

# Draft Shannon Town Centre Masterplan

### **Screening for Appropriate Assessment**

This Screening Report has been prepared to inform the preparation of the Draft Shannon Town Centre Masterplan

Prepared by Clare County Council

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#### 1.0 Introduction

#### **1.1** Background to the Draft Shannon Town Centre Masterplan

Project Ireland 2040 is the overarching policy and planning framework for the social, economic and cultural development of Ireland. It includes both the 20-year National Planning Framework (NPF) and a detailed capital investment plan for the period 2018 to 2027, the National Development Plan (NDP). The NPF outlines the broader policy principles and priorities to plan, in a more strategic, sustainable and coordinated manner, for future population and economic growth over the next 20 years.

Clare County Council through its Economic Directorate and Shannon Municipal District Office are the primary drivers and enablers of economic growth for Shannon Town. Through its legislative, civil and democratic functions the Local Authority sets out and adopts land use, transport and investment policies for the town and county. Clare County Council both influences and transposes National and Regional (Regional Spatial and Economic Strategy) policy including *Project Ireland 2040 National Planning Framework.* The enhanced development of Shannon Town sits within several of the National Strategic Outcomes contained in the National Planning Framework as follows.

**NSO1 Compact Growth** – It is anticipated that Shannon Town and surrounding area will experience considerable growth in the coming years having regard to the Limerick-Shannon Metropolitan Area Strategic Plan and the population targets associated with same. Future growth must be sustainable growth that will benefit the town while also creating an attractive place in which people can live and work. The preparation of the Limerick Shannon Metropolitan Area Transport Strategy (LSMATS) by the National Transport Authority will also inform this work.

**NSO5 A Strong Economy supported by Enterprise, Innovation and Skills.** Existing employment opportunities in Shannon are critical not only for Shannon and Co. Clare but for the Mid-West Region. Shannon is critical to delivering the ambition of how the Limerick-Shannon Metropolitan Area (MASP) develops in terms of its economy, social diversity and growth. The Limerick Shannon Metropolitan Area Strategic Plan (MASP) identifies a significant opportunity for Shannon to expand globally as a recognised centre of excellence for current and future software engineering/aviation/logistics/research and development for autonomous vehicles.

**NSO7 Enhanced Amenity and Heritage.** It is intended that future development in Shannon will include for enhanced public realm development in the town centre, building on the existing network of paths, walks and Shannon Town Park, which have evolved from the Shannon Green Infrastructure Plan prepared by Clare County Council.

As part of Project Ireland 2040 the Government announced the establishment of a new Urban Regeneration and Development Fund (URDF), primarily to support the compact growth and sustainable development of Ireland's five cities and other large urban centres. In line with the objectives of the National Planning Framework (NPF), the Fund was designed to leverage a greater proportion of residential

and commercial development, supported by infrastructure, services and amenities, within the existing built "footprint" of our larger settlements.

Clare County Council made an application for funding for Shannon under the Urban Regeneration and Development Fund in September 2018. On the 18<sup>th</sup> of June 2019 *Approval in Principle* was provided from the Department of Housing, Planning and Local Government together with an allocation for the **"Development for a Strategic Masterplan for Shannon".** 

It is intended that the Masterplan will guide and stimulate the development of Shannon Town Centre into the future and will influence real change for Shannon Town Centre in order to make Shannon a more attractive destination in which to live, work and do business. The Masterplan looks at growth potential, use of derelict and vacant sites within the Town Centre, development potential of key sites at the entrance points from the road network and will seek to create a vibrant place for people to meet, recreate and connect with their area.

#### **1.2** Legislative Context – Appropriate Assessment

Appropriate Assessment (AA) is required for all *plans* and *projects* likely to have a significant effect on a protected site.

The purpose of screening is to compel a competent authority to address the question of whether an Appropriate Assessment is necessary in a given situation. Screening for Appropriate Assessment is required to determine if a plan or project, is *"likely to have significant effects"* on a protected site. The ECJ has held that the trigger for an appropriate assessment is extremely low, and that the *mere probability* or a *risk* that a plan or project might have a significant effect is sufficient to make an "appropriate assessment" mandatory. Advocate General Sharpston in Case C-258/11 *Sweetman v. An Bord Pleanala*, has suggested that a mere possibility (rather than probability) of a significant effect on the site will justify requiring an Appropriate Assessment. In *Commission v. Portugal, Case 239/04,* concerning the construction of a motorway in Portugal, the ECJ held that any reasonable scientific doubt as to the absence of adverse effects on the integrity of the site must be removed.

The EU Habitats Directive provides the legislative framework for the protection of habitats and species throughout Europe through the establishment of a network of designated conservation areas known as the Natura 2000 network. The Natura 2000 network includes sites designated as Special Areas of Conservation (SACs), under the EU Habitats Directive and Special Protection Areas (SPAs) designated under the EU Birds Directive. SACs are designated in areas that support habitats listed on Annex I and/or species listed on Annex II of the Habitats Directive. SPAs are designated in areas that support: 1% or more of the all-Ireland population of bird species listed on Annex I of the EU Birds Directive; 1% or more of the population of a migratory species; and more than 20,000 waterfowl.

Articles 6(1) & (2) of the Habitats Directive set out provisions for the conservation management of European Sites. Articles 6(3) and 6(4) of this Directive set out a series of procedural steps to test whether or not a plan or project is likely to affect a European site. Article 6(3) also establishes the requirement for appropriate assessment:

"any plan or project not directly connected with or necessary to the management of the (Natura 2000) site but likely to have a significant effect thereon, either individually or in combination with other

plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication 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 affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public".

Therefore, the objective of this assessment is to assess and conclude whether the preparation of the Draft Shannon Town Centre Masterplan will adversely affect the integrity of any European site. Such a conclusion will be arrived at by assessing the implications of the Draft Masterplan on each European site(s) conservation objectives and associated qualifying features of interests (i.e. those Annex I habitats and Annex II species of SACs (Qualifying Interest Features – QIs) and Special Conservation Interests (SCIs) of SPAs).

#### 1.3 Mitigation Measure and Appropriate Assessment

There has been considerable controversy and debate over recent years as to what extent, if any, to which it is permissible for the competent authority to take mitigation measures into account in reaching its screening determination. It can be argued that it is sometimes difficult to draw a meaningful distinction between (i) a mitigation measure, and (ii) a feature which is an integral part of the design of the project. This controversy has recently been resolved by the CJEU in its judgement in Case C-323/17 People Over Wind. The case concerned a proposed grid connection works, i.e. the laying of a cable to connect a wind farm to the national electricity grid. The High Court (Barrett J.) referred the question to the CJEU as to whether, or in what circumstances, mitigation measures can be considered when carrying out screening for appropriate assessment under Article 6(3) of the Habitats Directive. The CJEU noted that the concept of "mitigation measures" is not referenced in the Habitats Directive, and that the measures at issue in the proceedings should instead be understood as denoting measures that are intended to avoid or reduce the harmful effects of the proposed project on the site concerned. The court held that Article 6(3) of the Habitats Directive must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not proper, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site.

#### 2.0 Screening Methodology

#### 2.1 Introduction

The function of the Screening Assessment is to identify whether the preparation of the Draft Masterplan will have a likely significant effect on any European site(s). In this context "likely" means any effect that may be reasonably predicted and "significant" not trivial or inconsequential but an effect that is potentially relevant to the Site's conservation objectives<sup>1</sup>. Any effect, which would compromise the functioning and viability of a Site and interfere with achieving the conservation objectives of the Site would constitute a significant effect.

<sup>&</sup>lt;sup>1</sup> See English Nature's Habitat Regulations Guidance Note No. 3, 1999.

The assessment is underpinned by the precautionary principle. Therefore, if the risk of adverse impacts to the conservation objectives of a European Site cannot be ruled out it is assumed that an adverse impact may exist. Where such uncertainties are identified during the assessment, measures will be proposed to avoid or mitigate the risk of adverse impacts occurring.

The assessment was undertaken with reference to the following guidance documents on Habitats Directive Assessments:

#### European and National Legislation

- Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (also known as the 'Habitats Directive');
- Council Directive 2009/147/EC on the conservation of wild birds, codified version, (also known as the 'Birds Directive')
- European Communities (Birds and natural Habitats) Regulations 2011 as amended; and
- Planning and development Act 2000 as amended.

#### Guidance

- Article 6 of the Habitats Directive Rulings of the European Court of Justice. Final Draft September 2014;
- EC Natura 2000 Spatial Planning. European Commission (2017);
- EC study on evaluating and improving permitting procedures related to Natura 2000 requirements under Article 6.3 of the Habitats Directive 92/43/EEC. European Commission (2013);
- Marine Natura Impacts Statements in Irish Special Areas of Conservation. A working Document. DAHG (2012);
- Wind Energy Developments and Natura 2000. European Commission (2011)
- The implementation of the Birds and Habitats Directives in estuaries and coastal zones with particular attention to port development and dredging. European Commission (2011);
- Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. (Department of Environment, Heritage and Local Government, 2010 revision).
- Appropriate Assessment of Plans. Scott Wilson, Levett-Therivel sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants (2006).
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPWS 1/10 and PSSP 2/10.
- Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission Environment Directorate-General, 2001); hereafter referred to as the EC Article 6 Guidance Document. The guidance within this document provides a non-mandatory methodology for carrying out assessments required under Article 6(3) and (4) of the Habitats Directive.
- Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC (EC Environment Directorate-General, 2000); hereafter referred to as MN2000. Note that a revised version of this Guidance is due to for publication in 2016 and will be taken into account when appropriate.
- Guidance Document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory

*Measures, Overall Coherence.* Opinion of the European Commission (European Commission, January 2007).

- *Guidelines for Good Practice Appropriate Assessment of Plans Under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011);
- Communication from the Commission on the precautionary principle. European Commission (2000).
- European Communities (Birds and Natural Habitats) (Amendment) Regulations 2015

#### Other Relevant Texts

- European Union Biodiversity Strategy 2020;
- National Biodiversity Action Plan 2017-2021;
- River Basin Management Plan 2017-2021;
- All Ireland Pollinator Plan 2015-2020;
- Integrated Biodiversity Impact Assessment Practitioner's Manual (EPA, 2013);
- National Peatlands Strategy (2016);
- Art. 17 Reporting on the Status of EU Protected Habitats and Species (2007; 2013; 2019);
- Article 12 Reporting (Birds Directive) 2013; and
- Irelands Prioritised Framework for the Implementation of the Birds and Habitats Directive (2014)

#### 2.2 Approach to Screening for Appropriate Assessment

As per the Birds and Natural Habitats (Amendment) Regulations 2021 a Screening for Appropriate Assessment has been undertaken by Clare County Council to assess the potential of the Draft Masterplan to result in likely significant effects to European Sites.

