

STRATEGIC ENVIRONMENTAL ASSESSMENT ENVIRONMENTAL REPORT

FOR

PROPOSED MATERIAL ALTERATIONS (No. 1 TO 16) TO THE DRAFT TUAM LOCAL AREA PLAN 2018-2024

for: Galway County Council

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List of Abbreviations

AA	Appropriate Assessment
ACA	Architectural Conservation Area
CFRAM	Catchment Flood Risk Assessment and Management
CSO	Central Statistics Office
DEHLG	Department of the Environment, Heritage and Local Government
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EU	European Union
GSI	Geological Survey of Ireland
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
NSS	National Spatial Strategy
OPW	Office of Public Works
RAL	Remedial Action List
RBD	River Basin District
RMP	Record of Monuments and Places
RPA	Register of Protected Areas
RPS	Record of Protected Structures
RPGs	Regional Planning Guidelines
RBMP	River Basin Management Plan
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SI No.	Statutory Instrument Number
SPA	Special Protection Area
WFD	Water Framework Directive

Glossary

Appropriate Assessment

The obligation to undertake Appropriate Assessment derives from Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC. AA is a focused and detailed impact assessment of the implications of a strategic action (such as a plan or programme or alteration to these) or project, alone and in combination with other strategic actions and projects, on the integrity of a European Site in view of its conservation objectives.

Biodiversity and Flora and Fauna

Biodiversity is the variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems' (United Nations Convention on Biological Diversity 1992).

Flora is all of the plants found in a given area.

Fauna is all of the animals found in a given area.

Environmental Problems

Annex I of Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the assessment of the effects of certain Plans and programmes on the environment (the Strategic Environmental Assessment Directive) requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme', thus, helping to ensure that the proposed strategic action does not make existing environmental problems worse.

Environmental problems arise where there is a conflict between current environmental conditions and ideal targets. If environmental problems are identified at the outset they can help focus attention on important issues and geographical areas where environmental effects of the plan or programme (or alteration to these) may be likely.

Environmental Vectors

Environmental vectors are environmental components, such as air, water or soil, through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings.

Mitigate

To make or become less severe or harsh.

Mitigation Measures

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing a human action, be it a plan, programme or project. Mitigation involves ameliorating significant negative effects. Where there are significant negative effects, consideration should be given in the first instance to preventing such effects or, where this is not possible, to lessening or offsetting those effects. Mitigation measures can be roughly divided into those that: avoid effects; reduce the magnitude or extent, probability and/or severity of effects; repair effects after they have occurred; and compensate for effects, balancing out negative impacts with other positive ones.

Protected Structure

Protected Structure is the term used in the Planning and Development Act 2000 as amended to define a structure included by a local authority in its Record of Protected Structures. Such a structure shall not be altered or demolished in whole or part without obtaining planning permission or confirmation from the local authority that the part of the structure to be altered is not protected.

Recorded Monument

A monument included in the list and marked on the map which comprises the Record of Monuments and Places that is set out county by county under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest which have so far been identified. Any works at or in relation to a recorded monument requires two months' notice to the Department of Culture, Heritage and the Gaeltacht under Section 12 of the National Monuments (Amendment) Act, 1994.

Scoping

Scoping is the process of determining what issues are to be addressed, and setting out a methodology in which to address them in a structured manner appropriate to the plan or programme (or alteration to these). Scoping is carried out in consultation with appropriate environmental authorities.

Strategic Environmental Assessment (SEA)

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme (or alteration to these) before a decision is made to adopt it.

Strategic Environmental Objective (SEO)

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies which generally govern environmental protection objectives established at international, Community or Member State level and are used as standards against which the provisions of the Proposed Material Alterations can be evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

Section 1 SEA Introduction and Background

1.1 Introduction and Terms of Reference

This is the Strategic Environmental Assessment (SEA) Environmental Report for the Proposed Material Alterations (No. 1 to 16) Draft Tuam Local Area Plan 2018-2024. It has been undertaken by CAAS Ltd. on behalf of Galway County Council.

The purpose of this report is to provide a clear understanding of the likely environmental consequences of decisions regarding the Proposed Material Alterations. The SEA is carried out in order to comply with Section 20 of the Planning and Development Act 2000 (as amended). This report should be read in conjunction with the Proposed Material Alterations.

1.2 SEA Definition

Environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before such decisions are made. *Environmental Impact Assessment*, or EIA, is generally used for describing the process of environmental assessment for individual projects, while *Strategic Environmental Assessment* or SEA is the term which has been given to the environmental assessment of plans and programmes, which help determine the nature and location of individual projects taking place. SEA is a systematic process of predicting and evaluating the likely significant environmental effects of implementing a proposed plan or programme, in order to insure that these effects are adequately addressed at the earliest appropriate stages of decision-making in tandem with economic, social and other considerations.

1.3 SEA Directive and its transposition into Irish Law

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on

the Environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including tourism.

The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument Number (SI No. 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004). Both sets of Regulations became operational on 21st July 2004. The Regulations have been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (SI No. 200 of 2011) and the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 (SI No. 201 of 2011). Additional requirements with respect to the SEA of Proposed Material Alterations to Proposed Variations have been integrated into Section 20 of the Planning and Development Act 2000 (as amended).

1.4 Implications for Proposed Material Alterations

Proposed Material Alterations No. 1 to 27 were screened for the need to undertake SEA. Proposed Material Alterations No. 1 to 16 were determined as requiring full SEA – this determination is included at Appendix II. This SEA Environmental Report provides the findings of the assessment and will be placed on public display alongside the Proposed Material Alterations. The Elected Members will be required to take account of this document, the Proposed Material Alterations and any submissions received on these after public display.

On finalisation of the Plan, an SEA Statement will be prepared that summarises, inter alia, how environmental considerations have been integrated into the Plan.

Section 2 The Draft Plan and Proposed Material Alterations

2.1 Introduction

The Draft Tuam Local Area Plan is a land use plan provides the overall strategy for the development of Tuam over the period 2018-2024. The Plan seeks to have a positive impact on Tuam ensuring that it develops in a sustainable manner and complements the implementation of the current *Galway County Development Plan 2015-2021 (as varied)*.

27 Material Alterations were proposed after public display of the Draft Plan. Proposed Material Alterations No. 1 to 16 were determined as requiring full SEA.

2.2 Strategic Vision of the Plan

The Strategic Vision of the Plan is:

'To promote Tuam as a thriving vibrant market town, providing a focus for future residential, economic & social development in a sustainable manner, encouraging new development and capitalising on the town's unique historic identity and character, as well as its accessibility, thereby realising Tuam's potential as well as supporting the surrounding rural hinterland.'

This strategic vision is informed by the following guiding principles that will enable the overall vision to be achieved:

- Realising the town's potential as the 'Hub Town' as set out in the Galway County Development Plan and attracting the population target established in the Core Strategy up to 2021 and beyond.
- The growth of Tuam for the life of the plan should focus on establishing new sustainable communities adopting a sequential approach to the zoning of residential lands extending outwards from the centre of the Town in line with the Guidelines for Planning Authorities - Sustainable Residential Development in Urban Areas (Cities, Towns & Villages) (2009).
- Ensuring that there are a range of facilities, amenities and supporting services including educational, recreational, religious, social, community and civic requirements for children, youths, adults and the elderly, to serve a growing community, which promote an inclusive and cohesive local community.
- Maintaining a strong and vibrant town centre which attracts new businesses and provides appropriate retailing and service functions to serve the needs of the Town and its surrounding hinterland, in addition to offering a pleasant and attractive environment for shopping, business, recreation and living.
- Capitalising on the compact urban form of Tuam town centre by encouraging greater connectivity for new development which promotes and encourages walking and cycling ensuring that principles of sustainable transportation along with practical design measures become central to the development of new neighbourhoods.
- Promoting sustainable development which minimises negative impacts on the environment and helps to mitigate against the likely effects of Climate Change on present and future generations. Including the promotion of low-carbon technologies, building and water efficiency as well as the use of renewable technologies and sustainable forms of water and wastewater drainage.
- Integration of high quality design into all future development within the Tuam LAP area, promoting innovative, green technologies throughout the plan area which make a positive contribution to the environment.
- Ensuring all new development within the Architectural Conservation Area, reinforces local distinctiveness and creates a sense of place while protecting, conserving and enhancing the historic character of Tuam.

- Encouraging development which is sensitively integrated into the existing landscape which demonstrates an understanding of the intrinsic qualities of the landscape setting and, where possible, promote opportunities to protect and enhance landscape characteristics, features and biodiversity.

The Draft Plan is structured as follows:

- Section 1 'Introduction';
- Section 2 'Strategic Vision and Development Strategy'
- Section 3 'Development Policies, Objectives and Guidelines'; and
- Section 4 'Local Area Plan Maps'.

2.3 Proposed Material Alterations

27 Material Alterations were proposed after public display of the Proposed Variation as detailed below. Proposed Material Alterations No. 1 to 16 were determined as requiring SEA.

Proposed Material Alterations MA1 to MA16 propose various changes in land use zoning that would have the potential to result in cumulative adverse environmental effects on all environmental components at various lands across the plan area. Consequently SEA is required for these alterations.

Proposed Material Alterations MA 1, MA 2 and MA 3, in particular, propose the provision of a range of incompatible uses within areas that are at elevated risk of flooding. The areas that are at elevated risk of flooding have been identified by the SFRA. Submissions have been made with respect to land use zoning flood risk at these lands however no evidence is provided in the submissions showing that the sites are not at elevated levels of flood risk.

Providing incompatible uses in these areas is contrary to proper and sustainable flood risk management and contrary to *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) and *Circular PL2/14*. If the lands subject to MA 1, MA 2 and MA 3 were developed, there would be a heightened risk of flooding and associated adverse effects on people, their assets and the wider environment.

Furthermore, Proposed Material Alterations MA 1 and MA 11 propose zoning within the designated Lough Corrib Special Area of Conservation. Development of MA 1 and MA 11 lands that are subject to the SAC designation would lead to a heightened risk of adverse effects upon the qualifying interests of this site.

Proposed Material Alterations MA17 to MA27 do not require SEA:

- MA 17 proposes that the zoning of lands is changed from *Residential Phase 1* to *Agriculture*. This change would make built development on the site less likely and would not result in significant environmental effects. MA 17 also proposes the inclusion of an "*Indicative Route Corridor, subject to change and detailed corridor and route selection processes (see Objective TI 4)*" on the Land Use Zoning map from the Draft Plan. Objective TI 4 is to "*Support the development of appropriately approved schemes/road improvements in and around the plan area. Any indicative roads be subject to needs assessment and detailed corridor and route selection processes taking into account, inter alia, environmental constraints and opportunities.*" Taking into account that the route corridor is indicative, may change, must be subject to a needs assessment and must be subject to a "*detailed corridor and route selection processes taking into account, inter alia, environmental constraints and opportunities*" and taking into account that any development arising would have to comply with the various environmental protection and management measures that have already been integrated into the Draft Plan, it is determined that the inclusion of the corridor on the map would not result in significant environmental effects. Taking all of the above into account, SEA is not required for this alteration.
- MA 18 changes zoning from *Residential Phase 2* to *Residential Phase 1*. This change would affect likelihood in the timing of development at this site which is adjacent to other Residential lands. Environmental effects would be mitigated by the various environmental protection and

management measures that have already been integrated into the Draft Plan to the extent that any residual effects arising would not be significant. Therefore SEA is not required for this alteration.

- MA 19 extends the existing, already subject to SEA, Draft Plan town centre zoning to incorporate identified buildings and lands within the town centre, replacing a Community Facilities zoning objective. This change would make the zoning consistent with existing uses and would not result in significant environmental effects and therefore does not require SEA.
- MA 20 realigns existing, already subject to SEA, Draft Plan commercial/mixed use zoning on subject lands in order to reflect the existing site boundary. This would not result in significant environmental interactions and would not require SEA.
- MA 21 proposes relatively minor amendment to the wording within existing, already subject to SEA, Draft Plan Objective ST10 that would not change the outcome or the environmental effects associated with the objective. Consequently, SEA is not required for this alteration.
- MA 22 proposes the addition of clarification/explanatory text to the existing, already subject to SEA, Draft Plan Development Management Guideline LU2 (Land Use Zoning Matrix). This text does not change the outcome or the environmental effects associated with the Guideline. Consequently, SEA is not required for this alteration.
- MA 23 provides updates to context-setting text contained within the Draft LAP to reflect the publishing of the National Planning Framework (NPF). This alteration also proposes the insertion of an objective (Objective DS 2) stating that the provisions of the Plan will be updated if required to ensure compliance with Objectives progressed under the NPF and/or future Regional Spatial and Economic Strategy (RSES). The NPF and RSES are subject to their own SEA processes and such updates would be required to be subject to SEA and AA processes as relevant. Finally this alteration proposes an update to existing, already subject to SEA, Draft

Plan Objective RD 4 (Housing Options), to identify that new housing will be informed by a Housing Need Demand Assessment. None of these alterations would be likely to result in significant environmental effects, taking into account all of the above. Consequently, SEA is not required for this alteration.

- MA 24 proposes a number of minor changes to existing, already subject to SEA, Draft Plan Transport Infrastructure Objectives (TI 1, TI 6 and TI9) including typos and changes to other, external documents that preparation of Road Safety Audits and Traffic and Transport Assessments will have to accord with. These changes would not result in significant environmental effects. As a result, SEA is not required for this alteration.
- MA 25 proposes changes to the text of the Draft Plan describing the context for the Plan and does not relate to Plan provisions. As a result it does not have any environmental interactions and would not have environmental effects. As a result, SEA is not required for this alteration.
- MA 26 provides more detailed description of the nature of the upgrade already provided for by this existing, already subject to SEA, Draft Plan Objective and would not be likely to result in significant adverse environmental effects. Consequently SEA is not required.
- MA 27 comprises three parts, none of which would be likely to result in significant environmental effects. Firstly, clarification is provided in existing, already subject to SEA, Draft Plan Policy CF1 regarding what organisations will be targeted by opportunities for sport and recreation that are already provided for by this Policy. Secondly, the existing, already subject to SEA, Draft Plan Objective CF 7 is amended with the addition of two bullet points that are consistent with the other Community Facilities provisions of the Draft Plan and provide further detail regarding the development of sports, play and recreation facilities. Thirdly, an additional Objective CF10 "Additional Facilities" is added that supports the provision of an athletics track (and associated development) in the town –

were such a facility to be developed it would be located on lands with an appropriate zoning that would be subject to the various environmental protection and management measures that have already been integrated into the Draft Plan. Taking into account all of the above, SEA is not required for this alteration.

Table 2.1 Proposed Material Alterations

Material Alterations to the Tuam LAP 2018-2024
<p>Material Alteration No. 1 (MA 1) A) Extend the Local Area Plan Boundary to incorporate identified lands. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning, Map 4 Archaeological Monuments, Map 6 Architectural Heritage & Map 8 Flood Risk Management</i>); B) Zone the subject lands as Industrial (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>)</p>
<p>Material Alteration No. 2 (MA 2) Remove Open space/ Recreation and Amenity zoning on identified lands and zone as Residential Phase 1 Lands. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>)</p>
<p>Material Alteration No. 3 (MA 3) Zone undeveloped portion of Residential zoned lands as Residential phase 2. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>)</p>
<p>Material Alteration No. 4 (MA 4) A). Extend Plan Boundary to incorporate subject lands. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>) B). Zone subject lands as Residential Phase 1. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>)</p>
<p>Material Alteration No. 5 (MA 5) A). Extend Plan Boundary to incorporate subject lands. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>) B). Zone Identified lands as Residential Phase 1. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>) C). Zone existing residential unit between the draft plan boundary and the Material Alteration plan boundary as "Existing Residential." (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>)</p>
<p>Material Alteration No. 6 (MA 6) A). Extend Plan Boundary to incorporate subject lands. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>) B). Zone Identified lands as Residential Phase 1. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>) C). Zone existing residential units between the draft plan boundary and the Material Alteration plan boundary as "Existing Residential." (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>)</p>
<p>Material Alteration No. 7 (MA 7) A) Remove (4.855 ha) of Residential Phase 2 zoning from identified lands. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>) B) Zone (4.855 ha) of identified land as Residential Phase 1. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>)</p>
<p>Material Alteration No. 8 (MA 8) Remove Residential Phase 2 Zoning from subject lands and replace with Residential Phase 1 zoning (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alteration No. 9 (MA 9) Remove agricultural zoning on identified lands and zone Residential Phase 1. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alteration No. 10 (MA 10) Remove Business and Enterprise zoning on subject lands and zone land Residential phase 1. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alteration No. 11 (MA 11) Extend Plan boundary to incorporate subject lands and zone Residential Phase 1. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alteration No. 12 (MA 12) Remove Community facilities zoning on subject lands and zone Residential phase 1. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alteration No. 13 (MA 13) Remove agricultural zoning from subject lands and zone residential phase 2. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alteration No. 14 (MA 14) Remove Residential phase 1 zoning on subject lands and zone commercial/Mixed use. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alterations No. 15 (MA 15) Remove agricultural zoning on subject lands and replace with Industrial zoning, with 20 metre buffer to adjacent existing residential site, this buffer to retain agricultural zoning. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alteration No. 16 (MA 16) Remove Business and Enterprise zoning on subject lands and zone commercial/mixed use. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alterations No. 17 (MA 17) A) Remove identified portion of Residential phase 1 lands and rezone agricultural. B) Incorporate the Tuam to Claremorris indicative route corridor on zoning plan. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>

Material Alterations to the Tuam LAP 2018-2024
<p>Material Alterations No. 18 (MA 18) Remove Residential phase 2 zoning on subject lands and zone Residential Phase 1. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alterations No. 19 (MA 19) Remove community facilities zoning from subject lands and zone town centre. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alterations No. 20 (MA 20) Realign commercial/ mixed use zoning on subject lands to reflect site boundary. (<i>Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning</i>).</p>
<p>Material Alterations No. 21 (MA 21) Amend the following objective: Objective ST10 – Charging Points for Electric Vehicles Facilitate the provision and delivery of recharging points for high speed/fast charging of electric vehicles electric-powered vehicles within public car parks and at other appropriate locations in Tuam for domestic, transition and end of journey type travel.</p>
<p>Material Alterations No. 22 (MA 22) Amend the draft Tuam Local Area Plan in relation to the land use zoning matrix as per pages 20,21,22 and 23 of the draft document DM Guideline LU2 – Land Use Zoning Matrix The land use zoning matrix indicates the types of land uses that are Permitted in Principle (P), Open for Consideration (O) and Not Normally Permitted (N), for the land use zones designated in Section 3.1.1 above. Whilst the matrix does not provide an exhaustive list of potential uses, the uses listed in the matrix should be considered by applicants to provide a clear indication of the overall acceptability of a particular land use within a specific zoning category. Where a use is proposed that is not listed in the matrix, development proposals will be assessed on their individual merits in accordance with the general guidance provided by the matrix and having regard to the nature of existing and proposed uses, to the general policies and zoning objective(s) for the area in the Local Area Plan and to the principles of proper planning and sustainable development. Where there is no perceived conflict between existing and proposed uses, favourable consideration will be given to the proposed development, subject to all other normal requirements and to the principles of the proper planning and sustainable development of the area. The land use zoning matrix is intended as a guide to assist users of the Local Area Plan in relation to the types of uses that may be considered under each of the land use zonings. The matrix in isolation will not prevent an appropriate development of single or multi-use and each application will be considered on its merits and in accordance with proper planning and sustainable development. (Please also refer to Map 1, 2 – Land Use Zoning & Map 8– Flood Risk Management)</p>
<p>Material Alterations No. 23 (MA 23) National Planning Framework Published 16th February 2018, “Ireland 2040”, the Department of Public Expenditure and Reform document entitled “Infrastructure and Capital Investment 2012-2016”, the Regional Planning Guidelines for the West Region 2010-2022, the emerging Regional Spatial and Economic Strategy any subsequent regional planning (guidelines), Guidance), the National Climate Change Strategy 2007-2012 and follow on document “National Climate Change Adaptation Framework Building Resilience to Climate Change 2012, Smarter Travel - A Sustainable Transport Future 2009-2020, and a range of guidelines including the Local Area Plan Guidelines (2013), SEA Guidelines 2004, Sustainable Residential Development in Urban Areas Guidelines 2009, Spatial Planning and National Roads-Guidelines for Planning Authorities (2012), The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009 & Departmental Circular PL2/2014, Implementation of SEA Directive: Assessment of the Effects of Certain Plans and Programmes on the Environment Guidelines 2004, and the Appropriate Assessment of Plans and Projects in Ireland-Guidance for Planning Authorities, 2010. Statutory plans, in particular the previous Local Area Plan for the Town and the need for compliance and consistency with the current Galway County Development Plan 2015-2022 and the Regional Planning Guidelines for the West Region 2010-2022 and any subsequent emerging Regional Spatial and Economic Strategy. Insert Objective: Objective DS 2 - Compliance with National Planning Framework & Regional Spatial & Economic Strategy Policies and Objectives contained within the Tuam LAP 2018-2024 (including future reviews/variations) will be updated if required to ensure compliance with Objectives progressed under the NPF and/or future RSES (as proposed/updated). Amend Objective: Objective RD 4 – Housing Options Require that a suitable variety and mix of dwelling types, tenures and sizes are provided in developments to meet different needs, having regard to demographics and social changes, social inclusion, life time changes, smaller household sizes, lower formation age, immigration, etc. The type, mix and tenure of new housing permitted shall be informed by a Housing Need Demand Assessment as carried out by the Local Authority (as updated/amended) in accordance with the NPF, new housing provision will includeing the provision of housing for older people, for people with disabilities and other special needs households.</p>
<p>Material Alterations No. 24 (MA 24) 1. Amend Objective T11 as follows: a) Protect the national road network and safeguard the efficiency, safety, capacity and strategic investment in the N84 N83 national secondary route having regard to the Spatial Planning and National Roads Guidelines for Planning Authorities (2012). c) Transitional zones – (where national roads on the approaches to or exiting urban areas are subject to a speed limit of 60kmh before a lower 50kmh is encountered) a limited level of direct access to facilitate orderly urban development may be provided. Any such proposal must be subject to a road safety audit carried out in accordance with the NRA’s TII’s requirement and a proliferation of such entrances, which would lead to a diminution in the role of such zones, shall be avoided. 2. Amend Objective T1 6 – Road Safety Audits, Traffic Impact Assessment Require all significant development proposals to be accompanied by a Road Safety Audit and Traffic & Transport Assessment carried out by suitably competent consultants, which are assessed in association with their cumulative impact with neighbouring developments on the road network, in accordance with the requirements contained within the TII Publications & TII GE-STY-01204 Road Safety Audit NRA’s Traffic & Transport Assessment Guidelines, having regard to Road Safety Audits in</p>

Material Alterations to the Tuam LAP 2018-2024
<p>the NRA document DMRB HD19/12 Road Safety Audit (including any updated/superseding document).</p> <p>3. Amend Objective TI 9 – Signage on or Visible from National Roads</p> <p>Avoid the proliferation of non-road traffic signage on and adjacent to national roads outside of the 50-60kph speed limit area, in the interest of traffic safety and visual amenity, in accordance with the Spatial Planning and National Roads Guidelines for Planning Authorities (2012). The NRA TII document Policy & Provision of Tourist and Leisure Signage on National Roads March (2011) (including any updated/superseding document) shall also be considered in the assessment of relevant developments.</p>
<p>Material Alterations No. 25 (MA 25)</p> <p>Amend section 3.6.1 Context of the draft plan as follows:</p> <p>Irish Water is now responsible for the operation of public water and wastewater services and provision of these services across Ireland. For decades, Local Authorities have provided water and wastewater services within the resources available to them. In order to maintain continuity of service, Irish Water has entered into Service Level Agreements (SLA) with Galway County Council for the operation of Irish Water's assets for the next twelve years. Irish Water's Capital Investment Plan 2014-2016 outlines the indicative investment priorities in water services infrastructure over the coming years. The Capital Investment Plan consists of a targeted programme consisting of individual projects and a range of sub-programmes, which will deliver improvements in drinking water quality, leakage, wastewater compliance, business efficiencies and customer service. Irish Water has also commenced work on a 25-Year Water Services Strategic Plan which will set out its long term strategy and objectives. The Capital Investment Plan will be adjusted as required to meet the objectives and priorities of the Water Service Strategic Plan as adopted following assessment.</p> <p>From 1st January 2014, Irish Water became responsible for the operation of public water and wastewater services and provision of these services across Ireland. For decades, Local Authorities have provided water and wastewater services within the resources available to them. In order to maintain continuity of service, Irish Water entered into Service Level Arrangements (SLA) with Galway County Council for the operation of Irish Water's assets. Irish Water's current Capital Investment Plan 2017-2021 outlines the indicative investment priorities in water services infrastructure over the coming years. The capital investment Plan consists of a targeted programme consisting of individual projects and a range of sub-programmes, which will deliver improvements in drinking water quality, leakage, wastewater compliance, business efficiencies and customer service. Irish Water also published a 25 Year Water Services Strategic Plan in 2015 which sets out its long term strategy and objectives.</p> <p>Tuam benefits from a public wastewater treatment system, which was designed to cater for a population equivalent of 3,000 with provision for future expansion to 6,000 population equivalent. Treatment in the plant consists of screening followed by activated sludge treatment, using a sequencing batch reactor where aeration, settlement and decanting occur. Effluent also undergoes tertiary treatment in the form of filtration and chemical dosing for phosphate removal. The final treated effluent discharges to Clare River/Stream, which in turn discharges to Lough Corrib, approximately 5km downstream. There are no secondary discharges from the agglomeration of Tuam. The EPA have issued a discharge license for the wastewater from the treatment plant.</p> <p>Tuam benefits from a public wastewater treatment system, which was designed to cater for a population equivalent (p.e) of 24, 834. Based on current loading it is estimated there is approx. 4000p.e. capacity remaining in the plant which means there is sufficient treatment capacity to accommodate the projected increase in population for Tuam. Treatment stages comprise preliminary (screening and grit removal) followed by secondary (activated sludge process) and tertiary (sand filtration and nutrient removal). The final treated effluent to the Clare River, which in turn discharges to Lough Corrib, approximately 40 Km downstream. The wastewater network in Tuam was upgraded under the Tuam Town Main Drainage Contract, completed in 2012. Future connections to this network from development on zoned and infill lands will be assessed through Irish Water's Connection and Developer Services process.</p>
<p>Material Alterations No. 26 (MA 26)</p> <p>Amend Objective TI 13</p> <p>Objective TI 13 – Junction Upgrade</p> <p>Seek to upgrade the junction R347 Athenry Road, Dublin Road Junction the current road layout in the vicinity of the existing schools from the Frank Stockwell Road/Dublin Road junction to the Dublin Road/Athenry Road junction in the interests of pedestrian and vehicle highway safety. The junction is in the vicinity of many local schools.</p>
<p>Material Alterations No. 27 (MA 27)</p> <p>Amend as follows:</p> <p>A) Policy CF 1 – Community Facilities, Amenities and Greenspace</p> <p>It is the policy of the Council to support the provision, maintenance and retention of an appropriate provision and equitable distribution of community facilities, amenities and greenspace in the plan area:</p> <ul style="list-style-type: none"> • To meet the needs of the local community and as resources permit. • To provide opportunities for sport & recreation, targeting community clubs and organisations with existing high levels of participation that lack appropriate facilities. • Located in appropriate, accessible locations to serve the residential population in the plan area. • Are clustered or linked together wherever facilities and amenities are complementary and it is practicable to do so, to allow for shared and multi-purpose use of facilities. <p>B) Objective CF 7- Sports, Play and Recreation facilities</p> <ul style="list-style-type: none"> • Support the provision, maintenance and upgrading of existing sports, play and recreation facilities to service the needs of the local community. • Support local sports and community groups in the development of new facilities in appropriate locations. • Encourage the shared use of different facilities by multiple groups, teams and clubs as a means of maximising the usage and value of the facilities to the local residents. <p>C) Objective CF10- Athletics facilities</p> <p>Support the provision of an athletics track in the town with associated recreational facilities, changing rooms and amenities as part of an integrated mixed use sports development in an appropriate and sustainable location that is convenient to the town, the road network and public transport.</p>

2.4 Relationship with other relevant Plans and Programs

The Draft Plan and associated Proposed Material Alterations sit within a hierarchy of strategic actions such as plans and programmes and are subject to a number of high level environmental protection policies and objectives with which they must comply (including those detailed in Appendix I, Section 4, Section 5 and Section 9 of this report).

