Castlebar LAP Strategic Flood Risk Assessment

Live Document

~~Feb~~ August 2023

www.jbaconsulting.ie

Comhairle Contae Mhaigh Eo
Mayo County Council

Mayo County Council,

Aras an Contae,

The Mall,

Castlebar,

Co. Mayo

JBA Project Manager

Ross Bryant
Unit 24 Grove Island
Corbally,
Limerick,
Ireland

Revision history

Revision Ref/Date	Amendments	Issued to
S3-P01 June 2022	Initial Draft Report	Mayo County Council
S3-P02 Feb 2023	Settlement Reviews	Mayo County Council
S3-P03 Feb 2023	Mapping update	Mayo County Council
S3-P04 Feb 2023	Minor changes	Mayo County Council
S3-P05 Aug 2023	Changes from CE Report for Material Amendments	Mayo County Council
S3-P06 Aug 2023	Minor changes	Mayo county Council

This report describes work commissioned by Mayo County Council.

Prepared by ..... Fiona Byrne BSc MSc

Analyst

Reviewed by ..... Ross Bryant BSc MSc CEnv MCIWEM C.WEM

Associate Director

Purpose

This document has been prepared as a SFRA for Mayo County Council. JBA Consulting accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared.

JBA Consulting has no liability regarding the use of this report except to Mayo County Council.

Copyright

Carbon footprint

A printed copy of the main text in this document will result in a carbon footprint of 58g if 100% post-consumer recycled paper is used and 173g if primary-source paper is used. These figures assume the report is printed in black and white on A4 paper and in duplex.

JBA is aiming to reduce its per capita carbon emissions.

Contents

List of Figures

List of Tables

Abbreviations

1D	One Dimensional (modelling)
2D	Two Dimensional (modelling)
AEP	Annual Exceedance Probability
AFA	Area for Further Assessment
CFRAM	Catchment Flood Risk Assessment and Management
DTM	Digital Terrain Model
EPA	Environmental Protection Agency
FEH	Flood Estimation Handbook
FFL	Finished Floor Level
FRA	Flood Risk Assessment
FRMP	Flood Risk Management Plan
FRR	Flood Risk Review
FSU	Flood Studies Update
GIS	Geographical Information System
HEFS	High End Future Scenario
HPW	High Priority Watercourse
JFLOW	2-D hydraulic modelling package developed by JBA
JT	Justification Test
LA	Local Authority
MCC	Mayo County Council
MCDP	Mayo County Development Plan
MPW	Medium Priority Watercourse
MRFS	Medium Range Future Scenario
OPW	Office of Public Works
OSi	Ordnance Survey Ireland
PFRA	Preliminary Flood Risk Assessment
RSES	Regional Spatial and Economic Strategy
SEA	Strategic Environmental Assessment
SFRA	Strategic Flood Risk Assessment
SuDS	Sustainable Drainage Systems

1 Introduction

JBA Consulting was appointed by Mayo County Council to carry out the Strategic Flood Risk Assessment for the Castlebar Town and Environs Local Area Plan 2023-2029.

This report details the SFRA for this area and has been prepared in accordance with the requirements of the DoEHLG and OPW Planning Guidelines, The Planning System and Flood Risk Management[1]; these guidelines were issued under the Planning and Development Act 2000 and recognise the significance of proper planning to manage flood risk.

1.1 Terms of Reference

Under the "Planning System and Flood Risk Management" guidelines, the purpose for the FRA is detailed as being *"to provide a broad (wide area) assessment of all types of flood risk to inform strategic land-use planning decisions. SFRAs enable the LA to undertake the sequential approach, including the Justification Test, allocate appropriate sites for development and identify how flood risk can be reduced as part of the development plan process".*

The Castlebar Local Area Plan 2023-2029 (CLAP) will be the key document for setting out a vision for the development of Castlebar during the plan period.

It is important that the CLAP fulfils the requirements of the document "The Planning System and Flood Risk Management Guidelines for Planning Authorities" (OPW/DoEHLG, 2009) which states that flood risk management should be integrated into spatial planning policies at all levels to enhance certainty and clarity in the overall planning process.

In order to ensure that flood risk is integrated into the CLAP, the main requirements of the SFRA are to:

- Update the Flood Zone Mapping produced under the 2014-2020 plan.
- Prepare a Stage 2 - Flood Risk Assessment of Castlebar in particular in relation to location and type of zoning and land-use proposals, with a focus on new or changed zoning compared with the current plan.
- Review and update the policy guidance within the SFRA in compliance with OPW/DoEHLG – "The Planning System and Flood Risk Management –Guidelines for Planning Authorities (OPW/DoEHLG, 2009)".
- Take cognisance of the Mayo County Council Climate Adaptation Strategy 2019-2024, the National Climate Adaptation Framework and the various environmental and visual designations applicable to Castlebar.
- Advise on zonings/land use-proposals and appropriate mitigation measures, assess and report on any submissions received as part of both the preparation and the public consultation stage of the plan, as they relate to flood risk.

1.2 Report Structure

This study considers the development strategy that will form part of the Development Plan for Castlebar. The context of flood risk in Castlebar is considered with specific reference to a range of flood sources, including fluvial, tidal, pluvial, groundwater, sewer and artificial reservoirs and canals.

[1] DoEHLG and OPW (2009) The Planning System and Flood Risk Management: Guidelines for Planning Authorities

A two-stage assessment of flood risk was undertaken, as recommended in 'The Planning System and Flood Risk Management' guidelines, for the area that lies within the development boundary of the Development Plan.

Historical records and recent events demonstrate that Castlebar has a history of flooding and confirms that a proportion of zoned lands are at flood risk. There is no existing or planned flood relief scheme for Castlebar, so the SFRA must protect lands for infrastructure and also ensure that development within Flood Zones A/B is sustainably managed.

The second stage and the main purpose of this SFRA report is to appraise the adequacy of existing information, to prepare a Flood Zone map, based on available data, and to highlight potential development areas that require application of the Justification Test and/or more detailed assessment on a site specific level. The SFRA also provides guidelines for development within areas at potential risk of flooding, and specifically looks at flood risk and the potential for development within a number of key sites in Castlebar.

Section 2 of this report provides an introduction to the study area and Section 3 discusses the concepts of flooding, Flood Zones and flood risk as they are incorporated into the Planning System and Flood Risk Management.

In Section 4 the available data related to flooding is summarised and appraised and outlines the sources of flooding to be considered, based on the review of available data. This section also considers the any flood management assets that are in place or planned. Section 5 summarises the key sources of flooding.

Following this, Section 6 outlines the flood risk management policy and Section 7 provides guidance and suggested approaches to managing flood risk to development; the contents of this section will be of particular use in informing the policies and objectives within the Development Plan.

Section 8 contains the review of land use zoning objectives across the settlement it also summarises the application of the Justification Test to which specific responses are included in the Appendix.

2 Castlebar Study Area

2.1 Introduction

The plan area comprises the full extent of Castlebar and is located in the Castlebar River catchment which is within the Moy and Killala catchment. The convergence of the Castlebar River with the Manulla River is located to the east of the town. Lands within the LAP contain a mix of agricultural, residential, and commercial lands.

2.2 Watercourses

The primary watercourse in the Castlebar area is the Castlebar River which rises at Lough Lannagh and winds its way to a confluence with the Manulla river east of the town.

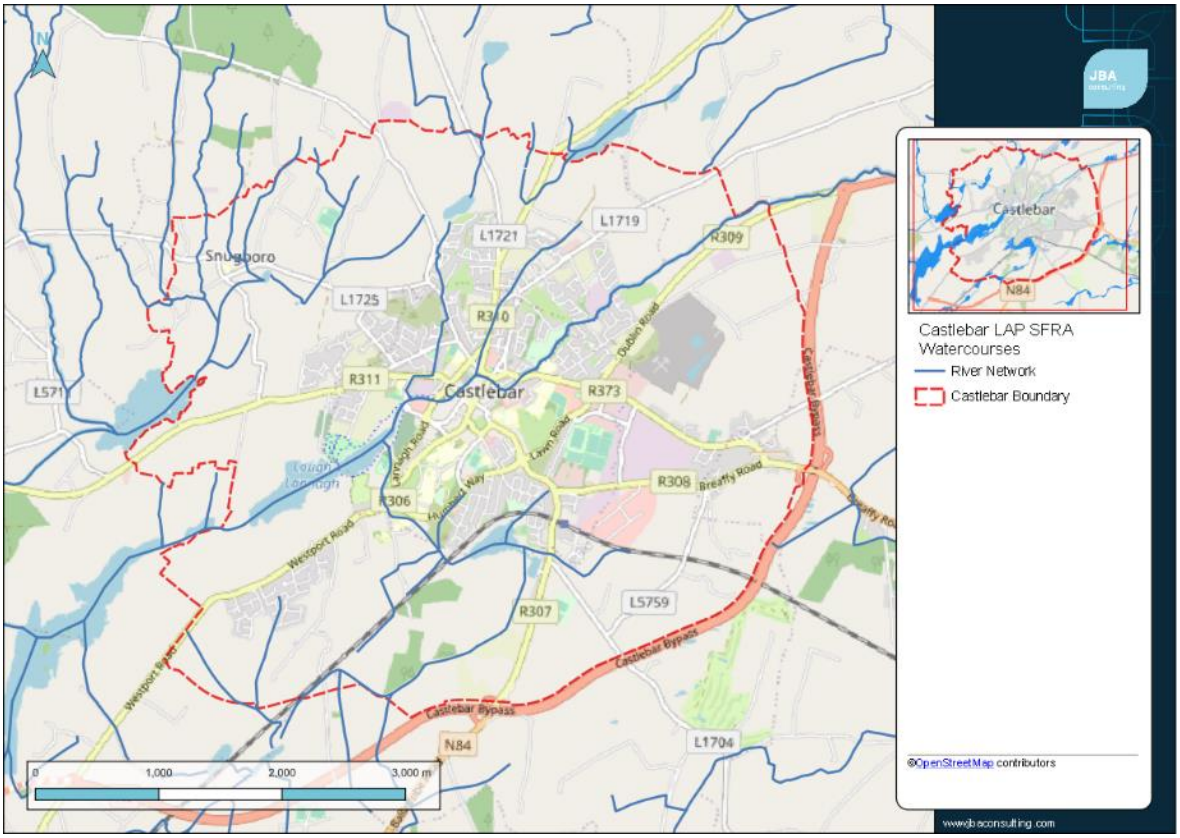


Figure 2-1: Castlebar settlement and rivers

2.3 Current Planning Policy

2.3.1 Ireland 2040 – National Planning Framework

A Strategic Flood Risk Assessment of the National Policy Objectives (NPO) within the Ireland 2040 – National Planning Framework was undertaken with the aim of ensuring that flood risk is a key consideration in delivering the proposed strategic sustainable land-use planning decisions. It sets out how all levels of the planning process, from national level strategic assessments to individual planning applications, should follow the sequential approach set out in the 2009 Guidelines on Planning and Flood Risk Management.

The NPF recognises that it is not always possible to avoid developing in flood risk areas due to spatial, economic, environmental and physical constraints. Development should be encouraged to continue, and in flood risk areas should follow the sequential approach and application of Justification Test set out in the Department's Guidelines on the Planning System and Flood Risk Management. These guidelines will facilitate the integration of flood risk and land risk planning in the Eastern and Midland region, at all tiers of the planning hierarchy from national level through regional, city/county and local plans, masterplans and individual planning applications.

2.3.2 Regional Spatial & Economic Strategy (RSES)

The main purpose of the Regional Spatial and Economic Strategy (RSES) is to support the implementation of the NPF and wider Project Ireland 2040 aspirations. The RSES also supports the economic policies and objectives of the Government by providing a detailed strategic planning and economic framework for the development of the North-West Region. As Mayo forms part of the North-West Region, the plan must comply with the provisions of the RSES. The RSES provides a framework for the development of the region up to 2032. It focuses on the delivery of housing, job creation, infrastructure, community facilities and ensuring that the region remains attractive for investment. Castlebar is identified as a key town which provides an anchor for employment in Mayo.

Of relevance to the SFRA is the overarching policy of ensuring a balance of development in the town centre of Castlebar and providing for compact growth and brownfield development, regeneration within the town core particularly the former Imperial Hotel, the old Military Barracks as well as significant tracts of land directly adjacent to the main streets have the potential to bring about transformative change in Castlebar. Since a proportion of the core town centre is at risk of flooding this presents a challenge when managing flood risk and development. As such a precautionary approach has been undertaken.

2.3.3 The Mayo County Development Plan 2022-2028

The current Mayo County Development Plan covers the period 2022-2028. The plan sets out compliance with the National Planning Framework and the Regional Spatial and Economic Strategies. As part of the Mayo County Development Plan 2022-2028 a Strategic Flood Risk Assessment was undertaken in accordance with the Planning System and Flood Risk Management Guidelines for Planning Authorities (2009). The purpose of the SFRA is to identify flooding or surface water management issues related to the County to inform strategic land use planning decisions, as such the key flooding and stormwater policy from the CDP is also applied at LAP level.

The Mayo County Development Plan 2022-2028 considered flood risk in reference to people, business, infrastructure, and the environment at risk of flooding. The MCDP proposed to minimize the risk of flooding through the identification and management of existing and particularly potential future flood risks. The SFRA proposed this be completed by following the sequential approach and application of the Justification Test

set out in the 2009 Guidelines on Planning and Flood Risk Management (DoEHLG) throughout the planning process.

3 The Planning System and Flood Risk Management

3.1 Introduction

Prior to discussing the management of flood risk, it is helpful to understand what is meant by the term. It is also important to define the components of flood risk in order to apply the principles of the Planning System and Flood Risk Management in a consistent manner.

The Planning System and Flood Risk Management: Guidelines for Planning Authorities, published in November 2009, describe flooding as a natural process that can occur at any time and in a wide variety of locations. Flooding can often be beneficial, and many habitats rely on periodic inundation. However, when flooding interacts with human development, it can threaten people, their property and the environment.

This Section will firstly outline the definitions of flood risk and the Flood Zones used as a planning tool; a discussion of the principles of the planning guidelines and the management of flood risk in the planning system will follow.

3.2 Definition of Flood Risk

Flood risk is generally accepted to be a combination of the likelihood (or probability) of flooding and the potential consequences arising. Flood risk can be expressed in terms of the following relationship:

Flood Risk = Probability of Flooding x Consequences of Flooding

The assessment of flood risk requires an understanding of the sources, the flow path of floodwater and the people and property that can be affected. The source - pathway - receptor model, shown below in Figure 3-1, illustrates this and is a widely used environmental model to assess and inform the management of risk.

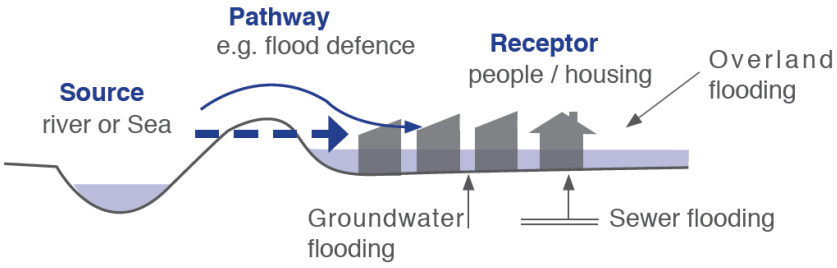


Figure 3-1: Source Pathway Receptor Model

Source: Figure A1 The Planning System and Flood Risk Management Guidelines Technical Appendices

Principal sources of flooding are rainfall or higher than normal sea levels while the most common pathways are rivers, drains, sewers, overland flow and river and coastal floodplains and their defence assets. Receptors can include people, their property and the environment. All three elements must be present for flood risk to arise. Mitigation measures, such as defences or flood resilient construction, have little or no effect on sources of flooding but they can block or impede pathways or remove receptors.

The planning process is primarily concerned with the location of receptors, taking appropriate account of potential sources and pathways that might put those receptors at risk.

3.3 Likelihood of Flooding

Likelihood or probability of flooding of a particular flood event is classified by its annual exceedance probability (AEP) or return period (in years). A 1% AEP flood indicates the flood event that will occur or be exceeded on average once every 100 years and has a 1 in 100 chance of occurring in any given year.

Return period is often misunderstood to be the period between large flood events rather than an average recurrence interval. Annual exceedance probability is the inverse of return period as shown in Table 3-1.

Table 3-1: Probability of Flooding

Return Period (Years)	Annual Exceedance Probability (%)
2	50
100	1
200	0.5
1000	0.1

Considered over the lifetime of development, an apparently low-frequency or rare flood has a significant probability of occurring. For example:

- A 1% flood has a 22% (1 in 5) chance of occurring at least once in a 25-year period - the period of a typical residential mortgage;
- And a 53% (1 in 2) chance of occurring in a 75-year period - a typical human lifetime.

3.4 Consequences of Flooding

Consequences of flooding depend on the hazards caused by flooding (depth of water, speed of flow, rate of onset, duration, wave-action effects, water quality) and the vulnerability of receptors (type of development, nature, e.g. age-structure, of the population, presence and reliability of mitigation measures etc).

The Planning System and Flood Risk Management guidelines provide three vulnerability categories, based on the type of development, which are detailed in Table 3.1 of the Guidelines, and are summarised as:

- **Highly vulnerable**, including residential properties, essential infrastructure and emergency service facilities;
- **Less vulnerable**, such as retail and commercial and local transport infrastructure;
- **Water compatible**, including open space, outdoor recreation and associated essential infrastructure, such as changing rooms.

3.5 Definition of Flood Zones

In the Planning System and Flood Risk Management guidelines, Flood Zones are used to indicate the likelihood of a flood occurring. These Zones indicate a high, moderate or low probability of flooding from fluvial or tidal sources and are defined below in Table 3-2.

It is important to note that the definition of the Flood Zones is based on an undefended scenario and does not take into account the presence of flood protection structures such as flood walls or embankments. This is to allow for the fact that there is a residual risk of flooding behind the defences due to

overtopping or breach and that there may be no guarantee that the defences will be maintained in perpetuity.

It is also important to note that the Flood Zones indicate flooding from fluvial and tidal sources and do not take other sources, such as groundwater or pluvial, into account, so an assessment of risk arising from such sources should also be made.

Table 3-2: Definition of Flood Zones

Zone	Description
Zone A High probability of flooding.	This zone defines areas with the highest risk of flooding from rivers (i.e. more than 1% probability or more than 1 in 100) and the coast (i.e. more than 0.5% probability or more than 1 in 200).
Zone B Moderate probability of flooding.	This zone defines areas with a moderate risk of flooding from rivers (i.e. 0.1% to 1% probability or between 1 in 100 and 1 in 1000) and the coast (i.e. 0.1% to 0.5% probability or between 1 in 200 and 1 in 1000).
Zone C Low probability of flooding.	This zone defines areas with a low risk of flooding from rivers and the coast (i.e. less than 0.1% probability or less than 1 in 1000).

3.6 Objectives and Principles of the Planning Guidelines

The Planning System and Flood Risk Management Guidelines describe good flood risk practice in planning and development management. Planning authorities are directed to have regard to the guidelines in the preparation of Development Plans and Local Area Plans, and for development control purposes.

The objective of the Planning System and Flood Risk Management Guidelines is to integrate flood risk management into the planning process, thereby assisting in the delivery of sustainable development. For this to be achieved, flood risk must be assessed as early as possible in the planning process. Paragraph 1.6 of the Guidelines states that the core objectives are to:

- "Avoid inappropriate development in areas at risk of flooding;
- Avoid new developments increasing flood risk elsewhere, including that which may arise from surface run-off;
- Ensure effective management of residual risks for development permitted in floodplains;
- Avoid unnecessary restriction of national, regional or local economic and social growth;
- Improve the understanding of flood risk among relevant stakeholders; and
- Ensure that the requirements of EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management".

The guidelines aim to facilitate 'the transparent consideration of flood risk at all levels of the planning process, ensuring a consistency of approach throughout the country.' SFRAs therefore become a key evidence base in meeting these objectives.

The 'Planning System and Flood Risk Management' works on a number of key principles, including:

- Adopting a staged and hierarchical approach to the assessment of flood risk;
- Adopting a sequential approach to the management of flood risk, based on the frequency of flooding (identified through Flood Zones) and the vulnerability of the proposed land use.

3.7 The Sequential Approach & Justification Test

Each stage of the Flood Risk Assessment (FRA) process aims to adopt a sequential approach to management of flood risk in the planning process.

Where possible, development in areas identified as being at flood risk should be avoided; this may necessitate de-zoning lands within the development plan. If de-zoning is not possible, then rezoning from a higher vulnerability land use, such as residential, to a less vulnerable use, such as open space may be required.

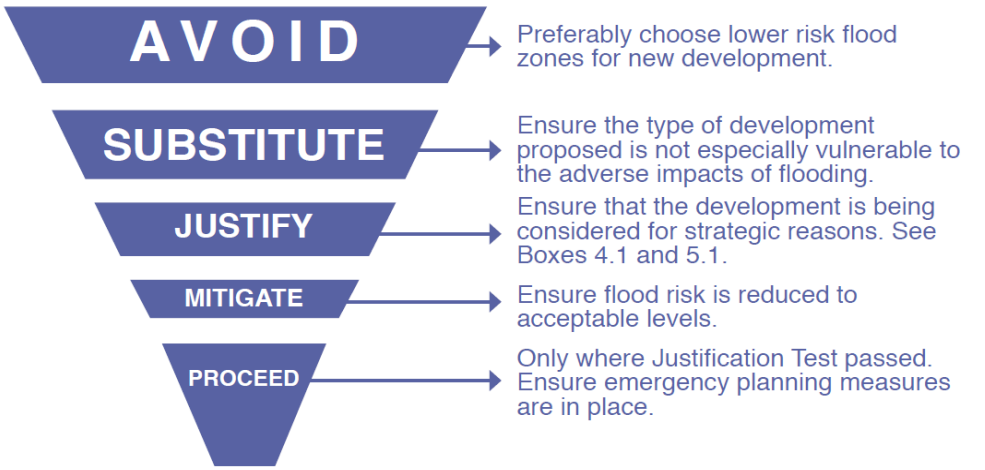


Figure 3-2: Sequential Approach Principles in Flood Risk Management

Source: The Planning System and Flood Risk Management (Figure 3.1)

Where rezoning is not possible, exceptions to the development restrictions are provided for through the application of the Justification Test. Many towns have central areas that are affected by flood risk and have been targeted for growth. To allow the sustainable and compact development of these urban centres, development in areas of flood risk may be considered necessary. For development in such areas to be allowed, the Justification Test must be passed.

The Justification Test has been designed to rigorously assess the appropriateness, or otherwise, of such developments. The test is comprised of two processes; the Plan-making Justification Test, and the Development Management Justification Test. The latter is used at the planning application stage where it is intended to develop land that is at moderate or high risk of flooding for uses or development vulnerable to flooding that would generally be considered inappropriate for that land.

Table 3-3 shows which types of development, based on vulnerability to flood risk, are appropriate land uses for each of the Flood Zones. The aim of the SFRA is to guide development zonings to those which are 'appropriate' and thereby avoid the need to apply the Justification Test.

Table 3-3: Matrix of Vulnerability versus Flood Zone

	Flood Zone A High Probability	Flood Zone B Moderate Probability	Flood Zone C Low Probability
Highly Vulnerable Development (Including essential infrastructure)	**Justification Test**	**Justification Test**	Appropriate
Less Vulnerable Development	**Justification Test**	Appropriate	Appropriate
Water-Compatible Development	Appropriate	Appropriate	Appropriate

3.8 Scales and Stages of Flood Risk Assessment

Within the hierarchy of regional, strategic and site-specific flood-risk assessments, a tiered approach ensures that the level of information is appropriate to the scale and nature of the flood-risk issues and the location and type of development proposed, avoiding expensive flood modelling and development of mitigation measures where it is not necessary. The stages and scales of flood risk assessment comprise of:

- **Regional Flood Risk Assessment (RFRA)** – a broad overview of flood risk issues across a region to influence spatial allocations for growth in housing and employment and to identify where flood risk management measures may be required at a regional level to support the proposed growth. This should be based on readily derivable information and undertaken to inform the Regional Planning Guidelines.
- **Strategic Flood Risk Assessment (SFRA)** – an assessment of all types of flood risk informing land use planning decisions. This will enable the Planning Authority to allocate appropriate sites for development, whilst identifying opportunities for reducing flood risk. This SFRA will revisit and develop the flood risk identification undertaken in the RFRA and give consideration to a range of potential sources of flooding. An initial flood risk assessment, based on the identification of Flood Zones, will also be carried out for those areas zoned for development. Where the initial flood risk assessment highlights the potential for a significant level of flood risk, or there is conflict with the proposed vulnerability of development, then a site-specific FRA will be recommended, which will necessitate a detailed flood risk assessment.
- **Site Specific Flood Risk Assessment (FRA)** – site or project specific flood risk assessment to consider all types of flood risk associated with the site and propose appropriate site management and mitigation measures to reduce flood risk to and from the site to an acceptable level. If the previous tiers of study have been undertaken to appropriate levels of detail, it is highly likely that the site-specific FRA will require detailed channel and site survey, and hydraulic modelling.

4 Data Collection and Review

This section reviews the data collection and the flood history for the settlements so that any additional information on flooding can be included within this SFRA. It will confirm the extent of extreme flooding (through the Flood Zone mapping) and key sources of flood risk.

Table 4-1: Available Flood Data for Flood Zone Development

Description	Coverage	Robustness	Comment on usefulness
Western CFRAM Flood Mapping	Covers the Castlebar River and tributaries	High AFA status	Detailed 1D/2D CFRAM HPW model and is useful. Site verified by walkover and consultation with local authority. In general, CFRAM provides all information needed to apply the Justification Test (JT) for Plan Making under the SFRA.
National Indicative Fluvial Mapping (OPW)	Limited coverage to small watercourses on the periphery of the settlement. The study did not model catchments <5km2. See OPW user guide for more details , PFRA used where NIFM not present.	Moderate -	The National Indicative Fluvial Maps is broadscale in nature and based on remotely sensed ground models. It has been used to form the basis of Flood Zones where CFRAM or other detailed modelling study is not available. Has been used as an initial screening tool for flood extents and should be reviewed as part of site specific FRAs. There is no modelled water level or depth associated with this dataset. NIFM cannot be used to make zoning decisions without validation through site visits. Further site investigation has been undertaken to provide greater confidence in the outlines and inform the land use zoning decisions, where applicable.
OPW PFRA flood extent maps	Limited coverage to small watercourses on the periphery of the settlement. Used only where CFRAM and NIFM not available.	Moderate	CFRAM/NIFM mapping supersedes all fluvial PFRA mapping. For purposes of SFRA and at Development Management level these cannot be used to make zoning decisions without validation through site visits. Further site investigation has been undertaken to provide greater confidence in the outlines and inform the land use zoning decisions, where applicable.
Historical Flood Event Outlines	Coverage of most of LAP area from 2009 flood event	Moderate	Used indirectly to validate flood zones. Useful background information for flooding in specific areas of the settlement.
Lochan Flood Extents	Covers An Lochan and surrounding areas.	High	Detailed 1D/2D model for stream not covered in CFRAM modelling and represents the best available dataset for the area.

Table 4-2 Other Available Data

Description	Coverage	Robustness	Comment on usefulness
GSi Groundwater and Surface Water flood information	Full Study Area	Moderate	Provides both historic and predictive flood extents for groundwater and historic surface water flooding.
Alluvial Soils Maps	Full Study Area	Low	Used to provide indication of risk in areas with no other mapping available.
Groundwater vulnerability maps	Broadscale, County wide	Moderate	Initial assessment of groundwater vulnerability. Provides a screening tool for use in FRA.
Site Walkover	Specific areas of interest	Moderate	Helpful for assessing flood risk in areas where mapping is unavailable. Used to verify existing mapping.
Historic Flood Records including photos, aerial photos and reports.	Coverage of most of LAP area from 2009 flood event and spot coverage for other events	Various	Highly useful oversight of historic flooding issues provided by Local Authority.
LiDAR height model	Castlebar area	High	Aerial survey is used to appraise the topography and identify low spots, floodplain and areas potentially susceptible to flooding.

As set out in the RSES Regional Flood Risk Appraisal Report, and under the Planning Guidelines, the Flood Zone mapping for Castlebar is principally derived from the CFRAM where possible. Watercourses not covered by the CFRAM and in this case a range of other datasets, as shown in Table 4-1 and Table 4-2, were used as supplementary information to inform this SFRA, NIFM and PFRA has been verified on site, where necessary.

All sources of available flood mapping were reviewed and the best available dataset is used.

Specific guidance is provided for each area of Castlebar based on the data review and the site visit is used to confirm the most appropriate dataset and flood extents to define the Flood Zones. During the site visit (attended by Local Authority Engineers and Planners) the flood mapping was appraised on site by an experienced flood risk manager and professional opinion and judgement has been used to develop the recommendations within the Settlement Review of Section 8.

The review of the suite of flood risk data has been developed as a spatial planning tool to guide LCC in making land-use zoning and development management decisions. The data sets have been deemed appropriate for the planning decisions being made at this stage of the plan making process and where flood risk is identified the following approach has been undertaken;

- Application of the Justification Test and/or;
- Further detailed analysis, or;
- Rezoning to a less vulnerable use, or;

- Further assessment at Development Management stage in limited circumstances where it has been determined that development should be possible in principle, taking into account a site specific opinion.

Where CFRAM modelling has been carried out (on the Castlebar River), flood levels are available at selected node points along the watercourse. Once an appropriate level of validation has been undertaken as part of the site-specific FRA, these flood levels may be used to form the basis of the development design.

4.1 Historic Flooding

A number of areas in Castlebar have been affected by flooding historically. Several sources were consulted to identify previous flood events including the OPW floodinfo.ie website, newspaper articles and previous flood studies. Floodinfo.ie provides information on historical flood events across the country and formed the basis of the Regional Flood Risk Assessment. Information is provided in the form of reports and newspaper articles which generally relate to rare and extreme events.

Table 4-3 Flood History

Location	Start Date	Description
Annagh, Castlebar	December 2000	Areas flooded after high rainfall.
The Oaks, Springfield and Rowan Drive, Castlebar	November 2009	Local roads and green areas flooded.
Rathbawn Road, Castlebar	Recurring	Localised flooding due to stream backing up at culvert.

4.2 Site Walkover

As part of the SFRA process a site walkover and consultation was undertaken Castlebar by an experience Flood Risk Manager alongside the Local Authority Engineer. The site walkover took place on 10/11/2021 and aimed to assess risks presented by potentially unmapped watercourses and to verify CFRAM and PFRA mapping.

The walkover took place at specific locations throughout Castlebar based on CFRAM mapping and the previous walkover. During the walkover an unmapped watercourse and its associated structures were identified. The CFRAM mapping and previous SFRA were also found to be in agreement with observations made during the walkover.