The European Commission's publication *Assessment of Plans and Projects Significantly Affecting Natura* 2000 sites (2001) provides methodological guidance for Screening for Appropriate Assessment. The guidance publication outlines the stages involved in undertaking a Screening assessment of a plan or project that has the potential to have likely significant effects on European Sites. The methodology adopted for the Screening assessment of this proposal is informed by these guidelines and was undertaken in the following stages:

- 1. Describe the proposal and determine whether it is necessary for the conservation management of European Sites;
- 2. List all European Sites occurring within the study area;
- 3. Assess the objectives of the proposal and identify those that could have the potential to result in likely significant effects to European Sites; and

4. Identify other plans or projects that, in combination with the objectives of the proposal, have the potential to affect European Sites.

#### 2.3 Overview of the Receiving Environment

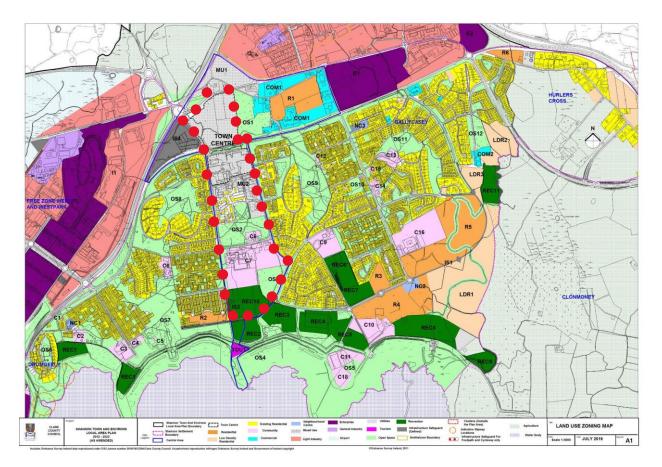
Shannon Town Centre is the central block area of the Local Area Plan, running the N19 road in the north to the Shannon Estuary in the south. The majority of the town centre masterplan area is zoned as follows;

**MU2 South of the Town Centre** – A 3.94ha mixed use site is located in the south of the area. The local area plan states that the key element of future development on this site will be to maintain its mixed-use nature and preserve the link between the town centre and town park.

**OS2 Town Centre Woodland Area** - – An important space linking the town centre with the school and leisure centre, and also links to the Shannon Estuary. The LAP supports continued existence of this green area, with objective 11.6 seeking to enhance green spaces and wildlife corridors such as these to provide recreational and amenity benefits, space for nature, enhanced biodiversity and to deliver health and quality of life benefits.

**C8** – **Community Uses** – This site is located at the southern boundary of the Masterplan area and accommodates Shannon fire station and town hall. The C8 site is designated as an area for community uses, whereby only developments compatible with their continued community use shall be considered acceptable to the Council.

The site location associated with the Draft Shannon Town Centre Masterplan is outlined in **Figure 1.0** below. The boundary, covering 30ha was carefully selected by Clare County Council and includes commercial, amenity, green field, utility and infrastructural lands.



#### Figure 1 Shannon Town Masterplan – Site Location

The Study Area is structured around three concentric layers instead of three focus areas. Each layer will have a specific set of design and development approaches, key projects, delivery strategies and phasing plans.

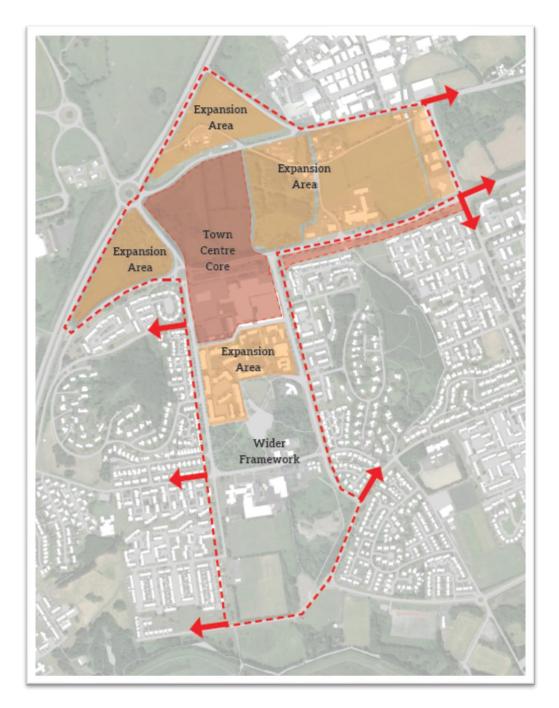
The proposed framework layers are: Town Centre Core, Expansion Areas, Wider Framework Boundary

**Town Centre Core** This includes Focus Areas 1 and 3. Two contrasting spatial conditions - Sky Court shopping centre, surface car park etc vs greenfield. Key barrier posed by the R471. This will be treated as one holistic centre.

**Expansion Areas** Includes part of Focus Area 2, green fields and partially developed plots adjacent to the town centre core. These areas will form future growth areas and their design will be intrinsically linked to the Town Centre Core.

**Wider Framework** This is the interface with the primary street grid, road network and Shannon Estuary. Minor proposals will be made to this area to ensure thoughtful integration with both the Town Centre Core and Expansion Areas.

Following an appraisal and examination of the town centre, it was proposed to expand the study area for the Masterplan to include the boulevards linking the Town Centre with the Estuary towards the south, as seen in the diagram opposite.



#### Figure 2 Focus Areas of the Draft Shannon Town Centre Masterplan

The Draft Masterplan Study Area aligns with the Central Area outlined in the Shannon Town and Environs Local Area Plan (2012-2018) as amended. An important feature of the Study Area is that it includes all the urban blocks in Shannon where the primary use is not residential. These blocks have a variety of urban conditions and uses, ranging from greenfield sites to mixed use environments. **Figure 3.0** illustrates how the Study Area is broken down into smaller urban units that fail to create a coherent and integrated system of linked spaces with a sense of continuity. These include:

- Retail and civic core (1) Shannon's retail destination and, in effect, the town centre. The block's character is marked by the presence of the Shannon Town Centre (Shopping Centre) and large area of surface car parking. The poor quality of its open spaces and public realm and inward-looking aspect of the retail buildings results in an uninviting and uninspiring urban domain lacking the attributes of a successful and attractive town centre.
- Mixed use block (2) A mix of residential blocks and offices structured around car parking courts and their related access routes. Streets function primarily as spaces for vehicles, with no pedestrian-oriented public realm.
- Shannon Town Park (3) A recent landscape development that needs time to mature. At present it is well utilised for both young kids through the presence of the wooden play area and for older kids through the pump track, a first of its kind in Munster.
- Education, leisure, and nature block (4) Most of its area is covered by open spaces (sports fields, wildlife hub), together with education and recreation facilities. At present it is peripheral to the Town Centre. However, it can be strategic in terms of supporting complementary uses to those at the heart of the Town Centre and create a better link with the Shannon Estuary.
- North of Bothar Mór (6 to 8) The Town Centre's expansion area, and potentially the space to link it with the employment hubs of the Free Zone and Smithstown.
- Future Residential (9) Current allocated uses are a mix of residential and commercial. The masterplan should explore the potential for alternative uses that may support more productive synergies with Smithstown.
- Smithstown Gateway (10) Potential to enhance the main link with Smithstown Industrial Estate.

The brief overview of character areas indicates the heterogeneous spatial structure of the Study Area and highlights the need for a spatial framework to guide development to make it a fully functional area.

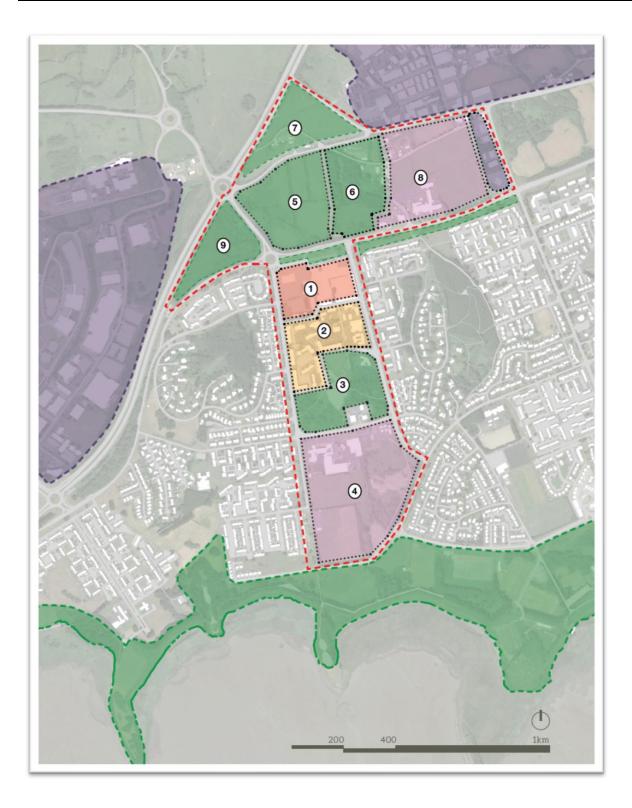


Figure 3 Study Area Units

#### 2.4 Statement of Authority

This report was prepared by Sheila Downes, Environmental Assessment Officer with Clare County Council. Sheila has over 16 years' experience in the fields of ecological assessment and reporting, environmental assessment of statutory and non-statutory plans and projects, stakeholder consultation and environmental advocacy. She has been involved in a wide range of infrastructure projects for local authorities and private commercial clients and has carried out a significant number of field surveys to inform Environmental Impact Assessments (EIA), Ecological Impact Assessments (EcIA), AA Screening Reports and Natura Impact Statements (NIS). She has specific experience in the review and preparation of Screening for Appropriate Assessment, Natura Impact Statements and Natura Impact Reports. She holds a first-class honours degree in Environmental Science, a Post Graduate Diploma in GIS, a Master's with distinction in Environmental Management and an Advanced Diploma in Planning and Environmental Law. She is a Chartered Member of the Institution of Water and Environmental Management (CIWEM) and a Chartered Scientist with the Science Council.