Examples of Environmental Protection Objectives include the aim of the EU Habitats Directive - which is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States - and the purpose of the Water Framework Directive - which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which, among other things, prevents deterioration in the status of all water bodies and protects, enhances and restores all waters with the aim of achieving good status.

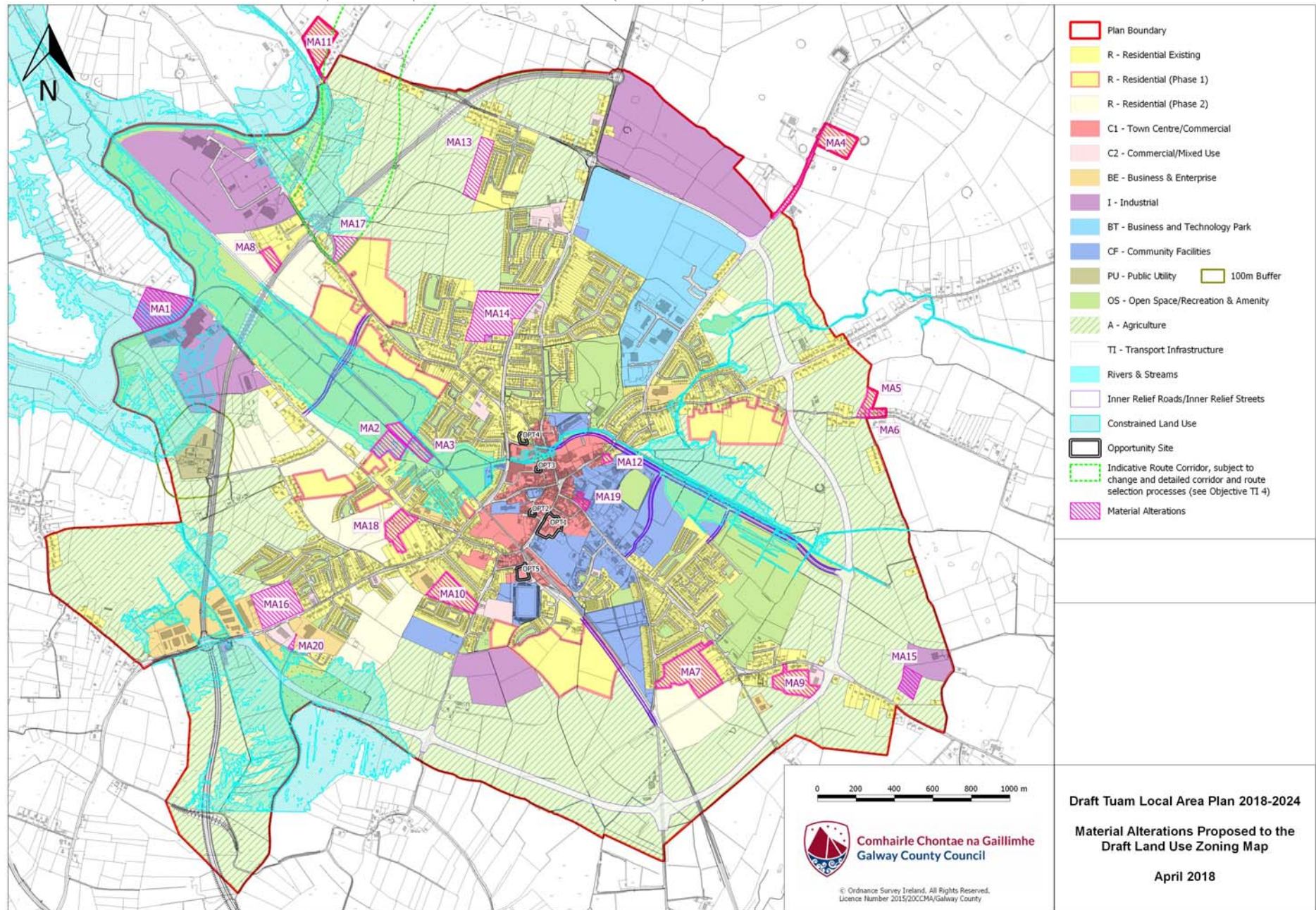


Figure 2.1 Proposed Material Alterations to Land Use Zoning

Section 3 SEA Methodology

3.1 Introduction to the Iterative Approach

Figure 3.1 provides an overview of the integrated Plan preparation, SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) processes. The preparation of the Draft Plan, SEA and AA have taken place concurrently and the findings of the SEA, AA and SFRA have informed the Draft Plan.

The process is currently at a stage where the findings of this report – which has been informed by the SFRA process – have been placed on public display as part of the required statutory public consultations. An AA document also accompanies the Proposed

Material Alterations on public display. Submissions made on the Proposed Material Alterations and associated documents, including SEA and AA documents, will be responded to and updates made to the documents where relevant. Modifications will be examined to ensure that they would not be likely to affect the Natura 2000 network of designated ecological sites and to ensure that they would not be likely to result in significant environmental effects.

On finalisation of Plan, an SEA Statement will be prepared that will summarise, inter alia, how environmental considerations have been integrated into the Plan. The Plan will be implemented and environmental monitoring will be undertaken.

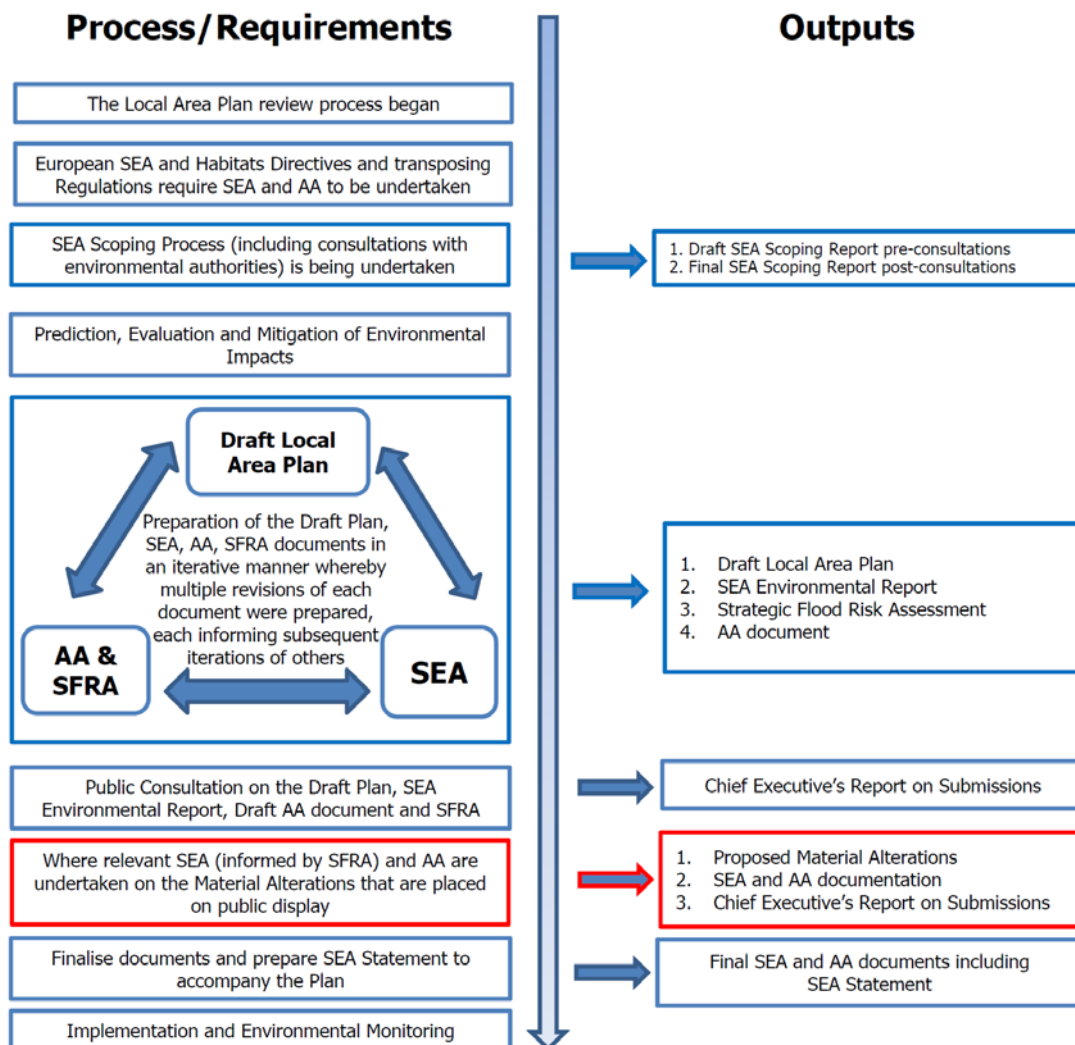


Figure 3.1 Overview of the Draft Plan SEA/AA/SFRA Process and Outputs

3.2 Appropriate Assessment and Integrated Biodiversity Impact Assessment

3.2.1 Appropriate Assessment

A Stage 2 Appropriate Assessment (AA) is being undertaken alongside the preparation of the Proposed Material Alterations.

The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC).

The findings of the AA have informed the SEA.

The Stage 2 AA process undertaken for the Draft Plan earlier in the process identified that the Plan was not foreseen to give rise to any significant adverse effects on designated European Sites, alone or in combination with other plans or projects.

However, the emerging conclusion of the Stage 2 AA is that the Proposed Material Alterations are unacceptable in the context of the Habitats Directive.

3.2.2 Integrated Biodiversity Impact Assessment

Many elements of Integrated Biodiversity Impact Assessment as detailed in the EPA's (2013) Practitioner's Manual have been aligned with in the undertaking of the SEA for the Draft Plan and associated Proposed Material Alterations. These include:

Scoping

- Biodiversity-relevant issues were identified for consideration at scoping stage and these are now detailed in Section 4.3.
- Reference to a zone of influence is provided, including at Section 4.3.

Current State of the Environment

- Biodiversity data sources relevant for this national level assessment have been identified.
- Designated sites and other habitats and species of ecological value are identified.
- AA information has been incorporated into the SEA.

Alternatives

- Impacts upon biodiversity are considered under each of the alternatives and certain potential conflicts can be mitigated.

Impact assessment

- Effects on biodiversity are identified and assessed and the AA gives consideration to the interrelationship between biodiversity and potential effects on European Sites.

Mitigation and monitoring

- Taking into account all measures contained within the Draft Plan, all of the proposed mitigation measures deriving from the various processes were generally consistent and compatible.
- Indicators and associated targets have been included in SEA for monitoring European Sites.

Reporting

- This SEA ER addresses all biodiversity-related considerations relevant for this level of assessment.
- This SEA ER contains all biodiversity-relevant information, data, figures and maps relevant for this level of assessment.
- This SEA ER has been informed by the AA findings.

Communication and consultation

- Submissions from various environmental authorities have been taken on board.
- The preparation of the Draft Plan, SEA and AA has taken place concurrently and the findings of the AA have informed both the Draft Plan and the SEA.

3.3 Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the preparation of the Draft Plan. The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG and OPW, 2009).

The preparation of the Draft Plan, SEA and SFRA has taken place concurrently and the findings of the SFRA have informed both the Draft Plan and the SEA. The SFRA has facilitated the integration of flood risk management considerations into the Draft Plan.

This SEA for the Proposed Material Alterations has been informed by the findings of the SFRA. These findings are provided throughout this report, including at Sections 7 and 8 where there is extensive commentary on flood risk as a key criteria against which the Proposed Material Alterations and the alternatives are examined.

All relevant documents, including the SFRA document that was placed on public display alongside the original Draft Plan, will be

finalised on making of the Plan, including taking into account any changes that have been made to the original Draft Plan that was placed on public display (including Alterations and, if relevant, Modifications) and any submissions made during the process.

3.4 Scoping

3.4.1 Introduction

The scope of environmental issues to be dealt with by the SEA together with the level of detail to which they are addressed was decided upon taking into account the level of detail included in the Draft Plan, associated Proposed Material Alterations and submissions received from environmental authorities. Scoping allowed the SEA to become focused upon key issues relevant to the environmental components which are specified under the SEA Directive¹.

3.4.2 Scoping Notices and Submissions

As part of the scoping process for the Plan, environmental authorities² were notified that a submission or observation in relation to the scope and level of detail of the information to be included in the environmental report could be made to the Council.

Submissions were made by the Environmental Protection Agency and the Department of Culture, Heritage and the Gaeltacht. These submissions influenced the scope of the assessments as detailed in the final SEA Scoping Report.

¹ These components comprise biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

² The following authorities were notified: Environmental Protection Agency, Department of Communications, Climate Action and Environment, Department of Agriculture, Food and the Marine, Department of Housing, Planning and Local Government, Department of Culture, Heritage and the Gaeltacht, Galway City Council, Mayo County Council, Roscommon County Council, Offaly County Council, Tipperary County Council and Clare County Council.

3.5 Environmental Report

This SEA Environmental Report predicts and evaluates the likely environmental effects of the Proposed Material Alterations. The Environmental Report provides the Council, stakeholders and the public with a clear understanding of the likely environmental consequences of the Proposed Material Alterations.

Environmental authorities had an opportunity to comment on the SEA Environmental Report for the Draft Plan and will have an opportunity to comment on this SEA Environmental Report for the Proposed Material Alterations during public display.

The Environmental Report contains the information specified in Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004), as amended (see Table 3.1).

No significant difficulties have been encountered during the undertaking of the assessment to date.

3.6 SEA Statement

On finalisation of the Plan, an SEA Statement will be prepared that will include information on:

- How environmental considerations have been integrated into the Plan, highlighting the changes to the Plan which resulted from the SEA process;
- How the SEA Environmental Report and consultations have been taken into account, summarising the key issues raised in consultations and in the Environmental Report and indicating what action was taken in response;
- The reasons for choosing the Plan in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the Plan as adopted was selected; and
- The measures decided upon to monitor the significant environmental effects of implementing the Plan.

Table 3.1 Checklist of Information included in this Environmental Report

Information Required to be included in the Environmental Report	Corresponding Section(s) of this Report
(A) Outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes	Sections 2, 5 and 8
(B) Description of relevant aspects of the current state of the environment and the evolution of that environment without implementation of the plan or programme	Section 4
(C) Description of the environmental characteristics of areas likely to be significantly affected	Sections 4, 7 and 8
(D) Identification of any existing environmental problems which are relevant to the plan or programme, particularly those relating to European protected sites	Section 4
(E) List environmental protection objectives, established at international, EU or National level, which are relevant to the plan or programme and describe how those objectives and any environmental considerations have been taken into account when preparing the Plan	Sections 5, 7, 8 and 9
(F) Describe the likely significant effects on the environment	Sections 7 and 8
(G) Describe any measures envisaged to prevent, reduce and as fully as possible offset any significant adverse environmental effects of implementing the plan or programme	Section 9
(H) Give an outline of the reasons for selecting the alternatives considered, and a description of how the assessment was undertaken (including any difficulties)	Sections 6, 7 and 8
(I) A description of proposed monitoring measures	Section 10
(J) A non-technical summary of the above information	Non-Technical Summary
(K) Interrelationships between each environmental topic	Addressed as it arises within each Section

Section 4 Relevant aspects of the current state of the Environment

4.1 Introduction

Reflecting the specifications in the SEA Directive, the relevant aspects of the current state of the environment for the following environmental components are identified in this section: biodiversity and flora and fauna, population and human health, soil, water, air and climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

This identification includes information that is relevant to lower tier environmental assessments and decision making (note that Article 5 of the SEA Directive, in accordance with the established European principle of subsidiarity, requires that the Environmental Report includes the information that may reasonably be required taking into account, *inter alia*, the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment).

Tuam town is located on an expanse of flat, low-lying land north-east of Galway City. It is surrounded by agricultural land and drained by the River Nanny, a tributary of the Clare River which flows south-westwards into Lough Corrib.

4.2 Likely Evolution of the Environment in the Absence of the Plan and Proposed Material Alterations

The Draft Plan has been prepared to further contribute towards the framework for proper planning and sustainable development that is already provided for by the Galway County Development Plan 2015-2021 as amended.

The current Tuam Plan that was adopted in 2011 is due to expire in January 2018. This Plan contains provisions that contribute towards environmental protection and sustainable development within Tuam.

If the 2011 Plan was allowed to expire and not be replaced by the new 2018 Plan, this would result in a deterioration of the town's planning and environmental protection framework. Although higher-level environmental protection objectives – such as those of the 2015-2021 County Development Plan and various EU Directives and transposing Irish Regulations – would still apply, the deterioration of this framework would mean that new development would be less coordinated and controlled. Such development would have the potential to result in an increase in the occurrence of adverse effects on all environmental components, especially those arising cumulatively. Cumulative effects occur as a result of the addition of many small impacts to create one larger, more significant, impact.

Such adverse effects could include:

- Arising from both construction and operation of development and associated infrastructure:
 - Loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna;
 - Habitat loss, fragmentation and deterioration, including patch size and edge effects; and
 - Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species.
- Potential interactions if effects upon environmental vectors such as water and air are not mitigated.
- Damage to the hydrogeological and ecological function of the soil resource.
- Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology.
- Increase in the risk of flooding.
- Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts).
- Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts).
- Increases in waste levels.
- Emissions to air including greenhouse gas emissions and other emissions.

- Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.
- Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape, especially with regard to landscapes which are most valuable and most sensitive to change and protected focal points and views.

With respect to the evolution of the environment in the absence of the Proposed Material Alterations, this would equate to Alternative A that has been identified and considered as part of this Strategic Environmental Assessment for the Proposed Material Alterations (see Section 6 and Section 7 of this report).

4.3 Biodiversity and Flora and Fauna

4.3.1 Overview

There are various highly sensitive and designated areas within and close to the Tuam Plan area on account of the species and habitats which they contain. The closest European Sites is the Lough Corrib SAC (Site code: 000297) which is adjacent to the Plan area.

4.3.2 Relevant aspects

Information on biodiversity and flora and fauna which is relevant to the Draft Plan and decision making includes available information on designated ecological sites and protected species, ecological connectivity (including stepping stones and corridors) and non-designated habitats.

Ecological designations include:

- Candidate Special Areas of Conservation³ (cSACs) and Special Protection Areas⁴ (SPAs);

³ cSACs have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) by the Department of Culture, Heritage and the Gaeltacht due to their conservation value for habitats and species of importance in the European Union. The sites are *candidate* sites because they are currently under consideration by the Commission of the European Union. The Habitats Directive seeks to establish Natura 2000, a network of protected areas throughout the EU. It is the responsibility of each member state to designate SACs to protect habitats and species, which, together with the SPAs

- Freshwater Pearl Mussel catchments⁵;
- Flora Protection Order⁶ sites;
- Wildlife Sites (including Nature Reserves⁷);
- Certain entries to the Water Framework Directive Register of Protected Areas⁸, including Nutrient Sensitive Rivers, Salmonid Rivers and Drinking Water Rivers; and
- Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs)⁹.

Protected Species include:

- Annex IV (Habitats Directive) species of flora and fauna, and their key habitats (i.e. breeding sites and resting places), which are strictly protected wherever they occur, whether inside or outside the above sites, e.g. Otter and bats;

designated under the 1979 Birds Directive, form Natura 2000.

⁴ SPAs have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) - referred to as the Birds Directive - by the Department of Culture, Heritage and the Gaeltacht due to their conservation value for birds of importance in the European Union.

⁵ Freshwater pearl mussel is a globally threatened, long-lived and extremely sensitive species that can be impacted by many forms of pollution, particularly sediment and nutrient pollution and by hydrological and morphological changes, which may arise from developments, activities or changes in any part of the catchment. The Republic of Ireland currently has 19 SACs designated for the pearl mussel covering 27 sub-basins. One of these sub-basins is the Munster Blackwater catchment that holds populations of freshwater pearl mussel, *Margaritifera margaritifera*.

⁶ The current list of plant species protected by Section 21 of the Wildlife Act, 1976 is set out in the Flora (Protection) Order, 1999.

⁷ A Nature Reserve is an area of importance to wildlife, which is protected under Ministerial order. There are currently 78 Statutory Nature Reserves. Most are owned by the State but some are owned by organisations or private landowners.

⁸ In response to the requirements of the Water Framework Directive a number of water bodies or parts of water bodies which must have extra controls on their quality by virtue of how their waters are used by wildlife have been listed on Registers of Protected Areas (RPAs). RPAs include those for Protected Habitats or Species, Shellfish, Salmonid, Nutrient Sensitive Areas, Recreational Waters and Drinking Water.

⁹ NHAs are designated due to their national conservation value for ecological and/or geological/geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes. NHAs are designated under the Wildlife (Amendment) Act 2000. pNHAs were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. These sites are of significance for wildlife and habitats.

- Other species of flora and fauna and their key habitats which are protected under the Wildlife Acts, 1976-2000, wherever they occur; and
- 'Protected species and natural habitats' as defined in the European Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including: Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur) and Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur).

Specific habitats and species in specific locations are given consideration through project level planning and associated assessments.

The following information is relevant to ecological networks and connectivity and non-designated habitats:

- CORINE land cover mapping (including areas likely to contain a habitat listed in annex 1 of the Habitats Directive)¹⁰;
- Watercourses, wetlands and peatlands;
- The EPA's Framework National Ecological Network for Ireland¹¹;
- Other sites of high biodiversity value or ecological importance, e.g. Bird Watch Ireland's 'Important Bird Areas' (Crowe et al., 2009); and
- Native Trees.

Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites

¹⁰ The CORINE land cover mapping classifies land cover under various headings. This dataset allows for the identification of lands that are likely to be most valuable to biodiversity including those which are likely to contain a habitat listed in Annex 1 of the Habitats Directive e.g. natural grasslands, peat bogs. CORINE Land Cover (CLC) is a map of the European environmental landscape based on interpretation of satellite images. Land cover is the observed physical cover, as seen from the ground or through remote sensing, including for example natural or planted vegetation, water and human constructions which cover the earth's surface.

¹¹ The EPA's Framework National Ecological Network provides a classification of the relative importance of areas by virtue of the biodiversity and flora that they contain and the connectivity they provide. Many of the areas identified are corridors.

so as to prevent islands of habitat from being isolated entities. They are composed of linear features, such as treelines, hedgerows and rivers/streams, which provide corridors or stepping stones for wildlife species moving within their normal range. They are important for the migration, dispersal and genetic exchange of species of flora and fauna particularly for mammals, especially for bats and small birds and facilitate linkages both between and within designated ecological sites, the non-designated surrounding countryside and urban areas.

Article 10 of the Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for wildlife, including for migration, dispersal and genetic exchange of species of flora and fauna. The Directive requires that ecological connectivity and areas of ecological value outside the Natura 2000 network of designated ecological sites are maintained.

Ecological islands or areas of habitat that are not connected to surrounding ecologically valuable habitats can also be important.

4.3.3 Further Detail

4.3.3.1 European Sites

Figure 4.1 maps European Sites and Water Management Units within 15 km buffer of the Tuam Plan area.

The Zone of Influence of the Draft Plan with respect to potential impacts upon ecology can be estimated to be ecology within the Plan area, waters upstream and downstream coastal waterbodies.

There are a number of European Sites within 15 km of the Tuam Plan area: Lough Corrib SAC (Site code: 000297), Levally Lough SAC (Site code: 000295), Derrinlough (Cloonkeenanode) Bog SAC (Site code: 002197), Shrute Turlough SAC (Site code: 000525), Lough Corrib SPA (Site code: 004042) and Greaghans Turlough SAC (Site code: 000503).