4.3 PFRA & NIFM

The Preliminary Flood Risk Assessment (PFRA) is a national screening exercise that was undertaken to identify areas at potential flood risk. The PFRA is a requirement of the EU Floods Directive and the publication of this work has led to, and has informed, more detailed assessment, which is being undertaken as part of the Catchment Flood Risk Assessment and Management (CFRAM) studies. The PFRA study considered flooding from several sources, including fluvial, tidal, pluvial and groundwater, and resulted in a suite of broadscale flood maps.

The PFRA fluvial data has now been replaced by NIFM fluvial flood extents, however this is only the case where CFRAM flood outlines are not provided and where the catchment is greater than 5km^2. There are no NIFM watercourses within the settlement boundary of Castlebar.

4.4 GSI Groundwater Flood

The winter of 2015/2016 saw the most extensive groundwater flooding ever witnessed in Ireland. The lack of data on groundwater flooding and fit-for-purpose flood hazard

maps were identified as serious impediments to managing groundwater flood risk in vulnerable communities. Geological Survey Ireland - in collaboration with Trinity College Dublin and Institute of Technology Carlow - initiated the groundwater flood project GWFlood to address these deficits. Data available as a result of the project include national-scale flood maps for both historic and predictive groundwater flooding.

The historic groundwater flood map in Figure 4-2 is primarily based on the winter 2015/2016 flood event, which in most areas represented the largest groundwater flood event on record. The map was produced based on the SAR imagery of the 2015/2016 event as well as any available supplementary evidence.

The predictive groundwater flood map is displayed in Figure 4-1 and shows that there are some areas of predicted groundwater flood flooding within the LAP boundary. The map presents the probabilistic flood extents for locations of recurrent karst groundwater flooding. It consists of a series of stacked polygons at each site representing the flood extent for specific AEP's mapping floods that are expected to occur every 10, 100 and 1000 years (AEP of 0.1, 0.01, and 0.001 respectively). The map is focussed primarily (but not entirely) on flooding at seasonally inundated wetlands known as turloughs. Sites were chosen for inclusion in the predictive map based on existing turlough databases as well as manual interpretation of SAR imagery.

The mapping process tied together the observed and SAR-derived hydrograph data, hydrological modelling, stochastic weather generation and extreme value analysis to generate predictive groundwater flood maps for over 400 qualifying sites. It should be noted that not all turloughs are included in the predictive map as some sites could not be successfully monitored with SAR and/or modelled.

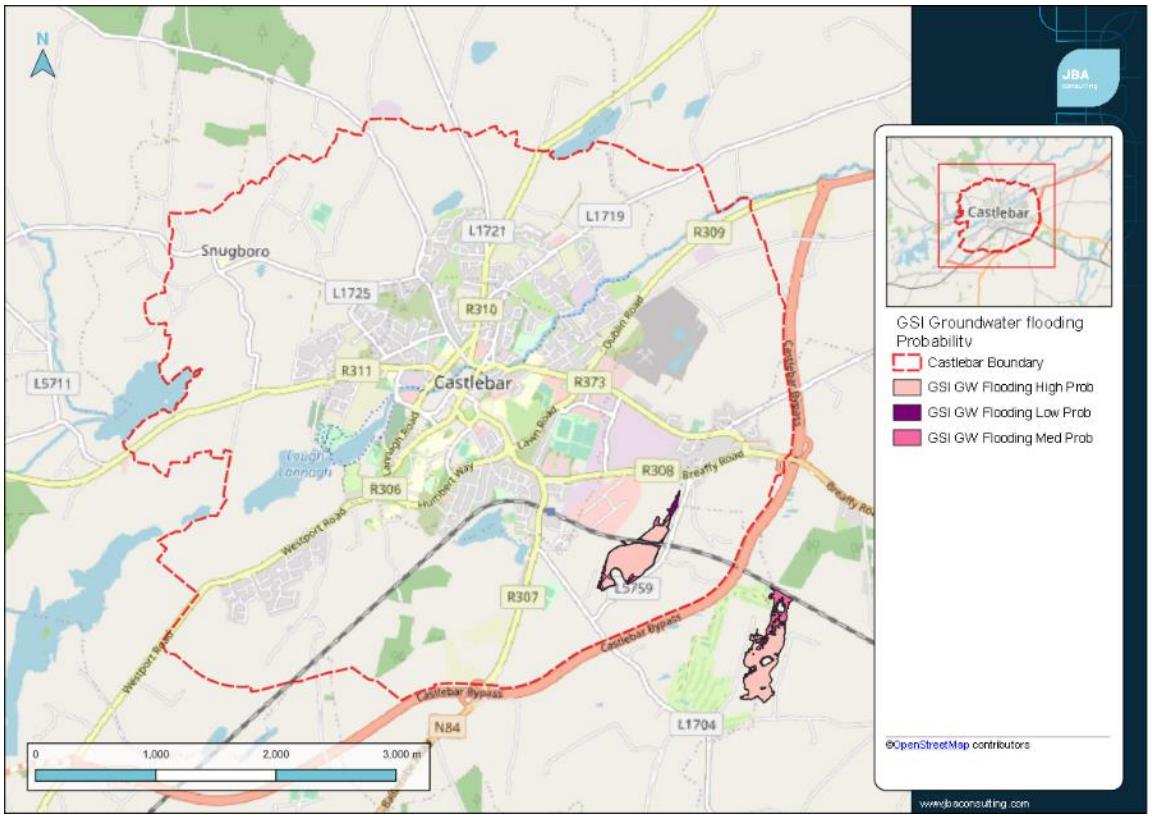


Figure 4-1 Predicted Groundwater Flood Mapping

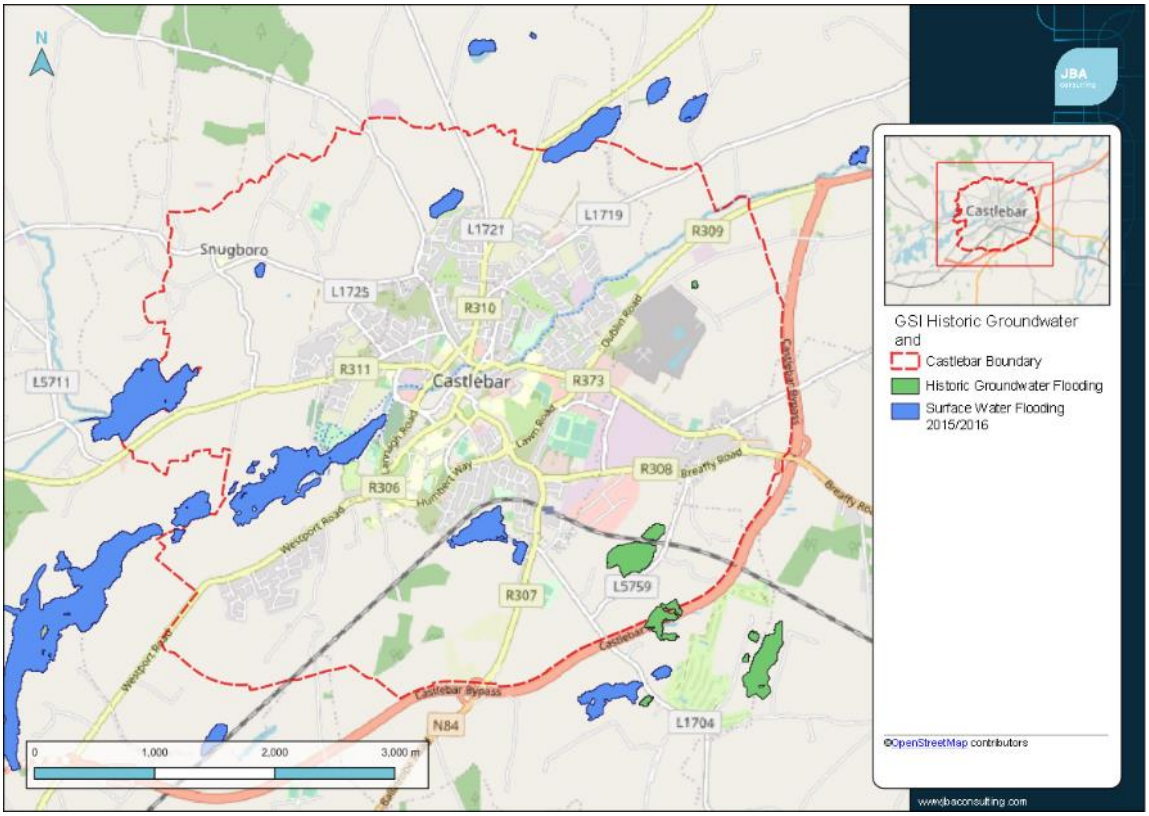


Figure 4-2 Historic Groundwater & Surface Water Flooding

4.5 Lochan Flood Extents

Tobin Consulting Engineering was commissioned by Mayo County Council to carry out a detailed hydraulic model at the Lochán and a section of the watercourse upstream as part of feasibility study for the Garryduff/Rathbaun area. These resulting flood extents have been incorporated in to the flood zones for County Mayo and used to inform on flood risk in the area.

4.6 CFRAM

In 2011 the OPW commenced appointment of consultants to carry out a more detailed flood risk assessment on key flood risk areas. This work was undertaken under the CFRAM programme across seven river basin districts in Ireland. The Western RBD includes the entire catchment of the River Western and its estuary, covering some 17,800km2 and 20% of the island of Ireland. The RBD covers parts of 17 counties: Limerick, Clare, Tipperary, Offaly, Westmeath, Longford, Roscommon, Kerry, Mayo, Leitrim, Cavan, Sligo, Mayo, Cork, Laois, Meath and Fermanagh.

The initial Flood Risk Review (FRR) stage of the of the Western CFRAM included a site-based review of the PFRA flood outlines at a number of settlements. Several communities were identified through this process as being at potentially significant flood risk in the Western Upper & Lower River Basin, which included Castlebar. Following this review, any sites recommended as an Area for Further Assessment (AFA) were included in the subsequent detailed assessment stage of each CFRAM study.

A set of flood maps, indicating the areas prone to flooding, has been developed and published for each of the communities. The Plan builds on and supplements the national programme of flood protection works completed previously, that are under design and construction at this time or that have been set out through other projects or plans, and the ongoing maintenance of existing drainage and flood relief schemes.

Climate change is likely to have a considerable impact on flood risk in Ireland, such as through rising mean sea levels, increased wave action and the potential increases in winter rainfall and intense rainfall events. Land use change, for example, through new housing and other developments, can also increase potential future flood risk. In order to assess this risk, the Western CFRAM study also included detailed assessments of flooding and impacts for potential future climate change scenarios.

The 0.1% AEP and 0.1% AEP + climate change outlines are displayed in Figure 4-3.

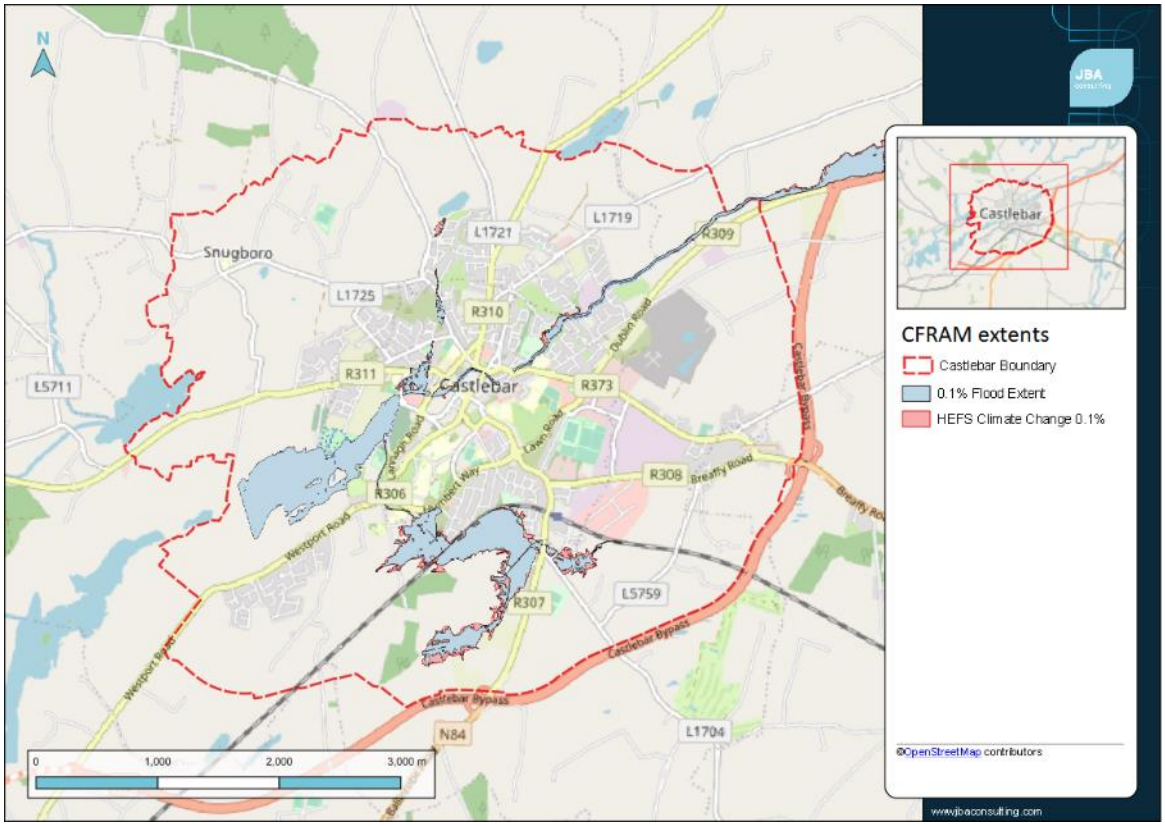


Figure 4-3 CFRAM Current Scenario and Climate Change 0.1% AEP outlines

5 Sources of Flooding

This SFRA has reviewed flood risk from fluvial, pluvial and groundwater sources. Flooding events have become more pronounced in Ireland, and County Mayo, in recent years. Climate change risks also need to be considered at a strategic and site-specific scale. Climate change is discussed in Section 4.5 in relation to incorporation of climate change into the SFRA. A comment on the likely impacts of climate change, on a settlement basis, has been provided in Section 8.

5.1 Fluvial Flooding

This is the principal source of flood risk to Castlebar. Flooding from rivers and streams is associated with the exceedance of channel capacity during times of heavy rainfall resulting in higher flows. The process of flooding from watercourses depends on numerous characteristics associated with the catchment including; geographical location and variation in rainfall, steepness of the channel and surrounding floodplain and infiltration and rate of runoff associated with urban and rural catchments. Generally, there are two main types of catchments; large and relatively flat or small and steep, both giving two very different responses during large rainfall events.

Areas along the Castlebar River, in particular to the east of the town are prone to flooding. Flood risk relating to specific areas of Castlebar is discussed in Section 8 and has been used to inform the zoning objectives for the Development Plan.

5.2 Arterial Drainage Schemes

It must be noted that the majority of the rivers in Castlebar have been subject to an OPW Arterial Drainage Scheme (ADS). The main purpose of the ADSs was to improve land drainage and reduce the frequency and extent of overland flooding. ADSs can involve embankment construction, river straightening, lake storage development, and, most commonly, the deepening and widening of river channels. Through the implementation of ADSs the hydraulic conveyance efficiency of a catchment is increased, thereby leading to a reduction in overland flood storage. Although it has been found that ADS generally achieve their main objectives, this increase in discharge-carrying capacity leads to an acceleration of the response to rainfall with flood peaks of increased intensity and more rapid recessions.

The Moy arterial drainage scheme was undertaken in Castlebar under the Arterial Drainage Acts of 1945 and 1995. The scheme took place between 1960 – 1970 and covers a benefitting area of 61,000 acres. The Scheme consists of over 650 channels, with a total length of 1293 km, in the River Moy catchment, covering counties Mayo, Roscommon and Sligo. Figure 5-1 shows arterial drainage channels within the LAP boundary of Castlebar.

Arterial drainage maintenance and monitoring of these schemes is still carried out by OPW on rivers, lakes, weirs, bridges and embankments to maintain adequate conveyance and ensure that flood waters (of varying magnitude but typically the 3-year flood) are retained in bank by lowering water levels during the growing season thus reducing waterlogging on the adjacent land during wetter periods. Schemes are actively managed by OPW.

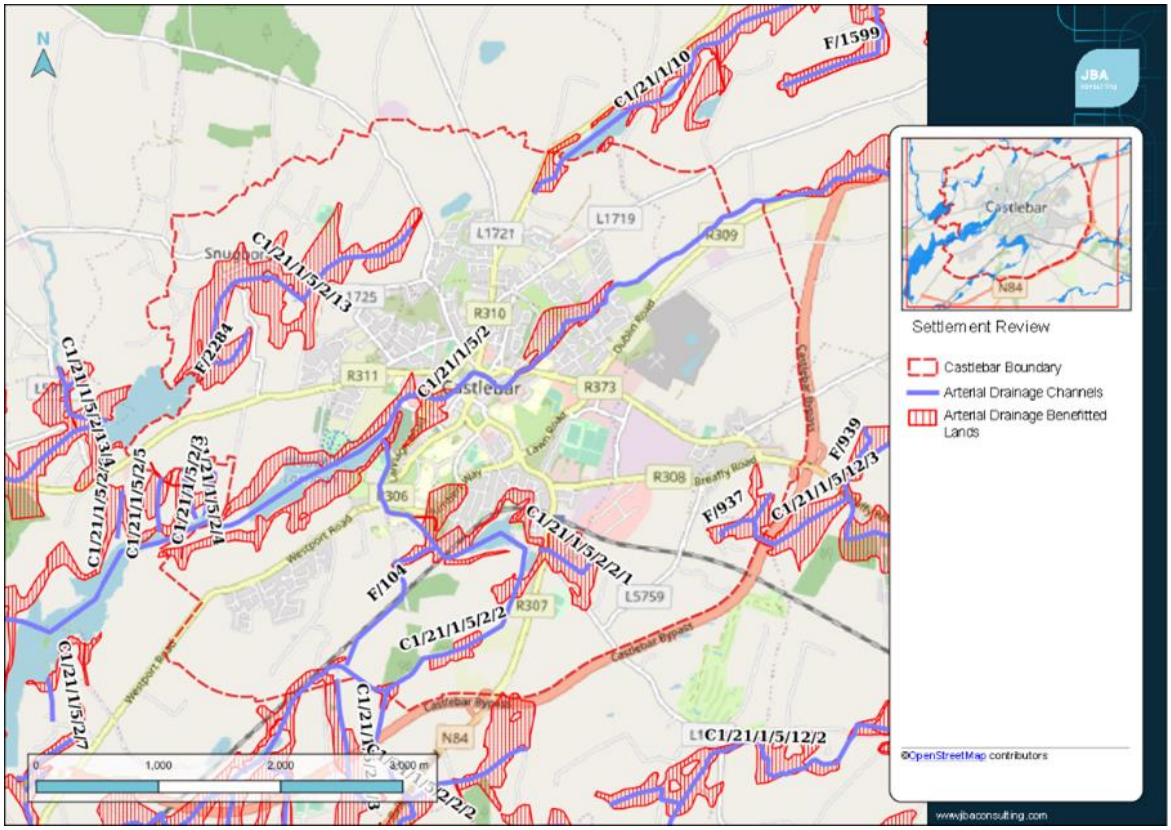


Figure 5-1 OPW Moy Arterial Drainage Schemes

5.3 Pluvial Flooding

Flooding of land from surface water runoff is usually caused by intense rainfall that may only last a few hours. The resulting water follows natural valley lines, creating flow paths along roads and through and around developments and ponding in low spots, which often coincide with fluvial floodplains. Any areas at risk from fluvial flooding will almost certainly be at risk from surface water flooding.

5.4 Flooding from Drainage Systems

Flooding from artificial drainage systems occurs when flow entering a system, such as an urban storm water drainage system, exceeds its discharge capacity, it becomes blocked or it cannot discharge due to a high-water level in the receiving watercourse.

Flooding in urban areas can also be attributed to sewers. Sewers have a finite capacity which, during certain load conditions, will be exceeded. In addition, design standards vary and changes within the catchment areas draining to the system, in particular planned growth and urban creep, will reduce the level of service provided by the asset. Sewer flooding problems will often be associated with regularly occurring storm events during which sewers and associated infrastructure can become blocked or fail. This problem is exacerbated in areas with under-capacity systems. In the larger events that are less frequent but have a higher consequence, surface water will exceed the sewer system and flow across the surface of the land, often following the same flow paths and ponding in the same areas as overland flow.

Foul sewers and surface water drainage systems are spread extensively across the urban areas with various interconnected systems discharging to treatment works and into local watercourses. The potential for pluvial flooding will be managed by the application of the specific policies on surface water, as displayed in Section 6.

5.5 Groundwater Flooding

Groundwater flooding is caused by the emergence of water originating from underground and is particularly common in karst landscapes. This can emerge from either point or diffuse locations. The occurrence of groundwater flooding is usually very local and unlike flooding from rivers and the sea, does not generally pose a significant risk to life due to the slow rate at which the water level rises. However, groundwater flooding can cause significant damage to property, especially in urban areas and pose further risks to the environment and ground stability. Flood risk relating to groundwater has been screened under Section 4.4 and confirmed that Castlebar at risk from predicted or historic groundwater flooding. This risk is limited to areas that are within fluvial flood outlines and have therefore been considered in terms of risk associated with Flood Zone A\B.

6 Flood Risk Management Policy

The implementation of the Planning Guidelines throughout the settlement is achieved through the application of the policies and objectives contained within Chapter 10 of the CLAP 2023-2029, these are informed by the CDP policy/objectives and are as follows:

Flood Risk Management Policy	
IESP 1	Manage flood risk in Castlebar in conjunction with the Office of Public Works and in accordance with the requirements of the Planning System and Flood Risk Management Guidelines for Planning Authorities (2009) and circular PL02/2014 (August 2014).
IESP 2	Extensions of existing uses or minor development within flood risk areas will be supported, provided they do not: obstruct important flow paths; introduce a number of people into flood risk areas; entail the storage of hazardous substances; have adverse impacts or impede access to a watercourse, floodplain or flood protection and management facilities; or increase the risk of flooding elsewhere. Proposals of this nature shall be accompanied by a commensurate assessment of the risks of flooding in accordance with the Planning Systems Flood Risk Management Guidelines 2009.

Flood Risk Management Objectives	
IESO 1	a) Manage flood risk in accordance with the requirements of "The Planning System and Flood Risk Management Guidelines for Planning Authorities", DECLG and OPW (2009) and any revisions thereof and consider the potential impacts of climate change in the application of these guidelines. b) Require applications in areas at risk of flooding to be supported by a comprehensive flood risk assessment. All flood risk assessments should have regard to 'The Planning System and Flood Risk Management' (DEHLG and OPW, Nov.2009) as revised by Circular PL 2/2014, national flood hazard mapping, predicted changes in flood events resulting from climate change and the River Shannon Catchment Flood Risk and Management Plan. c) Minimise flood risk arising from pluvial (surface water) flooding in Castlebar by promoting the use of natural flood risk management measures including sustainable drainage systems (SuDS), minimising extent of hard surface/paving, and smart solutions such as innovative green infrastructure. d) Demonstrate that future development will not result in increased risk of flooding elsewhere, restrict flow paths, where compensatory storage / storm water retention measures shall be provided on site. e) Have regard to the most up to date Flood Mapping as presented on the Office of Public Works (OPW) maps.

6.1 CFRAM Recommendations

Following the publication of the final Flood Risk Management Plans for the CFRAM Study in May 2018 a 10 year €1billion programme of works (for 118 schemes) was announced by the OPW. The preliminary options report found no economically viable options for Castlebar.

7 Development Management and Flood Risk

In order to guide both applicants and relevant council staff through the process of planning for and mitigating flood risk, the key features of a range of development scenarios have been identified (relating the flood zone, development vulnerability and presence or absence of defences). For each scenario, a number of considerations relating to the suitability of the development are summarised below.

It should be noted that this section of the SFRA begins from the point that all land zoned for development has passed the Justification Test for Development Plans, and therefore passes Part 1 of the Justification Test for Development Management – which states that the land has in the first instance been zoned accordingly in a development plan (that underwent an SFRA). In addition to the general recommendations in the following sections, Section 7 should be reviewed for specific recommendations for individual settlements, including details of the application of the Justification Test. In areas where there are no formal land use zoning objectives, the Justification Test cannot pass for any sites within Flood Zone A/B. It would be down to a site-specific FRA to confirm (in appropriate detail) the extent of Flood Zone A/B.

In order to determine the appropriate design standards for a development it may be necessary to undertake a site-specific flood risk assessment. This may be a qualitative appraisal of risks, including drainage design. Alternatively, the findings of the CFRAM, or other detailed study, may be drawn upon to inform finished floor levels. In other circumstances a detailed modelling study and flood risk assessment may need to be undertaken. Further details of each of these scenarios, including considerations for the flood risk assessment are provided in the following sections.

7.1 Requirements for a Flood Risk Assessment

Assessment of flood risk is required in support of any planning application where flood risk may be an issue, and this may include sites in Flood Zone C (low probability of flooding) where a watercourse or field drain exists nearby. The level of detail will vary depending on the risks identified and the proposed land use. As a minimum, all proposed development, including that in Flood Zone C, must consider the impact of surface water flood risks on drainage design. In addition, flood risk from sources other than fluvial should be reviewed.

For sites within Flood Zone A or B (high/moderate probability of flooding), a site specific "Stage 2 - Initial FRA" will be required and may need to be developed into a "Stage 3 - Detailed FRA". The extents of Flood Zone A and B are delineated through this SFRA. However, future studies may refine the extents (either to reduce or enlarge them) so a comprehensive review of available data should be undertaken once an FRA has been triggered.

Within the FRA the impacts of climate change and residual risk (including culvert/structure blockage) should be considered and remodelled where necessary, using an appropriate level of detail, in the design of finished floor levels. Further information on the required content of the FRA is provided in the Planning System and Flood Risk Management Guidelines.

Any proposal that is considered acceptable in principle shall demonstrate the use of the sequential approach in terms of the site layout and design and, in satisfying the Justification Test (where required), the proposal will demonstrate that appropriate mitigation and management measures are put in place.

7.2 Drainage Design

All proposed development, whether in Flood Zone A, B or C, must consider the impact of surface water flood risks on drainage design as specified by the surface water management policies in the Greater Dublin Strategic Drainage Study (GDSDS) and this will be considered in the planning process. This may be in the form of a section within

the flood risk assessment (for sites in Flood Zone A or B) or part of a surface water management plan.

Areas vulnerable to ponding are indicated on the OPW's PFRA mapping. Particular attention should be given to development in low-lying areas which may act as natural ponds for collection of run-off.

The drainage design should ensure no increase in flood risk to the site, or the downstream catchment. Where possible, and particularly in areas of new development, floor levels should at a minimum be 300mm above adjacent roads and hard standing areas to reduce the consequences of any localised flooding. Where this is not possible, an alternative design appropriate to the location may be prepared.

In addition, for larger sites (i.e. multiple dwellings or commercial units) master planning should ensure that existing flow routes are maintained, through the use of green infrastructure.

7.3 Application for Development in Flood Zones A or B

7.3.1 Minor Developments

Section 5.28 of the Planning Guidelines on Flood Risk Management identifies certain types of development as being 'minor works'. In such cases, the sequential approach cannot be used to locate such development in lower-risk areas and the Justification Test will not apply.

Generally, the approach to deal with flood protection would involve raising the ground floor levels above extreme flood levels. However, in some parts of the plan area, which are already developed, ground floor levels for flood protection could lead to floor levels being much higher than adjacent streets, thus creating a hostile streetscape for pedestrians. This would cause problems for infill development sites if floor levels were required to be significantly higher than those of neighbouring properties. In this regard, for the key sites in the plan area it has been recognised that ground floor levels below predicted high tide levels could be allowed, in limited circumstances, on a site by site basis, for commercial and business developments. However, if this is the case, then these would be required to be flood resistant construction using water resistant materials and electrical fittings places at higher levels. For high risk areas it would also be necessary to impose planning restrictions in these areas. Residential Uses would not be permitted at ground flood levels in high risk zones.

It should be noted that for residential buildings within Flood Zone A or B, bedroom accommodation shall not be permitted at basement or ground floor.

For commercial operations, business continuity must be considered, and steps taken to ensure operability during and recovery after a flood event for both residential and commercial developments. Emergency access must be considered as in many cases flood resilience will not be easily achieved in the existing build environment.

The requirement for providing compensatory storage for minor developments has been reviewed and can generally be relaxed, even where finished floor levels have been raised, and particularly where flood risk is primarily tidal or the development is behind defences. This is because the development concerns land which has previously been developed and would already have limited capacity to mitigate flooding, and would particularly be the case in tidal risk areas. However, a commentary to this effect must be substantiated in the FRA and should be discussed with Mayo County Council prior to submission of a planning application.

7.3.2 Highly vulnerable development in Flood Zone A or B

Development which is highly vulnerable to flooding, as defined in The Planning System and Flood Risk Management, includes (but is not limited to) dwelling houses, hospitals, emergency services and caravan parks.

New development

It is not appropriate for new, highly vulnerable, development to be located in Flood Zones A or B outside the core of a settlement. Such proposals do not pass the Justification Test for Development Plans. Instead, a less vulnerable or water compatible use should be considered.

In some cases, land use objectives which include for highly vulnerable uses have been justified in the Development Plan. This includes zonings focused around an urban core which allow for a mix of residential, commercial and other uses. In such cases, a sequential approach to land use within the site must be taken and will consider the presence or absence of defences, land raising and provision of compensatory storage, safe access and egress in a flood and the impact on the wider development area.

Existing developed areas

The Planning Circular (PL02/2014) states that "*notwithstanding the need for future development to avoid areas at risk of flooding, it is recognised that the existing urban structure of the country contains many well established cities and urban centres which will continue to be at risk of flooding. In addition, development plans have identified various strategically important urban centres … whose continued consolidation, growth, development or generation, including for residential use, is being encouraged to bring about compact and sustainable growth.”*

In cases where specific development proposals have passed the Justification Test for Development Plans, the outline requirements for a flood risk assessment and flood management measures are detailed in this SFRA in the following sections and the site specific assessments in Section 7, which also detail where such development has been justified. Of prime importance is the requirement to manage risk to the development site and not to increase flood risk elsewhere. It should also be noted that for residential buildings within Flood Zone A or B, bedroom accommodation shall not be permitted at basement or ground floor.

7.3.3 Less vulnerable development in Flood Zone A or B

This section applies to less vulnerable development in Flood Zone A which has passed the Justification Test for development plans, and less vulnerable development in Flood Zone B, where this form of development is appropriate, and the Justification Test is not required. Development, which is less vulnerable to flooding, as defined in The Planning Guidelines, includes (but is not limited to) retail, leisure and warehousing and buildings used for agriculture and forestry (see Table 3-3 for further information). This category includes less vulnerable development in all forms, including refurbishment or infill development, and new development both in defended and undefended situations.