#### 2.5 Sources of Information Used

Information relied upon included the following information sources, which included maps, ecological and water quality data as preliminary insights:

- Ordnance Survey of Ireland mapping and aerial photography available from <u>www.osi.ie</u>;
- Online data available on European sites as held by the National Parks and Wildlife Service (NPWS) from <u>www.npws.ie;</u>
- Information on land-use zoning from the online mapping of the Department of the Environment, Community and Local Government <a href="http://www.myplan.ie/en/index.html">http://www.myplan.ie/en/index.html</a>;
- Information on water quality in the area available from <u>www.epa.ie;</u>
- Information on the River Basin Management Plan and water quality from <u>https://www.catchments.ie/</u>
- Information on soils, geology and hydrogeology in the area available from <u>www.gsi.ie</u>;
- Information on the status of EU protected habitats in Ireland (National Parks & Wildlife Service, 2019 Volumes 1-3);
- Regional Spatial and Economic Strategy for the Southern Region, January 2020;
- Clare County Development Plan 2017-2023 (as amended);
- Clare County Development Plan 2017 2023 Natura Impact Report;
- Clare County Council internal "Environmental Database" (GIS linked database)
- Shannon Town and Environs Local Area Plan 2012-2018 (as amended)

#### 2.6 Timing of Screening

There is no legal requirement as to when the screening of any plan, or variation thereof, for likely significant effects should take place, apart from that it must be done before the Plan is "made". Good practice agreed amongst AA professionals is that it should be a *relatively brief* stage at the beginning of the review process. Its aim is to decide if the proposed plan needs to be taken forward to a more detailed level of assessment (Appropriate Assessment or AA) and to identify which European sites may be

potentially affected. Screening is not the same as an AA – it only requires sufficient information to decide if a significant effect is likely. An AA goes into more detail to test whether those effects could result in damage to the European site.

The Screening stage was undertaken prior to the publication of the Draft Masterplan for public consultation, it was subsequently up-dated following the receipt of submissions from the statutory environmental authorities under the SEA legislation and further to the amendments made to the Draft Plan following consultation.

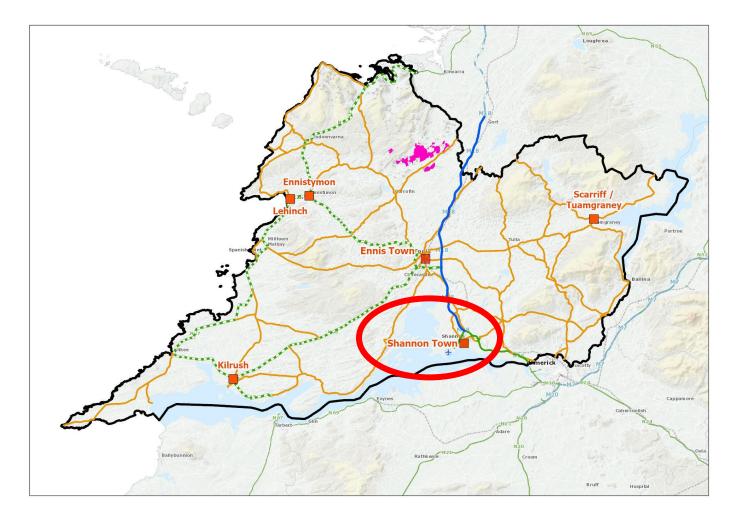


Figure 4 Shannon Town within County Clare – Geographical Extent

#### 2.7 Screening Steps

Best practice in AA Screening promotes a site-led approach to the process. The site-led approach puts the environmental conditions that maintain site integrity first. So the first steps in the screening stage are identifying the European sites within the "zone of influence" of the Plan and then collecting as much information as possible on the "Qualifying Interests" and how site integrity may be defined for each European site. The site-led approach focuses on how the site integrity can be maintained by avoiding impacts on key environmental conditions. This approach allows issues such as cumulative impacts to be identified.

The site-led approach is summarised as follows:

- 1. Which European sites lie within the zone of influence of the potential implications of the Draft Masterplan?
- 2. What are the Qualifying Interests for each European site?
- 3. What are the underpinning ecological and environmental conditions to maintain these Qualifying Interests at Favourable Conservation Status?
- 4. What are the threats actual or potential that could affect the underpinning factors?
- 5. Are there aspects of the Draft Masterplan that could give rise to these threats?

If, based upon the best currently available information, there are aspects of the Draft Masterplan that could affect the European sites then they will require further analysis in the form of an Appropriate Assessment.

#### 3.0 Screening of Sites

#### 3.1 Identification of European Sites

An initial distance of  $15 \text{km}^2$  from the Draft Masterplan Study Area boundary was selected for consideration of European sites for the purposes of the AA Screening exercise. This distance was deemed to be sufficient to cover all likely significant effects which may arise from the publication of the Draft Masterplan on European sites. Other criteria that were used for the selection of sites included analysis of drainage catchments and connectivity between sites. Spatial boundary data for the European site network used was the most up to date available (as per July 2021). All European sites which were deemed to be

<sup>&</sup>lt;sup>2</sup> As recommended in DoEHLG (2010)

within the zone of influence of the potential implications of the Draft Masterplan are listed in **Table 3.1** below and presented in **Figures 5**.

## Table 3-1 European Sites in County Clare and within a 15km buffer of the Draft Masterplan StudyArea boundary

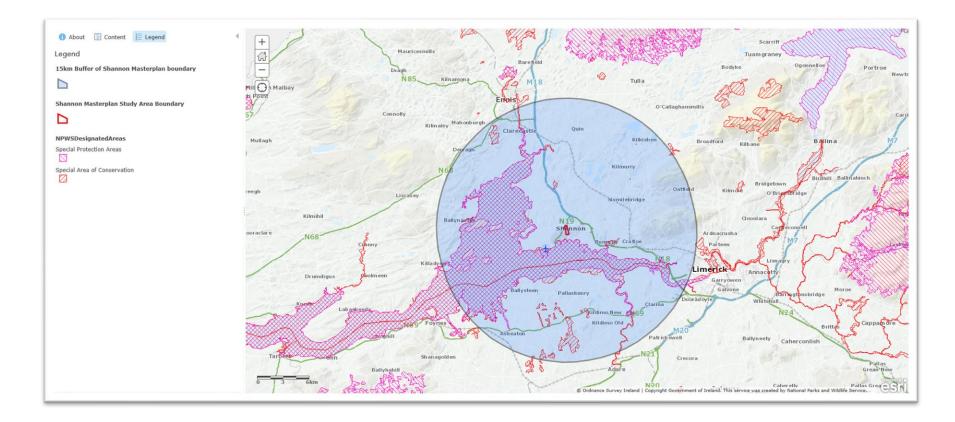
Site Code	Special Areas of Conservation	Site Code	Special Protection Area
000030	Danes Hole, Poulnalecka	004077	River Shannon and Fergus Estuaries SPA
000432	Barrigone		
000174	Curraghchase Woods		
002279	Askeaton Fen Complex		
002319	Kilkishen House		
002318	Knockanira House		
000051	Lough Gash Turlough		
002165	Lower River Shannon		
002091	Newhall and Edenvale Complex		
002010	Old Domestic Building, Keevagh		
000037	Pouladatig Cave		
000064	Poulnagordon Cave (Quin)		
002316	Ratty River Cave		

Due to the lack of any hydrological link and the distance between the geographical location of Shannon Town Centre which forms the key focus of the Draft Masterplan together with the physical separation through the presence of the Shannon Estuary the following SACs have been screened out immediately.

• 000432 Barrigone

• 002279 Askeaton Fen Complex

• 000174 Curraghchase Woods



#### Figure 5 SACs and SPAs within 15km buffer

To identify whether European sites could be potentially affected, it was necessary to describe the European sites in the context of:

- Why it has been designated Qualifying Interests (QIs) for SACs and Special Conservation Interests (SCIs) for SPAs;
- Generic threats and pressures to QIs and SCIs; and
- The environmental and ecological conditions that achieve and/or maintain the condition of the QIs and SCIs.

The QIs and SCIs were downloaded from the NPWS website on the 12<sup>th of</sup> July 2021 (<u>www.npws.ie</u>). Threats and pressures for QIs were extracted from the Status of EU Protected Habitats and Species in Ireland (NPWS, 2019 Volumes 1-3), and for SCIs, from Irelands Article 12 submission to the EU Commission on the *Status and trends of birds species (2008-2012)*<sup>3</sup>. Information on the parameters contributing to achieving and/or maintaining favourable conservation condition were largely compiled from a range Site Specific Conservation Objectives (SSCOs) downloaded from the NPWS website but is also based on professional judgement. **Table 3.2** lists each QI or SCI for European Sites within the zone of influence of the Draft Shannon Masterplan, Qualifying Interests, Conservation Status, Conditions underpinning Site Integrity together with the Screening Rationale.

<sup>&</sup>lt;sup>3</sup> <u>http://ec.europa.eu/environment/nature/knowledge/rep\_birds/index\_en.htm</u>

#### Table 2 Details of European sites taken forward for assessment within the Zone of Influence.

Details of Euro	pean Sites taken forw	vard for assessment within th	e Zone of Influence		
Site Name and Code	Qualifying Interests	Current Conservation Status <sup>4</sup>	Conservation Management Objectives <sup>5</sup>	Conditions underpinning site integrity	Screening Rationale
River Shannon and Fergus SPA	<ul> <li>Cormorant</li> <li>(Phalacrocorax carbo) [A017]</li> <li>Whooper Swan</li> <li>(Cygnus cygnus)</li> <li>[A038]</li> <li>Light-bellied</li> <li>Brent</li> <li>Goose (Branta bernicla hrota)</li> <li>[A046]</li> <li>Shelduck</li> <li>(Tadorna tadorna) [A048]</li> <li>Wigeon (Anas penelope) [A050]</li> <li>Teal (Anas crecca)</li> <li>[A052]</li> <li>Pintail (Anas acuta)</li> <li>[A054]</li> <li>Shoveler (Anas</li> </ul>	<ul> <li>Cormorant</li> <li>Phalacrocorax carbo - Amber</li> <li>Whooper Swan</li> <li>Cygnus cygnus - Amber</li> <li>Light-bellied</li> <li>Brent Goose Branta</li> <li>bernicla hrota - Amber</li> <li>Shelduck</li> <li>Tadorna tadorna - Amber</li> <li>Wigeon Anas</li> <li>penelope - Red</li> <li>Teal Anas crecca-</li> <li>Amber</li> <li>Pintail Anas</li> <li>acuta - Green</li> <li>Shoveler Anas</li> <li>clypeata - Red</li> <li>Scaup Aythya</li> <li>marila - Amber</li> <li>Ringed Plover</li> <li>Charadrius hiaticula</li> <li>Green</li> </ul>	To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for the SPA	<ul> <li>Food supply</li> <li>Breeding habitat</li> <li>Undisturbed roosting sites close to feeding areas</li> <li>Flooding regime of coastal grasslands</li> <li>Water quality</li> <li>Appropriate levels of disturbance</li> </ul>	<ul> <li>Given the purpose of the Draft Masterplan is to define the focus for economic, spatial and property development for Shannon Town Centre there are no planned works which would lead to impacts on the wintering bird season and therefore no potential for effects on wintering birds.</li> <li>The focus of defining these elements is confined to the Shannon Town Centre.</li> <li>There are no site investigations or ground works associated with the Draft Masterplan or arising from it which could lead to</li> </ul>

<sup>4</sup> Sourced from Status of EU Protected Habitats and Species in Ireland (NPWS, 2019) for SACs, and from Birds of Conservation Concern in Ireland 2014-2019 (Colhoun and Cummins, 2014) for SPAs.

