded within the vicinity of the site in recent years.

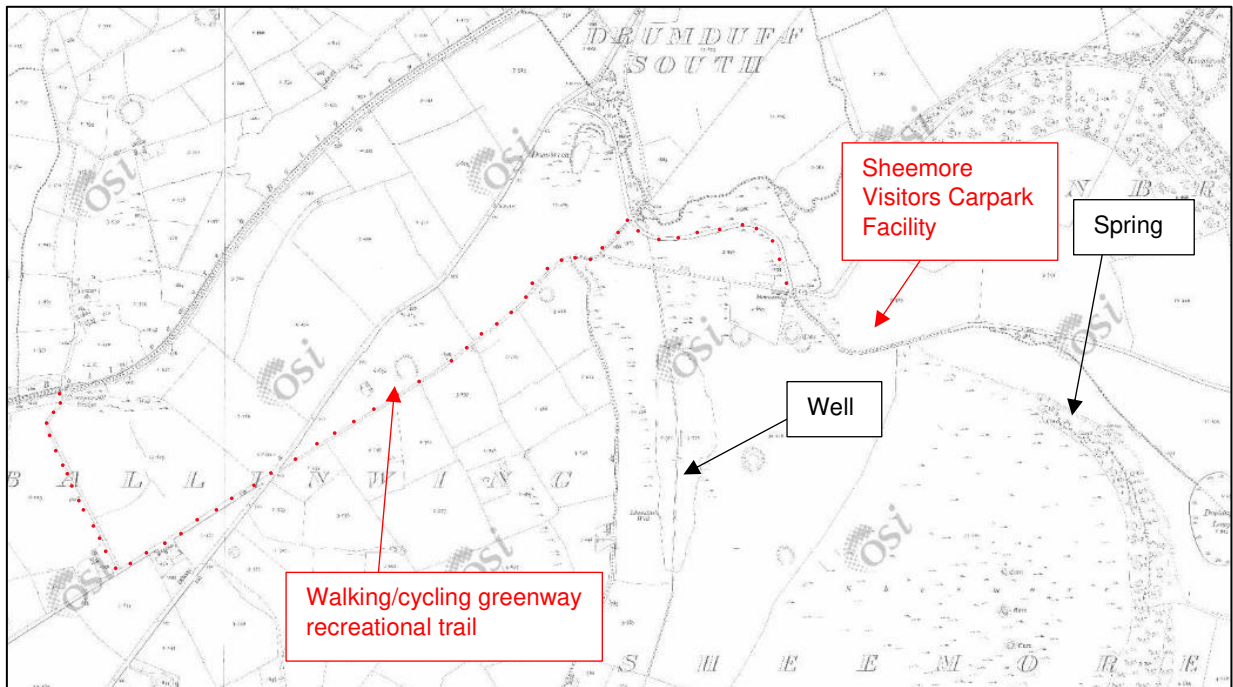


Figure 2.4 Historical map (1888-1913)

2.1.2.6 TOURISM

County Leitrim is an important area for tourism and recreation from angling to hill walking and abundance of natural beauty such as Glencar Waterfall, Sliabh an Iarainn and Shannon-Erne Blueway. The Leitrim County Development Plan 2015-2021 describes Sheemore as one of seven 'Areas of Outstanding Natural Beauty' which should be protected. Recently, there has been an increase in activity at Sheemore Hill which has resulted in higher traffic and vehicle parking volumes along the roadside to the north of the hill. The proposed development should attract and provide convenience to tourists and locals wishing to avail of the walking/cycling greenway recreational trail and ease traffic obstruction potential.

2.1.3 IDENTIFIED CONSTRAINTS

2.1.3.1 POPULATION

This project does not contain a housing or services element and is not considered to have any direct positive or negative impact on the local or regional population levels. The location of the Sheemore Visitors Carpark Facility to the walking/cycling greenway recreational trail at Sheemore Hill may offset obstruction on the L7402 road and could attract increased visitor numbers and residents by improving accessibility of the walking/cycling greenway recreational trail. However, pedestrians, cyclists and other walking/cycling greenway recreational trail users would have to use sections of bended road on the L7402 and L3390 while also crossing the R209. This has potential to introduce new pedestrian and cyclist safety risks at these shared roadway intersections. The design of the project has evaluated the application of motor traffic calming measures and use of safety signs to indicate the likely greater incidence of pedestrian and cyclist use in these areas.

2.1.3.2 EMPLOYMENT

The employment provided by this development in the construction and operational phases is not likely to greatly affect the overall regional or county employment profile. Indirect employment benefits may accrue as part of the increased revenue spend recreational tourism will bring to business in the local area.

2.1.3.3 SETTLEMENT PATTERNS

As this development contains no housing element, the predicted effect on the immediate settlement patterns is slight to non-existent. However, there is a possible benefit which would accrue to the region in terms of the potential for greater local and inward investment in the area stemming from increased revenue spend recreational tourism opportunities, some of which may go into providing accommodation and residency in the nearest population centres such as Leitrim village.

2.1.3.4 POPULATION HEALTH AND SAFETY

Physical health and safety concerns are twofold: -

- Construction workers and members of the public during construction
- Members of the public during operation

There is the risk on all construction sites of accidents resulting in serious injury and/or death. Members of the public and employees of the contractors working on site may be exposed to potentially dangerous situations. With the establishment of a Health and Safety Plan for the construction phase, potential accidents can be avoided and mitigated against.

Off site, construction related traffic might also pose a danger to the public on narrow roads or in poor weather conditions. The adherence to the rules of the road and general good driving practice will reduce the severity of this impact.

Currently, the limited verge areas on a section of the L7402 is being used by visitors to Sheemore Hill to park their vehicles. The operation of the proposed development will remove parked cars on the stretch of road to the north of Sheemore Hill but any increased use of the Sheemore Visitors Carpark Facility also introduces a new risk for pedestrians, cyclists and other walking/cycling greenway recreational trail users on the L7402, L3390 and R209.

There may be a requirement for maintenance works on all elements of the infrastructure during the operational phase and in this case the potential impacts will be the same as those during construction with the same mitigation measures being implemented.

The potential risk posed by hydrocarbons entering groundwater is high at the proposed location of the Sheemore Visitors Carpark Facility. The regionally important aquifer that underlies it caters for many

boreholes, wells and springs throughout its total area of 7,063km². The installation of a hydrocarbon or oil separator tank and implementation of Sustainable Drainage Systems (SuDS) is recommended to prevent or limit potential harm to human health arising from deterioration of the local groundwater resource.

2.1.3.5 LAND USE

Currently the Sheemore Visitors Carpark Facility is used for agriculture (pasture) and the proposed walking/cycling greenway recreational trail is made up of existing road structures, part of which is currently disused.

2.1.3.6 TOURISM

The proposed development will attract and provide convenience to tourists and locals wishing to avail of this service while also easing vehicle obstructions on the L7402. This has the potential to be a moderate positive effect in the local community and should see a slight increase in tourism in the area.

There may be some disruption during the construction phase due to construction traffic. However, this will be a temporary minor negative effect.

The operation of the proposed development will remove parked cars on the stretch of road to the north of Sheemore Hill, namely the L7402 but may create a risk for walking/cycling greenway recreational trail users as sections of existing roads are included in the walking/cycling greenway recreational trail. The design of the project has evaluated the application of motor traffic calming measures and / or use of safety signs to indicate the likely greater incidence of pedestrian and cyclist use in these areas.

2.2 BIODIVERSITY

2.2.1 INTRODUCTION

This section comprises an ecological assessment for the proposed development in Sheemore, Co. Leitrim. Emphasis is placed on identification and assessment of habitats and species of conservation value. Notable habitats and species have been addressed within and details of an Ecology and Appropriate Assessment Screening Report can be found in **Appendix B**.

2.2.2 EXISTING ENVIRONMENT

Site visits were undertaken in May and July 2021. The proposed development site footprint and boundary line were identified, and surveys completed which involved walking all aspects of the site and its environs, identifying habitats, recording all birds seen and heard and recording all signs of non-volant protected mammals during the survey. Any presence of or suitable habitat for amphibian and reptile species were recorded. A survey for Invasive Alien Species as identified in the legislation referenced in **Section 1.5** was also undertaken.

Each area was surveyed in detail to determine the presence of non-native species included in the Third Schedule of S.I. No. 477 of 2011, EC (Birds and Natural Habitats) Regulations 2011 (Appendix I) and species of Union Concern.

The evaluation and assessment within this report has been undertaken with reference to relevant parts of the 2016 Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland developed by the Chartered Institute of Ecology and Environmental Management (CIEEM, January 2016)¹.

From this baseline survey, potential impacts of the proposed works on the floral habitats present and the fauna in the area were predicted.

2.2.2.1 HABITATS

Seven habitats (according to Fossitt, 2000) were noted in the survey area, namely Wet grassland / GA1: Improved agricultural grassland, BL1: Stone walls, GS2: Grassy verges, WS1: Scrub and a transitional WL1: Hedgerow/WL2: Treeline and ED2: Bare Ground. There is no Annex I habitat occurring within the area proposed for works.

No rare, threatened or protected species of plants as per the Red Data Book (Curtis and McGough, 1988) were found. No species listed in the Flora Protection Order (2015) were found to be growing within the proposed site of works or adjoining lands.

¹ http://www.cieem.net/data/files/Publications/EcIA_Guidelines_Terrestrial_Freshwater_and_Coastal_Jan_2016.pdf.

BL1: Stone Walls

A drystone wall of <1m in height exists along the proposed car park facility southern boundary line (plate 2.1). The wall is located in a rural farmland setting, delineating a property boundary and is briefly discontinued where a gateway entrance to the site exists.

Structurally, for the most part, the wall is intact, with only a few sections of the wall unmanaged and limited to only one or two foundation rows. Overall, the wall supports a limited floral diversity, but is relatively abundant in lichens.



Plate 2.1 Existing stone wall habitat (BL1, Fossitt, 2000) along the southern boundary of the Proposed Development

The wall is of dry-stone composition and largely unvegetated with the dominant species comprising the more primitive ferns, including the intermediate polypody (*Polypodium interjectum*), Hart's-tongue (*Asplenium scolopendrium*) and maidenhair spleenwort (*Asplenium trichomanes*). Other flora which have gained a foothold include creeping ivy (*Hedera hibernica*), Herb-Robert (*Geranium robertianum*) and mosses.

Stone wall (BL2) is also a prominent habitat category of the proposed project, namely along the boundary of the proposed walking/cycling greenway recreational trail. The stone wall bordering both sides of the historical 590m proposed track has been neglected, is in disrepair and in places, has only one or two remaining rows on stones. The 1-1.5m high walls are regularly obscured along much of their route as they have become completely overgrown with marginal grassland / hedgerow vegetation (Plate

2.2). Mosses, ivy and bramble encroach the stones (Plate 2.3). On one occasion, both parallel walls have been discontinued (removed) to allow access from a farmyard to agricultural fields located south of the proposed walking/cycling greenway recreational trail.



Plate 2.2 Stone wall with dense entangled vegetation.



Plate 2.3 Stone wall along the walking/cycling greenway recreational trail northwestern boundary.

The root system of elder (*Sambucus nigra*) and other proximate trees are woven and entangled amongst the stones/rocks and as these trees and rampant climbers mature, they have on occasion, contributed to the collapse / breakdown of the stone wall structure (Plate 2.4).



Plate 2.4 Collapsed stone wall showing densely entwined ivy vines

Regularly associated flora with these stone walls includes Herb Robert (*Geranium robertianum*), cleavers (*Galium aparine*) and bush vetch (*Vicia sepium*).

WL1: Hedgerow / WL2 Treeline

Linear hedgerow / treeline habitat exists for approx. 590m along the length of the proposed walking/cycling greenway recreational trail (Plate 2.5).



Plate 2.5 Aerial image of proposed walking/cycling greenway recreational trail outlined by WL1 / WL2 habitats.

The hedgerow WL1/treeline WL2 habitats are varied along this 590m (approximately) route. They delineate farmland boundaries in an intense agricultural landscape. Adjacent lands are farmed and managed for grassland and stock.

WL1 / WL2 habitats exist in parallel along a historical walking/cycling greenway recreational trail denoted by perimeter stone walls, set apart by approx. 3-4m. These habitats vary in composition along their length and width; in places dense and uninterrupted with tall mature/ semimature trees and in other areas discontinuous, low and sparse. Overall, however, they are likely to be providing food, shelter and corridors for mammals, areas for nest and hibernation sites for many of our native flora and fauna.

Pelletier-Guittier et al., (2020) note the beneficial role played by hedgerows for wildlife conservation in intensive agricultural landscapes. They outline how hedgerow use by mammals increases as tree cover and understory density increase, and as human disturbance decreases. These results characterize the variables influencing hedgerow use by a broad set of medium and large sized mammal species and confirmed their use as movement corridors and/or habitat.

In general, all trees within the proposed works area, regardless of stage of life have a substantial cover of climbing ivy (*Hedera hibernica*). Mature native trees include ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*). All specimens of ash were showing signs of ash dieback, the invasive fungal pathogen *Hymenoscyphus fraxineus*.

Non-native mature trees include sycamore (*Acer pseudoplatanus*). Semi-mature trees that are native include willow (*Salix* spp.), elder (*Sambucus nigra*), hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*).

In general, lower hedgerows have a high proportion of spinose plants dominated by blackthorn (*Prunus spinosa*) which supports climbing bramble (*Rubus fruticosus* agg) and bordering patches of the creeping thistle (*Cirsium arvense*). Ivy (*Hedera hibernica*) and cleavers (*Galium aparine*) and bush vetch (*Vicia sepium*) are common climbers in the hedgerow, predominantly utilising tree branches for support. In addition, elder (*Sambucus nigra*) and willow (*Salix* spp.) feature but are not dominant.

Marginal vegetation in shaded areas along the base of the hedgerows includes primrose (*Primula vulgaris*), lords and ladies (*Arum maculatum*), hart's tongue fern (*Asplenium scolopendrium*), both thyme-leaved speedwell (*Veronica serpyllifolia*) and wood speedwell (*V. montana*) and mosses amongst others.

Tall grasses including false oat grass (*Arrhenatherum elatius*) and cock's foot (*Dactylis glomerata*) exist close to the hedgerows/treelines, common hogweed (*Heracleum sphondylium*), cow parsley (*Anthriscus sylvestris*), nettles (*Urtica dioica*), meadowsweet (*Filipendula ulmaria*) and ferns dominate the taller marginal herbaceous layer with bush vetch (*Vicia sepium*) and cleavers (*Galium aparine*) gaining support from these taller dense plants.

GS2: Dry meadows and grassy verges

This habitat exists along local road L7402 on the southern side of the stone wall noted above (Plate 2.6). It incorporates the grassy verge (approx. 1m wide) between the stone wall and the roadway.



Plate 2.6 Grassy margin habitat (GS2) exterior to stone wall, along L7402 local road.

This habitat has been cut back but a good diversity of plants were still identifiable in places and included a high proportion of grasses such as cock's-foot (*Dactylis glomeratus*), meadow fox-tail (*Alopecurus pratensis*) and Yorkshire fog (*Hoculus lanatus*). The broadleaved herb component was characterised by a range of species including cow parsley (*Anthriscus sylvestris*), common knapweed (*Centaurea nigra*), hogweed (*Heracleum sphondylium*), narrow-leaved dock (*Rumex obtusifolius*), marsh thistle (*Cirsium palustre*), horsetail (*Equisetum sp.*), yarrow (*Achillea millefolium*), dandelion (*Taraxacum sp.*) and nettle (*Urtica dioica*).

Bush vetch (*Vicia sepium*) was common with a lower representation of meadow vetchling (*Lathyrus pratensis*). The grassy verge also supported other smaller broadleaved herbs such as pignut (*Conopodium majus*), creeping buttercup (*Ranunculus repens*), wild strawberry (*Fragaria vesca*), germander speedwell (*Veronica chamaedrys*), creeping cinquefoil (*Potentilla reptans*) and also silverweed (*Potentilla anserina*), bedstraw (*Galium aparine*), clovers (*Trifolium spp.*) and broadleaf plantain (*Plantago major*) closer to the road margin. wood sorrel (*Oxalis acetosella*) was present in a more shaded section of the wall. Glaucous sedge (*Carex flacca*) was present. The caterpillar of drinker moth (*Euthrix potatoria*) was noted in amongst the vegetation. A young blackthorn (*Prunus spinosa*) tree has gained partial foothold in the crevices of the wall; its root system is intertwined amongst the stones.

The starting point of Sheemore Heritage Trail (on the south side of the L7402 opposite the Sheemore Visitors Carpark Facility) is currently comprised of a stack of boulders with nettle (*Urtica dioica*) and grasses around its base and overhanging bramble (*Rubus fruticosus*).

The grassy margin leading to the northern end of the proposed walking/cycling greenway recreational trail has not been recently cut back and is largely comprised of grasses, cow parsley (*Anthriscus sylvestris*), nettles (*Urtica dioica*), common hogweed (*Heracleum sphondylium*) and bramble (*Rubus fruticosus* agg.) (Plate 2.7).



Plate 2.7 Grassy margin habitat (GS2) along the northern track leading to the proposed walking/cycling greenway recreational trail.

GS4: Wet grassland

This grassland is located at an elevation of approx. 70m on relatively flat ground, on the north side of L7402 and the lower lying lands of Sheemore Hill, due south (Plate 2.8). Underlying soils are limestone till (carboniferous). The land is used for agricultural purposes and had just recently been cut on the day of the site visit in May 2021. Cattle tracks were notable in the area. Overall, grassland composition has been modified and diversity relatively poor and reflected areas of poorly drained soils. Underlying the upright vegetation were abundant mosses throughout the Proposed Development area. Lesser spearwort (*Ranunculus flammula*) leaves were conspicuous and standing upright over much of the grassland. Cuckoo flower (*Cardamine pratensis*) was also visible in places. Meadow buttercup (*Ranunculus acris*) was also well represented, with creeping buttercup (*R. repens*) noted closer to the road where conditions were somewhat drier.

Soft rush (*Juncus effusus*), horsetail (*Equisetum* sp.), yellow iris (*Iris pseudacorus*), meadowsweet (*Filipendula ulmaria*), marsh thistle (*Cirsium palustre*), glaucous sedge (*Carex flacca*) and field woodrush (*Luzula campestris*) were also present.



Plate 2.8 Wet grassland habitat (GS4) at site of the proposed Sheemore Visitors Carpark Facility with Sheemore Hill in background

GA1: Improved Agricultural Grassland

This farmland habitat is proximate to the proposed 590m walking/cycling greenway recreational trail (Plate 2.9). It is extensive and separated by land boundaries in the form of established hedgerows / treelines. Floral species was difficult to ascertain as the grassland was recently mown in most cases. Cattle were noted grazing along the margins of fields.



Plate 2.9 Recently mowed Improved agricultural grassland (GA1)

Scrub: WS1

The area in between the two parallel walls stretching the 590m (approx.) length of the proposed walking/cycling greenway recreational trail can be classified as scrub habitat (Plate 2.10). It is largely impenetrable, overgrown and dense with unmanaged tangled vegetation. Primary species include bramble (*Rubus fruticosus agg.*) and blackthorn (*Prunus spinosa*). Vegetation is in general, approx. 1.5-2m+ tall. Saplings of young trees including ash (*Fraxinus excelsior*) exist on occasion. Common hogweed (*Heracleum sphondylium*), willowherb (*Epilobium spp.*), nettle (*Urtica dioica*) and cow parsley (*Anthriscus sylvestris*) are common in places.



Plate 2.10 Impenetrable Scrub habitat between historical walking/cycling greenway recreational trail stone walls.

Bare ground: ED2

This habitat exists along the commencement of the track from L7402 to a field gateway; a stretch of approx. 40m. Vegetation includes a high concentration of mosses and grasses including *Poa annua* mixed with dandelion (*Taraxacum officinale*), red and white clover (*Trifolium pratense* and *T. repens*), ribwort and broadleaved plantain (*Plantago lanceolata* and *P. major*), meadow buttercup (*Ranunculus acris*), speedwell (*Veronica sp.*), common mouse-ear (*Cerastium fontanum*), pineappleweed (*Matricaria discoidea*) amongst others in the centre of the track (Plate 2.11). The 40m stretch is regularly driven over, leading to conspicuous parallel areas that are largely bare/unvegetated.



Plate 2.11 Bare Ground ED2 at commencement of walking/cycling greenway recreational trail from track looking southwest

The hedgerow is unfragmented and dense, extending to approx. 2m wide (or more in places) and is approximately 1-1.5m tall. It is managed and has been severely cut back over the years.

2.2.2.2 DESIGNATED SITES OF CONSERVATIONAL IMPORTANCE

In Ireland, areas designated for nature conservation are as follows:

- Special Area of Conservation (SAC);
- Special Protection Area (SPA);
- Natural Heritage Area (NHA); and
- Proposed Natural Heritage Area (pNHA);

The site synopsis produced by the National Parks and Wildlife Service (NPWS) are a source of information used when investigating important habitats or species likely to be found within areas that have been officially designated because of their conservation importance.

Under the Habitats Directive (Article 3), Natura 2000 sites are defined as a coherent European ecological network of special areas of conservation or special protection areas, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II and species listed on Annex I of EU Birds Directive.

The designation of these sites shall enable the natural habitat types and species and habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range. In Ireland, these sites are designated as European sites and include Special Protection Areas (SPAs), established under the EU Birds Directive (79/409/EEC, as codified by 2009/147/EC) for birds and Special Areas of Conservation (SACs), established under the Habitats Directive 92/43/EEC for habitats and species.

One SAC was identified within the Zone of Influence (Zoi). The Cuilcagh-Anierin Uplands SAC is located approximately 9.4km from the proposed development. **Figure 2.5** and **Table 2.3** detail the sites

proximity to European sites and their associated connectivity. There were no SPAs identified within the ZOI. The nearest Special Protection Area (SPA) is Lough Arrow SPA, located approximately 17.9km west of the proposed development site of works. The latter SPA site also overlaps with Lough Arrow SAC. There is no downstream hydrological link to the Cuilcagh-Anierin Uplands SAC, Lough Arrow SAC (001673) or Lough Arrow SPA (004050).

The proposed walking/cycling greenway recreational trail will be an extension of the Shannon-Erne Canal Walkway. As the walking/cycling greenway recreational trail is proposed to begin and end on existing routes, the only works involved in creating the walking/cycling greenway recreational trail is by upgrading the existing disused section of road between the L7402 and L3390. The proposed works related to the walking/cycling greenway recreational trail are approximately 155m from the Mackan 26 (River Waterbody Code: IE_SH_26S020550) while the Sheemore Visitors Carpark Facility is approximately 255m from Mackan 26. However, a 98m drainage pipe will be laid from the northwest corner of the Sheemore Visitors Carpark Facility to a nearby drain with outfall approximately 150m from the Mackan 26 stream. There is a potential hydrological link to the Mackan 26 from this drain, however the nearest Europe Site that is hydrologically linked is over 40km downstream of this point.

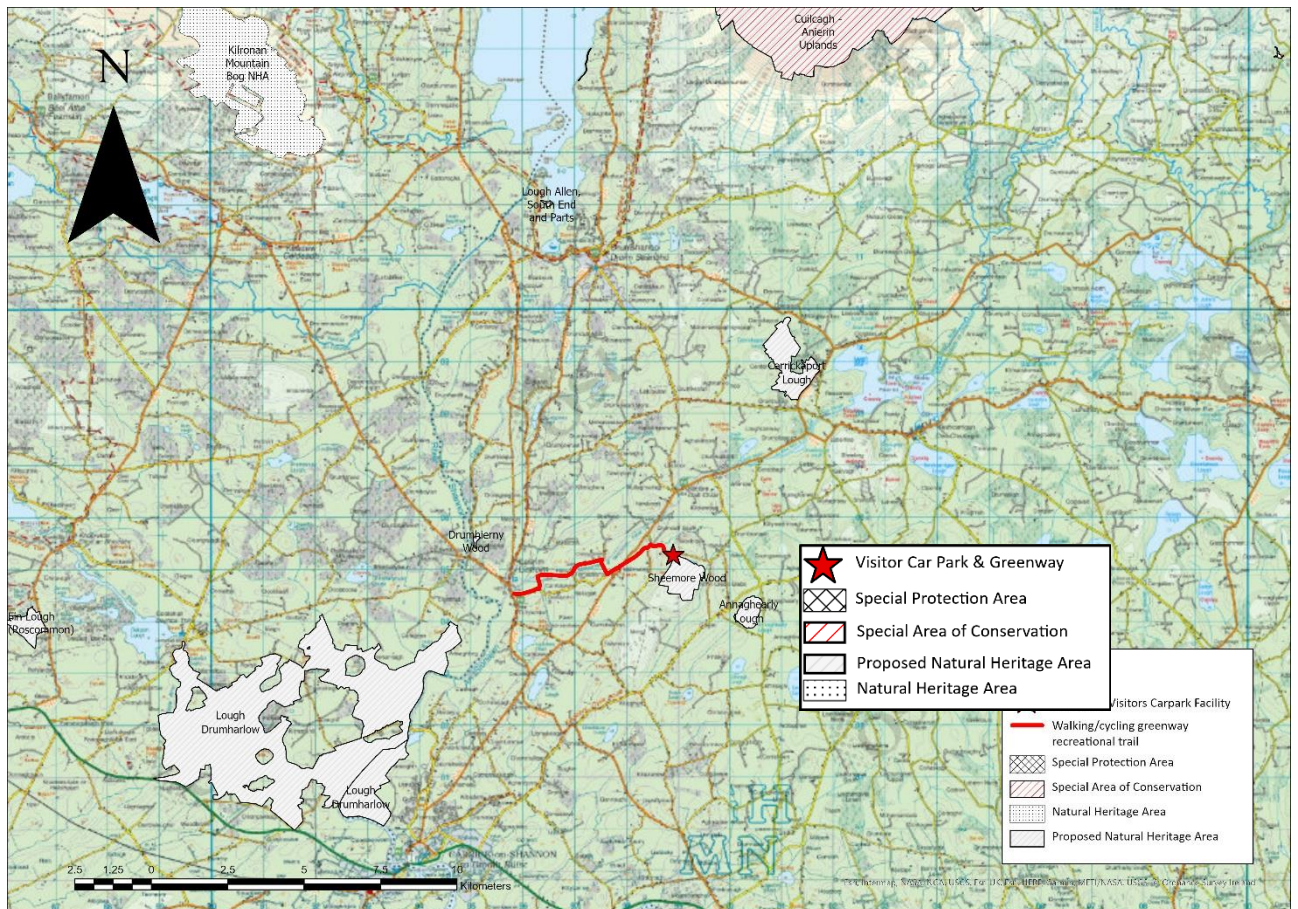


Figure 2.5 European and National sites within the vicinity of the proposed development.

Table 2.3 Relevant European Sites, reasons for designation and data for Screening

Designated Site	Reasons for designation (information correct as of 10 th September 2021) (*denotes a priority habitat)	Distance from Proposed Development (km)	Source-Pathway-Receptor Linkage
SPECIAL AREAS OF CONSERVATION (SACs)			
Cuilcagh - Anierin Uplands SAC (000584)	<p>Habitats</p> <p>Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) (3110)</p> <p>Natural dystrophic lakes and ponds (3160)</p> <p>Northern Atlantic wet heaths with <i>Erica tetralix</i> (4010)</p> <p>European dry heaths (4030)</p> <p>Alpine and Boreal heaths (4060)</p> <p>Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* (6230)</p> <p>Blanket bogs (* if active bog) (7130)</p> <p>Transition mires and quaking bogs (7140)</p> <p>Petrifying springs with tufa formation (<i>Cratoneurion</i>)* (7220)</p> <p>Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) (8110)</p> <p>Siliceous rocky slopes with chasmophytic vegetation (8220)</p>	Approximately 9.4km northeast of the proposed development.	<p>Construction phase</p> <p>No: There is no hydrological link from the Proposed Development to this SAC or any aquatic related QI thereof. There is no potential SPR to any European Site.</p> <p>The intervening distance of over 9km northeast to the SAC from the site separates all terrestrial related QI, where no significant effect is likely to occur.</p> <p>Operation phase</p> <p>No: The proposed site of works lie entirely within the Shannon[Upper]_020 WFD Sub catchment while the SAC lies upstream and within several other separate subcatchments.</p> <p>There is potential for leaching from the visitor car park into groundwater. However, the visitor car park will be designed in accordance with the Recommendations for Site Development Works for Housing Areas and also the recommendations of the <i>Greater Dublin Strategic Drainage Study (GSDSDS)</i>.</p>
Lough Arrow SAC (001673)	<p>Habitats</p> <p>Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. (3140)</p>	Approximately 17.9km west of the proposed development.	<p>Construction phase</p> <p>No: There is no direct hydrological link from the proposed development work area to this SAC or any aquatic related QI thereof. There is no</p>

Designated Site	Reasons for designation (information correct as of 10 th September 2021) (*denotes a priority habitat)	Distance from Proposed Development (km)	Source-Pathway-Receptor Linkage
			<p>potential SPR to this European Site.</p> <p>The intervening distance and landscape of over 17km west to the SAC from the proposed project separates all terrestrial related QI, where no significant effect(s) is/are likely to occur.</p> <p>Operation phase</p> <p>No: The car park will be designed in accordance with the Recommendations for Site Development Works for Housing Areas and also the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS).</p>
SPECIAL PROTECTION AREAS (SPAs)			
Lough Arrow SPA (004050)	<p>Birds</p> <p>Little Grebe (<i>Tachybaptus ruficollis</i>) (A004)</p> <p>Tufted Duck (<i>Aythya fuligula</i>) (A061) Wintering and Resident Wetland and Waterbirds [A999]</p>	Approximately 17.9m west of the proposed development.	<p>Construction phase</p> <p>No: There is no hydrological link from the proposed development site of works to this SPA or any species of SCI thereof. There is no potential SPR to this European Site.</p> <p>The intervening distance and landscape of over 17km west to the SPA from the proposed project separates all SCI, where no significant effect(s) is/are likely to occur.</p> <p>Operation phase</p> <p>No: The car park will be designed in accordance with the Recommendations for Site Development Works for Housing Areas and also the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS).</p>

The 98m drainage pipe which is proposed to accommodate dispersion of surface water runoff from the Sheemore Visitors Carpark Facility area has potential to be hydrologically linked to the Mackan 26 stream. However, the nearest European Site which has a potential downstream hydrological link to the

Mackan_26 is the Lough Forbes Complex SAC (001818) over 40km downstream. Due to the scale and scope of the proposed works related to the proposed development, the embedded design measures, and extensive intervening distances from any European Site within the Zol, it was considered that negative impacts would not occur on any European Site that have no direct or indirect SPR to the proposed development.