The design and assessment of less vulnerable development should begin with 1% AEP fluvial or 0.5% tidal events (depending on dominant flood source) as standard, with climate change and a suitable freeboard included in the setting of finished floor levels. The presence or absence of flood defences informs the level of flood mitigation recommended for less vulnerable developments in areas at risk of flooding. In contrast with highly vulnerable development, there is greater scope for the developer of less vulnerable uses to accept flood risks and build to a lower standard of protection, which is still high enough to manage risks for the development in question. However, any deviation from the design standard of 1%/0.5% AEP, plus climate change, plus freeboard, needs to be fully justified within the FRA and show an appropriate response to the flood risk present and to be agreed with Mayo County Council engineers and planners. However, in County Mayo there are limited locations where formal (non-agricultural) flood defences are present.

7.4 Development Proposals in Flood Zone C

Where a site is within Flood Zone C, but adjoining or in close proximity to Flood Zone A or B there could be a risk of flooding associated with factors such as future scenarios (climate change) or in the event of failure of a defence, blocking of a bridge or culvert. Risk from sources other than fluvial must also be addressed for all development in Flood Zone C. As a minimum in such a scenario, a flood risk assessment should be undertaken which will screen out possible indirect sources of flood risk and where they cannot be screened out, it should present mitigation measures. The most likely mitigation measure will involve setting finished floor levels to a height that is above the 1 in 100-year fluvial flood level, with an allowance for climate change and freeboard, or to ensure a step up from road level to prevent surface water ingress. Design elements such as channel maintenance or trash screens may also be required. Evacuation routes in the event of inundation of surrounding land should also be detailed.

The impacts of climate change should be considered for all proposed developments. A development which is currently in Flood Zone C may be shown to be at risk when 0.5m is added to the extreme (1 in 200 year) tide. Details of the approach to incorporating climate change impacts into the assessment and design are provided in Section 7.6.

7.5 Key points for FRA for all types of developments

- Finished floor levels to be set above the 1% AEP fluvial (0.5% AEP tide) level, with an allowance for climate change plus a freeboard of at least 300mm. The freeboard allowance should be assessed, and the choice justified.
- Flow paths through the site and areas of surface water storage should be managed to maintain their function and without causing increased flood risk elsewhere.
- Compensatory storage is to be provided to balance floodplain loss as a result of raising ground levels within Flood Zone A. The storage should be provided within the flood cell and on a level for level basis up to the 1% level.

- In a defended site, compensatory storage is not required, but the impact of removing the net reduction in floodplain storage should be assessed, and any impacts to existing development mitigated for the 0.1% event or a breach of these defences.
- A site is considered to be defended if the standard of protection is 1% AEP, within which a freeboard of at least 300mm is included. The FFL of the proposed development needs to take into account the impacts of climate change and other residual risks, including the 0.1% event, unless this has also been incorporated into the defence design. This may be assessed through breach analysis, overtopping analysis or projection of levels from the channel inland.
- For less vulnerable development, it may be that a finished floor level as low as the 1% AEP level could be adopted, provided the risks of climate change are included in the development through adaptable designs or resilience measures. This approach should reflect emergency planning and business continuity to be provided within the development. It may reflect the design life of the development, the proposed use, the vulnerability of items to be kept in the premises, the occupants and users, emergency plan and inclusion of flood resilience and recovery measures.

7.6 Incorporating Climate Change into Development Design

In all developments, climate change should be considered when assessing flood risk and in particular residual flood risk. Climate change may result in increased flood extents and therefore caution should be taken when zoning lands in transitional areas (i.e. on the edge of the floodplain). Consideration of climate change is particularly important where flood alleviation measures are proposed, as the design standard of the proposal may reduce significantly in future years due to increased rainfall, river flows and sea levels

The 'Planning System and Flood Risk Management' recommends that a precautionary approach to climate change is adopted due to the level of uncertainty involved in the potential effects. A significant amount of research into climate change has been undertaken on both a national and international front, and updates are ongoing.

Advice on the expected impacts of climate change and the allowances to be provided for future flood risk management in Ireland is given in the OPW draft guidance. Two climate change scenarios are considered; these are the Mid-Range Future Scenario (MRFS) and the High-End Future Scenario (HEFS). The MRFS is intended to represent a "likely" future scenario based on the wide range of future predictions available. The HEFS represents a more "extreme" future scenario at the upper boundaries of future projections. Based on these two scenarios the OPW recommended allowances for climate change are given in the table below. These climate change allowances are particularly important at the development management stage of planning and will ensure that proposed development is designed and constructed to take into account best current knowledge.

Table 7-1: Allowances for Future Scenarios (100-year Time Horizon)

Criteria	MRFS	HEFS
Extreme Rainfall Depths	+20%	+30%
Flood Flows	+20%	+30%
Mean Sea Level Rise	+500mm	+1000mm
Land Movement	-0.5mm / year*	-0.5mm / year*
Urbanisation	No General Allowance - Review on Case by Case Basis	No General Allowance - Review on Case by Case Basis
Forestation	-1/6 Tp**	-1/3 Tp**+10% SPR***

Notes:

* Applicable to the southern part of the country only (Dublin - Galway and south of this)

** Reduce the time to peak (Tp) by a third; this allows for potential accelerated runoff that may arise as a result of drainage of afforested land

*** Add 10% to the Standard Percentage Runoff (SPR) rate; this allows for increased runoff rates that may arise following felling of forestry

Through the CFRAM Studies, both MRFS and HEFS model runs have been completed on all study watercourses, providing flood extent and depth maps. This information can be used to support flood risk assessments where the current CFRAM scenario has been deemed appropriate to the location.

For watercourses that are not part of the CFRAM programme, fluvial flood extents can be qualitatively assessed by using the Flood Zone B outline as a surrogate for 'Flood Zone A with allowance for the possible impacts of climate change', as suggested in the 'Planning System and Flood Risk Management'. Quantitative assessment of risks may require an additional model run to fully understand risks.

For most development, including residential, nursing homes, shops and offices, the medium-range future scenario (20% increase in flows) is an appropriate consideration. This should be applied in all areas that are at risk of flooding (i.e. within Flood Zone A and B) and should be considered for sites which are in Flood Zone C but are adjacent to Flood Zone A or B. This is because land which is currently not at risk may become vulnerable to flooding when climate change is taken into account.

Where the risk associated with inundation of a development is low and the design life of the development is short (typically less than 30 years) the allowance provided for climate change may be less than the 20% / 0.5m level. However, the reasoning and impacts of such an approach should be provided in the site-specific FRA.

Conversely, there may be development which requires a higher-level response to climate change. This could include major facilities which are extremely difficult to relocate, such as hospitals, airports, Seveso sites or power stations, and those which represent a high-economic and long-term investment within the scale of development across the county. In such situations it would be reasonable to expect the high-end future scenario (30% increase in flow) to be investigated in the site-specific FRA and used as the design standard.

In general, climate change will be accounted for the setting of finished floor levels to a height which includes an allowance for climate change. However, climate change may

also reveal additional flow paths which need to be protected or give rise to flows which exceed culvert capacity or overtop defences. These outcomes will need to be specifically investigated for each site, and an appropriate response provided.

Further consideration to the potential future impacts of climate change is given for each settlement in Section 8.

7.7 Flood Mitigation Measures at Site Design

For any development proposal in an area at moderate or high risk of flooding that is considered acceptable in principle (i.e. has passed the Plan Making Justification Test), the site specific FRA must demonstrate that appropriate mitigation measures can be put in place and that residual risks can be managed to acceptable levels. This may include the use of flood-resistant construction measures that are aimed at preventing water from entering a building and that mitigate the damage floodwater causes to buildings. Alternatively, designs for flood resilient construction may be adopted where it can be demonstrated that entry of floodwater into buildings is preferable to limit damage caused by floodwater and allow relatively quick recovery.

Various mitigation measures are outlined below and further detail on flood resilience and flood resistance are included in the Technical Appendices of the Planning Guidelines, The Planning System and Flood Risk Management.

7.7.1 Site Layout and Design

To address flood risk in the design of new development, a risk-based approach should be adopted to locate more vulnerable land use to higher ground while water compatible development i.e. car parking (with appropriate flood management plan) and recreational space can be located in higher flood risk areas.

The site layout should identify and protect land required for current and future flood risk management. Waterside areas or areas along known flow routes can be used for recreation, amenity and environmental purposes to allow preservation of flow routes and flood storage, while at the same time providing valuable social and environmental benefits.

7.7.2 Ground Levels, Floor Levels and Building Use

Modifying ground levels to raise land above the design flood level is a very effective way of reducing flood risk to the site. However, in most areas of fluvial flood risk, conveyance or flood storage would be reduced locally and could increase flood risk off site. There are a number of criteria which must all be met before this is considered a valid approach:

- Development at the site must have been justified through this SFRA based on the existing (unmodified) ground levels.
- The FRA should establish the function provided by the floodplain. Where conveyance is a prime function then a hydraulic model will be required to show the impact of its alteration.
- The land being given over to storage must be land which does not flood in the 1% AEP fluvial event (i.e. Flood Zone B or C).
- Compensatory storage should be provided on a level for level basis to balance the total area that will be lost through infilling where the floodplain provides static storage.
- The provision of the compensatory storage should be in close proximity to the area that storage is being lost from (i.e. within the same flood cell).
- The land proposed to provide the compensatory storage area must be within the ownership / control of the developer.

- The compensatory storage area should be constructed before land is raised to facilitate development.
- Compensatory storage is generally not required for loss of floodplain in locations behind defences.

In some sites it is possible that ground levels can be re-landscaped to provide a sufficiently large development footprint. However, it is likely that in other potential development locations there is insufficient land available to fully compensate for the loss of floodplain. In such cases it will be necessary to reconsider the layout or reduce the scale of development or propose an alternative and less vulnerable type of development. In other cases, it is possible that the lack of availability of suitable areas of compensatory storage mean the target site cannot be developed and should remain open space.

Raising finished floor levels within a development is an effective way of avoiding damage to the interior of buildings (i.e. furniture and fittings) in times of flood. Alternatively, assigning a water compatible use (i.e. garage / car parking) or less vulnerable use to the ground floor level, along with suitable flood resilient construction, is an effective way of raising vulnerable living space above design flood levels. It can however have an impact on the streetscape. Safe access and egress is a critical consideration in allocating ground floor uses.

Depending on the scale of residual risk, resilient and resistance measures may be an appropriate response, but this will mostly apply to less vulnerable development.

7.7.3 Raised Defences

Construction of raised defences (i.e. flood walls and embankments) has traditionally been the response to flood risk. However, this is not a preferred option on an ad-hoc basis where the defences to protect the development are not part of a strategically led flood relief scheme. Where a defence scheme is proposed as the means of providing flood defence, the impact of the scheme on flood risk up and downstream must be assessed and appropriate compensatory storage must be provided.

7.7.4 Emergency Flood Response Plans

In some instances, and only when all parts both the Plan Making and Development Management Justification Tests have been passed, it may be necessary for an emergency flood response plan to be prepared to support other flood management measures within the context of a less vulnerable or water compatible development. An emergency response plan may be required to trigger the operation of demountable flood defences to a less vulnerable development, evacuation of a car park or closure of a business or retail premises.

The emergency plan will need to detail triggers for activation, including receipt of a timely flood warning, a staged response and to set out the management and operational roles and responsibilities. The plan will also need to set out arrangements for access and egress, both for pedestrians, vehicles and emergency services. The details of the plan should be based on an appropriately detailed assessment of flood risk, including speed of onset of flooding, depths and duration of inundation.

However, just because it is possible to prepare an emergency plan does not mean this is advisable or appropriate for the nature and vulnerability of development.

7.7.5 Nature based solutions / Green Infrastructure / SUDS

Measures can be taken that aim to retain water on the landscape during periods of high rainfall and flood by mimicking the functioning of a natural landscape, thereby reducing the magnitude of flood events and providing complementary ecosystem services. In general, nature-based measures aim to:

- Reduce the rate of runoff during periods of high rainfall;
- Provide flood storage in upper catchment areas; and
- Use natural materials and "soft" engineering techniques to manage flooding in place of "hard" engineering in river corridors.

Nature-based measures to control flooding typically focus on the use of porous surfaces in developments (Sustainable Urban Drainage Systems or SUDS), planting of native vegetation communities/assemblages that are tolerant of both wet and dry conditions and reversing the impacts of over-engineered river corridors (river restoration) to reduce the peak of flood events by mimicking the function of a natural catchment landscape. In addition to providing flood relief benefits, nature-based solutions can provide an array of ecosystem services including silt and pollution control for runoff entering the river system, improved riparian and in-river habitats, localised temperature reduction during periods of extreme heat, reduced maintenance requirements in engineered systems, groundwater recharge, and carbon sequestration.

These measures can be implemented across an array of scales, for instance across a catchment as part of a wider flood relief scheme, or on a site-specific basis as part of a landscaping or green infrastructure plan. Nature-based solutions can provide flood mitigation benefits and ecosystem services across all scales if given adequate planning, and should be considered during the site layout and design stages of a development.

The drainage design shall ensure no increase in flood risk to the site, or the downstream catchment. Reference should be made to the MCDP and CLAP for further policy and objectives. Considerable detail on the process and design of SuDS is also provided in C753[2], the Dublin SuDS Manual and the Greater Dublin Strategic Drainage Study.

7.7.6 'Green Corridor'

It is recommended that, where possible, and particularly where there is greenfield land adjacent to the river, a 'green corridor', is retained on all rivers and streams. This will have a number of benefits, including:

- Retention of all, or some, of the natural floodplain;
- Opportunities to undertake works to restore natural in-river processes and habitats;
- Potential opportunities for amenity, including better views, riverside walks and public open spaces;
- Maintenance of the connectivity between the river and its floodplain, encouraging the development of a full range of riparian and floodplain habitats;
- Natural attenuation of flows in the immediate floodplain will help ensure no increase in flood risk downstream;
- Allows access to the river for maintenance works;
- Helping to achieve "Good" Ecological Status for river waterbodies under the EU Water Framework Directive (WFD); and
- Retention of clearly demarcated areas where development is not appropriate on flood risk grounds, and in accordance with the Planning System and Flood Risk Management.

The width of this corridor should be determined through undertaking of a river restoration strategy, but can also be indicated by the available land, and topographical

[2] C753, The SUDS Manual, CIRIA (2015)

constraints, such as raised land and flood defences. It would ideally span the full width of the floodplain (i.e. all of Flood Zone A).

7.7.7 Bridges, culverts and weirs

Where a planning application includes proposals to amend an existing bridge, culvert or weir, or introduce a new in-channel structure, it will be necessary for the applicant to seek OPW's approval under Section 48 (weirs) and Section 50 (bridges and culverts) of the Arterial Drainage Act 1945. It should be noted that OPW approval under Section 48 and / or 50 does not influence or determine the outcome of the Planning Application process.

8 Settlement Zoning Review

The purpose of land use zoning objectives is to indicate to property owners and members of the public the types of development the Planning Authority considers most appropriate in each land use category. Zoning is designed to reduce conflicting uses within areas, to protect resources and, in association with phasing, to ensure that land suitable for development is used to the best advantage of the community as a whole.

This section of the SFRA will:

- Outline the strategic approach to flood risk management.
- Consider the land use zoning objectives utilised within Castlebar and assess their potential vulnerability to flooding.
- Based on the associated vulnerability of the particular use, a clarification on the requirement of the application of the Justification Test is provided.
- The consideration of the specific land use zoning objectives and flood risk will be presented for the settlements. Comment will be provided on the use of the sequential approach and justification test. Conclusions will be drawn on how flood risk is proposed to be managed in the settlement.

8.1 A Strategic Approach to Flood Risk Management

A strategic approach to the management of flood risk is important in Castlebar as the risks are varied, with scales of risk and vulnerability varying across the settlement.

Following the Planning Guidelines, development should always be located in areas of lowest flood risk first, and only when it has been established that there are no suitable alternative options should development (of the lowest vulnerability) proceed. Consideration may then be given to factors which moderate risks, such as defences, and finally consideration of suitable flood risk mitigation and site management measures is necessary.

It is important to note that whilst it may be technically feasible to mitigate or manage flood risk at site level, strategically it may not be a sustainable approach.

A summary of flood risks associated with each of the zoning objectives has been provided in the following settlement reviews. The Flood Risk commentary indicates whether a certain land zoning, in Flood Zone A or B, will need to have the Plan Making Justification Test (JT) applied and passed.

When carrying out a site-specific FRA, or when planning applications are being considered, it is important to remember that not all uses will be appropriate on flood risk grounds, hence the need to work through the Justification Test for Development Management on a site by site basis and with reference to Table 8-1. For example, a Town Centre zoning objective can include for an integrated mix of residential, commercial, community and social uses which have varying vulnerabilities and would not be equally permissible within Flood Zone A and B.

Table 8-1: Zoning Objective Vulnerability

Zoning Objective	Indicative Primary Vulnerability	Flood Risk Commentary
Agriculture	Water compatible / highly vulnerable	JT not needed for water compatible. For farm housing the Justification Test applies in Flood Zone A/B.
Enterprise & Employment	Less / highly vulnerable	For highly vulnerable development in Flood Zone A or B. For less vulnerable development in Flood Zone A.
Community Services Facilities	Less / highly vulnerable	Consideration to be given to flood risks and sequential use of land to ensure highly vulnerable uses are located within areas at lowest risk of flooding.
Education	Less / highly vulnerable	Consideration to be given to flood risks and sequential use of land to ensure highly vulnerable uses such as school buildings are located within areas at lowest risk of flooding.
Existing Residential	Highly Vulnerable	JT required for within Flood Zone A and B.
New Residential	Highly Vulnerable	JT required for within Flood Zone A and B.
Open Space	Water compatible	For Water Compatible, land use appropriate and should be retained. For highly vulnerable development in Flood Zone A or B. For less vulnerable development in Flood Zone A.
Recreation and Amenity	Water compatible / less & highly vulnerable.	Some areas of Recreation and Amenity have highly vulnerable and less vulnerable existing developments. For Water Compatible, land use appropriate and should be retained. For highly vulnerable development in Flood Zone A or B. For less vulnerable development in Flood Zone A.
Infrastructure & Utilities	Less / highly vulnerable	For highly vulnerable development in Flood Zone A or B. For less vulnerable development in Flood Zone A.
Quarry Mining	Water compatible/Less vulnerable.	For Water Compatible, land use appropriate and should be retained. For less vulnerable development in Flood Zone A.
Mixed Use	Less / highly vulnerable	For highly vulnerable development in Flood Zone A or B. For less vulnerable development in Flood Zone A.
Town Centre	Less / Highly Vulnerable	For highly vulnerable development in Flood Zone A or B. For less vulnerable development in Flood Zone A.

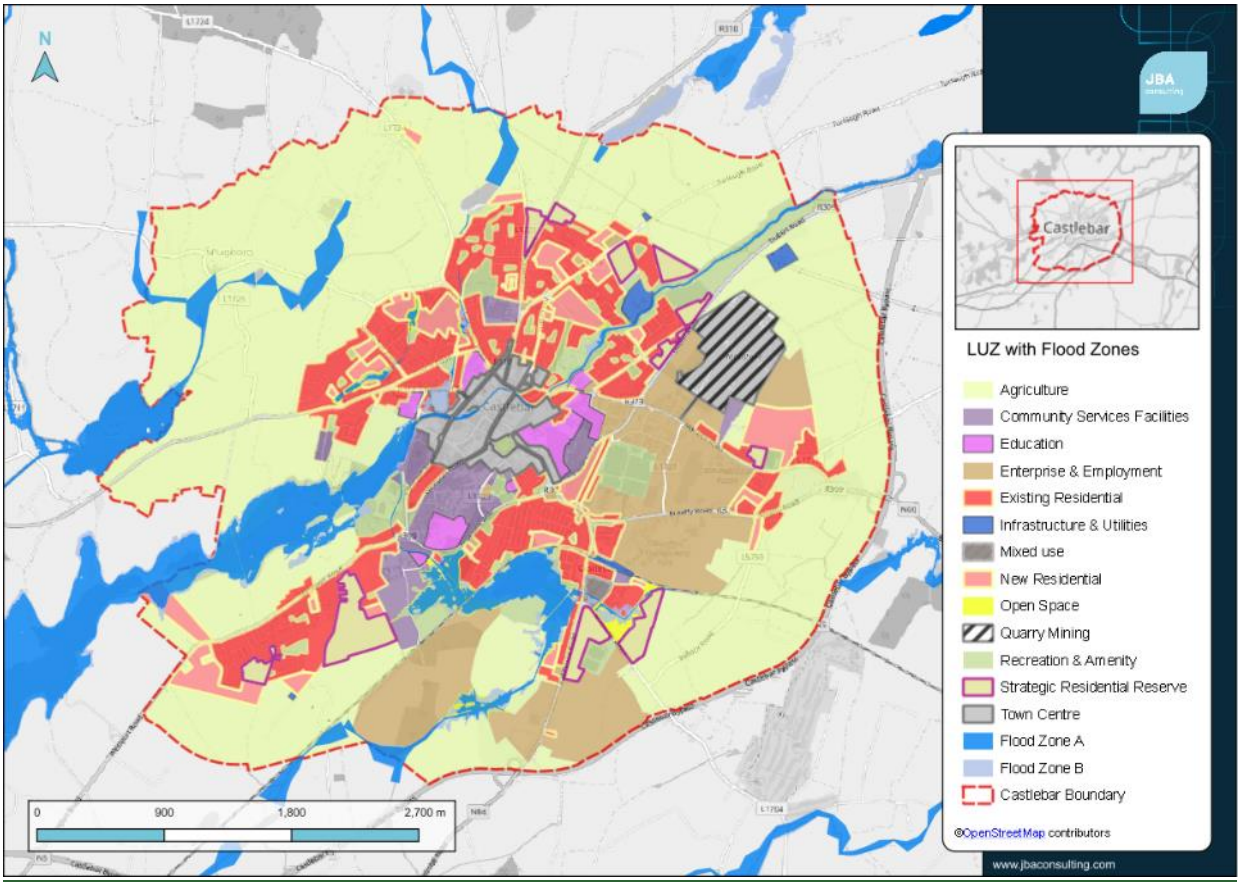


Figure 8-1 Overview map - Castlebar LUZ with Flood Zones

The following sections review the land use zoning objectives for each settlement within the plan and provide a comprehensive summary of flood risk and justification where necessary.

8.2 Transport Infrastructure

A review of transport infrastructure routes detailed in the Local Area Plan has also been carried out as part of this SFRA. Under the Planning Guidelines and Flood Risk Management, local transport infrastructure is classed as less vulnerable whilst essential infrastructure, such as primary transport, is highly vulnerable. A map of proposed travel infrastructure in Castlebar can be seen in Figure 8-2.

There are a number of areas where proposed transport infrastructure crosses, or is within, Flood Zone A and / or B in Castlebar, some of which are within Flood Zone C and some cross or are wholly within Flood Zone A and or B. Local infrastructure routes are considered to be less vulnerable and are appropriate in Flood Zone B but a flood risk assessment is required to support the detailed design. Where the routes pass through Flood Zone A, careful consideration of the risks is required to ensure alternative routes within Flood Zone B or C are not available. A detailed flood risk assessment will also be required to support all route selection and detailed design.

The active travel bridge proposed in Castlebar is within Flood Zone A. As far as the Justification Test applies, there are no alternative routes which are wholly within Flood Zone C or B. The detailed design of the preferred route should include a flood risk assessment and note the requirement for Section 50 consent where a bridge is required to cross the Castlebar River.

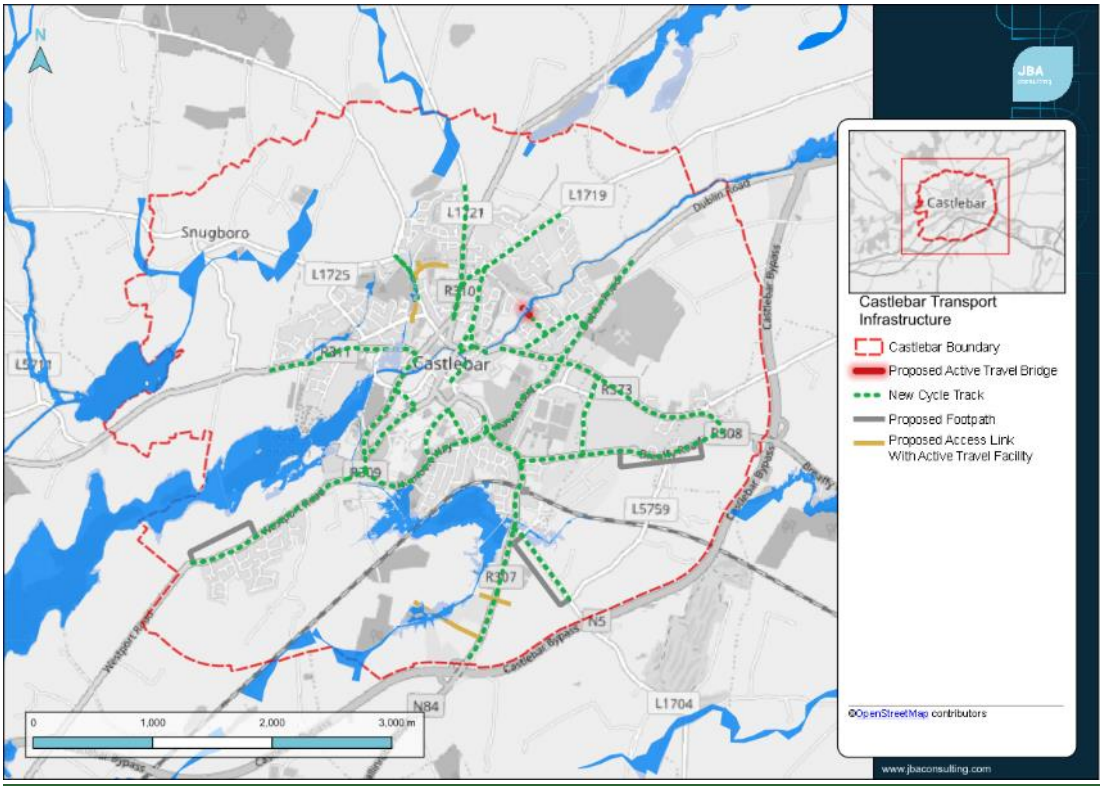
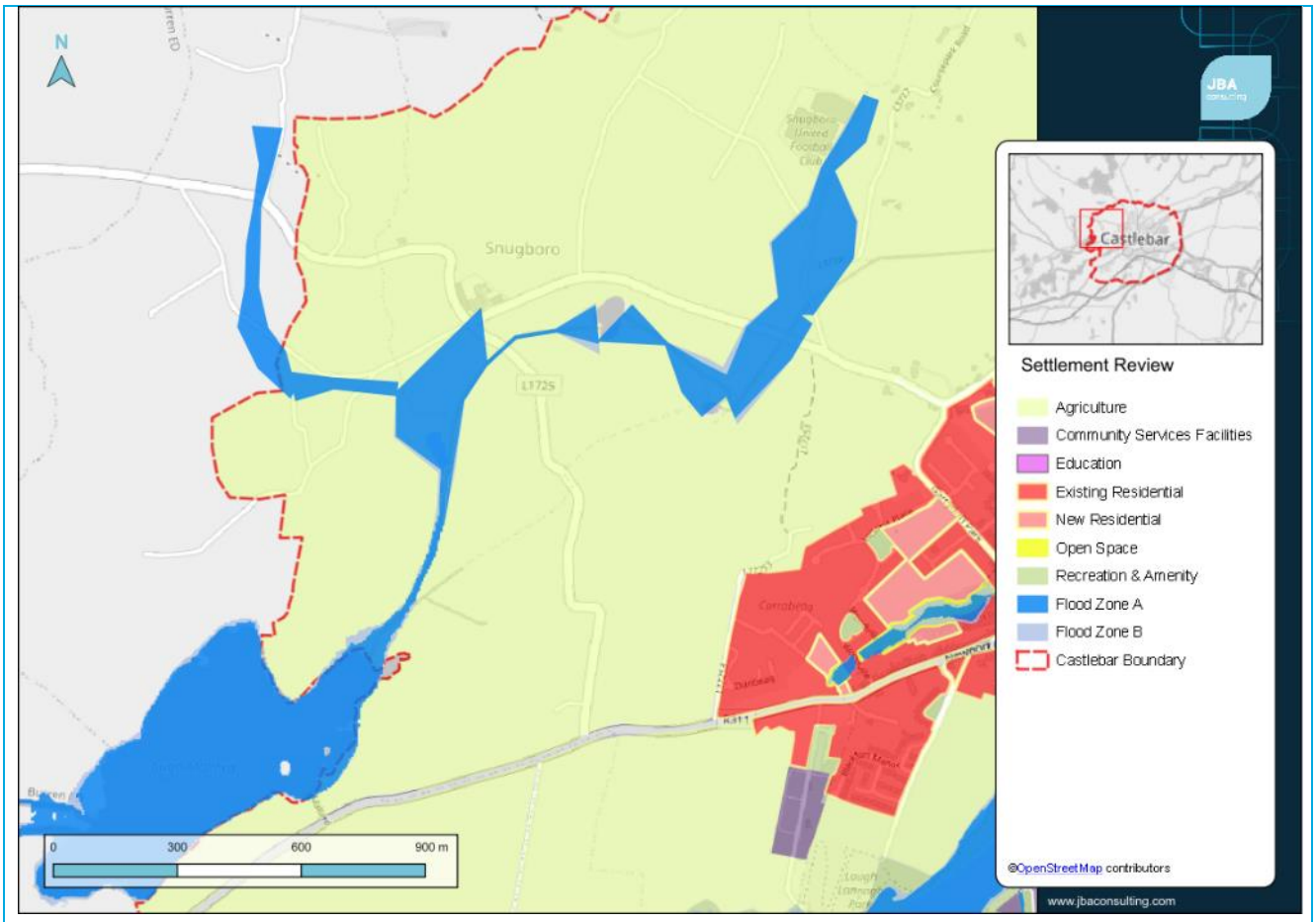


Figure 8-2 Transport Infrastructure Castlebar

8.3 Snugborough

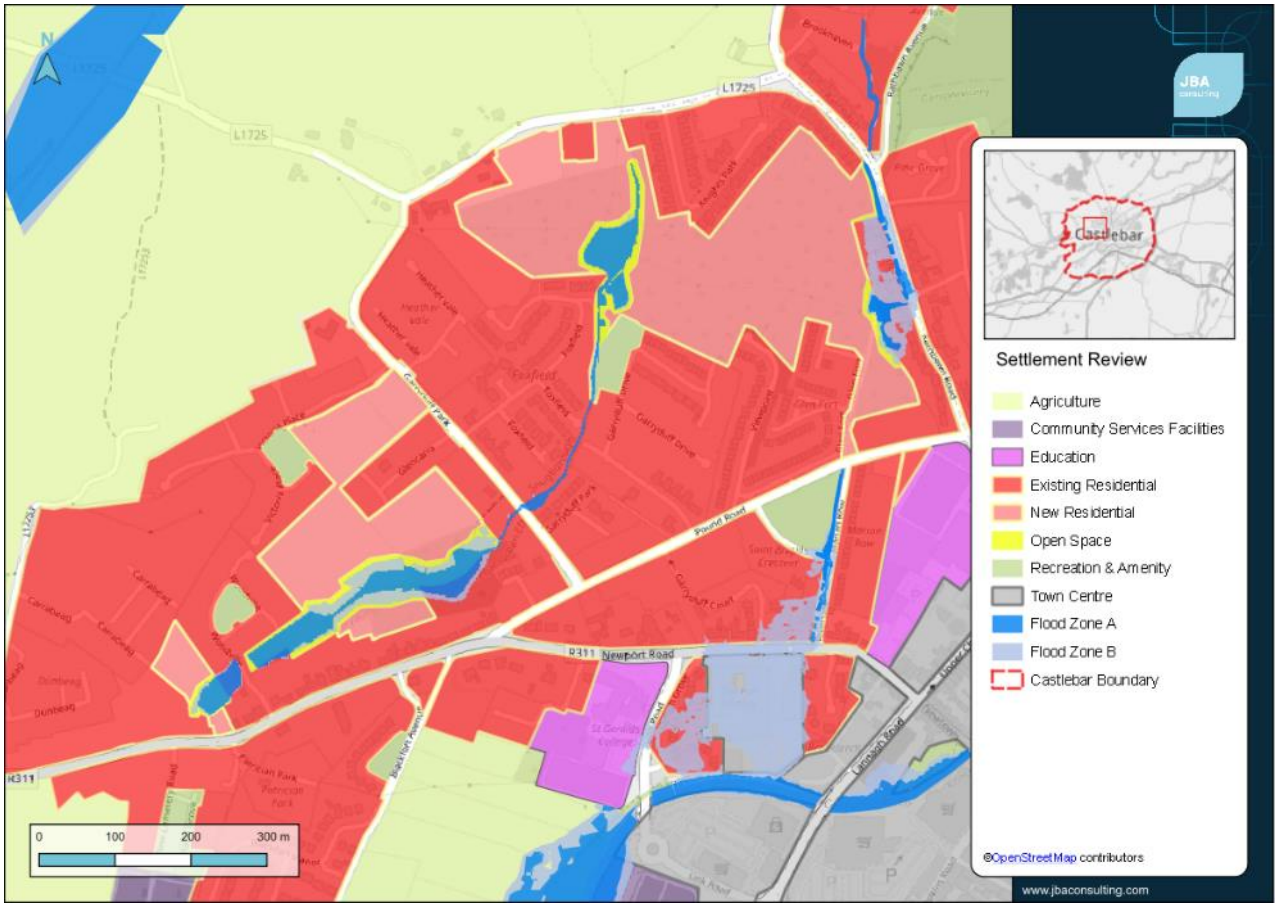


The flood mapping has been produced in accordance with the Planning Guidelines and therefore ignores the impact of flood protection structures. Areas protected by flood defences still carry a residual risk of flooding due to overtopping or breach, there may also be no guarantee of maintenance in perpetuity. Areas that benefit from defences are annotated separately.