<sup>5</sup> Sourced from Site Conservation Objectives (www.npws.ie accessed 12/07/21)

Details of Eur	opean Sites taken forwa	ard for assessment within th	e Zone of Influence		
Site Name and Code	Qualifying Interests	Current Conservation Status <sup>4</sup>	Conservation Management Objectives <sup>5</sup>	Conditions underpinning site integrity	Screening Rationale
	clypeata) [A056] • Scaup (Aythya marila) [A062] • Ringed Plover (Charadrius hiaticula) [A137] • Golden Plover (Pluvialis apricaria) [A140] • Grey Plover (Pluvialis squatarola) [A141] • Lapwing (Vanellus vanellus) [A142] • Knot (Calidris canutus) [A143] • Dunlin (Calidris alpina) [A149] • Black-tailed Godwit (Limosa limosa) [A156] • Bar-tailed Godwit (Limosa lapponica) [A157] • Curlew (Numenius arquata) [A160] • Redshank (Tringa totanus) [A162]	<ul> <li>Golden Plover</li> <li>Pluvialis apricaria - Red</li> <li>Grey Plover</li> <li>Pluvialis squatarola -</li> <li>Amber</li> <li>Lapwing</li> <li>Vanellus vanellus - Red</li> <li>Knot Calidris</li> <li>canutus - Amber</li> <li>Dunlin Calidris</li> <li>alpina - Red</li> <li>Black-tailed</li> <li>Godwit Limosa limosa-</li> <li>Amber</li> <li>Gartailed</li> <li>Godwit Limosa lapponica</li> <li>Amber</li> <li>Curlew</li> <li>Numenius arquata - Red</li> <li>Redshank Tringa</li> <li>totanus - Red</li> <li>Greenshank</li> <li>Tringa nebularia - Green</li> <li>Black-headed Gull</li> <li>Chroicocephalus</li> <li>ridibundus - Red</li> </ul>			water quality (Ground c surface water) impacts.

Details of Europ	Jean Siles taken forwa	ard for assessment within th			
Site Name and Code	Qualifying Interests	Current Conservation Status <sup>4</sup>	Conservation Management Objectives <sup>5</sup>	Conditions underpinning site integrity	Screening Rationale
	<ul> <li>Greenshank</li> <li>(<i>Tringa</i> nebularia) [A164]</li> <li>Black-headed</li> <li>Gull</li> <li>(<i>Chroicocephalus</i> ridibundus) [A179]</li> <li>Wetland and</li> <li>Waterbirds [A999]</li> </ul>				
Lough Gash Turlough SAC (00000051)	Annex I habitats: *Turloughs [3180]	Annex I habitats: *Turloughs – Unfavourable - Inadequate	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: The qualifying interests of the European site as listed in columns to the left	<ul> <li>Surface and ground water flow</li> <li>Water levels</li> <li>Water quality</li> <li>Appropriate agricultural practices including grazing pressures</li> </ul>	<ul> <li>This site is screened out as it is:</li> <li>In a separate groundwater body</li> <li>No direct hydrological link</li> <li>Distance between the site and the ground investigation works.</li> </ul>
Poulnagordon Cave (Quin) SAC (000064)	Annex I habitats: Caves not open to the public [8310] Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros [1303]	Annex I habitats: Caves not open to the public - Good Annex II species Lesser Horseshoe Bat Rhinolophus	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the	<ul> <li>Appropriate levels of disturbance</li> <li>Maintenance of hibernation habitats</li> <li>Food supply</li> <li>Appropriate levels of development in the vicinity</li> <li>Connectivity between sites</li> </ul>	<ul> <li>This site is screened out as there is:</li> <li>No hydrological link</li> <li>Distance between the site and ground investigation works</li> </ul>

Details of Europ	pean Sites taken forwa	ard for assessment within th	e Zone of Influence		
Site Name and Code	Qualifying Interests	Current Conservation Status <sup>4</sup>	Conservation Management Objectives⁵	Conditions underpinning site integrity	Screening Rationale
		hipposideros – UnFavourable - Inadequate	SAC has been selected: The qualifying interests of the European site as listed in columns to the left	<ul> <li>Vegetation cover</li> <li>Air quality</li> <li>Groundwater levels/movements</li> </ul>	
Old Domestic Building, Keevagh SAC (002010)	Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros [1303]	Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros – Unfavourable - Inadequate	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: The qualifying interests of the European site as listed in columns to the left	<ul> <li>Appropriate levels of disturbance</li> <li>Maintenance of breeding habitats</li> <li>Food supply</li> <li>Appropriate levels of development in the vicinity</li> <li>Connectivity between sites</li> <li>Vegetation cover</li> <li>Air quality</li> </ul>	<ul> <li>This site is screened out as there is:</li> <li>No hydrological link</li> <li>Distance between the site and the geographical location of the Shannon Town Centre Draft Masterplan study area.</li> </ul>
Newhall and Edenvale Complex SAC (002091)	Annex I habitats: Caves not open to the public [8310] Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros [1303]	Annex I habitats: Caves not open to the public - Good Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros – Unfavourable- Inadequate	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:	<ul> <li>Appropriate levels of disturbance</li> <li>Maintenance of breeding, foraging and hibernation habitats</li> <li>Food supply</li> <li>Appropriate levels of development in the vicinity</li> <li>Connectivity between sites</li> </ul>	<ul> <li>This site is screened out as there is:</li> <li>No hydrological link (in sperate sub-catchment from the Draft Masterplan study area)</li> <li>The distance between the SAC and the Draft Masterplan study area.</li> </ul>

#### Draft Shannon Town Centre Masterplan

#### Screening for Appropriate Assessment

Site Name and Code	Qualifying Interests	Current Conservation Status <sup>4</sup>	Conservation Management Objectives⁵	Conditions underpinning site integrity	Screening Rationale
			The qualifying interests of the European site as listed in columns to the left	Air quality	

Lower River Shannon SAC (002165)	Annex I habitats: Sandbanks which are slightly covered by sea water all the time [1110] Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] *Coastal lagoons [1150] Large shallow inlets and bays [1160] Reefs [1170] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Salicornia and other annuals colonizing mud and sand [1310] Atlantic salt meadows (Glauco- Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane	Annex I habitats: Sandbanks which are slightly covered by sea water all the time - Favourable Estuaries — Unfavourable/Inadequate Mudflats and sandflats not covered by seawater at low tide - Unfavourable/Inadequate *Coastal lagoons - Unfavourable/Bad Large shallow inlets and bays	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: The qualifying interests of the European site as listed in columns to the left Detailed conservation objectives are available for this site, see www.npws.ie	<ul> <li>Tidal currents</li> <li>Height and frequency of the tides</li> <li>Water levels</li> <li>Erosion and deposition rates</li> <li>Foraging Habitat</li> <li>Food supply</li> <li>Spawning habitat</li> <li>Appropriate levels of disturbance</li> <li>Air quality</li> <li>Water quality including nutrient levels, water clarity, sediment levels</li> <li>Appropriate agricultural practices including grazing pressures</li> <li>Riparian habitat</li> <li>Water quality (Q4-5)</li> <li>River babitat</li> <li>Unhindered migratory routes</li> </ul>	<ul> <li>The site is screened out as:</li> <li>The purpose of the Draft Shannon Masterplan is to define the focus for economic, spatial and property development for Shannon Town Centre. It is intended that the Masterplan will unlock the development potential and guide and stimulate the future economic and land-use development of all lands within Shannon Town Centre.</li> <li>There are no works associated with the Draft Masterplan.</li> <li>There is no potential for water quality impacts arising either directly or in-directly from the strategy being provided for within the Draft Masterplan that could lead to significant effects.</li> </ul>
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Water courses of plain to				
Ranunculion fluitantis and				
Callitricho-Batrachion				
vegetation				
-				
Unfavourable/Inadequate				
Molinia meadows on				
calcareous, peaty or				
clayey-silt-laden soils				
(Molinion caeruleae) -				
Unfavourable/Bad				
*Alluvial forests with				
Alnus glutinosa and				
Fraxinus excelsior				
(Alno-Padion, Alnion				
incanae, Salicion				
albae) -				
Unfavourable/Bad				
Annex II species:				
Freshwater Pearl Mussel				
Margaritifera				
margaritifera -				
Unfavourable/Bad				
Sea Lamprey Petromyzon				
marinus -				
Unfavourable/Bad				
Brook Lamprey Lampetra				
planeri - Favourable				
River Lamprey Lampetra				
fluviatilis - Favourable				
Atlantic Salmon Salmo				
salar (only in fresh water)				
_				
Unfavourable/Inadequate				
	montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation - Unfavourable/Inadequate Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) - Unfavourable/Bad *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) - Unfavourable/Bad Annex II species: Freshwater Pearl Mussel <i>Margaritifera</i> margaritifera unfavourable/Bad Sea Lamprey Petromyzon marinus - Unfavourable/Bad Brook Lamprey Lampetra planeri - Favourable River Lamprey Lampetra fluviatilis - Favourable Atlantic Salmon Salmo salar (only in fresh water)	montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation - Unfavourable/Inadequate Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) - Unfavourable/Bad *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) - Unfavourable/Bad Annex II species: Freshwater Pearl Mussel <i>Margaritifera</i> - Unfavourable/Bad Sea Lamprey Petromyzon marinus - Unfavourable/Bad Brook Lamprey Lampetra planeri - Favourable River Lamprey Lampetra fluviatilis - Favourable Atlantic Salmon Salmo salar (only in fresh water)	montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation - Unfavourable/Inadequate Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) - Unfavourable/Bad *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) - Unfavourable/Bad Annex II species: Freshwater Pearl Mussel <i>Margaritifera</i> <i>margaritifera</i> <i>margaritifera</i> <i>margaritifera</i> <i>margaritifera</i> <i>margaritifera</i> <i>margaritifera</i> <i>margaritifera</i> <i>u</i> nfavourable/Bad Sea Lamprey Petromyzon marinus - Unfavourable/Bad Brook Lamprey Lampetra planeri - Favourable River Lamprey Lampetra fluviatilis - Favourable Atlantic Salmon Salmo salar (only in fresh water)	montane levels with the Ranunculion fluitantis and Caliitricho-Batrachion vegetation - Unfavourable/Inadequate Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) - Unfavourable/Bad *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) - Unfavourable/Bad Annex II species: Freshwater Pearl Mussel Margaritifera margaritifera margaritifera and sea Lamprey Petromyzon marinus - Unfavourable/Bad Brook Lamprey Lampetra planeri - Favourable River Lamprey Lampetra fluviatilis - Favourable River Lamprey Lampetra fluviatilis - Favourable River Lamprey Lampetra fluviatilis - Favourable