There will be no SPR linkage that will cause significant effect to any European Site from the proposed works during the construction phase. It is proposed that storm drainage for the entire development will be designed in accordance with the *Recommendations for Site Development Works for Housing Areas* and also the recommendations of the *Greater Dublin Strategic Drainage Study (GSDSDS)*. The catchment profile indicates groundwater flow of a south to southwestern direction to the Shannon River Basin. Additionally, the distance between the proposed works and the nearest European Sites, namely the Cuilcagh - Anierin Uplands SAC, Lough Arrow SAC and Lough Arrow SPA shows undulating topography. There is over 40km distance downstream from the Mackan 26 to European sites. Therefore, the discharge to the storm drain during the operation phase is unlikely to cause any significant effect to any European Site.

Sites of National Conservation Importance include Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs). Under the Wildlife Amendment Act, 2000 (as amended), NHAs are protected and many overlap with European designated sites. Proposed Natural Heritage Areas have some protection under County Development Plans, Agri-Environmental Option Schemes (AEOS) and Rural Environment Protection Scheme (REPS).

Table 2.4 Nationally designated sites – Natural Heritage Areas (NHAs).

Site	Features of Interest (information correct as of 10 th September 2021) (*denotes a priority habitat)	Distance from Proposed Development (km)
Kilronan Mountain Bog NHA (000617)	Peatlands	Approximately 10.3km northwest of the Proposed Development.
Corracramph Bog NHA (001420)	Peatlands	Approximately 16.6km northwest of the Proposed Development

Table 2.5 Proposed Natural Heritage Areas (pNHAs).

Site	Features of Interest (information correct as of 30 th July 2021) (*denotes a priority habitat)	Distance from Proposed Development (km)
Proposed Natural Heritage Areas (pNHAs)		
Sheemore Wood (001421)	Wooded area	Approximately 0.2km east

Site	Features of Interest (information correct as of 30 th July 2021) (*denotes a priority habitat)	Distance from Proposed Development (km)
Annagheary Lough (001402)	Annagheary Lough	Approximately 1.8km southwest
Drumhierny Wood (001412)	Wooded Area	Approximately 2.5km northwest
Lough Drumharlow (001643)	Lough Drumharlow	Approximately 3.1km southwest
Carrickaport Lough (001920)	Carrickaport Lough	Approximately 3.8km northeast
Fin Lough (001636)	Fin Lough	Approximately 10.8km west

2.2.3 IDENTIFIED CONSTRAINTS

No invasive species within the Third Schedule of S.I. No. 477 of 2011, EC (Birds and Natural Habitats) Regulations 2011 were recorded within or in close proximity to any of the habitats of the proposed development in Sheemore, Co. Leitrim. Neither a habitat survey nor invasive species survey were carried out along the full length of the proposed drainage pipe to the northwest of the Sheemore Visitors Carpark Facility. Therefore, it is recommended that a biosecurity method statement be established prior to the commencement of any works.

There is a potential hydrological link to European sites via the discharge to drain to the northwest of the Sheemore Visitors Carpark Facility to Mackan 26. The nearest European site with a hydrological link is Lough Forbes Complex SAC (001818) located 44.5km downstream of the Sheemore Visitors Carpark Facility with significant impacts unlikely. The closest Natura 2000 site is located 9.4km from the Sheemore Visitors Carpark Facility (Cuilcagh - Anierin Uplands SAC (000584)) which has undulating intervening lands. The most significant ecological constraint is the presence of National Sites within the study area. The proposed development is within 0.2km of the Sheemore Woods pNHA (001421) with species present within the woods having potential to be impacted on during the proposed works.

The land surrounding the proposed development incorporates WL1: Hedgerow, GS4: Wet grassland / GA1: Improved agricultural grassland, BL1: Stone walls, GS2: Grassy verges, WS1: Scrub and a transitional WL1: Hedgerow/WL2: Treeline and ED2: Bare Ground. These habitats have Local Ecological Importance. Hedgerow nesting birds could be impacted, if the hedgerow along the proposed walking/cycling greenway recreational trail is disturbed/ removed during the nesting season.

Works will therefore be restricted to outside of the bird breeding season. This hedgerow will not be removed during the breeding season from March 1st to August 31st with an extension to the end of September to further protect the yellow hammer that nest in hedgerows up to the end of this month.

All specimens of ash within the proposed works area were showing signs of ash dieback, the invasive fungal pathogen *Hymenoscyphus fraxineus* (**Appendix B**). Over time, this may cause health and safety issues due to falling limbs as these trees die. This will require incorporation into a Health and Safety Method Statement prior to the commencement of any works in the area.

In relation to bats, there is potential for roosting sites along the 590m stretch of hedgerow/treeline habitat along the proposed walking/cycling greenway recreational trail. There are no plans to fell any trees on site or in the vicinity of the site of works. Where possible, trees or hedgerow will not be disturbed or removed. However, to accommodate the reinstatement of the walking/cycling greenway recreational trail some trees / hedgerow / boughs may need to be trimmed / removed. And this could directly adversely impact any resident bats. To cater for this eventuality bat surveys undertaken by a suitably qualified person will be required prior to any treeline/hedgerow works on site and following bat survey completion specific control measures or mitigation applied, as necessary.

2.3 LAND, SOILS & GEOLOGY

2.3.1 INTRODUCTION

This section identifies the constraints associated with land, soil and geology for the proposed project.

A desktop study was carried out using the following resources:

- Environmental Protection Agency (EPA)/ European Environment Agency CORINE 2012 land cover mapping (<http://gis.epa.ie/>);
- EPA soils and subsoils mapping (<http://gis.epa.ie/>);
- Teagasc Irish Soil Information System mapping (<http://gis.teagasc.ie/soils/map.php>);
- Geological Survey of Ireland (GSI) geology mapping (www.gsi.ie); and
- A review of Ordnance Survey Ireland (OSi) maps and orthophotography (www.osi.ie)

2.3.2 EXISTING ENVIRONMENT – GEOLOGY

2.3.2.1 GEOLOGY

The proposed development will be located on Bricklieve Limestone Formation with bedrock outcrop as per **Figure 2.6**.

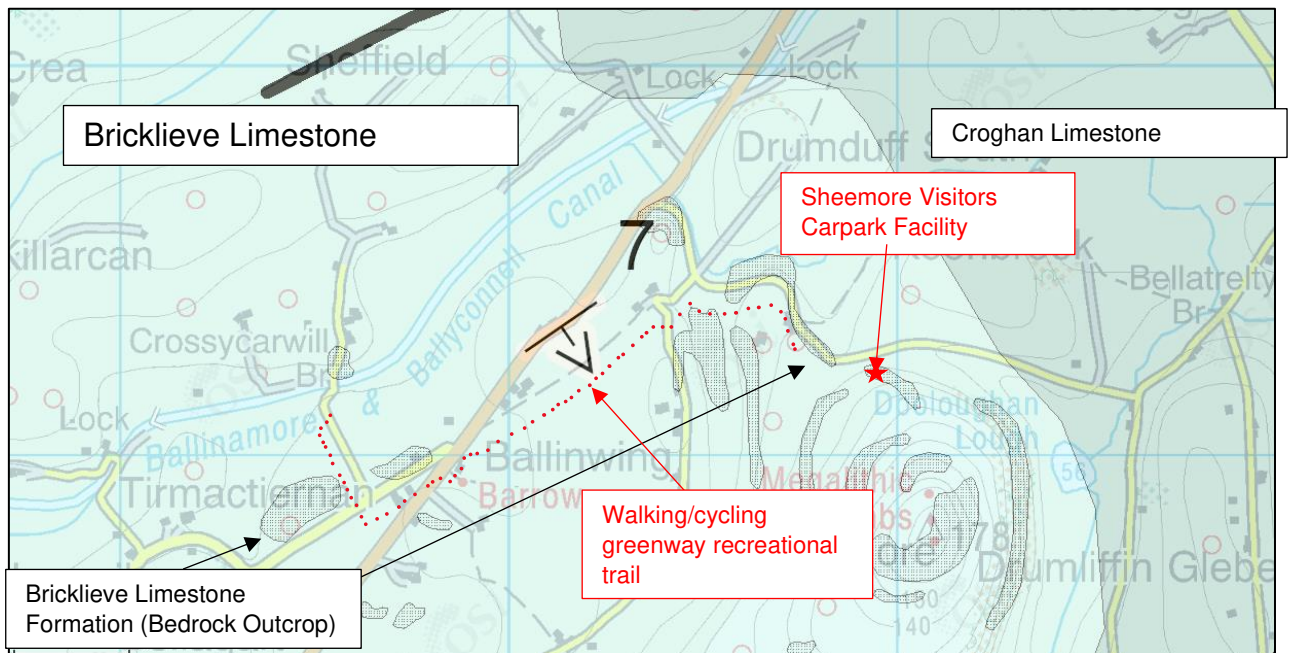


Figure 2.6 Site Geology (Bedrock 100k)

2.3.2.2 SOILS

The Irish Soil Information System maps by Teagasc, Environmental Protection Agency (EPA) and Geological Survey Ireland (GSI) were used to determine soils found within and surrounding the proposed development. The Quaternary sediments at the proposed development were identified as '*Karstified bedrock outcrop or subcrop*'. The soils of the proposed development consist of '*Elton (1000g)*' which is '*Fine loamy drift with limestones*' and '*River Alluvium*'. The soils adjacent to the Sheemore Visitors Carpark Facility is '*Kilrush (700h)*' which consists of '*Fine loamy drift with siliceous stones*' and there is some peat '*Cut over raised peat*' in the surrounding areas as can be seen in **Figure 2.7** – Teagasc Soils.

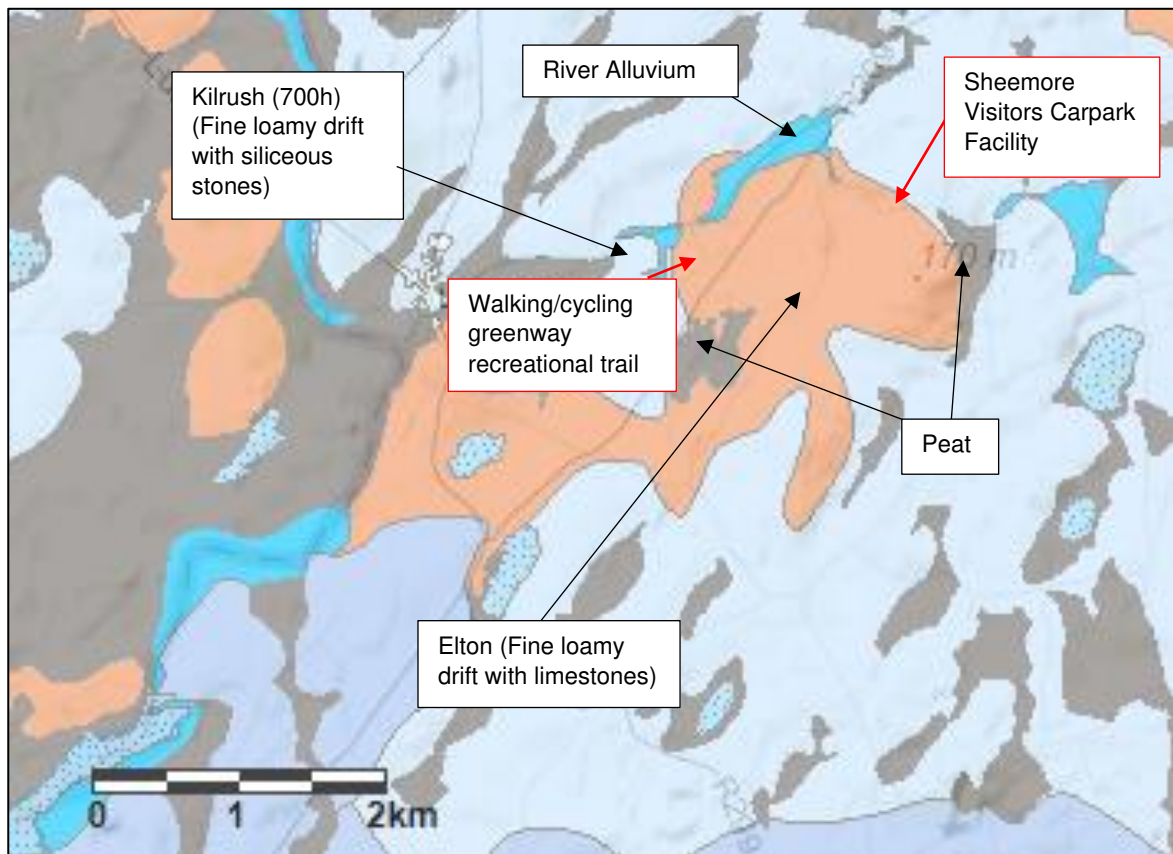


Figure 2.7 Teagasc Soils

The site of the Sheemore Visitors Carpark Facility is currently located on agricultural pasture land and the walking/cycling greenway recreational trail is a combination of existing routes from Shannon-Erne Canal Walkway, the L3390, R209, a currently disused roadway and the L7402 which meets the Sheemore Visitors Carpark Facility to the north of Sheemore Hill.

2.3.2.3 GEOLOGICAL HERITAGE

Caves have been identified on a historical map (1888-1913) on the northern side of Sheemore Hill and on the opposite side of the road to the proposed location for the Sheemore Visitors Carpark Facility. There has also been a well identified on the same map to the west of Sheemore Hill, over 475m southwest of the proposed Sheemore Visitors Carpark Facility location and there was a spring identified to the north-eastern face of Sheemore Hill on the Historical 25 in map (1888-1913) (**Figure 2.8**). There are no active quarries adjacent to the study area. The nearest quarry is approximately 5km north-east of the proposed development, in Keshcarrigan (disused).

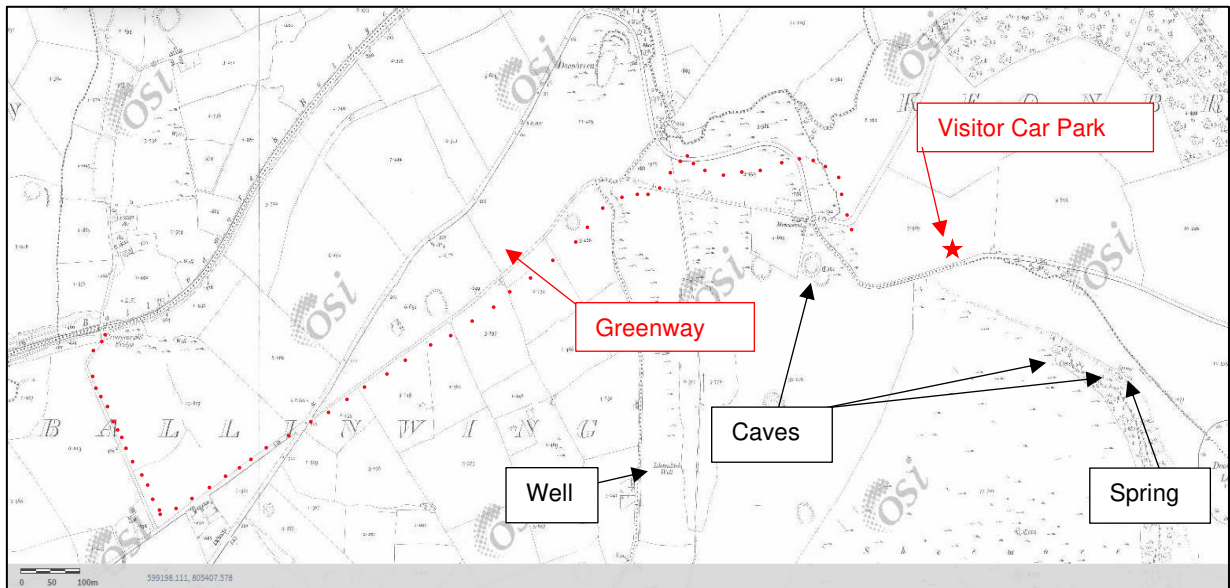


Figure 2.8 Historical Map (1888-1913) showing proximity of caves to the proposed development.

2.3.3 IDENTIFIED CONSTRAINTS

The parent material is primarily composed of limestone bedrock. There is historical evidence of caves within the vicinity of the proposed development. This may influence permeability of the ground in the area and installation of a hydrocarbon interceptor will be required to control or mitigate against potential contamination of the local groundwater resource and a maintenance programme initiated once activated.

There are no active quarries or areas of geological heritage and therefore these factors do not pose as potential constraints.

The land in the surrounding area is used for agriculture and there are farm buildings located northwest of the proposed development. However, there is low potential of this acting as a constraint due to land access and disturbance.

2.4 WATER

2.4.1 INTRODUCTION

A desktop study was carried out to determine the feasibility of the proposed development in relation to hydrology and hydrogeology. The following sources were used:

- Environmental Protection Agency (EPA) water datasets (<http://gis.epa.ie/Get Data/Download>)
- Office of Public Works (OPW) flood event mapping (www.floodmaps.ie);
- A review of Ordnance Survey (OS) maps and ortho-photography (www.osi.ie); and

- Geological Survey of Ireland (GSI) hydrogeology datasets (www.gsi.ie)

2.4.2 EXISTING ENVIRONMENT

The Water Framework Directive (WFD) (WFD, 2000/60/EC) requires all Member States to implement measures for the prevention of deterioration of water body status (including all surface waters, coastal waters and groundwater), the protection of these water bodies and their enhancement and restoration to Good status or higher. The nearest waterbody is the Mackan 26 located within 255m of the Sheemore Visitors Carpark Facility. This Order 2 stream was unassigned a WFD status in the latest review (2013-2018). This stream is hydrologically linked to Shannon Upper River (IE_SH_26S020550) which has been assigned as having Poor quality status in 2013-2018.

2.4.2.1 AQUIFER CLASSIFICATION

Consultation was made with the GSI Groundwater Resources (Aquifers) and Groundwater Vulnerability maps. The Bedrock Aquifer was identified as '*Regionally Important Aquifer – Karstified (conduit)*'. The vulnerability of the groundwater ranged from '*E*' (Extremely vulnerable) to '*X*' (Rock at or near Surface or Karst) at the location of the proposed development.

The groundwater body risk for the area is classed as under '*Review*' but was classed as having '*Good*' status in the years 2013-2018.

2.4.2.2 WATER RESOURCES

Consultation of the national well database compiled by the GSI indicates that there are no wells or springs within the vicinity of the site, however, a historical map (1888-1913) indicates there was once a spring to the northeast of Sheemore Hill and a well to the west of Sheemore Hill (Iskamillish Well) (475m southwest of the Sheemore Visitors Carpark Facility).

The closest well according to the GSI is located approximately 3.1km to the southwest of the proposed development in the townland of Tullyannan. The well (GSI Code: 1729NEW101) is classed as a borehole 48.7m deep and is used for agricultural and domestic use. The nearest spring recorded is in Edenmore, approximately 2.1km northeast-east the proposed development (GSI Code 2029NWK001).

2.4.2.3 LOCAL HYDROLOGY

The site lies wholly within the main catchment of the Upper Shannon (26A). The catchment profile indicates groundwater flow of a south to southwestern direction to the Shannon (Upper) River Basin (Code: IE_SH_26S020550). Please refer to **Figure 2.9** – River catchments.

There are no waterbodies or river crossings within the development area of the proposed development. The closest surface water body is the Mackan 26 River (IE_SH_26S020550) which is located approximately 255m from the proposed development, at its nearest point as per **Figure 2.10**.

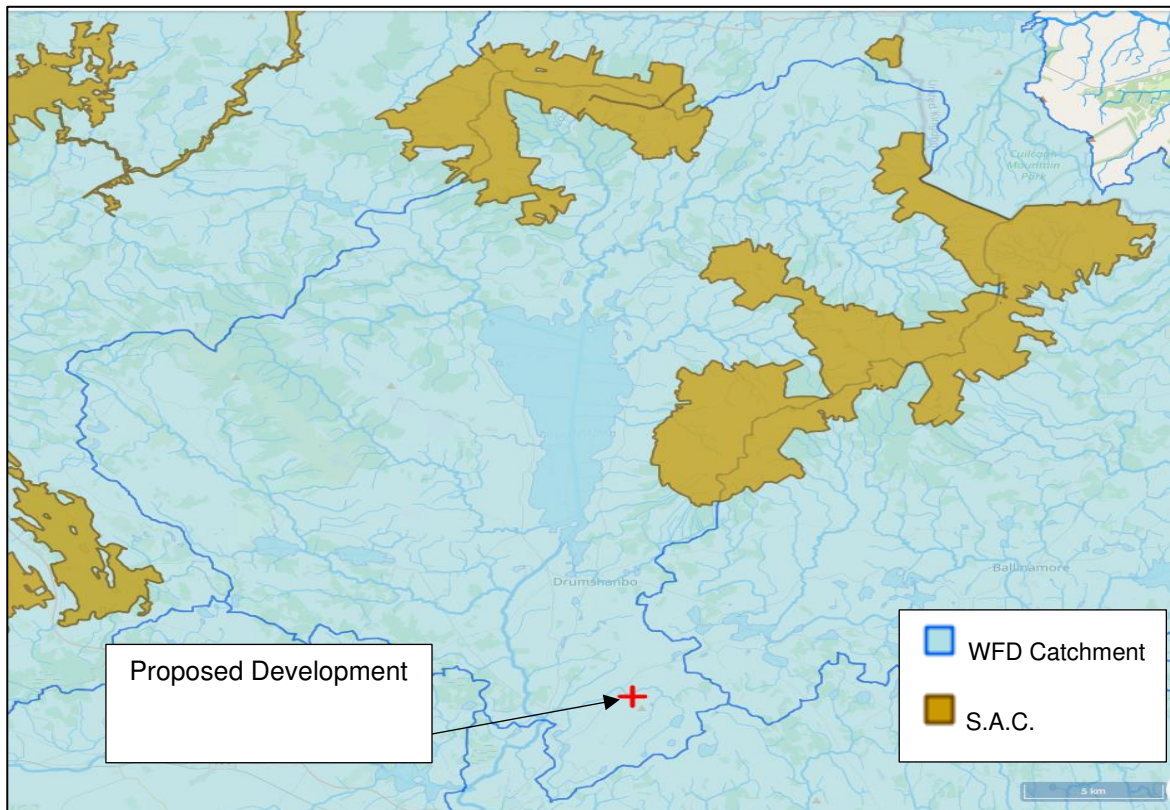


Figure 2.9 River catchments near the proposed development.

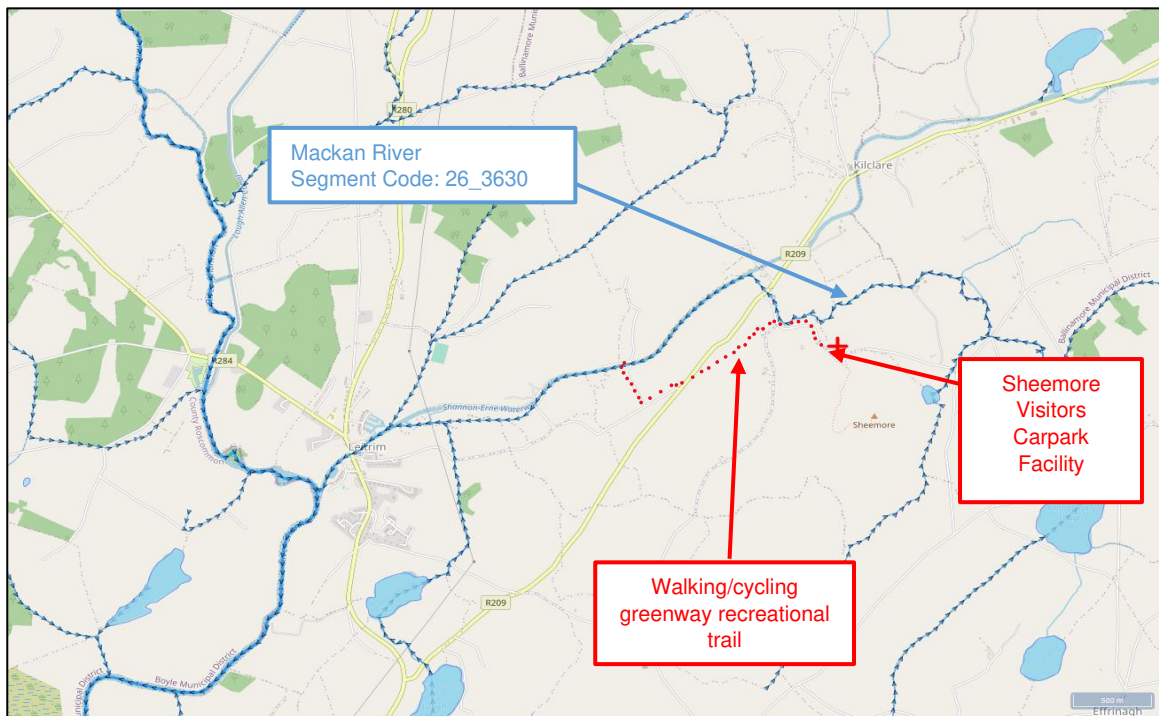


Figure 2.10 Watercourses and waterbodies adjacent to the proposed development.

2.4.2.4 FLOODING AND FLOOD EVENTS

Office of Public Works (OPW) website and the CFRAM study were accessed (September 10th, 2021) to determine flood areas within and near the proposed development. **Figure 2.11** shows the Mackan 26 stream has low and medium probability of flooding according to 'National Indicative Fluvial Mapping – Present Day'. This Order 2 stream is located approximately 255m from the Sheemore Visitors Carpark Facility and approximately 150m from the proposed drain discharge point.



Figure 2.11 Flood Map for proposed development.

2.4.3 IDENTIFIED CONSTRAINTS

It is the aim of the WFD to prevent deterioration of water body status, to protect waterbodies and to enhance and/or restore to Good status or higher. The drainage discharge pipe outlet is approximately 150m from the Mackan 26 stream (unassigned WFD status) which flows to Poor status Upper Shannon River. The discharge pipe from the Sheemore Visitors Carpark Facility will terminate at an existing field drain. Extended or intense rainfall events will likely result in increased overground flow between this point and the registered stream profile. This could intermittently produce a direct hydrological link to this waterbody which could carry sediments and nutrients to the stream and deteriorate the water quality. However, the nearest European Site is located over 40km downstream of this point, with little potential for negative impact.

The Mackan 26 stream is separated by approximately 255m from the Sheemore Visitors Carpark Facility. Pollution prevention controls must be put in place during the construction and operation phase to prevent any spoil, hydrocarbons or other deleterious matter entering the stream. The provision of a temporary, cordoned off (staked ticker tape) 50m buffer zone is recommended along the watercourse profile during the construction phase of works associated with installation of the Sheemore Visitors Carpark Facility and water discharge pipeline. The 50m buffer zone should be off-limits to vehicles or machinery associated with the development work and not used for storage of same or materials or fuels required during the construction phase of the development.