Lough Corrib is one the best examples of a large lacustrine catchment system in Ireland, with a range of habitats and species still well represented. These include 15 habitats which are listed on Annex I of the E.U. Habitats Directive, six of which are priority habitats, and nine species which are listed on Annex II. The lake is rated as an internationally

important site for waterfowl. A population of Freshwater Pearl Mussel (*Margaritifera margaritifera*), a species listed on Annex II of the E.U. Habitats Directive, occurs within the site. The shallow, lime-rich waters of the southern basin of Lough Corrib support one of the most extensive beds of stoneworts (Charophytes) in Ireland. This large site contains four discrete raised bog areas and is selected for active raised bog, degraded raised bog, Rhynchosporion and bog woodland. A number of rivers are included within the SAC as they are important for Atlantic Salmon.

For more detail please refer to the AA Screening Report, which accompanies the Draft Plan and this Environmental Report.

4.3.3.2 Natural Heritage Areas and Areas likely to contain Annex I Habitats

Natural Heritage Areas, Proposed Natural Heritage areas and Water Management Units within 15 km buffer of the Tuam Plan area are mapped and listed on Figure 4.1.

There are none Natural Heritage Areas (NHAs) or Proposed Natural Heritage Areas (pNHA) located within the Tuam Plan area, however there are a number of NHAs and pNHAs near the Plan area (as listed below and indicated on Figure 4.1):

- Slieve Bog NHA (Site code: 000247)
- Derrinlough Bog NHA (Site code: 001254)
- Derrinlough Bog and Esker NHA (Site code: 001255)
- Killaclogher Bog NHA (Site code: 001280)
- Rathbaun Turlough pNHA (Site code: 000215)
- Altore Lake pNHA (Site code: 000224)
- Belclare Turlough pNHA (Site code: 000234)
- Drumbulcaun Bog pNHA (Site code: 000263)
- Killower Turlough pNHA (Site code: 000282)
- Knockavanny Turlough pNHA (Site code: 000289)
- Levally Lough pNHA (Site code: 000295)
- Lough Corrib (Site code: 000297)
- Richmond Esker Nature Reserve (Site code: 000323)
- Turlough O'Gall (Site code: 000331)

- Greaghans Turlough (Site code: 000503)
- Shrulle Turlough (Site code: 000525)
- Knockmaa Hill (Site code: 001288)
- Lough Hacket (Site code: 001294)
- Summerville Lough (Site code: 001319)
- Turlough Monaghan (Site code: 001322)
- Turloughcor (Site code: 001788)
- Castle Hackett Souterrain (Site code: 002038)

4.3.3.3 Land Cover Mapping

Land cover categories which indicate lands that are likely to be most valuable to biodiversity include broad-leaved forests, natural grassland, moors and heathlands, transitional woodland scrub, peat bogs, stream courses and water bodies.

The CORINE (Co-ordinated Information on the Environment) land cover (CLC) data series was devised as a means of compiling geo-spatial environmental information in a standardised and comparable manner. CORINE has become a key data source for informing environmental and planning policy on a national and European level. The main land cover type in Ireland is agricultural land including forestry, which accounts for two-thirds of the national landmass. Most of this is permanent grassland pastures. Peatlands and wetlands are the second most widespread land cover type, covering almost one-fifth of the country. While forested areas cover about one-tenth of the country. Despite rapid development in the past two decades, Ireland's landscape is predominantly rural and agricultural.

CORINE Land Cover Mapping for 2012 (see Figure 4.2) indicates peat bogs to the south-west of the town, and good quality agricultural land to the east and north of the town.

4.3.4 Existing Problems

Previous changes in land uses arising from human development have resulted in a loss of biodiversity and flora and fauna however legislative objectives governing biodiversity and fauna were not identified as being conflicted with.

The Department of Culture, Heritage and the Gaeltacht Affairs Article 17 report on the Status of EU Protected Habitats and Species in Ireland (2013) identifies many Irish habitats to

be of unfavourable status and many to be still declining, although it also identifies that a range of positive actions are underway. The report identifies that the majority of EU-protected species are, however, in "Favourable" status in Ireland, and stable, although a small number are considered to be in "Bad" status and continue to require concerted efforts to protect them.

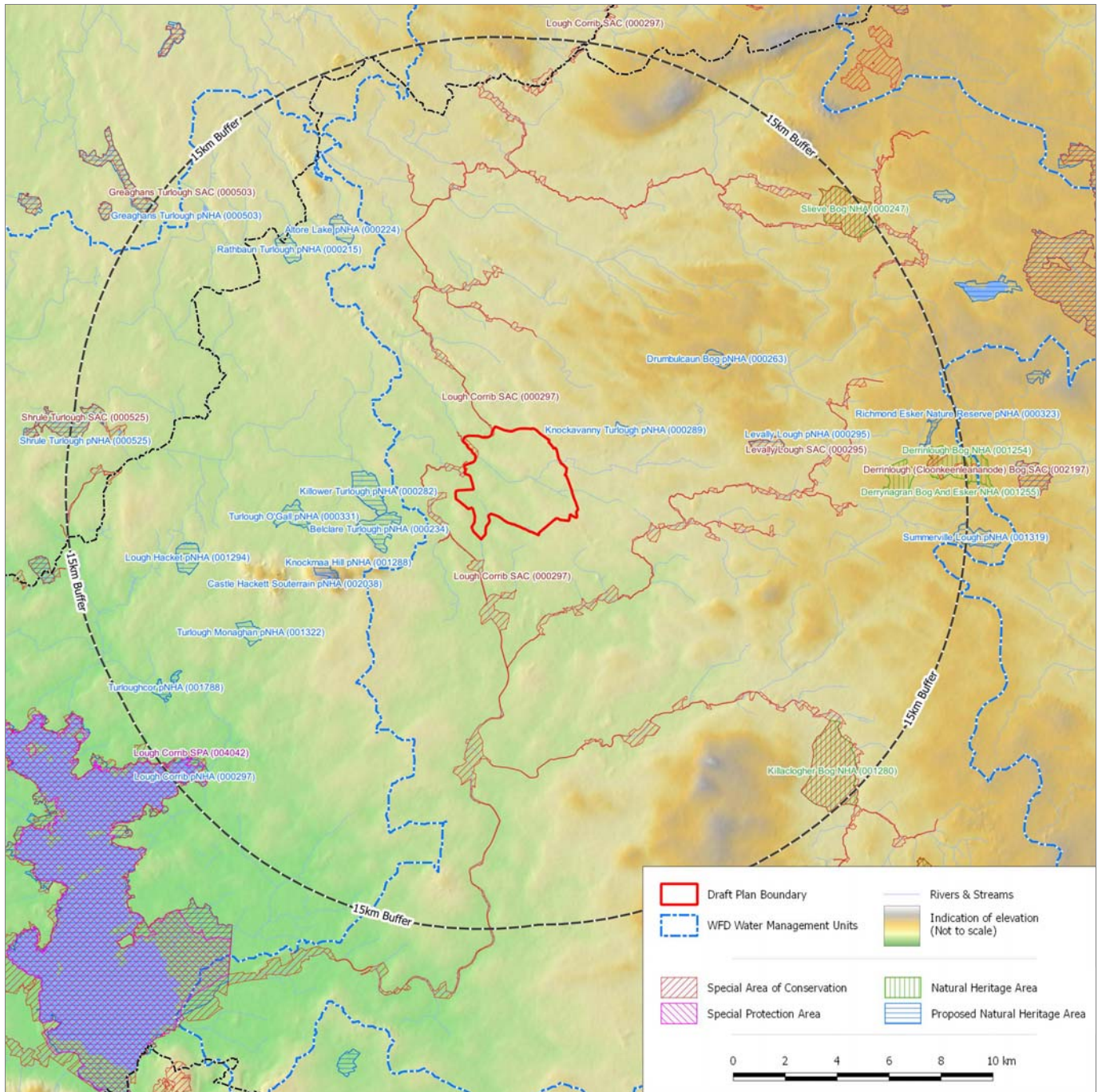


Figure 4.1 European Sites, Natural Heritage Areas, Proposed Natural Heritage Areas and Water Management Units within 15 km buffer of Tuam

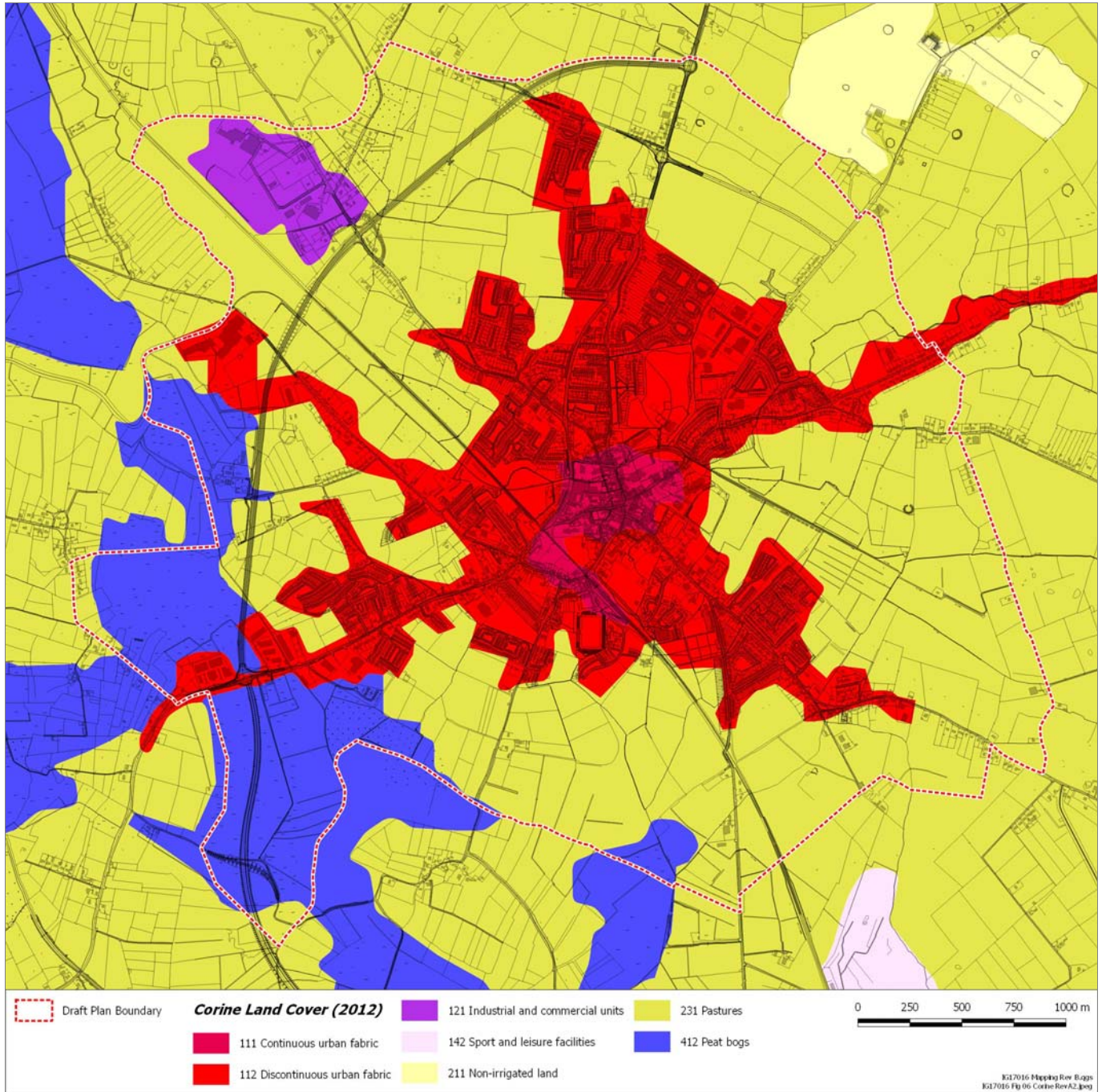


Figure 4.2 CORINE Land Cover Mapping 2012

4.4 Population and Human Health

4.4.1 Introduction

Tuam has emerged as an important regional centre offering a range of educational services and employment functions.

The population of Tuam has risen steadily in recent years. According to the 2016 Census, the population of the town and its environs was approximately 8,767 persons, an increase of 525 persons from the 2011 Census figure.

The current LAP provides for a population allocation of 2,080 persons for Tuam over the Plan period, which equates to approximately 866 new houses. This population allocation aligns with the Settlement and Core Strategies for County Galway, as set out in the Galway County Development Plan, 2015-2021, and will remain unchanged in the new Plan.

Tuam has been identified as the County's only Hub Town in the Core Strategy of the County Development Plan, having a role to interact & complement the gateway of Galway City and drive development in rural north-east Galway.

4.4.2 Interactions

The impact of implementing the Draft Plan on population and human health is influenced by the impacts which the Plan will have upon environmental vectors. Environmental vectors are environmental components, such as air, water or soil, through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings. Population and human health has the potential to interact with issues including the following:

- Developmental and recreational pressure on habitats and landscapes;
- Increase in demand for waste water treatment at the municipal level (see Section 4.8.1.2);
- Increase in demand for water supply (see Section 4.8.1.3);
- Water quality (see Section 4.6); and
- Flood risk (see Section 4.6.6).

Emission limits for discharges to air, soil and water are set with regards to internationally recognised exposure limit values. These are generally set to be many times the safe exposure limit - in order to provide protection. In the event that a plan or programme began to have adverse health effects on surrounding populations it is likely that it would have been identified as being in breach of such emission standards at a very early stage - and long before the manifestation of any adverse health effects in the population.

4.5 Soil

4.5.1 Soil Type

Soil is the top layer of the earth's crust. It is formed by mineral particles, organic matter, water, air and living organisms. Soil can be considered as a non-renewable natural resource because it develops over very long timescales. It is an extremely complex, variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action.

Peat soils are often indicative of areas that are the most sensitive to development due to ecological sensitivities and impeded drainage issues. Parts of the southwest of Tuam is underlain by peat soils, while parts of the north and northeast of the Town has better quality agricultural land due to well drained fertile brown earths and alluvial soils located within the area (as shown on Figure 4.3).

To date, there is no legislation which is specific to the protection of soil resources. However, there is currently an EU Thematic Strategy on the protection of soil which includes a proposal for a Soil Framework Directive which proposes common principles for protecting soils across the EU.

4.5.2 Radon

The greatest health risk from radiation in Ireland is caused by radon. The presence of radon gas, a naturally occurring radioactive gas that originates from the decay of uranium in rocks and soils, occurs across the country. It accounts for more than half of the total radiation dose received by the Irish population. As a known carcinogen, in the same category as tobacco smoke and asbestos it is a cause of lung cancer. Exposure to radon for long periods or at high concentrations can lead to lung cancer.

A High Radon Area is any area where it is predicted that 10 per cent or more of homes will exceed the Reference Level of 200 Becquerel per cubic metre (Bq/m³). The Government's Building Regulations require that all new homes in High Radon Areas are installed with a radon barrier. A high radon level can be found in any home in any part of the country, but these homes are more likely to be located in High Radon Areas.

It is estimated that up to 20% of homes in the Plan area are above the Reference Level. These levels are relatively normal in comparison to those experienced elsewhere within the country (mapping available at <http://www.epa.ie/radiation/radonmap>).

Objective CC8 from the existing County Plan requires the Council to have regard to the specific guidance on radon prevention measures for new homes as contained within the Building Regulations.

4.5.3 Potentially Contaminated Lands

In the absence of mitigation, contaminated materials have the potential to adversely impact upon human health, water quality and habitats and species.

No contaminated lands within Tuam have been identified however, as is the case with other urban and semi-urban areas across the country, there is potential for contamination at sites within Tuam, especially where land uses occurred in the past in the absence of environmental protection legislation.

Opportunity Site 1 is a former hospital located on Vicar Street and Opportunity Site 5 is a former industrial site located on the corner of

Barracks Street and Liam Mellows Street. As with other previously developed sites, proposed developments will be required to comply with County Development Plan Objective NHB12 - Soil/Ground Water Protection, *"Developments shall ensure that adequate soil protection measures are undertaken, where appropriate, including investigations into the nature and extent of any soil/groundwater contamination."*

4.5.4 Existing Problems

Legislative objectives governing soil were not identified as being conflicted with.

Please also refer to Sections 4.5.2 and 4.5.3 above.

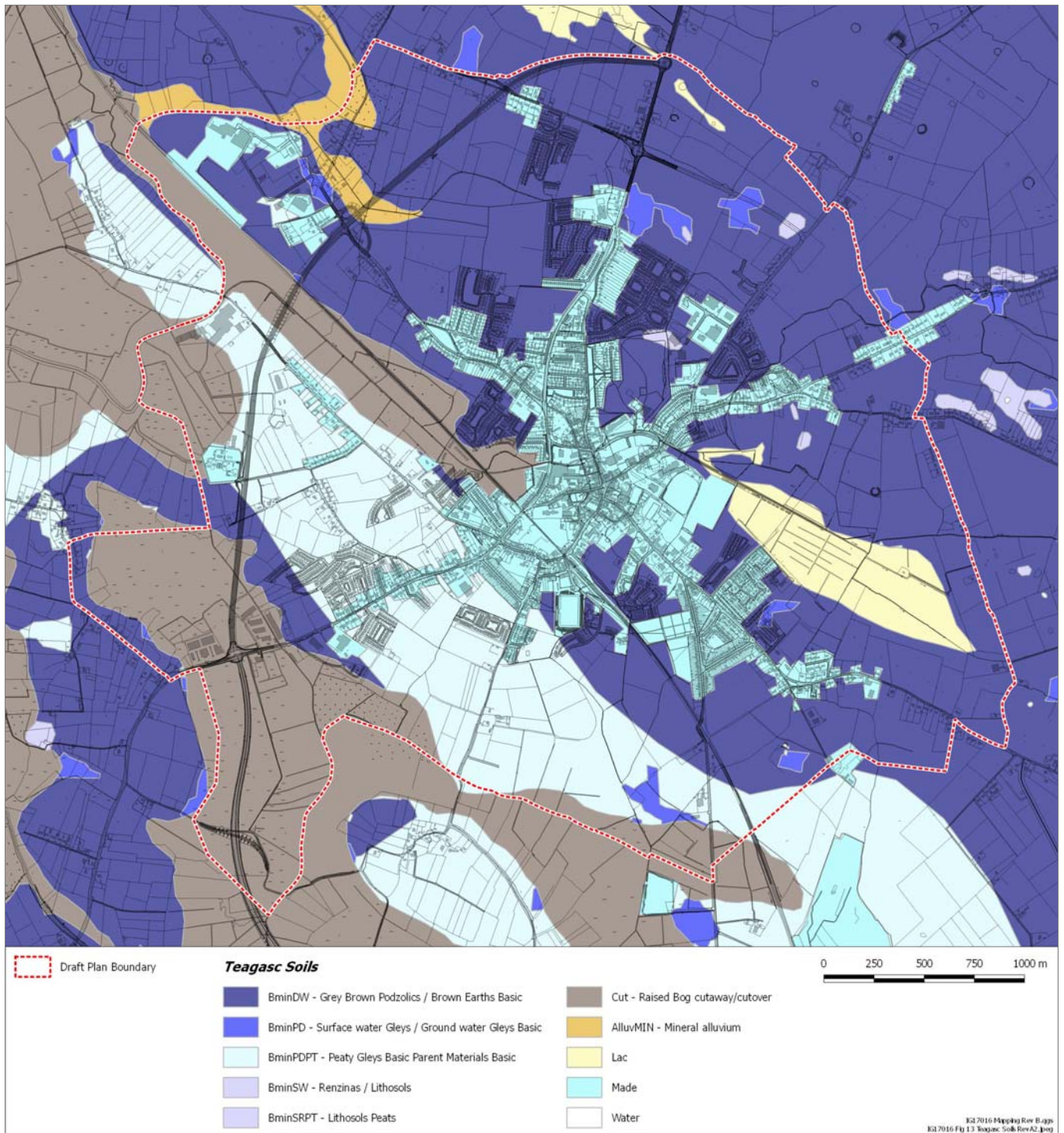


Figure 4.3 Soils

4.6 Water

4.6.1 Potential Pressures on Water Quality

Human activities, if not properly managed, can cause deterioration in water quality. Pressures exerted by human activities include the following:

- Sewage and other effluents discharged to waters from point sources, e.g. pipes from treatment plants;
- Discharges arising from diffuse or dispersed activities on land;
- Abstractions from waters; and
- Structural alterations to water bodies.

A point source pressure has a recognisable and specific location at which pollution may originate. Examples of significant point source pressures include direct discharges from waste water treatment plants, licensed discharges from industrial activities, landfills, contaminated lands (e.g. disused gas works) and mines.

A diffuse source pressure unlike a point source is not restricted to an individual point or location. The source of a diffuse pressure can be quite extensive. Significant examples of diffuse pressures include runoff from forestry and agricultural lands.

Excessive abstractions from surface waters and groundwater for drinking and industrial purposes can create pressures on the ability of a water body to maintain both chemical and ecological status.

Structural alterations such as river straightening; construction of embankments, weirs, dams, port facilities and dredging can create conditions such that a water body is no longer able to support the natural ecology which would have existed prior to such modifications. These pressures are also referred to as morphological pressures.

4.6.2 Water Framework Directive

4.6.2.1 Introduction and Requirements

Since 2000, Water Management in the EU has been directed by the Water Framework

Directive 2000/60/EC (WFD). The WFD requires that all Member States implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving *good status*. All public bodies are required to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and improve polluted water bodies to good status.

The EU's Common Implementation Strategy Guidance Document No. 20 provides guidance on exemptions to the environmental objectives of the Water Framework Directive.

Article 4 of the WFD sets out various exemptions for deterioration in status caused as a result of certain physical modifications to water bodies. This is provided: all practicable mitigation measures are taken; there are reasons of overriding public interest or the benefits to human health, safety or sustainable development outweigh the benefits in achieving the WFD objective; there are no better alternatives; and the reasons for the physical modification are explained in the relevant river basin management plan.

4.6.2.2 River Basin Districts and Water Bodies

The Water Framework Directive is implemented at River Basin Districts (RBD) level. An RBD is an area of land that is drained by a large river or number of rivers and the adjacent estuarine/coastal areas. For the first cycle of River Basin Management Plans (these are prepared for each RBD and provide specific policies for individual river basins in order to implement the requirements of the WFD) there were eight RBDs on the island of Ireland.

Within each RBD - for the purpose of assessment, reporting and management - water has been divided into groundwater, rivers, lakes, estuarine waters and coastal waters which are in turn divided into specific, clearly defined water bodies. River basin districts are also divided into multiple sub-basins. Sub-basins are areas smaller than the districts that comprise the land from which all surface run-off flows through a series of streams, rivers and possibly, lakes to a particular point in a water course. Sub-basins

do not necessarily include coastal or estuarine waters.

Tuam Plan area is located in the Western River Basin District (WRBD), which includes parts of Clare, Galway, Galway City, Leitrim, Mayo, Roscommon and Sligo.

4.6.2.3 River Basin Management Plan

Following a review of the first cycle of RBMPs, the Department of Communications, Climate Action and Environment has determined that, in the interest of efficiency, there will be a single national approach to the development of RBMPs for the second cycle and that the Eastern, South Eastern, South Western, Western and Shannon River Basin Districts will be merged to form one national River Basin District. In relation to the North Western and Neagh Bann International River Basin Districts, a single administrative area will be established in the South for the purpose of coordinating water management with authorities in Northern Ireland.

WFD Monitoring Programmes are undertaken in Ireland by the EPA. Overviews of the status for monitored waterbodies are published on an ongoing basis and are made available online. Up-to-date, detailed information with respect to relevant water bodies will, as is normal practice, inform lower tier project assessments and design.

4.6.3 Surface Water

4.6.3.1 Introduction

The Zone of Influence of the Plan beyond the Tuam Plan area with respect to impacts upon waters can be estimated to be all bodies of groundwater and all surface waters downstream areas of catchments¹² which drain the Plan area.

4.6.3.2 WFD Surface Water Status

The WFD defines *surface water status* as the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status. Thus, to achieve *good surface water status* both the

ecological status and the chemical status of a surface water body need to be at least *good*.

Ecological status is an expression of the structure and functioning of aquatic ecosystems associated with surface waters. Such waters are classified as of *good ecological status* when they meet Directive requirements.

Chemical Status is a pass/fail assignment with a failure defined by a face-value exceedance of an Environmental Quality Standards (EQS) for one or more Priority Action Substances (PAS) listed in Annex X of the Water Framework Directive (WFD). The EQS values for individual PAS substances are set at European level. *Good* surface water chemical status means that concentrations of pollutants in the water body do not exceed the environmental limit values specified in the Directive.

Surface water at and around Tuam is channelled by a number of rivers and streams. The River Clare flows south westwards from the Ballygaddy Bridge to the Corrib and is located to the north west of the Plan boundary. The River Nanny and the Grange River are both tributaries of the River Clare. The River Nanny flows through the town and joins the Clare River to the North West of the Plan Boundary.

The River Clare has been assigned *good status* and the River Nanny *moderate status*. Local water quality status for the Plan area is shown on Figure 4.4.

4.6.4 Ground Water

4.6.4.1 Introduction

Groundwater is stored in the void spaces in underground layers of rock, or aquifers. These aquifers are permeable, allowing both the infiltration of water from the soils above them and the yielding of water to surface and coastal waters. Groundwater is the part of the subsurface water that is in the saturated zone - the zone below the water table, the uppermost level of saturation in an aquifer at which the pressure is atmospheric, in which all pores and fissures are full of water.

4.6.4.2 WFD Groundwater Status

For groundwater bodies, the approach to classification is different from that for surface

¹² A catchment is an area of land contributing to a waterbody, with all the water ultimately running off to a single outlet. The WFD requires water quality management to be based on natural river catchments i.e. by reference to the natural, environmental unit rather than by reference to administrative or legal boundaries, which often fragment river catchments.

water. For each body of groundwater, both the chemical status and the quantitative must be determined. Both have to be classed as either *good* or *poor*. The WFD sets out a series of criteria that must be met for a body to be classed as good chemical and quantitative status.