Flood Zone Data	PFRA & NIFM (verified by a site visit)
Historic Flooding	There is no historic flooding reported in this area.
Comment	Several tributaries flow south towards Lough Mallard in this area. There is also a smaller waterbody to the northeast that the Rathbaun stream flows through towards Lough Mallard in the south. Risk here is limited to Agriculture zoning.
Climate Change	There is no climate change modelling carried out in this area.
Conclusion	Most of the risk is limited to existing agricultural lands with some isolated dwellings. The Justification Test has been applied and passed for Agriculture (see Appendix A.1.1). The Justification Test for Agriculture is passed on the basis that development is; • Limited to extensions, renovations and change of use when the property is within a Flood Zone A/B. • New developments, infill residential development, and demolition and reconstruction can only take place in Flood Zone C. • There are to be no bedrooms on the ground floor when extending existing residential property in Flood Zone A/B. • Any future development should be subject to an FRA which

	should follow the general guidance provided in Section 7 of the SFRA and must specifically address the points detailed in Part 3 of the JT under Appendix A.1.1. Elsewhere in the area, risk can be managed in line with approved Policy and the guidance provided within Section 7 of this SFRA.

8.4 Garryduff



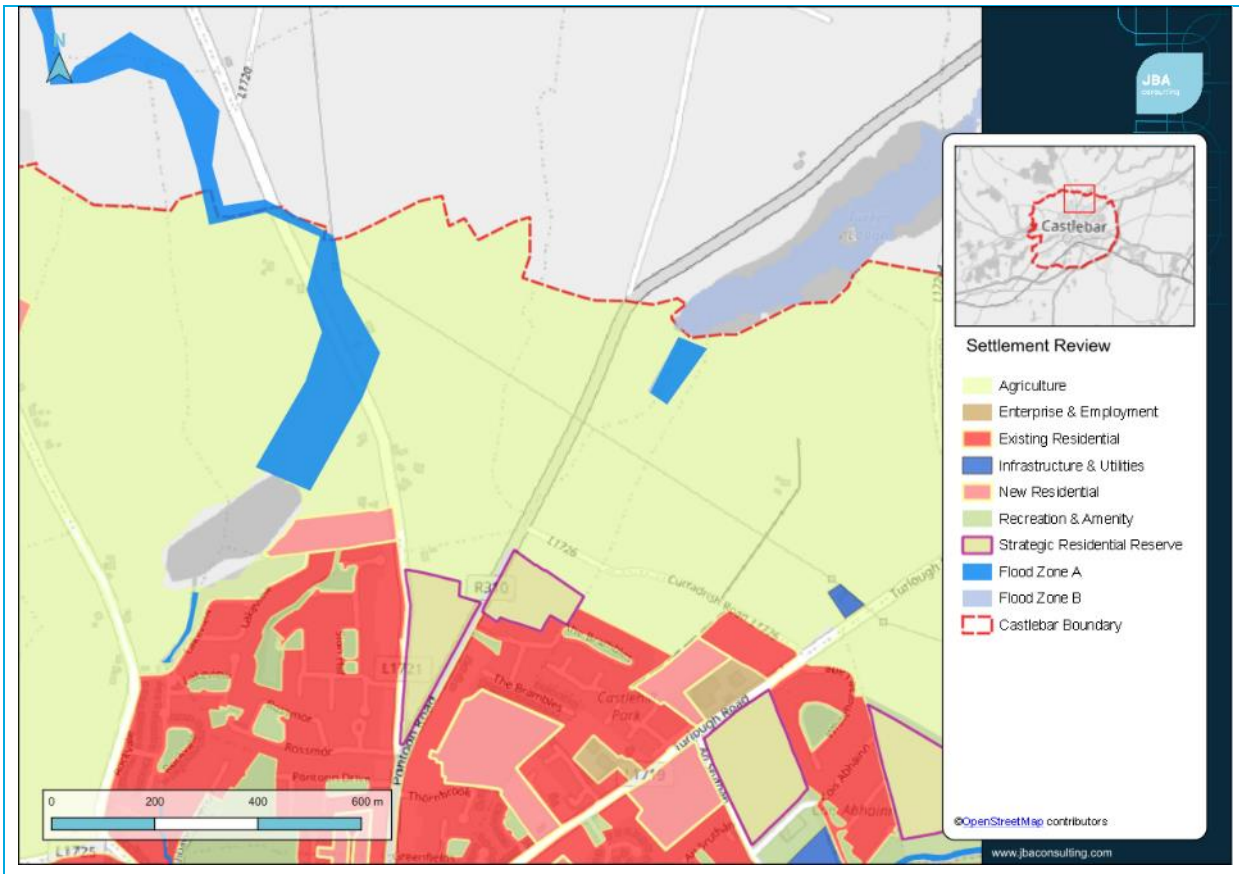
© OpenStreetMap contributors, CC-BY-SA,

The flood mapping has been produced in accordance with the Planning Guidelines and therefore ignores the impact of flood protection structures. Areas protected by flood defences still carry a residual risk of flooding due to overtopping or breach, there may also be no guarantee of maintenance in perpetuity. Areas that benefit from defences are annotated separately.

Flood Zone Data	CFRAM & Lochan Flood Extents (verified by a site visit)
Historic Flooding	Flooding has been reported by residents in the Rathbawn area.
Comment	All lands in Flood Zone A/B are zoned as a water compatible use or are existing developed lands.
Climate Change	Low to moderate sensitivity to climate change
Conclusion	The Justification Test has been applied and passed for Existing Residential and Recreation and Amenity. The Justification Test for existing residential (see Appendix A.2.1) is passed on the basis that development is; • Limited to extensions, renovations and change of use. • Bedrooms should be located in the upstairs of two-story buildings when extending existing property. • Infill residential development and demolition and reconstruction can only take place in Flood Zone C. • Existing flood data does provide flood levels and applicants should contact MCC to discuss further. An appropriately detailed FRA will be required which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the points detailed in Part 3 of the JT under Appendix A.2.1.

	The Justification Test has also been applied and passed for the Recreation and Amenity lands (see Appendix A.2.2). Any future development of the land should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Existing flood data does provide flood levels and applicants should contact MCC to discuss further. An appropriately detailed FRA will be required. • The sequential approach should be applied and highly or less vulnerable elements of development should be located in Flood Zone C; Flood Zone A would principally be suitable for playing pitches/water compatible use only. Elsewhere in the area, risk can be managed in line with approved Policy and the guidance provided within Section 7 of this SFRA.

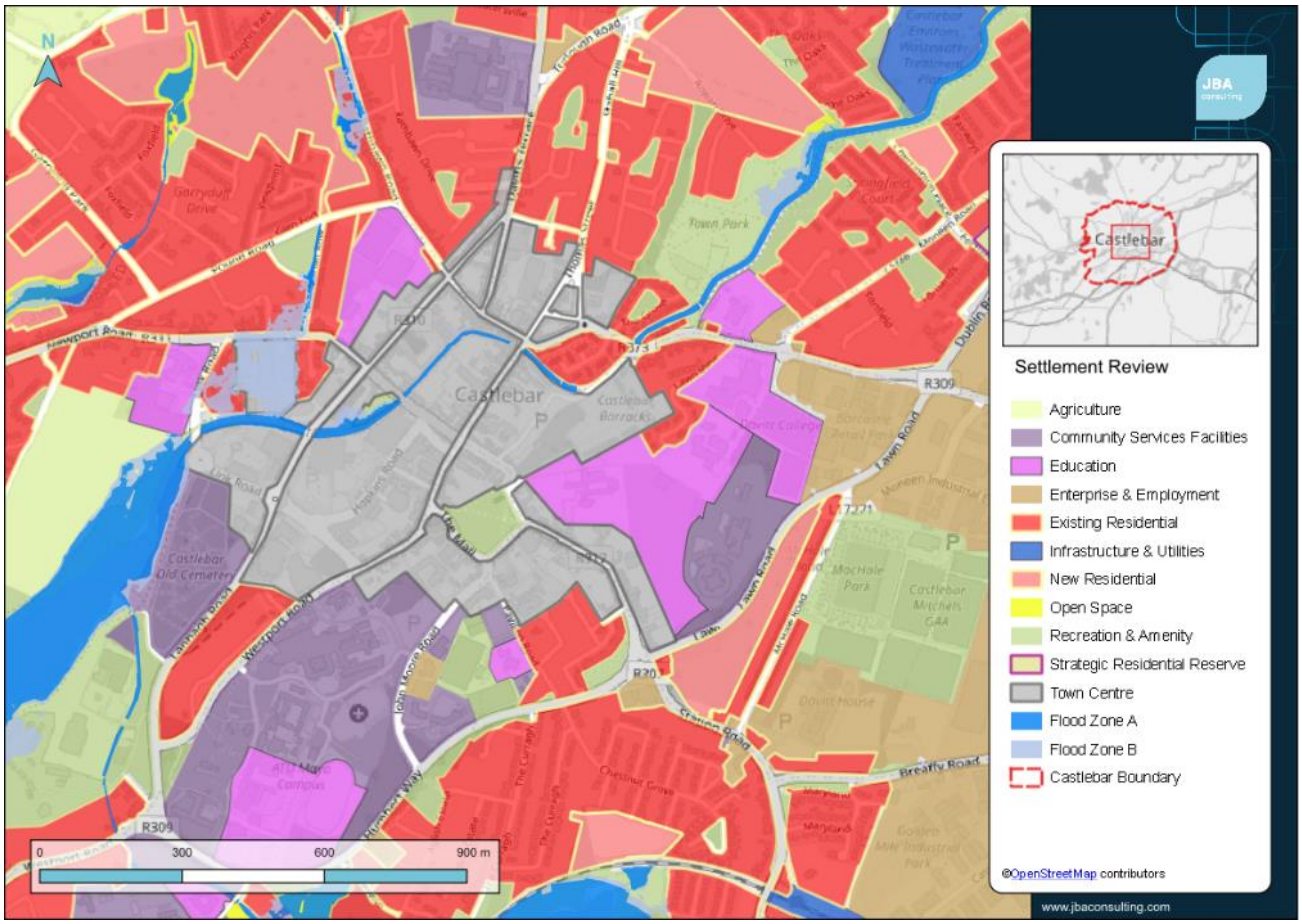
8.5 Newantrim



The flood mapping has been produced in accordance with the Planning Guidelines and therefore ignores the impact of flood protection structures. Areas protected by flood defences still carry a residual risk of flooding due to overtopping or breach, there may also be no guarantee of maintenance in perpetuity. Areas that benefit from defences are annotated separately.

Flood Zone Data	PFRA, NIFM and CFRAM (verified by a site visit)
Historic Flooding	No historic flooding reported in this area.
Comment	Most of the risk is limited to agricultural lands
Climate Change	Localised moderate sensitivity to climate change in Agricultural Lands however, the affected area is undeveloped
Conclusion	Most of the risk is limited to existing developments and the Justification Test has been applied and passed for Agriculture. The Justification Test for Agriculture (see Appendix A.3.1) is passed on the basis that development is: • Limited to extensions, renovations and change of use when the property is within a Flood Zone A/B. • New developments, infill residential development, and demolition and reconstruction can only take place in Flood Zone C. • There are to be no bedrooms on the ground floor when extending existing residential property in Flood Zone A/B. • Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the points detailed in Part 3 of the JT under Appendix A.3.1. Elsewhere in the area, risk can be managed in line with approved Policy and the guidance provided within Section 7 of this SFRA.

8.6 Town Centre

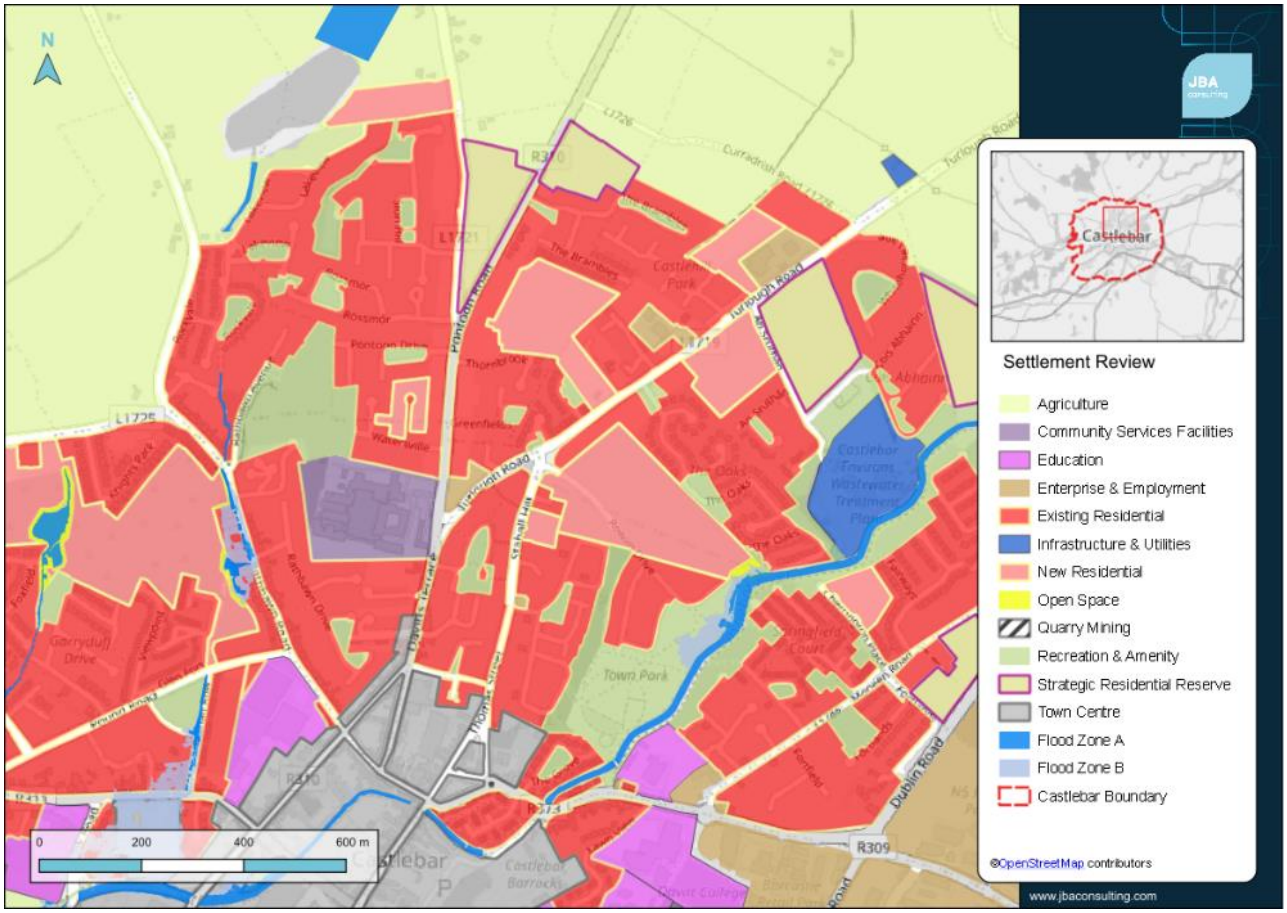


The flood mapping has been produced in accordance with the Planning Guidelines and therefore ignores the impact of flood protection structures. Areas protected by flood defences still carry a residual risk of flooding due to overtopping or breach, there may also be no guarantee of maintenance in perpetuity. Areas that benefit from defences are annotated separately.

Flood Zone Data	CFRAM (verified by a site visit)
Historic Flooding	The town centre of Castlebar was reported to have flooded in the past due to surface water and fluvial flooding.
Comment	Much of the risk is limited to existing developments. The JT has been applied and passed for the Existing Residential, Town Centre, Education, Community Services Facilities areas and Recreation and Amenity.
Climate Change	High sensitivity to climate change.
Conclusion	Part of the Town Centre, Existing Residential, Education and Community Services Facilities lands, Recreation and Amenity are within Flood Zone A/B. The Justification Test has been applied and passed for the Town Centre (see Appendix A.4.1) on the basis that development; • Within Flood Zone A/B is limited to extensions, renovations and change of use. • Infill highly vulnerable development and demolition and reconstruction can only take place in Flood Zone C. • Development at the hat factory site is premature until flood risk has been appropriately mitigated. • Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address points listed in Appendix

	A.4.1. The Justification Test for Community Services Facilities zoning (cemetery) is passed on the basis that that the points detailed in Part 3 of the JT under Appendix A.4.2 are adhered to, key points include: • Development is constructed in accordance with the site specific FRAs, to include hydrogeological/groundwater assessment. • Development in Flood Zones A/B should be limited to water compatible. The Justification Test for Education zoning is passed on the basis that that the points detailed in Part 3 of the JT under Appendix A.4.3 are adhered to, key points include: • Within Flood Zone A/B development should be water compatible development. • Highly vulnerable development and demolition and reconstruction can only take place in Flood Zone C. • Development is constructed in accordance with the site specific FRAs. The Justification Test for existing residential (see Appendix A.4.4) is passed on the basis that development is: • Limited to extensions, renovations and change of use. • Infill residential development and demolition and reconstruction can only take place in Flood Zone C. • There are to be no bedrooms on the ground floor when extending existing residential property in Flood Zone A/B. • Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the points detailed in Part 3 of the JT under Appendix A.4.4. Finally, the Justification Test has also been applied and passed for the Recreation and Amenity lands (see Appendix—A.4.5~~0~~). Any future development of the land should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • The sequential approach should be applied and highly or less vulnerable elements of development should be preferably located in Flood Zone C; • Flood Zone A would principally be suitable for playing pitches/water compatible use only. Elsewhere in the area, risk can be managed in line with approved Policy and the guidance provided within Section 7 of this SFRA.

8.7 Carrowncurry

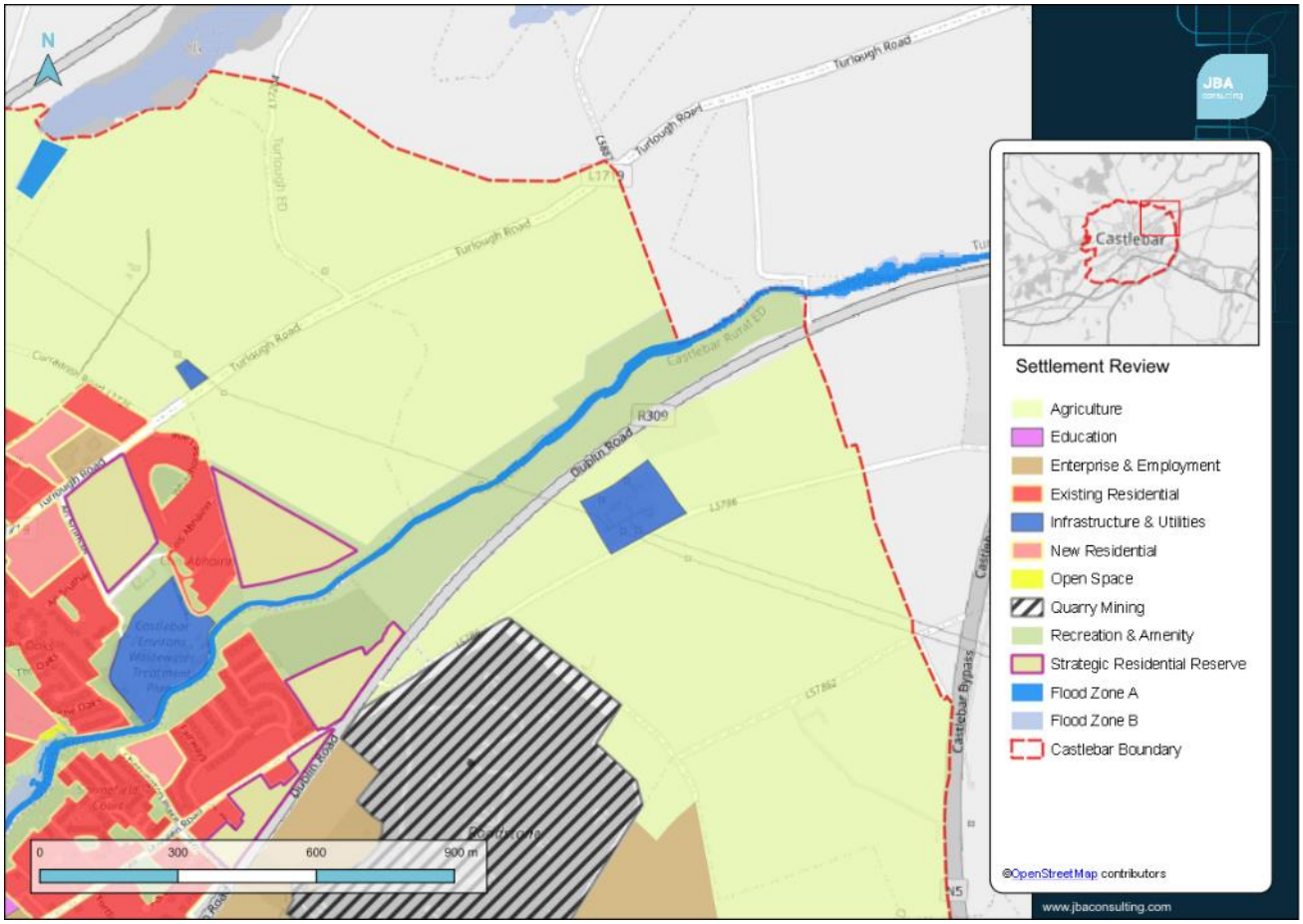


The flood mapping has been produced in accordance with the Planning Guidelines and therefore ignores the impact of flood protection structures. Areas protected by flood defences still carry a residual risk of flooding due to overtopping or breach, there may also be no guarantee of maintenance in perpetuity. Areas that benefit from defences are annotated separately.

Flood Zone Data	CFRAM (verified by a site visit)
Historic Flooding	Flooding has been reported by residents in the Rathbawn area.
Comment	All lands at risk are zoned as a water compatible use or existing developments.
Climate Change	Low to moderate sensitivity to climate change.
Conclusion	The Justification Test has been applied and passed for Existing Residential and Recreation and Amenity(see Appendix A.5.1 and A.5.2). The Justification Test for existing residential (see Appendix A.5.1) is passed on the basis that development is; • Limited to extensions, renovations and change of use. • Bedrooms should be located in the upstairs of two-story buildings when extending existing property. • Infill residential development and demolition and reconstruction can only take place in Flood Zone C. • Existing flood data does provide flood levels and applicants should contact MCC to discuss further. An appropriately detailed FRA will be required which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the points detailed in Part 3 of the JT under Appendix A.5.1.

	The Justification Test has also been applied and passed for the Recreation and Amenity lands (see Appendix A.5.2). Any future development of the land should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Flood Zone A/B would principally be suitable for water compatible use only; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy. Elsewhere in the area, risk can be managed in line with approved Policy and the guidance provided within Section 7 of this SFRA.

8.8 Rural East

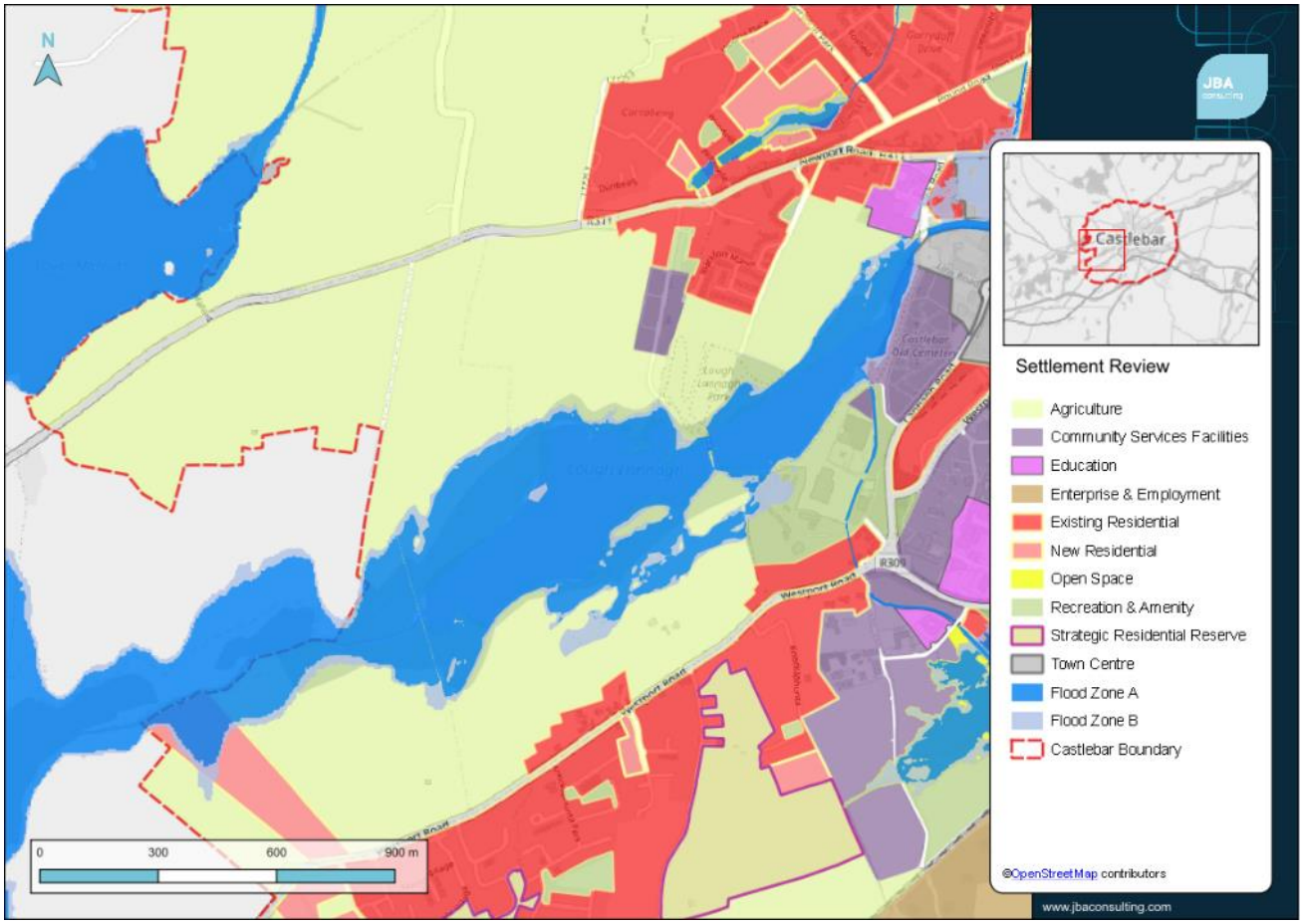


The flood mapping has been produced in accordance with the Planning Guidelines and therefore ignores the impact of flood protection structures. Areas protected by flood defences still carry a residual risk of flooding due to overtopping or breach, there may also be no guarantee of maintenance in perpetuity. Areas that benefit from defences are annotated separately.

Flood Zone Data	CFRAM (verified by a site visit)
Historic Flooding	No historic flooding reported in this area.
Comment	Most of the risk is limited to water compatible uses except for a small overlap with Infrastructure & Utilities zoning, Existing Residential and Recreation and Amenity.
Climate Change	Low sensitivity to climate change.
Conclusion	The Justification Test has been applied and passed for the Infrastructure & Utilities lands (see Appendix A.6.1). Any future development of the land should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • The sequential approach should be applied and Highly vulnerable elements of the site should be located in Flood Zone C, or raised/bunded/protected; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

	The Justification Test has also been applied and passed for Existing Residential (see Appendix A.6.2). The Justification Test for existing residential is passed on the basis that development is; • Limited to extensions, renovations and change of use. • Bedrooms should be located in the upstairs of two-story buildings when extending existing property. • Infill residential development and demolition and reconstruction can only take place in Flood Zone C. • Existing flood data does provide flood levels and applicants should contact MCC to discuss further. An appropriately detailed FRA will be required which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the points detailed in Part 3 of the JT under Appendix A.6.2. The Justification Test has also been applied and passed for the Recreation and Amenity lands (see Appendix A.6.3). Any future development of the land should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Flood Zone A/B would principally be suitable for water compatible use only; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy. Elsewhere in the area, risk can be managed in line with approved Policy and the guidance provided within Section 7 of this SFRA.