The vulnerability of the groundwater was 'X' (Rock at or near Surface or Karst). There are exposed outcrops of limestone bedrock close to the proposed site of the Sheemore Visitors Carpark Facility and through sections of the walking/cycling greenway recreational trail route. This means that there are potentially shallow soils and materials to attenuate contaminants before they reach the saturated groundwater/aquifer zone. It is recommended a hydrocarbon or oil interceptor be integrated into the Sheemore Visitors Carpark Facility drainage design to prevent the leaking of hydrocarbons from parked vehicles to the local groundwater resource.

2.5 LANDSCAPE

2.5.1 INTRODUCTION

This chapter will assess the likely visual and landscape impacts of the proposed development. The following resources were used:

- ***Leitrim County Development Plan 2015-2021***
- ***2000 - European Landscape Convention*** As a member of the Council of Europe, Ireland ratified the European Landscape Convention 2000, in March 2002. The ELC aims to promote landscape protection, landscape management and landscape planning. It aims to organise European wide co-operation on landscape issues.
- ***2000 - DoEHLG Landscape Character Assessment Guidance*** The Department of the Environment, Heritage and Local Government (DoEHLG) published The Landscape and Landscape Assessment Draft Guidelines 2000, in order to help Local Authorities to conduct their own landscape character assessment. This document was published around the same time as the Planning and Development Act 2000 which required Local Authorities to consider the issue of landscape character when making policy objectives in their County Development Plans. The expectation of the DoEHLG was that all the information gathered at Local Authority level would be combined to produce a National Landscape Character Map. However, these guidelines still remain in Draft form thirteen years after they were issued by the department and as such have no formal status.

- **2000 - The Planning and Development Act** There is currently no legal definition of landscape in Irish law. There are, however, provisions in Irish law that relate to the preservation and conservation of the landscape under the Planning and Development Act 2000-2011 including Sections 10, 202 and 204.

Section 10 of the Planning and Development Act, 2000, requires Local Authorities to include objectives for the following in their Development Plans:

(2)(e) the preservation of the character of the landscape where, and to the extent that, in the opinion of the planning authority, the proper planning and sustainable development of the area requires it, including the preservation of views and prospects and the amenities of places and features of Natural beauty or interest.

2.5.1.1 DISTINCTION BETWEEN VISUAL IMPACT AND LANDSCAPE IMPACT

A distinction is made between the terms Visual Impact and Landscape Impact. Visual Impact in this study concerns the impact on views from houses and other sensitive receptor locations within the viewshed or visual catchment of the proposed works. Landscape Impact, on the other hand, examines the impact of the scheme in a more macro sense and dealing with the broader implications for landscape character and quality.

2.5.1.2 CLASSIFICATION OF IMPACT

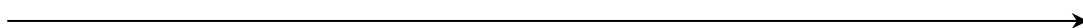
Estimation of impact upon landscape is reached using both quantitative and qualitative factors. It comprises three parts, as follows:

(1) Visual presence; (2) Aesthetic impact on landscape context; and (3) Significance of the impact.

2.5.1.3 VISUAL PRESENCE

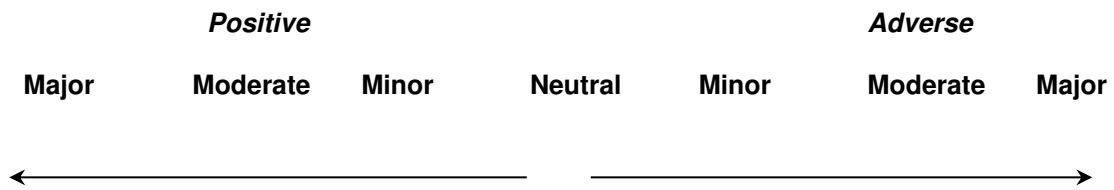
This concerns how visually dominant the proposed development is on the landscape and is synonymous with the concept of magnitude. Note that a strong visual presence is not synonymous with adverse impact. It is assessed using the following five-point scale:

Minimal Sub-dominant Co-dominant Dominant Highly dominant



This concerns the aesthetic relationship of the scheme to its context and whether it results in a negative or positive change. The aesthetic impact of the Proposed Development will be classified using the following seven-point scale:

2.5.1.4 AESTHETIC IMPACT OF THE DEVELOPMENT ON THE LANDSCAPE



2.5.1.5 SIGNIFICANCE OF IMPACT

Overall summary classification of landscape and visual impact is carried out on the basis of a five point scale, as follows:

- Imperceptible;
- Slight;
- Moderate;
- Significant; and
- Profound.

2.5.2 EXISTING ENVIRONMENT

The proposed development will be located on slightly to moderately sloping agricultural land. There are residential dwellings located sporadically along the proposed route and also dwellings spotted throughout the landscape in all directions some distance away. Location of the proposed development and surrounding landscape can be seen in **Figure 2.12**

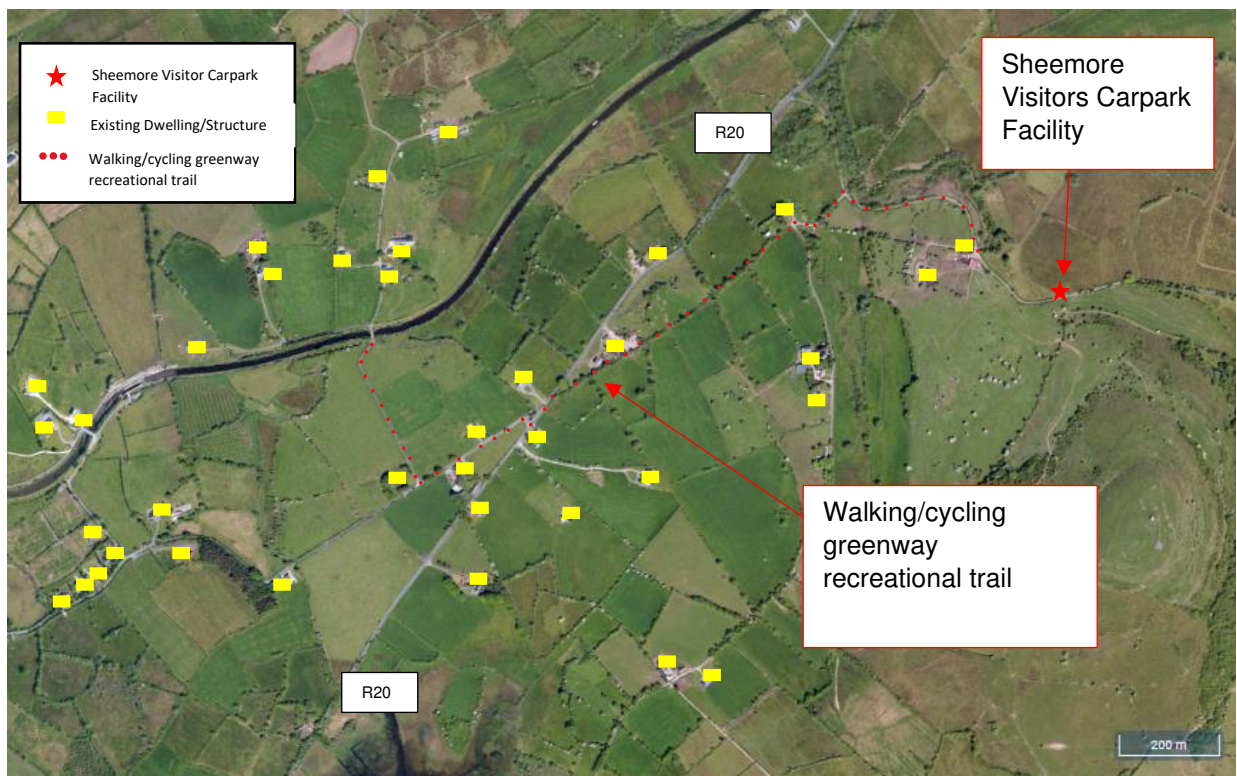


Figure 2.12 Location of the proposed development and surrounding landscape

Sections of the walking/cycling greenway recreational trail are currently already in existence as it will be made up of existing routes along the L3390 and L7402 and the section of disused road which links them. These sections are visible in parts from the R209. However, the Sheemore Visitors Carpark Facility is unlikely to be visible from the road. The Sheemore Visitors Carpark Facility is likely to be visible from parts of the local road to the east as the boundary hedgerows /stone walls are low-lying.

2.5.3 LEITRIM COUNTY DEVELOPMENT PLAN 2015-2021

The proposed development is located within an area designated as an 'Area of Outstanding Natural Beauty' in the County Development Plan and is close to a proposed Natural Heritage Area (pNHA). The County Development Plan has policies and objectives relating to the landscape and visual elements relevant to the proposed development which are outlined in **Table 2.6**.

Table 2.6 Landscape Character Assessment – Leitrim County Development Plan (2015-2021)

Policies	
Policy 2b	Facilitate the continuation of agriculture, and the broadening of the rural economy, while conserving the landscape, environment and natural diversity of the countryside;
Policy 59	It is the policy of the Council that roadworks undertaken by the Council or private developers, are carried out in such a manner as to protect and enhance the general environment and the character of the landscape within which the road is located.
Policy 100	It is the policy of the Council to permit development in an Area of Outstanding Natural Beauty where the applicant can satisfy the planning authority that it is not practicable to develop in a less-sensitive location and where it is demonstrated that the development will not impinge in any significant way on the character, integrity or uniformity of the landscape.
Policy 101	It is the policy of the Council to permit development in an area of High Visual Amenity only where the applicant has demonstrated a very high standard of site selection, site layout and design and where the planning authority is satisfied that the development could not be accommodated in a less-sensitive location.
Policy 102	It is the Council's policy to protect these views from intrusive development and enhance them by the removal of dereliction and eyesores. Lay-bys and viewing areas will be developed, as appropriate and as funds allow.
Objectives	
Objective 66	<i>to protect all Natural Heritage Areas and those proposed for designation either before or during the lifetime of this plan so as to recognise that the process of designation of such sites is ongoing, with new sites being added and boundaries of existing sites being adjusted, as better information becomes available.</i>
Objective 67	<i>to protect the proposed Natural Heritage Areas and all others as they become proposed during the lifetime of this plan.</i>

Policies	
<i>Objective 69</i>	<i>It is an objective of the Council to encourage appropriate management of landscape features, particularly through the development management process and by the use of planning agreements with landowners and developers, where appropriate.</i>
<i>Objective 80</i>	<i>To protect the Areas of Outstanding Natural Beauty</i>

2.5.4 IDENTIFIED CONSTRAINTS

The proposed development is located within an area designated as an 'Area of Outstanding Natural Beauty' in the Leitrim County Development Plan and are in close proximity and within a proposed Natural Heritage Area (pNHA). However, the proposed development is due to be developed alongside a piece of existing infrastructure, namely the L7402 and L3309 and the existing disused road. The presence of treelines, hedgerows and embankments reduces the visual impact and the rebuilding of stone walls along a section of the walking/cycling greenway recreational trail is in keeping with the areas natural and traditional heritage and landscape. For these reasons, the proposed development is unlikely to be a landscape visual constraint. However, to soften the impact of the development the provision of native species (e.g., hawthorn, blackthorn and / or rosewood species) hedge screening atop the bermed perimeter area of the Sheemore Visitors Carpark Facility would be considered complimentary to the existing setting of Sheemore Heritage trail and consistent with the approach being adopted for the walking/cycling greenway recreational trail.

2.6 AIR AND CLIMATE

2.6.1 INTRODUCTION

This section identifies the constraints aspects of the proposed development in relation to air and climate. Potential sensitive receptors are identified at this stage in the process to minimise or avoid adverse impact. A desktop study was carried out using available mapping representing the proposed development with reference to potential constraints. The outlined procedure in the document '*Guidance for the treatment of Air Quality During the Planning and Construction of National Road Schemes*' has been consulted.

A primary source of emissions to air from construction-phase activities is considered to be fugitive dust generation and release, arising during site clearance, the importation of construction materials and the actual construction works. The construction phase will generate vehicle movements during the import and export of construction materials.

2.6.2 EXISTING ENVIRONMENT

Significant dust impacts due to construction dust emissions are unlikely during the construction phase due to the relatively small scale of the proposed development. Significantly adverse dust impacts are more likely to occur where a sensitive receptor is located close to a dust generating activity for prolonged periods of time and where effective mitigation measures are not implemented.

Impacts due to construction dust emissions and potential nuisance would not be expected at a distance of 100m beyond a work activity area (assuming no mitigation measures) and then only when sensitive receptors are downwind of the dust source. There are several building receptors sporadically positioned along the area allocated for the proposed upgrade of the walking/cycling greenway recreational trail.

Human receptors in the vicinity of the proposed development are dispersed in nature. Leitrim Village is located over 3km to the west with other residences dispersed in all directions from the site. There are several dwellings/structures sited along the route of the proposed walking/cycling greenway recreational trail, some of which are located within 20m. As the construction activity is potentially minor to moderate in nature, the potential distance for significant effects from dust soiling² is between 25m and 50m. Mitigation measures should be accommodated throughout the proposed works to prevent nuisance noise and emissions affecting to the closest sensitive receptors.

There are no designated habitats within 200m of any proposed construction activity. Therefore, no mitigation measures for dust emissions during construction is required, as per the '*Guidance for the treatment of Air Quality During the Planning and Construction of National Road Schemes*' document.

2.6.3 IDENTIFIED CONSTRAINTS

The potential for dust emissions from the proposed development are to be minimal and temporary during the construction phase. The location of buildings along the route of the proposed development i.e., the dwellings and farm activity /land use located within 50m, may require mitigating measures during construction and proposed works e.g., water misting during any extended dry weather spell. During the operational phase, there will be imperceptible changes to the existing air and climate conditions around the proposed development.

2.7 CULTURAL HERITAGE

2.7.1 INTRODUCTION

An archaeological assessment has been completed by Martin Fitzpatrick of Through Time Ltd. in June and August 2021.

This report can be found in **Appendix C** of this report.

2.7.2 EXISTING ENVIRONMENT

The archaeological and cultural heritage assessment of the proposed development was assessed in relation to the archaeological monuments that form part of the landscape surrounding Sheemore and particularly those that are encountered along the proposed development.

² *Guidance for the treatment of Air Quality During the Planning and Construction of National Road Schemes*
<https://www.tii.ie/technical-services/environment/planning/>

A total of 5 recorded monuments are located in the vicinity of the proposed development. None of these monuments will be directly impacted by the proposed development. **Table 2.7** details the monuments, the specific record reference, the townland and monument type.

Table 2.7 Recorded monuments in landscape surrounding Sheemore.

Recorded Archaeological Remains			
No.	RMP Ref.	Townland	Monument Type
1.	LE027-039001-	Ballinwing	Ringfort
2.	LE027-039003-	Ballinwing	Hut site
3.	LE027-044001-	Ballinwing	Standing Stone
4.	LE027-044----	Ballinwing	Ringfort
5.	LE027-046----	Ballinwing	Enclosure

2.7.3 IDENTIFIED CONSTRAINTS

The assessment found that the proposed development will not directly impact any upstanding monuments. The archaeological significance of the area and the number of monuments in the surrounding landscape highlight the possibility of sub-surface archaeology surviving in the area of the proposed development.

Additionally, the assessment found that the proposed development will have a positive impact for recreation and tourism and would facilitate a greater understanding and appreciation of the history, archaeology and folklore of the area.

The Archaeology and Cultural Heritage assessment found no evidence of any features of archaeological significance visible above ground within the area extents of the proposed development. However, it is proposed that any development at this location would be subjected to pre-development archaeological testing undertaken by a licensed archaeologist working under license from National Monuments Service, Department of Housing, Local Government and Heritage. In tandem with this at least two months' notice should be accorded to the to the Minister through the National Monuments Service, the Department of Housing, Local Government and Heritage for any proposed development in this area.

The Archaeology and Cultural Heritage Impact Assessment makes the following recommendations:

- The area of notification surrounding three recorded monuments (LI027-046, LI027044 & LI027044001.) extends into the proposed walking/cycling greenway recreational trail and as such it is a requirement that at least two months' notice is given to the Minister through National Monuments Service, the Department of Housing, Local Government and Heritage for any proposed development in this area.
- Archaeological monitoring of ground disturbance within the zone of notification surrounding monuments LI027-046, LI027044 & LI027044001.

- If archaeological material is uncovered, work on site should be stopped to facilitate examination and recording.
- A report on the archaeological testing should be submitted to all relevant authorities and make recommendations in relation to any archaeology uncovered.

3 CONCLUSION

Recently there has been an increased volume of parked vehicles on the L7402. The development of a Sheemore Visitors Carpark Facility will resolve vehicular obstruction on the immediate section of road in the vicinity of the Sheemore summit trail and provide convenience to tourists and those wishing to use the walking/cycling greenway recreational trail in the area.

Regarding habitats, a Health and Safety method statement will be required due to the potential of falling ash limbs from ash die back. Additionally, a bat survey will need to be carried out prior to works on the walking/cycling greenway recreational trail. A biosecurity method statement should be established prior to works, especially in the area where a 98m drainage pipe is to be laid. There will be a small temporary impact in terms of traffic movements on the local road network with an estimate increase of construction movements on the local roads and associated construction traffic. The proposed development will mean that users must use the existing routes on the some winding local roads L3390 and L7402 while also crossing the road approximately 3 times to gain access to the Sheemore Visitors Carpark Facility from the beginning of the walking/cycling greenway recreational trail at Shannon-Erne Canal Walkway. However, the presence of proposed road markings relating to pedestrians and cyclists on shared use routes will aid in the prevention of road accidents.

From a socio-economic perspective, the proposed development has potential for a minor negative impact in terms of land-take but no impact could be classed as significant. However, the proposed development and promotion of the Sheemore Heritage Trail has potential to indirectly contribute to an improved cultural and tourism draw to the area attracting an increasing number of visitors to the surrounding areas and positive economic activity.

Regarding hydrology and hydrogeology, there is potential for associated negative impact on surface water quality as a result of construction work servicing the discharge pipe to the Sheemore Visitors Carpark Facility and intermittent runoff from the Sheemore Visitors Carpark Facility once operational. Water pollution controls in the form of marked out 50m setback watercourse work exclusion zone and installation of hydrocarbon interceptor to service the Sheemore Visitors Carpark Facility during its period of use will mitigate these potential negative impacts.

There is potential for minor nuisances (odour, noise and dust) related to the construction phase of the proposed development. Any impacts will be minor and temporary in nature and Leitrim County Council will monitor the works and respond to feedback from local receptors where any nuisance issues are brought to their attention.

The Archaeology and Cultural Heritage assessment found that no recorded monuments are directly impacted by the section of walking/cycling greenway recreational trail and proposed works will not impact on any architectural structures. It is recommended that any development at this location would be subjected to pre-development archaeological testing undertaken by a licensed archaeologist working under license from National Monuments Service, Department of Housing, Local Government and Heritage and at least two months' notice should be accorded to the Minister through the National Monuments Service, the Department of Housing, Local Government and Heritage for any proposed development in this area.

Overall, no significant impacts are expected in terms of socio-economic, hydrology or hydrogeology, flora and fauna, landscape and visual, odour, noise or cultural heritage.

APPENDIX A

PROJECT DRAWINGS

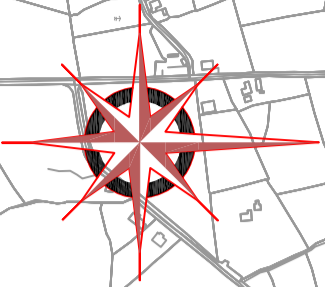
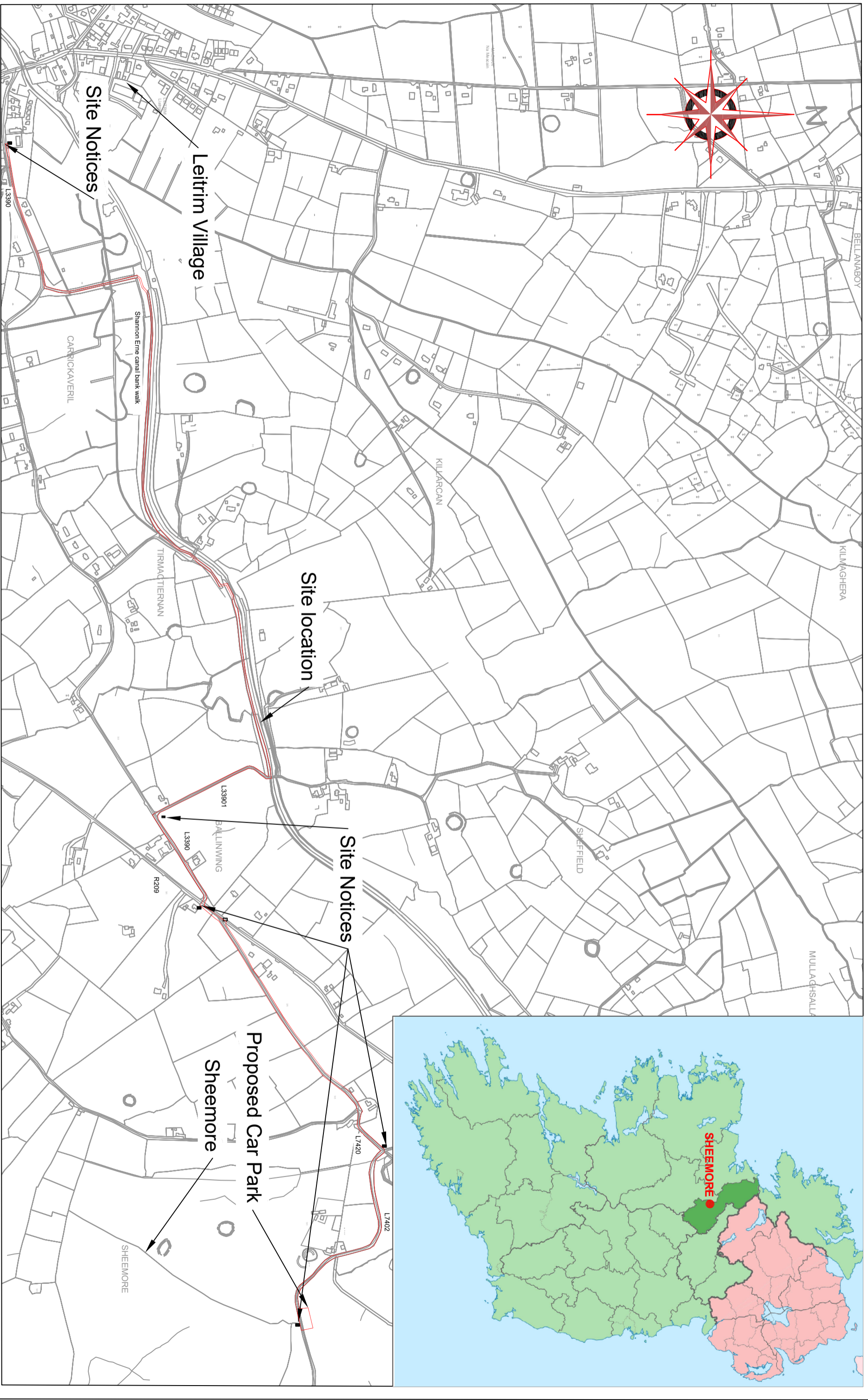


Leitrim County Council

Director of Services
 Mr. Joseph Gilhooly
 Áras an Chontae
 Carrick-on-Shannon
 Co. Leitrim
 Tel: 071 9620005

REV:	DATE:	AMENDMENT:

Project		Title	
Sheemore Heritage Trail		Site Location Map (Discovery Series)	
Component		O.S. Sheet Ref.:	
Map		1675	
Scale: 1:10000		Date	
Design		02/09/2021	
RF		Drawn	
RF		RF	
		Checked	
		FF	
		Drawing No.:	
		SH-001.1	
		Revision:	
		0	



Leirim County Council

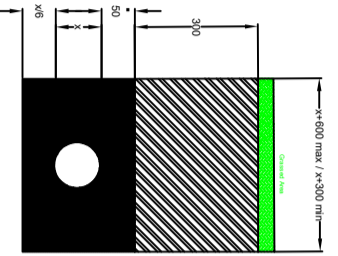
Director of Services
 Mr. Joseph Gilhooly
 Áras an Chontae
 Carrick-on-Shannon
 Co. Leitrim
 Tel: 071 9620005

REV:	DATE:	AMENDMENT:

Project		Title	
Sheemore Heritage Trail		Site Location Map	
Component		O.S. Sheet Ref.:	
Map		1675	
Scales		Checked	
1:10000		FF	
Date		Drawing No.:	
02/09/2021		SH-001	
Design		Revision:	
RF		0	

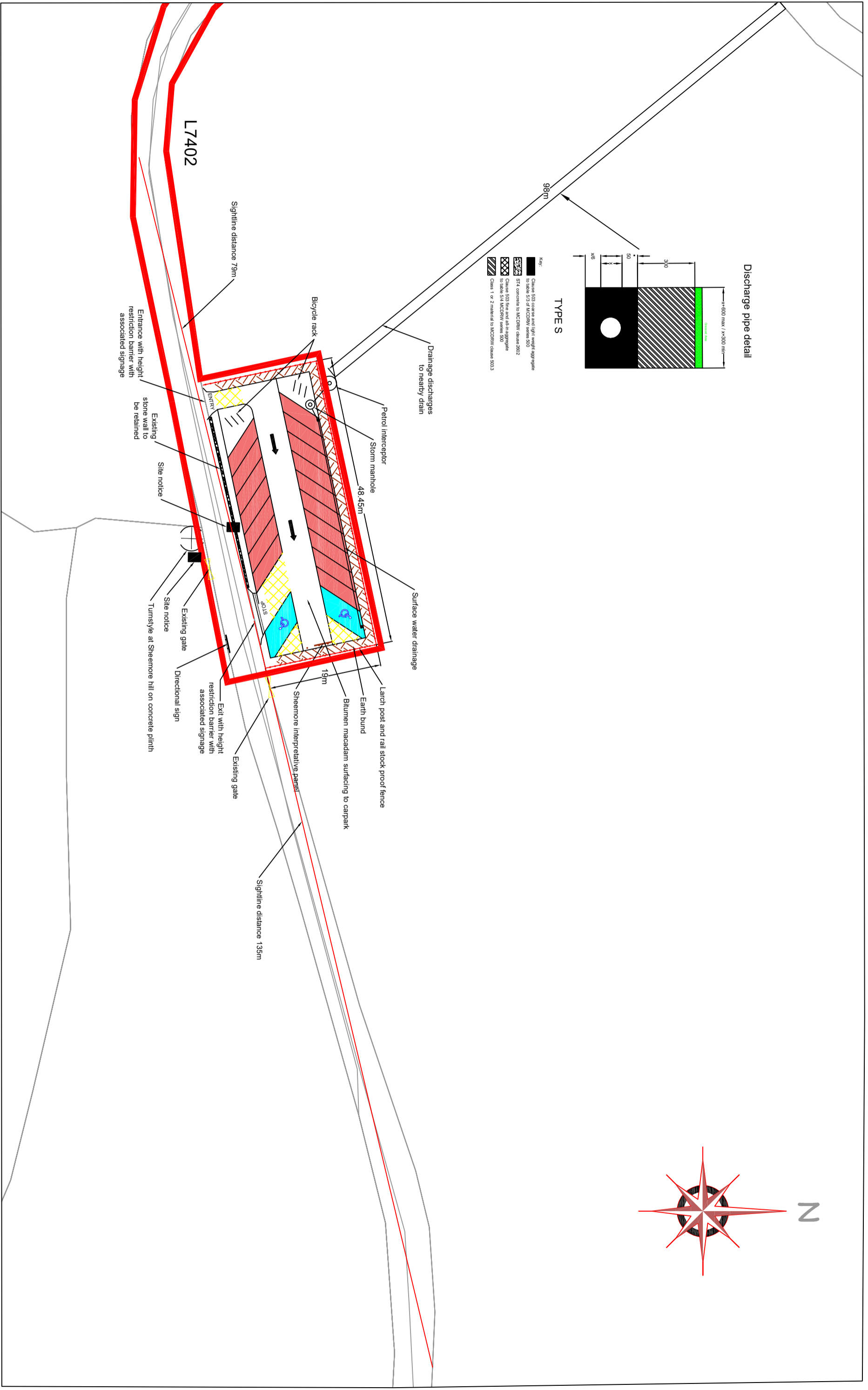


Discharge pipe detail



Key:
 Class 503 coarse and light weight aggregate to class 503 of MCDRW class 2002
 S14 concrete to MCDRW class 2002
 Class 503 fine and silt aggregate to class 504 MCDRW class 500
 Class 1 or 2 material to MCDRW class 5033