The WFD status (2010-2015) of all groundwater underlying the Tuam Plan area and is identified as being of *good status*, meeting the objectives of the WFD.

4.6.4.3 Aquifer Vulnerability and Productivity

The Geological Survey of Ireland (GSI) rates the rocks, or aquifers, that contain groundwater according to both their vulnerability to pollution and their productivity.

Aquifer vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. Aquifer vulnerability is based on the type and thicknesses of subsoils (sands, gravels, glacial tills (or boulder clays), peat, lake and alluvial silts and clays), and the presence of karst features. Groundwater is most at risk where the subsoils are absent or thin and, in areas of karstic limestone, where surface streams sink underground at swallow holes¹³.

An aquifer of regional importance lies under the area bounded by the Tuam Plan area. The vulnerability of this aquifer ranges from medium in the town centre to high and extreme in the north east. Areas to the northwest, south and south east of the River Nanny range from medium to low vulnerability (see Figure 4.5).

The GSI rates aquifers based on aquifer productivity - hydrogeological characteristics and the value of the groundwater resource. Ireland's entire land surface is divided into nine aquifer productivity classifications that encompass various types of regionally, locally important and poor aquifers. The aquifer underlying Tuam is classified as regionally important aquifer (karstified bedrock). Regionally important aquifers are capable of supplying regionally important abstractions (e.g. large public water supplies), or excellent yields (>400 m³/d). Bedrock aquifer units

generally have a continuous area of >25 km² and groundwater predominantly flows through fractures, fissures, joints or conduits. Regionally important sand/gravel aquifers are >10 km², and groundwater flows between the sand and gravel grains.

4.6.4.4 Source Protections Areas

Source Protection Area delineation provides an assessment of the land area that contributes groundwater to a borehole or spring. Source reports have been undertaken by the GSI on behalf of Local Authorities since the mid-1990s. Since then, more than 120 have been completed. There is no Source Protection Area located within or in vicinity of the Plan area.

4.6.5 WFD Registers of Protected Areas

The WFD requires that Registers of Protected Areas (RPAs) are compiled for a number of water bodies or part of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife. The WFD requires that these RPAs contain: areas from which waters are taken for public or private water supply schemes; designated shellfish production areas; bathing waters; areas which are affected by high levels of substances most commonly found in fertilizers, animal and human wastes - these areas are considered nutrient sensitive; areas designated for the protection of habitats or species e.g. Salmonid areas; Special Areas of Conservation (SACs); and, Special Protection Areas (SPAs).

Entries to the RPAs relevant to Tuam include:

- The water bodies within and surrounding the Plan area supporting Special Areas of Conservation (SACs); and
- Groundwater for drinking water underlying the Tuam Plan area.

4.6.6 Flooding

The most significant source of flood risk within the Plan area is from fluvial (from rivers/streams) however there are other sources of flooding present including those from pluvial (from rainwater) and surface drainage systems.

¹³ Source: Geological Survey of Ireland (2014) Metadata

Flooding is an environmental phenomenon which, as well as causing economic and social impacts, could in certain circumstances pose a risk to human health. The existence of flood risk within Tuam has been detailed in the Strategic Flood Risk Assessment (SFRA) that has been undertaken alongside and informed the Draft Plan. The SFRA has facilitated the integration of flood risk management considerations into both the land use zoning and written provisions contained within the Plan.

Zones of elevated fluvial flood risk that were identified by the SFRA are shown on Figure 4.6. There are three types or levels of flood zones defined for the purposes of the Flood Guidelines (there is no coastal risk at Tuam):

- Flood Zone A – where the probability of flooding from rivers is highest (greater than 1% or 1 in 100 for river flooding);
- Flood Zone B – where the probability of flooding from rivers is moderate (between 0.1% or 1 in 1000 and 1% or 1 in 100 for river flooding); and
- Flood Zone C – where the probability of flooding from rivers is low (less than 0.1% or 1 in 1000 for river flooding). Flood Zone C covers all other areas that are not in zones A or B.

4.6.7 Existing Problems

Zones of elevated fluvial flood risk have been identified within the Plan area and the moderate status of some of the surface water bodies within and adjacent to the Plan area is less than that required by the Water Framework Directive.

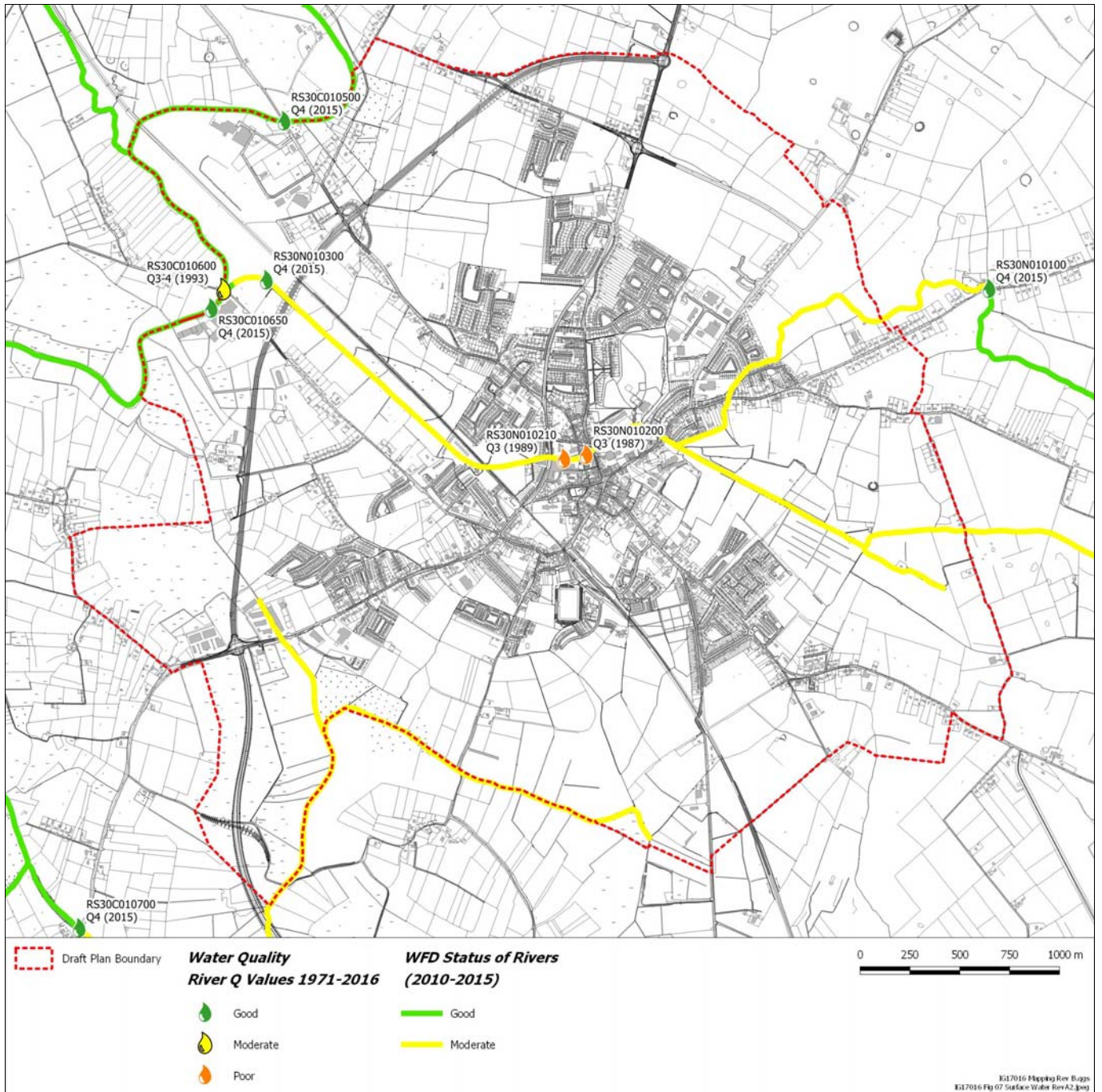


Figure 4.4 Available information on Water Quality Status (2010-2015) for Surface Water Bodies

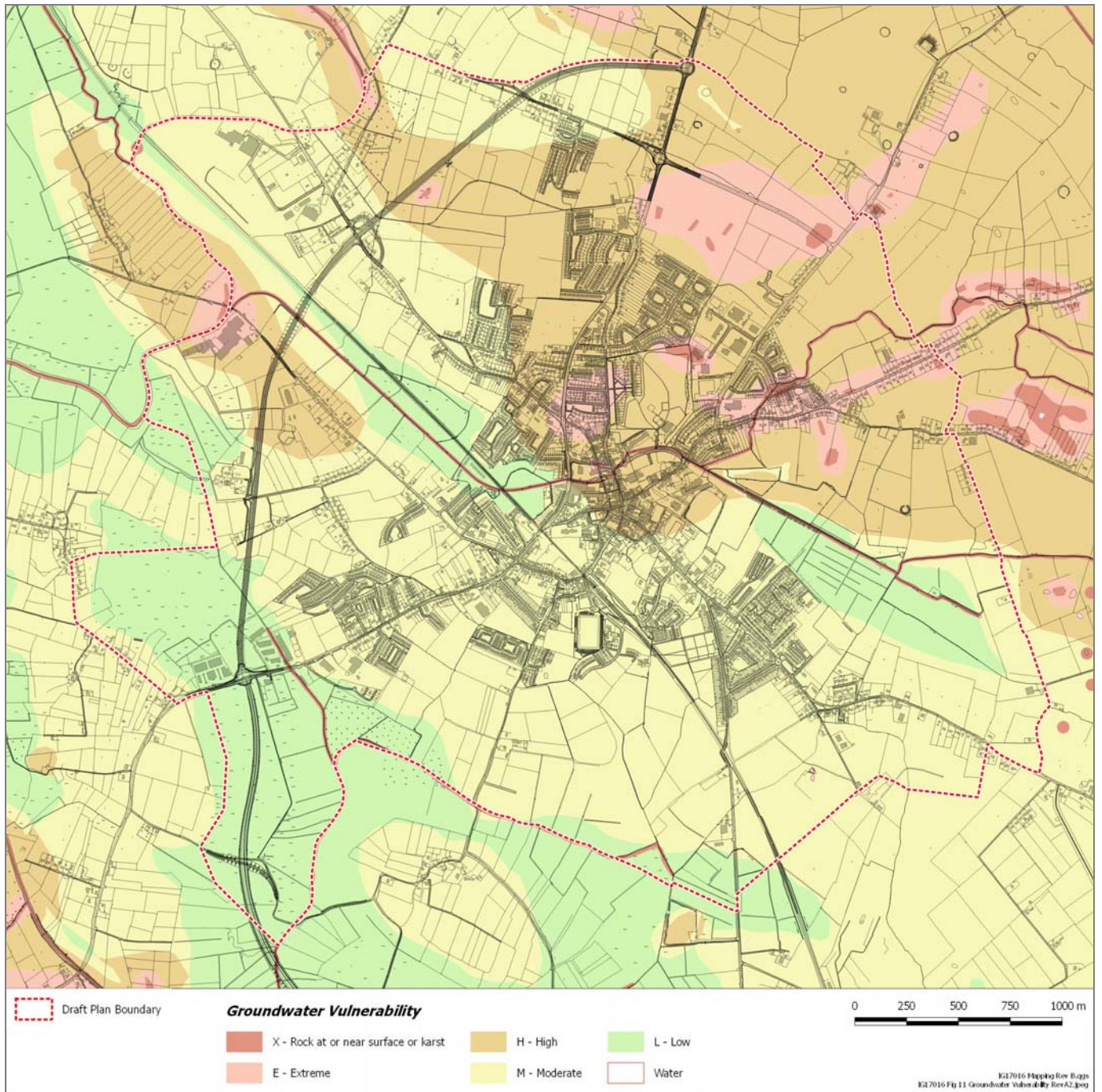


Figure 4.5 Groundwater Vulnerability

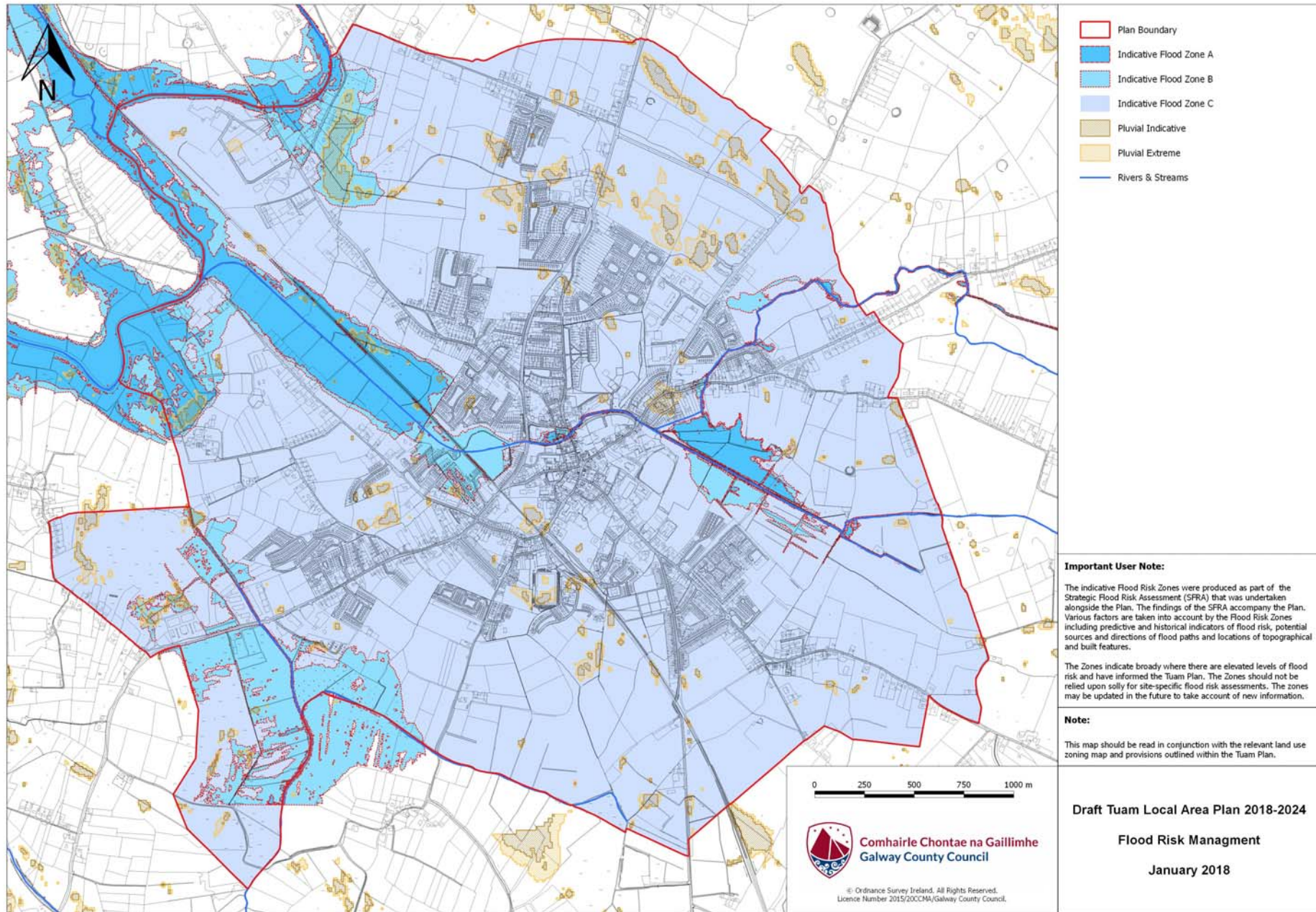


Figure 4.6 Flood Zones Map

4.7 Air and Climatic Factors

4.7.1 Climatic Factors

The key issue involving the assessment of the effects of implementing the Draft Plan on climatic factors relates to greenhouse gas emissions arising from transport. Interactions are also present with flooding (see Section 4.6.6) and these are covered in greater detail in the Strategic Flood Risk Assessment that also accompanies the Draft Plan.

The Draft Plan contributes towards improvements in sustainable mobility, thereby facilitating reductions in and limiting increases of greenhouse gas emissions. Such emissions would occur otherwise with higher levels of motorised transport and associated traffic. This is particularly relevant through the accommodation of new development, including consolidation, within Draft Plan. Land-use planning contributes to what number and what extent of journeys occur. By addressing journey time through land use planning and providing more sustainable modes and levels of mobility, noise and other emissions to air and energy use can be minimised. Furthermore, by concentrating populations, greenfield development – and its associated impacts – can be minimised and the cost of service provision can be reduced.

Ireland's emissions profile has changed considerably since 1990, with the contribution from transport more than doubling and the share from agriculture reducing since 1998. Travel is a source of:

1. Noise;
2. Air emissions; and
3. Energy use (42.2% of Total Final Energy Consumption in Ireland in 2015 was taken up by transport, the largest take up of any sector)¹⁴.

For 2015, total national greenhouse gas emissions are estimated to be 3.7% higher than emissions in 2014. This follows the 0.3% decrease in emissions reported for 2014, most likely attributable to a mild winter in that year. Emission reductions have been recorded in 8

of the last 10 years, however this has largely been as a result of reduced economic activity. There is now strong evidence that emissions are once again increasing in line with economic and employment growth, particularly in the Transport sector. Greenhouse gas emissions from the Transport sector increased by 4.2% in 2015. This is the third successive year of increases in transport emission. Greenhouse gas emissions in 1990 and 2015 by sector show a more than doubling of the proportion of emissions from the Transport sector, from 9.2% in 1990 to 19.8% in 2015¹⁵.

The EPA 2017 publication *Ireland's Greenhouse Gas Emission Projections 2016-2035* provides an assessment of Ireland's progress towards achieving its emission reduction targets set down under the EU Effort Sharing Decision (Decision No 406/2009/EC) for the years 2013-2020 and a longer term assessment based on current projections. Ireland's 2020 target is to achieve a 20% reduction of non-Emission Trading Scheme (non-ETS) sector emissions (i.e. agriculture, transport, the built environment, waste and non-energy intensive industry) on 2005 levels with annual limits set for each year over the period 2013-2020. The EPA has produced two scenarios in preparing greenhouse gas emission projections; a "With Existing Measures" scenario and a "With Additional Measures" scenario. For 2017 projections, the With Additional Measures scenario takes into account an expected shortfall in achieving full energy efficiency targets and renewable targets for electricity, transport and heat as set out in the National Energy Efficiency Action Plan and National Renewable Energy Action Plan. To assess progress towards achieving reduction targets out to 2020 the EPA is using legislative limits (for the period 2013-2016) and estimated annual limits (for the period 2017-2020) which will possibly be included in a European Commission proposal that takes into account methodological changes underpinning greenhouse gas emission inventories. The 2017 publication identifies that:

- For 2020 it is estimated that non-ETS sector emissions are projected to be 4% - 6% below 2005 levels by 2020. This compares to the target of 20% below 2005 levels by 2020.
- To determine compliance under the Effort Sharing Decision, any

¹⁴ Sustainable Energy Ireland (2016) *Energy in Ireland 1990 – 2015*

¹⁵ EPA (2017) *Ireland's Greenhouse Gas Emissions in 2015*

overachievement of the binding emission limit in a particular year (in the period 2013 to 2020) can be banked and used towards compliance in a future year. Under both scenarios Ireland is expected to exceed the annual limit in 2016.

- Under the With Existing Measures scenario, Ireland is projected to cumulatively exceed its obligations by 13.7 Mt of CO_{2eq} over the period 2013-2020. Under the With Additional Measures scenario, Ireland is projected to cumulatively exceed its obligations by 11.5 Mt of CO_{2eq} over the period 2013-2020. This takes into account the overachievement of the annual limits in the period 2013-2015 which is banked and used in the years 2016-2020. Using this mechanism Ireland is projected to cumulatively exceed its obligations in 2019.
- Agriculture and transport dominate non-ETS sector emissions; emission trends from these sectors will be key determinants in terms of meeting targets with both projected to increase in the period to 2020.

There will be new obligations (as yet undefined) for the years 2021-2030. Based on current emission projections, it is estimated that by 2030 total non-ETS emissions will be 1%-3% below 2005 levels. The estimates of greenhouse gas emissions to 2035 assume a continuation of the effect of policies and measures that are in place in 2020.

The first National Mitigation Plan 2017, prepared by the Department of Communications, Climate Action and Environment, represents an initial step to set Ireland on a pathway to achieve the level of decarbonisation required. It is a whole-of-Government Plan, reflecting in particular the central roles of the key Ministers responsible for the sectors covered by the Plan – Electricity Generation, the Built Environment, Transport and Agriculture, as well as drawing on the perspectives and responsibilities of a range of other Government Departments.

It is also noted that there are emerging updated objectives relating to climate adaptation that will replace those provided for in the 2012 National Climate Change Adaptation Framework. The upcoming framework will outline the national strategy to reduce the vulnerability of the country to the

negative effects of climate change and to avail of positive impacts.

4.7.2 Ambient Air Quality

In order to protect human health, vegetation and ecosystems, EU Directives set down air quality standards in Ireland and the other Member States for a wide variety of pollutants. These pollutants are generated through fuel combustion, in space heating, traffic, electricity generation and industry and, in sufficient amounts, could affect the well-being of the areas inhabitants. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

The principles to this European approach are set out in the Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) (which replaces the earlier Air Quality Framework Directive 1996 and the first, second and third *Daughter Directives*; the fourth *Daughter Directive* will be included in CAFE at a later stage).

The CAFE Directive:

- Sets new air quality objectives for PM_{2.5} (fine particles) including the limit value and exposure related objectives;
- Accounts for the possibility to discount natural sources of pollution when assessing compliance against limit values; and
- Allows the possibility for time extensions of three years (PM₁₀) or up to five years (NO₂, benzene) for complying with limit values, based on conditions and the assessment by the European Commission.

The fourth Daughter Directive lists pollutants, target values and monitoring requirements for the following: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.

The CAFE Directive was transposed into Irish legislation by the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011). It replaces the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), the Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of 2004) and S.I. No. 33 of 1999.

The fourth Daughter Directive was transposed into Irish legislation by the Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic

Hydrocarbons in Ambient Air Regulations 2009 (S.I. No. 58 of 2009).

In order to apply with European Directives relating to air quality, the EPA manages the National Ambient Air Quality Network and measures the levels of a number of atmospheric pollutants at locations across the country. For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (SI No. 271 of 2002). The main areas defined in each zone are:

- Zone A: Dublin Conurbation.
- Zone B: Cork Conurbation.
- Zone C: Other cities and large towns including Limerick, Galway, Waterford, Drogheda, Dundalk, Bray, Navan, Ennis, Tralee, Kilkenny, Carlow, Naas, Sligo, Newbridge, Mullingar, Wexford, Letterkenny, Athlone, Celbridge, Clonmel, Balbriggan, Greystones, Leixlip and Portlaoise.
- Zone D: Rural Ireland, i.e. the remainder of the State – small towns and rural areas of the country – excluding Zones A, B and C.

The current air quality at monitoring sites within County Galway is identified by the EPA as being *good*¹⁶.

The EPA's (2017) *Air Quality in Ireland 2016* identifies that:

- No levels above the EU limit value were recorded at any of the ambient air quality network monitoring sites in Ireland in 2016;
- WHO guideline values were exceeded at a number of monitoring sites for particulate matter (PM₁₀ and PM_{2.5}), ozone, SO₂ and NO₂; and
- 2016 dioxin survey shows that concentrations of dioxins and similar pollutants remain at a consistently low level in the Irish environment.

With regard to challenges, the report identifies that maintaining our standard of air quality in Ireland is a growing challenge. Overcoming this challenge is taking on an increased importance with the further understanding of the links between poor air quality and human health. The European Environment Agency (EEA) have estimated a figure of 1,510 premature deaths in Ireland in 2014 (EEA 2017) directly attributable to air quality, with

the predominant culprit being fine particulate matter (PM_{2.5}) from the use of solid fuels such as wood, coal and peat for home heating. It is becoming increasingly apparent that there is no safe level of air pollution, a position that is held by the WHO and is reflected in their much stricter (than EU limit values) air quality guideline values. The clear benefits in terms of health improvements of reducing the people's exposure to poor air quality is also supported by significant economic savings in doing so. This is highlighted by the Organisation for Economic Co-operation and Development's (OECD) report on the economic cost of air pollution (OECD 2016).

With regards to solutions, the report identifies the following that the implementation of the new Ambient Air Quality Monitoring Programme (AAMP) by the EPA will be key to tackling the issues surrounding air quality in Ireland. The two key sectors that predominantly impact negatively on air quality are residential heating and transport. The AAMP seeks to address these key issues by firstly informing the public on the status of air quality in Ireland. This will be achieved through an expansion of the monitoring network with a greater emphasis on provision of real-time particulate matter levels. In conjunction with this network expansion, the AAMP will implement a programme of citizen engagement which will be used to highlight the links between air quality, health and the actions or clean air choices that can be taken by citizens to directly impact and improve their local air quality. Namely these are:

- Any shift from the burning of solid fuel to cleaner, more energy efficient methods of home heating which will result in cleaner air quality for the consumer, their family and neighbours with a resultant improvement in their health.
- A transition in our modes of transport away from the use of the private diesel and petrol powered motor cars to alternative modes of transport such as walking, cycling and forms of transport that are environmentally friendly and sustainable such as electric motor powered vehicles. This is especially important in our at-risk urban environments.

To incentivise and compliment these behavioural changes in the public, the report identifies that it is imperative that Ireland

¹⁶ 10/01/2018 (<http://www.epa.ie/air/quality/>)

adopts policy solutions that can marry the twin issues of ambient air quality and climate change mitigation. The government's 'Clean Air Strategy' which is due for publication should point the way forward in terms of policy solutions for Ireland in this regard.