8.9 Lough Lannagh

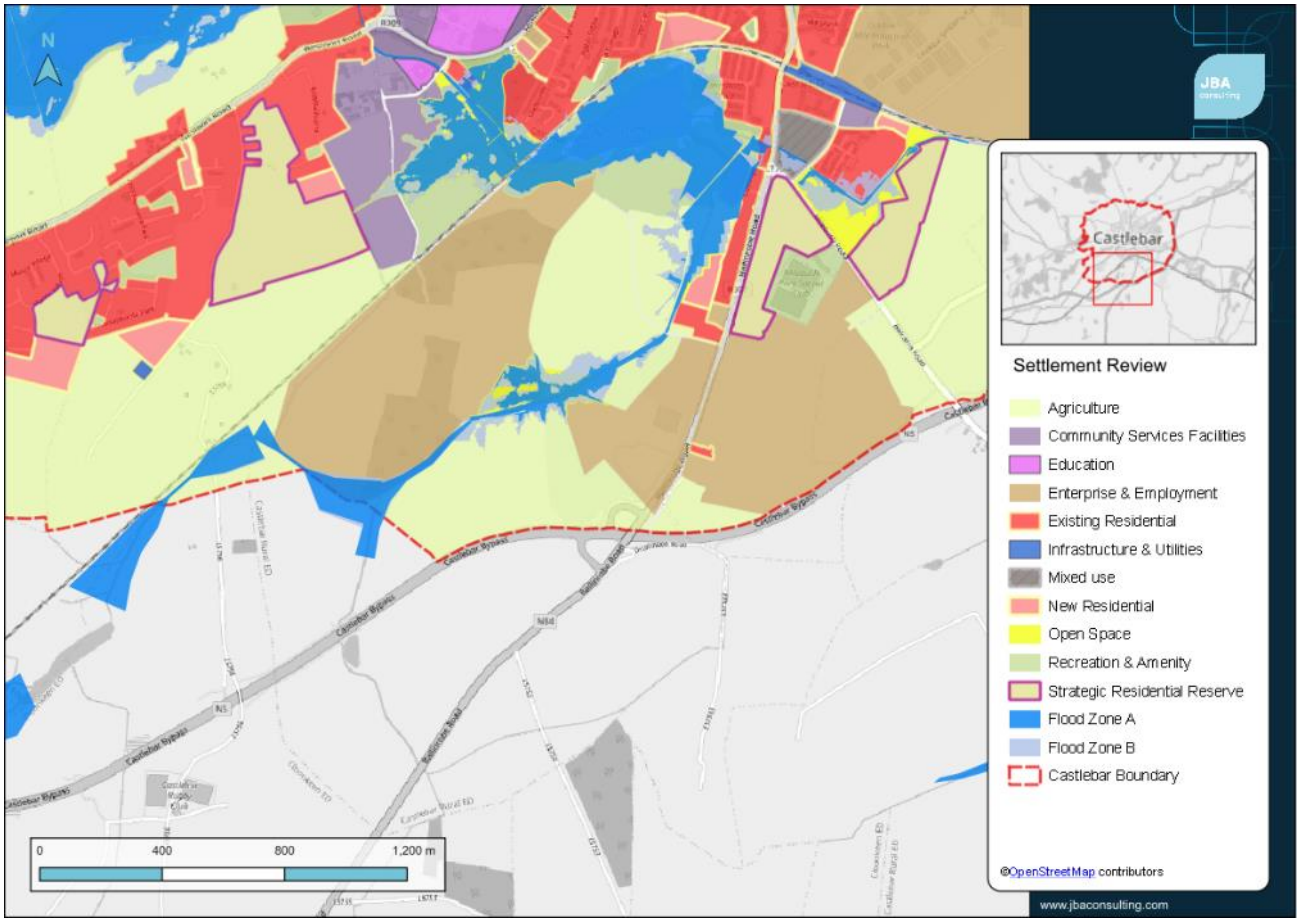


The flood mapping has been produced in accordance with the Planning Guidelines and therefore ignores the impact of flood protection structures. Areas protected by flood defences still carry a residual risk of flooding due to overtopping or breach, there may also be no guarantee of maintenance in perpetuity. Areas that benefit from defences are annotated separately.

Flood Zone Data	CFRAM (verified by a site visit)
Historic Flooding	No historical reports of flooding in this area.
Comment	Risk is limited to Agriculture and Recreation and Amenity.
Climate Change	Low sensitivity to climate change
Conclusion	Most of the risk is limited to existing development and open space\agricultural land. The Justification Test has been applied and failed for New Residential lands (see Appendix A.7.1) on the basis that Parts 1 & 2 of the Test cannot be satisfied. In order to manage any potential development given the current zoning it is recommended that; • New residential development and all associated infrastructure can only take place in Flood Zone C. • Flood Zone A/B must be left as open space with no increase in ground level. • Development is constructed in accordance with the site specific FRAs. • Refer to Appendix A.7.1 for further guidance.

	The Justification Test has been applied and passed for Agriculture (see Appendix 0). The Justification Test for Agriculture is passed on the basis that development is; • Limited to extensions, renovations and change of use when the property is within a flood zone. • New developments, infill residential development, and demolition and reconstruction can only take place in Flood Zone C. • There are to be no bedrooms on the ground floor when extending existing residential property in Flood Zone A/B. • Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the points detailed in Part 3 of the JT under Appendix 0. The Justification Test has also been applied and passed for the Recreation and Amenity lands (see Appendix A.7.3). Any future development of the land should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Flood Zone A would principally be suitable for water compatible use only; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy. Elsewhere in the area, risk can be managed in line with approved Policy and the guidance provided within Section 7 of this SFRA.

8.10 Rural South

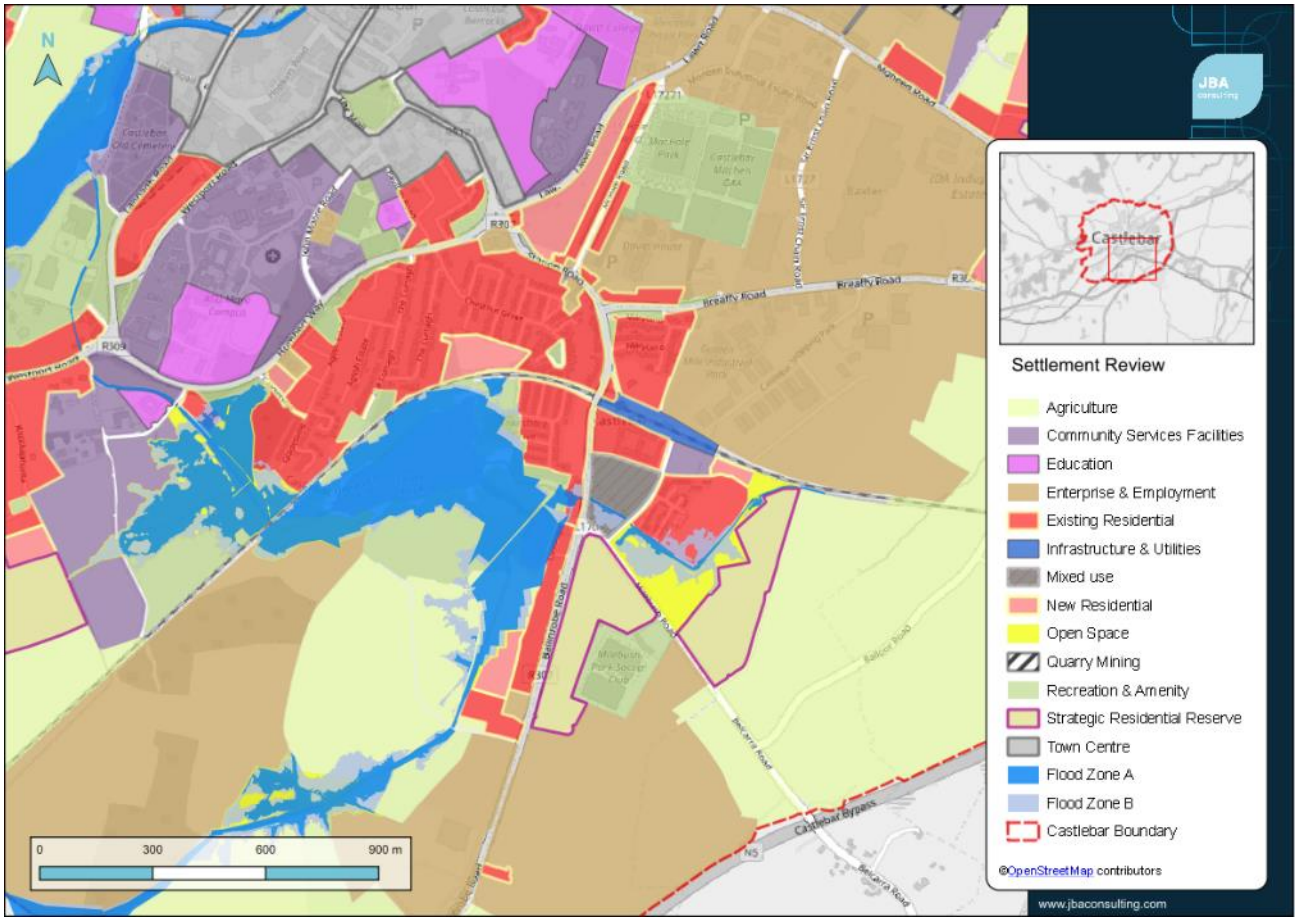


The flood mapping has been produced in accordance with the Planning Guidelines and therefore ignores the impact of flood protection structures. Areas protected by flood defences still carry a residual risk of flooding due to overtopping or breach, there may also be no guarantee of maintenance in perpetuity. Areas that benefit from defences are annotated separately.

Flood Zone Data	PFRA & CFRAM (verified by a site visit)
Historic Flooding	No historic flooding reported in this area.
Comment	Most of the land in Flood Zone A\B is undeveloped or existing development and will be limited to water compatible uses, however a significant extent of undeveloped enterprise and employment zoned land on the southern margin is within Flood Zone A/B.
Climate Change	Moderate sensitivity to Climate Change.
Conclusion	The Justification Test has been applied to the three land use zonings which interact with Flood Zone A/B. The Justification Test has been applied and passed for Agriculture (see Appendix A.8.1). The Justification Test for Agriculture is passed on the basis that development is; • Limited to extensions, renovations and change of use when the property is within a flood zone. • New developments, infill residential development, and demolition and reconstruction can only take place in Flood Zone C. • There are to be no bedrooms on the ground floor when extending existing residential property in Flood Zone A/B.

	• Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the points detailed in Part 3 of the JT under Appendix A.8.1. The Justification Test has been applied and passed for the Enterprise and Employment lands (see Appendix A.8.2). Any future development of the land should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • The sequential approach should be applied and Less/Highly vulnerable elements of the site, including roads/access/infrastructure must be located in Flood Zone C; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy. The Justification Test has also been applied and passed for Existing Residential (see Appendix~~-~~ A.8.3~~0)~~. The Justification Test for existing residential is passed on the basis that development is; • Limited to extensions, renovations and change of use. • Bedrooms should be located in the upstairs of two-story buildings when extending existing property. • Infill residential development and demolition and reconstruction can only take place in Flood Zone C. • Existing flood data does provide flood levels and applicants should contact MCC to discuss further. An appropriately detailed FRA will be required which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the points detailed in Part 3 of the JT under Appendix~~-~~ A.8.3~~0~~. Elsewhere in the area, risk can be managed in line with approved Policy and the guidance provided within Section 7 of this SFRA.

8.11 Saleen Lough



The flood mapping has been produced in accordance with the Planning Guidelines and therefore ignores the impact of flood protection structures. Areas protected by flood defences still carry a residual risk of flooding due to overtopping or breach, there may also be no guarantee of maintenance in perpetuity. Areas that benefit from defences are annotated separately.

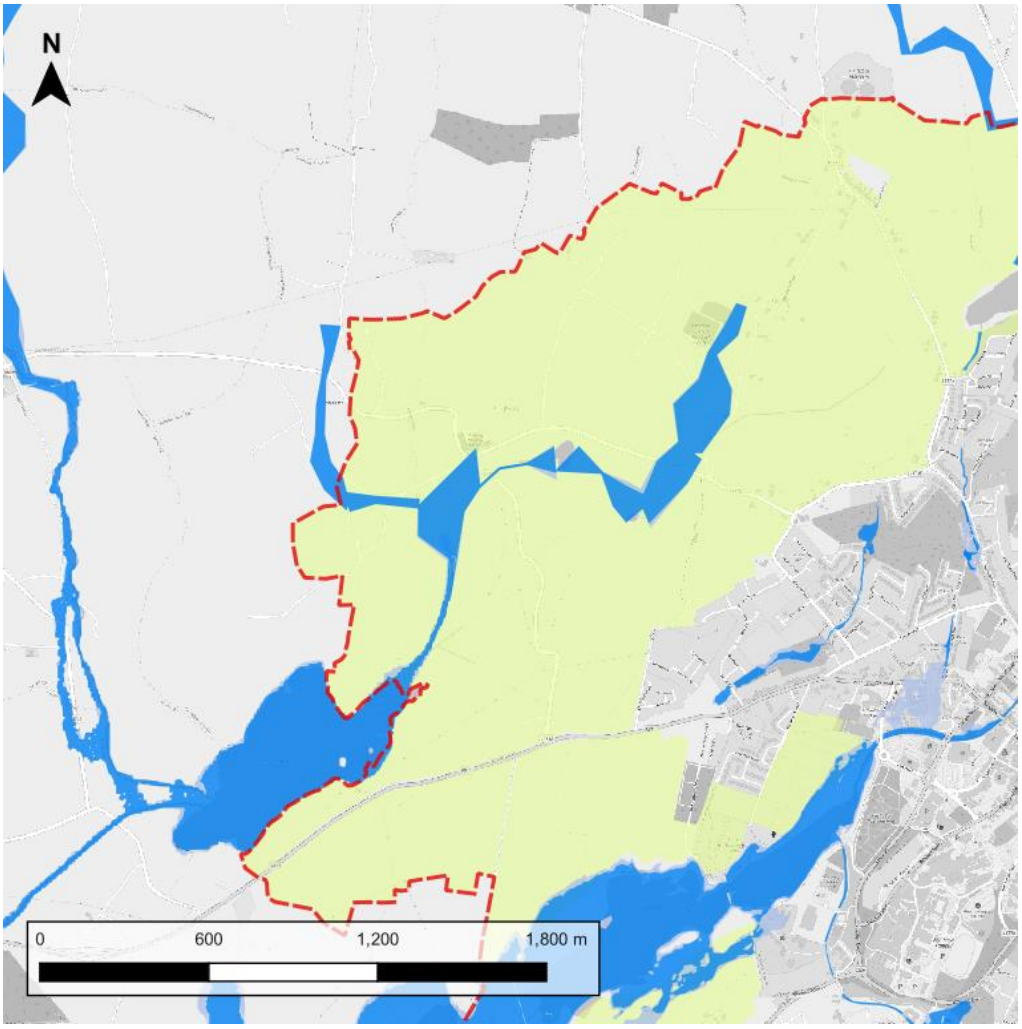
Flood Zone Data	CFRAM verified by a site visit, LiDAR analysis and alluvial soils mapping.
Historic Flooding	No historic flooding has been reported here.
Comment	Much of the risk here is on undeveloped lands under Recreation and Amenity, Agriculture, Mixed Use and Education zoning. There is a small area of New Residential (c. 2m^2) partly within Flood Zone B.
Climate Change	Moderate sensitivity to climate change.
Conclusion	Much of the risk is limited to Open Space, Agricultural or existing development. The Justification Test has been applied and passed to the Existing Residential, New Residential and Recreation and Amenity (see Appendices A.9.1, A.9.3, A.9.4 and A.9.5. The Justification Test has been applied and passed for New Residential lands (see Appendix A.9.1) on the basis that; • Development is constructed in accordance with the site specific FRAs. • New residential development and all associated infrastructure can only take place in Flood Zone C. • Refer to Appendix A.9.1 for further guidance.

	The Justification Test for existing Mixed Use has been applied and failed (see Appendix A.9.2) on the basis that Parts 1 & 2 of the Test cannot be satisfied. In order to manage any potential development given the current zoning it is recommended that; • The sequential approach must be applied, and less vulnerable elements of the site should be located in Flood Zone B or preferably C; • Highly vulnerable development is only appropriate within Flood Zone C; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCCC SuDS Policy The Justification Test has been applied and passed for existing Residential lands (see Appendix A.9.3) on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations and change of use. • Infill residential development and demolition and reconstruction can only take place in Flood Zone C. • Refer to Appendix A.9.3 for further guidance. The Justification Test for Education zoning is passed on the basis that that the points detailed in Part 3 of the JT under Appendix A.9.4 are adhered to, key points include: • Within Flood Zone A/B is limited to extensions, renovations, change of use and water compatible development. • Infill highly vulnerable development and demolition and reconstruction can only take place in Flood Zone C. • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions and renovations. The Justification Test has also been applied and passed for the Recreation and Amenity lands (see Appendix A.9.5). Any future development of the land should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • The sequential approach should be applied and highly or less vulnerable elements of development should be located in Flood Zone C; • Flood Zone A would principally be suitable for playing pitches/water compatible use only. For other sites within the area manage risk in line with approved Policy and the guidance provided within Section 7 of this SFRA.

Appendix A - Justification Tests

A.1 Snugborough

A.1.1 Agriculture

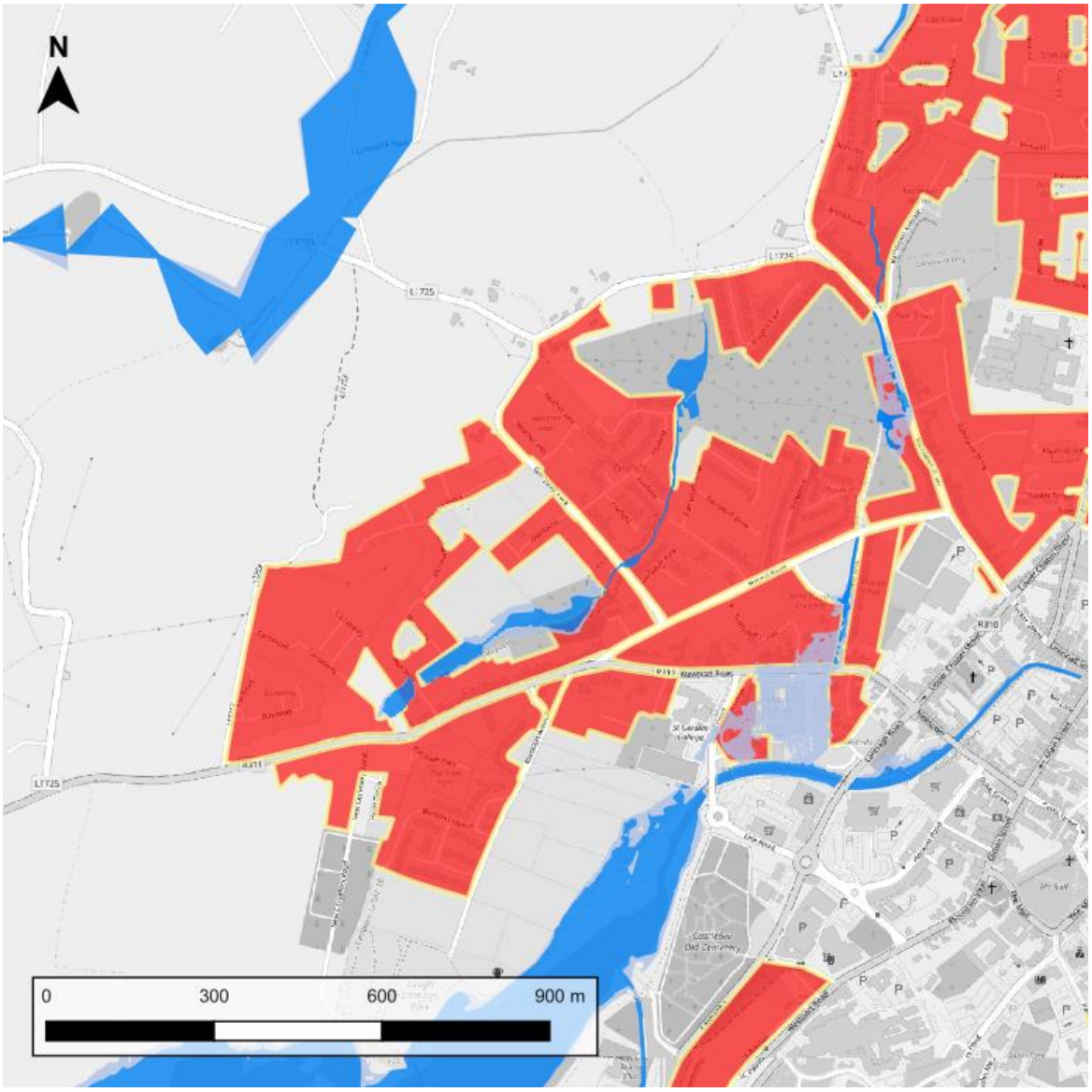


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Agricultural activities are considered appropriate, subject to site specific flood risk assessment for any proposed buildings.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	N/A

ii. Comprises significant previously developed and/or under-utilised lands:	N/A
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	N/A
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	N/A
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Significant lands within the Agriculture Zoning are within Flood Zone A\B. Most of the risk is limited to agricultural land with some isolated housing. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations, change of use or water compatible uses. • New housing (as appropriate under Agriculture zoning) can only take place in Flood Zone C. Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Bedrooms should be located in the upstairs of two-story buildings when extending existing property when extending existing residential property in Flood Zone A/B; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.2 Garryduff

A.2.1 Existing Residential

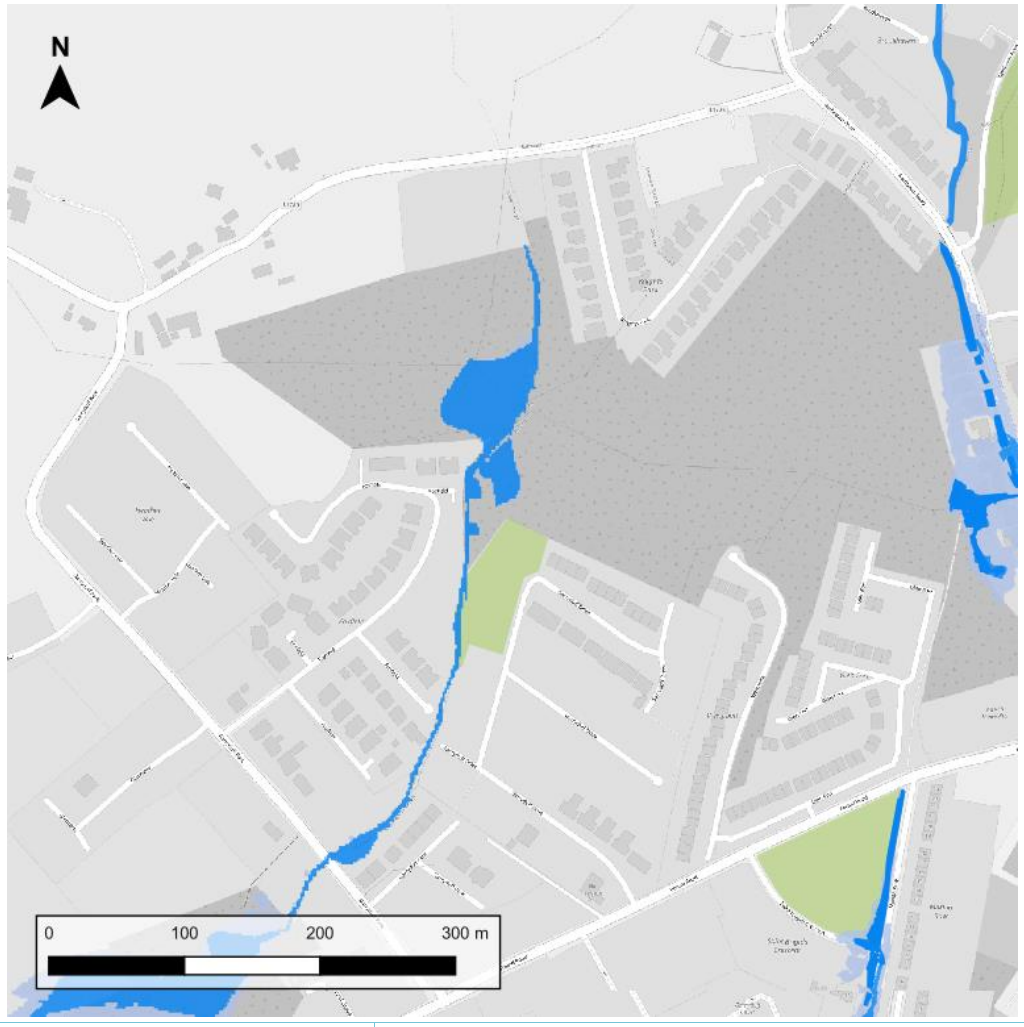


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. The existing residential lands are located within the existing development boundary of the settlement and reflects where housing has been provided.

i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes. The lands zoned are established residential lands within Castlebar's development boundary. The Existing Residential zoning is essential for the regeneration and/or expansion of the centre of the urban settlement. The Existing Residential zoning designation does not facilitate new development in areas subject to flooding. Any proposed development within the Existing Residential zoning will be subject to a Flood Risk Assessment as required by The Planning System and Flood Risk Management Guidelines. The type of developments envisaged to occur would include small scale developments such as domestic extensions which would not be permitted in areas subject to flooding and therefore would not increase risk of flooding. Change of use to a more vulnerable class would not be permitted. (Table 3.1 Classification of vulnerability of different types of development) The Planning System and Flood Risk Management Guidelines refers.
ii. Comprises significant previously developed and/or under-utilised lands:	Yes. The lands comprise of under-utilised lands and existing residential development.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy.
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. Retention of existing residential lands will maintain a strong and cohesive settlement. Any growth in this zoning will be limited to uses which do not increase flood risk.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The zoning classification 'existing residential' is a unique category of zoning which reflects existing rather than proposed use. There are no alternative zoning categories on lands in lower risk of flooding within or adjoining the core that fulfils the same role as 'existing residential'.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	There is limited overlap with Flood Zone A/B and the Existing residential lands. Risk is limited to undeveloped land with limited encroachment of climate change scenario on an existing property. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations and change of use, or water compatible uses. • Infill residential development and demolition and reconstruction can only take place in Flood Zone

	C. Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Existing flood data does provide flood levels and applicants should contact MCC to discuss further. • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Residential FFLs should be above the 1% AEP level plus climate change and freeboard when extending existing residential property in Flood Zone A/B; • Bedrooms should be located in the upstairs of two-story buildings when extending existing property; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.2.2 Recreation and Amenity

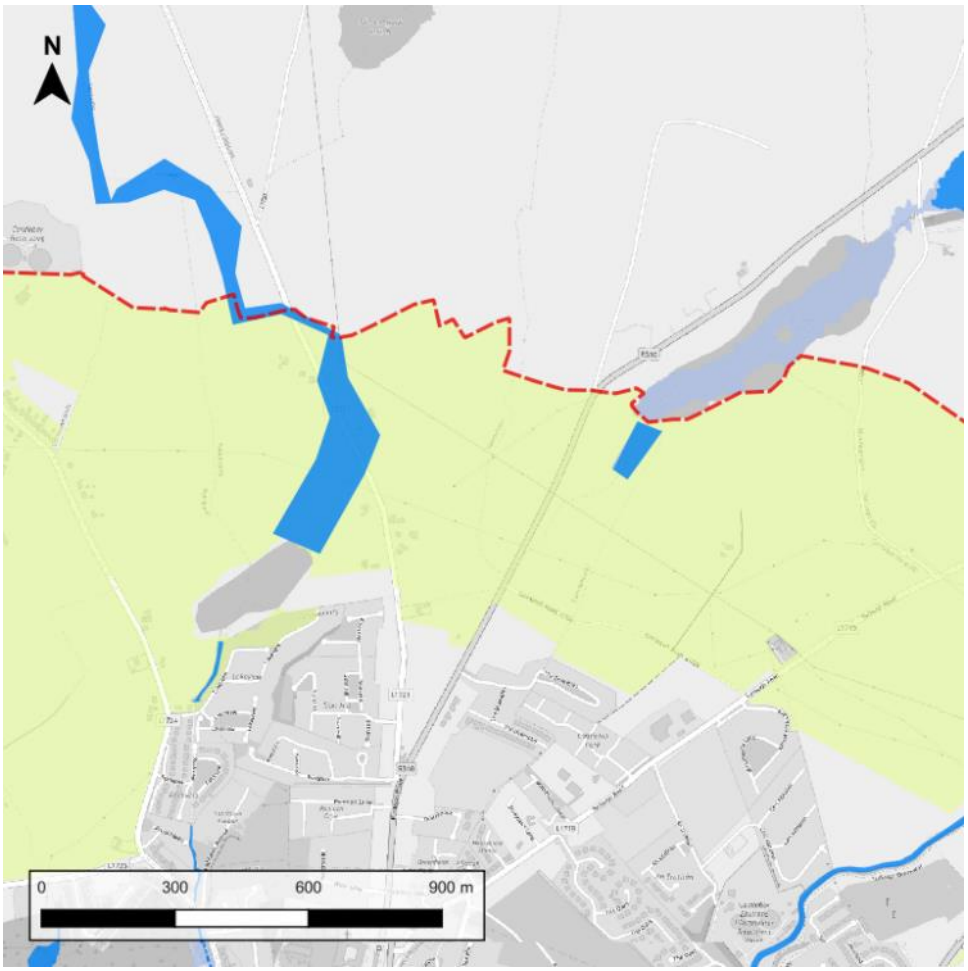


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes, the lands are required to achieve proper planning and sustainable development of the urban settlement.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes, its zoning is essential to facilitate regeneration within the plan area.
ii. Comprises significant previously developed and/or under-utilised lands:	N/A

iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes, the lands are essential for achieving and managing compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	N/A
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Limited Recreation and Amenity lands lie within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning for this site. Any further development of the lands should be subject to an appropriately detailed FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Flood Zone A would principally be suitable for water compatible use only; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.3 Newantrim