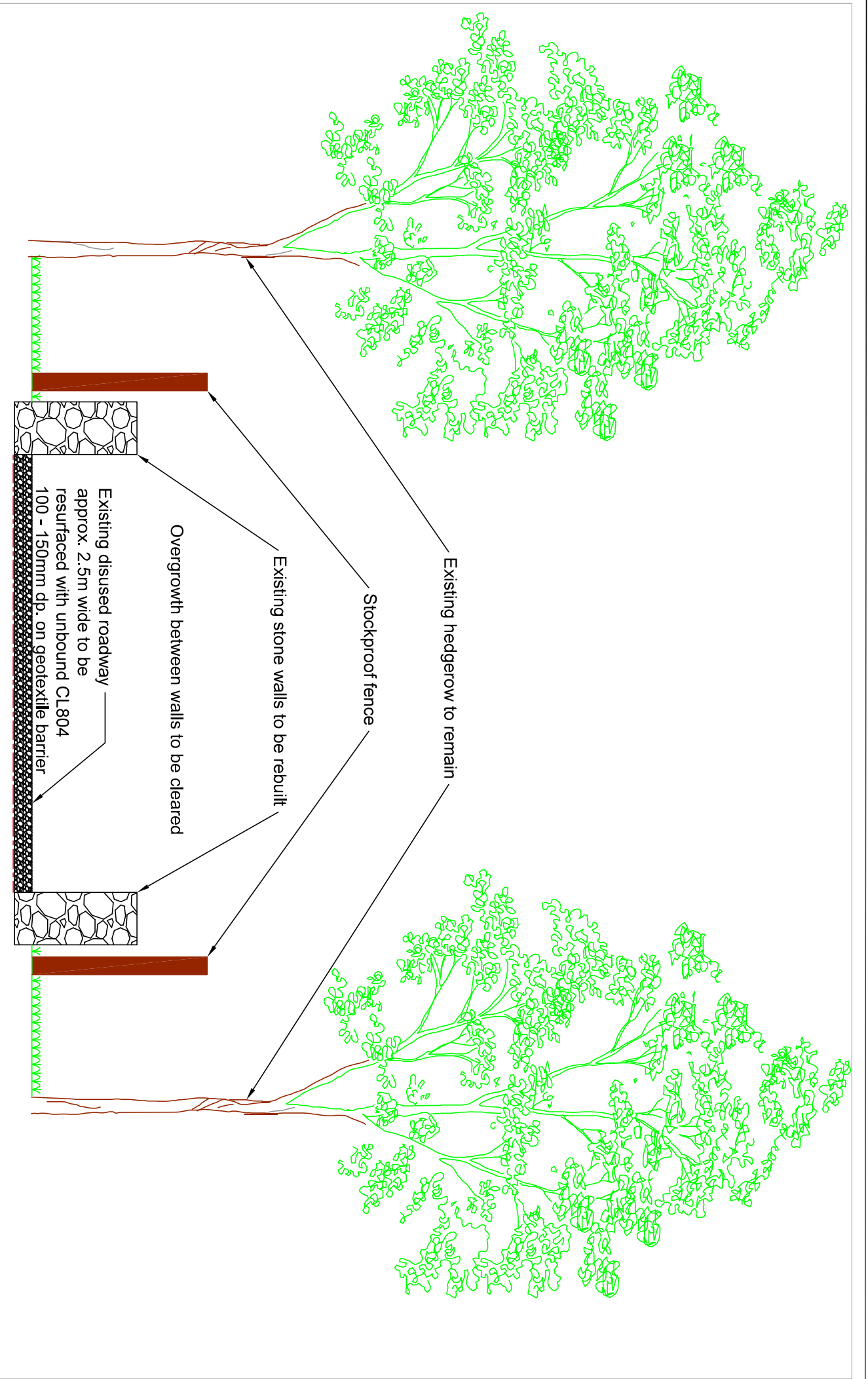
TYPE S



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 Co. Leitrim
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REV:	DATE:	AMENDMENT:

Project		Title	
Sheemore Heritage Trail		Proposed Car Park Layout	
Component	Map	Scale	Date
		1:500	12/10/2021
Design	Drawn	Checked	Revision
RF	RF	FF	0
Drawing No.: SH-002			



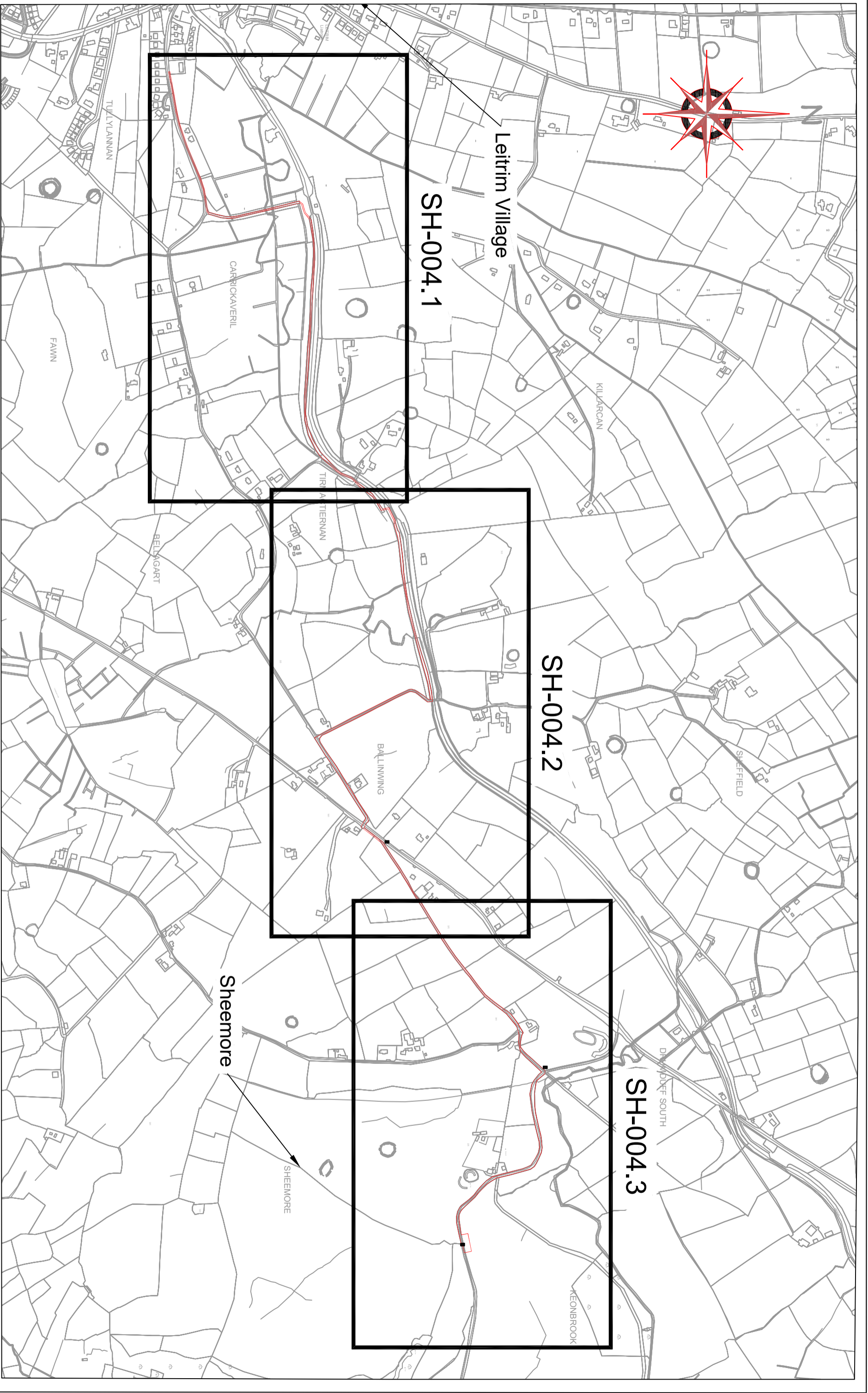
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REV:	DATE:	AMENDMENT:

Project		Title	
Sheenmore Heritage Trail		Proposed upgrade CH256Q-CH3205	
Component		Drawing No.:	
Map		SH-003	
Scale:		Date	
1:20		08/06/2021	
Design		Drawn	
RF		RF	
Checked		Revision:	
FF		0	



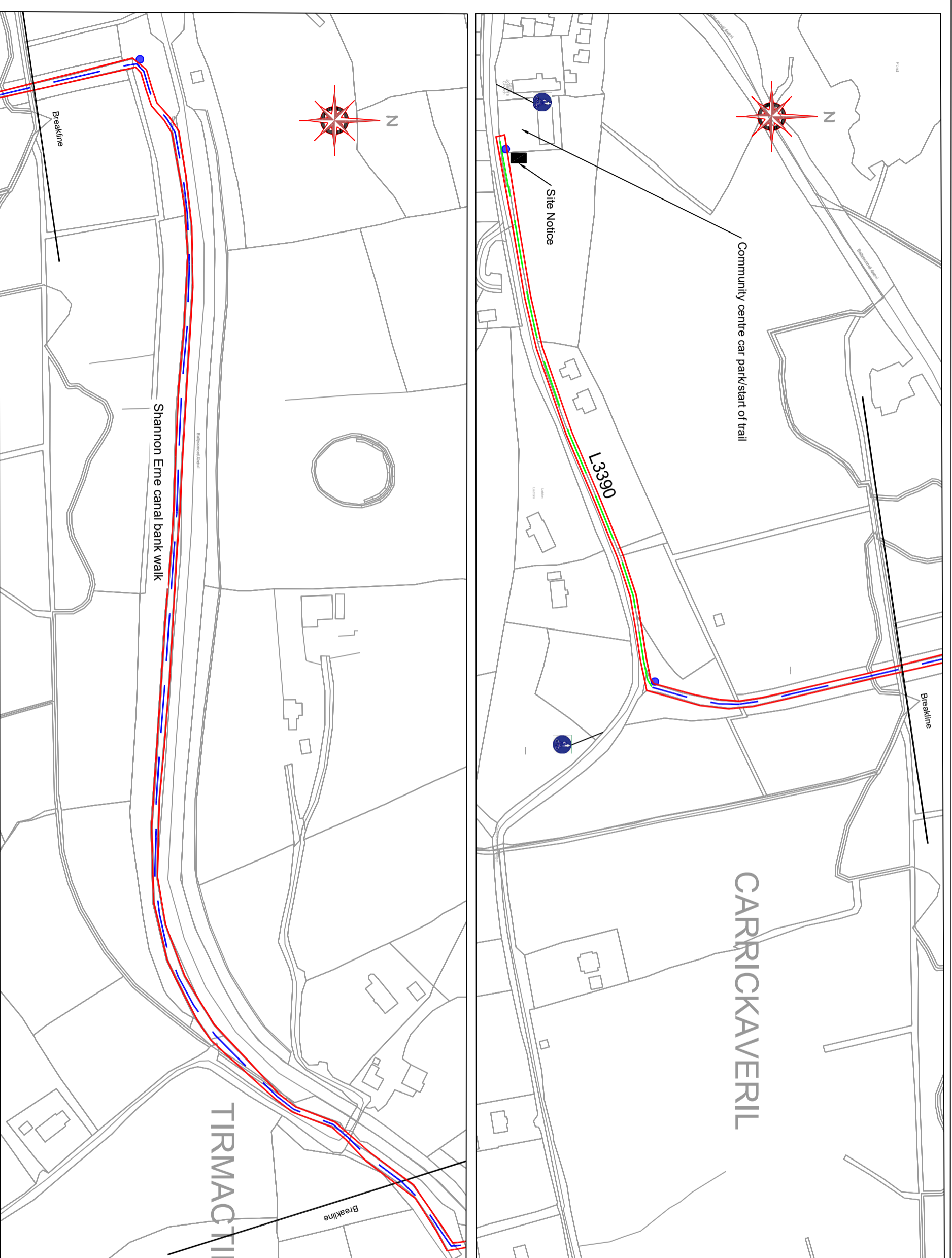


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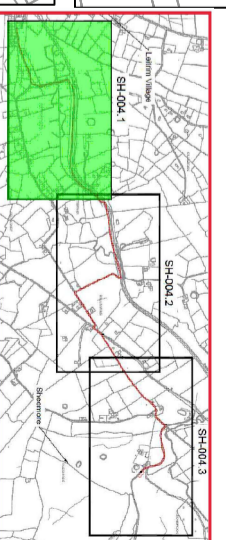
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REV:	DATE:	AMENDMENT:

Project		Title		Drawing No.:	
Sheemore Heritage Trail		Layout Overview		SH-004.0	
Component		Date		Revision:	
Map		01/09/2021		0	
Scales 1:10000		Drawn RF		Checked FF	
Design RF					



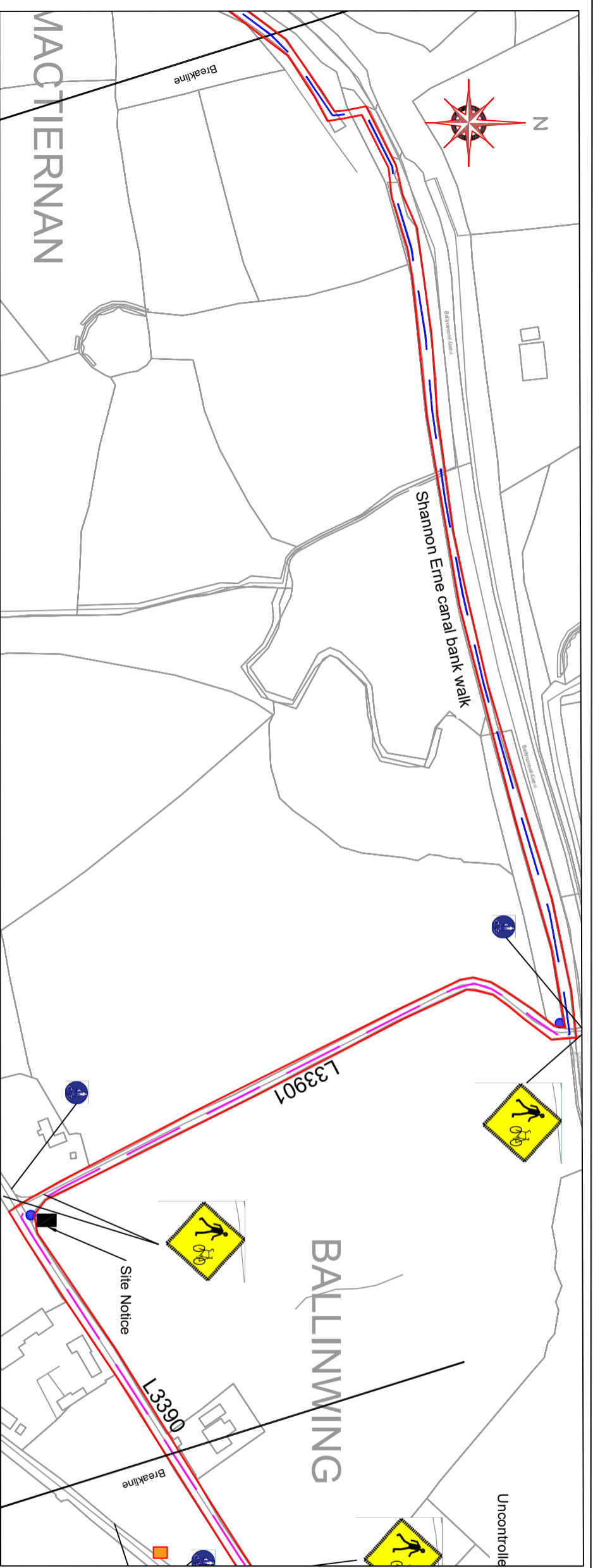
- Legend:**
- Existing route along regional road (0.4km)
 - Existing route along Shannon Erne Canal Walkway (1.6km)
 - Proposed directional post
 - Proposed road signage indicating shared use route



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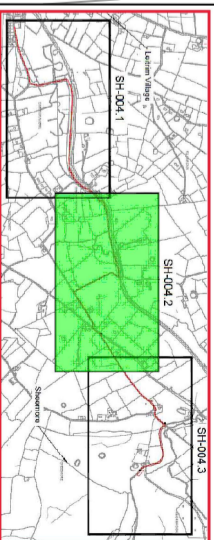
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Project		Title	
Sheamore Heritage Trail		Site Layout Plan (Sheet 1 of 3)	
Component		O.S. Sheet Ref.:	
Map		1675	
Scales 1:2500		Date	
Design		12/10/2021	
RF	RF	Drawn	Checked
		RF	FF
Drawing No.:		Revision:	
SH-004.1		0	



Legend:

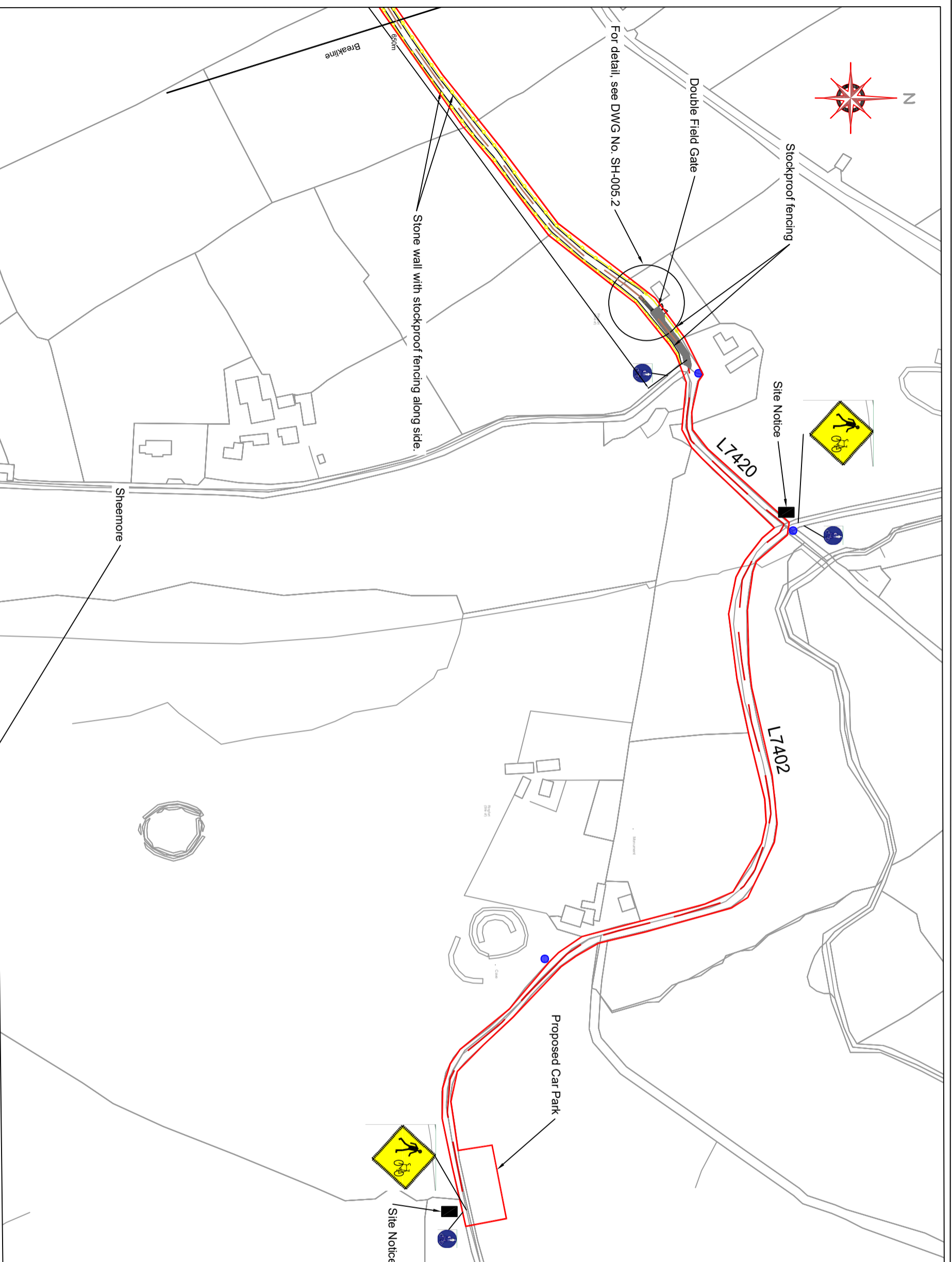
- Existing route along Shannon Erne Canal Walkway (1.6km)
- Existing route local roads (0.65km)
- Newly constructed greenway(0.055km)
- Proposed stock proof fence
- Disused roadway to be upgraded(0.65km)
- Disused roadway to be rebuilt along disused track
- Proposed directional post
- Proposed road signage indicating shared use route
- Proposed road markings on shared use route










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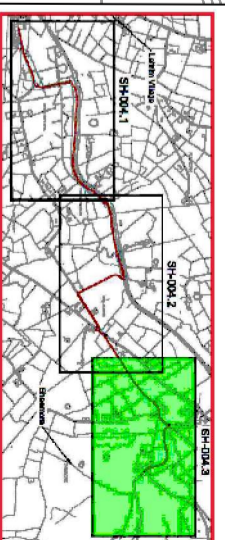
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Project		Title	
Sheemore Heritage Trail		Site Layout Plan (Sheet 2 of 3)	
Component		O.S. Sheet Ref.:	
Map		1675	
Scales		Checked	
1:2500		FF	
Design		Drawing No.:	
RF		SH-004.2	
Drawn		Revision:	
RF		0	



Legend:

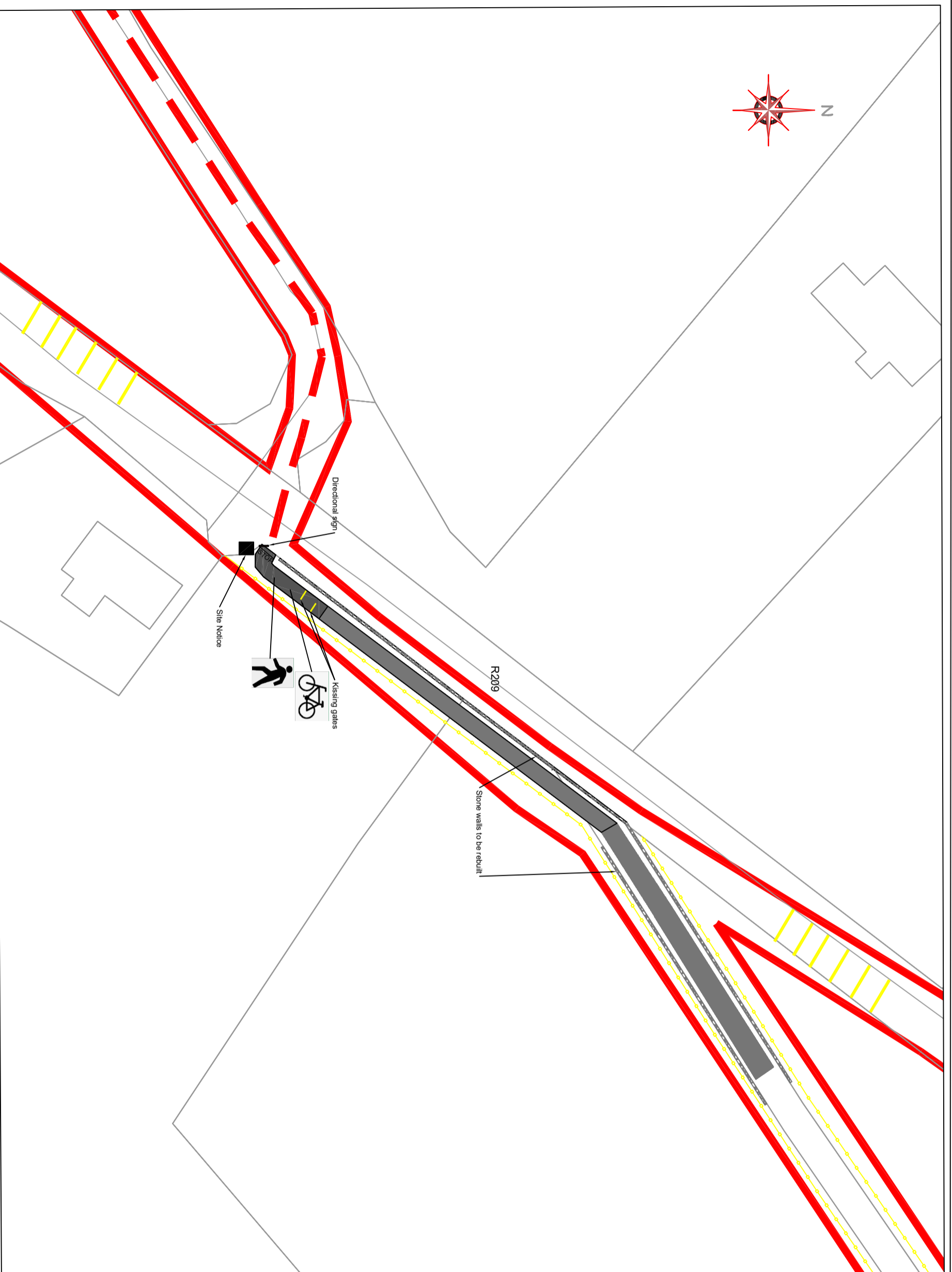
-  Disused roadway to be upgraded(0.65km)
-  Existing route from disused track to car park (0.73km)
-  Proposed stock proof fence
-  Proposed stone wall to be rebuilt
-  Proposed directional post
-  Proposed road signage indicating shared use route
-  Proposed road markings on shared use route







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REV:	DATE:	AMENDMENT:

Project		Title	
Sheemore Heritage Trail		Site Layout Plan (Sheet 3 of 3)	
Component		Map	
Scales	1:2500	Date	12/10/2021
Design	RF	Drawn	RF
		Checked	FF
		Drawing No.:	SH-004.3
		Revision:	0

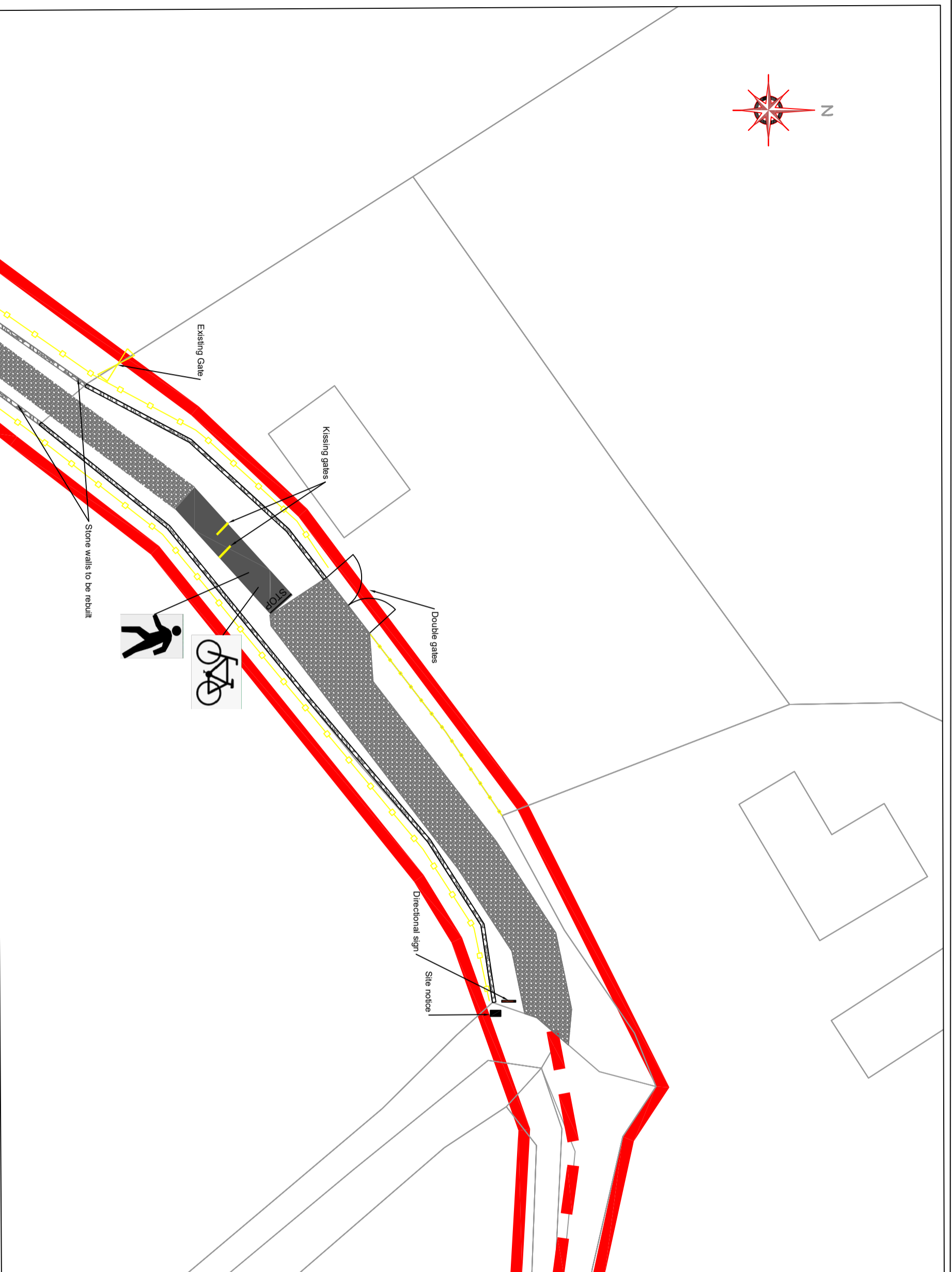
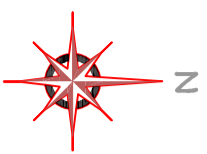