4.7.3 Existing Problems

Legislative objectives governing air and climatic factors were not identified as being conflicted within Tuam however there are national targets regarding greenhouse gas emissions and air quality that are in danger of not being met.

4.8 Material Assets

4.8.1 Water Services

4.8.1.1 Irish Water

Since January 2014, Irish Water is the State body responsible for the delivery, integration and implementation of strategic water and waste water projects and infrastructural improvements. Galway County Council no longer has a direct role in this area, however the Council works with Irish Water to help to ensure that the land use plans and water services investment plans align.

The function and role of Irish Water includes:

- Abstracting and treating water;
- Delivering water and waste water services to homes and businesses;
- Installing water meters and billing domestic and business customers;
- Raising finance to fund improvements and repairs in the water system; and
- Maintaining and operating the water system.

The upgrading of infrastructure will contribute towards compliance with the Water Framework Directive, EU Urban Waste Water Treatment Directive and Drinking Water Regulations and will help to protect human health and maintain the quality of surface and ground waters.

4.8.1.2 Waste Water Services Demand and Capacity Information

The EPA's 2017 report '*Urban Waste Water Treatment in 2016*' identified that:

- Waste water treatment at 50 of Ireland's 185 large urban areas did not meet relevant standards and improvements are needed at 148 urban areas;
- Raw sewage is released into the environment from 44 urban areas; and
- Significant capital investment to upgrade deficient waste water treatment systems is required to comply with EU standards, improve water quality, and prevent pollution of rivers, lakes and bathing water and to protect shellfish and pearl mussel habitats.

Based on the EPA's assessment of monitoring information provided by Irish Water and the enforcement activities carried out by the EPA, this report identifies urban areas with the most important environmental issues that must be addressed. There are 14 urban areas in County Galway listed currently as priority areas, where improvements are required to resolve urgent environmental issues.

Tuam benefits from a public waste water treatment system, which was designed to cater for a population equivalent of 3,000 with provision for future expansion to 6,000 population equivalent. Treatment in the plant consists of screening followed by activated sludge treatment, using a sequencing batch reactor where aeration, settlement and decanting occur. Effluent also undergoes tertiary treatment in the form of filtration and chemical dosing for phosphate removal. The final treated effluent discharges to Clare River/Stream, which in turn discharges to Lough Corrib, approximately 5km downstream. There are no secondary discharges from the agglomeration of Tuam. Some developments at the outer areas of the town remain connected to individual septic tanks or proprietary waste water treatment systems.

The existing Waste Water Treatment Plant (WWTP) is not listed in the current EPA *Urban Waste Water Treatment in 2016 Report*¹⁷ and has adequate capacity. Works are currently being planned under Capital Programmes to provide additional treatment capacity¹⁸ at WWTP in Tuam.

4.8.1.3 Drinking Water

Drinking water must be clean and wholesome. That means it must meet the relevant water quality standards and must not contain any other substance or micro-organism in concentrations or numbers that constitute a potential danger to human health.

Compliance with the drinking water requirements is determined by comparing the results of analyses submitted by water suppliers to the standard for 48 parameters specified in the European Communities (Drinking Water) Regulations (No. 2), 2007. To ensure that these standards are met, each water supply must be monitored on a regular basis.

Under Section 58 of the Environmental Protection Agency (EPA) Act 1992 the EPA is required to collect and verify monitoring results for all water supplies in Ireland covered by the European Communities (Drinking Water) Regulations, 2000. The EPA publishes their results in annual reports which are supported by Remedial Action Lists (RALs). The RAL identifies water supplies which are not in compliance with the Regulations mentioned above. The current RAL (Q3 of 2017) lists three water supply schemes in County Galway (Ballinasloe, Inishmean and Williamstown water supplies) for elevated levels of THMs above the standard in the Drinking Water Regulations.

Tuam receives its water supply from the Tuam Regional Water Supply Scheme which is abstracted from Lough Corrib at Luimnagh. The drinking water facility for Tuam is not listed on the current RAL (Q3 of 2017) and has adequate capacity.¹⁹

¹⁷ This report (EPA, 2017) provides a summary of urban waste water treatment in 2016 and identifies the most important environmental issues that must be addressed.

¹⁸ Indicative Infrastructure Capacity for Core Strategy Settlements, February 2017, Galway County Council

¹⁹ Indicative Infrastructure Capacity for Core Strategy Settlements, February 2017, Galway County Council

4.8.2 Waste Management

For the purposes of waste management planning, Ireland is now divided into three regions: Southern, Eastern-Midlands and Connacht-Ulster. Waste management plans for the three regions came into force in 2015. Galway is subject to the Connacht Ulster Waste Management Plan 2015-2021.

The EPA publishes data on waste generation and management in the National Waste Report and bulletins. The most recent National Waste Report was published in August 2014, reporting waste information for 2012, identified that in 2012, Ireland achieved all its EU obligations across a broad range of waste legislation.

4.8.3 Existing Problems

Continued development within Tuam will need to continue to be accompanied by appropriate levels of waste water and drinking water services.

4.9 Cultural Heritage

4.9.1 Archaeological Heritage

4.9.1.1 Introduction

Archaeology is the study of past societies through the material remains left by those societies and the evidence of their environment. Archaeological heritage consists of such material remains (whether in the form of sites and monuments or artefacts in the sense of moveable objects) and environmental evidence. As archaeological heritage can be used to gain knowledge and understanding of the past it is of great cultural and scientific importance.

Archaeological sites and monuments vary greatly in form and date; examples include earthworks of different types and periods, (e.g. early historic ringforts and prehistoric burial mounds), megalithic tombs from the Prehistoric period, medieval buildings, urban archaeological deposits and underwater features.

Archaeological sites may have no visible surface features; the surface features of an archaeological site may have decayed completely or been deliberately removed but

archaeological deposits and features may survive beneath the surface.

Archaeological heritage is protected under various legislation including the National Monuments Acts (1930-2004), Natural Cultural Institutions Act 1997 and the Planning Acts.

4.9.1.2 Record of Monuments and Places

The National Monument Acts 1930-2004 are the primary legislative framework for the protection of archaeological heritage in Ireland. Through the definition of monuments, historic monuments, and national monuments a wide range of structures and features fall under the remit of these Acts.

The Record of Monuments and Places (RMP) was established under Section 12 of the National Monuments (Amendment) Act 1994 and structures, features, objects or sites listed in this Record are known as Recorded Monuments. The term Monument refers to any artificial or partly artificial building or structure, that has been carved, sculptured or worked upon or which appears to have been purposely put or arranged in position. It also includes any, or part of any prehistoric or ancient tomb, grave or burial deposit, or ritual, industrial or habitation site. Monuments that predate 1700 AD are automatically accorded the title Historic Monument. A 'National Monument' is defined in the National Monuments Acts (1930-2004) as a monument or the remains of a monument, the preservation of which is of national importance by reason of the historical, archaeological, traditional, artistic or architectural interest.

As well as extending protection to all known sites, now identified as Recorded Monuments, the National Monuments Acts 1930 – 2004 extends protection to all previously unknown archaeological items and sites that are uncovered through ground disturbance or the accidental discovery of sites located underwater. Where necessary, the Minister with responsibility for Heritage will issue preservation orders to ensure protection is afforded to sites believed to be under threat.

Monuments within and surrounding Tuam and associated zones of notification, where available, are identified on Figure 4.9.

Tuam is classified as a monastic town and is a recorded monument. The town has developed a special historical archaeological interest

especially with regard to its medieval importance and the fact that it was a strategically important ecclesiastical centre. There are 55 various entries RMP within and around Tuam providing evidence of early settlement including High Cross (National Monument in State Care). There are also 21 sites and monuments within the Zone of Archaeological Potential (as shown on Figure 4.9).

4.9.2 Architectural Heritage

4.9.2.1 Introduction

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

4.9.2.2 Protected Structures

Part IV of the Planning and Development Act requires every development plan to include a Record of Protected Structures (RPS). A 'protected structure' is a structure or a specific feature of the structure as may be specified that a Planning Authority considers to be of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view.

The placing of a structure on the RPS seeks to ensure that the character and interest of the structure is maintained and any changes or alterations to it are carried out in such a way as to retain and enhance that character and interest. The inclusion of a structure in the RPS confers certain responsibilities upon the owner of the structure and requires that planning permission be sought for any changes or alterations to the structure. The definition of a 'structure' or 'a specified part of a structure' for the purpose of the RPS includes "the interior of the structure; the land lying within the curtilage of the structure; any other structures lying within the curtilage of that structure and their interiors; and all fixtures and features which form part of the interior or exterior of the structure". From the date of notification of an intention to include a structure in the RPS, the owner has a duty to protect that structure from endangerment. The Council may, on receipt of a written

request from the owner or occupier of a protected structure, issue a declaration under Section 57 of the Planning and Development Act 2000 (as amended), outlining certain works it considers would not materially affect the character and interest of the protected structure and which are, therefore, exempted from the requirement for planning permission. Any works that would materially affect the character and interest of a structure require planning permission. In general works to a protected structure should comply with the guidelines as set out in the Architectural Heritage Protection Guidelines from the Department.

Tuam is significant as an historic town on account of its ancient origins, with a number of archaeological sites within and around the town. The majority of buildings span the late 18th to late 19th centuries and share many characteristics.

There are 50 RPS entries within and around Tuam (see Figure 4.7 and Figure 4.8).

4.9.2.3 Architectural Conservation Areas

In accordance with Section 81 of the Planning and Development Act, Development Plans are required to include an objective to preserve the character of a place, area, group of structures or townscape, taking account of building lines and heights, that:

- a) is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or
- b) contributes to the appreciation of protected structures,

if the Planning Authority is of the opinion that its inclusion is necessary for the preservation of the character of the place, area, group of structures or townscape concerned and any such place, area, group of structures or townscape shall be known as an "Architectural Conservation Area" (ACA).

An ACA may or may not include Protected Structures. In an ACA, protection is placed on the external appearance of such areas or structures.

There is currently one ACA within Tuam: Tuam Town Centre ACA (see Figure 4.7 and Figure 4.8).

The principal significance of the ACA lies in the town's ancient origins and historic settlement patterns. The majority of its buildings span the late 18th to late 19th centuries and share many characteristics. Surviving traditional shop fronts are important features. Within the centre the majority of uses are commercial in nature at ground floor with upper stories in a variety of different uses from residential, storage and offices. Apart from the Cathedrals, ecclesiastical, public and educational buildings, there is a well-defined consistency of buildings lining principal streets.

4.9.3 Existing Problems

The context of archaeological and architectural heritage has changed over time however no existing conflicts with legislative objectives governing archaeological and architectural heritage have been identified.

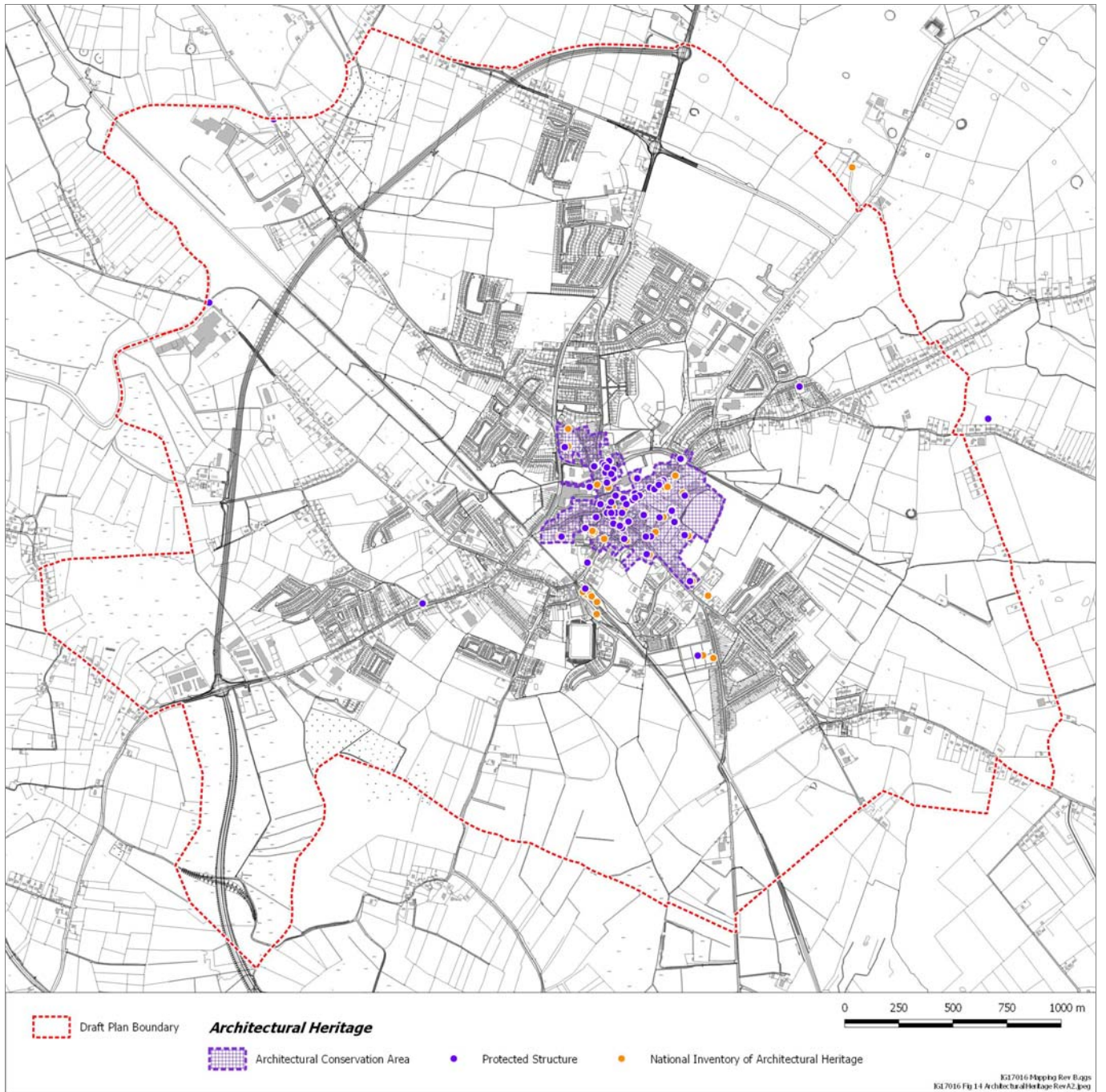


Figure 4.7 Architectural Designations

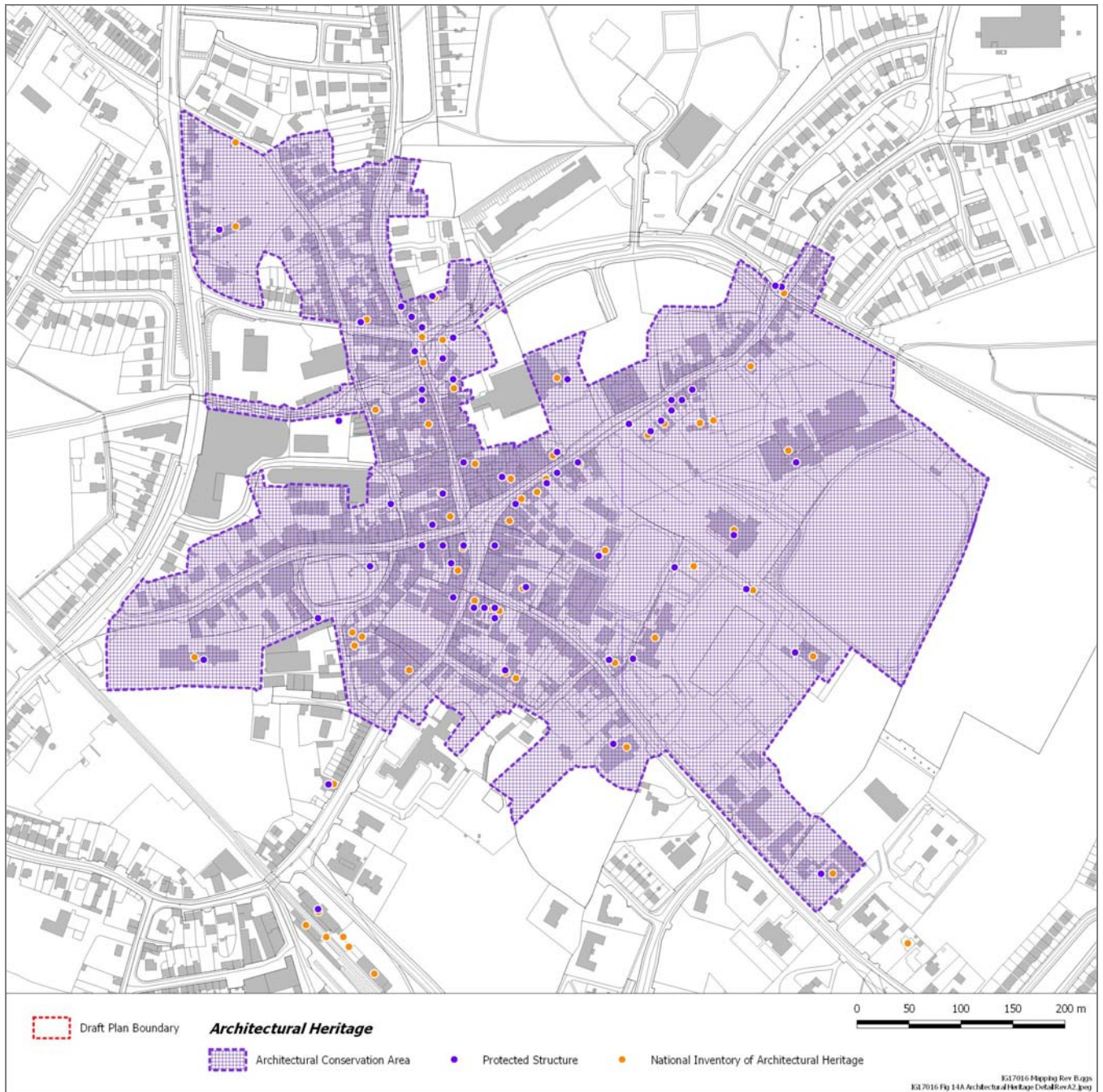


Figure 4.8 Architectural Designations (more detailed)

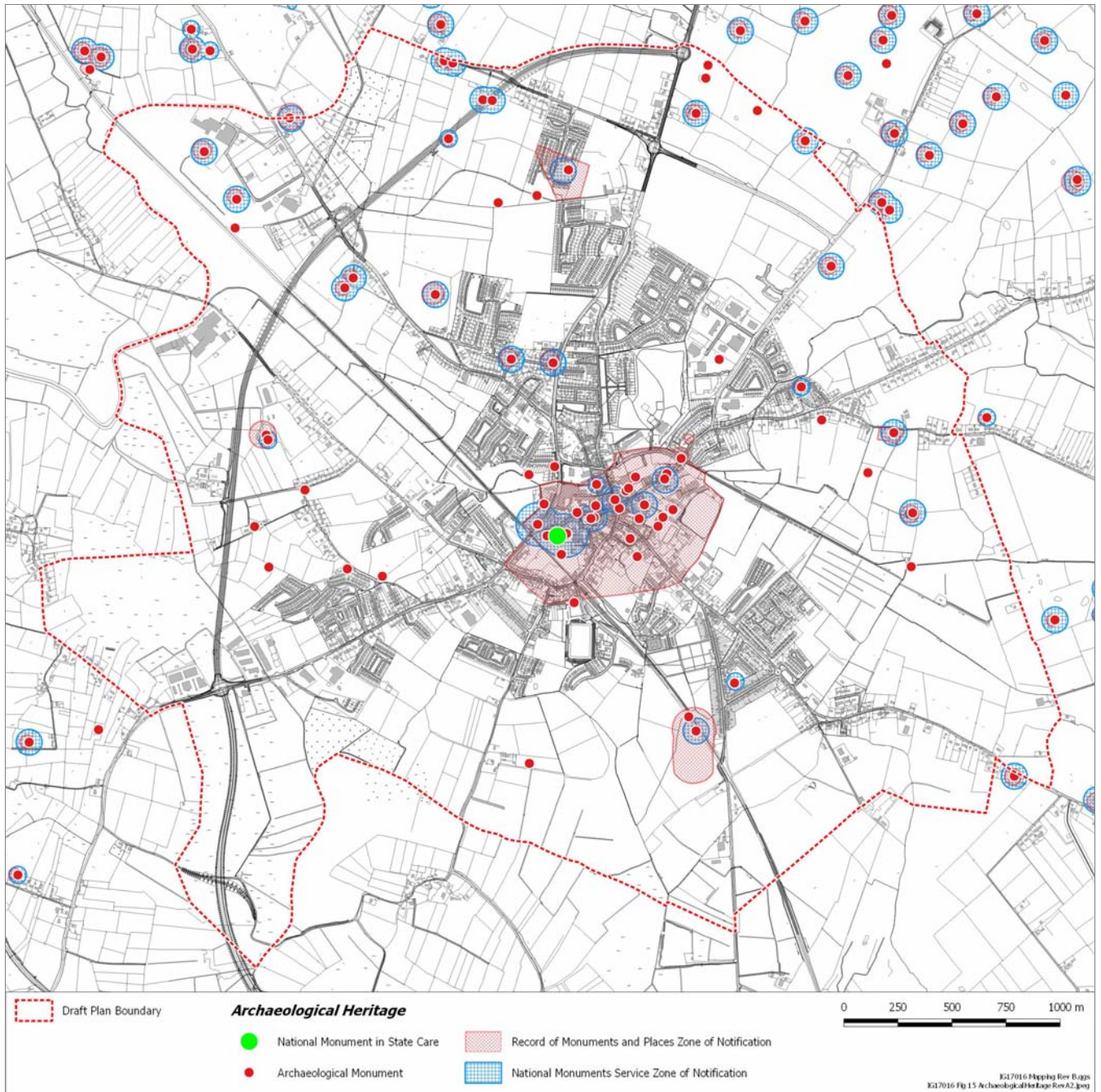


Figure 4.9 Archaeological Designations

4.10 Landscape

4.10.1 Introduction

Landscapes are areas which are perceived by people and are made up of a number of layers: landform, which results from geological and geomorphological history; landcover, which includes vegetation, water, human settlements, and; human values which are a result of historical, cultural, religious and other understandings and interactions with landform and landcover.

4.10.2 Legislation

The importance of landscape and visual amenity and the role of its protection are recognised in the Planning and Development Act 2000 as amended, which requires that Development Plans include objectives for the preservation of the landscape, views and the amenities of places and features of natural beauty.

4.10.3 Landscape Sensitivities

The Landscape Character Assessment for County Galway (2003) identifies Landscape Character Areas, classifies landscapes in Galway according to their sensitivity (their ability to accommodate change or intervention without suffering unacceptable effects to character and values) and values and identifies focal points/views.

The following five sensitivity classes were established by the Landscape Character Assessment:

- Class 1 – Low sensitivity;
- Class 2 – Moderate sensitivity;
- Class 3 – High sensitivity;
- Class 4 – Special; and,
- Class 5 – Unique.

The most sensitive landscapes are 'Class 5 - Unique', 'Class 4 - Special' and 'Class 3 - High sensitivity' while landscapes of lesser sensitivity are 'Class 2 - Moderate sensitivity' and 'Class 1 - Low sensitivity'. The sensitivity of a landscape to development and therefore to change will vary according to its character and to the importance which is attached to any combination of landscape values.

Tuam and its environs are located predominately within Landscape Sensitivity Class One – Low Sensitivity. There is, however, still a need to protect the visual and natural amenity of Tuam, its setting, townscape and its historic context and traditions. The amenities of the town consist of the built environment including ecclesiastical buildings, cathedrals and historical ruins, the riverside character, the Palace Grounds Town Park, the sports arenas, parklands and the rich agricultural environs.

There are two views afforded protection by the County Development Plan, Protected View No. 25 - Tuam - High Cross and Protected View No. 26 - Knockmoy Abbey southeast of Tuam.

4.10.4 Existing Problems

Primary and subsequent ecological succession and new developments have resulted in changes to the visual appearance of landscapes within County Galway overtime however legislative objectives governing landscape and visual appearance were not identified as being conflicted with.

Section 5 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies which generally govern environmental protection objectives established at international, Community or Member State level e.g. the environmental protection objectives of various European Directives which have been transposed into Irish law and which are required to be implemented.

The SEOs are set out under a range of topics and are used as standards against which the provisions of the Draft Plan, Proposed Material Alterations and the alternatives are evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

The SEOs are linked to indicators which can facilitate monitoring the environmental effects of the Plan as well identifying targets which the Plan can help work towards.

All SEOs, indicators and targets are provided on Table 5.1 overleaf while background to these measures is provided in the subsections below.

Further detail on legislation, plans and programmes are provided under Section 2 (and associated Appendix I "Relationship with Legislation and Other Plans and Programmes") and Section 4.

Table 5.1 Strategic Environmental Objectives, Indicators and Targets

Environmental Component	Strategic Environmental Objective(s)	Selected Indicator(s)	Selected Target(s)
Biodiversity, Flora and Fauna	B1: To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species ²⁰	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	B1: Maintenance of favourable conservation status for all habitats and species protected under national and international legislation to be unaffected by implementation of the Plan ²¹
	B2: To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for in the Plan
	B3: To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites ²² and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: No significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976
Population and Human Health	PHH1: To protect populations and human health from exposure to incompatible landuses	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan
Soil	S1: To avoid damage to the hydrogeological and ecological function of the soil resource	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity

²⁰ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

²¹ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- (a) no alternative solution available;
- (b) imperative reasons of overriding public interest for the plan to proceed; and
- (c) adequate compensatory measures in place.

²² The Planning and Development Act 2000 as amended defines a 'wildlife site'.