25				
[1355]				
Otter Lutra lutra				
Tursiops truncates [1349]				
Bottlenose Dolphin	Favourable			
fresh water) [1106]	Otter Lutra lutra -			
Atlantic Salmon Salmo salar (only in	Tursiops truncates - Favourable			
[1099]	Bottlenose Dolphin			

Details of Eur	opean Sites taken forwa	ard for assessment within th	e Zone of Influence		
Site Name and Code	Qualifying Interests	Current Conservation Status <sup>4</sup>	Conservation Management Objectives <sup>5</sup>	Conditions underpinning site integrity	Screening Rationale
	Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] *Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Annex II Species: Narrow-mouthed whorl snail Vertigo angustior	Inadequate Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] - Inadequate *Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] - Bad Annex II Species: Narrow-mouthed whorl snail Vertigo angustior - Inadequate	for which the SAC has been selected: The qualifying interests of the European site as listed in columns to the left	<ul> <li>Vegetation cover</li> <li>Appropriate levels of development in the vicinity</li> </ul>	
Ratty River Cave SAC (002316)	Annex I habitats: Caves not open to the public [8310] Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros [1303]	Annex I habitats: Caves not open to the public - Good Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros – Unfavourable - Inadequate	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: The qualifying interests of the European site as listed in columns to the left	<ul> <li>Appropriate levels of disturbance</li> <li>Maintenance of breeding and hibernation habitats</li> <li>Food supply</li> <li>Appropriate levels of development in the vicinity</li> <li>Connectivity between sites</li> <li>Vegetation cover</li> <li>Air quality</li> <li>Groundwater levels/movements</li> </ul>	<ul> <li>There is no direct hydrological link</li> <li>The distance between the SAC and the Draft Masterplan Study Area</li> </ul>

Details of Eur	opean Sites taken forw	vard for assessment within th	e Zone of Influence		
Site Name and Code	Qualifying Interests	Current Conservation Status <sup>4</sup>	Conservation Management Objectives <sup>5</sup>	Conditions underpinning site integrity	Screening Rationale
Knockanira House SAC (002318)	Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros [1303]	Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros – Unfavourable - Inadequate	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: The qualifying interests of the European site as listed in columns to the left	<ul> <li>Appropriate levels of disturbance</li> <li>Maintenance of breeding habitats</li> <li>Food supply</li> <li>Appropriate levels of development in the vicinity</li> <li>Connectivity between sites</li> <li>Vegetation cover</li> <li>Air quality</li> </ul>	<ul> <li>This site is screened out due to:</li> <li>The absence of a direct hydrological link</li> <li>The distance between the SAC and the Draft Masterplan Study Area.</li> </ul>
Kilkishen House SAC (002319)	Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros [1303]	Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros – Unfavourable - Inadequate	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: The qualifying interests of the European site as listed in columns to the left	<ul> <li>Appropriate levels of disturbance</li> <li>Maintenance of summer and winter roosts habitats</li> <li>Food supply</li> <li>Appropriate levels of development in the vicinity</li> <li>Connectivity between sites</li> <li>Vegetation cover</li> <li>Air quality</li> </ul>	<ul> <li>The lack of a hydrological link</li> <li>The lack of a hydrological link</li> <li>The distance between the SAC and the Draft Masterplan Study Area</li> </ul>

Details of Eur	opean Sites taken forwa				
Site Name and Code	Qualifying Interests	Current Conservation Status <sup>4</sup>	Conservation Management Objectives <sup>5</sup>	Conditions underpinning site integrity	Screening Rationale
Pouladatig Cave SAC (000037)	Annex I habitats: Caves not open to the public [8310] Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros [1303]	Annex I habitats: Caves not open to the public - Good Annex II species Lesser Horseshoe Bat Rhinolophus hipposideros – Unfavourable - Inadequate	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: The qualifying interests of the European site as listed in columns to the left	<ul> <li>Appropriate levels of disturbance</li> <li>Maintenance of hibernation habitats</li> <li>Food supply</li> <li>Appropriate levels of development in the vicinity</li> <li>Connectivity between sites</li> <li>Vegetation cover</li> <li>Air quality</li> <li>Groundwater levels/movements</li> </ul>	<ul> <li>This site was screened out due to:</li> <li>The lack of a hydrological link</li> <li>The distance between the SAC and the Draft Masterplan Study Area</li> </ul>

#### 3.2 Conservation Objectives

According to the Habitat's Directive, the conservation status of a natural habitat will be taken as 'favourable'

within its biogeographic range when:

- Its natural range and areas it covers within that range are stable or increasing; and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- The conservation status of its typical species is favourable as defined below.

According to the Habitat's Directive, the conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' within its biogeographic range when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats; and
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The specific conservation objectives for each site are available on www.npws.ie. These have been accessed for the sites listed in **Table 2** above on the 12<sup>th of</sup> July 2021.

#### Detailed site-specific conservation objectives were available for all European sites:

- Lower River Shannon cSAC (002165); published 7th August 2012 (Version 1.0)
- River Shannon and River Fergus Estuaries SPA (004077); published 17th September 2012 (Version 1.0)
- Lough Gash Turlough cSAC (000051); published 20th November 2017 (Version 1)
- Askeaton Fen Complex SAC (002279); published 18th May 2018 (Version 1)
- Curraghchase Woods cSAC (000174); published 30th July 2018 (Version 2018)
- Ratty River Cave SAC (002316); published 30th July 2018 (Version 1)
- Barrigone cSAC (000432); published 15th February 2019 (Version 1)
- Poulnagordon Cave (Quin) SAC (000064); published 10th July 2018 (Version 1)
- Newhall and Edenvale Complex SAC (002091); published 30th July 2018 (Version 1)
- Knockanira House SAC (002318); published 24th July 2018 (Version 1)
- Kilkishen House SAC (002319); published 31st July 2018 (Version 1)
- Old Domestic Building (Keevagh) SAC (002010); published 24th July 2018 (Version 1)

#### Supporting documents for European sites are as follows:

#### Lower River Shannon cSAC (002165) and River Shannon and River Fergus Estuaries SPA (004077):

- NPWS (2012). Lower River Shannon SAC (site code: 2165) Conservation objectives supporting document marine habitats and species (Version 1).
- NPWS (2012). Lower River Shannon SAC (002165) Conservation objectives supporting document coastal habitats [Version 1]
- NPWS (2012). Lower River Shannon SAC (002165) Conservation objectives supporting document -lagoon habitats [Version 1] Lough Gash Turlough v cSAC (000051).
- NPWS (2012). Lower River Shannon SAC Conservation objectives supporting document water courses [Version 1].
- NPWS (2012). Lower River Shannon SAC (002165) Conservation objectives supporting document woodland habitats [Version 1].
- NPWS (2012). River Shannon and River Fergus Estuaries SPA (004077) Conservation objectives supporting document Appendix 8.2 [Version 1].
- NPWS (2012). River Shannon and River Fergus Estuaries SPA (004077) Conservation objectives supporting document [Version 1].
- NPWS (2012). River Shannon and River Fergus Estuaries SPA (004077) Conservation objectives supporting document Appendix 9 [Version 1].
- NPWS (2012). River Shannon and River Fergus Estuaries SPA (004077) Conservation objectives supporting document Appendix 8.1 [Version 1].
- Falvey, J.P.; Costello, M.J.; Dempsey, S. (1997). A survey of intertidal sediment biotopes in estuaries in Ireland
- Rogan, E.; Garagouni, M.; M. Nykänen, M.; Whitaker, A.; Ingram, S.N (2018). Bottlenose dolphin survey in the Lower River Shannon SAC, 2018. Lough Gash Turlough cSAC (000051):
- Connor, Á. (2017) Conservation objectives supporting document: Turloughs\* and Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation. Conservation Objectives Supporting Document Series. National Parks and Wildlife Service, Dublin.

#### Askeaton Fen Complex SAC (002279):

Young, R. (1971). A Report on Areas of Scientific Interest in Co. Limerick.

#### Curraghchase Woods cSAC (000174):

NPWS (2018). Conservation Objectives Supporting Document, Lesser Horseshoe Bat (Rhinolophus hipposideros).

- Young, R. (1971). A Report on Areas of Scientific Interest in Co. Limerick. Barrigone cSAC (000432): NPWS (2005) Barrigone CSAC Site Code 432 Co. Limerick. National Parks and Wildlife Service Conservation Plan for 2005-2010.
- Young, R. (1971). A Report on Areas of Scientific Interest in Co. Limerick.

Ratty River Cave SAC (002316), Poulnagordon Cave (Quin) SAC (000064) Newhall and Edenvale Complex SAC (002091), Knockanira House SAC (002318), Kilkishen House SAC (002319) and Old Domestic Building (Keevagh) SAC (002010):

- NPWS (2018). Conservation Objectives Supporting Document, Lesser Horseshoe Bat (Rhinolophus hipposideros).

Conservation objectives and conservation objectives supporting documents for these sites are available from the NPWS through the protected sites search portal at <a href="https://www.npws.ie/protected-sites">https://www.npws.ie/protected-sites</a>.

Barrigone SAC is the only European site with an available management plan (see supporting documents above for reference).

#### 3.3 Potential Cumulative Impacts

In considering whether the proposed Draft Masterplan, by itself or in combination with other plans and projects, has the potential to affect the conservation objectives of the designated sites within 15km of the Draft Masterplan study area, the following were considered:

- Clare County Development Plan 2017-2023, (as varied) including Volume 3 Shannon Municipal District
- Clare Biodiversity Action Plan 2017-2023
- Shannon Town and Environs Local Area Plan 2012-2018 (as amended)
- Clare County Council Planning Enquiry System (<u>www.eplanning.ie/ClareCC/searchexact</u>)

A planning search limited to applications submitted within the townlands overlapping and surrounding the Shannon Town Masterplan Study Area during the previous 5 years was conducted on 13<sup>th</sup> of July 2021.