- Legend:**
-  Trail to follow existing roadway
 -  Proposed stock proof fence
 -  Tarmac Surface
 -  CL804





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REV:	DATE:	AMENDMENT:

Project		Title		Drawing No.:		Revision:	
Sheemore Heritage Trail		Disused Roadway Tie In Proposed Works		SH-005.1		0	
Component		Date		Checked			
Map		12/10/2021		FF			
Scales 1:500		Drawn					
Design		RF					



Legend:

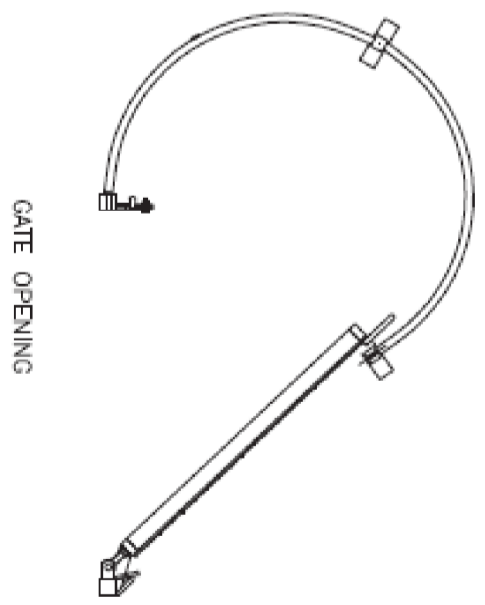
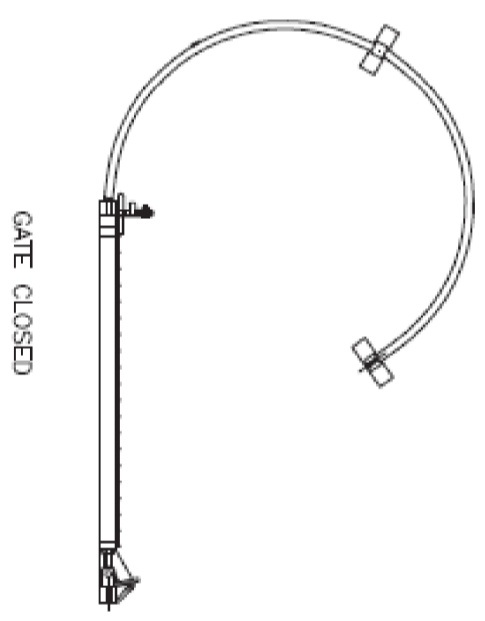
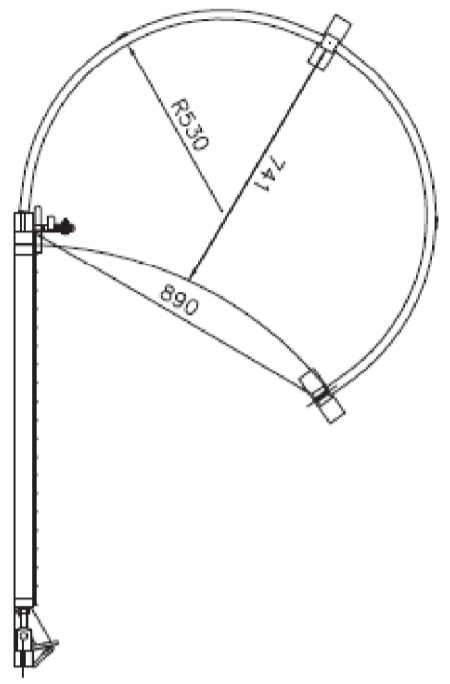
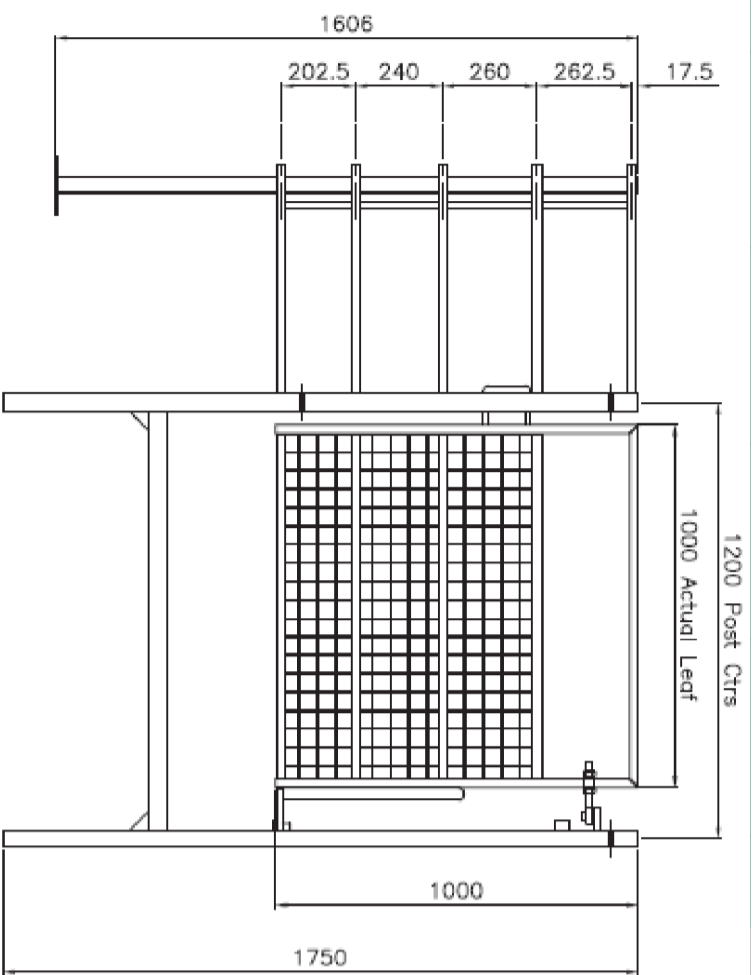
-  Trail to follow existing roadway
-  Proposed stock proof fence
-  CL804
-  Tarmac Surface

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REV:	DATE:	AMENDMENT:

Project Sheemore Heritage Trail		Title Disused Roadway Tie In Proposed Works	
Component Map		O.S. Sheet Ref.: 1675	
Scales 1:500	Date 12/10/2021	Checked FF	Drawing No.: SH-0052
Design RF	Drawn RF		Revision: 0





Typical turnstyle detail or similar approved. Turnstyle to have pedestrian gate beside it as shown in picture

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REV:	DATE:	AMENDMENT:

Project		Title		Drawing No.:		Revision:	
Sheemore Heritage Trail		Typical Turnstyle Detail		SH-006		0	
Component		Map		Date		Checked	
Scales NA		NA		30/07/2021		FF	
Design RF		Drawn RF					



APPENDIX B

ECOLOGY AND APPROPRIATE ASSESSMENT SCREENING REPORT

LEITRIM COUNTY COUNCIL

MODIFICATIONS AND IMPROVEMENT WORKS TO THE SHEEMORE HERITAGE TRAIL, FROM LEITRIM VILLAGE TO THE ACCESS POINT OF SHEEMORE HILL, SHEEMORE, CO. LEITRIM

ECOLOGY AND APPROPRIATE ASSESSMENT SCREENING REPORT

OCTOBER 2021

Leitrim County Council,
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St George's Terrace,
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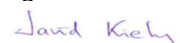


DOCUMENT APPROVAL

PROJECT	Modifications and Improvement Works to the Sheemore Heritage Trail, from Leitrim Village to the access point of Sheemore Hill, Sheemore, Co. Leitrim	
CLIENT / JOB NO	Leitrim County Council	6491
DOCUMENT TITLE	Ecology and Appropriate Assessment Screening Report	

Prepared by

Reviewed / Approved by

Document Final	Name Dr. Monica Sullivan MCIEEM	Name David Kiely
Date 29 th October 2021	Signature 	Signature 

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LEITRIM COUNTY COUNCIL**MODIFICATIONS AND IMPROVEMENT WORKS TO THE SHEEMORE HERITAGE TRAIL, SHEEMORE,
CO. LEITRIM****ECOLOGY AND APPROPRIATE ASSESSMENT SCREENING CONTENTS**

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1. INTRODUCTION

1.1 OUTLINE: PROPOSED WORKS

The Sheemore Heritage Trail project consists of proposed Modifications and Improvement Works to the Sheemore Heritage Trail from Leitrim Village to the access point of Sheemore Hill, County Leitrim, namely;

1. Construction of a 55m walking/cycling greenway recreational trail on private lands at Ballinwing Townland.
2. Construction of a 650m walking/cycling greenway recreational trail on the existing disused road/trackway between the R-209 and L-7420 at Ballinwing Townland.
3. Development of the Sheemore Visitors Carpark Facility at Keonbrook Townland.
4. Construction of a turnstile at the access point to Sheemore Hill at Sheemore Townland.
5. Provision of associated signage in the townlands of Tullylannan, Killarcan, Ballinwing, Keonbrook and Sheemore.

This Ecology and Appropriate Assessment Screening Report specifically refers to areas within the overall Sheemore Heritage Trail Project, i.e., the construction of 705m of walking/cycling greenway recreational trail, the development of the Sheemore Visitors Carpark Facility and turnstile access to the Sheemore Hill Trail head.

Proposed works will include a new Sheemore Visitors Carpark Facility covering an area of approximately 921m² on the north side of L7402, directly opposite the Sheemore Heritage Trail starting point, at Sheemore Hill, Co. Leitrim. The Sheemore Visitors Carpark Facility will accommodate 19 car park spaces (including two disability car park spaces), six bike racks and information boards detailing Sheemore's archaeological, cultural and ecological heritage. There will be a separate entrance and exit gate with directional signage installed to advise on route of travel to onward destinations (**Drawing SH-002 Car Park Layout**). This area will include an earth bund, surface water drainage, petrol interceptor and storm manhole.

Installation of kissing gates and upgrade of an existing 650m disused road between L3390 and L7402 and construction of a 55m walking/cycling greenway recreational trail on private lands at Ballinwing Townland to form a greenway between the Shannon Erne Canal to the proposed Sheemore Visitors Carpark Facility off the L7402 will also be completed.

Jennings O'Donovan & Partners Limited have been commissioned by Leitrim County Council to carry out a Stage I Appropriate Assessment Screening under Article 6(3) of Council Directive 92/43/EEC (Habitats Directive) for the proposed Modifications and Improvement Works to the Sheemore Heritage Trail from Leitrim Village to the access point of Sheemore Hill, County Leitrim, hereafter referred to as the proposed development.

The following report has been completed to provide information regarding the ecological status of the proposed site of works. The report includes a general ecological assessment of the site and the surrounding area, including designated sites. The main purpose of this report is to assess the various elements of the project in terms of potential impacts to European Sites within the Zone of Influence (Zoi) of the project site. Potential cumulative impacts of the proposed development, individually and in combination with other plans and projects within the area of the waterbody catchment are also assessed in relation to existing, or proposed elements of the project. Locations where works will be carried out were surveyed for the presence of protected habitats and species as set out in the Birds and Habitats Directives (Directive 2009/147/EC and Council Directive 92/43/EEC, respectively).

This report has been completed to provide the information necessary to allow the competent authority (Leitrim County Council) to conduct an Article 6[3] Appropriate Assessment (AA) Screening of the proposed development. The legislation and methodology for which is detailed in the Section below.

This proposal is not necessary for the conservation management of a European site.

1.2 AUTHOR'S QUALIFICATION AND EXPERTISE

This Stage I Appropriate Assessment Screening has been prepared by Dr. Monica Sullivan, Principal Environmental Scientist and Lead Ecologist at Jennings O'Donovan & Partners Limited. She is a full member of the Chartered Institute of Ecology and the Environmental Management. Dr. Sullivan has over 35 years' experience in the natural sciences, specialising in fisheries management, aquatic ecology and freshwater invertebrate taxonomy. She has lectured since the mid 1990's – 2017 in invertebrate zoology, ecology and environmental pollution control to both masters and degree students. She was the examiner for the freshwater biology module for the Institute of Fisheries Management, England. Monica's experience includes invasive species surveys, management plans, ecological studies, Environmental Impact Assessment (EIA) screenings, Appropriate Assessment (AA) screenings, Natura Impact Statements (NIS), otter surveys, badger surveys, freshwater macroinvertebrate and instream flora surveys.

Qualified to doctorate level, Monica previously worked as a partner in an environmental consultancy, undertaking fieldwork and specialising in Environmental Assessments of medium to large scale infrastructural projects and the coordination and management of AA and Environmental Impact Assessment processes. She has a clear understanding of the legislative framework governing the extent of environmental investigations, assessments and reports required to secure the necessary approvals on all types of projects. She has extensive experience in management of specialist sub-consultants and working in a team environment and a history of collaborating with participants on research projects. Dr. Sullivan was author and researcher on an Environmental Government Program on invasive species. She is chief author of a chapter in the book Zebra Mussels in Europe and has published many papers on the topic. She spent several years working as both English and Scientific editor for international scientific journals. In 2017, she was expert advisor for 'horizon scan' invasive species workshop.

1.3 REGULATORY CONTEXT

Under Section 177U (1) of the Planning Acts, a Screening for AA of the proposed development shall be carried out by the competent authority (in this case, Leitrim County Council or An Bord Pleanála) to assess in view of best scientific knowledge, if the proposed development, individually or in combination with other plans or projects, is likely to have a significant effect(s) on any European sites.

Collectively, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are referred to as the Natura 2000 Sites. The legal basis on which SACs are selected and designated is the EU Habitats Directive, 92/43/EEC transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), as amended. The designation features of SACs are referred to as Qualifying Interests (QI) and include both species (excluding birds) and habitats. Similarly, Special Protection Areas (SPA's) are legislated in the Birds Directive 2009/147/EC. The designation features of SPAs are referred to as Special Conservation Interests (SCIs) which comprise bird species as well as wetland bird habitats.

In general terms, SACs and SPAs are considered to be of exceptional importance in terms of rare, endangered or vulnerable habitats and species within the European Community.

Article 6, paragraphs 3 of the Habitats Directive state that:

“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in-combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public”.

The statutory agency responsible for the European sites is the National Parks and Wildlife Service of the Department of Culture, Heritage and the Gaeltacht.

This report has been prepared in accordance with current guideline documents:

- Assessment of plans and projects significantly effecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC, 2001)
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG 2009, Revised February 2010)
- Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government (DoEHLG, 2009, rev 2010)
- Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg, (EC, 2000a)
- European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No.477 of 2011).
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission (EC, 2013).

-
- EU Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (EC, 2007)
 - Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018)
 - OPR Practice Note PN01 Appropriate Assessment Screening for Development Management (March 2021)

The following European Court and Irish High Court rulings have been considered:

- C-127/02 Waddenzee v Staatssecretaris
- C-258/11 Sweetman v An Bord Pleanála
- C-512/12 Briels
- C-387/12 & C388/15 Orleans and others v Vlaams Gewest
- C-142/15 Moorbug
- C-323/17 People Over Wind and Peter Sweetman v Coillte
- C-162/17 Grace and Sweetman
- C-883/18 Holohan and others v An Bord Pleanála
- IEHC 84 (2019) - Kelly v An Bord Pleanála

Relevant plans from national to local scales are critical to inform a robust assessment of in-combination impacts; these are listed below:

- National Biodiversity Action Plan, for the period 2017-2021
- River Basin Management Plan for Ireland 2018-2021
- Leitrim County Development Plan 2015-2021

1.4 THE STAGES IN AN APPROPRIATE ASSESSMENT

There are 4 stages in an Appropriate Assessment as outlined in the European Commission Guidance document (2001). The following is a brief summary of these steps:

Stage 1 - Screening: This stage examines the likely effects of a project either alone or in-combination with other projects upon a European site and considers whether it can be objectively concluded that these effects will not be significant.

Stage 2 - Appropriate Assessment: In this stage, the impact of the project on the integrity of the European site is considered, with respect to the conservation objectives of the site and to its structure and function.

Stage 3 - Assessment of Alternative Solutions: Should the Appropriate Assessment determine that adverse impacts are likely upon the European site, this stage examines alternative ways of implementing the project that, where possible, avoid these adverse impacts.

Stage 4 - Assessment where no alternative solutions exist and where adverse impacts remain: Where imperative reasons of overriding public interest (IROPI) exist, an assessment to consider whether compensatory measures will or will not effectively offset the damage to the European site will be necessary.

As part of this Screening for Appropriate Assessment, a desk-based study of the European site within the zone of influence (Zol) of the proposed development is required.

1.5 SCREENING METHODOLOGY

The function of the Screening Assessment is to identify whether or not the proposal will have a likely significant effect on any European Site. In this context “likely” refers to the presence of doubt with regard to the absence of significant effects (ECJ case C-127/02) and “significant” means not trivial or inconsequential but an effect that has the potential to undermine the site’s conservation objectives (ECJ case C-127/02). In other words, any effect that compromises the functioning and viability of a site and interferes with achieving the conservation objectives for the site would constitute a significant effect.

The nature of the likely interactions between the project and the integrity of a European Site will depend upon the sensitivity of the European Site’s qualifying features to potential impacts arising from the project; the current conservation status of the European Site and its qualifying features; and any likely changes to key environmental indicators (e.g. water quality) that underpin the conservation status of European Sites and their qualifying features, in-combination with other plans and projects.

The European Commission (2018) Guidelines outline the stages involved in undertaking a Screening Assessment of a project that has the potential to have likely significant effects on European Sites. The methodology adopted for this Screening Assessment is informed by these guidelines and was undertaken in the following steps:

1. Define the project and determine whether it is directly connected with or necessary for the conservation management of European Sites
2. Identify other plans or projects that, in-combination with the project, have the potential to effect European Sites
3. Assess whether or not the project is likely to have significant effects on European Sites in the view of its conservation objectives.

1.6 DESK STUDY

A desk study was carried out to collate the available information on the ecological environment of the proposed development. The National Parks and Wildlife Service (NPWS) database was consulted concerning designated conservation areas and records of rare and protected plant and animal species in the vicinity of the proposed development. The EPA Geoportal website was used when researching European designated sites and watercourses.

The National Biodiversity Data Centre (NBDC) website was also consulted and a species list of both flora and fauna reports were generated for four 1km square grids to incorporate the proposed development site, the walking/cycling greenway recreational trail and the wider area. The 1km Square Grid G9805 incorporates the proposed Sheemore Visitors Carpark Facility and turnstile and also the

northern section of the proposed walking/cycling greenway recreational trail, while G9705 and G9704 incorporate the rest of the proposed walking/cycling greenway recreational trail. G9905 is adjacent and east of G9805 and incorporates farmlands where no development will occur in relation to this project.

For bird data, NBDC 2km² grids namely G90X and G90S were consulted and incorporated the entire proposed development site.

The Leitrim County Development Plan 2015-2021 and the Leitrim County Development Plan 2022-2028 Strategic Issues Paper were reviewed. The latter document notes that the development of greenways presents valuable opportunities for rural communities to attract more visitors. These values lie not only in the recreational opportunities that they offer but also in their potential to stimulate local businesses and regenerate local areas. Leitrim County Council is committed to the development of further greenways during the life of the next County Development Plan.

The Leitrim County Development Plan 2015-2021 and the Leitrim County Council planning enquiry website was reviewed to identify any proposed plans or projects which may have a direct, indirect or cumulative impact with this project.

1.7 FIELD STUDIES

Two multidisciplinary site visits were carried out on in 2021. The first site visit incorporated the proposed Sheemore Visitors Carpark Facility in May 2021, while the second site visit in July 2021 incorporated the walking/cycling greenway recreational trail. The surveys completed involved walking all aspects of the site and its environs, identifying habitats, recording all birds seen and heard and recording all signs of non-volant protected mammals during the survey. Any presence of or suitable habitat for amphibian and reptile species were recorded. Habitat classification followed Fossitt (2000), and the floral nomenclature used followed Parnell and Curtis (2012) and Scannell and Synnott (1987).

1.8 FLOODING

Office of Public Works (OPW) website and the CFRAM study were accessed (September 10th, 2021) to determine flood areas within and near the proposed development. **Figure 1.1** shows the Mackan 26 stream has low and medium probability of flooding according to 'National Indicative Fluvial Mapping – Present Day'. This Order 2 stream is located approximately 255 m northwest of the proposed Sheemore Visitors Carpark Facility and approximately 150m from the drainage discharge point.

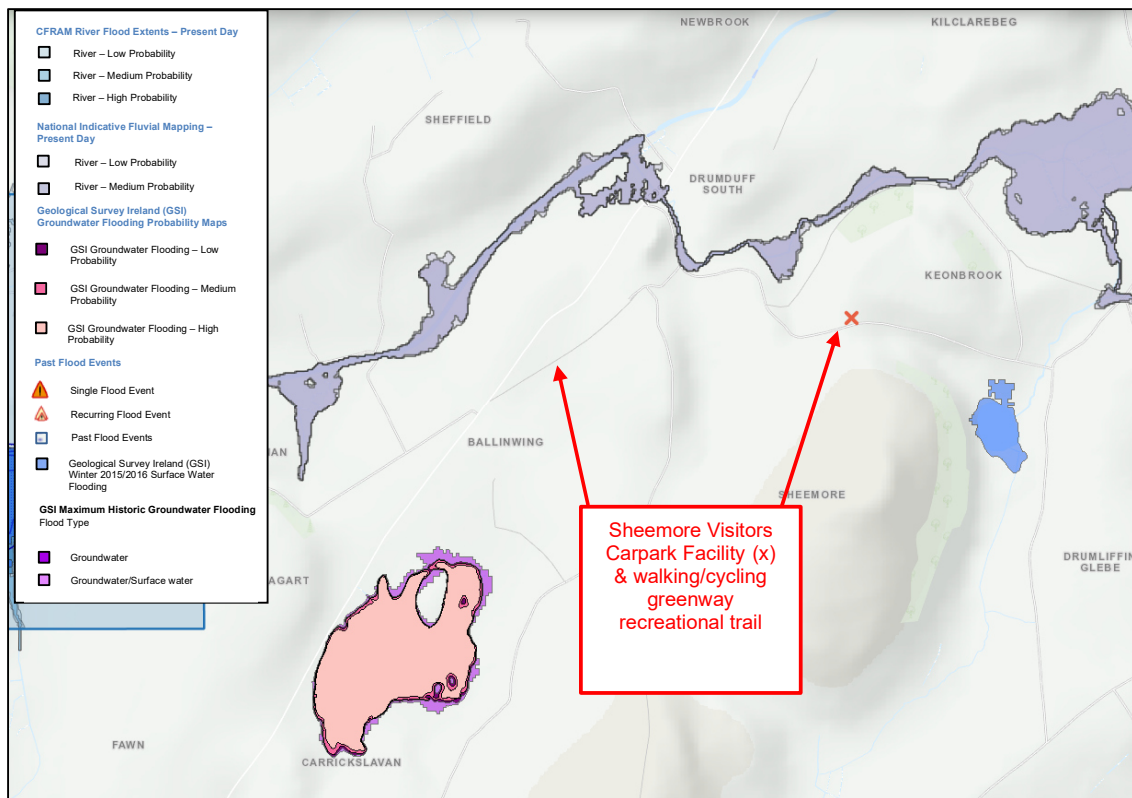


Figure 1.1 Flood Map for the Proposed Site of Works (Source: FloodInfo.ie, 2021)

2. PROJECT DESCRIPTION

2.1 SITE LOCATION

The proposed improvements/modifications of the route of the walking/cycling Sheemore Heritage Trail (approximately 4.03km) will start at the Community Centre car park in Leitrim Village off local road L3390 at Tullyannan Td. And will route as follows:

- Exiting the existing Community Centre car park in Leitrim Village turning left onto the existing local road L3390, continuing for approximately 0.4km.
- Turning left onto the existing Shannon Erne Waterway Canal Bank Walkway continuing for approx. 1.6km through Tullyannan Td, Killarcan Td, Tirmactirnan Td, and Ballinwing Td past Killarcan Lock No. 16 and Tirmactiernan Lock No. 15.
- Turning right onto the existing local road L33901 at Ballinwing Td. continuing for approx. 0.3 km toward the L3390.
- Turning left onto the existing local road L3390 at Ballinwing Td continuing for approx. 0.25 km toward the R209 Ballinamore Rd.
- Crossing the existing Regional Ballinamore Road R209 at Ballinwing Td turning left onto a newly constructed approx. 55m of greenway section at Ballinwing Td.
- Turning right onto the currently disused road/trackway proposed to be improved at Ballinwing Td continuing for approx. 0.65km.
- Turning left onto the existing local road L7420 at Ballinwing Td continuing for approx. 0.13km.

- Turning right onto the existing local road L7402 at Ballinwing Td continuing for approx. 0.6km arriving at the proposed modified entrance to Sheemore Hill trail head at Sheemore Td. opposite the new proposed Sheemore Heritage Trail carpark at Keonbrook Td.

The route of the improved and modified Sheemore Heritage Trail will be traffic free for approx. 2.25km of the total approx. 4.03km length. Detailed drawings (**Drawing SH-004.1, SH-004.2 and SH-004.3**) can be found in **Appendix A**.

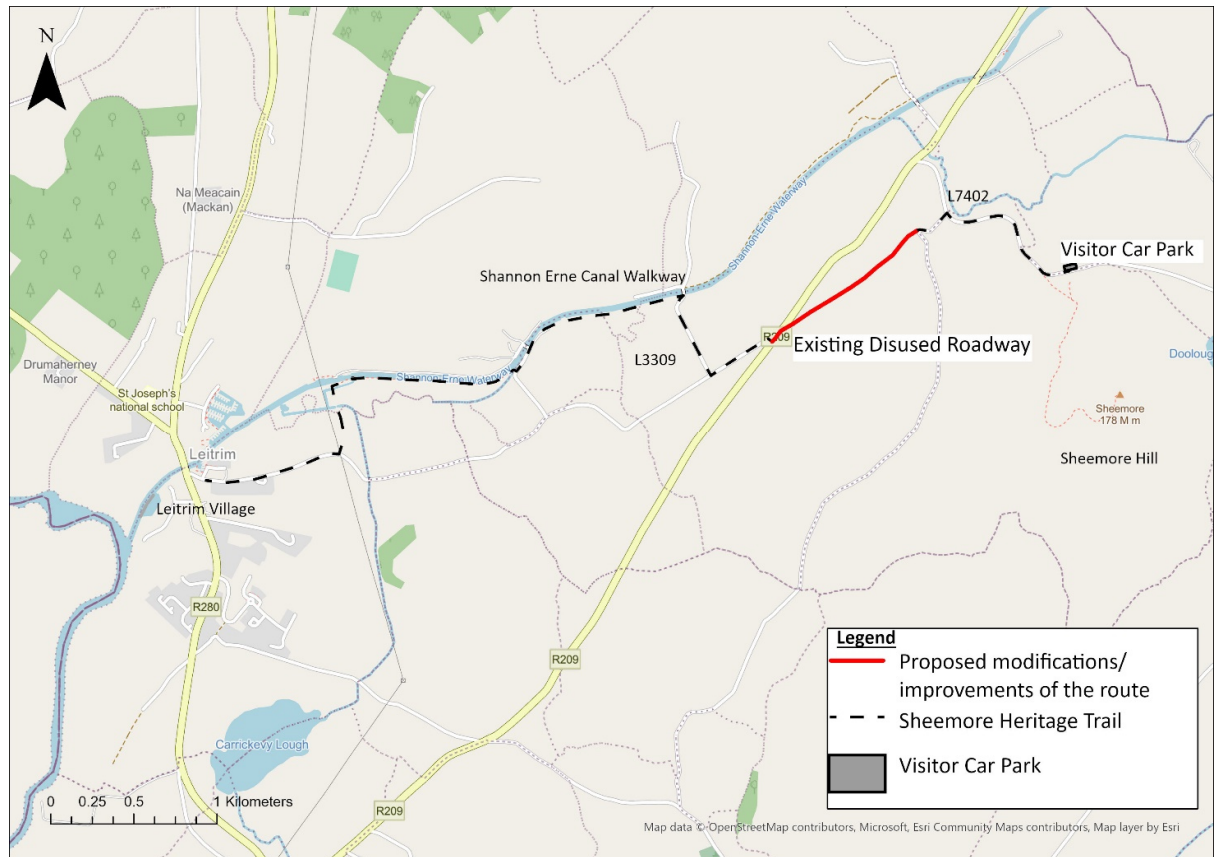


Figure 2.1 Location of the proposed development.