Environmental Component	Strategic Environmental Objective(s)	Selected Indicator(s)	Selected Target(s)
Water	W1: To maintain and improve, where possible, the quality and status of surface waters	W1i: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009) W1ii: Mandatory and Guide values as set by the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008)	W1i: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve <i>good status</i> ²³ W1ii: To achieve - as a minimum - Mandatory values and, where possible, to achieve Guide values as set by the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008)
	W2: To prevent pollution and contamination of ground water	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC
	W3: To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG and OPW, 2009)	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with <i>The Planning System and Flood Risk Management Guidelines for Planning Authorities</i>
Material Assets	M1: To serve new development with adequate and appropriate waste water treatment	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan	M1: All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan
	M2: To serve new development with adequate drinking water that is both wholesome and clean	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan
	M3: To reduce waste volumes, minimise waste to landfill and increase recycling and reuse.	M3i: Total collected and brought household waste M3ii: Packaging recovered (t) by self-complying packagers	M3i: Minimise increases in and, where possible, reduce household waste generation M3ii: Maximise increases in packaging recovered (t) by self-complying packagers
Air and Climatic Factors	C1: To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport	C1: Percentage of population travelling to work, school or college by public transport or non-mechanical means	C1: An increase in the percentage of the population travelling to work, school or college by public transport or non-mechanical means

²³ Good status as defined by the WFD equates to approximately the following in the current national schemes of classification as set out by the EPA:

- *Q4* in the biological classification of *rivers*;
- *Mesotrophic* in the classification of *lakes*; and
- *Unpolluted status* in the Assessment of Trophic Status of Estuaries and Bays in Ireland (ATSEBI).

Environmental Component	Strategic Environmental Objective(s)	Selected Indicator(s)	Selected Target(s)
Cultural Heritage	CH1: To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context	CH1: Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and the context of the above within the surrounding landscape where relevant) - protected from adverse effects resulting from development which is granted permission under the Plan	CH1: Protect entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and their context of the above within the surrounding landscape where relevant) from adverse effects resulting from development which is granted permission under the Plan
	CH2: To protect architectural heritage including entries to the Record of Protected Structures and Architectural Conservation Areas and their context	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from adverse effects resulting from development which is granted permission under the Plan	CH2: Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from adverse effects resulting from development which is granted permission under the Plan
Landscape	L1: To avoid significant adverse impacts on the landscape - especially with regard to landscapes which are most valuable and most sensitive to change and protected focal points and views.	L1: Number of complaints received from statutory consultees regarding avoidable impacts on the landscape - especially with regard to landscapes which are most valuable and most sensitive to change and protected focal points and views - resulting from development which is granted permission under the Plan	L1: No developments permitted which result in avoidable impacts on the landscape - especially with regard to landscapes which are most valuable and most sensitive to change and protected focal points and views - resulting from development which is granted permission under the Plan

Section 6 Description of Alternatives

6.1 Introduction

As per the requirements of the SEA Directive, this SEA considers reasonable alternatives, which are capable of being implemented for the Proposed Material Alterations, taking into account the objectives and the geographical scope of the Alterations.

27 Material Alterations were proposed after public display of the Proposed Variation.

Proposed Material Alterations No. 1 to 16 were determined as requiring SEA.

Proposed Material Alterations MA1 to MA16 propose various changes in land use zoning. There is no established planning need to zone these lands. The alternative for each of these Alterations is to retain the zoning as it is included within the Draft Plan.

The alternatives are arrayed on the table below.

Table 6.1 Alternatives

Proposed Material Alteration No.	Alternative A: Zoning as proposed by the Draft Plan	Alternative B: Zoning as proposed by the Material Alterations
MA1	These lands are located outside of the Draft Plan boundary.	Industrial
MA2	Open Space/ Recreation and Amenity	Residential Phase 1
MA3	Existing Residential	Residential Phase 2
MA4	These lands are located outside of the Draft Plan boundary.	Residential Phase 1
MA5	These lands are located outside of the Draft Plan boundary.	Residential Phase 1 Existing Residential
MA6	These lands are located outside of the Draft Plan boundary.	Residential Phase 1 Existing Residential
MA7	Residential Phase 2	Residential Phase 1
MA8	Residential Phase 2	Residential Phase 1
MA9	Agricultural	Residential Phase 1
MA10	Business and Enterprise	Residential Phase 1
MA11	These lands are located outside of the Draft Plan boundary.	Residential Phase 1
MA12	Community Facilities	Residential Phase 1
MA13	Agricultural	Residential Phase 2
MA14	Residential Phase 1	Commercial/Mixed Use
MA15	Agricultural	Industrial zoning, with 20 metre Agricultural buffer to adjacent existing residential site
MA16	Business and Enterprise	Commercial/Mixed Use
MA1 to MA16	All above, as per Draft Plan	All above, as per Proposed Material Alterations

Section 7 Evaluation of Alternatives

7.1 Introduction

This section provides an evaluation of the environmental effects of implementing the alternatives including the taking into account of cumulative effects.

7.2 Methodology

The relevant aspects of the current state of the environment (see Section 4) and the Strategic Environmental Objectives (see Section 5 and Table 7.1) are used in the evaluation of alternatives.

The alternatives are evaluated using compatibility criteria (see Table 7.2 below) in order to determine how they would be likely to affect the status of the SEOs. The SEOs and the alternatives are arrayed against each other to identify which interactions - if any - would cause effects on specific components of the environment. Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for the SEO likely to be affected - in this instance 'to ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species²⁴.

The interactions identified are reflective of likely significant environmental effects²⁵.

The degree to which effects can be determined is limited as the Draft Plan – and associated Material Alterations – will be implemented through the lower tier environmental assessments and/or decision making of the Council. Nonetheless a comparative evaluation of the various alternatives can be provided.

²⁴ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

²⁵ These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Table 7.1 Strategic Environmental Objectives

Environmental Component	SEO Code	SEO
Biodiversity, Flora and Fauna	B1	To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species ²⁶
	B2	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
	B3	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites ²⁷ and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act
Population and Human Health	PHH1	To protect populations and human health from exposure to incompatible landuses
Soil	S1	To avoid damage to the hydrogeological and ecological function of the soil resource
Water	W1	To maintain and improve, where possible, the quality and status of surface waters
	W2	To prevent pollution and contamination of ground water
	W3	To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG and OPW, 2009)
Material Assets	M1	To serve new development with adequate and appropriate waste water treatment
	M2	To serve new development with adequate drinking water that is both wholesome and clean
	M3	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse.
Air and Climatic Factors	C1	To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport
Cultural Heritage	CH1	To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context
	CH2	To protect architectural heritage including entries to the Record of Protected Structures and Architectural Conservation Areas and their context
Landscape	L1	To avoid significant adverse impacts on the landscape - especially with regard to landscapes which are most valuable and most sensitive to change and protected focal points and views.

Table 7.2 Criteria for appraising the effect of Alternatives on SEOs

Likely to Improve status of SEOs	Potential Conflict with status of SEOs - likely to be mitigated		Probable Conflict with status of SEOs- unlikely to be fully mitigated
	to a Lesser degree	to a Greater degree	

²⁶ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

²⁷ The Planning and Development Act 2000 as amended defines a 'wildlife site'.

7.3 Detailed Assessment of Alternatives

7.3.1 Alternative A for Individual Alterations

Alternatives that provide for Zoning as provided by the Draft Plan (these alternatives are referred to as **Alternative A**, see Table 6.1) would contribute towards flood risk management in compliance with the Flood Risk Management Guidelines and as a result would contribute towards the protection of human health.

As these alternatives provide for various types of built development they would have the potential to conflict with all environmental components. Potentially significant adverse environmental effects arising from this conflict are described on Table 7.3.

Table 7.3 Potentially Significant Adverse Environmental Effects, if unmitigated, common to all alternatives

Environmental Component	Potentially Significant Adverse Environmental Effects, if unmitigated
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> o Arising from both construction and operation of development and associated infrastructure: <ul style="list-style-type: none"> o Loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna; o Habitat loss, fragmentation and deterioration, including patch size and edge effects; and o Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species.
Population and Human Health	<ul style="list-style-type: none"> o Potential interactions if effects upon environmental vectors such as water and air are not mitigated.
Soil	<ul style="list-style-type: none"> o Damage to the hydrogeological and ecological function of the soil resource.
Water	<ul style="list-style-type: none"> o Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology. o Increase in the risk of flooding.
Material Assets	<ul style="list-style-type: none"> o Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts). o Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts). o Increases in waste levels.
Air and Climatic Factors	<ul style="list-style-type: none"> o Emissions to air including greenhouse gas emissions and other emissions.
Cultural Heritage	<ul style="list-style-type: none"> o Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.
Landscape	<ul style="list-style-type: none"> o Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape, especially with regard to landscapes which are most valuable and most sensitive to change and protected focal points and views.

For all interactions under Alternative A, these effects will be mitigated by both provisions integrated into the Draft Plan and existing provisions already in force through the County Development Plan – see Section 9.

Alternative A for individual alterations is assessed against SEOs on Table 7.5.

7.3.2 Alternative B for Individual Alterations

As a result of providing for various types of built development, alternatives that provide for zoning as proposed by the Material Alterations (these alternatives are referred to as **Alternative B**, see Table 6.1) would have the potential to result in adverse effects on all environmental components within the Plan area and beyond. Potentially significant adverse environmental effects arising from this conflict are described on Table 7.3.

Alternatives B for Proposed Material Alterations MA 1, MA 2 and MA 3, in particular, propose the provision of a range of incompatible uses within areas that are at elevated risk of flooding. The areas that are at elevated risk of flooding have been identified by the SFRA. Submissions have been made with respect to land use zoning flood risk at these lands however no evidence is provided in the submissions showing that the sites are not at elevated levels of flood risk.

Providing incompatible uses in these areas is contrary to proper and sustainable flood risk management and contrary to *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) and *Circular PL2/14*.

If the lands subject to MA 1, MA 2 and MA 3 were developed, there would be a heightened risk of flooding and associated adverse effects on people and their assets and the wider environment. Such effects are identified on Table 7.4 and range from loss of life, to damage to property, to loss of income.

Table 7.4 Selection of Adverse Effects (on People and Property) that occur as a result of Flooding

Tangible Effects	Intangible Human and Other Effects
Damage to buildings (houses)	Loss of life
Damage to contents of buildings	Physical injury
Damage to new infrastructure e.g. roads	Increased stress
Loss of income	Physical and psychological trauma
Disruption of flow of employees to work causing knock on effects	Increase in flood related suicide
Enhanced rate of property deterioration and decay	Increase in ill health
Long term rot and damp	Homelessness
	Loss of uninsured possessions

In addition to these effects on people and property, there would be elevated potential for water quality to be adversely affected (as a result of flooding of water treatment systems and collection networks and flooding of unknown substances stored onsite). Polluted or contaminated waters would have the potential to adversely affect human health and biodiversity and flora and fauna (including designated European Sites).

Furthermore, Proposed Material Alterations MA 1 and MA 11 propose zoning within the designated Lough Corrib Special Area of Conservation. Development of MA 1 and MA 11 lands that are subject to the SAC designation would lead to a heightened risk of adverse effects upon the qualifying interests of this site.

Alternative B for individual alterations is assessed against SEOs on Table 7.5.

7.3.3 Alternative A for Combined Alterations

Alternatives that provide for zoning as proposed by Draft Plan (these alternatives are referred to as **Alternative A**, see Table 6.1) would be likely to cumulatively contribute towards flood risk management in compliance with the Flood Risk Management Guidelines and as a result would contribute towards the protection of human health.

As these alternatives provide for various types of built development, they would have the potential to cumulatively conflict with all environmental components. Potentially significant adverse environmental effects arising from this conflict are described on Table 7.3.

The extent of potentially significant adverse environmental effects arising under Alternative A would be of a lesser degree than the extent of potentially significant adverse environmental effects arising under Alternative B.

Alternative A for combined alterations is assessed against SEOs on Table 7.5.

7.3.4 Alternative B for Alterations Combined

Alternatives that provide for zoning as proposed by the Material Alterations (these alternatives are referred to as **Alternative B**, see Table 6.1) provide a range of incompatible uses within areas that are at elevated risk of flooding. These alternatives would have the potential to cumulatively, adversely and significantly affect human health, new and existing property, the status of waters and ecology.

Furthermore, Alternative B proposes zoning within the designated Lough Corrib Special Area of Conservation. Development of MA 1 and MA 11 lands that are subject to the SAC designation would lead to a heightened risk of adverse effects upon the qualifying interests of this site.

Taking into account the considerable extent of lands involved, cumulative adverse effects would be likely to arise on all environmental components as a result of the provision of unnecessary zoning (for which there is no established planning need) at Proposed Material Alterations No. 1 to 16 lands. The extent of potentially significant adverse environmental effects arising under Alternative B would be of a greater degree than the extent of potentially significant adverse environmental effects arising under Alternative A.

Alternative B for combined alterations is assessed against SEOs on Table 7.5.

7.4 The Recommended Alternative for the Proposed Material Alterations No. 1 to 16

Elected Members will meet after the public display of Proposed Material Alterations and associated documents including the SEA Environmental Report on the Alterations and the Stage 2 AA Natura Impact Report.

In order to be consistent with the need to contribute towards proper planning and sustainable development and in order to comply with the Flood Risk Management Guidelines and Habitats Directive, it is recommended that Alternative A (zoning as proposed by the Draft Plan and not zoning as proposed by the Material Alterations) is selected in each instance.

Table 7.5 Assessment of Alternatives against Strategic Environmental Objectives

Material Alteration, Alternative ²⁸	Likely to Improve status of SEOs	Potential Conflict with status of SEOs - likely to be mitigated		Probable Conflict with status of SEOs- unlikely to be fully mitigated ²⁹
		to a Lesser degree	to a Greater degree	
Material Alteration No. 1, Alternative A	W3 PHH1	B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 1, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 2, Alternative A	W3 PHH1	B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 2, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 3, Alternative A	W3 PHH1	B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 3, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 4, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 4, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 5, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 5, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 6, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 6, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 7, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 7, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 8, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 8, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 9, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 9, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 10, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 10, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 11, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 11, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 12, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 12, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 13, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 13, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 14, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 14, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 15, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 15, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
Material Alteration No. 16, Alternative A		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Material Alteration No. 16, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1
No. 1 to 16 Combined, Alternative A	W3 PHH1	B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
No. 1 to 16 Combined, Alternative B			B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1

²⁸ The emerging conclusion of the Stage 2 AA is that the Proposed Material Alterations are unacceptable in the context of the Habitats Directive. The Stage 2 AA Natura Impact Report provides two options for the zoning of lands within floodplains by Proposed Material Alterations MA1 to MA3.

²⁹ Alternative B for Alterations No. 4 to 16 relate to lands within Flood Zone C. Taking into account cumulative effects, in combination with Alterations No. 1 to 3, Alterations No. 4 to 16 would be likely to result in adverse environmental effects, including those relating to flood risk.

Section 8 Assessment of the Proposed Material Alterations

8.1 Introduction

This section provides an assessment of environmental effects from implementation of the Proposed Material Alterations (No. 1 to 16). The provisions of the Proposed Material Alterations are evaluated using compatibility criteria (see Table 8.1 below) in order to determine how they would be likely to affect the status of the SEOs. The SEOs and the provisions of the Alteration are arrayed against each other to identify which interactions - if any - would cause effects on specific components of the environment. Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for the SEO likely to be affected - in this instance 'To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species'³⁰.

The interactions identified are reflective of likely significant environmental effects³¹;

1. Interactions that would be likely to improve the status of a particular SEO would be likely to result in a significant positive effect on the environmental component to which the SEO relates.
2. Interactions that would potentially conflict with the status of an SEO and would be likely to be mitigated would be likely to result in potential significant negative effects however these effects would be likely to be mitigated by measures which have been integrated into the Draft Plan/the existing County Development Plan.
3. Interactions that would probably conflict with the status of an SEO and would be unlikely to be mitigated would be likely to result in a significant negative effect on the environmental component to which the SEO relates.

The degree of significance of effects occurring cannot be fully determined at this level of decision making due to the lack of exact detail available with regard to the type or scale of development that will be permitted under the Draft Plan.

Mitigation measures to prevent or reduce significant adverse effects are identified in Section 9.

Table 8.1 Criteria for appraising the effect of Proposed Material Alterations on SEOs

Likely to Improve status of SEOs	Potential Conflict with status of SEOs - likely to be mitigated	Probable Conflict with status of SEOs- unlikely to be fully mitigated	No Likely interaction with status of SEOs
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³⁰ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

³¹ These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

8.2 Assessment of Proposed Material Alterations

Proposed Material Alterations MA 1, MA 2 and MA 3, propose the provision of a range of incompatible uses within areas that are at elevated risk of flooding. The areas that are at elevated risk of flooding have been identified by the SFRA. Submissions have been made with respect to land use zoning flood risk at these lands however no evidence is provided in the submissions showing that the sites are not at elevated levels of flood risk.

Providing incompatible uses in these areas is contrary to proper and sustainable flood risk management and contrary to *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) and *Circular PL2/14*.

If the lands subject to MA 1, MA 2 and MA 3 were developed, there would be a heightened risk of flooding and associated adverse effects on people and their assets and the wider environment. Such effects are identified on Table 8.3 and range from loss of life, to damage to property, to loss of income.

In addition to these effects on people and property, there would be elevated potential for water quality to be adversely affected (as a result of flooding of water treatment systems and collection networks and flooding of unknown substances stored onsite). Polluted or contaminated waters would have the potential to adversely affect human health and biodiversity and flora and fauna (including designated European Sites).

Table 8.2 Selection of Adverse Effects (on People and Property) that occur as a result of Flooding

Tangible Effects	Intangible Human and Other Effects
Damage to buildings (houses)	Loss of life
Damage to contents of buildings	Physical injury
Damage to new infrastructure e.g. roads	Increased stress
Loss of income	Physical and psychological trauma
Disruption of flow of employees to work causing knock on effects	Increase in flood related suicide
Enhanced rate of property deterioration and decay	Increase in ill health
Long term rot and damp	Homelessness
	Loss of uninsured possessions

Proposed Material Alterations MA 1 and MA 11 propose zoning within the designated Lough Corrib Special Area of Conservation. Development of MA 1 and MA 11 lands that are subject to the SAC designation would lead to a heightened risk of adverse effects upon the qualifying interests of this site.

Taking into account the considerable extent of lands involved, cumulative adverse effects would be likely to arise on all environmental components as a result of the provision of unnecessary zoning (for which there is no established planning need) at Proposed Material Alterations No. 1 to 16 lands.

As there is no established planning need for the zoning of these lands, no positive effects arising from reducing the need to develop more sensitive, less well serviced areas beyond the Plan boundary are present. There are no significant positive environmental effects arising from any of Proposed Material Alterations 1 to 16.

Table 8.3 provides a detailed overall evaluation of the environmental effects arising from the Proposed Material Alterations. The effects encompass all in-combination/cumulative effects arising from implementation of the Alterations. The potentially significant adverse environmental effects (if unmitigated) arising from implementation of the Proposed Alterations are detailed as are residual effects, taking into account mitigation through both provisions integrated into the Draft Plan and existing provisions already in force through the County Development Plan – see Section 9.

Environmental impacts which occur will be determined by the nature and extent of multiple or individual projects and site specific environmental factors.

An assessment of Proposed Material Alterations against SEOs is provided at Table 8.4.

Table 8.3 Overall Evaluation – Effects arising from Proposed Material Alterations No. 1 to 16

Environmental Component	Significant Positive Effect, likely to occur	Potentially Significant Adverse Environmental Effects, if unmitigated	Residual Adverse Effects
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> • None 	<p>Arising from both construction and operation of development and associated infrastructure:</p> <ul style="list-style-type: none"> • Loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna; • Habitat loss, fragmentation and deterioration, including patch size and edge effects; and • Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species. 	<ul style="list-style-type: none"> • Loss of an extent of non-protected habitats and species arising from the replacement of semi-natural land covers with artificial surfaces • Losses or damage to ecology • Potential for adverse effects on European Sites, arising from introduction of heightened flood risk to existing and future populations and property
Population and Human Health	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Potential interactions if effects upon environmental vectors such as water and air are not mitigated. 	<ul style="list-style-type: none"> • Significant adverse effects on population and human health likely, arising from introduction of heightened flood risk to existing and future populations and property
Soil	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Damage to the hydrogeological and ecological function of the soil resource. 	<ul style="list-style-type: none"> • Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces
Water	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology. • Increase in the risk of flooding. 	<ul style="list-style-type: none"> • Increased loadings as a result of development • Introduces heightened flood risk to existing and future populations and property – and associated interactions with the status of surface waters during flood events
Material Assets	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts). • Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts). • Increases in waste levels. 	<ul style="list-style-type: none"> • Residual wastes to be disposed of in line with higher level waste management policies
Air and Climatic Factors	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Emissions to air including greenhouse gas emissions and other emissions. 	<ul style="list-style-type: none"> • An extent of travel related greenhouse gas and other emissions to air
Cultural Heritage	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities. 	<ul style="list-style-type: none"> • Potential alteration to the context and setting of architectural heritage however these will occur in compliance with legislation • Potential alteration to the context and setting of archaeological heritage however this will occur in compliance with legislation • Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Plan as varied
Landscape	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape, especially with regard to landscapes which are most valuable and most sensitive to change and protected focal points and views. 	<ul style="list-style-type: none"> • Landscapes will change overtime as a result of natural changes in vegetation cover combined with new developments.

Table 8.4 Assessment of Proposed Material Alterations against SEOs

Proposed Material Alteration³²	Likely to Improve status of SEOs	Potential Conflict with status of SEOs - likely to be mitigated	Probable Conflict with status of SEOs- unlikely to be fully mitigated ³³	No Likely interaction with status of SEOs
Material Alteration No. 1 (MA 1) A) Extend the Local Area Plan Boundary to incorporate identified lands. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning, Map 4 Archaeological Monuments, Map 6 Architectural Heritage & Map 8 Flood Risk Management); B) Zone the subject lands as Industrial (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning)		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 2 (MA 2) Remove Open space/ Recreation and Amenity zoning on identified lands and zone as Residential Phase 1 Lands. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning)		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 3 (MA 3) Zone undeveloped portion of lands as Residential phase 2. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning)		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 4 (MA 4) A). Extend Plan Boundary to incorporate subject lands. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning) B). Zone subject lands as Residential Phase 1. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning)		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 5 (MA 5) A). Extend Plan Boundary to incorporate subject lands. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning) B). Zone Identified lands as Residential Phase 1. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning) C). Zone existing residential unit between the draft plan boundary and the Material Alteration plan boundary as "Existing Residential." (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning)		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 6 (MA 6) A). Extend Plan Boundary to incorporate subject lands. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning) B). Zone Identified lands as Residential Phase 1. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning) C). Zone existing residential units between the draft plan boundary and the Material Alteration plan boundary as "Existing Residential." (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning)		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 7 (MA 7) Remove (4.855 ha) of Residential Phase 2 zoning from identified lands. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning)		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	

³² The emerging conclusion of the Stage 2 AA is that the Proposed Material Alterations are unacceptable in the context of the Habitats Directive. The Stage 2 AA Natura Impact Report provides two options for the zoning of lands within floodplains by Proposed Material Alterations MA1 to MA3.

³³ For Alternative B, for Alterations 4 to 16, these relate to lands that are located within Flood Zone C. Taking into account cumulative effects, in combination with Alterations 1 to 3, these would be likely to result in various adverse environmental effects including those relating to flood risk.

SEA Report for Proposed Material Alterations (No. 1 to 16) to the Draft Tuam Local Area Plan 2018-2024

Proposed Material Alteration³²	Likely to Improve status of SEOs	Potential Conflict with status of SEOs - likely to be mitigated	Probable Conflict with status of SEOs- unlikely to be fully mitigated ³³	No Likely interaction with status of SEOs
Zone (4.855 ha) of identified land as Residential Phase 1. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning)				
Material Alteration No. 8 (MA 8) Remove Residential Phase 2 Zoning from subject lands and replace with Residential Phase 1 zoning (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning).		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 9 (MA 9) Remove agricultural zoning on identified lands and zone Residential Phase 1. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning).		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 10 (MA 10) Remove Business and Enterprise zoning on subject lands and zone land Residential phase 1. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning).		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 11 (MA 11) Extend Plan boundary to incorporate subject lands and zone Residential Phase 1. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning).		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 12 (MA 12) Remove Community facilities zoning on subject lands and zone Residential phase 1. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning).		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 13 (MA 13) Remove agricultural zoning from subject lands and zone residential phase 2. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning).		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 14 (MA 14) Remove Residential phase 1 zoning on subject lands and zone commercial/Mixed use. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning).		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alterations No. 15 (MA 15) Remove agricultural zoning on subject lands and replace with Industrial zoning, with 20 metre buffer to adjacent existing residential site, this buffer to retain agricultural zoning. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning).		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	
Material Alteration No. 16 (MA 16) Remove Business and Enterprise zoning on subject lands and zone commercial/mixed use. (Material Alterations Proposed to Draft Tuam Local Area Plan 2018-2024 Map 1 Land Use Zoning).		B1 B2 B3 PHH1 S1 W1 W2 M1 M2 M3 C1 CH1 CH2 L1	W3 PHH1	

8.3 Appropriate Assessment

A Stage 2 Appropriate Assessment (AA) is being undertaken alongside the preparation of the Proposed Material Alterations. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The findings of the AA have informed the SEA.

The Stage 2 AA process undertaken for the Draft Plan earlier in the process identified that the Plan was not foreseen to give rise to any significant adverse effects on designated European Sites, alone or in combination with other plans or projects.

However, the emerging conclusion of the Stage 2 AA is that the Proposed Material Alterations are unacceptable in the context of the Habitats Directive. The Stage 2 AA (Natura Impact Report) that is being undertaken alongside this SEA provides two options for the zoning of lands within floodplains by the Proposed Material Alterations (MA1 to MA3). These are as follows:

Option 1

- Revert to the original zoning objectives in the original version of the Draft Plan, which has appropriate development types zoned within the identified flood zones A and B.