The following townlands formed the focus of the search within the council planning enquiry system;

- Tullyvarraga
- Tullyglass
- Smithstown
- Ballymurtagh

Name of Plan or Project	Key Issues Directly Linked to Relevant Natura 2000 Sites	Potential Cumulative or In- Combination Impacts on Relevant Natura 2000 Sites			
Shannon Town and Environs Local Area Plan 2012-2018 (as amended)	Provisions for a sustainable low carbon town and to facilitate and permit the economic development of Shannon town and environs in accordance with the objectives of the LAP including the protective environmental objectives. It is an objective of the LAP to link the existing town centre through strong pedestrian and road linkages to a new area which incorporates a street plaza, high street retail uses, restaurant/café cluster, outlet centre, public open spaces, small office units, cinema and a major anchor store facility/outlet or discount centre or retail mall in the northern section of the town centre lands. The Shannon LAP required the preparation of a Shannon Masterplan to inform future potential development proposals.	Positive Impacts			
Clare County Development Plan 2017-2023, (as varied) including Volume 3 Shannon Municipal District.	Takes into consideration the Shannon LAP which again focuses on sustainable growth of the Town Centre and Aviation sector at Shannon Airport. The overall concerted goal is to secure a 'vibrant and viable town centre for Shannon'	Positive Impacts			
Clare Biodiversity Action Plan 2017-2023	The key aim of the Biodiversity Plan is to conserve the biodiversity of County Clare.	The Draft Masterplan is essentially a strategy within which Shannon Town Centre and its surrounds can requalify existing green spaces, the enhancement and restoration of existing links to the Shannon Estuary and to reimagine the estuary as a natural extension of the town centre. No Potential Impacts are envisaged.			
Local Planning Applications of relevance					
Tullyvarraga – P.17-500 & P.20- 311 Aldi	P.17-500 – Refused P.20-311 – Refused by Clare CoCo currently under Appeal to ABP	As both applications were refused by Clare CoCo and there is currently no live permission on the site in question there is no potential for cumulative impacts to arise.			

#### Table 3 List of Potential Plans and Projects which may contribute to Cumulative Impacts.

Tullyglass – P.17-8003 Shannon Town Park	Granted and completed	The Shannon Town Park sits within the Draft Shannon Town Centre Masterplan Study Area boundary. Given the Draft Shannon Town Centre Masterplan looks to increase connectivity to areas of Green Infrastructure such as the Shannon Town Park to the Shannon Town Centre there is no potential for impacts to arise.
Smithstown – P.18-1010 Chemifloc	Granted and completed.	No potential for impacts

#### 4.0 Screening Assessment Criteria

Throughout this section the line items in *italics* refer to suggested instructions for information to be contained in a screening assessment, and in an appropriate assessment from the guidance document "Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC', (European Commission, 2001).

As set out in the NPWS guidance (DoEHLG, 2009), the task of establishing whether a plan or project is likely to have an effect on a European site(s) is based on an evaluation using available information and data (e.g., water quality data), supplemented as necessary by local site information and ecological surveys. This results in a determination by the competent authority as to whether there may be a significant effect on the designated site. A precautionary approach is required.

Some examples given in the NPWS guidance (DoEHLG, 2009) of effects that are likely to be significant are:

- 1. Any impact on an Annex I habitat,
- 2. A reduction in the area of a habitat of conservation interest in a European site or a reduction in the area of a European site,
- 3. Direct or indirect damage to the physical quality of the environment (e.g., water quality and supply, soil compaction) in the European site,
- 4. Serious or ongoing disturbance to species or habitats for which the European site is selected (e.g., increased noise, illumination, and human activity),
- 5. Direct or indirect damage to the size, characteristics, or reproductive ability of populations in the European site,
- 6. Interference with mitigation measures put in place for other plans or projects.

## 4.1 Screening Matrix

# Table 4 Screening Matrix

Assessment Criteria	Discussion of Potential Impacts
Brief Description of project or plan	It is intended that the Masterplan will guide and
	stimulate the development of Shannon Town Centro
	into the future and will influence and deliver on rea
	change for Shannon Town Centre in order to make
	Shannon a more attractive destination in which to
	live, work and do business. The Masterplan looks a
	growth potential, use of derelict and vacant site
	within the Town Centre, development potential o
	key sites at the entrance points from the road
	network and will seek to create a vibrant place fo
	people to meet, recreate and connect with their
	area. The Draft Masterplan is a strategy to guide it'
	future development in terms of linkages
	transportation corridors, concepts etc for currentl
	zoned lands.
Brief description of the Natura 2000 (European) site	The Lower River Shannon cSAC (002165) and Rive
	Shannon and River Fergus Estuaries SPA (004077) ar
	located c.690m from the most southern end of th
	Draft Masterplan Study Area boundary.
	Lower River Shannon cSAC (002165) is designated for
	21 qualifying interests. Six qualifying interests ar
	coastal habitats and two are purely freshwater base
	(e.g., freshwater pearl mussel) and they are no
	located or hydrologically linked to the study area of
	the proposed Draft Masterplan and are not discusse
	further.
	According to the cSAC's conservation objectiv
	supporting documents <sup>15</sup> , the receiving habitats of th
	cSAC directly south/southeast that could potential
	receive discharges are mudflats and sandflats no
	covered by sea water at low tide [1140] and estuarie
	[1130] however, these are at such a remove wit
	significant urban development, town park, wetland
	and amenity/recreational areas between the stud
	area and these habitats that it is highly unlikely for
	significant effects to arise. Equally the Masterpla
	does not propose any future specific developmen
	nor will it lead to development applications which
	could cause such impacts through discharges of
	emissions.
	Shannon Airport Lagoon (code: IL032), is locate
	1.4km away from where the closest stream
	discharges into the Shannon estuary and is locate
	behind an embankment; no impact is envisaged du
	to distance and the habitat will not be considere
	further.
	Transient qualifying interests of the SAC include Lutr
	lutra (otter) Petromyzon marinus (Sea Lamprey
	[1095], Lampetra planeri (Brook Lamprey) [1096]
	Lampetra fluviatilis (River Lamprey) [1099] and

	estuary and streams of the area whilst Lamprey and Salmon are likely to use the estuary to commute; there are no 3 <sup>rd</sup> order streams present which would connect the study area to the SAC and therefore there is no potential for these species to be impacted in terms of commuting routes. Commuting Lamprey and Salmon are highly unlikely to be impacted by any potential changes in water quality within the estuary due the volume and nature of potential discharge and dilution factor of receiving streams and estuarine waters and are no longer considered. River Shannon and River Fergus Estuaries SPA (004077) is designated for Wetland and Waterbirds [A999] as well as 21 wetland wintering bird's species. At the closest point to the boundary of the study area the marine communities are comprised of intertidal sand to mixed sediment with polychaetes, molluscs, and crustacean's community complex16. According to the site's conservation objectives supporting documents <sup>17</sup> , 15 of the SPAs special conservation interests have been recorded for 2010/11 winter surveys foraging (F), roosting/other activities (R/O) in the areas closest to the Draft Masterplan study area boundary.
	tailed Godwit (F, R/A), Curlew (F, R/O), Greenshank (F), Redshank F), Shoveler (F, R/O), Black headed gull (F, R/O), Shelduck (F), Wigeon (F, R/O), Teal (F, R/O), Wigeon (F, R/O), Cormorant (F, R/O), Golden Plover (F, R/O), Lapwing (F, R/O) and Knot (F). Given the distance from the study area boundary and the absence of specific development works there is no potential for disturbance or displacement to these Special Conservation Interests.
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the European Sites.	Changes in water quality have the potential to negatively impact habitats and reduce prey availability for Otter; qualifying interests of Lower River Shannon cSAC (002165) and birds; special conservation interests of the River Shannon and River Fergus Estuaries SPA (004077). There are no works proposed as part of the Draft Town Centre Masterplan which would lead to impacts either on groundwater or surface water quality through emissions or the loss of fine sediments or silts.
	The receiving habitats are mudflat/sandflat and estuarine waters. Mudflats/sandflats are silty in nature and estuarine waters will further dilute receiving waters. If any changes were to arise to the water quality from the Draft Shannon Town Centre Masterplan, they would be negligible; therefore, there will be no impact on receiving habitats of the cSAC and no impact on prey availability and therefore no impact on Otter or special conservation interests of the SPA.

	There is no risk of disturbance through noise to Special Conservation Interests or to the Qualifying Interest Features of the SPA and SAC respectively. There is no risk of habitat fragmentation or to the loss
	of key foraging areas within the study area boundary.
	Lough Gash Turlough cSAC (000051), Askeaton Fen Complex SAC (002279), Curraghchase Woods cSAC (000174), Ratty River Cave SAC ( 002316), Barrigone cSAC (000432), Poulnagordon Cave (Quin) SAC (000064), Newhall and Edenvale Complex SAC (002091), Knockanira House SAC (002318), Kilkishen House SAC (002319) and Old Domestic Building (Keevagh) SAC (002010) have already been screened out due to lack of any direct hydrological link or potential for impact due to the significant distance between the Draft Masterplan Study Area boundary.
Describe any likely direct, indirect, or secondary	Size and scale, land-take, and distance from Natura
impacts of the project (either alone or in combination with other plans or projects) on the	2000 sites Potential Impacts: None
Natura 2000 site by virtue of:	lotential impacts. None
	There are no proposed works arising from the Draft
<ul> <li>Size</li> <li>Lad-take</li> </ul>	Masterplan either within or outside the Lower River Shannon cSAC (002165) or River Shannon and River
<ul> <li>Distance from Natura 2000 site or key</li> </ul>	Fergus Estuaries SPA (004077), therefore no direct
features of the site.	impacts regarding land take will occur. The study
Resource requirements	area is located c.690m from the nearest point of the
<ul> <li>Emissions</li> <li>Excavation requirements</li> </ul>	SAC/SPA.
Transportation requirements	Resource requirements and Excavation
• Duration of construction, operations etc.	requirements
• Other.	<b>Potential Impacts:</b> <i>None</i> There will be no resource requirements or excavation
	requirements from any European site as a result of
	the Draft Masterplan.
	Emissions
	Potential Impacts: None
	There are no potential changes to water quality or impacts from emissions anticipated for the Lower
	River Shannon cSAC (002165) or River Shannon
	and River Fergus Estuaries SPA (004077).
	Transportation requirements
	Potential Impacts: None.
	While the Draft Masterplan includes for a schematic indication of potential future access routes around the Town Centre these routes have also been included in the Shannon Town and Environs Local Area Plan 2012-2018 with respect to the area identified as OS1 – Future Civic Park in the LAP. The new road network is identified as part of this zoning