2.2 PROPOSED WORKS

Proposed new Greenway Section

A new greenway section constructed in private lands at Ballinwing Td is proposed east of the R209 accessing opposite the junction with the L3390 and routing northeast for approximately 55m. The existing dilapidated natural stone walls on the western side of the proposed greenway will be rebuilt to approx. 1m in height. New stock proof larch timber post & rail fencing 1.2m to 1.4m high will be provided on the eastern side of the trackway. The approximate 2.5m wide greenway will be surfaced with unbound CL804 material on geotextile/terram weed barrier allowing free drainage of surface waters beneath. Approx. 12m length of the southern end of the greenway will be surfaced with bitumen macadam tying into the existing R209 Ballinamore Road.

Disused Road/Trackway

The entire length of the disused and overgrown existing road/trackway (approximately 650m) between the R209 and the L7420 at Ballinwing Td will be cleared of overgrowth. The existing dilapidated natural stone walls on both sides of the road/trackway will be rebuilt to approx. 1m in height. New stock proof larch timber post & rail fencing 1.2m to 1.4m high will be provided on either side of the trackway. The approx. 2.5m wide trackway will be surfaced with unbound CL804 material on geotextile/terram weed barrier allowing free drainage of surface waters beneath. Approximately 12m length of the northern end of the trackway will be surfaced with bitumen macadam tying into the existing public roads. Safety signage and gates will be provided at both ends of the trackway. Double galvanized farmyard gates will be installed at the northern end to allow the landowner to access farmlands/farm buildings.

Carpark Facility

The proposed carpark will be located to the north of the L7402 at Keonbrook Td directly opposite the access point to the Sheemore Trail head. The carpark will be approx. 921m² in area accommodating 19 carpark spaces (including 2 disability carpark spaces), six bike racks and an interpretative panel detailing Sheemore's archaeological, cultural and ecological heritage. The carpark will have separate signed entry and exit points. Two entry and exit point overhead height restriction barriers including height restriction signage will be provided thus preventing unauthorised access to the carpark of larger vehicles such as camper vans. The surface of the carpark will be bitumen macadam draining to trapped gullies and a hydrocarbon interceptor (grease, oils, etc.) toward a nearby surface water drain approx. 100m to the northwest which is hydrologically linked to the Mackan 26 Order 2 stream. This stream is approximately 150m from the point of discharge of the drainage pipe. The proposed carpark will be fenced on the north, west, and east sides with stock proof larch timber post & rail fencing 1.2m to 1.4m high. An earth bund will be provided inside the new fence line. The existing stone wall on the south side of the proposed Sheemore Visitors Carpark Facility will be retained between the entry and exit points. Directional signage will be installed adjacent the exit point for onward destinations.

Sheemore Hill Access

A turnstile on an engineered concrete plinth including a pedestrian counter (to measure the number of visitors to this site) is proposed to provide the means of access to the Sheemore Hill Trail Head on the south side of the L7402 at Sheemore Td.

Signage

Fingerpost directional signage will be provided at road junctions between; Leitrim Village and Sheemore Hill. Trail posts will be provided at every approx. 500m along the total length of the Sheemore Heritage Trail from Leitrim Village to Sheemore Hill access point. Safety signage will be provided where the trail route meets public roads.

The location and details of the project can be found in **Appendix A**.

The Sheemore Visitors Carpark Facility will be comprised of an area of approximately 921 m² off L7402 public road. It will accommodate 19 car park spaces (including two disability car park spaces), six bike racks and information boards detailing Sheemore's archaeological, cultural and ecological heritage. There will be a separate entrance and exit gate with directional signage installed to advise on route of travel to onward destinations (**Drawing SH-002 Car Park Layout**). This area will include an earth bund, surface water drainage, petrol interceptor and storm manhole. A 98m drainage pipe will connect the storm manhole (northwest of the Sheemore Visitors Carpark Facility) to a nearby existing drain which is hydrologically linked to the Mackan 26 Order 2 stream. This stream is approximately 150m from the point of discharge of the drainage pipe.

Installation of kissing gates and an upgrade of an existing disused road between L3390 and L7402 to form a walking/cycling greenway recreational trail from Shannon Erne Canal to a proposed Sheemore Visitors Carpark Facility on L7402 will also be completed. Works on the walking/cycling greenway recreational trail are limited and include an upgrade of a disused road between the L3390 and L7402, stretching over a length of approx. 705m. All other aspects of the walking/cycling greenway recreational trail are roads which are already in existence and require no upgrade (approx. 1.2km).

3. RECEIVING ENVIRONMENT

3.1 GEOLOGY AND SOILS

The proposed development is all located within the Bricklieve Limestone Formation. This bedrock formation is described by the Geological Survey of Ireland (GSI) as a '*Bioclastic cherty limestone*'. The quaternary sediments are classified 'Till derived from limestones'. The Sheemore Visitors Carpark Facility will overlie '*Karstified bedrock outcrop or subcrop*'. The soils between the Sheemore Visitors Carpark Facility and the Mackan 26 watercourse include limestone till and alluvium soils.

3.2 HYDROLOGY AND HYDROGEOLOGY

The proposed development is located within the Water Framework Directive (WFD) wider Upper Shannon catchment area covering an area of 604 km². They are also located within the Shannon[Upper]_SC_020 WFD sub catchment and the Shannon (Upper)_050 river sub basin (Code: IE_SH_26S020550).

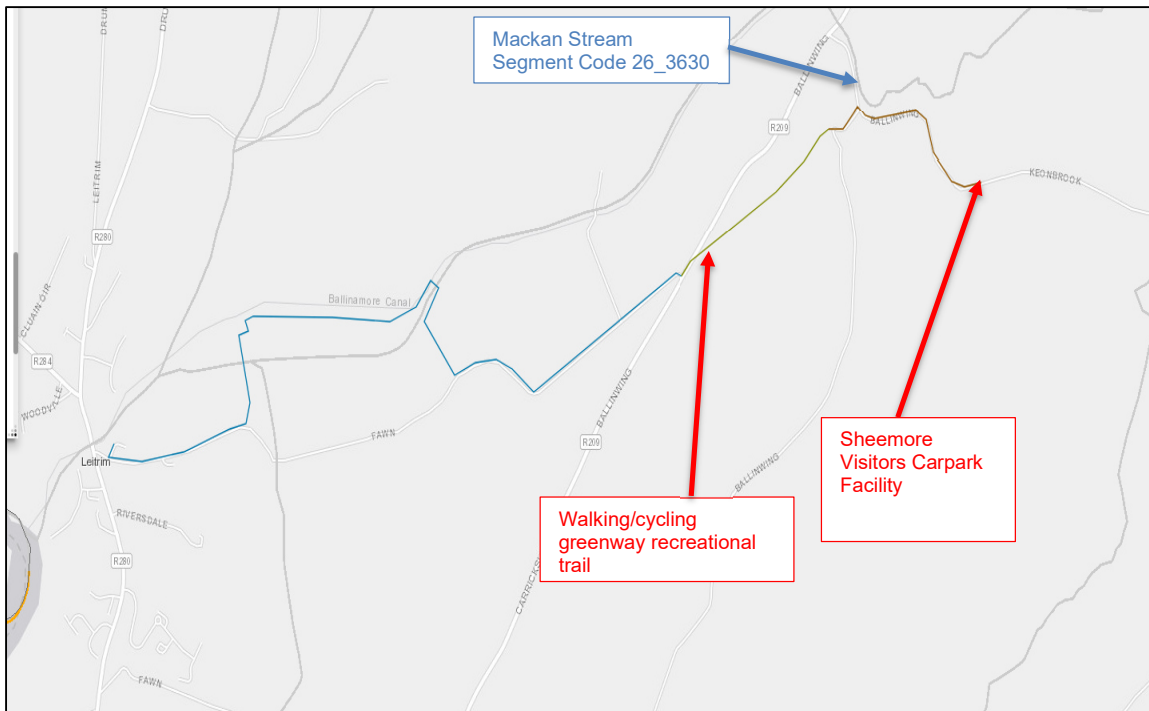


Figure 3.1 Watercourses and waterbodies adjacent to the proposed development area

The Mackan 26 (IE_SH_26S020550; Seg Code 26_3630) Order 2 stream is located approximately 255m from the Sheemore Visitors Carpark Facility and approx. 150 from the proposed drainage discharge pipe from the Sheemore Visitors Carpark Facility. The intervening slope between the car park and this water feature is moderate at approximately 6.4% downhill to the Mackan 26 stream.

The proposed works within the walking/cycling greenway recreational trail are over 290m from the Mackan 26 stream with a moderate intervening slope of approximately 4%. There is no potential for a hydrological connection from the walking/cycling greenway recreational trail works to any European Site either downstream or upstream.

There are ten European Sites potentially hydrologically linked downstream to the proposed developmentworks via the Mackan 26 stream. These sites are outlined in **Table 3.1**.

Table 3.1 European Sites potentially hydrologically linked to Mackan 26

European Site	Approximate Distance Downstream from Sheemore Visitors Carpark Facility (km)
Special Area of Conservation	
Lough Forbes Complex SAC (001818)	44.5
Lough Ree SAC (000440)	79.2
River Shannon Callows SAC (000216)	113.2
Lough Derg, North-east Shore SAC (002241)	173.4
Lower Shannon SAC (002165)	211.1
Special Protection Area	
Ballykenny-Fisherstown Bog SPA (00410)	64.6
Lough Ree SPA (004064)	79.2
Middle Shannon Callows SPA (004096)	113.2

European Site	Approximate Distance Downstream from Sheemore Visitors Carpark Facility (km)
Lough Derg (Shannon) SPA (004058).	173.4
River Shannon and River Fergus Estuaries SPA (004077)	242.1

In relation to the proposed works at the Sheemore Visitors Carpark Facility, the Mackan 26 stream initially meanders northwest and then southwest for approx. 3.7km before merging with the Shannon Upper River (IE_SH_26S020550; Seg Code 26_3641). This River flows for a further 40.8km southeast until it reaches Lough Forbes Complex SAC (001818) and the Ballykenny-Fisherstown Bog SPA (004101) located approx. 64.6km downstream of the proposed car park site. The Shannon [Upper] River continues to meander southwest for a further 14.6km before entering Lough Ree SAC (000440) and Lough Ree SPA (004064) and later into the River Shannon Callows SAC (000216) and Middle Shannon Callows SPA (004096) (approximately 113.2km downstream from the proposed Sheemore Visitors Carpark Facility), Lough Derg, North-east Shore SAC (002241) and Lough Derg (Shannon) SPA (004058 (approximately 173km downstream). The Shannon River then travels south and into the Lower Shannon SAC (002165) (approximately 211km downstream) and River Shannon and River Fergus Estuaries SPA (004077) where it discharges into the Atlantic Ocean approximately 242km from the proposed Sheemore Visitors Carpark Facility.

The distance between the Sheemore Visitors Carpark Facility and the Mackan 26 is approximately 255m. Considering the size and scale of the proposed car park, the temporary nature of the construction works, the runoff from the car park during operation, the intermediate soakaway potential, there is unlikely to be a significant effect on any European Site hydrologically linked downstream (and identified above in Table 3.1) either during the construction or operation periods.

Leaching from the Sheemore Visitors Carpark Facility to groundwater could potentially occur. However, the car park will be designed in accordance with the *Recommendations for Site Development Works for Housing Areas* and also the recommendations of the *Greater Dublin Strategic Drainage Study (GSDSDS)*.

GSI Groundwater Resources (Aquifers) and Groundwater Vulnerability maps were consulted. The Bedrock Aquifer was identified as '*Regionally Important Aquifer – Karstified (conduit)*.' The vulnerability of the groundwater was recorded as being '*E*' (Extremely vulnerable) within the vicinity of the Sheemore Visitors Carpark Facility but also showed '*X*' (Rock at or near Surface or Karst) throughout the Heritage Trail.

The groundwater body risk for the project area is classed as under '*Review*' but was classed as having '*Good*' status in the years 2013-2018.

Consultation of the National Well database compiled by the GSI indicates that there are no wells or springs within the vicinity of the site. However, a historical map (1888-1913) indicates there was once a spring to the northeast of Sheemore Hill (approximately 390 m from the start of the heritage trail) and

a well to the west of Sheemore Hill (Iskamillish Well) approximately 475m southwest of the Sheemore Visitors Carpark Facility.

The closest well according to the GSI is located approximately 3.1 km to the southwest of the Sheemore Visitors Carpark Facility in the townland of Tullyannan. The well (GSI Code 1729NEW101) is classed as a borehole 48.7m deep and used for agricultural and domestic use. The nearest spring recorded is in Edenmore, approximately 2.1 km northeast-east the Sheemore Visitors Carpark Facility (GSI Code 2029NWK001).

3.3 HABITATS

Proposed Development

Seven habitats (according to Fossitt, 2000) were noted in the survey area, namely BL1: Stone walls, GS2: Grassy verges, GS4: Wet grassland, GA1: Improved agricultural grassland, WS1: Scrub, a transitional WL1: Hedgerow/WL2: Treeline and ED2: Bare Ground. There is no Annex I habitat occurring within the area of proposed for works.

No rare, threatened, or protected species of plants as per the Red Data Book (Curtis and McGough, 1988) were found. No species listed in the Flora Protection Order (2015) were found to be growing within the proposed site of works or adjoining lands.

BL1: Stone Walls

A drystone wall of <1m in height exists along the proposed Sheemore Visitors Carpark Facility southern boundary line (plate 3.1). The wall is located in a rural farmland setting, delineating a property boundary and is briefly discontinued where a gateway entrance to the site exists.

Structurally, for the most part, the wall is intact, with only a few sections of the wall unmanaged and limited to only one or two foundation rows. Overall, the wall supports a limited floral diversity, but is relatively abundant in lichens.



Plate 3.1 Existing stone wall habitat (BL1, Fossitt, 2000) along the southern boundary of the Proposed Development

The wall is of dry-stone composition and largely unvegetated with the dominant species comprising the more primitive ferns, including the intermediate polypody (*Polypodium interjectum*), Hart's-tongue (*Asplenium scolopendrium*) and maidenhair spleenwort (*Asplenium trichomanes*). Other flora which have gained a foothold include creeping ivy (*Hedera hibernica*), Herb-Robert (*Geranium robertianum*) and mosses.

Stone wall (BL2) is also a prominent habitat category of the proposed project, namely along the boundary of the proposed walking/cycling greenway recreational trail. The stone wall bordering both sides of the historical 590m proposed track has been neglected, is in disrepair and in places, has only one or two remaining rows on stones. The 1-1.5m high walls are regularly obscured along much of their route as they have become completely overgrown with marginal grassland / hedgerow vegetation (Plate 3.2). Mosses, ivy and bramble encroach the stones (Plate 3.3). On one occasion, both parallel walls have been discontinued (removed) to allow access from a farmyard to agricultural fields located south of the proposed walking/cycling greenway recreational trail.



Plate 3.2 Stone wall with dense entangled vegetation.



Plate 3.3 Stone wall along the northwestern boundary.

The root system of elder (*Sambucus nigra*) and other proximate trees are woven and entangled amongst the stones/rocks and as these trees and rampant climbers mature, they have on occasion, contributed to the collapse / breakdown of the stone wall structure (Plate 3.4).



Plate 3.4 Collapsed stone wall showing densely entwined ivy vines

Regularly associated flora with these stone walls include Herb Robert (*Geranium robertianum*), cleavers (*Galium aparine*) and bush vetch (*Vicia sepium*).

GS2: Dry meadows and grassy verges

This habitat exists along local road L7402 on the southern side of the stone wall noted above (Plate 3.5). It incorporates the grassy verge (approx. 1m wide) between the stone wall and the roadway.



Plate 3.5 Grassy margin habitat (GS2) exterior to stone wall, along L7402 local road.

This habitat has been cut back but a good diversity of plants were still identifiable in places and included a high proportion of grasses such as cock's-foot (*Dactylis glomeratus*), meadow fox-tail (*Alopecurus pratensis*) and Yorkshire fog (*Hoculus lanatus*). The broadleaved herb component was characterised by a range of species including cow parsley (*Anthriscus sylvestris*), common knapweed (*Centaurea nigra*), hogweed (*Heracleum sphondylium*), narrow-leaved dock (*Rumex obtusifolius*), marsh thistle (*Cirsium palustre*), horsetail (*Equisetum sp.*), yarrow (*Achillea millefolium*), dandelion (*Taraxacum sp.*) and nettle (*Urtica dioica*).

Bush vetch (*Vicia sepium*) was common with a lower representation of meadow vetchling (*Lathyrus pratensis*). The grassy verge also supported other smaller broadleaved herbs such as pignut (*Conopodium majus*), creeping buttercup (*Ranunculus repens*), wild strawberry (*Fragaria vesca*), germander speedwell (*Veronica chamaedrys*), creeping cinquefoil (*Potentilla reptans*) and also silverweed (*Potentilla anserina*), bedstraw (*Galium aparine*), clovers (*Trifolium spp.*) and broadleaf plantain (*Plantago major*) closer to the road margin. wood sorrel (*Oxalis acetosella*) was present in a more shaded section of the wall. Glaucous sedge (*Carex flacca*) was present. The caterpillar of drinker moth (*Euthrix potatoria*) was noted in amongst the vegetation. A young blackthorn (*Prunus spinosa*) tree has gained partial foothold in the crevices of the wall; its root system is intertwined amongst the stones.

The starting point of Sheemore Heritage Trail (on the south side of the L7402 opposite the visitor car park) is currently comprised of a stack of boulders with nettle (*Urtica dioica*) and grasses around its base and overhanging bramble (*Rubus fruticosus*).

The grassy margin leading to the northern end of the proposed walking/cycling greenway recreational trail has not been recently cut back and is largely comprised of grasses, cow parsley (*Anthriscus sylvestris*), nettles (*Urtica dioica*), common hogweed (*Heracleum sphondylium*) and bramble (*Rubus fruticosus* agg.) (Plate 3.36).



Plate 3.6 Grassy margin habitat (GS2) along the northern track leading to the proposed walking/cycling greenway recreational trail.

GS4: Wet grassland

This grassland is located at an elevation of approx. 70m on relatively flat ground, on the north side of L7402 and the lower lying lands of Sheemore Hill, due south (Plate 3.7). Underlying soils are limestone till (carboniferous). The land is used for agricultural purposes and had just recently been cut on the day of the site visit in May, 2021. Cattle tracks were notable in the area. Overall, grassland composition has been modified and diversity relatively poor and reflected areas of poorly drained soils. Underlying the upright vegetation were abundant mosses throughout the Proposed Development area. Lesser spearwort (*Ranunculus flammula*) leaves were conspicuous and standing upright over much of the grassland. Cuckoo flower (*Cardamine pratensis*) was also visible in places. Meadow buttercup (*Ranunculus acris*) was also well represented, with creeping buttercup (*R. repens*) noted closer to the road where conditions were somewhat drier.

Soft rush (*Juncus effusus*), horsetail (*Equisetum sp.*), yellow iris (*Iris pseudacorus*), meadowsweet (*Filipendula ulmaria*), marsh thistle (*Cirsium palustre*), glaucous sedge (*Carex flacca*) and field woodrush (*Luzula campestris*) were also present.



Plate 3.7 Wet grassland habitat (GS4) at site of the proposed Sheemore Visitors Carpark Facility with Sheemore Hill in background

GA1: Improved Agricultural Grassland

This farmland habitat is proximate to the proposed 590m walking/cycling greenway recreational trail (Plate 3.8). It is extensive and separated by land boundaries in the form of established hedgerows / treelines. Floral species was difficult to ascertain as the grassland was recently mown in most cases. Cattle were noted grazing along the margins of fields.



Plate 3.8 Recently mowed Improved agricultural grassland (GA1)

Scrub: WS1

The area in between the two parallel walls stretching the 590m (approx.) length of the proposed walking/cycling greenway recreational trail can be classified as scrub habitat (Plate 3.9). It is largely impenetrable, overgrown and dense with unmanaged tangled vegetation. Primary species include bramble (*Rubus fruticosus agg.*) and blackthorn (*Prunus spinosa*). Vegetation is in general, approx. 1.5-2m⁺ tall. Saplings of young trees including ash (*Fraxinus excelsior*) exist on occasion. Common hogweed (*Heracleum sphondylium*), willowherb (*Epilobium spp.*), nettle (*Urtica dioica*) and cow parsley (*Anthriscus sylvestris*) are common in places.



Plate 3.9 Impenetrable Scrub habitat between historical walking/cycling greenway recreational trail stone walls.

WL1: Hedgerow / WL2 Treeline

Linear hedgerow / treeline habitat exists for approx. 590m along the length of the proposed walking/cycling greenway recreational trail (Plate 3.10).



Plate 3.10 Aerial image of proposed walking/cycling greenway recreational trail outlined by WL1 / WL2 habitats.

The hedgerow WL1/treeline WL2 habitats are varied along this 590m (approximately) route. They delineate farmland boundaries in an intense agricultural landscape. Adjacent lands are farmed and managed for grassland and stock.

WL1 / WL2 habitats exist in parallel along a historical greenway denoted by perimeter stone walls, set apart by approx. 3-4m. These habitats vary in composition along their length and width; in places dense and uninterrupted with tall mature/ semimature trees and in other areas discontinuous, low and sparse. Overall however, they are likely to be providing food, shelter and corridors for mammals, areas for nest and hibernation sites for many of our native flora and fauna.

Pelletier-Guittier et al., (2020) noted the beneficial role played by hedgerows for wildlife conservation in intensive agricultural landscapes. They outline how hedgerow use by mammals increases as tree cover and understory density increase, and as human disturbance decreases. These results characterize the variables influencing hedgerow use by a broad set of medium and large sized mammal species and confirmed their use as movement corridors and/or habitat.

In general, all trees regardless of stage of life have a substantial cover of climbing ivy (*Hedera hibernica*). Mature native trees include ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*) and blackthorn

(*Prunus spinosa*). All specimens of ash were showing signs of ash dieback, the invasive fungal pathogen *Hymenoscyphus fraxineus*.

Non-native mature trees include sycamore (*Acer pseudoplatanus*). Semi-mature trees that are native include willow (*Salix* spp.), elder (*Sambucus nigra*), hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*).

In general, lower hedgerows have a high proportion of spinose plants dominated by blackthorn (*Prunus spinosa*) which supports climbing bramble (*Rubus fruticosus agg*) and bordering patches of the creeping thistle (*Cirsium arvense*). Ivy (*Hedera hibernica*) and cleavers (*Galium aparine*) and bush vetch (*Vicia sepium*) are common climbers in the hedgerow, predominantly utilising tree branches for support. In addition, elder (*Sambucus nigra*) and willow (*Salix* spp.) feature but are not dominant.

Marginal vegetation in shaded areas along the base of the hedgerows includes primrose (*Primula vulgaris*), lords and ladies (*Arum maculatum*), hart's tongue fern (*Asplenium scolopendrium*), both thyme-leaved speedwell (*Veronica serpyllifolia*) and wood speedwell (*V. montana*) and mosses amongst others.

Tall grasses including false oat grass (*Arrhenatherum elatius*) and cock's foot (*Dactylis glomerata*) exist close to the hedgerows/treelines, common hogweed (*Heracleum sphondylium*), cow parsley (*Anthriscus sylvestris*), nettles (*Urtica dioica*), meadowsweet (*Filipendula ulmaria*) and ferns dominate the taller marginal herbaceous layer with bush vetch (*Vicia sepium*) and cleavers (*Galium aparine*) gaining support from these taller dense plants.

Bare ground: ED2

This habitat exists along the commencement of the track from L7402 to a field gateway; a stretch of approx. 40m. Vegetation includes a high concentration of mosses and grasses including *Poa annua* mixed with dandelion (*Taraxacum officinale*), red and white clover (*Trifolium pratense* and *T. repens*), ribwort and broadleaved plantain (*Plantago lanceolata* and *P. major*), meadow buttercup (*Ranunculus acris*), speedwell (*Veronica* sp.), common mouse-ear (*Cerastium fontanum*), pineappleweed (*Matricaria discoidea*) amongst others in the centre of the track (Plate 3.11). The 40m stretch is regularly driven over, leading to conspicuous parallel areas that are largely bare/unvegetated.



Plate 3.11 Bare Ground ED2 at commencement of walking/cycling greenway recreational trail from track looking southwest

The hedgerow is unfragmented and dense, extending to approx. 2 metres wide (or more in places) and is approximately 1-1.5m tall. It is managed and has been severely cut back over the years.

3.4 INVASIVE SPECIES

No invasive alien species as listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011) Part 1 were recorded within or in the vicinity of the site under survey.

3.5 MAMMAL ACTIVITY

Badgers

Badger hair was noted trapped on barbed wire at one location (ITM E 598120 N805235) along the proposed walking/cycling greenway recreational trail (Plate 3.12). The site is a likely commuter route for badger. Despite longer grass in the adjacent area, there did not appear to be any sign of recently trodden or marked out runs from this access point, which may indicate that this in fact may be an older commute route. No further evidence of badger was noted, including snuffle holes, latrines, runs or setts along the hedgerow or treeline. Local farmers noted no badger activity or sightings in recent years in the area (Pers. comm).



Plate 3.12 Badger hair trapped on barbed wire along walking/cycling greenway recreational trail.

The NBDC database (accessed 31/08/2021) also has 1 no. historical (2008) protected mammal recorded within this 1km² grid area (G9805), namely the badger (*Meles meles*). All adjacent 1km² square grids (incorporating lands that will not be developed as part of this project) also have a record of badger from the same year. The Eurasian badger has been given legal protection under the Wildlife Act, 1976 as amended and is listed in Appendix III of the Bern convention as a species in need of protection. Over half of badger setts in Ireland are found along hedgerows.

Foxes

The red fox (*Vulpes vulpes*) is Ireland's only member of the Canidae family. It is a highly adaptive mammal that can inhabit any type of land area and is traditionally associated with woodland and open countryside but can be found from lowlands up to mountainous areas, along the coast, in farmland and more recently in urban areas. No one habitat type is preferred as the red fox will hunt and scavenge most food sources in an area providing disturbance of their den is not excessive. Local farmers witnessed fox on occasion in their sheds feeding on meal (Pers comm.). Red foxes are not considered endangered in Ireland or in the rest of Europe.

Shrews

Shrews are protected under the Wildlife Act (1976) and Wildlife (Amendment) Act 2000 but has been listed as 'least concern' in the recent Red List for terrestrial mammals in Ireland. While no evidence of shrews was noted during the site walkover in 2021 or on the NBDC database for the area, the pygmy shrew is common throughout mainland Ireland and has a preference for habitat rich in ground cover, which offers ideal foraging grounds and protection from predators (mainly birds of prey).

Red squirrels and Pine martens

No dens or dreys were noted and no evidence of either species found in the hedgerow/treeline habitat along the walking/cycling greenway recreational trail or elsewhere within the landholding. NBDC does not hold a record for these species within the four local 1 km² grids outlined in Section 1.6. However, in the townlands of Sheemore and Ballinwing the Eurasian Red Squirrel was recorded in 1968. The treeline is limited in cover; both these mammals prefer more dense woodlands.

Hares

No hares or forms (surface dens) were noted on-site during the site walkover in 2021. NBDC does not hold a record for hare within the four local 1 km² grids outlined in Section 1.6.

Bats

Bats and their roosts are protected by Irish and EU law because all species have declined, and some are threatened or endangered. Bat roosts are protected, irrespective of whether or not they fall within the boundaries of a SAC.

Bats are likely to frequent all linear corridors, especially hedgerows and waterways. The National Biodiversity Data Centre (NBDC) has a register of bat distribution in Ireland. No specific individual species records are noted in the NBDC database for the proposed development area.

While no bat species have been recorded from the 1km² grids researched for this development, NBDC have devised a *Suitability Index* for different bats species which includes the entire proposed development site and the wider area.

Table 3.2 Habitat Suitability Index for bat species in the area

Species	Suitability Index
All Bats	27
<i>Pipistrellus pygmaeus</i>	40
<i>Pipistrellus auritus</i>	34
<i>Pipistrellus pipistrellus</i>	39
<i>Pipistrellus nathusii</i>	5
<i>Myotis daubentonii</i>	31
<i>Myotis mystacinus</i>	11
<i>Myotis nattereri</i>	32
<i>Plecotus auritus</i>	12
<i>Rhinolophus hipposideros</i>	2
<i>Nyctalus leisleri</i>	40

The index ranges from 0 to 100, with 0 being the least favourable and 100 the most favourable for bat species. The index presented is for all species combined, in addition to the individual species' indices.