Option 2

- Insert mitigation that requires:

Where a development/land use is proposed that is inappropriate within the Flood Zone, then the development proposal will need to be accompanied by a detailed hydrological assessment and robust SUDS design which demonstrates the capacity to withstand potential flood events to maintain water quality and avoid potential effects to ecological features.

- Where Option 2 is followed, the principles of the Planning and Development Acts and associated Regulations and Guidelines, environmental protection legislation and the provisions that have been already integrated into the Proposed Variation and the existing CDP require that:
 - Any development proposals should be considered with extreme caution and will be required to comply with The Planning System and Flood Risk Management Guidelines for Planning Authorities/Circular PL2/2014 & the associated Development Management Justification Test.
 - Climate Change should be duly considered in any development proposal.
 - The riparian zones of watercourse systems are protected throughout the Plan area through a general 10 metre protection buffer from rivers within the plan area as measured from the near river bank (this distance may be increased and decreased on a site by site basis, as appropriate).
 - Any development proposals submitted for this site will require a detailed ecological report (s), carried out by suitably qualified personnel for the purposes of informing Appropriate Assessment Screening by Galway County Council, the competent authority (in accordance with Objective DS 6 of the Galway CDP).
- For clarity and transparency, it is recommended that the relevant lands will be outlined and flagged with a symbol on the land use zoning map and on the GIS system of Galway County Council so that staff and the public are aware of the special conditions/constraints attached. A briefing will be provided to relevant staff within Galway County Council on the special conditions and constraints on relevant lands.

8.4 Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the preparation of the Draft Plan. The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG and OPW, 2009).

The preparation of the Draft Plan, SEA and SFRA has taken place concurrently and the findings of the SFRA have informed both the Draft Plan and the SEA. The SFRA has facilitated the integration of flood risk management considerations into the Draft Plan.

This SEA for the Proposed Material Alterations has been informed by the findings of the SFRA. These findings are provided throughout this report, including at Sections 7 and 8 where there is extensive commentary on flood risk as a key criteria against which the Proposed Material Alterations and the alternatives are examined.

All relevant documents, including the SFRA document that was placed on public display alongside the original Draft Plan, will be finalised on making of the Plan, including taking into account any changes that have been made to the original Draft Plan that was placed on public display (including Alterations and, if relevant, Modifications) and any submissions made during the process.

8.5 Interrelationship between Environmental Components

The SEA Directive requires the Environmental Report to include information on the likely significant effects on the environment, including on issues such as biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

Likely significant effects on environmental components which are identified include those which are interrelated; implementation of the Draft Plan will not affect the interrelationships between these components. However the Proposed Material Alterations will increase the frequency of interrelationships between human health, water, biodiversity and flora and fauna as a result of increasing flood risk. The presence of significant interrelationships between environmental components is identified on Table 8.5.

Table 8.5 Presence of Interrelationships between Environmental Components

Component	Biodiversity, flora and fauna	Population and human health	Soil	Water	Air and Climatic factors	Material assets	Cultural heritage	Landscape
Biodiversity, flora and fauna		No	Yes	Yes	Yes	Yes	No	Yes
Population and human health			Yes	Yes	Yes	Yes	No	No
Soil				Yes	No	Yes	No	No
Water					No	Yes	No	No
Air and Climatic factors						Yes	No	No
Material assets							Yes	Yes
Cultural heritage								Yes
Landscape								

Section 9 Mitigation Measures

9.1 Introduction

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Draft Tuam Local Area Plan.

Various environmental sensitivities and issues have been communicated to the Council through the various SEA, AA and SFRA processes undertaken for the Plan. By integrating all related recommendations into the Draft Local Area Plan, the Council have ensured that both the beneficial environmental effects of implementing the Plan would be maximised and that potential adverse effects would be avoided, reduced or offset.

However, as discussed in Section 8, the Proposed Material Alterations would be likely to result in significant adverse environmental effects.

The reference codes are those which accompany the relevant measures in the Draft Local Area Plan and the County Development Plan.

9.2 Integration of Environmental Considerations

Various recommendations made by the SEA, AA and SFRA processes were integrated into the Draft Local Area Plan.

Table 9.1 links key mitigation measure(s) - which have been integrated into both the Draft Local Area Plan and the Galway County Development Plan 2015-2021 (as varied) - to the likely significant effects of implementing the Local Area Plan, if unmitigated. The integration of these measures into the Plan occurred over a number of iterations and was informed by, inter alia, various communications through the SEA, AA and SFRA processes.

The measures generally benefit multiple environmental components i.e. a measure providing for the protection of biodiversity, flora and fauna could beneficially impact upon the minimisation of flood risk and the protection of human health, for example.

Table 9.1 Integration of Environmental Considerations

Likely Significant Effect, if unmitigated	Mitigation Measures, including:
All	<p>Measures from the Draft Local Area Plan</p> <ul style="list-style-type: none"> • Objective LU 12 - Galway County Development Plan 2009-2015 (as varied)³⁴ • Objective NH 13 - Construction Environmental Management Plan • Objective TI 4 – Road Schemes/Road Improvements
<p>Arising from both construction and operation of development and associated infrastructure:</p> <ul style="list-style-type: none"> • Loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna; • Habitat loss, fragmentation and deterioration, including patch size and edge effects; and • Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species. 	<p>Measures from the Draft Local Area Plan</p> <ul style="list-style-type: none"> • Objective DS 3 – European Sites Network and Habitats Directive Assessment • Objective CF 9 – Amenity Network • Objective ED 6 – Tourism Development • Objective UD 4 – Green Network and Landscaping • Policy NH 1 – Natural Heritage, Landscape and Environment • Objective NH 1 – European Sites • Objective NH 2 – Protected Habitats and Species • Objective NH 3 – Natural Heritage Areas and Proposed Natural Heritage Areas • Objective NH 4 – Impact Assessments • Objective NH 5 – Biodiversity & Ecological Networks • Objective NH 6 – Water Resources • Objective NH 7 – Wetlands, Springs, Rivers and Streams • Objective NH 8 – Riparian Zones • Objective NH 9 – Trees and Hedgerows • Objective NH 10 – Geological and Geo-morphological Systems • Objective NH 11 – Control of Invasive and Alien Species • Objective NH 12 – Consultation with Environmental Authorities • DM Guideline NH 1 – Control of Invasive Species & Bio-Security Measures • Objective NH 13 - Construction Environmental Management Plan <p>Measures from the Galway County Development Plan as varied</p> <ul style="list-style-type: none"> • Policies NHB 1, NHB 2, NHB 3, NHB 5, NHB 6 and NHB 7 • Objectives DS 6, DS 9, EQ1, EQ 4, ICT 1, NHB 1, NHB 2, NHB 4, NHB 5, NHB 6, NHB 7, NHB 11, NHB 13, AFF 6 and DS10 <p>Also see various measures providing for populations in rural and supporting areas.</p>
<p>Potential interactions if effects upon environmental vectors such as water and air are not mitigated</p>	<p>Measures from the Draft Local Area Plan</p> <ul style="list-style-type: none"> • Objective TI 7 – Noise <p>Measures from the Galway County Development Plan as varied</p> <ul style="list-style-type: none"> • Policy CC 8 • Objectives TI 12 and EQ 2 <p>Also see measures related to soil, water quality, flooding, waste water treatment and drinking water supply and quality.</p>
<p>Damage to the hydrogeological and ecological function of the soil resource</p>	<p>Measures from the Galway County Development Plan as varied</p> <ul style="list-style-type: none"> • Objective NHB12 Soil/Ground Water Protection • Objective NH 10 – Geological and Geo-morphological Systems <p>Also see measures related to water quality and waste water treatment.</p>

³⁴ Objective LU 12 - Galway County Development Plan 2009-2015 (as varied):

The provisions of the Galway County Development Plan 2009-2015 (as varied), including the measures contributing towards environmental protection and sustainability (some of these measures are repeated in Section 9 of the SEA Environmental Report that accompanies this Plan) shall be complied with by any future development.

Likely Significant Effect, if unmitigated	Mitigation Measures, including:
<p>Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology</p> <p>Increase in the risk of flooding</p>	<p>Measures from the Draft Local Area Plan</p> <ul style="list-style-type: none"> • Objective NH 6 – Water Resources • Objective NH 7 – Wetlands, Springs, Rivers and Streams • Objective NH 8 – Riparian Zones • Objective DS 7 – Flood Risk Management and Assessment • Objective DS 8 – Climate Change & Adaptation • Objective LU 8 – Constrained Land Use Zone (CL) • Objective LU 9 – Flood Risk Areas and Land Use Zones (Refer to Map 1, 2 and Map 5) • Policy FL 1 – Flood Risk Management • Objective FL 1 – Flood Risk Management and Assessment • Objective FL 2 – Flood Zones and Appropriate Land Uses • Objective FL 3 – Structural and Non-Structural Risk Management Measures in Flood Vulnerable Zones • Objective FL 4 – Flood Risk Assessment for Planning Applications and CFRAMS • Objective FL 5 – Strategic Flood Risk Assessment and Flood Risk Assessments • Objective FL 6 – Environmental Impact Assessment/Statement (EIA/EIS) & Flood Risk Assessment • Objective FL 7 – Pluvial and Groundwater Flood Risk • Objective FL 8 – New and Emerging Data • Objective FL 9 – Water Bodies and Watercourses • Objective FL 10 – Arterial Drainage Scheme • Objective FL 11 – Improvement &/Or Restoration of Natural Flood Risk Management Functions • DM Guideline FL 1 – Flood Zones and Appropriate Land Uses • DM Guideline FL 2 – Structural and Non-Structural Risk Management Measures in Flood Vulnerable Zones • DM Guideline WQ 1 – Water Bodies and Watercourses <p>Measures from the Galway County Development Plan as varied</p> <ul style="list-style-type: none"> • Policies NHB 4, FL 1, FL 2, FL 3, FL 4 and FL 5 • Objectives NHB 3, NHB12, NHB 14, EQ1, AFF 5, AFF 6, AFF9, CS 4, WS 1, WS 2, WS 7, WS 9, WS 11, WW 1, WW 7, FL 1, FL 2, FL 3, FL 4, FL 5, FL 6, DS 7, DS 8, DS 9 and RA 1 • DM Standard 27: Surface Water Drainage & Flooding
<p>Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts)</p> <p>Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts)</p> <p>Increases in waste levels</p>	<p>Measures from the Draft Local Area Plan</p> <ul style="list-style-type: none"> • Policy UI 1 – Water Supply, Wastewater and Combined Drainage Infrastructure • Policy UI 2 – Irish Water’s Water Services Strategic Plan • Objective UI 1 – Irish Water & Water and Wastewater Projects • Objective UI 2 – Water Supply & Water Conservation • Objective UI 3 – Wastewater Disposal • Objective UI 4 – Connections to the Public Sewer & Public Water Mains • Objective UI 5 – Surface Water Drainage and Sustainable Drainage Systems • Objective UI 6 – Wastewater Treatment Plant Buffer • Policy WM 1 – Waste Management • Policy WM 2 – Waste Management Plan • Objective WM 1 – Waste Prevention, Reduction & Recycling • Objective WM 2 – Bring Bank Facility <p>Measures from the Galway County Development Plan as varied</p> <ul style="list-style-type: none"> • Policies WS 1 WS 2 WS 3 WS 4 WS 5 WS 6 WW 1 WM1 WM2 • Objectives WS 1, WS 2, WS 3, WS 4, WS 5, WS 6, WS 7, WS 8, WS 9, WS 10, WS 11, WS 12, WS 13, WS 14, WS 15, WW 1, WW 2, WW 3, WW 4, WW 5, WW 6, WW 7, WW 8, WW 10, WM 1, WM 2, WM 3, WM 4, WM 5, WM 6, CS 4, RHO 5 and EDT 5

Likely Significant Effect, if unmitigated	Mitigation Measures, including:
<p>Emissions to air including greenhouse gas emissions and other emissions.</p> <p>Climate adaptation interactions</p>	<p>Measures from the Draft Local Area Plan</p> <ul style="list-style-type: none"> • Objective DS 8 – Climate Change & Adaptation • Objective CF 9 – Amenity Network • Policy ST 1 – Sustainable Transport, Walking and Cycling • Objective ST 1 – Integrated Land Use and Transport • Objective ST 2 – Sustainable Transportation • Objective ST 3 – Walking • Objective ST 4 – Cycling • Objective ST 5 – Bicycle Parking • Objective ST 6 – Walking & Cycling Strategy • Objective ST 7 – Pedestrian Crossings • Objective ST 8 – Amenity Walking/Cycling Network • Objective ST 9 – Mobility Management Plans • Objective ST 10 – Charging Points for Electric Vehicles • Objective ST 11 – Bus Facilities & Services • Objective TI 7 – Noise • Objective TI 10 – Preparation of a Revised Traffic Management Plan • Objective TI 14 – Junction Upgrade • Objective TI 14 – New Developments & Connection to the Town Footpath & Lighting Network • Objective TI 15 – Footpath, Public Lighting, Cycle Provision & Traffic Calming • Policy ENV 1 – Climate Change Policy • Objective ENV 1 – Climate Change & The National Climate Change Adaptation Framework • Objective ENV 2 – Climate Change & Green Infrastructure • Objective ENV 3 – Air Quality • Objective ENV 4 – Air Purification • DM Guideline EC 1 – Energy Statements • Objective UD 4 – Green Network and Landscaping <p>Measures from the Galway County Development Plan as varied</p> <ul style="list-style-type: none"> • Strategic Aims 6, 7 and 11 • Policies CC 1, CC2, CC3, CC4, CC5, CC6, CC 7, TI 1, TI 2, TI 3 and TI 4 • Objectives DS 1, DS 2, DS 3, DS 8, CS 3, CS 5, TI 1, TI 2, TI 3, TI 4, TI 16, TI 17, TI 18, TI 19, TI 20, TI 21, DS 8, CC1, CC 2, CC3, CC 4 and CC5

Likely Significant Effect, if unmitigated	Mitigation Measures, including:
<p>Effects on entries to the Record of Monuments and Places and other archaeological heritage</p> <p>Effects on entries to the Records of Protected Structures, Architectural Conservation Areas and other architectural heritage</p>	<p>Measures from the Draft Local Area Plan</p> <ul style="list-style-type: none"> • Objective ED 6 – Tourism Development • Objective ED 7 – Visual Quality Working Environments • DM Guideline ED2 – Design and Access Statements • Objective UD 6 – Design and Access Statements • DM Guideline UD1 Design and Access Statements • Policy HC 1 – Built Heritage • Policy HC 2 – Cultural Heritage • Objective HC 1 – Architectural Heritage and Protected Structures • Objective HC 2 – Protected Structures • Objective HC 3 – Architectural Conservation Areas • Objective HC 4 – Development Relating to Protected Structures and ACAs • Objective HC 6 – Demolition • Objective HC 7 – Architectural Conservation Area Appraisal and Management Plan • Objective HC 8 – Vernacular Architecture & Structures of Local Interest • Objective HC 9 – Archaeological Heritage • Objective HC 10 – Archaeological Landscapes • Objective HC 11 – Monuments and Places • Objective HC 12 – Archaeological Assessment • Objective HC 13 – Underwater Archaeological Sites <p>Measures from the Galway County Development Plan as varied</p> <ul style="list-style-type: none"> • Policies AH 1, AH 2, ARC 1, ARC 2, ARC 3, ARC 4 and ARC 5 • Objectives AH 1, AH 2, AH 3, AH 4, AH 5, AH 6, AH 7, AH 8, AH 9, AH 10, AH 11, ARC 1, ARC 2, ARC 3, ARC 4, ARC 5, ARC 6 and ARC 7
<p>Occurrence of adverse visual impacts</p>	<p>Measures from the Draft Local Area Plan</p> <ul style="list-style-type: none"> • Objective ED 7 – Visual Quality Working Environments • DM Guideline ED2 – Design and Access Statements • Policy UD1 – Urban Design and Landscape • Objective UD 1 – High Quality, Contextually Sensitive Design • Objective UD 4 – Green Network and Landscaping • Objective UD 6 – Design and Access Statements • Objective UD 7 – Landscape Character, Values, Sensitivity and Views/Prospects • DM Guideline UD1 Design and Access Statements • Policy NH 1 – Natural Heritage, Landscape and Environment <p>Measures from the Galway County Development Plan as varied</p> <ul style="list-style-type: none"> • Policy LCM 1 • Objectives LCM 1, LCM 2, LCM 3, FPV 1 and WH 1

Section 10 Monitoring Measures

10.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section details the measures which will be used in order to monitor the likely significant effects of implementing the Plan.

Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

10.2 Indicators and Targets

Monitoring is based around indicators which allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives identified in Section 5 and used in the evaluation. Each indicator to be monitored is accompanied by the target(s) which were identified with regard to the relevant strategic actions.

Table 10.1 overleaf shows the indicators and targets which have been selected for monitoring the likely significant environmental effects, if unmitigated, of implementing the Plan.

The Monitoring Programme may be updated to deal with specific environmental issues - including unforeseen effects - as they arise. Such issues may be identified by the Council or identified to the Council by other agencies.

10.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources include those maintained by the Council and the relevant authorities e.g. the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office.

Internal monitoring of the environmental effects of grants of permission in the Council will provide monitoring of various indicators and targets on a *grant of permission* basis.

The likely significant effects of development proposals on environmental sensitivities are further determined during the development management process. By documenting this determination - e.g. whether a proposed development will impact upon a Protected Structure, for example - while granting permissions, or at a later date, the requirement to monitor the effects of implementing the Plan can be achieved.

Where significant effects - including positive, negative, cumulative and indirect - have the potential to occur upon, for example, entries to the RMP, entries to the RPS or ecological networks as a result of the undertaking of individual projects or multiple individual projects such instances should be identified and recorded and should feed into the monitoring evaluation.

10.4 Reporting

Article 10 of the SEA Directive requires Member States to monitor the significant environmental effects of the implementation of plans "*in order, inter alia, to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action.*" Existing monitoring arrangements may be used if appropriate, to avoid duplication of monitoring³⁵.

A stand-alone Monitoring Report on the significant environmental effects of implementing the Local Area Plan will be prepared within three years of adopting the Local Area Plan.

In monitoring the effects of the Plan, use will be made of any data collected as part of the monitoring of other land use plans within the County as relevant (including the County Plan). Similarly, data collected for monitoring the effects of the Plan may be used in monitoring the effects of other land use plans within the County.

³⁵ Chapter 7 Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment Guidelines for Regional Authorities and Planning Authorities. DoEHLG 2004

10.5 Thresholds and Corrective Action

Thresholds at which corrective action will be considered include:

- The occurrence of flood events;
- Court cases taken by the Department of Culture, Heritage and the Gaeltacht regarding impacts upon archaeological heritage including entries to the RMP;
- Complaints received from statutory consultees regarding avoidable environmental impacts resulting from development which is granted permission under the Plan; and
- Fish kills.

Table 10.1 Selected Indicators, Targets and Monitoring Sources

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)	Source of Data	Reporting Responsibility for this Programme
Biodiversity, Flora and Fauna	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	B1: Maintenance of favourable conservation status for all habitats and species protected under national and international legislation to be unaffected by implementation of the Plan ³⁶	<ul style="list-style-type: none"> Internal monitoring of environmental likely significant effects of grants of permission (grant by grant). Department of Culture, Heritage and the Gaeltacht report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years). National Monitoring Report under Article 12 of the Birds Directive. Consultations with the National Parks and Wildlife Service (at monitoring evaluation - see Section 10.4). 	National Parks and Wildlife Service and Galway County Council	Galway County Council
	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for in the Plan	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). CORINE mapping resurvey (every c. 5 years). 	EEA/EPA and Galway County Council	Galway County Council
	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: No significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Consultations with the National Parks and Wildlife Service (at monitoring evaluation - see Section 10.4). 	Galway County Council and National Parks and Wildlife Service	Galway County Council
	B4: Population involved in land management	B4: Sustain the population involved in land management	<ul style="list-style-type: none"> Central Statistics Office Population Data (every c. 5 years). 	Central Statistics Office	Galway County Council
Population and Human Health	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan	<ul style="list-style-type: none"> Consultations with EPA and Health Service Executive (at monitoring evaluation - see Section 10.4). 	EPA and Health Service Executive	Galway County Council

³⁶ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- no alternative solution available;
- imperative reasons of overriding public interest for the plan to proceed; and
- adequate compensatory measures in place.

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)	Source of Data	Reporting Responsibility for this Programme
Soil	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). 	Galway County Council	Galway County Council
Water	W1i: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009) W1ii: Mandatory and Guide values as set by the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008)	W1i: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve <i>good status</i> ³⁷ W1ii: To achieve - as a minimum - Mandatory values and, where possible, to achieve Guide values as set by the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008)	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland. EPA Quality of Bathing Water in Ireland reports. 	Galway County Council EPA	Galway County Council
	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual). 	Galway County Council EPA	Galway County Council
	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with <i>The Planning System and Flood Risk Management Guidelines for Planning Authorities</i>	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). 	Galway County Council	Galway County Council

³⁷ Good status as defined by the WFD equates to approximately the following in the current national schemes of classification as set out by the EPA:

- *Q4* in the biological classification of *rivers*;
- *Mesotrophic* in the classification of *lakes*; and
- *Unpolluted status* in the Assessment of Trophic Status of Estuaries and Bays in Ireland (ATSEBI).

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Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)	Source of Data	Reporting Responsibility for this Programme
Material Assets	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan	M1: All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). 	Galway County Council	Galway County Council
	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	<ul style="list-style-type: none"> EPA The Provision and Quality of Drinking Water in Ireland reports (multi-annual). EPA Remedial Action List (every quarter). 	EPA	Galway County Council
	M3i: Total collected and brought household waste M3ii: Packaging recovered (t) by self-complying packagers	M3i: Minimise increases in and, where possible, reduce household waste generation M3ii: Maximise increases in packaging recovered (t) by self-complying packagers	<ul style="list-style-type: none"> EPA National Waste Reports EPA Ireland's Environment Reports 	EPA	Galway County Council
Air and Climatic Factors	C1: Percentage of population travelling to work, school or college by public transport or non-mechanical means	C1: An increase in the percentage of the population travelling to work, school or college by public transport or non-mechanical means	<ul style="list-style-type: none"> CSO Population Data (every c. 5 years). 	Central Statistics Office	Galway County Council
Cultural Heritage	CH1: Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and the context of the above within the surrounding landscape where relevant) – protected from adverse effects resulting from development which is granted permission under the Plan	CH1: Protect entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and their context of the above within the surrounding landscape where relevant) from adverse effects resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Consultation with Department of Culture, Heritage and the Gaeltacht (at monitoring evaluation - see Section 10.4). 	Galway County Council and Department of Culture, Heritage and the Gaeltacht/ National Monuments Service	Galway County Council
	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from adverse effects resulting from development which is granted permission under the Plan	CH2: Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from adverse effects resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Consultation with Department of Culture, Heritage and the Gaeltacht (at monitoring evaluation - see Section 10.4). 	Galway County Council and Department of Culture, Heritage and the Gaeltacht/ Architectural Policy Unit	Galway County Council
Landscape	L1: Number of complaints received from statutory consultees regarding avoidable impacts on the landscape - especially with regard to landscapes which are most valuable and most sensitive to change and protected focal points and views - resulting from development which is granted permission under the Plan	L1: No developments permitted which result in avoidable impacts on the landscape - especially with regard to landscapes which are most valuable and most sensitive to change and protected focal points and views - resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). 	Galway County Council	Galway County Council

Appendix I Relationship with Legislation and Other Plans and Programmes

This appendix is not intended to be a full and comprehensive review of EU Directives, the transposing regulations or the regulatory framework for environmental protection and management. The information is not exhaustive and it is recommended to consult the Directive, Regulation, Plan or Programme to become familiar with the full details of each.