A.3.1 Agriculture

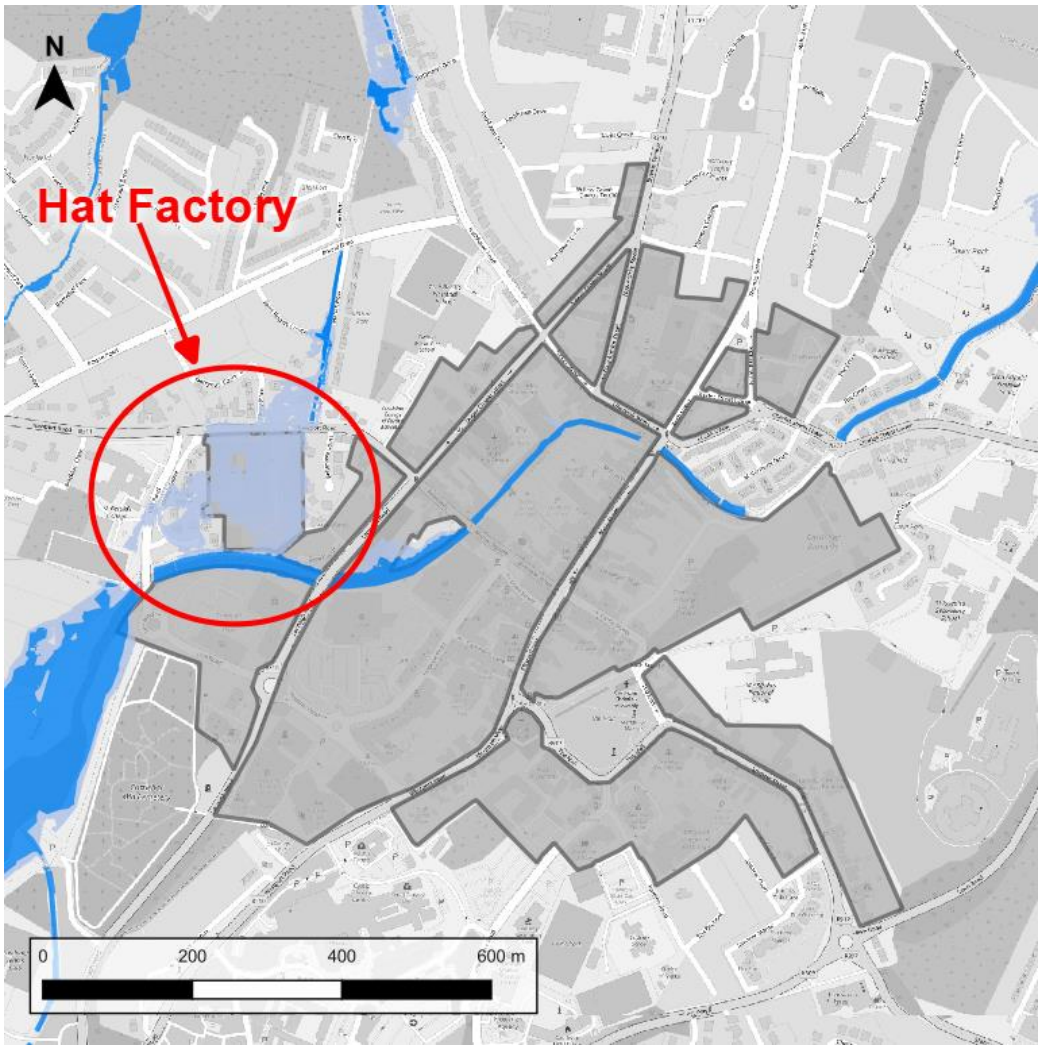


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy(RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Agricultural activities are considered appropriate, subject to site specific flood risk assessment for any proposed buildings.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	N/A
ii. Comprises significant previously developed and/or under-utilised lands:	N/A
iii. Is within or adjoining the core of an	Yes. The lands are located within the development

established or designated urban settlement:	boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	N/A
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	N/A
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	There is an overlap with Flood Zone A/B and the Agriculture lands. The remaining lands within Flood Zone A/B will be limited to water compatible uses only. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations, change of use or water compatible uses. • New housing (as appropriate under Agriculture zoning) can only take place in Flood Zone C. Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Residential FFLs should be above the 1% AEP level plus climate change and freeboard when extending existing residential property in Flood Zone A/B; • Bedrooms should be located in the upstairs of two-story buildings when extending existing property; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.4 Town Centre

A.4.1 Town Centre

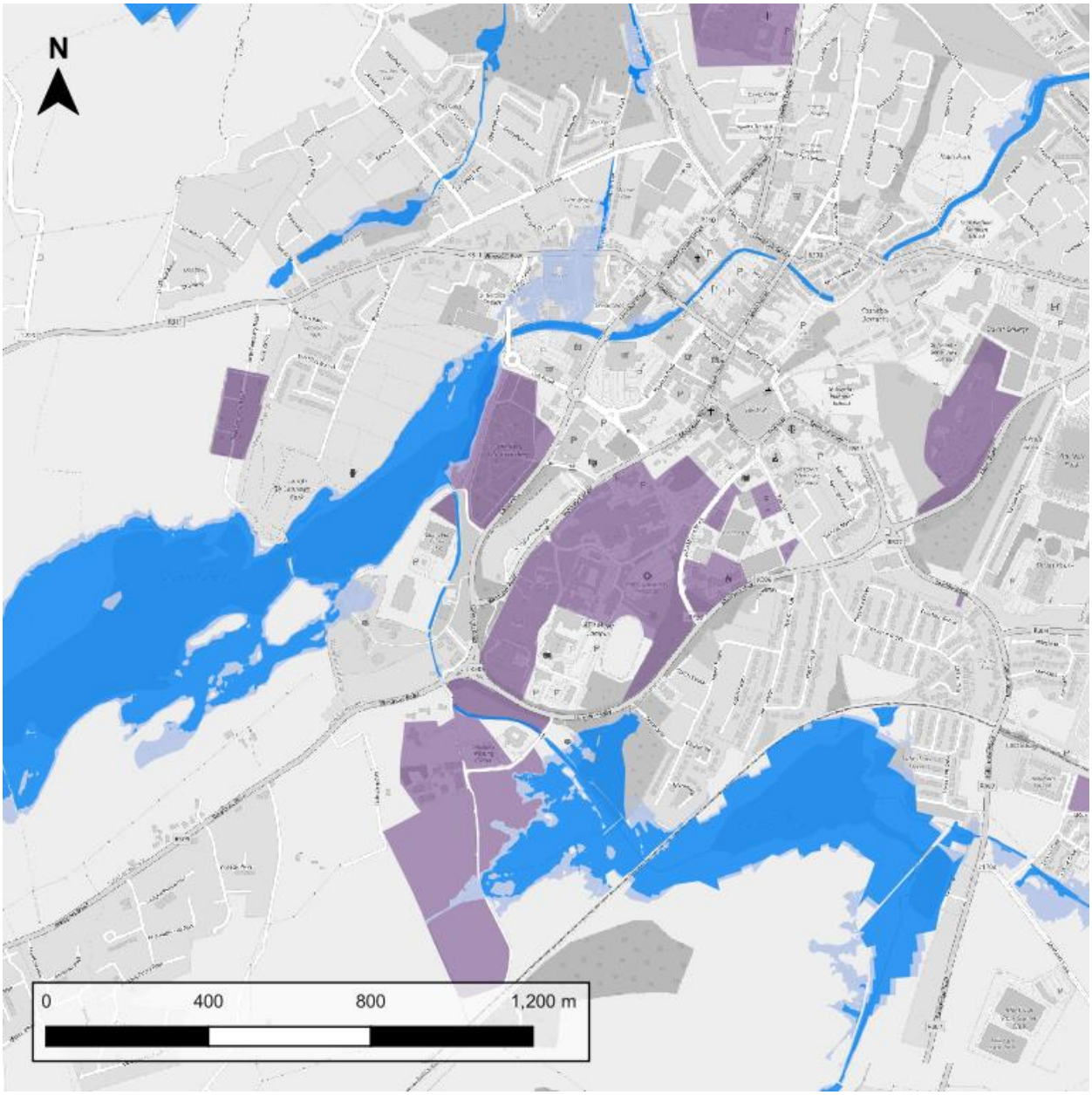


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. Mixed use zoning in the town centre is required to achieve the proper planning and sustainable development of the urban settlement. The site is a brownfield site which is also an Opportunity Site 1 (Hat Factory). The subject lands, a large portion of which now lie vacant, adjoin the large employment areas in the town and occupy a strategic location. The lands are deemed essential for regeneration purposes, to enable the consolidation of this area and thus contribute towards the economic success of the Key

	Town.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes. The zoning is essential to facilitate regeneration and vitality of the settlement.
ii. Comprises significant previously developed and/or under-utilised lands:	Yes. The lands are previously developed and contain a mix of existing uses.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. The zoning is essential to achieving compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The brownfield redevelopment opportunity offered by Opportunity Site 1 is not replicated at any other location within the proposed Castlebar plan boundary. The proximity of the site to existing employment uses within the Town Centre indeed to local services such as schools and shops, renders Opportunity Site 1 an ideal site for redevelopment, subject to the findings of a suitably detailed flood risk assessment (inclusive of flood modelling).
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Parts of the Town Centre are within Flood Zone A/B. While most of the land is under existing development. There are also some areas predicted to experience increased flooding as a result of climate change in 1 in 1000 year events. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Within Flood Zone A/B development is limited to extensions, renovations and change of use. • Infill highly vulnerable development and demolition and reconstruction can only take place in Flood Zone C. • Less vulnerable development is appropriate within Flood Zone B. • The exception would be the former hat factory site ~~where potential future flood mitigation work may open the possibility for development~~which is discussed further below. Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • The sequential approach should be applied and highly vulnerable infill and redevelopment shall not be permitted in Flood Zone A or B; • Infill highly vulnerable development and demolition and reconstruction can only take place in Flood Zone C.

	• Development or change of use at the old hat factory site is not appropriate until such a time as flood risk here has been mitigated. MCC have confirmed that a full study of the culvert affecting the hat factory has been carried out, including CCTV of the culvert, and the culvert generally has adequate capacity. MCC are satisfied that development could proceed on the hat factory site if the development provides a new surface water sewer off the existing culvert, where it runs along the Newport road, to increase capacity and bring the new sewer through the hat factory site and into the Castlebar River. All of these details would need to be fully analysed under a detailed FRA at Development Management stage. ~~and the SFRA updated to apply the Justification Tests for any opportunity sites/significant redevelopment~~. • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Finished floor levels should be above the 1% AEP level plus climate change and freeboard; • Bedrooms should be located in the upstairs of two-story buildings when extending existing residential property in Flood Zone A/B; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

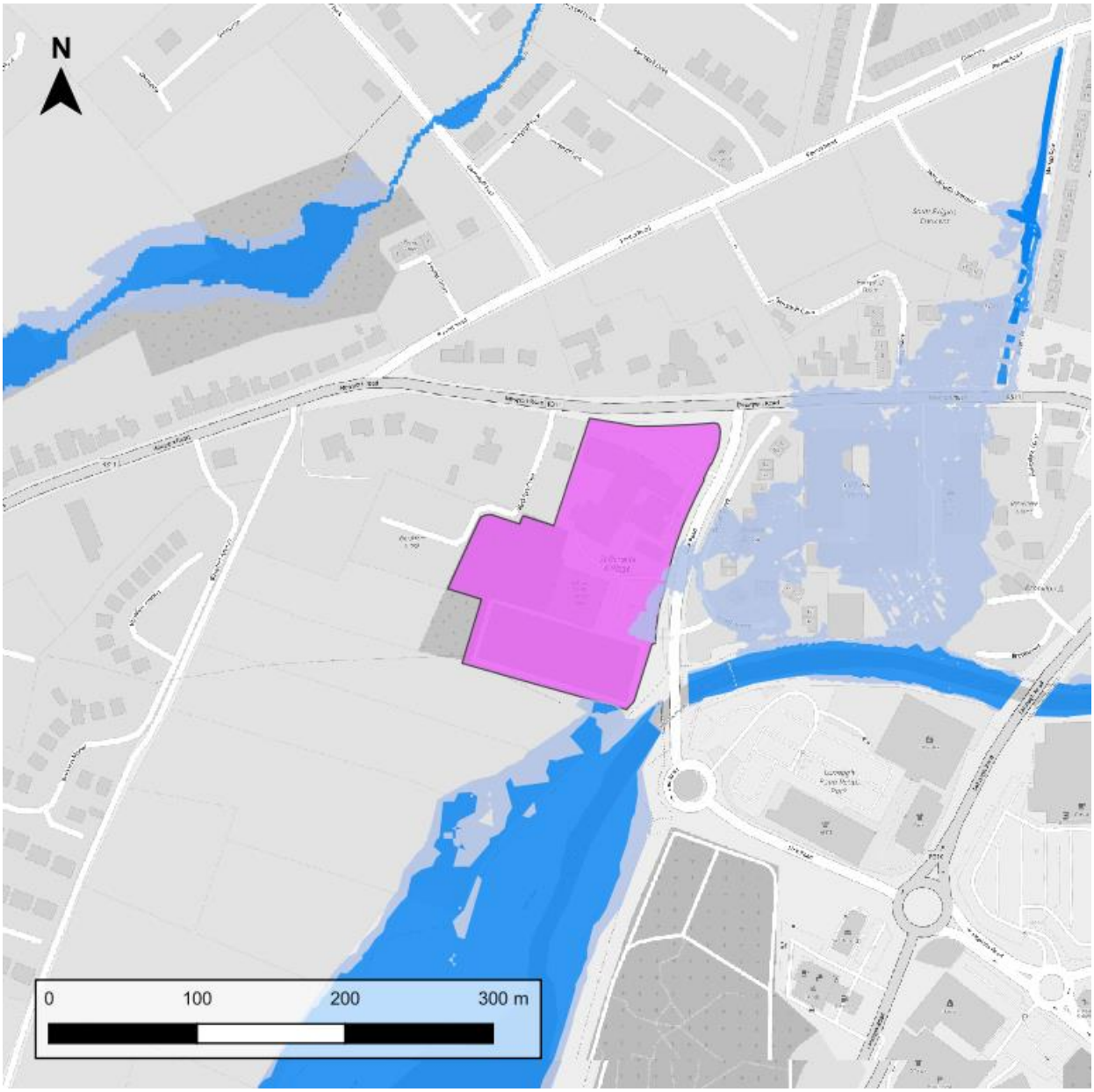
A.4.2 Community Services Facilities



1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. The zoning of these lands for Community Services Facilities is required to achieve the proper planning and sustainable development of Castlebar.

i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes. Its zoning for these uses is essential to facilitate the continued regeneration of Castlebar.
ii. Comprises significant previously developed and/or under-utilised lands:	Yes. The lands are existing Community Services/Facilities lands within the development boundary of Castlebar.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. The lands for the proposed used are essential in achieving compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	Yes. The lands are existing Community Services Facilities lands considered appropriate to retain the zoning within the development boundary of Castlebar.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	A limited area of existing Community Services Facilities Lands are within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. Any future construction should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Development is constructed in accordance with the site specific FRAs, to include hydrogeological/groundwater assessment. • Development in Flood Zones A/B should be limited to water compatible.

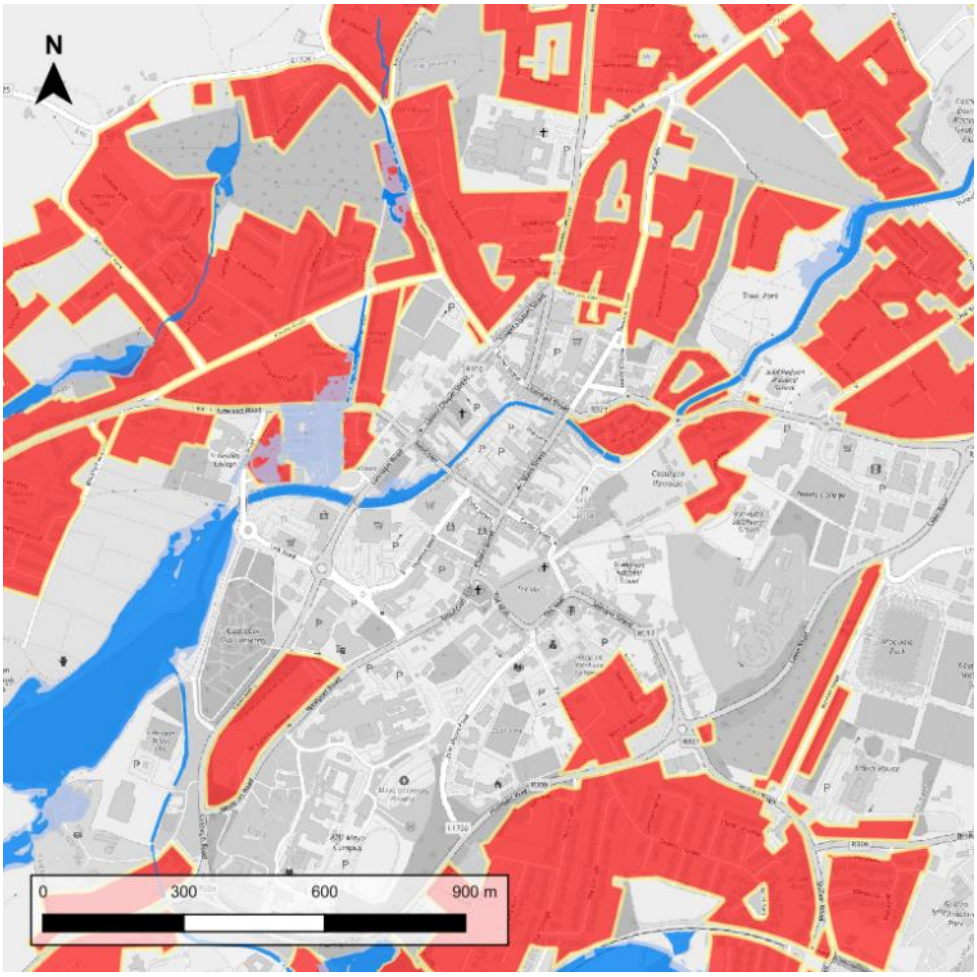
A.4.3 Education



1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy(RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. The zoning of these lands for Community Facilities is required to achieve the proper planning and sustainable development of Castlebar.

i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes. Its zoning for these uses is essential to facilitate the continued regeneration of Castlebar.
ii. Comprises significant previously developed and/or under-utilised lands:	The lands comprise of under-utilised lands and an existing school.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy.
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. The lands for the proposed use are essential in achieving compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The lands are a mix of existing and undeveloped Community Facilities lands considered appropriate to retain the zoning within the settlement boundary of Castlebar.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	A limited area of existing Education Lands are within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. Any future construction should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Only water compatible development should be placed in Flood Zone B; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Development is constructed in accordance with the site specific FRAs. • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.4.4 Existing Residential

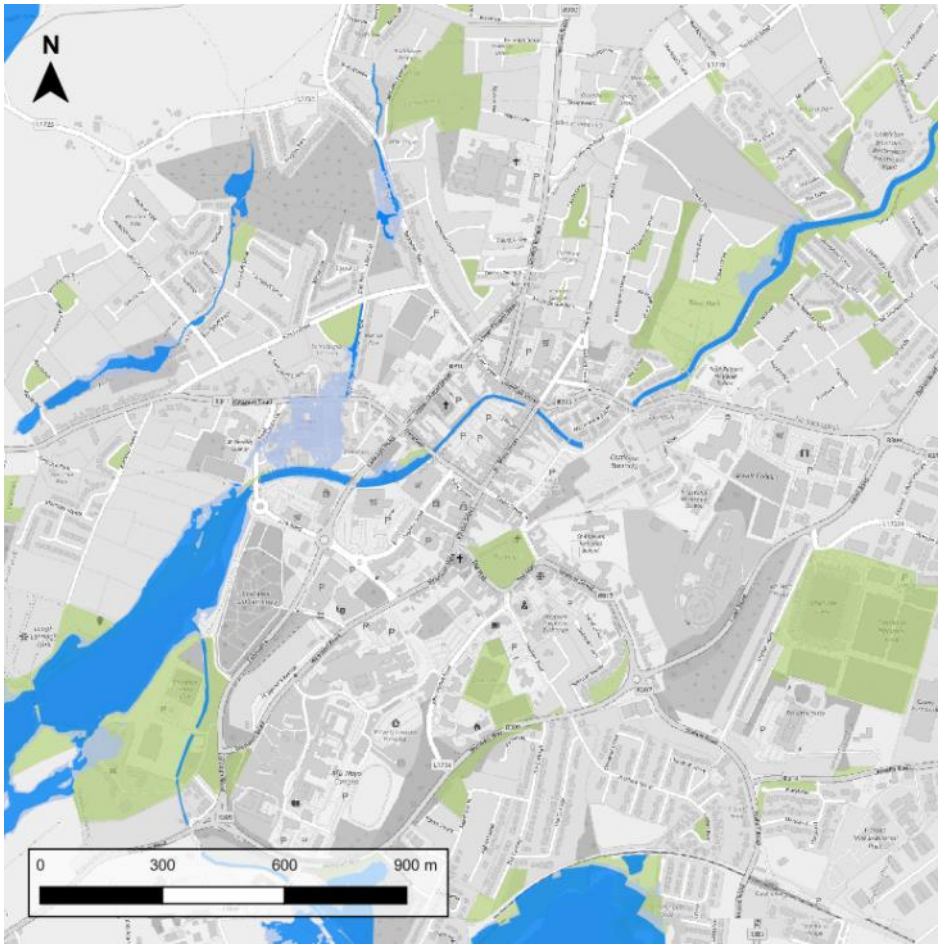


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. The existing residential lands are located within the existing development boundary of the settlement and reflects where housing has been provided.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes. The lands zoned are established residential lands within Castlebar's development boundary. The Existing Residential zoning is essential for the regeneration and/or expansion of the centre of the urban settlement. The Existing Residential zoning designation does not facilitate new development in areas subject to flooding. Any proposed development within the Existing Residential zoning will be subject to a Flood Risk

	Assessment as required by The Planning System and Flood Risk Management Guidelines. The type of developments envisaged to occur would include small scale developments such as domestic extensions which would not be permitted in areas subject to flooding and therefore would not increase risk of flooding. Change of use to a more vulnerable class would not be permitted. (Table 3.1 Classification of vulnerability of different types of development) The Planning System and Flood Risk Management Guidelines refers.
ii. Comprises significant previously developed and/or under-utilised lands:	Yes. The lands comprise of under-utilised lands and existing residential development.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy.
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. Retention of existing residential lands will maintain a strong and cohesive settlement. Any growth in this zoning will be limited to uses which do not increase flood risk.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The zoning classification 'existing residential' is a unique category of zoning which reflects existing rather than proposed use. There are no alternative zoning categories on lands in lower risk of flooding within or adjoining the core that fulfils the same role as 'existing residential'.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	A significant proportion of the land here is within Flood Zone B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations and change of use. • Infill residential development and demolition and reconstruction can only take place in Flood Zone C. Any future development should be subject to an FRA which should follow the general guidance provided in Section 7. of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Residential FFLs should be above the 1% AEP level plus climate change and freeboard; • Bedrooms should be located in the upstairs of

	two-story buildings when extending existing property; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.4.5 Recreation and Amenity

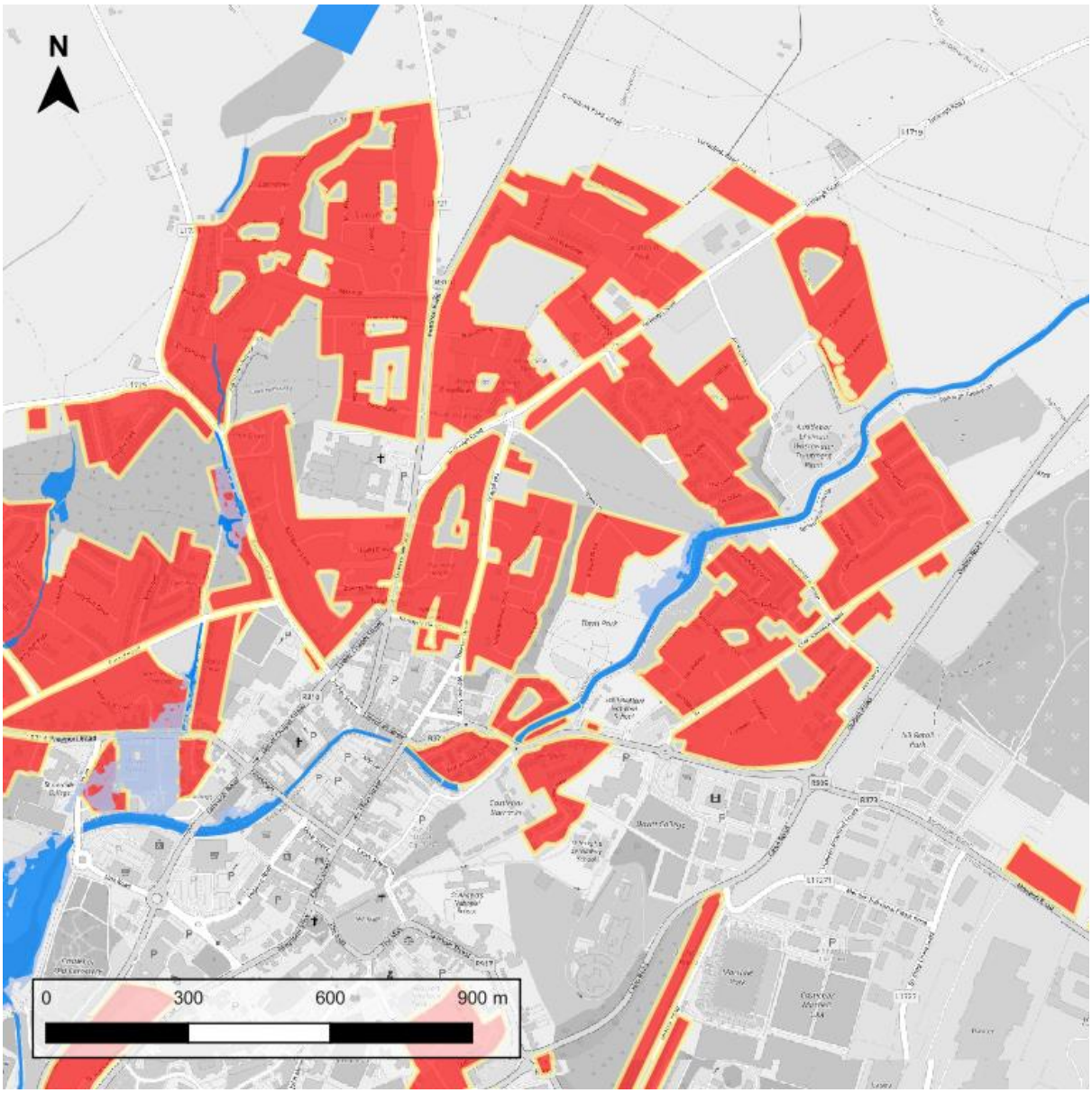


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes, the lands are required to achieve proper planning and sustainable development of the urban settlement.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes, its zoning is essential to facilitate regeneration within the plan area.
ii. Comprises significant previously developed and/or under-utilised lands:	N/A
iii. Is within or adjoining the core of an established or designated urban	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County

settlement:	Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes, the lands are essential for achieving and managing compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	N/A
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Limited Recreation and Amenity lands lie within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning for this site. Any further development of the lands should be subject to an appropriately detailed FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Flood Zone A would principally be suitable for water compatible use only; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.5 Carrowncurry

A.5.1 Existing Residential

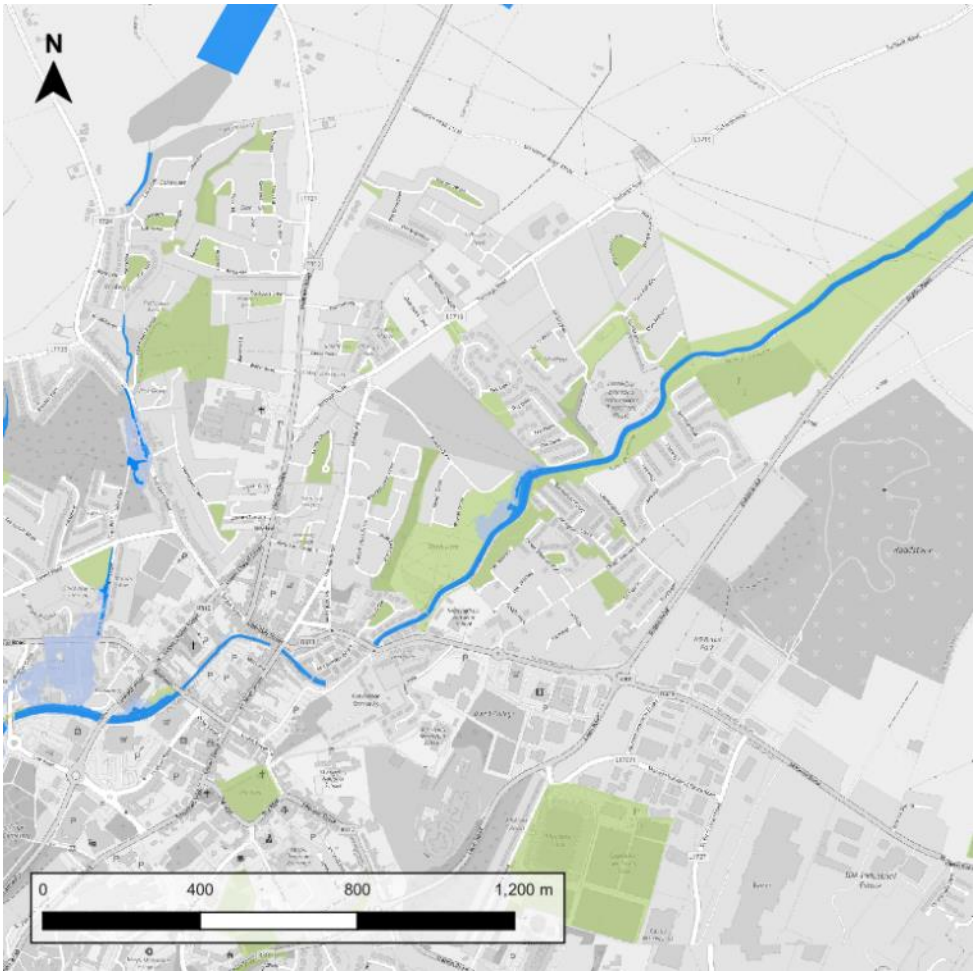


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban	Yes. The existing residential lands are located within the existing development boundary of the settlement and reflects where housing has been provided.

settlement and, in particular:	
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes. The lands zoned are established residential lands within Castlebar's development boundary. The Existing Residential zoning is essential for the regeneration and/or expansion of the centre of the urban settlement. The Existing Residential zoning designation does not facilitate new development in areas subject to flooding. Any proposed development within the Existing Residential zoning will be subject to a Flood Risk Assessment as required by The Planning System and Flood Risk Management Guidelines. The type of developments envisaged to occur would include small scale developments such as domestic extensions which would not be permitted in areas subject to flooding and therefore would not increase risk of flooding. Change of use to a more vulnerable class would not be permitted. (Table 3.1 Classification of vulnerability of different types of development) The Planning System and Flood Risk Management Guidelines refers.
ii. Comprises significant previously developed and/or under-utilised lands:	Yes. The lands comprise of under-utilised lands and existing residential development.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy.
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. Retention of existing residential lands will maintain a strong and cohesive settlement. Any growth in this zoning will be limited to uses which do not increase flood risk.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The zoning classification 'existing residential' is a unique category of zoning which reflects existing rather than proposed use. There are no alternative zoning categories on lands in lower risk of flooding within or adjoining the core that fulfils the same role as 'existing residential'.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the	A significant proportion of the land to the west of the Rathbawn Road are within Flood Zone A\B. Risk is limited to existing developments. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations and change of use. • Infill residential development and demolition and reconstruction can only take place in Flood Zone C. Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the

relevant flood risk assessment	SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Residential FFLs should be above the 1% AEP level plus climate change and freeboard; • Bedrooms should be located in the upstairs of two-story buildings when extending existing property; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.5.2 Recreation and Amenity