Overall, the proposed development site and the wider area have a medium ranking index range for all bat species (Suitability Index of 27). This score is reflected in the landscape with limitations in its potential for roosting, commuting or foraging.

Potential for Bat Species at the Proposed Development Site

The three most likely species to occur in the area include Ireland's two smallest bats, namely the common pipistrelle (*Pipistrellus pipistrellus*) and the soprano pipistrelle (*Pipistrellis pygmaeus*) and also Leisler's bat (*Nyctalus leisleri*).

The common pipistrelle (*Pipistrellus pipistrellus*) species tends to forage along linear landscape features such as the hedgerow/treeline feature provided along the walking/cycling greenway recreational trail, as well as within woodlands. The soprano pipistrelles (*Pipistrellis pygmaeus*) are the smallest and most often seen of our bats in Ireland, flying at head height and taking small prey such as midges and small moths. Summer roost sites are usually in buildings, but they may also use tree holes and heavy ivy where this habitat is present along the walking/cycling greenway recreational trail.

Leisler's bat (*Nyctalus leisleri*) is Ireland's biggest bat and is generally found roosting in buildings (13% in trees)¹. While there is no suitable building on site, this bat could also potentially roost in the tall mature treeline. Leisler's bat is rare in Britain and the rest of Europe, but it is relatively common here. For this reason, the Irish population of Leisler's bats is considered of International Importance.

The brown long-eared bat (*Pipistrellus auritus*) species is a 'gleaner', hunting amongst the foliage of trees and shrubs, and hovering briefly to pick a moth or spider off a leaf, which it then takes to a sheltered perch to consume. They often land on the ground to capture their prey. Natural summer roosts of this species are generally tree holes which could be provided along the hedgerow/treeline habitat on site. In relation to preferred roosting sites however, the brown long-eared bat relies heavily on sinanthropic (artificial) roost sites. However, the option of artificial roosts such as attic spaces have replaced many natural structures and, in some ways, may even be more beneficial than natural tree holes, providing more stable thermal conditions necessary for maternity roosts while allowing young bats to practice flying safely before leaving the roost.

Natterer's bat (*Myotis nattereri*) received a SI score of 32. This species has a slow to medium flight, usually over trees but sometimes over water. It usually follows hedges and treelines to its feeding sites, consuming flies, moths, caddis-flies and spiders. Known roosts are usually in old stone buildings but they have been found in trees and bat boxes. These bats could also be utilising the hedgerow/treeline on site for roosting.

Daubenton's bat (*Myotis daubentonii*) species received a SI score of 31 for the proposed development site and the wider area. It generally feeds close to the surface of water, either over rivers, canals, ponds, lakes or reservoirs, but it can also be found foraging in woodlands. Flying at approximately 15 kilometres per hour, it gaffs insects with its over-sized feet as they emerge from the surface of the water - feeding on caddis flies, moths, mosquitoes, midges etc. It is often found roosting

¹ <https://www.batconservationireland.org/irish-bats/species/leislars-bat>

beneath bridges or in tunnels and also makes use of hollows in trees. With this understanding, this species could also be potentially utilising the hedgerow/treeline on site for roosting.

The remaining four bat species noted in **Table 3.2** above scored lower than SI 13, indicating limited suitability for these species in the local area.

In summary, there are no buildings associated with the proposed site works. However, there is a 590m stretch of mature/semi-mature hedgerow/treeline along the proposed reinstatement of the walking/cycling greenway recreational trail where suitable roosting sites may be available for many protected bat species.

Works carried out during dusk/dawn/night-time could cause issues of disturbance, including light pollution to local bat populations.

Construction design lighting will be in line with guidance on artificial lighting published by Bat Conservation Trust (2018). Blue-white wavelength of high UV content lights will not be used on-site.

3.6 BREEDING BIRDS

The NBDC lists numerous birds recorded within this area (2km² squares G90S and G90X) including eight Red listed species, namely, Common Pochard (*Aythya ferina*), Meadow Pipit (*Anthus pratensis*), Northern Lapwing (*Vanellus vanellus*), Common Snipe (*Gallinago gallinago*), Eurasian Curlew (*Numenius arquata*), Grey Wagtail (*Motacilla cinerea*) Common Kestrel (*Falco tinnunculus*) and Redwing (*Turdus iliacus*).

None of the Red listed birds noted above were seen on site or in proximity to the site during site visits. Pochard are a diving duck and not likely to be recorded in the proposed works area. Meadow pipits were not heard or seen on site during any of the survey days but could be utilising areas of scrub/marginal hedgerow on site and adjoining pasture lands. Also, the cuckoo favour meadow pipit as their host species and since cuckoo were seen in the area, this adds to the probability of meadow pipits also being in the area. Since lapwing feed on a variety of soil and surface-living invertebrates, particularly small arthropods and earthworms, they could potentially exploit temporary food sources, such as the local fields adjacent to the proposed works along the proposed development. Lapwing also breed on open farmland and appear to prefer nesting in fields that are relatively bare (particularly when cultivated in the spring) and adjacent to grass. These birds could be utilising the fields adjacent to the proposed development. Snipe and curlew are wading birds and their preferred habitat is not available in the proposed site of works. The grey wagtail breeds mainly along streams and rivers which are also not within the proposed site of works. Kestrel could potentially utilise the hedgerow/treeline to perch or nest (no kestrel nest noted along the hedgerow/treeline habitat during site visits). Since redwings feed on worms and invertebrates as well as berries (e.g. hawthorn), they could be utilising the hedgerow/treeline habitat on site. Redwing do not breed in Ireland.

Fifteen Amber listed species have been recorded within 2km² of the proposed works and are outlined in **Table 3.3**. While nine passerine birds listed could be potentially found within the site of the proposed works, the remaining six Amber listed species which includes waders, swans and geese are unlikely to be recorded within the proposed site of works at any time of the year.

Table 3.3 Listed species of conservation concern (NBDC 2km² grids G90X and G90S)

Red listed species name	Designation	Date of last record
Common Pochard (<i>Aythya ferina</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	31/12/2001
Meadow Pipit (<i>Anthus pratensis</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	31/07/1991
Northern Lapwing (<i>Vanellus vanellus</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	31/12/2001
Common Snipe (<i>Gallinago gallinago</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	31/07/1991
Eurasian Curlew (<i>Numenius arquata</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	31/12/2001
Gey Wagtail (<i>Motacilla cinerea</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	31/07/1991
Common Kestrel (<i>Falco tinnunculus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	31/12/2011
Redwing (<i>Turdus iliacus</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List	31/12/2011
Barn swallow (<i>Hirundo rustica</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/07/1991

Red listed species name	Designation	Date of last record
Black-headed Gull (<i>Larus ridibundus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/12/2001
Common Linnet (<i>Carduelis cannabina</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/07/1991
Common Starling (<i>Sturnus vulgaris</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/12/2011
House Sparrow (<i>Passer domesticus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/12/2011
Sky Lark (<i>Alauda arvensis</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/07/1991
Spotted Flycatcher (<i>Muscicapa striata</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/07/1991
Tufted Duck (<i>Aythya fuligula</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/12/2011
Eurasian Teal (<i>Anas crecca</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/12/2011
Eurasian Wigeon (<i>Anas Penelope</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/12/2011
Mallard (<i>Anas platyrhynchos</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/12/2001
Mute Swan (<i>Cygnus olor</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/12/2001
Whooper Swan (<i>Cygnus cygnus</i>)	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/12/2011

Red listed species name	Designation	Date of last record
Willow Warbler (<i>Phylloscopus trochilus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/07/1991
Goldcrest (<i>Regulus regulus</i>)	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	31/07/1991

A male cuckoo (*Cuculus canorus*) was seen flying across open grassland and onto a mature tree just 20m east of the track leading to the walking/cycling greenway recreational trail. Once perched on a branch, it gave a wonderful breeding display of tail-wagging, body pivoting and intense calling. No female response was noted. The cuckoo is not a Red or Amber listed species (Gilbert et al., 2021).

Both the Eurasian wren (*Troglodytes troglodytes*), song thrush (*Turdus philomelos*) and robin (*Erithacus rubecula*) were common along the hedgerow/treeline habitat on site. These birds are not listed in the Birds of Conservation Concern in Ireland 2020 to 2026. The status of robin in fact has improved since the last census, moving from Amber listed to Green listed (Gilbert et al., 2021). Pheasant (*Phasianus colchicus*) was heard in local adjacent fields. Swallow (*Hirundo rustica*), an Amber listed species was noted flying over the proposed sites of works.

Birds utilising the hedgerow/treeline or proposed Sheemore Visitors Carpark Facility field or any adjacent field to nest could be directly adversely impacted, if works are carried out during the nesting season.

3.7 OTHER FAUNA

The NBDC lists a vulnerable threatened species, Irish Damselfly (*Coenagrion lunulatum*) in 2002 (G90X) and the beetle *Haliphilus* (*Liaphilus*) *variegatus* in 2005 (G9704). The site of works does not provide suitable habitat for these species.

G90S 2km² shows there was a near threatened Scarce Emerald Damselfly (*Lestes dryas*) recorded in 2006; this species is usually found in dense vegetation of shallow pools and drainage channels which are not a habitat of the proposed site of works.

Dytiscus circumcinctu, a predaceous diving beetle (no suitable habitat on site) was recorded in 2005 in G90S 2km².

No other faunal species were recorded during this survey.

3.8 SIGNIFICANCE OF FAUNA

Badger

While there were signs of badger (*Meles meles*) noted in one instance on site, they did not appear to be recent. There were no other confirmed or potential badger setts identified within the zone of influence of the proposed development. Badger could move into the area before construction commences, in which case direct impact could occur to this protected species. Indirect impacts to badger could also be caused by disturbance pressurizing the badger to move to a different location.

Bats

In relation to bats, there is potential for roosting sites along the 590m stretch of hedgerow/treeline habitat along the proposed walking/cycling greenway recreational trail. There are no plans to fell any trees on site or in the vicinity of the site of works. Where possible, trees or hedgerow will not be disturbed or removed. However, to accommodate the reinstatement of the walking/cycling greenway recreational trailsome trees / hedgerow / boughs may need to be trimmed / removed; this action could directly adversely impact bat populations. In this instance, bat surveys will be required prior to any treeline/hedgerow works on site.

Artificial lighting during works or operation of the Sheemore Visitors Carpark Facility could also indirectly effect bats foraging or roosting in the area. However, artificial lighting during construction works of the proposed development could indirectly effect bats foraging or roosting in the area. Artificial lighting is not proposed for the proposed development during operation.

Embedded mitigation measures for bats include construction lighting that will be in line with guidance on artificial lighting published by Bat Conservation Trust (2018). Blue-white wavelength of high UV content lights will not be used on-site. All lighting used during construction will be in accordance with National Roads Authority guidelines: Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (2006) and Guidelines for the Treatment of Bats during the Construction of National Roads Schemes (2005). Therefore, there will be no direct or indirect impact on any bat species either during the operation period of this development.

Birds

Hedgerow nesting birds could be impacted, if the hedgerow along the proposed walking/cycling greenway recreational trailis disturbed/ removed during the nesting season.

This hedgerow will not be removed during the breeding season from March 1st to August 31st with an extension to the end of September to further protect the yellow hammer that nest in hedgerows up to the end of this month.

To compensate for the removal of hedgerow along the local road, a native hedgerow will be developed along the internal boundary of the Sheemore Visitors Carpark Facility.

Other animals

No invasive alien animal species as listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011) Part 2 occurs within the proposed development or in the vicinity of these site of works.

3.9 SIGNIFICANCE OF FLORA

No invasive alien plant species as listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011) Part 1 occurs within the proposed development or in the vicinity of these site of works.

Biosecurity measures will be required for all personnel and plant moving into and out of the site during the construction period.

4. SCREENING FOR APPROPRIATE ASSESSMENT

This AA Screening examined the likely significant effects of the proposed development, either alone or in-combination with other projects or plans on European sites, that were situated within a zone of influence (Zol), or a distance that has a potential source-pathway-receptor (SPR), both direct and indirect with the proposed project.

4.1 EUROPEAN SITES WITHIN THE ZONE OF INFLUENCE (ZOI) OF THE PROPOSED DEVELOPMENT

The European Sites identified as being within the Zol of the proposed Sheemore Visitors Carpark Facility and walking/cycling greenway recreational trail using the SPR principle were assessed (Table 4.1) to examine the likelihood of significant effects of the proposed works either alone or in-combination with other plans or projects, on any European Sites.

This project is not directly connected with or necessary to the management of any Natura 2000 site.

The proposed project will not be located within the boundary of any European Site, with the nearest such site, the Cuilcagh - Anierin Uplands Special Area of Conservation (SAC) (000584) located approximately 9.4 km north of the proposed project. The nearest Special Protection Area (SPA) is Lough Arrow SPA, located approximately 17.9 km west of the proposed development site of works. The latter SPA site also overlaps with Lough Arrow SAC. There is no downstream hydrological link to the Cuilcagh-Anierin Uplands SAC, Lough Arrow SAC (001673) or Lough Arrow SPA (004050).

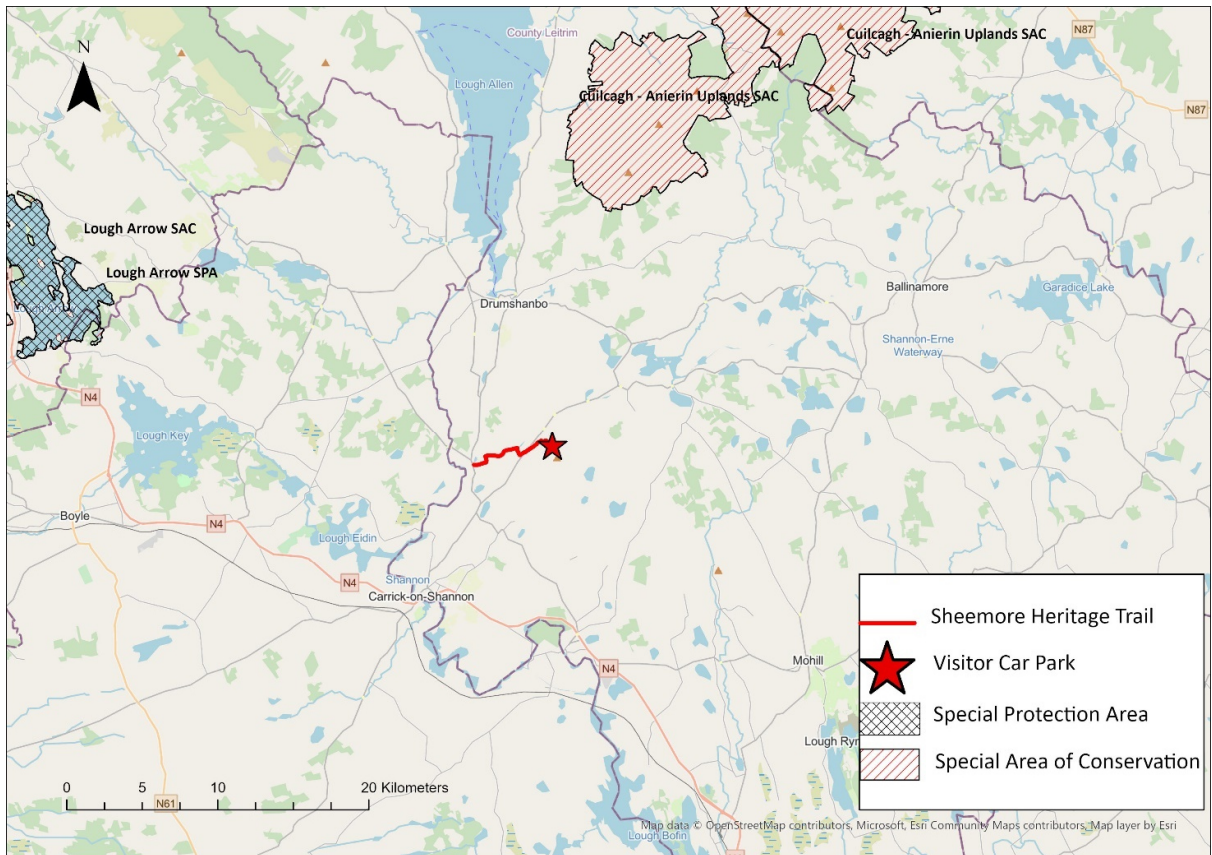


Figure 4.1 European Sites located within the 15 km Zone of Influence of the proposed development.

Table 4.1 Relevant European Sites, reasons for designation and data for Screening

Designated Site	Reasons for designation (information correct as of 10 th September 2021) (*denotes a priority habitat)	Distance from Sheemore Visitors Carpark Facility and walking/cycling greenway recreational trail	Source-Pathway-Receptor Linkage
SPECIAL AREAS OF CONSERVATION (SACs)			
<p>Cuilcagh - Anierin Uplands SAC (000584)</p> <p>Conservation objectives available at:</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000584.pdf</p>	<p>Habitats</p> <p>Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) (3110)</p> <p>Natural dystrophic lakes and ponds (3160)</p> <p>Northern Atlantic wet heaths with <i>Erica tetralix</i> (4010)</p> <p>European dry heaths (4030)</p> <p>Alpine and Boreal heaths (4060)</p> <p>Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* (6230)</p> <p>Blanket bogs (* if active bog) (7130)</p> <p>Transition mires and quaking bogs (7140)</p> <p>Petrifying springs with tufa formation (<i>Cratoneurion</i>)* (7220)</p> <p>Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) (8110)</p> <p>Siliceous rocky slopes with chasmophytic vegetation (8220)</p>	<p>Approximately 9.4 km northeast of proposed development.</p>	<p>Construction phase</p> <p>No: There is no downstream hydrological link from the proposed development to this SAC or any aquatic related QI thereof. There is no potential SPR to this European Site.</p> <p>The intervening distance and landscape of over 9km northeast to the SAC from the proposed project separates all terrestrial related QI, where no significant effect(s) is/are likely to occur.</p> <p>Operation phase</p> <p>No: The proposed site of works lie entirely within the Shannon[Upper]_020 WFD Sub catchment while the SAC lies upstream and within several other separate subcatchments.</p> <p>There is potential for leaching from the Sheemore Visitors Carpark Facility into groundwater. However, the Sheemore Visitors Carpark Facility will be designed in accordance with the <i>Recommendations for Site Development Works for Housing Areas</i> and also the recommendations of the <i>Greater Dublin Strategic Drainage Study (GSDSDS)</i>.</p>
<p>Lough Arrow SAC (001673)</p> <p>Conservation objectives available at:</p>	<p>Habitats</p> <p>Hard oligo-mesotrophic waters with benthic</p>	<p>Approximately 17.9 km west of the proposed development.</p>	<p>Construction phase</p> <p>No: There is no hydrological link from the proposed development work area to this SAC or any aquatic related QI thereof. There</p>

Designated Site	Reasons for designation (information correct as of 10 th September 2021) (*denotes a priority habitat)	Distance from Sheemore Visitors Carpark Facility and walking/cycling greenway recreational trail	Source-Pathway-Receptor Linkage
https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001673.pdf	vegetation of <i>Chara</i> spp. (3140)		<p>is no potential SPR to this European Site.</p> <p>The intervening distance and landscape of over 17 km west to the SAC from the proposed project separates all terrestrial related QI, where no significant effect(s) is/are likely to occur.</p> <p>Operation phase</p> <p>No: The Sheemore Visitors Carpark Facility will be designed in accordance with the <i>Recommendations for Site Development Works for Housing Areas</i> and also the recommendations of the <i>Greater Dublin Strategic Drainage Study (GSDSDS)</i>.</p>
SPECIAL PROTECTION AREAS (SPAs)			
Lough Arrow SPA (004050) Conservation objectives available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004050.pdf	<p>Birds</p> <p>Little Grebe (<i>Tachybaptus ruficollis</i>) (A004)</p> <p>Tufted Duck (<i>Aythya fuligula</i>) (A061)</p> <p>Wintering and Resident</p> <p>Wetland and Waterbirds [A999]</p>	Approximately 17.9 km west of the proposed development.	<p>Construction phase</p> <p>No: There is no hydrological link from the proposed proposed development site of works to this SPA or any species of SCI thereof. There is no potential SPR to this European Site.</p> <p>The intervening distance and landscape of over 17 km west to the SPA from the proposed project separates all SCI, where no significant effect(s) is/are likely to occur.</p> <p>Operation phase</p> <p>No: The Sheemore Visitors Carpark Facility will be designed in accordance with the <i>Recommendations for Site Development Works for Housing Areas</i> and also the recommendations of the <i>Greater Dublin Strategic Drainage Study (GSDSDS)</i>.</p>

The proposed Sheemore Visitors Carpark Facility and drain is located 255 m from the Mackan 26 stream (Figure 3.1). It is unlikely that sediment run-off from the construction or operational phase of the car park will occur. However, in the unlikely event of such an occurrence, there is potential for sediments and nutrients to be carried to the Mackan_26 Order 2 stream. The nearest European Site which has a potential downstream hydrological link to the Mackan_26 is the Lough Forbes Complex SAC (001818) over 40km downstream. Due to the scale and scope of the proposed works related to the proposed development, the embedded design measures, and extensive intervening distances from any European Site within the Zol, it was considered that negative impacts would not occur on any European Site that have no direct or indirect SPR to the proposed development.

There will be no SPR linkage that will cause significant effect to any European Site from the proposed works during the construction phase. The discharge from the drainage pipe has potential to carry sediments and nutrients from the Sheemore Visitors Carpark Facility to the Mackan 26 which has a potential hydrological link to European Sites downstream. Considering the size and scale of the proposed works, the potential impacts on these distant European Sites are not likely to be significant. Storm drainage for the entire development shall be designed in accordance with the *Recommendations for Site Development Works for Housing Areas* and also the recommendations of the *Greater Dublin Strategic Drainage Study (GDSDS)*.

The catchment profile indicates groundwater flow of a south to southwestern direction to the Shannon River Basin. Additionally, the distance between the proposed works and the nearest European Sites, namely the Cuilcagh - Anierin Uplands SAC, Lough Arrow SAC and Lough Arrow SPA shows undulating topography. Therefore, the discharge to the storm drain during the operation phase is unlikely to cause any significant effect to European Sites.

Therefore, with due consideration, impacts on the conservation objectives of the designated sites outlined above in **Table 4.1** were not considered likely.

4.2 IN-COMBINATION EFFECTS

Planning Permission Applications

While effects on European Sites were not expected as a result of the construction and operation of the proposed development, the potential for cumulative effects on these designated sites due to other plans and projects acting in-combination with the proposed development were considered. The Leitrim County Council on-line planning application portal was used to search planning applications close to the proposed development. A five-year search timeframe was assessed. Retention, refused and withdrawn planning applications were excluded. **Table 4.2** show the planning applications in close proximity to the proposed development (c. 500m).

Table 4.2 Planning applications in close proximity to the proposed development .

Planning Reference	Description of Development	Site Address	Decision Date	Distance from Site
17113	construct a dry-bedded agricultural shed and carry out all associated site development works	Ballinwing Townland, Co. Leitrim	27/10/2017	Approximately 0.298 km
20215	to erect 1 no. dry bed sheep shed complete with all ancillary site works	Sheffield Td., Leitrim Village, Co Leitrim	04/02/2021	Approximately 0.333 km

There were no other planning applications in the area at the time of writing. The AA Screening assessment has shown there will be no likely significant effects to any European Site during the construction or operations phases of the proposed development. Therefore, there will be no in-combination effects with local planning applications.

5. SCREENING ASSESSMENT – CONCLUSION

It can be objectively concluded that there are not likely to be significant effects on any European Site as a result of the proposed development at Sheemore, Co. Leitrim. Therefore, an Appropriate Assessment is not required.

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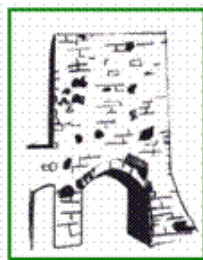
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APPENDIX C

ARCHAEOLOGY & CULTURAL HERITAGE REPORT

**ARCHAEOLOGICAL ASSESSMENT
OF MODIFICATIONS AND IMPROVEMENT WORKS TO THE SHEEMORE
HERITAGE TRAIL, FROM LEITRIM VILLAGE TO THE ACCESS POINT OF
SHEEMORE HILL, SHEEMORE, CO. LEITRIM**



Through Time Ltd.

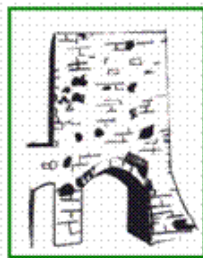
*Professional Archaeological Services
Old church Street, Athenry, Co. Galway
www.throughtimeltd.com*

Modifications and Improvement Works to the Sheemore Heritage Trail, from
Leitrim Village to the access point of Sheemore Hill, Sheemore, Co. Leitrim

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SHEEMORE HILL, SHEEMORE, CO. LEITRIM**

Martin Fitzpatrick, M.A.

October 2021



Through Time Ltd.

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Modifications and Improvement Works to the Sheemore Heritage Trail, from Leitrim Village to the access point of Sheemore Hill, Sheemore, Co. Leitrim

**COPIES OF THIS
ARCHAEOLOGICAL REPORT
HAVE BEEN PRESENTED TO:**

***Client:* Jennings' O'Donovan & Partners, Finisklin Business Park, Sligo
for Leitrim County Council.**

Statutory Bodies: The National Monuments,
Dept. of Housing, Local Government and Heritage.
The National Museum of Ireland.

PLEASE NOTE...

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

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Modifications and Improvement Works to the Sheemore Heritage Trail, from Leitrim Village to the access point of Sheemore Hill, Sheemore, Co. Leitrim

Disclaimer

The results, conclusions and recommendations contained within this report are based on information available at the time of its preparation. Whilst every effort has been made to ensure that all relevant data has been collated, the authors and Through Time Ltd. accept no responsibility for omissions and/or inconsistencies that may result from information becoming available subsequent to the report's completion.

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I. LIST OF FIGURES AND PLATES

FIGURES

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Fig. 2: Aerial view depicting various elements of proposed development.

Fig. 3: Plan of proposed car park.

Fig. 4: Map indicating recorded archaeological monuments vicinity of proposed development.

Fig. 5: Zone of notification (shaded) in relation to 'proposed car park.

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Fig. 8: Extract from Cassini edition O.S. 6-inch map.

Fig. 9: Extract from first edition O.S. map relating to proposed 'greenway'.

Fig. 10: Extract from 25 inch edition O.S. map.

PLATES

Plate 1: Existing entrance gate to area of proposed car park .

Plate 2: View to NE from proposed car park.

Plate 3: Proposed greenway from R309. Route will travel inside roadway on right and head towards trees

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II ABBREVIATIONS ACRONYMS AND DEFINITIONS

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

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

NIAH National Inventory of Architectural Heritage^[1]_[SEP]

NMI National Museum of Ireland^[1]_[SEP]

NMS National Monuments Service, Department of Culture, Heritage and the Gaeltacht

OS Ordnance Survey^[1]_[SEP]

OSI Ordnance Survey of Ireland^[1]_[SEP]RMP

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

RPS Record of Protected Structures^[1]_[SEP]

SMR Sites and Monuments Record

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GENERAL INTRODUCTION

Project Background

Through Time Ltd. was engaged by Jennings O'Donovan & Partners, Consulting Engineers to undertake an archaeological and cultural heritage assessment as part of a feasibility study for modifications and improvement works to the Sheemore Heritage Trail, from Leitrim Village to the access point of Sheemore Hill, Sheemore, Co. Leitrim.

Site Location

Sheemore Hill is located 6.5km NE of Carrick-on-Shannon and c. 3km E of the village of Leitrim in County Leitrim. It is proposed to develop 705m section of 2.5-metre-wide tarmac 'greenway' linking the R209 and the L7042 public roads as part of a scheme linking the existing canal and Sheemore Hill. It is also proposed to develop a visitor parking area immediately north of the L7402 and adjacent to the beginning of the trail that leads to the hill summit (Fig. 2).