	and is also outlined in <b>Figure 2.3</b> of the LAP. The LAP
	was subject to both SEA and AA.
	Duration of Construction and Operation
	Potential Impacts: None.
	No works or proposed developments will arise as
	part of the preparation of the Draft Masterplan.
	Cumulative impacts
	Potential Impacts: None.
	A planning search was conducted on 13 <sup>th</sup> of July
	2021. In the local area, no other planned or
	permitted projects or plans are of a scale or distance
	that could act cumulatively with the schematic Draft
	Masterplan. No cumulative impacts are anticipated.
Describe any likely changes to the site arising as a	Due to the lack of a hydrological link and the distance
result of:	between the Lower River Shannon cSAC and River
	Shannon and Fergus Estuaries SPA and the Draft
<ul> <li>Reduction of habitat area.</li> </ul>	Masterplan Study Area there is no potential for a
<ul> <li>Disturbance of key species.</li> </ul>	reduction in habitat area, disturbance to key species,
Habitat or species fragmentation.	habitat or species fragmentation, reduction in
• Reduction in species density.	species density, changes in key indicators of
• Changes in key indicators of conservation	conservation value or negative impacts on Climate
value.	Change.
Climate Change.	
	The Draft Masterplan Study Area boundary lies
	outside the footprint of any European site.
	With regards to disturbance of key species, species
	fragmentation, reduction in species density or
	changes to key indicators of conservation, no
	significant impact is anticipated on the Lower River
	Shannon cSAC (002165) or the River Shannon and
	Fergus Estuaries SPA (004077) due to the localised
	and urban nature of the schematic Masterplan,
	distance between the cSAC/SPA and the Plan, lack of
	potential discharges or emissions, absence of
	hydrological links and project specific proposals.
Describe any likely impacts on the Natura 2000 site	There are no potential impacts on the key
as a whole in terms of:	relationships that define the structure or function of
	any European site considered in this Screening for
• Interference with the key relationships that	Appropriate Assessment due to the localised and
define the structure of the site.	urban setting of the schematic Draft Masterplan.
• Interference with key relationships that	
define the function of the site.	
Provide indicators of significance as a result of the	With regards to Otter, a qualifying interest of the
identification of effects set out above in terms of:	Lower River Shannon cSAC (002165), as a worst-case
	scenario, noise has the potential to cause temporary
• loss,	slight disturbance to Otter. As there are no specific
<ul> <li>fragmentation,</li> </ul>	works arising from the Draft Masterplan there is no
• disruption,	potential for disturbance to take place. There will be
• disturbance,	no disturbance of other qualifying interests of the
• change to key elements of the site (e.g.,	cSAC. With regards to water quality (key element
water quality etc.)	
mater quanty ctery	

	of the cSAC), changes are unlikely due to the nature of Draft Masterplan which is predominately a schematic Masterplan with no emissions or discharges arising.	
	There will also be no loss, fragmentation, or disruption to special conservation interests of the River Shannon and River Fergus Estuaries SPA (004077).	
	With regards to water quality, a key element of the River Shannon and River Fergus Estuaries SPA (004077), changes are unlikely due to the nature of	
	the Draft Masterplan with no proposed discharges or emissions and given the distance and lack of a hydrological link with any European site. There will be no changes to any other key elements of the SPA. There will be no loss, fragmentation, disruption, disturbance of any of the special conservation	
	interests of the River Shannon and River Fergus Estuaries SPA (004077).	
Describe from the above those elements of the	No significant impacts or impacts of unknown scale	
project or plan, or combination of elements, where	or magnitude, either alone or in-combination with	
the above impacts are likely to be significant or where the scale of magnitude of impacts is not known.	other projects or plans are predicted.	

### 5.0 Screening Conclusions

It is concluded beyond reasonable doubt that there are not likely to be significant effects from the Draft Shannon Town Masterplan on the 14 European sites identified for consideration (or any other European site), either alone or in combination with other plans or projects.

No significant effects on any of the European sites within the zone of potential influence are predicted. Therefore, the following 14 European sites have been 'screened out' within the Screening for Appropriate Assessment Report:

Site Code	Special Areas of Conservation	Site Code	Special Protection Area
000030	Danes Hole, Poulnalecka	004077	River Shannon and Fergus Estuaries SPA
000432	Barrigone		
000174	Curraghchase Woods		
002279	Askeaton Fen Complex		
002319	Kilkishen House		
002318	Knockanira House		
000051	Lough Gash Turlough		
002165	Lower River Shannon		
002091	Newhall and Edenvale		
	Complex		
002010	Old Domestic Building,		
	Keevagh		
000037	Pouladatig Cave		
000064	Poulnagordon Cave (Quin)		
002316	Ratty River Cave		

See Appendix 1 for Findings of No Significant Effects Report.

#### References

DoEHLG, 2009. Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin 2009.

EC, 2018. *Managing Natura 2000 Sites*: The Provisions of Article 6 of the 'Habitats Directive' 92/43/EEC, European Commission, 2000.

EC, 2001. Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission 2001.

NPWS, (2019). Barrigone cSAC (000432); published 15th February 2019 (Version 1) National Parks and Wildlife Service.

NPWS, (2018). Newhall and Edenvale Complex SAC (002091); published 30th July 2018 (Version 1) National Parks and Wildlife Service.

NPWS, (2018). Askeaton Fen Complex SAC (002279); published 18th May 2018 (Version 1) National Parks and Wildlife Service.

NPWS, (2018). Curraghchase Woods cSAC (000174); published 30th July 2018 (Version 2018) National Parks and Wildlife Service.

NPWS (2018). Conservation Objectives Supporting Document, Lesser Horseshoe Bat (Rhinolophus hipposideros). National Parks and Wildlife Service.

NPWS (2018) Conservation Objectives: Ratty River Cave SAC 002316. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage, and the Gaeltacht.

NPWS (2018) Conservation Objectives: Poulnagordon Cave (Quin) SAC 000064. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage, and the Gaeltacht.

NPWS (2018) Conservation Objectives: Knockanira House SAC 002318. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage, and the Gaeltacht.

NPWS (2018) Conservation Objectives: Kilkishen House SAC 002319. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage, and the Gaeltacht.

NPWS (2018) Conservation Objectives: Old Domestic Building (Keevagh) SAC 002010. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage, and the Gaeltacht.

NPWS, (2017). Lough Gash Turlough cSAC (000051); published 20th November 2017 (Version 1) National Parks and Wildlife Service.

NPWS, (2012). Lower River Shannon cSAC (002165); published 7th August 2012 (Version 1.0) National Parks and Wildlife Service.

NPWS, (2012). River Shannon and River Fergus Estuaries SPA (004077); published 17th September 2012 (Version 1.0) National Parks and Wildlife Service.

NPWS (2012). Lower River Shannon SAC (site code: 2165) Conservation objectives supporting document - marine habitats and species (Version 1). National Parks and Wildlife Service.

NPWS (2012). Lower River Shannon SAC (002165) Conservation objectives supporting document – coastal habitats [Version 1] National Parks and Wildlife Service.

NPWS (2012). Lower River Shannon SAC (002165) Conservation objectives supporting document – lagoon habitats [Version 1] Lough Gash Turlough cSAC (000051). National Parks and Wildlife Service.

NPWS (2012). Lower River Shannon SAC Conservation objectives supporting document - water courses [Version 1]. National Parks and Wildlife Service.

NPWS (2012). Lower River Shannon SAC (002165) Conservation objectives supporting document\_woodland habitats [Version 1]. National Parks and Wildlife Service.

NPWS (2012). River Shannon and River Fergus Estuaries SPA (004077) Conservation objectives supporting document - Appendix 8.2 [Version 1]. National Parks and Wildlife Service.

NPWS (2012). River Shannon and River Fergus Estuaries SPA (004077) Conservation objectives supporting document [Version 1]. National Parks and Wildlife Service.

NPWS (2012). River Shannon and River Fergus Estuaries SPA (004077) Conservation objectives supporting document - Appendix 9 [Version 1]. National Parks and Wildlife Service.

NPWS (2012). River Shannon and River Fergus Estuaries SPA (004077) Conservation objectives supporting document - Appendix 8.1 [Version 1]. National Parks and Wildlife Service.

NPWS (2005) Barrigone CSAC Site Code 432 Co. Limerick. National Parks and Wildlife Service Conservation Plan for 2005-2010.

O Connor, Á. (2017) Conservation objectives supporting document: Turloughs\* and Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation. Conservation Objectives Supporting Document Series. National Parks and Wildlife Service, Dublin.

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

Rogan, E.; Garagouni, M.; M. Nykänen, M.; Whitaker, A.; Ingram, S.N (2018). Bottlenose dolphin survey in the Lower River Shannon SAC, 2018.

# Appendix 1

## Finding of No Significant Effects Report

Findings of No Significant Effects Report	
Name and location of the Natura 2000 sites	There are no European Sites within or
	immediately adjacent to the Draft
	Masterplan Study Area boundary.
	The following 12 European Sites are
	located within 15 km:
	located within 15 km.
	000030 Danes Hole,
	Poulnalecka
	000432 Barrigone
	000174 Curraghchase Woods
	002279 Askeaton Fen Complex
	002219 Askeaton ren complex 002319 Kilkishen House
	002319 Kinkishen House
	000051 Lough Gash Turlough 002091 Newhall and Edenvale
	Complex
	002010 Old Domestic Building,
	Keevagh
	000037 Pouladatig Cave 000064 Poulnagordon Cave
	<u> </u>
	(Quin)
	002316 Ratty River Cave
	The following 2 European sites are
	located within 1km:
	002165 Lower River Shannon
	004077 River Shannon and
	Fergus SPA
Description of the project or plan	It is intended that the Masterplan will
	guide and stimulate the development of
	Shannon Town Centre into the future
	and will influence and deliver on real
	change for Shannon Town to make
	Shannon a more attractive destination in
	which to live, work and do business. The
	Masterplan looks at growth potential,
	use of derelict and vacant sites within the
	Town Centre, development potential of
	key sites at the entrance points from the
	road network and will seek to create a
	vibrant place for people to meet,
	recreate and connect with their area. The
	Draft Masterplan is a schematic Masterplan of Shannon Town Centre
	I masterplan of sharmon rown centre
	-
	which will be used to guide its future
Is the Project or Plan directly connected with or necessary to the	which will be used to guide its future development.
Is the Project or Plan directly connected with or necessary to the management of the site (provide details) ?	which will be used to guide its future development.
Is the Project or Plan directly connected with or necessary to the management of the site (provide details) ? Are there other projects or plans that together with the projec	which will be used to guide its future development. e No.
management of the site (provide details) ?	which will be used to guide its future development. e No.