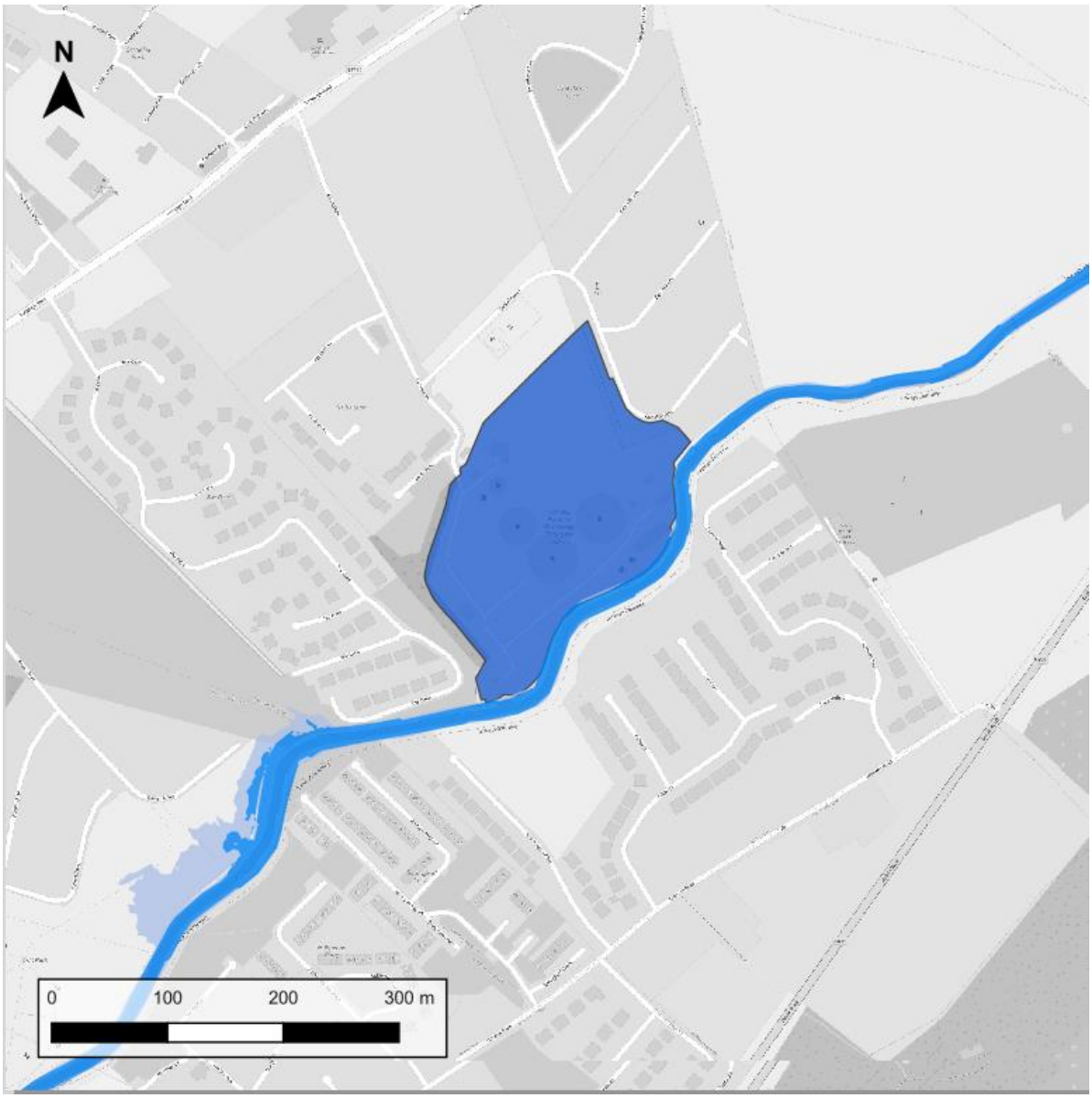


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes, the lands are required to achieve proper planning and sustainable development of the urban settlement.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes, its zoning is essential to facilitate regeneration within the plan area.
ii. Comprises significant previously developed and/or under-utilised lands:	N/A
iii. Is within or adjoining the core of an	Yes. The lands are located within the development boundary of

established or designated urban settlement:	Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes, the lands are essential for achieving and managing compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	N/A
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Recreation and Amenity lands lie within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning for this site. Any further development of the lands should be subject to an appropriately detailed FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Flood Zone A/B would principally be suitable for water compatible use only; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.6 Rural East

A.6.1 Infrastructure and Utilities



1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. It is proposed to zone the Castlebar Environs Wastewater Treatment Plant as Infrastructure & Utilities. Its use is required to provide the necessary services to support Castlebar.

i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes. The site is essential to facilitate the continued regeneration of Castlebar.
ii. Comprises significant previously developed and/or under-utilised lands:	Yes. The site contains significantly developed lands.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy.
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. The retention of these zoned lands for infrastructure & utilities will contribute significantly to achieving compact sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	This is an existing site. Any development within the Infrastructure & Utilities lands should be subject to an appropriately detailed FRA which should follow the general guidance provided in Section 7 of the SFRA.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	A limited area of existing Infrastructure and Utility Lands are within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. Any future expansion of the existing public utility should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Highly vulnerable elements of the site should be raised/bunded/protected; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

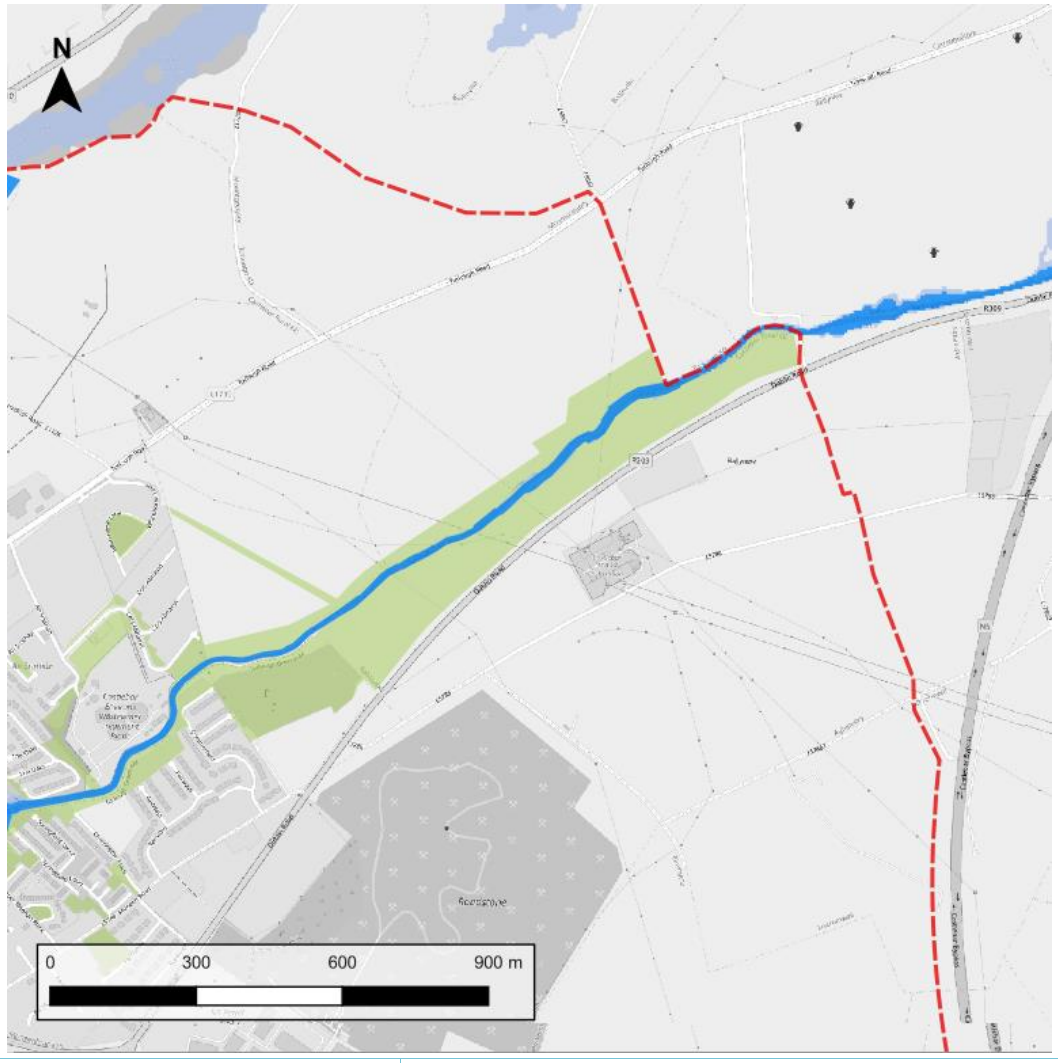
A.6.2 Existing Residential

1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. The existing residential lands are located within the existing development boundary of the settlement and reflects where housing has been provided.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes. The lands zoned are established residential lands within Castlebar's development boundary. The Existing Residential zoning is essential for the regeneration and/or expansion of the centre of the urban settlement. The Existing Residential zoning designation does not facilitate new development in areas subject to flooding. Any proposed development within

	the Existing Residential zoning will be subject to a Flood Risk Assessment as required by The Planning System and Flood Risk Management Guidelines. The type of developments envisaged to occur would include small scale developments such as domestic extensions which would not be permitted in areas subject to flooding and therefore would not increase risk of flooding. Change of use to a more vulnerable class would not be permitted. (Table 3.1 Classification of vulnerability of different types of development) The Planning System and Flood Risk Management Guidelines refers.
ii. Comprises significant previously developed and/or under-utilised lands:	Yes. The lands comprise of under-utilised lands and existing residential development.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy.
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. Retention of existing residential lands will maintain a strong and cohesive settlement. Any growth in this zoning will be limited to uses which do not increase flood risk.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The zoning classification 'existing residential' is a unique category of zoning which reflects existing rather than proposed use. There are no alternative zoning categories on lands in lower risk of flooding within or adjoining the core that fulfils the same role as 'existing residential'.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	A limited proportion of the land to the west of the is within Flood Zone A\B. Risk is limited to open space within the existing residential lands. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations and change of use. • Infill residential development and demolition and reconstruction can only take place in Flood Zone C. Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Residential FFLs should be above the 1% AEP

	level plus climate change and freeboard; • Bedrooms should be located in the upstairs of two-story buildings when extending existing property; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.6.3 Recreation and Amenity

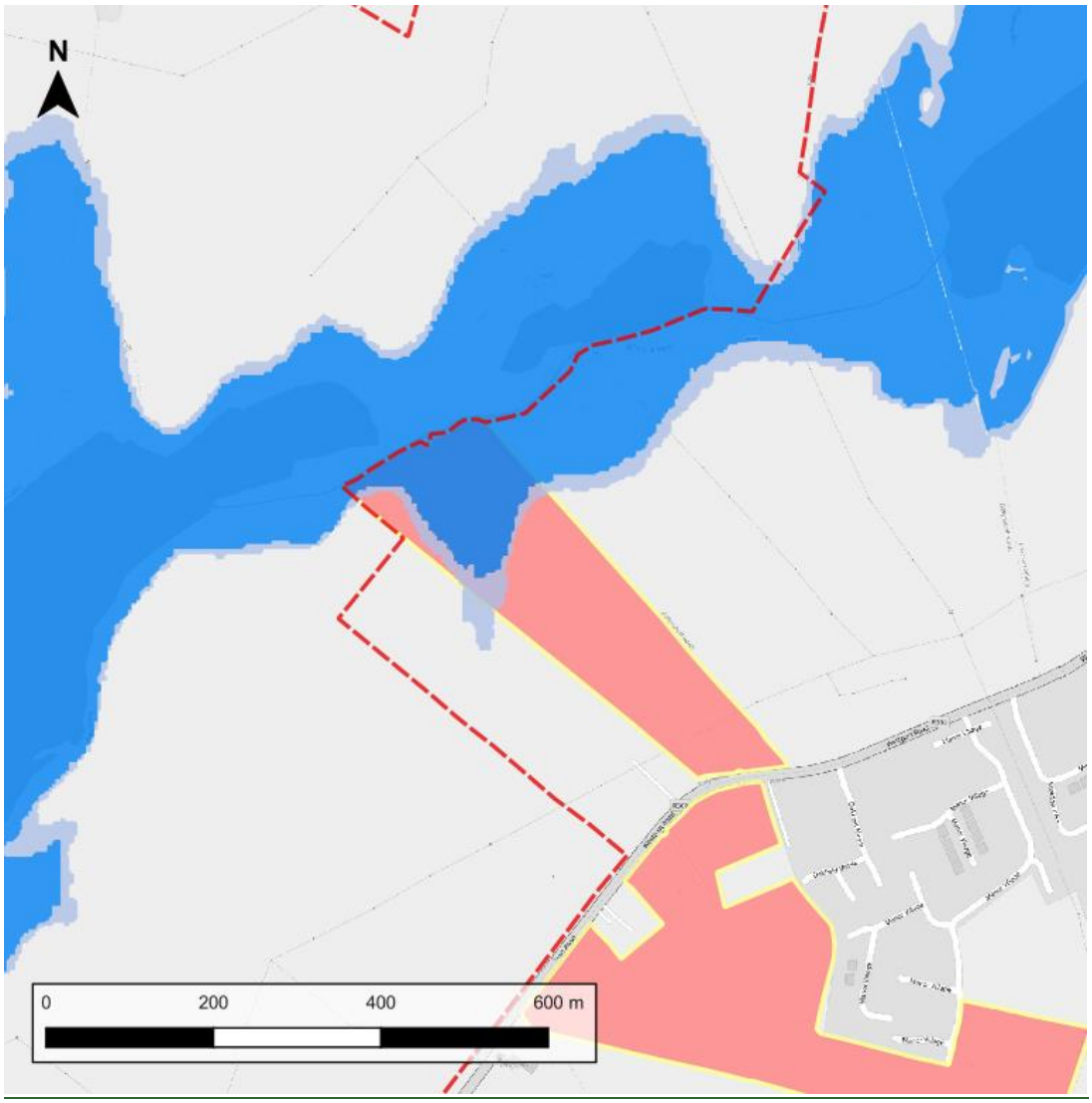


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes, the lands are required to achieve proper planning and sustainable development of the urban settlement.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes, its zoning is essential to facilitate regeneration within the plan area.

ii. Comprises significant previously developed and/or under-utilised lands:	N/A
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes, the lands are essential for achieving and managing compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	N/A
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Parts of recreation and leisure lands lie within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning for this site. Any further development of the lands should be subject to an appropriately detailed FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Flood Zone A/B would principally be suitable for water compatible use only; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.7 Lough Lannagh

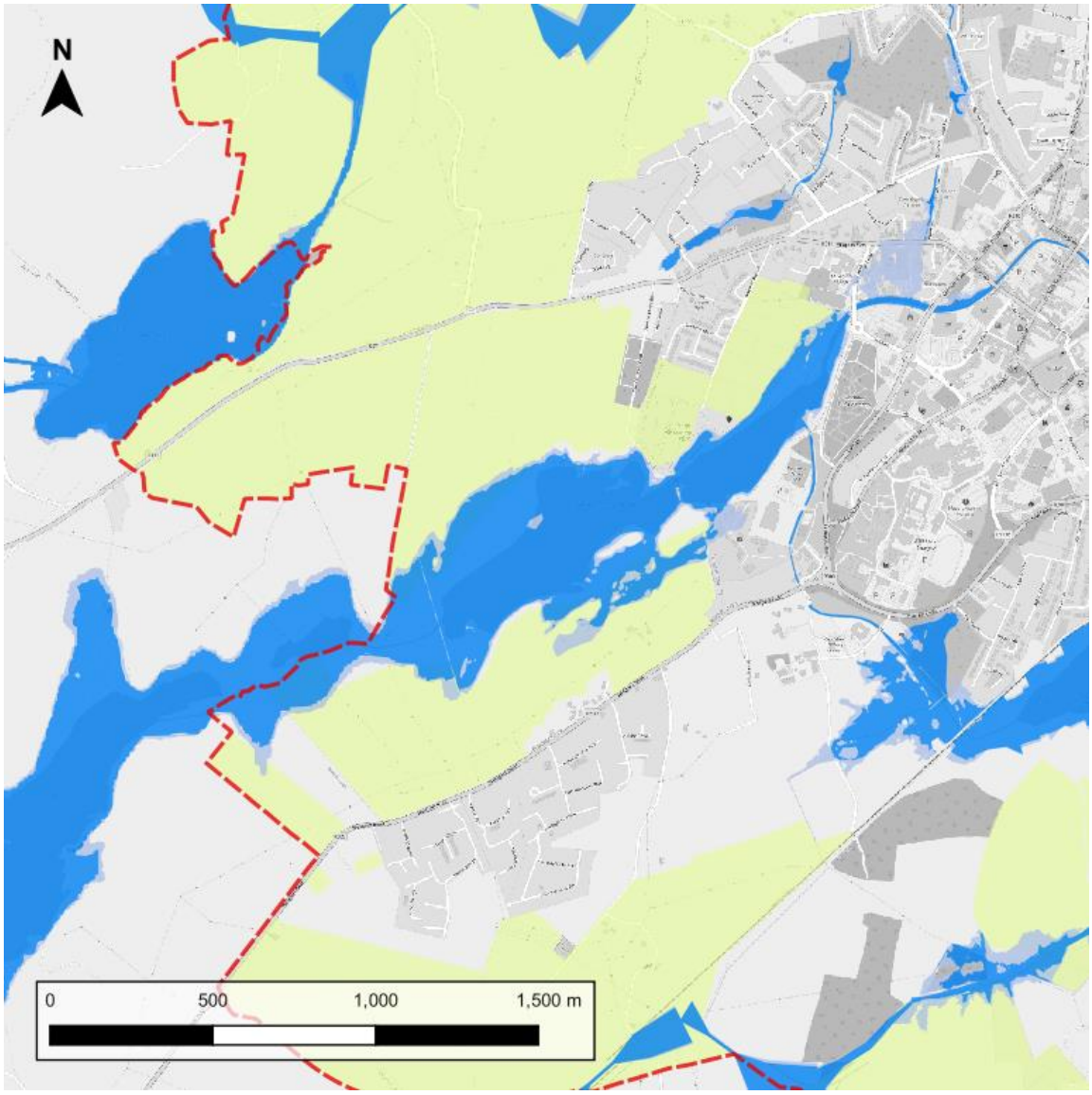
A.7.1 New Residential



1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes, the lands are required to achieve proper planning and sustainable development of the urban settlement.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes, its zoning is essential to facilitate regeneration within the plan area.

ii. Comprises significant previously developed and/or under-utilised lands:	Comprises of under utilised lands.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes, the lands are essential for achieving and managing compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	There are more suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Part 2 of the test have failed, however should there be any potential development then the following measures should apply; • Development is constructed in accordance with the site specific FRAs. • New residential development and all associated infrastructure can only take place in Flood Zone C. • Flood Zone A/B must be left as open space with no increase in ground level. Any development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.7.2 Agriculture

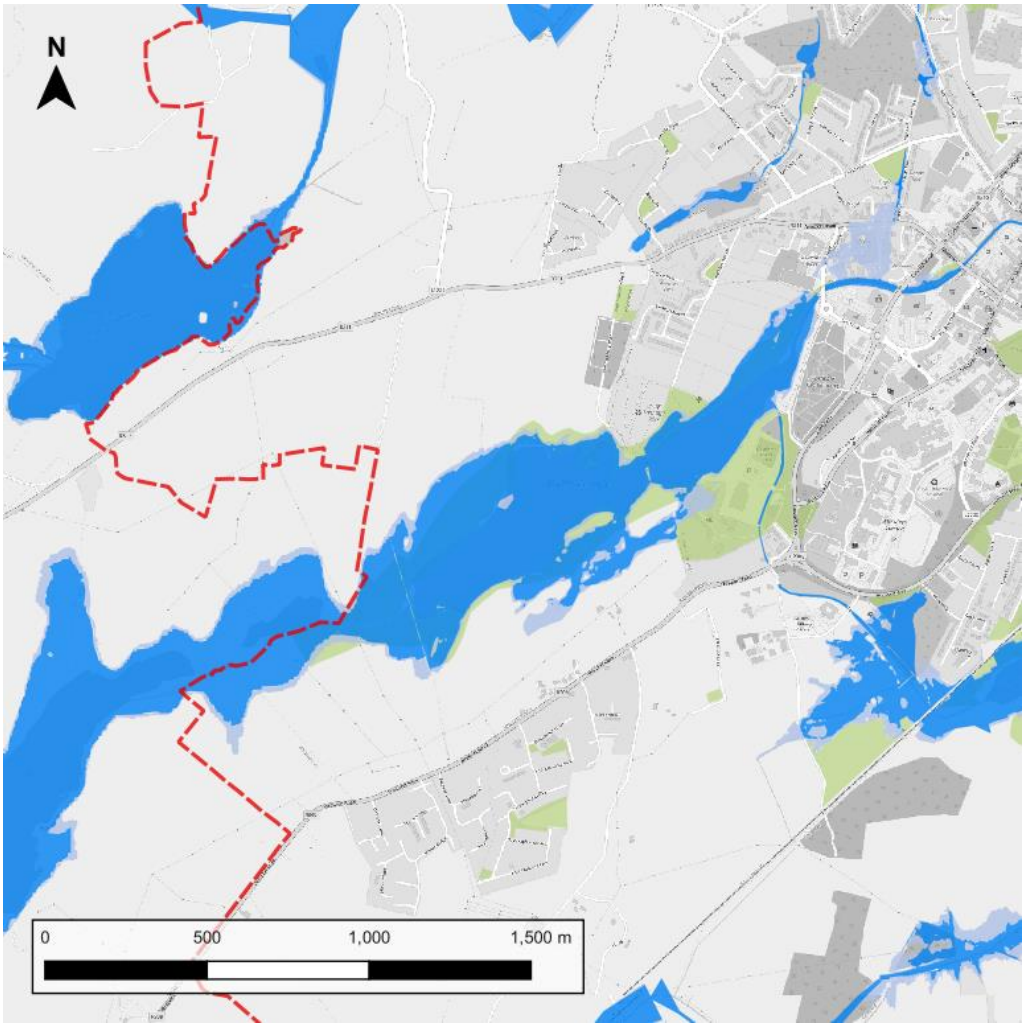


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Agricultural activities are considered appropriate, subject to site specific flood risk assessment for any proposed buildings.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	N/A

ii. Comprises significant previously developed and/or under-utilised lands:	N/A
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	N/A
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	N/A
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Significant lands within the Agriculture Zoning are within Flood Zone A\B. Most of the risk is limited to existing development and open space\agricultural land. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations, change of use or water compatible uses. • New residential development, infill residential development and demolition and reconstruction can only take place in Flood Zone C. Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Bedrooms should be located in the upstairs of two-story buildings when extending existing residential property in Flood Zone A/B; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing flow

	paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.7.3 Recreation and Amenity

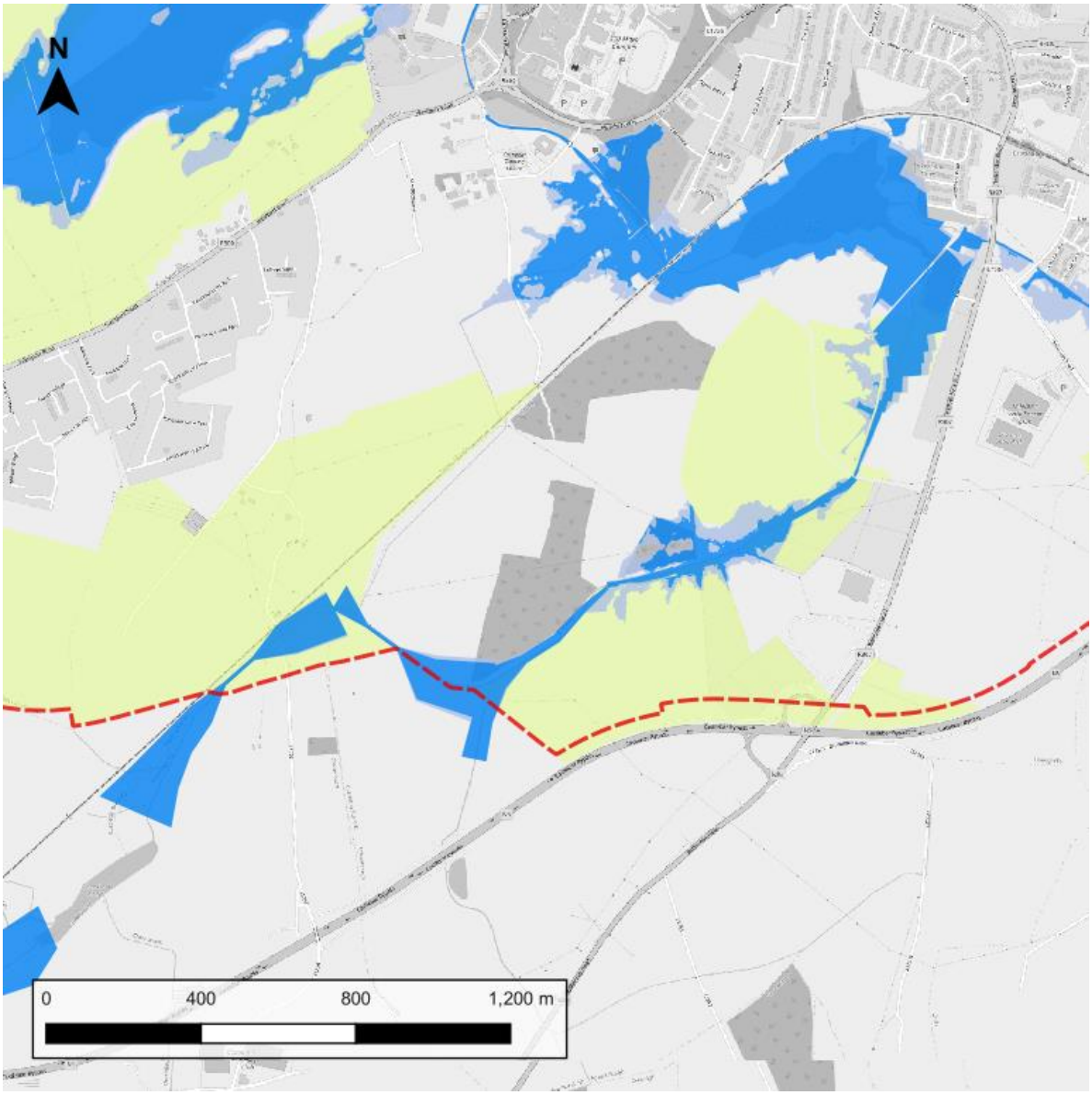


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes, the lands are required to achieve proper planning and sustainable development of the urban settlement.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes, its zoning is essential to facilitate regeneration within the plan area.
ii. Comprises significant previously developed and/or under-utilised lands:	N/A

iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes, the lands are essential for achieving and managing compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	N/A
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Significant Recreation and Amenity lands lie within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning for this site. Any further development of the lands should be subject to an appropriately detailed FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Flood Zone A would principally be suitable for water compatible use only; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.8 Rural South