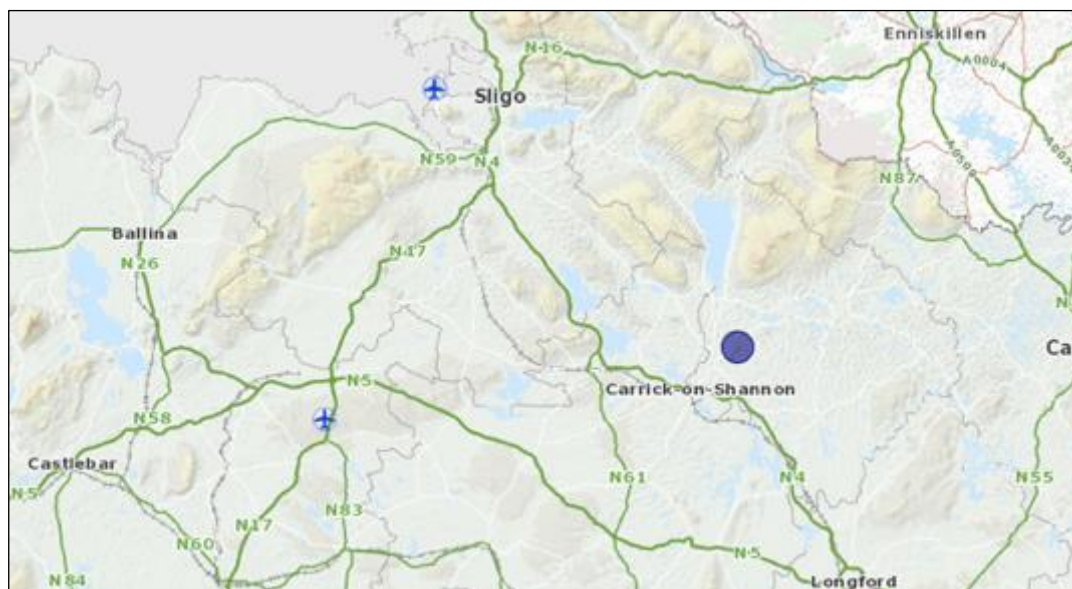


Fig. 1: General Site Location Map.



Fig. 2: Aerial view of indicating existing public roads (blue) proposed Greenway section (red) and proposed car park (orange).

RELEVANT LEGISLATION AND GUIDELINES

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

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

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

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

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

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

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

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

“Where the owner or occupier (other than the Minister) of a monument or place included in the Record, or any other person, proposed to carry out, or to cause or permit the carrying out of, any work at or in relation to such a monument or place, he or she shall give notice to the Minister to carry out work and shall not, except in the case of urgent necessity and with the consent of the Minister, commence the works until two months after the giving of notice”.

The Architectural Heritage and Historic Properties Act 1999 and the Planning and Development Act of 2000 are the main built heritage legislation. The Architectural Heritage Act requires the Minister to establish a survey to identify, record and assess the architectural heritage of the country. The National Inventory of Architectural Heritage (“NIAH”) records all built heritage structures within specific counties in Ireland. The document is used to advise local Authorities on

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the register of a Record of Protected Structures (“RPS”) as required by the Planning and Development Act, 2000.

The Act of 2000 requires Local Authorities to establish a Record of Protected Structures to be included in the County Development Plan (“CDP”). Buildings recorded in the RPS can include Recorded Monuments, structures listed in the NIAH or buildings deemed to be of architectural, archaeological or artistic importance by the Minister. Once listed in the RPS the sites/areas receive statutory protection from injury or demolition under the 2000 Act. Damage to or demolition of a site registered in the RPS is an offence. The detail of the list varies from County to County. If the Local Authority considers a building to be in need of a repair it can order conservation and/or restoration works. The owner or developer must make a written application/request to the local Authority to carry out any works on a protected Structure and its environs.

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

Leitrim County Development Plan 2015-2021

Leitrim County Council has written policies on the preservation of archaeological, architectural and cultural heritage remains in relation to permitted development in the Leitrim County Development Plan. These relate to archaeological features and objects, built structures, views and scenic routes. In relation to tourism Leitrim County Council ‘is fully supportive of all future developments that will contribute positively to the tourism potential of the County, while protecting the heritage and environment of the County, so as to achieve maximum economic and social gain’ (p52). Objective 92 of the Development Plan states **‘It is an objective**

Modifications and Improvement Works to the Sheemore Heritage Trail, from Leitrim Village to the access point of Sheemore Hill, Sheemore, Co. Leitrim

of the Council to promote the County's archaeological heritage as a tourism resource, in partnership with key tourism organisations.'

County Leitrim Heritage Plan 2020-2025

'The Heritage Plan aims to conserve and promote our natural, cultural and built heritage as a finite resource which contributes significantly to the maintenance of a healthy environment, sustainable farming, well-being, creativity and the creation of cultural and tourism jobs'.

Some of the objectives of the plan include: -

- To support the conservation and recording of Leitrim's heritage.
- Raise awareness of Leitrim's heritage.
- Engage communities with their heritage.
- Support sustainable heritage tourism in Leitrim.

Architectural Heritage

The term 'architectural heritage' is defined in the *Architectural Heritage (National Inventory) & Historic Monuments Act, 1999*, as 'all (a) structures and buildings together with their settings and attendant grounds, fixtures and fittings, (b) groups of such structures, and (c) sites', which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

Protected Structure

A Protected Structure is a structure that Leitrim County Council considers to be worthy of protections from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view. The built heritage is an important element in the character of County Leitrim and every Planning Authority is required to have a Record of Protected Structures in its functional area.

'The Inventory of Appropriate Buildings/Structures for Inclusion in the New Record of Protected Structures prepared by CAAS in November 2000 and the National Inventory for Architectural Heritage in County Leitrim (Dúchas, the Heritage Service), the Carrick-on-Shannon Architectural Heritage Study (Dúchas, the Heritage Service) and the Urban Framework Plans for Drumkeeran,

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Drumshanbo, Ballinamore, Mohill, Manorhamilton and Dromahaire shall be used as the basis for the preparation of any new Record of Protected Structures. All structures of local, regional and national importance will be considered for protection’.

Policy 104	It is the policy of the Council to protect all structures in the Record of Protected Structures.
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Objective 84	It is an objective of the Council to seek the protection of all structures within the County that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.
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Objective 85	It is an objective of the Council to review the record of Protected Structures during the lifetime of this plan.
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Objective 86	It is an objective of the Council to seek funding for the conservation and restoration of Protected Structures.
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Objective 87	It is an objective of the Council to seek the appointment of a Conservation Officer/Heritage Officer to improve the level of expertise available to the Council
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Archaeological Heritage

Policy 105	It is the policy of the Council to promote public awareness of the rich archaeological heritage that exists in County Leitrim.
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The archaeological heritage of County Leitrim includes, according to the *European Convention for the Protection of Archaeological Heritage, 1992 (Valetta Convention)* structures, constructions, groups of buildings, developed sites, all recorded monuments as well as their contexts, and moveable objects; situated both on land and under water. ‘This means that the archaeological heritage is not confined to the archaeological sites within the Record of Monuments and Places, but also includes any archaeological site that may not have been recorded yet, as well as archaeology beneath the ground surface, as well as the context of any site. Leitrim has one underwater heritage order in the County (UHO 1/90), which refers to Lough Donogher, located to the north east of Cloone’.

Objective 92	It is an objective of the Council to promote the County’s archaeological heritage as a tourism resource, in partnership with key tourism organisations.
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Archaeological Assessments

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Policy 106	It is the policy of the Council to secure the preservation (i.e. preservation in- situ or in particular circumstances where the Council is satisfied that this is not possible, preservation by record as a minimum) of all archaeological remains and sites of importance such as National Monuments, Recorded Monuments, their setting and context.
-------------------	---

‘The Council will protect all such sites and monuments and their settings from inappropriate development. All planning applications likely to interfere with such a recorded site, monument or zone of archaeological interest will be referred to the Development Applications Unit of the Dept. of Environment, Heritage and Local Government, An Taisce and the Heritage Council. Regard will be given to the advice and recommendations of these bodies in respect of whether or not planning permission should be granted and the nature of conditions to be attached to any grant of planning permission’.

‘Proposed development on, or in close proximity to, a site and monument of archaeological significance will only be allowed where development does not adversely affect their character and setting. Where allowed, the Council will use planning conditions and agreements to enable an archaeological assessment, on site monitoring, testing and/or excavation by a licensed archaeologist’.

‘In assessing development proposals that affect sites and monuments, the Council will have regard to the recommendations of both the Development Applications Unit of the Dept. of Environment, Heritage and Local Government, An Taisce and the Heritage Council. The Council will also have regard to the guidance document *Framework and Principles for the Protection of the Archaeological Heritage*, as published by the Department of Arts, Heritage, Gaeltacht and the Islands in 1999’.

Objective 93	It is an objective of the Council to ensure that any development (above or below ground), within the vicinity of a site of archaeological interest shall not be detrimental to the character of the archaeological site or its setting.
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Objective 94	It is an objective of the Council to require, where appropriate, that an archaeological assessment be carried out by a suitably qualified person prior to the commencement of any activity that may impact upon the archaeological heritage.
Objective 95	It is an objective of the Council to protect the zones of archaeological potential, as identified in the Record of Monuments and Places.

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Objective 96	It is an objective of the Council to protect archaeological sites discovered since the publication of the Record of Monuments and Places.
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Industrial Archaeology & Canals

‘The Council is aware of the cultural importance of the County’s industrial heritage and in particular of the canal and waterway systems that traverse the County. Canals, lough gates and associated structures are fine examples of 19th century industrial engineering, which have mellowed over time to form an intrinsic part of the County’s landscape. The importance of protecting these structures is all the greater given the increased importance of the canal and navigation network as a tourism and recreational resource’.

Policy 107	It is the policy of the Council to protect and enhance public accessibility to the County’s industrial heritage.
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PROPOSED DEVELOPMENT

It is proposed to develop 705m section of 2.5-metre-wide tarmac ‘greenway’ linking the R209 and the L7042 public roads as part of a scheme linking the existing canal and Sheemore Hill. It is also proposed to develop a visitor carpark facility area immediately north of the L7402 and adjacent to the beginning of the trail that leads to the hill summit. The Installation of a turnstile on an engineered plinth will provide the means of access and start point to the Sheemore Hill summit trail on the south side of the L7402 opposite the visitor car park facility.

Proposed Walking/Cycling Greenway Recreational Trail

Develop 705m section of 2.5-metre-wide walking/cycling greenway recreational trail linking the R209 and the L7042 public roads as part of a scheme linking the existing canal and Sheemore Hill (Fig. 2).

Proposed Sheemore Visitors Carpark Facility

The development of a visitor car park facility on the L7402 public road directly opposite to the existing informal Sheemore trail start point (Fig. 2). The visitor car

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park will accommodate 19 car park spaces (including two disability car park spaces), six bike racks and information boards detailing Sheemore's archaeological, cultural and ecological heritage. Drainage will be discharged via a drainage pipe that will run north-west for a distance of c. 100m to connect with an existing drain. The visitor car park will comprise a separate entrance and exit gate with directional signage installed to advise on route of travel to onward destinations.

Proposed turnstile

It is proposed to construct a turnstile adjacent to the existing double farm gate that gives access to the walk to the summit of Sheemore Hill. Currently access to the field is gained by climbing over a large boulder at the side of the gate.

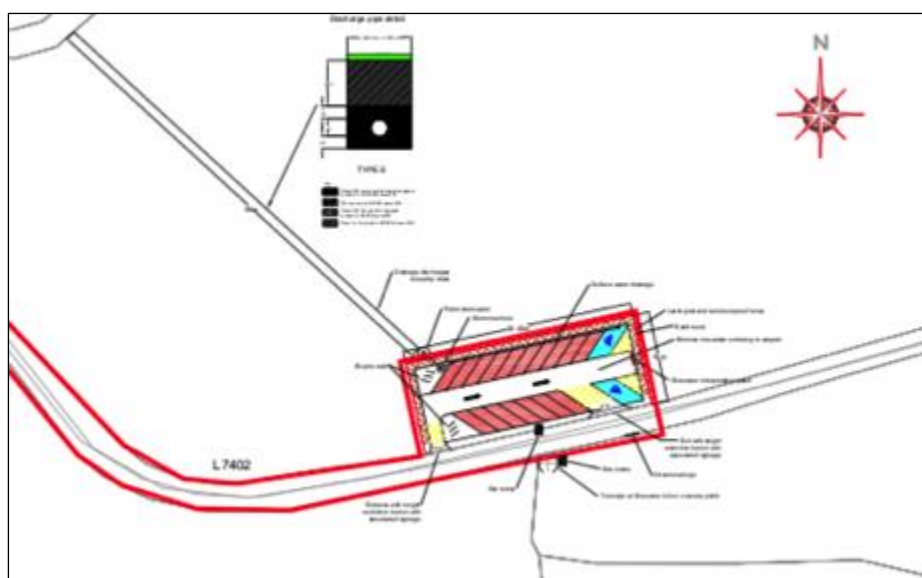


Fig. 3: Plan of proposed car park.

Purpose and Scope of this Assessment

The purpose of this assessment is to identify likely significant effects on cultural heritage (archaeology, architectural heritage and/or folklore and history) as a result of the proposed works, and to determine whether further investigations or other measures would be required to mitigate any likely adverse effects. This report concerns;

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- The proposed development of the walking/cycling greenway recreational trail connecting Sheemore Hill and the canal (formerly Ballinamore & Ballyconnell Canal) and specifically the 0.705km section of the walking/cycling greenway recreational trail.
- Development of a proposed visitor car park facility in Keonbrook townland at the base of Sheemore Hill.
- The proposed installation of a turnstile at the base of Sheemore Hill.

METHODOLOGY

The methodology used in the preparation of this assessment is based on guidance provided in the Environmental Protection Authority (EPA)'s draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA 2017) and Advice Notes on Current Practice. It is also consistent with other guidance including the National Roads Authority's (NRA, now TII) Guidelines for the Assessment of Archaeological Heritage Impacts on National Road Schemes (NRA 2005a) and Guidelines for the Assessment of Architectural Heritage Impacts on National Road Schemes (NRA 2005b) in relation to route selection.

The study was divided into three main components:

1. Desk-based assessment, including gathering and analysing baseline data; [SEP]
2. A site inspection of the proposed work areas in relation to known cultural heritage assets and any previously unidentified assets that may be impacted; and [SEP]
3. Report writing. [SEP]

Desk Based Assessment

The desk-based assessment involved examination of the following databases and available documentary sources:

Archaeology

- Record of Monuments and Places (RMP) – the statutory list of protected places and monuments, with accompanying constraints maps, published for County Leitrim; [SEP]

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- Sites and Monuments Record (SMR) – the archive of current information on sites and monuments, including whether or not sites are to be included on the next RMP revision; available online at
- <http://webgis.archaeology.ie/historicenvironment/>; [SEP]
- Lists of National Monuments in State Care: Ownership and Guardianship, published for County Leitrim; [SEP]
- The list of Preservation Orders held by the National Monuments Service (published 2010); [SEP]
- Excavations Bulletins (www.excavations.ie); [SEP]
- Topographical Files of the National Museum of Ireland; [SEP]
- Cartographic sources, including the first-edition six-inch Ordnance Survey (OS) map, the 25-inch OS map along with other available maps; [SEP]
- Historical photographs viewed online via the National Library of Ireland website (<http://www.nli.ie/digital-photographs.aspx>); and Aerial photography (Google Earth, and Digital Globe via the Historic Environment Viewer).

Architectural Heritage

Record of Protected Structures (RPS); and [SEP]

National Inventory of Architectural Heritage (NIAH).

Site Inspection [SEP]

A site inspection was carried out in May and July 2021. The purpose of the inspection was to undertake a visual examination of the proposed walking/cycling greenway recreational trail route and proposed visitor carpark facility to assess the potential effects on known and unknown archaeological and architectural heritage assets.

RECEIVING ENVIRONMENT

Modifications and Improvement Works to the Sheemore Heritage Trail, from Leitrim Village to the access point of Sheemore Hill, Sheemore, Co. Leitrim

The archaeological and cultural heritage assessment of the proposed visitor carpark facility and the development of a walking/cycle greenway recreational trail route was assessed in relation to the archaeological monuments that form part of the landscape surrounding Sheemore.



Fig. 4: Recorded monuments (in area of the existing public roads (blue), proposed walking/cycling greenway recreational trail section (red) and proposed visitor car park facility (orange)).

Figure 4 details the recorded monuments in the immediate landscape. A total of nine recorded monuments are located in the vicinity of the proposed walking/cycling greenway recreational trail route. None of these monuments will be directly impacted by the proposed development. One recorded monument is located in the area of the proposed visitor car park facility. Table 1 details the monuments, the specific record reference, the townland and monument type

Recorded Archaeological Remains

No.	RMP Ref.	Townland	Monument Type
1.	LE027-039001-	Ballinwing	Ringfort
2.	LE027-039003-	Ballinwing	Hut site
3.	LE027-044----	Ballinwing	Ring-Barrow
4.	LE027-044001-	Ballinwing	Standing Stone

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5.	LE027-044----	Ballinwing	Ringfort
6.	LE027-046----	Ballinwing	Enclosure
7.	LE027-050001-	Sheemore	Ringfort
8.	LE027-050002-	Sheemore	Enclosure
9.	LE027-050003-	Sheemore	Souterrain
10.	LE027-137----	Keonbrook	Ringfort

Table 1: Recorded monuments in in vicinity of walking/cycling route.

Proposed Visitor Carpark Facility

No recorded monuments are located in the area of the proposed visitor carpark facility. The closest monument (No. 10 in Fig. 4) is a ringfort (LI027-137) located c. 75m to NE. The area of the proposed visitor carpark facility is outside the zone of notification for LI027-137.

Proposed turnstile

It is proposed to construct a turnstile adjacent to the existing double farm gate that gives access to the walk to the summit of Sheemore Hill. The development of a turnstile at this location would not impact on the archaeological or cultural heritage of the area.

Proposed Walking/Cycling Greenway Recreational Trail

The proposed route will travel in a north-west direction along a the L7402 road from the base of Sheemore Hill. The route will then travel south-west for a distance of c. 130m along a narrow local road before continuing along a tree lined, overgrown trackway that runs south-west for a distance of 705m to the R209. The route then crosses the R209 and continues along a country road for a distance of c. 1.2km to the canal path that links to the village of Leitrim. No recorded monuments are directly impacted by the proposed walking/cycling greenway recreational trail route.

Three recorded monuments (Nos. 4, 5 & 6) are located in the general vicinity of the green section of road that runs SW to connect with the R209. These comprise of a ringfort, an enclosure and a standing stone. Three recorded monuments (Nos.

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1 - 3) are located in the vicinity of the section of road running from the R209 to the canal.

POTENTIAL ARCHAEOLOGICAL REMAINS

Proposed Visitors Car Park Facility

It is proposed that a visitors carpark facility will be located on the north side of the L7402 immediately north of Sheemore Hill (Figs. 2-4). The area of the visitor's carpark is outside the Zone of Notification surrounding the ringfort (No. 10, LE027:137). The area is currently in pasture which slopes down steeply to the south-west. The development of a visitors carpark facility at this location would not impact on any recorded archaeological monuments. As part of the visitors car park facility development a hydrocarbon interceptor will be installed and a drainage pipe will run north-west for a distance of c. 100m to an existing drain. It is possible that sub-surface archaeological features survive in the area of the visitors carpark facility and sub-surface drainage provisions and it is proposed that any development at this location would be subjected to pre-development archaeological testing undertaken by a licensed archaeologist working under license from National Monuments Service, Department of Housing, Local Government and Heritage.



Fig. 5: Zone of notification (shaded) in relation to proposed visitors car park facility.

Cycle/Walking Greenway Recreational Trail Route.

Apart from a section of green road in the townland of Ballinwing this route will travel along existing local roads and will not impact on any recorded monuments or cultural heritage features. The section of green road is currently an overgrown narrow track (705m long) that connects to the R209. The area of notification surrounding three recorded monuments (Nos. 4-6, Fig. 4) extends into the green road. The monuments comprise of a standing stone, a ringfort and an enclosure. It is recommended that any ground disturbance proposed within the area of notification surrounding these monuments is monitored by a suitably qualified archaeologist.



Fig. 6: Zone of notification in relation to 'greenway' section of trail.

Previous Archaeological Investigations

Archaeological testing was undertaken in the townland of Ballinwing to the north of the section of green road that forms part of the proposed walking/cycling greenway recreational trail. The testing was undertaken by Christopher Reed in 2004 (License 04E01299) in advance of a house construction and described as follows. 'The proposed development at Ballinwing will consist of a single house, access and septic tank/percolation areas. The site is near a ring-barrow located to the north-east of the site in the adjacent field. Five test-trenches, measuring 10m by 1.5m, were excavated by machine in September 2004. They were excavated to

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a depth of 0.3-0.35m, to below the level of natural subsoil. No archaeological features or material were identified (www.excavations.ie).

Cartographic Analysis

Consultation of the Ordnance Survey Maps from 1838 to the present day provided further information to aid the Archaeology and Cultural Heritage Assessment.

Proposed Visitors Carpark Facility

The 1837 OSi 6-inch map indicates no features in the area of the proposed visitors carpark facility. The ringfort (No. 10, LI027-137) recorded to the NE of the proposed visitors carpark facility is not depicted on this map or any of the OSi historic maps.

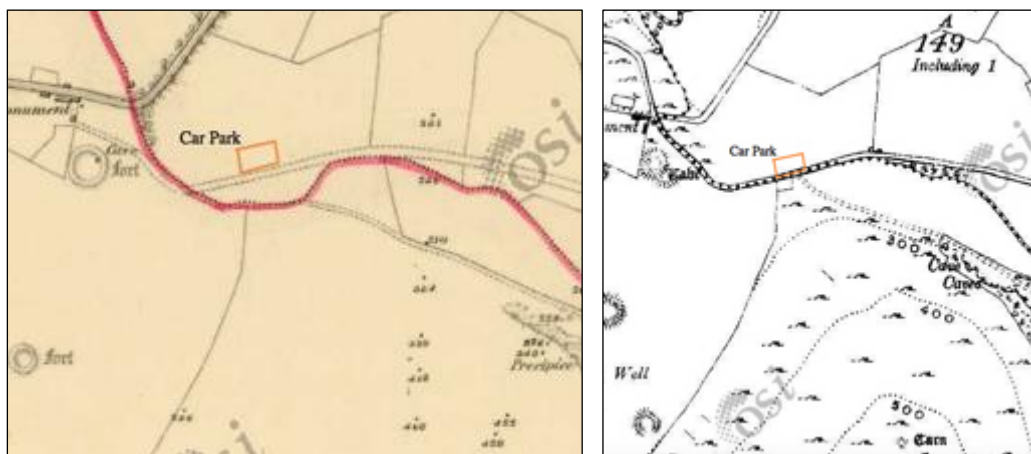


Fig. 7 & 8: Extract from OSi first edition and Cassini editions 6-inch maps (After OSi).

The monuments are depicted on the OSi 25-inch map of 1909 however on this map the majority of farmsteads and buildings that were depicted on the 1837 map, are no longer indicated.

Walking/Cycling Greenway Recreational Trail Route

The section of 'greenway' that forms part of the walking/cycling greenway recreational trail route is depicted on the 1837 OSi 6-inch map as a roadway connecting to other roads in the area, with a large quarry site at the NE end of the

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road. The map indicates buildings and farmsteads on either side of the roadway however no recorded monuments are depicted on this map.



Fig. 9: Extract from OSi historic 6-inch map.

The monuments are depicted on the OSi 25-inch map of 1909 however on this map the majority of farmsteads and buildings that were depicted on the 1837 map, are no longer indicated.

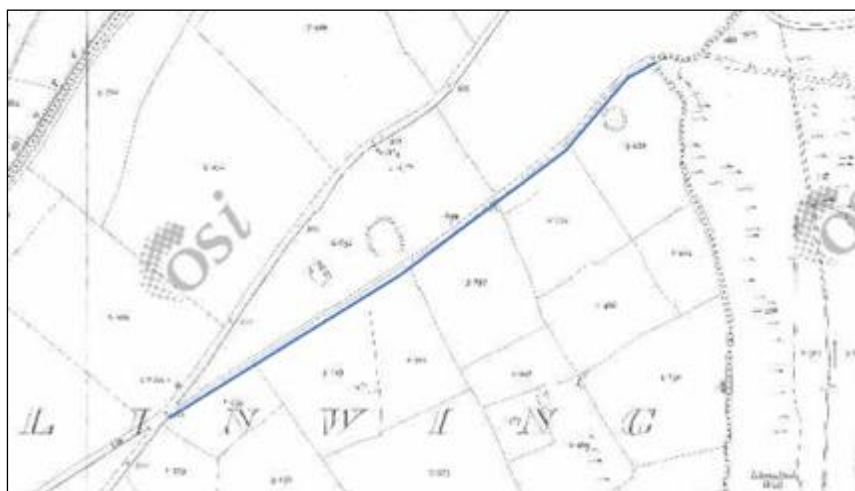


Fig. 10: Extract from OSi historic 25-inch map.

Architectural Heritage

There are no recorded architectural heritage features in the area of the proposed development.

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Townland Names

Townlands are the smallest land divisions in the Irish landscape and many may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The layout of Irish townlands was recorded and standardised by the work of the Ordnance Survey in the 19th century. The Irish translation of townland names often refer to natural topographical features but name elements may also give an indication of the presence of past human activities within the townland. The table below (Table 2) provides the possible translation of the Irish origin of the townland names within or adjacent to the Proposed Development.

Name	Derivation	Possible Meaning	Barony	Civil Parish
Sheemore	na Sí Móire	Great/Big	Leitrim	Kiltoghert
Ballinwing	Bhaile na Moinge	Baile townland, town, homestead	Leitrim	Kiltoghert
Keonbrook	Bhréandroma		Leitrim	Kiltoghert
Killarcan	Chill Earcáin	Kill- Church	Leitrim	Kiltoghert
Tullylannan	Thulaigh Lonáin	Tulach- Hillock	Leitrim	Kiltoghert

Table 2: Townland names in the area of the proposed development.

SITE VISIT

The area of the proposed development was visited in May and July 2020. The walk-over survey included an examination of the area of the walking/cycling greenway recreational trail route from the base of Sheemore Hill to the canal and the proposed visitors carpark facility location at the base of Sheemore Hill.

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The proposed visitors carpark facility is located on the north side of the L7402 immediately north of Sheemore Hill. The area is currently pasture that slopes down steeply to the south-west. A ringfort (No. 10, LE027:137) is recorded c. 70m to the NE. It is proposed to develop an area measuring c. 48.5m x 19m to facilitate 19 car park spaces (including two disability car park spaces), six bike racks and information boards detailing Sheemore's archaeological, cultural and ecological heritage. The visitor car park will comprise a separate entrance and exit gate with directional signage installed to advise on route of travel to onward destinations. Nothing of archaeological significance was visible above ground in the area of the proposed carpark.



Plates 1 & 2: Existing entrance gate to site of proposed visitors carpark facility and view to NE.

Proposed Walking/Cycling Greenway Recreational Trail Route

The proposed route will travel in a north-west direction along the L7402 road from the base of Sheemore before continuing along a tree lined, overgrown trackway that runs south-west for a distance of 705m to the R209. The route then crosses the R209 and continues along a country road for a distance of c. 1.2km to the canal path that links to the village of Leitrim. No recorded monuments are directly impacted by the proposed walking/cycling greenway recreational trail. The section of the 'greenway' route is a former road that is now overgrown and delimited on either side by a low stone wall. It is proposed to develop the existing trackway into a 2.5-metre-wide walking/cycling greenway recreational trail. No archaeological monuments are directly impacted by the proposed development.

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Three monuments are located in proximity to the walking/cycling greenway recreational trail but will not be impacted.



Plate 3: Proposed section of walking/cycling greenway recreational trail from R209. Route will travel inside roadway on right and head towards trees



Plate 4: View of existing overgrown track along proposed walking/cycling greenway recreational trail.

Likely Impacts on Cultural Heritage

Archaeology

The proposed development works will not directly impact any upstanding monuments. The proposed development of the visitors carpark facility is outside

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the Zone of Notification for any recorded monuments. The archaeological significance of the area and the number of monuments in the surrounding landscape highlight the possibility of sub-surface archaeology surviving in the area of the proposed visitors carpark facility.

No recorded monuments are directly impacted by the section of walking/cycling greenway recreational trail that will be developed. The ordnance survey maps confirm that the trackway was utilized as a road in the 19th century. It is now heavily overgrown and it is proposed that it will accommodate a 2.5m wide class 804 granular based surfaced trackway.

Architectural Heritage

The proposed development works will not impact on any architectural structures.

Other Cultural Heritage

The proposed development will have a positive impact on recreation and tourism and will facilitate an appreciation for the history, archaeology and folklore of the area.

RECOMMENDATIONS

- Archaeological pre-development testing in the area of the proposed visitors carpark facility and proposed drainage works area. The work should be undertaken under license by a suitably qualified archaeologist.
- If archaeological material is uncovered, work on site should be stopped to facilitate examination and recording.
- A report on the archaeological testing should be submitted to all relevant authorities and make recommendations in relation to any archaeology uncovered.
- Archaeological monitoring of ground disturbance within the zone of notification surrounding monuments LI027-046, LI027044 & LI027044001.

PLEASE NOTE...

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

REFERENCES

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Constraint maps and Catalogue

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www.buildingsofireland.ie – DCAHG website listing the result of the County Leitrim National Inventory of Architectural Heritage

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www.googleearth.com – Aerial photographs of the proposed development area

www.osiemaps.ie – Ordnance Survey aerial photographs dating to 1995, 2000 to present

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