Assessment of Effects	are of a scale or distance that could act cumulatively with the schematic Draft Masterplan. No cumulative impacts are anticipated.
Describe how the project or plan (alone or in-combination) is likely to affect the Natura 2000 site.	Changes in water quality have the potential to negatively impact habitats and reduce prey availability for Otter; qualifying interests of Lower River Shannon cSAC (002165) and birds; special conservation interests of the River Shannon and River Fergus Estuaries SPA (004077). There are no works proposed as part of the Draft Masterplan which would lead to impacts either on groundwater or surface water quality through emissions or the loss of fine sediments or silts.
	The receiving habitats are mudflat/sandflat and estuarine waters. Mudflats/sandflats are silty in nature and estuarine waters will further dilute receiving waters. If any changes were to arise to the water quality from the Draft Masterplan, they would be negligible; therefore, there will be no impact on receiving habitats of the cSAC and no impact on prey availability and therefore no impact on Otter or special conservation interests of the SPA.
	There is no risk of disturbance through noise to Special Conservation Interests or to the Qualifying Interest Features of the SPA and SAC respectively.
	There is no risk of habitat fragmentation or to the loss of key foraging areas within the study area boundary.
	Lough Gash Turlough cSAC (000051), Askeaton Fen Complex SAC (002279), Curraghchase Woods cSAC (000174), Ratty River Cave SAC (002316), Barrigone cSAC (000432), Poulnagordon Cave (Quin) SAC (000064), Newhall and Edenvale Complex SAC (002091), Knockanira House SAC (002318), Kilkishen House SAC (002319) and Old Domestic Building (Keevagh) SAC (002010) have already been screened out due to lack of any direct hydrological link or notential for impact due to the
	or potential for impact due to the significant distance between the Draft Masterplan Study Area boundary.

Explain why these effects are not considered significant.	Given the Draft Shannon Town Centre Masterplan is a schematic vision for the primarily Shannon Town Centre there is no potential for significant effects to arise. Any future zoning changes required on foot of the Draft Masterplan will need to be undertaken through a Variation to the Shannon LAP. There are no specific works, development or proposals which will arise from the Draft Masterplan.
Name of Agency or Body Consulted	Summary of Response
(a) the Environmental Protection Agency (EPA);	We acknowledge your notice, dated 16 <sup>th</sup> July 2021, in relation to the Draft Shannon Town Centre Masterplan (the 'Plan') and associated Strategic Environmental Assessment (SEA) screening.
	The EPA is one of the statutory environmental authorities under the SEA Regulations. In our role as an SEA environmental authority, we focus on promoting the full and transparent integration of the findings of the Environmental Assessment into the Plan and advocating that the key environmental challenges for Ireland are addressed as relevant and appropriate to the plan. Our functions as an SEA environmental authority do not include approving or enforcing SEAs or plans.
	The proposed determination regarding the need for the SEA of the Plan and that SEA is not required is noted.
	Clare County Council should ensure that the Plan remains consistent with other key relevant higher-level plans and programmes. The council should also recognise the need to align with national commitments on climate change mitigation and adaptation, as well as incorporating any relevant recommendation together with incorporating any relevant objectives and policy commitments of the National Planning Framework and the Southern Regional Spatial and Economic Strategy.
	State of the Environment Report – Ireland's Environment 2020 The recommendations, key issues and challenges described in our State of the Environment Report Ireland's

Environment – An Integrated Assessment 2020 (EPA, 2020) should be considered, as relevant and appropriate to the extended plan.
Available Guidance & Resources The SEA resources and guidance documents provided on the EPA web-site should be used to inform the assessment together with the available mapping tools such as the Environmental Sensitivity Mapping Too, EPA SEA WebGIS Tool, EPA WFD Application and the EPA AA GeoTool.
<b>Future amendments to the Plan</b> Where changes to the Plan are made prior to finalisation, or where modifications to the Plan are proposed following its adoption, these should be screened for potential for likely significant effects in accordance with the criteria set out in Schedule 1 of the SEA Regulations (S.I. No. 435 of 2004). Environmental Authorities Under the SEA Regulations (SI 435 of 2004, as amended), prior to making your SEA determination you should consult with:
<ul> <li>Environmental Protection Agency;</li> <li>Minister for Housing, Local Government and Heritage</li> <li>Minister for Tourism, Culture, Arts, Gaeltacht, Sport and Media (formerly Minister for Culture, Heritage and the Gaeltacht (functions transferred from Minister for Environment, Heritage and Local Government/ Minister for Housing, Planning and Local Government to Minister for Culture, Heritage and the Gaeltacht by S.I. 192 of 2011);</li> <li>Minister for Environment, Climate and Communications; and</li> <li>Minister for Agriculture, Food and the Marine.</li> </ul>
<b>SEA Determination</b> As soon as practicable after making your determination as to whether SEA is required or not, you should make a copy of your decision, including, as appropriate, the reasons for not requiring an environmental assessment, available for public inspection in your offices and on your website. You should also send a copy of your determination to

	the relevant environmental authorities consulted.
(b) the Minister for Housing, Local Government and Heritage;	No response to date
(c) where it appears to the competent authority that the plan or programme, or modification to a plan or programme, might have significant effects in relation to the architectural or archaeological heritage or to nature conservation, the Minister for Tourism, Culture, Arts, Gaeltacht, Sports and Media;	No response to date No response to date
(d) where it appears to the competent authority that the plan or programme, or modification to a plan or programme, might have significant effects on fisheries or the marine environment, the Minister for Agriculture, Food and the Marine; and	No response to date
(e) the Minister for Environment, Climate and Communications	
Geological Survey of Ireland	Geo-heritage The audit for Co. Clare was carried out in 2005. The full report details can be found here. Our records show that there are no CGSs in the vicinity of Shannon Town Centre. The Geological Heritage Programme views the Local Authorities as critical partners in protecting, through the planning system, those CGSs which fall within their county limits. In many cases these are often sites of high amenity or educational value, already zoned or listed in the plan. Listing in the Local Area Plan (LAP) provides protection of the sites against potentially damaging developments that normally require planning permission, such as building, quarrying, landfilling or forestry. It is also important that the democratic process of public consultation and approval by councillors of the LAP means that stakeholders in the sites and all the local community can buy into the process. <b>County Geological Sites</b>

CGSs have been adopted in the National
Heritage Plan and will form a major
strand of geological nature conservation
to complement the various ecological
and cultural conservation measures. It is
important to note however, that
management issues for the majority of
geological heritage sites may differ from
ecological sites, and in some cases,
development may facilitate enhanced
geological understanding of a site by
exposing more rock sections - for example, in a quarry extension.
example, in a quarry extension. Consultation at the earliest stages can
identify any issues relevant to an
individual site or proposed development.
County Geological Sites are the optimal
way of addressing the responsibility of
each authority under the Planning and
Development Act 2000 and its
amendments, to protect sites of
geological interest.
Culture and Tourism
Over the past number of years geology
has become a large part of Irish tourism.
Ireland currently has three UNESCO
Global Geoparks, including the Burren
and Cliffs of Moher Global Geopark,
which has retained its UNESCO Global
Geopark status for another four years.
Geological Survey Ireland partially funds
and is part of the management structure
of this Geopark. These Geoparks, along
with other tourism initiatives such as the
Wild Atlantic Way, Irelands Ancient East,
and Irelands Hidden Heartlands have
bolstered tourism in various parts of
Ireland and helped to increase its levels
in areas that were previously not as popular with tourists. We would
encourage Shannon Town Council / Clare County Council to continue this trend,
and to use the geological audit
information making it easily available to
the general public. We would encourage
geology to be a significant part of any
tourism initiative that may be
introduced.
Dimension Stone/Stone Built Ireland
Stone Built Ireland is a 2-year research
collaboration agreement between
Geological Survey Ireland, Trinity College
Dublin & the office of Public Works. The
project aims to document building and
decorative stone in Ireland to inform
government agencies, building owners
and conservationists of the sources for

]
suitable replacement stone in
restoration work and to develop a
greater awareness among the general
public. In addition to promoting citizen
science and awareness of local materials,
the inventory will aid the public in
complying with part 4 of the Planning and
Development Act 2000, which requires
owners to conserve protected structures.
It will also assist local authorities in
issuing Section 57 Declarations, which
outline 'the type of works which it
considers would or would not materially
affect the character of the structure or
any element of the structure'.
This project will build on work already
completed funded by the Irish Research
Council (March 2019 - September 2020)
that carried on primary research on the
topic and developed a simple database
and web-based platform as well as
hosting various heritage displays at
venues. This may be of benefit when
considering Architectural Heritage, as a
theme under Cultural Heritage.
Groundwater
Geological Survey Ireland's Groundwater
and Geothermal Unit, provides advice,
data and maps relating to groundwater
distribution, quality and use, which is
especially relevant for safe and secure
drinking water supplies and healthy
ecosystems.
Proposed developments need to
consider any potential impact on specific
groundwater abstractions and on
groundwater resources in general. We
recommend inclusion of our Groundwater Vulnerability dataset as a
-
source of information to be utilized
during the preparation of the
Environmental Report for Shannon Town
Centre. We recommend using the
groundwater maps on our Map viewer,
which should include wells; drinking
water source protection areas; the
national map suite - aquifer,
groundwater vulnerability, groundwater
recharge and subsoil permeability maps.
For areas underlain by limestone, please
refer to the karst specific data layers
(karst features, tracer test database;
turlough water levels (gwlevel.ie).
Background information is also provided
in the Groundwater Body Descriptions.
Our Groundwater programme run GW
Climate which is a groundwater

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		contact the Groundwater and Geothermal Unit of the Geological Survey Ireland directly. We would encourage Clare County Council to consider Geothermal Energy as part of the Material Assets SEA Topic within the Shannon Town Centre Plan. <b>Other Comments</b> We would encourage Clare County Council to use our online datasets that may be of use in assessing planning applications and for assessing Environmental Assessment Impact Reports (EIAR). Further information on our Geo-heritage, Bedrock, Subsoils, Groundwater, Landslide Susceptibility and Minerals datasets can be found on the online Map Viewer. Please find attached a list of our current publicly available data sets that should be considered where appropriate.		
Data Collected	l to Carry out the Assessment	· ·	·	
Who carried out the assessment? This evaluation was completed by Clare County Council	Sources of Data Information on the designated nature conservation sites within 15km of the study area was obtained from the NPWS website and metadata available online from the NPWS mapping system (http://webgis.npws.ie/npwsviewer/). • Information on the waterbody catchments in the area of ground investigation works was obtained from the Water Framework Directive Water Mapping Information System http://gis.epa.ie/Envision • OSI Aerial photography and 1:50000 mapping. • Corine 2018 data obtained from EPA website http://gis.epa.ie/Envision • Species records obtained from the NBDC website https://maps.biodiversityireland.ie/Map • Proposed and permitted development information was sourced from Clare County	Level of assessment completed Screening for Appropriate Site Assessment	Where can the full results of the assessment be accessed and viewed. <u>www.clarecoco.ie</u>	