A.8.1 Agriculture

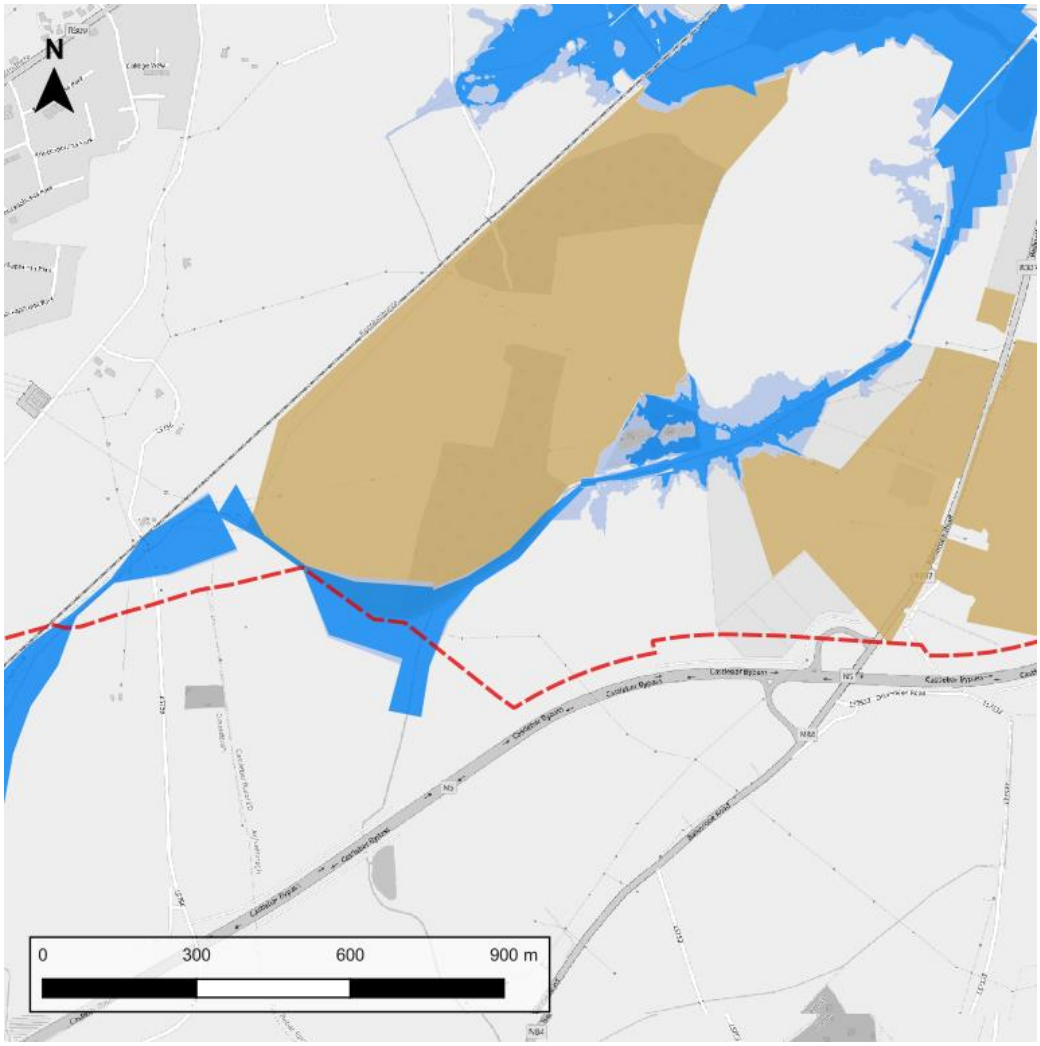


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Agricultural activities are considered appropriate, subject to site specific flood risk assessment for any proposed buildings.
i. Is essential to facilitate regeneration and/or	N/A

expansion of the centre of the urban settlement:	
ii. Comprises significant previously developed and/or under-utilised lands:	N/A
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	N/A
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	N/A
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Significant lands within the Agriculture Zoning are within Flood Zone A\B. Most of the risk is limited to agricultural fields with some isolated housing. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations, change of use or water compatible uses. • New housing (as appropriate under Agriculture zoning) can only take place in Flood Zone C. Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Bedrooms should be located in the upstairs of two-story buildings when extending existing property when extending existing residential property in Flood Zone A/B; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing

	flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

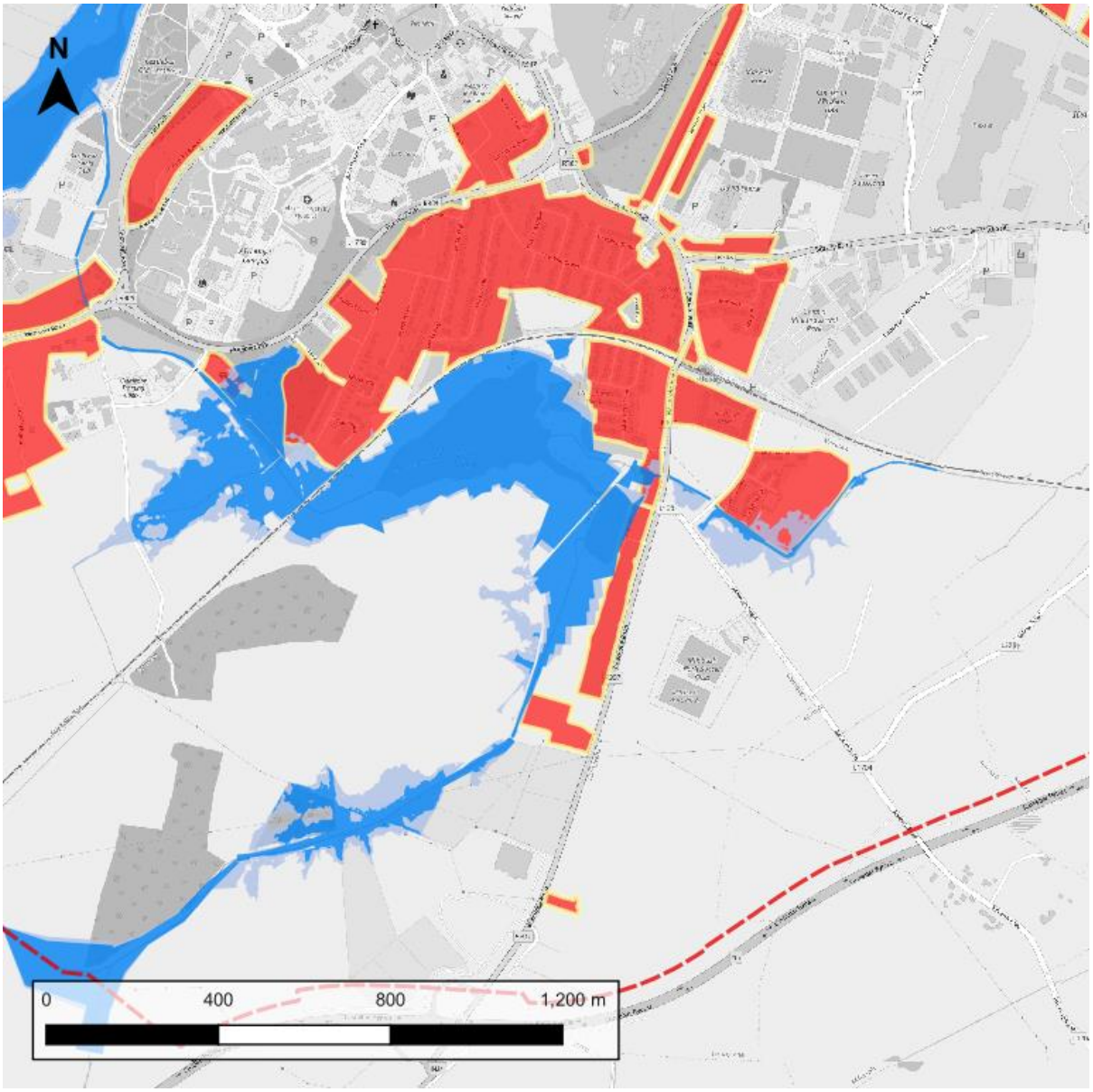
A.8.2 Enterprise and Employment



1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. It is proposed to zone the lands for Enterprise & Employment to support the creation of employment opportunities in Castlebar. In terms of flood risk, this is considered to be a less vulnerable land use.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes. The site is essential to facilitate regeneration of the Castlebar.

ii. Comprises significant previously developed and/or under-utilised lands:	Yes. The site in its current form is under-utilised.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. Regeneration of this site will contribute significantly to achieving compact sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	Alternative sites within the development boundary have the same level of flood risk. Any development within the Enterprise & Employment lands should be subject to an appropriately detailed FRA which should follow the general guidance provided in Section 7 of the SFRA.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	A significant area of Enterprise and Employment lands are within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. Any further development of the lands should be subject to an appropriately detailed FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • The sequential approach should be applied and Less/Highly vulnerable elements of the site, including roads/access/infrastructure should preferentially be located in Flood Zone C; • Less or Highly vulnerable development would only be suitable in Flood Zone C. • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas. Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.8.3 Existing Residential



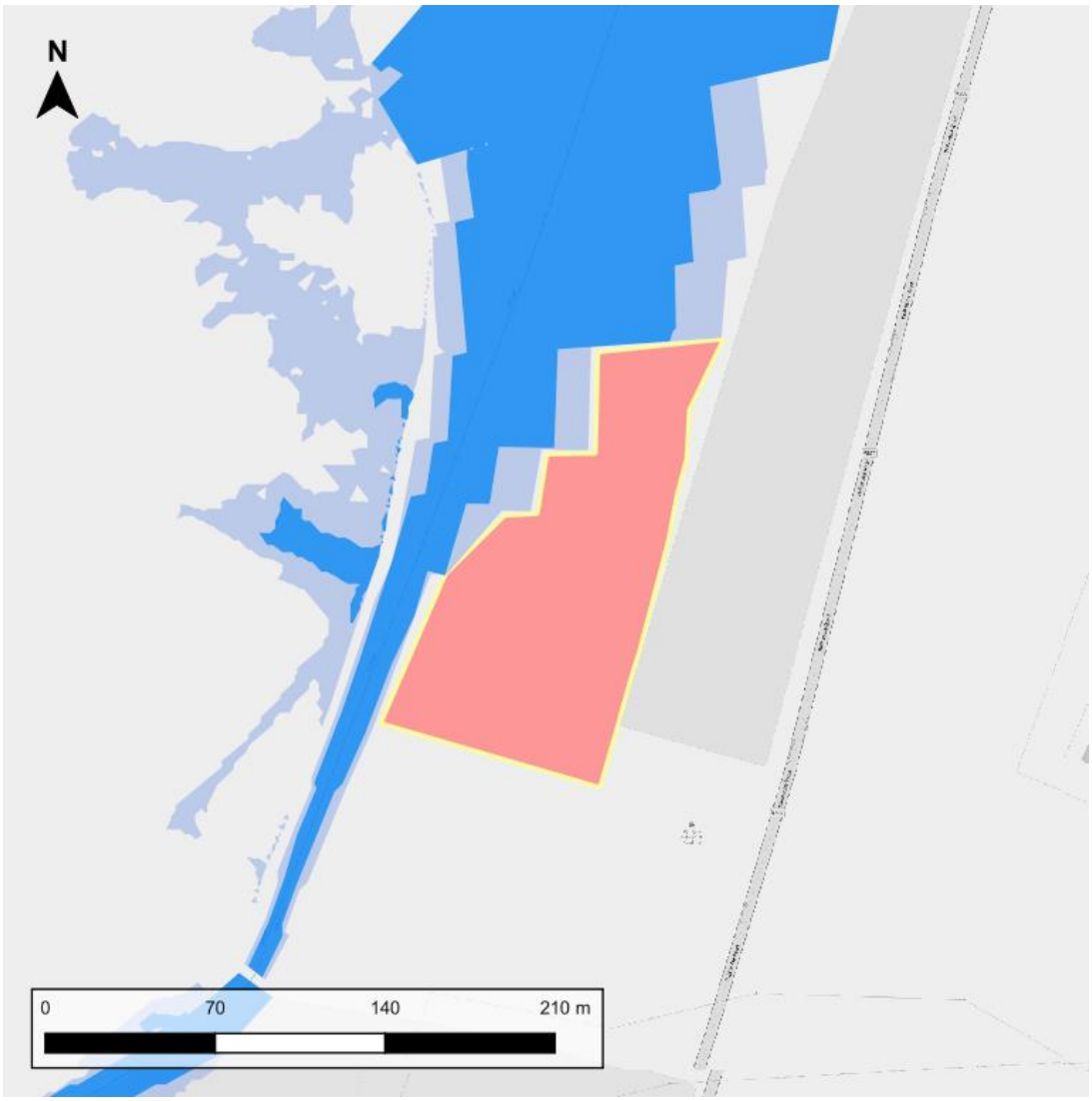
1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. The existing residential lands are located within the existing development boundary of the settlement and reflects where housing has been provided.
i. Is essential to facilitate regeneration	Yes. The lands zoned are established residential lands

and/or expansion of the centre of the urban settlement:	within Castlebar's development boundary. The Existing Residential zoning is essential for the regeneration and/or expansion of the centre of the urban settlement. The Existing Residential zoning designation does not facilitate new development in areas subject to flooding. Any proposed development within the Existing Residential zoning will be subject to a Flood Risk Assessment as required by The Planning System and Flood Risk Management Guidelines. The type of developments envisaged to occur would include small scale developments such as domestic extensions which would not be permitted in areas subject to flooding and therefore would not increase risk of flooding. Change of use to a more vulnerable class would not be permitted. (Table 3.1 Classification of vulnerability of different types of development) The Planning System and Flood Risk Management Guidelines refers.
ii. Comprises significant previously developed and/or under-utilised lands:	Yes. The lands comprise of under-utilised lands and existing residential development.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy.
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. Retention of existing residential lands will maintain a strong and cohesive settlement. Any growth in this zoning will be limited to uses which do not increase flood risk.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The zoning classification 'existing residential' is a unique category of zoning which reflects existing rather than proposed use. There are no alternative zoning categories on lands in lower risk of flooding within or adjoining the core that fulfils the same role as 'existing residential'.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Some of the existing residential lands are within Flood Zone A\B. Risk is limited to existing developments. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations and change of use. • Infill residential development and demolition and reconstruction can only take place in Flood Zone C. Any future development should be subject to an FRA

	which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Residential FFLs should be above the 1% AEP level plus climate change and freeboard; • Bedrooms should be located in the upstairs of two-story buildings when extending existing property; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.9 Saleen Lough

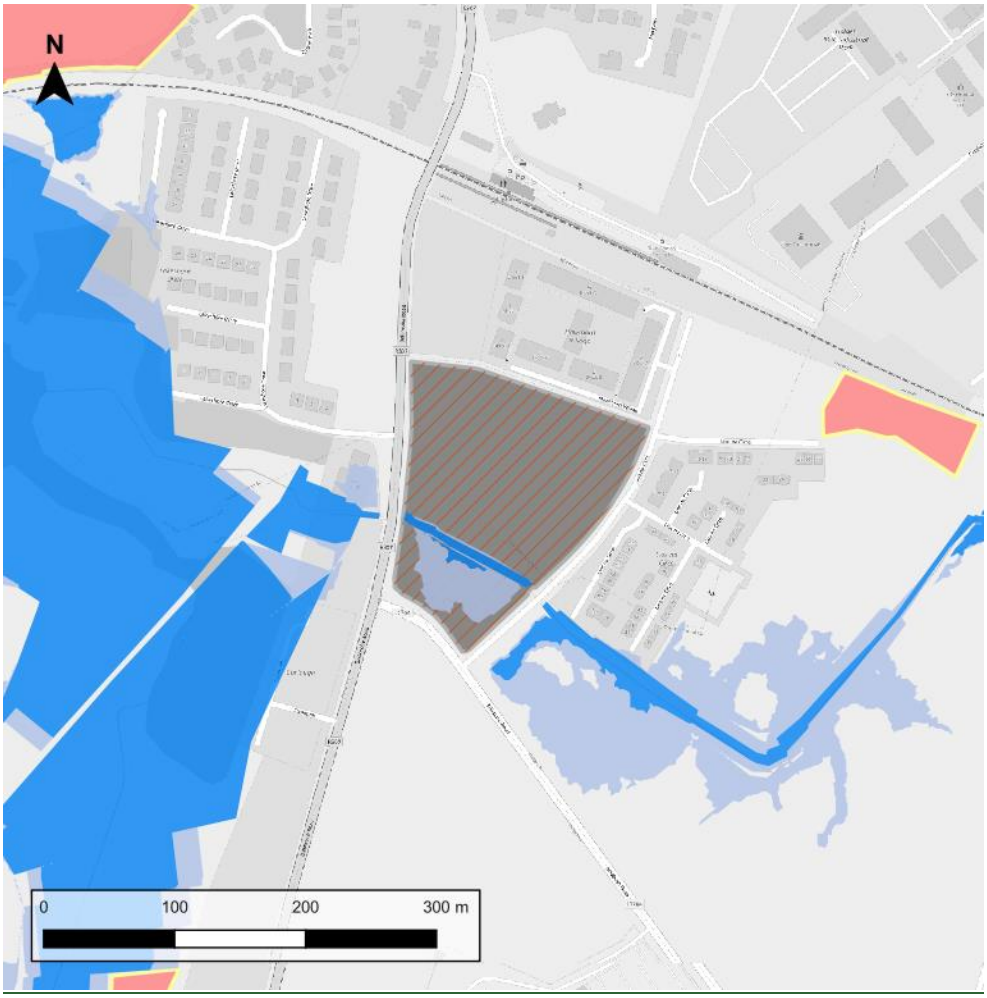
A.9.1 New Residential



1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy(RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. The new residential lands are located within the existing development boundary of the Castlebar and reflects where housing has been provided.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes, the lands are essential to facilitate regeneration and/or expansion of the centre of the urban settlement.

ii. Comprises significant previously developed and/or under-utilised lands:	Yes, the lands comprise of under-utilised lands.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes, the lands are essential in achieving compact and sustainable growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	Yes, there are no alternative lands in areas of lower risk within the core of the urban settlement
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Parts of the New Residential Zoning are within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • New residential development and all associated infrastructure can only take place in Flood Zone C. Any development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

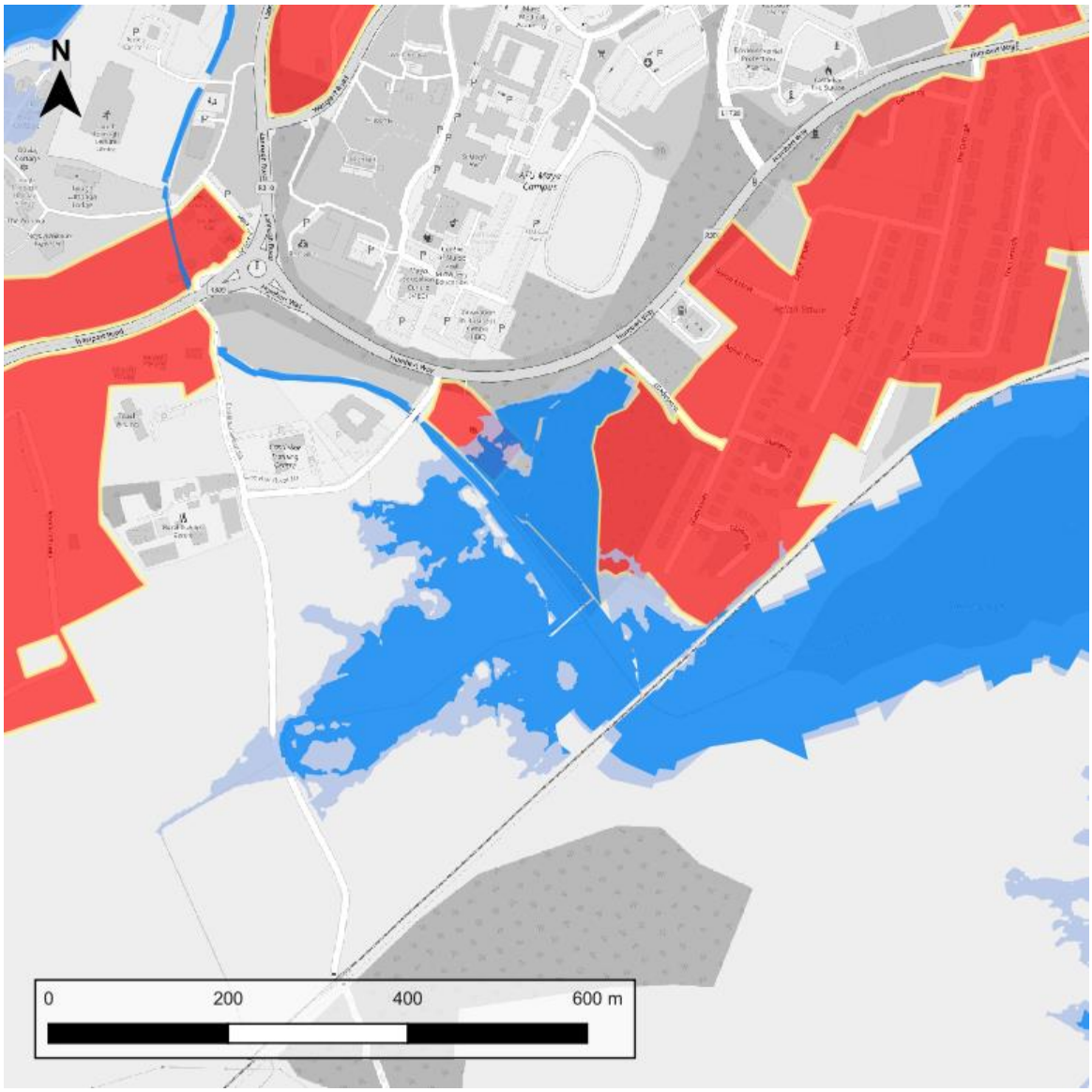
A.9.2 Mixed Use



1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes, the lands are required to achieve proper planning and sustainable development of the urban settlement.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes, its zoning is essential to facilitate regeneration within the plan area.
ii. Comprises significant previously developed and/or under-utilised lands:	Comprises of under-utilised lands.
iii. Is within or adjoining the core of an	Yes. The lands are located within the development boundary

established or designated urban settlement:	of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes, the lands are essential for achieving and managing compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	There are more suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Part 2 of the test have failed, however should there be any potential development then the following measures should apply; • Development is constructed in accordance with the site specific FRAs. • New residential development and all associated infrastructure can only take place in Flood Zone C. • Flood Zone A/B must be left as open space with no increase in ground level. Any development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.9.3 Existing Residential

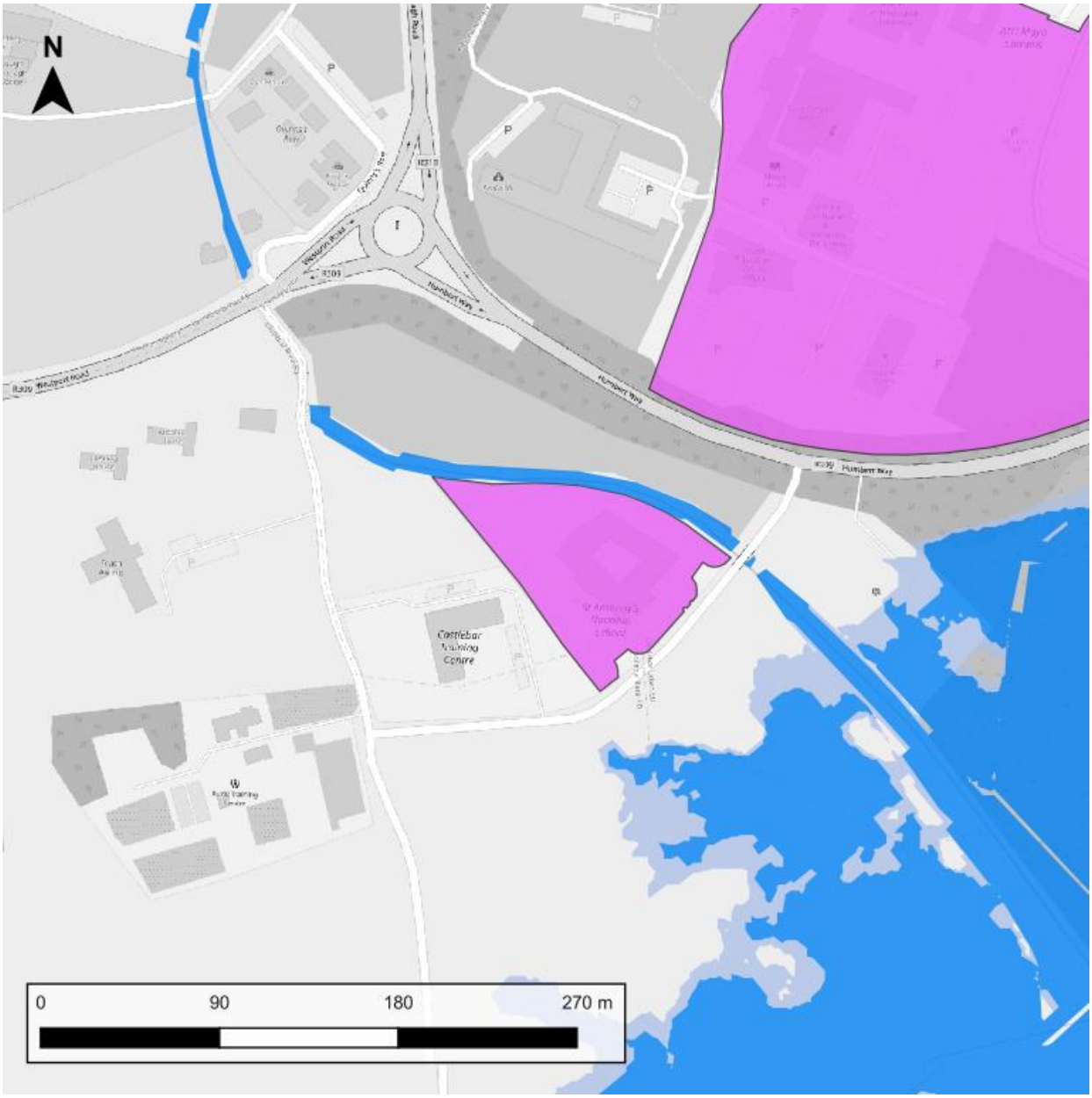


1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. The existing residential lands are located within the existing development boundary of the settlement and reflects where housing has been provided.
i. Is essential to facilitate regeneration and/or	Yes. The lands zoned are established residential lands

expansion of the centre of the urban settlement:	within Castlebar's development boundary. The Existing Residential zoning is essential for the regeneration and/or expansion of the centre of the urban settlement. The Existing Residential zoning designation does not facilitate new development in areas subject to flooding. Any proposed development within the Existing Residential zoning will be subject to a Flood Risk Assessment as required by The Planning System and Flood Risk Management Guidelines. The type of developments envisaged to occur would include small scale developments such as domestic extensions which would not be permitted in areas subject to flooding and therefore would not increase risk of flooding. Change of use to a more vulnerable class would not be permitted. (Table 3.1 Classification of vulnerability of different types of development) The Planning System and Flood Risk Management Guidelines refers.
ii. Comprises significant previously developed and/or under-utilised lands:	Yes. The lands comprise of under-utilised lands and existing residential development.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy.
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. Retention of existing residential lands will maintain a strong and cohesive settlement. Any growth in this zoning will be limited to uses which do not increase flood risk.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The zoning classification 'existing residential' is a unique category of zoning which reflects existing rather than proposed use. There are no alternative zoning categories on lands in lower risk of flooding within or adjoining the core that fulfils the same role as 'existing residential'.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in	Some of the existing residential land here is within Flood Zone A and B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. This is on the basis that; • Development is constructed in accordance with the site specific FRAs. • Additional development in Flood Zones A/B should be limited to extensions, renovations and change of use. • Infill residential development and

the relevant flood risk assessment	demolition and reconstruction can only take place in Flood Zone C. Any future development should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • FRA should address climate change scenarios in relation to FFLs and potential mitigation measures; • Residential FFLs should be above the 1% AEP level plus climate change and freeboard; • Bedrooms should be located in the upstairs of two-story buildings when extending existing property; • Flood resilient construction materials and fittings should be considered if in Flood Zone A/B; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.

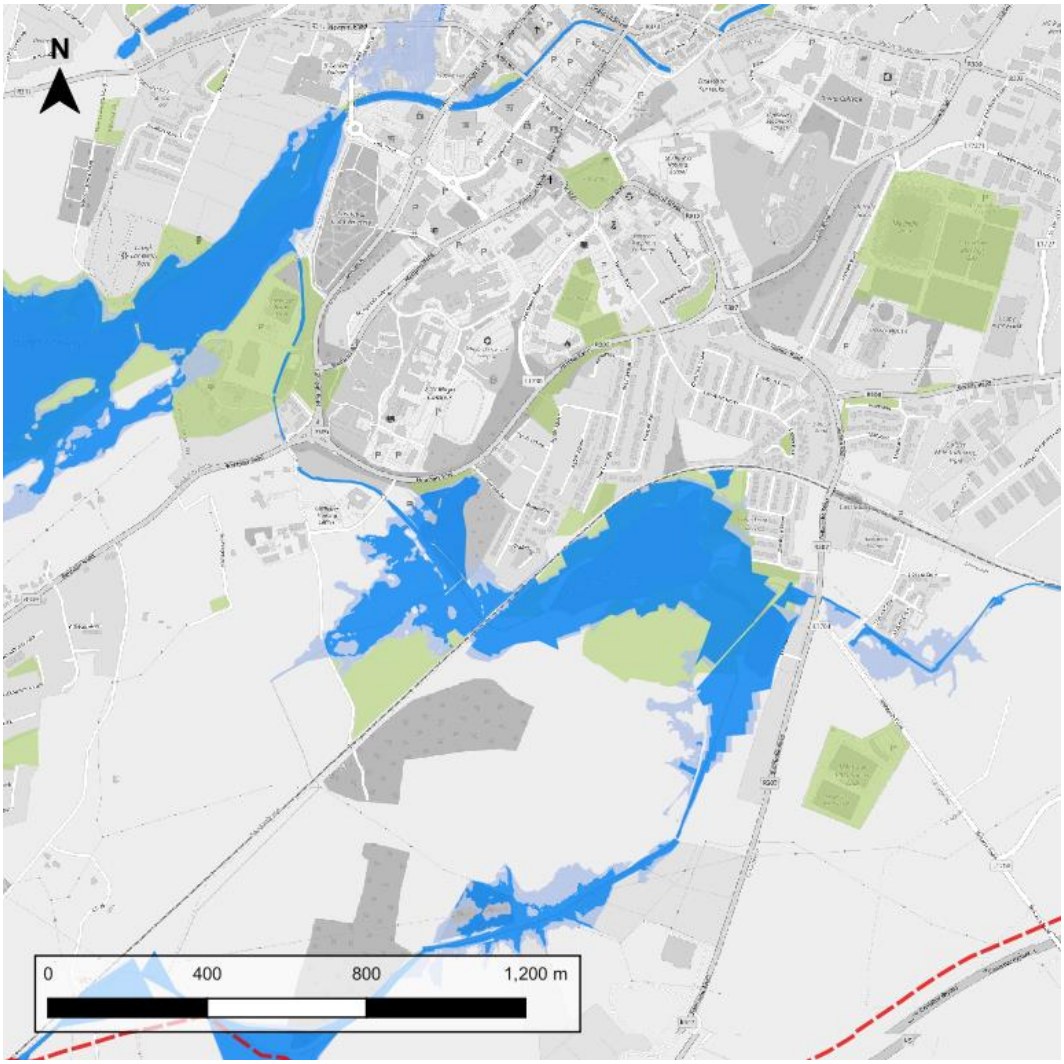
A.9.4 Education



1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes. The zoning of these lands for Community Facilities is required to achieve the proper planning and sustainable development of Castlebar.

i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes. Its zoning for these uses is essential to facilitate the continued regeneration of Castlebar.
ii. Comprises significant previously developed and/or under-utilised lands:	The lands comprise of under-utilised lands and an existing school.
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy.
iv. Will be essential in achieving compact and sustainable urban growth;	Yes. The lands for the proposed use are essential in achieving compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The lands are a mix of existing and undeveloped Community Facilities lands considered appropriate to retain the zoning within the settlement boundary of Castlebar.
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	A limited area of existing Education Lands are within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning. Any future construction should be subject to an FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Only water compatible development should be placed in Flood Zone B; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Development is constructed in accordance with the site specific FRAs. • Any development shall also be required to be built in accordance with MCC SuDS Policy.

A.9.5 Recreation and Amenity



1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	Yes, Castlebar is targeted for growth under the Regional Spatial Strategy and Economic Strategy (RSES) for the Northern & Western Regional Assembly Area 2020-2032 and the Mayo County Development Plan 2022-2028. In particular Castlebar is identified as a Key Town in the RSES.
2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:	Yes, the lands are required to achieve proper planning and sustainable development of the urban settlement.
i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Yes, its zoning is essential to facilitate regeneration within the plan area.

ii. Comprises significant previously developed and/or under-utilised lands:	N/A
iii. Is within or adjoining the core of an established or designated urban settlement:	Yes. The lands are located within the development boundary of Castlebar, identified as a Key Town in the Mayo County Development Plan (2022-2028) settlement hierarchy
iv. Will be essential in achieving compact and sustainable urban growth;	Yes, the lands are essential for achieving and managing compact and sustainable urban growth.
v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	N/A
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere. N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment	Significant Recreation and Amenity lands lie within Flood Zone A\B. Parts 1 & 2 of the test found that it is considered appropriate to retain the existing zoning for this site. Any further development of the lands should be subject to an appropriately detailed FRA which should follow the general guidance provided in Section 7 of the SFRA and must specifically address the following: • Flood Zone A would principally be suitable for water compatible use only; • FRA should address climate change scenarios in relation to operational levels and potential mitigation measures; • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and; • Any development shall also be required to be built in accordance with MCC SuDS Policy.