European				
Directive/ Plan/ Programme	Highest Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation etc. in Ireland	Relevance to the Plan
EU Green Infrastructure Strategy	Aims to create a robust enabling framework in order to promote and facilitate Green Infrastructure (GI) projects	<ul style="list-style-type: none"> Promoting GI in the main EU policy areas; Supporting EU-level GI projects; Improving access to finance for GI projects, and Improving information and promoting innovation 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
UN Kyoto Protocol (2ND Kyoto Period), the Second European Climate Change Programme (ECCP II), Paris climate conference (COP21) 2015	<p>The UN Kyoto Protocol set of policy measures to reduce greenhouse gas emissions</p> <p>The Second European Climate Change Programme (ECCP II) aims to identify and develop all the necessary elements of an EU strategy to implement the Kyoto Protocol</p> <p>At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C.</p>	<ul style="list-style-type: none"> The Kyoto Protocol is implemented through the European Climate Change Programme (ECCP II) EU member states implement measures to improve on or compliment the specified measures and policies arising from the ECCP Under COP21, governments agreed to come together every 5 years to set more ambitious targets as required by science; report to each other and the public on how well they are doing to implement their targets; track progress towards the long-term goal through a robust transparency and accountability system 	National Policy Position and final Heads of the Climate Action and Low-Carbon Development Bill	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
EU 2020 climate and energy package	<ul style="list-style-type: none"> Binding legislation which aims to ensure the European Union meets its climate and energy targets for 2020 Aims to achieve a 20% reduction in EU greenhouse gas emissions from 1990 levels Aims to raise the share of EU energy consumption produced from renewable resources to 20% Achieve a 20% improvement in the EU's energy efficiency 	<p>Four pieces of complimentary legislation:</p> <ul style="list-style-type: none"> Reform of the EU Emissions Trading System (EU ETS) to include a cap on emission allowances in addition to existing system of national caps Member States have agreed national targets for non-EU ETS emissions from countries outside the EU Meet the national renewable energy targets of 16% for Ireland by 2020 Preparing a legal framework for technologies in carbon capture and storage 	<p>The Framework for Climate Change Bill</p> <p>European Communities (Renewable Energy) Regulations 2011 (S.I. No. 147/2011)</p>	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Habitats Directive (92/43/EEC)	<ul style="list-style-type: none"> Promote the preservation, protection and improvement of the quality of the environment, including the conservation of natural habitats and of wild fauna and flora Contribute towards ensuring biodiversity through 	<ul style="list-style-type: none"> Propose and protect sites of importance to habitats, plant and animal species Establish a network of European sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, to enable the 	European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing

	<p>the conservation of natural habitats and of wild fauna and flora</p> <ul style="list-style-type: none"> • Maintain or restore to favourable conservation status, natural habitats and species of wild fauna and flora of Community interest • Promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. 	<p>natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range</p> <ul style="list-style-type: none"> • Carry out comprehensive assessment of habitat types and species present • Establish a system of strict protection for the animal species and plant species listed in Annex IV 	<p>The Wildlife Act 1976 and the Wildlife (Amendment) Act 2000</p>	<p>regulations</p>
<p>Birds Directive (2009/147/EC)</p>	<ul style="list-style-type: none"> • Conserve all species of naturally occurring birds in the wild state including their eggs, nests and habitats • Protect, manage and control these species and comply with regulations relating to their exploitation • The species included in Annex I shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution 	<ul style="list-style-type: none"> • Preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Annex 1. • Preserve, maintain and establish biotopes and habitats to include the creation of protected areas (Special Protection Areas); ensure the upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones, re-establish destroyed biotopes and creation of biotopes • Measures for regularly occurring migratory species not listed in Annex I is required as regards their breeding, moulting and wintering areas and staging posts along their migration routes. The protection of wetlands and particularly wetlands of international importance. 	<p>European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
<p>European Union Biodiversity Strategy to 2020</p>	<ul style="list-style-type: none"> • Aims to halt or reverse biodiversity loss and speed up the EU's transition towards a resource efficient and green economy • Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible 	<ul style="list-style-type: none"> • Outlines six targets and twenty actions to aid European in halting the loss to biodiversity and eco-system services • The six targets cover: <ul style="list-style-type: none"> ○ Full implementation of EU nature legislation to protect biodiversity ○ Maintaining, enhancing and protecting for ecosystems, and green infrastructure ○ Ensuring sustainable agriculture, and forestry ○ Sustainable management of fish stocks ○ Reducing invasive alien species ○ Addressing the global need to contribute towards averting global biodiversity loss 	<p>Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>The Clean Air for Europe Directive (2008/50/EC)</p>	<ul style="list-style-type: none"> • The CAFE Directive merges existing legislation into a single directive (except for the fourth daughter directive) • Sets new air quality objectives for PM2.5 (fine particles) including the limit value and exposure related objectives • Accounts for the possibility to discount natural sources of pollution when assessing compliance against limit values 	<ul style="list-style-type: none"> • Sets objectives for ambient air quality • designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole • Aims to assess the ambient air quality in Member States on the basis of common methods and criteria; • Obtains information on ambient air quality in order to help combat air pollution and nuisance and to monitor long-term • trends and improvements resulting from national 	<p>Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011)</p> <p>Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 (S.I. No. 58 of 2009)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>

<p>Fourth Daughter Directive (2004/107/EC)</p>	<ul style="list-style-type: none"> Allows the possibility for time extensions of three years (PM10) or up to five years (NO2, benzene) for complying with limit values, based on conditions and the assessment by the European Commission. The Fourth Daughter Directive lists pollutants, target values and monitoring requirements for the following: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air 	<p>and Community</p> <ul style="list-style-type: none"> measures; Ensures that such information on ambient air quality is made available to the public; Aims to maintain air quality where it is good and improving it in other cases; Aims to promote increased cooperation between the Member States in reducing air pollution. 		
<p>Noise Directive 2002/49/EC</p>	<p>The Noise Directive - Directive 2002/49/EC relating to the assessment and management of environmental noise - is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing Community policy on noise reduction from source.</p>	<p>The Directive requires competent authorities in Member States to:</p> <ul style="list-style-type: none"> Draw up strategic noise maps for major roads, railways, airports and agglomerations, using harmonized noise indicators and use these maps to assess the number of people which may be impacted upon as a result of excessive noise levels; Draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good; and Inform and consult the public about noise exposure, its effects, and the measures considered to address noise. <p>The Directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities.</p>	<p>Environmental Noise Regulations 2006 (S.I. No. 140 of 2006)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
<p>Floods Directive (2007/60/EC)</p>	<ul style="list-style-type: none"> Establishes a framework for the assessment and management of flood risks Reduce adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community 	<ul style="list-style-type: none"> Assess all water courses and coast lines at risk from flooding through Flood Risk Assessment Prepare flood hazard maps and flood risk maps outlining the extent or potential of flooding and assets and humans at risk in these areas at River Basin District level (Article 3(2) (b)) and areas covered by Article 5(1) and Article 13(1) (b) in accordance with paragraphs 2 and 3 Implement flood risk management plans and take adequate and coordinated measures to reduce flood risk for the areas covered by the Articles listed above Inform the public and allow the public to participate in planning process 	<p>European Communities (Assessment and Management of Flood Risks) Regulations (S.I. 122/2010)</p> <p>European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012 (S.I. No. 470/2012)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
<p>Water Framework Directive (2000/60/EC)</p>	<ul style="list-style-type: none"> Establish a framework for the protection of water bodies to include inland surface waters, transitional waters, coastal waters and groundwater and their dependent wildlife and habitats Preserve and prevent the deterioration of water status and where necessary improve and maintain "good status" of water bodies Promote sustainable water usage The Water Framework Directive repealed the 	<ul style="list-style-type: none"> Protect, enhance and restore all water bodies and meet the environmental objectives outlined in Article 4 of the Directive Achieve "good status" for all waters Manage water bodies based on identifying and establishing river basins districts Involve the public and streamline legislation Prepare and implement a River Basin Management Plan for each river basin districts identified and a Register of Protected Areas 	<p>European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003) (as amended)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>

	<p>following Directives:</p> <ul style="list-style-type: none"> ○ The Drinking Water Abstraction Directive ○ Sampling Drinking Water Directive ○ Exchange of Information on Quality of Surface Freshwater Directive ○ Shellfish Directive ○ Freshwater Fish Directive ○ Groundwater (Dangerous Substances) Directive ○ Dangerous Substances Directive 	<ul style="list-style-type: none"> • Establish a programme of monitoring for surface water status, groundwater status and protected areas • Recover costs for water services 		
Groundwater Directive (2006/118/EC)	<ul style="list-style-type: none"> • Protect, control and conserve groundwater • Prevent the deterioration of the status of all bodies of groundwater • Implements measures to prevent and control groundwater pollution, including criteria for assessing good groundwater chemical status and criteria for the identification of significant and sustained upward trends and for the definition of starting points for trend reversals. 	<ul style="list-style-type: none"> • Meet minimum groundwater standards listed in Annex 1 of Directive • Meet threshold values adopted by national legislation for the pollutants, groups of pollutants and indicators of pollution which have been identified as contributing to the characterisation of bodies or groups of bodies of groundwater as being at risk, also taking into account Part B of Annex II 	European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9/2010) (as amended)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Drinking Water Directive (98/83/EC)	<ul style="list-style-type: none"> • Improve and maintain the quality of water intended for human consumption • Protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean 	<ul style="list-style-type: none"> • Set values applicable to water intended for human consumption for the parameters set out in Annex I • Set values for additional parameters not included in Annex I, where the protection of human health within national territory or part of it so requires. The values set should, as a minimum, satisfy the requirements of Article 4(1) (a) • Implement all measures necessary to ensure that regular monitoring of the quality of water intended for human consumption is carried out, in order to check that the water available to consumers meets the requirements of this Directive and in particular the parametric values set in accordance with Article 5 • Ensure that any failure to meet the parametric values set in accordance with Article 5 is immediately investigated in order to identify the cause • Ensure that the necessary remedial action is taken as soon as possible to restore its quality and shall give priority to their enforcement action • Undertake remedial action to restore the quality of the water where necessary to protect human health • Notify consumers when remedial action is being undertaken except where the competent authorities consider the non-compliance with the parametric value to be trivial 	<p>European Union (Drinking Water) Regulations 2014 (S.I. No. 106 of 2007) (as amended)</p> <p>European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003)</p>	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Urban Waste Water Treatment Directive (91/271/EEC)	<ul style="list-style-type: none"> • This Directive concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors 	<ul style="list-style-type: none"> • Urban waste water entering collecting systems shall before discharge, be subject to secondary treatment • Annex II requires the designation of areas sensitive 	European Communities (Urban Waste Water Treatment) Regulations 2001 (S.I. No. 254/2001)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the

	<ul style="list-style-type: none"> The objective of the Directive is to protect the environment from the adverse effects of waste water discharges 	<p>to eutrophication which receive water discharges</p> <ul style="list-style-type: none"> Establishes minimum requirements for urban waste water collection and treatment systems in specified agglomerations to include special requirements for sensitive areas and certain industrial sectors 		Directive and transposing regulations
Environmental Liability Directive (2004/35/EC)	<ul style="list-style-type: none"> Establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage 	<ul style="list-style-type: none"> Relates to environmental damage caused by any of the occupational activities listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities; damage to protected species and natural habitats caused by any occupational activities other than those listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities, whenever the operator has been at fault or negligent Where environmental damage has not yet occurred but there is an imminent threat of such damage occurring, the operator shall, without delay, take the necessary preventive measures Where environmental damage has occurred the operator shall, without delay, inform the competent authority of all relevant aspects of the situation and take all practicable steps to immediately control, contain, remove or otherwise manage the relevant contaminants and/or any other damage factors in order to limit or to prevent further environmental damage and adverse effects on human health or further impairment of services and the necessary remedial measures, in accordance with Article 7. The operator shall bear the costs for the preventive and remedial actions taken pursuant to this Directive The competent authority shall be entitled to initiate cost recovery proceedings against the operator The operator may be required to provide financial security guarantees to ensure their responsibilities under the directive are met 	European Communities (Environmental Liability) Regulations, 2008	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
SEA Directive (2001/42/EC)	<ul style="list-style-type: none"> Contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development Provide for a high level of protection of the environment by carrying out an environmental assessment of plans and programmes which are likely to have significant effects on the environment 	<ul style="list-style-type: none"> Carry out and environmental assessment for plans or programmes referred to in Articles 2 to 4 Prepare an environmental report which identifies, describes and evaluates the likely significant effects on the environment of implementing the plan or programme and reasonable alternatives that consider the objectives and the geographical scope of the plan or programme Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission Consult other Member States where the implementation of a plan or programme is likely to have transboundary environmental effects Inform relevant authorities and stakeholders on the 	<p>European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435/ 2004) (as amended)</p> <p>Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436/2004) (as amended)</p>	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

		<ul style="list-style-type: none"> decision to implement the plan or programme Issue a statement to include requirements detailed in Article 9 of the Directive Monitor and mitigate significant environmental effects identified by the assessment 		
EIA Directive (2011/92/EU as amended by 2014/52/EU)	<ul style="list-style-type: none"> Requires the assessment of the environmental effects of public and private projects which are likely to have significant effects on the environment Aims to assess and implement avoidance or mitigation measures to eliminate environmental effects, before consent is given of projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects. Those projects are defined in Article 4 	<ul style="list-style-type: none"> All projects listed in Annex I are considered as having significant effects on the environment and require an EIA For projects listed in Annex II, a "screening procedure" is required to determine the effects of projects on the basis of thresholds/criteria or a case by case examination. This should take into account Annex III. The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 12, the direct and indirect effects of a project on the following factors: human beings, fauna and flora, soil, water, air, climate and the landscape, material assets and the cultural heritage, the interaction between each factor Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission before a decision is made The information to be provided by the developer in accordance with paragraph 1 shall include at least: <ul style="list-style-type: none"> a description of the project comprising information on the site, design and size of the project; a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects; the data required to identify and assess the main effects which the project is likely to have on the environment; an outline of the main alternatives studied by the developer and an indication of the main reasons for his choice, taking into account the environmental effects; a non-technical summary of the information referred to each of the above. 	<p>European Communities (Environmental Impact Assessment) Regulations 1989 (S.I. No. 349/1989) (as amended)</p> <p>European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012 (S.I. No. 470/2012)</p>	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
National/Regional				
Plan/Programme	Highest Level Aim/ Purpose/ Objective	Lower level relevant objectives, actions etc.	Relevant legislation	Relevance to the Plan
Infrastructure and Capital Investment 2012-16: Medium Term Exchequer Framework	<ul style="list-style-type: none"> Reviews infrastructure and capital spending over a medium timeframe to ensure investment is made in the best areas Identifies gaps in existing infrastructure that require addressing to aid economic recovery, social cohesion and environmental sustainability 	<p>The approach identifies four main components of the investment strategy as follows:</p> <ul style="list-style-type: none"> Economic infrastructure – encompassing transport networks, energy provision and telecommunications capacity Investment in the productive sector and human capital – such as direct supports for enterprise 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection

		<p>development; science, technology and innovation advancement; supports for tourism, agriculture, fisheries and forestry; and capital investment in education infrastructure</p> <ul style="list-style-type: none"> • Environmental infrastructure – including our waste and water systems and investment for environmental sustainability • Critical social investment – such as the health service and social housing programmes 		and management
Smarter Travel Initiative 2012-2016	<ul style="list-style-type: none"> • Sustainable transport investment programme to encourage transport initiatives such as cycling, car sharing, the use of public transport etc. 	<ul style="list-style-type: none"> • Certain towns were targeted demonstration areas for smarter transport initiatives and allocated funds to implement same 	not applicable	In combination with this Initiative the Plan will contribute towards smarter travel and associated positive environmental effects.
Smarter Travel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009-2020 (2009)	<ul style="list-style-type: none"> • Outlines a policy for how a sustainable travel and transport system can be achieved • Sets out five key goals: <ul style="list-style-type: none"> ○ To reduce overall travel demand. ○ To maximise the efficiency of the transport network. ○ To reduce reliance on fossil fuels. ○ To reduce transport emissions. ○ To improve accessibility to transport. 	<ul style="list-style-type: none"> • Others lower level aims include: <ul style="list-style-type: none"> ○ reduce distance travelled by private car and encourage smarter travel, including focusing population growth in areas of employment and to encourage people to live in close proximity to places of employment ○ ensuring that alternatives to the car are more widely available, mainly through a radically improved public transport service and through investment in cycling and walking ○ improving the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies ○ strengthening institutional arrangements to deliver the targets 	not applicable	In combination with this Policy the Plan will contribute towards smarter travel and associated positive environmental effects.
Ireland's First National Cycle Policy Framework (2009)	<ul style="list-style-type: none"> • Outlines objectives and actions aimed at developing a strong cycle network in Ireland • Sets out 19 specific objectives, and details the 109 actions, aimed at ensuring that a cycling culture is developed 	<ul style="list-style-type: none"> • Sets a target where 10% of all journeys will be made by bike by 2020 • Proposes the planning, infrastructure, communication, education and stakeholder participations measures required to implement the initiative 	not applicable	In combination with this Framework the Plan will contribute towards smarter travel and associated positive environmental effects
Scoping Study for a National Cycle Network (NCN)	<ul style="list-style-type: none"> • Investigated the feasibility of developing a National Cycle Network for recreational routes in rural areas, urban areas and connecting larger urban areas • The scoping study and subsequent workshops resulted in a recommended National Cycle Network 	not applicable	not applicable	In combination with this Study the Plan will contribute towards smarter travel and associated positive environmental effects.

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<p>Strategic Framework for Integrated Land use and Transport (SFILT) – Department of Transport, Tourism and Sport</p>	<ul style="list-style-type: none"> • Presents the findings and conclusions of a steering group which was convened and tasked with overseeing the preparation of an integrated, evidence-based framework that would guide key land transport investment decisions. 	<p>Key features of the framework policy include the following:</p> <ul style="list-style-type: none"> • Focus on economic growth • Principles to frame future investment 	<p>not applicable</p>	<p>In combination with this Study the Plan will contribute towards smarter travel and associated positive environmental effects.</p>
<p>National Climate Change Strategy 2007 – 2012 (2007)</p>	<ul style="list-style-type: none"> • Outlines measures to be undertaken to meet the commitments under the Kyoto Protocol • Identifies specific measures to meet the commitment up to 2012 and further measures to meet the 2020 target 	<p>not applicable</p>	<p>not applicable</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>Climate Action and Low Carbon Development Act 2015</p>	<p>Ireland's national policy in response to climate change is determined, in part, by legislation.</p>	<p>In particular, Ireland's first-ever dedicated climate change law, the Climate Action and Low Carbon Development Act 2015, provides for the making of:</p> <ul style="list-style-type: none"> • five-yearly National Mitigation Plans to specify the policy measures to reduce greenhouse gas emissions • a National Adaptation Framework to specify the national strategy for the application of adaptation measures in different sectors and by local authorities to reduce the vulnerability of the State to the negative effects of climate change. <p>The Act also establishes the Climate Change Advisory Council to advise ministers and the government on climate change matters.</p>	<p>not applicable</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>National Climate Change Policy Position</p>	<p>National climate policy in Ireland:</p> <ul style="list-style-type: none"> • recognises the threat of climate change for humanity; • anticipates and supports mobilisation of a comprehensive international response to climate change, and global transition to a low-carbon future; • recognises the challenges and opportunities of the broad transition agenda for society; and • aims, as a fundamental national objective, to achieve transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050. 	<p>Key issues for consideration in the on-going evolution of national climate policy include:</p> <ul style="list-style-type: none"> • the need to take a long-term view • the promotion of sustainable development; • the need to ensure that objectives are achieved at the least cost to the national economy and that any measures adopted to achieve those objectives are cost-effective, and do not impose an unreasonable burden on the Exchequer; • the need to take advantage of environmentally sustainable economic opportunities both within and outside the State; • the need to ensure a coherent and cost-effective approach to the twin challenges of sustainable food production and climate change in the agriculture and land use sector; relevant scientific or technical advice; and • relevant research on effective measures for mitigation and adaptation. 	<p>not applicable</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>

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<p>Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework 2007 – 2020 (2007)</p>	<ul style="list-style-type: none"> • White paper setting out a framework for delivering a sustainable energy future in Ireland • Outlines strategic Goals for: <ul style="list-style-type: none"> ○ Security of Supply ○ Sustainability of Energy ○ Competitiveness of Energy Supply 	<p>The underpinning Strategic Goals are:</p> <ul style="list-style-type: none"> • Ensuring that electricity supply consistently meets demand • Ensuring the physical security and reliability of gas supplies to Ireland • Enhancing the diversity of fuels used for power generation • Delivering electricity and gas to homes and businesses over efficient, reliable and secure networks • Creating a stable attractive environment for hydrocarbon exploration and production • Being prepared for energy supply disruptions 	<p>not applicable</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>National Adaptation Framework 2018</p>	<ul style="list-style-type: none"> • The National Adaptation Framework sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The National Adaptation Framework outlines a whole of government and society approach to climate adaptation. 	<ul style="list-style-type: none"> • Under the Framework a number of Government Departments will be required to prepare sectoral adaptation plans in relation to a priority area that they are responsible for. 	<p>Climate Action and Low Carbon Development Act, 2015</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>National Mitigation Plan 2017</p>	<ul style="list-style-type: none"> • The first National Mitigation Plan 2017, prepared by the Department of Communications, Climate Action and Environment, represents an initial step to set Ireland on a pathway to achieve the level of decarbonisation required. 	<p>This is a whole-of-Government Plan, reflecting in particular the central roles of the key Ministers responsible for the sectors covered by the Plan – Electricity Generation, the Built Environment, Transport and Agriculture, as well as drawing on the perspectives and responsibilities of a range of other Government Departments.</p>	<p>Climate Action and Low Carbon Development Act, 2015</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>National Renewable Energy Action Plan</p>	<ul style="list-style-type: none"> • A strategic approach for Ireland including measures to meet European targets for 2020 including Ireland's 16% target of gross final consumption to come from renewables by 2020 	<p>not applicable</p>	<p>Renewable Energy Directive 2009/28/EC</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>National Energy Efficiency Action Plan for Ireland 2007-2020 (2007)</p>	<ul style="list-style-type: none"> • This is the second National Energy Efficiency Action Plan for Ireland 	<p>The Plan reviews the original 90 actions outlined in the first Plan and updates/renews/removes them as appropriate</p>	<p>not applicable</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>

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Sustainable Development – A Strategy for Ireland (1997)	<ul style="list-style-type: none"> Provides an analysis and a strategic framework for sustainable development in Ireland Identifies the approaches required to support sustainable development 	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Wildlife Act of 1976 Wildlife (Amendment) Act, 2000	<ul style="list-style-type: none"> The act provides protection and conservation of wild flora and fauna 	<ul style="list-style-type: none"> Provides protection for certain species, their habitats and important ecosystems Give statutory protection to NHAs Enhances wildlife species and their habitats Includes more species for protection 	not applicable	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011 (Draft National Biodiversity Action Plan 2017 - 2021)	<ul style="list-style-type: none"> Sets out strategic objectives, targets and actions to conserve and restore Ireland's biodiversity and to prevent and reduce the loss of biodiversity in Ireland and globally 	<ul style="list-style-type: none"> To mainstream biodiversity in the decision-making process across all sectors To substantially strengthen the knowledge base for conservation, management and sustainable use of biodiversity To increase awareness and appreciation of biodiversity and ecosystems services To conserve and restore biodiversity and ecosystem services in the wider countryside To conserve and restore biodiversity and ecosystem services in the marine environment To expand and improve on the management of protected areas and legally protected species To substantially strengthen the effectiveness of international governance for biodiversity and ecosystem services 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)	<ul style="list-style-type: none"> Sets out comprehensive mechanisms for the incorporation of flood risk identification, assessment and management into the planning process Ensures flood risk is a key consideration in preparing development plans and local area plans and, in the assessment, of planning applications Implementation of the Guidelines is through actions at national, regional, local authority and site-specific levels 	<ul style="list-style-type: none"> Avoid inappropriate development in areas at risk of flooding Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water 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 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. 	<p>Planning and Development Act 2000 (as amended)</p> <p>S.I. No. 122/2010 EC (Assessment and Management of Flood Risks) Regulations 2010</p> <p>S.I. No. 470/2012 European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012.</p>	The Council is obliged to comply with, as relevant and appropriate, the requirements of these Guidelines

<p>European Communities (Water Policy) Regulations of 2003 (SI 722 of 2003)</p> <p>European Communities (Water Policy) Regulations of 2003 (SI 350 of 2014)</p>	<ul style="list-style-type: none"> • Transposes the Water Framework Directive into legislation • Outlines the general duty of public authorities in relation to water • Identifies the competent authorities in charge of water policy (amended to Irish Water in 2013) and gives EPA and the CER the authority to regulate and supervise their actions 	<ul style="list-style-type: none"> • Implements River basin districts and characterisation of RBDs and River Basin Management Plans • Requires the public to be informed and consulted on the Plan and for progress reports to be published on RBDs • Implements a Register of protected areas, Classification systems and Monitoring programmes for water bodies • Allows the competent authority to recover the cost of damage/destruction of status of water body • Outlines environmental objectives and programme of measures and environmental quality standards for priority substances • Outlines criteria for assessment of groundwater 	<p>Water Framework Directive 2000/60/EC</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation</p>
<p>European Communities Environmental Objectives (Surface waters) Regulations of 2009 (SI 272 of 2009)</p>	<ul style="list-style-type: none"> • Transposes the requirements of the Water Framework Directive into Irish Legislation • The Surface Waters Regulations also give further effect to the WFD, establishing a framework for Community action in the field of water policy and Directive 2006/11/EC on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community. 	<p>These Regulations provide, inter alia, for:</p> <ul style="list-style-type: none"> • The establishment of legally binding quality objectives for all surface waters and environmental quality standards for pollutants; • The examination and where appropriate, review of existing discharge authorisations by Public Authorities to ensure that the emission limits laid down in authorisations support compliance with the new water quality objectives/standards; • The classification of surface water bodies by the EPA for the purposes of the Water Framework Directive; • The establishment of inventories of priority substances by the EPA; and • The drawing up of pollution reduction plans by coordinating local authorities (in consultation with the EPA) to reduce pollution by priority substances and to cease and/or phase out discharges, emissions or losses of priority hazardous substances. 	<p>Water Framework Directive 2000/60/EC</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation</p>
<p>European Communities Environmental Objectives (Groundwater) Regulations of 2010 (SI 9 of 2010)</p>	<ul style="list-style-type: none"> • Transposes the requirements of the Groundwater Directive 2006/118/EC into Irish Legislation 	<ul style="list-style-type: none"> • Outlines environmental objectives to be achieved for groundwater bodies of groundwater against pollution and deterioration in quality • Sets groundwater quality standards • Outlines threshold values for the classification and protection of groundwater 	<p>Water Framework Directive 2000/60/EC</p> <p>Groundwater Directive (2006/118/EC)</p> <p>European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9/2010) (as amended)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation</p>
<p>Water Pollution Acts 1977 to 1990</p>	<ul style="list-style-type: none"> • The Water Pollution Acts allow Local Authorities the authority regulate and supervise actions relating to water in their division 	<p>The Water Pollution Acts enable local authorities to:</p> <ul style="list-style-type: none"> • prosecute for water pollution offences; • attach appropriate pollution control conditions in the licensing of effluent discharges from industry, etc., made to waters; • issue notices ("section 12 notices") to farmers, etc., specifying measures to be taken within a prescribed period to prevent water pollution; 	<p>Water Services Act 2013</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation</p>

		<ul style="list-style-type: none"> • issue notices requiring a person to cease the pollution of waters and requiring the mitigation or remedying of any effects of the pollution in the manner and within the period specified in such notices; • seek court orders, including High Court injunctions, to prevent, terminate, mitigate or remedy pollution/its effects; • prepare water quality management plans for any waters in or adjoining their functional areas 		
European Communities (Urban Waste Water Treatment) Regulations 2001 (S.I. No. 254/2001)	<ul style="list-style-type: none"> • Transposes the Urban Waste Water Treatment Directive into Irish Legislation • Aims to protect receiving waters from environmental damage arising from Urban Waste water 	<ul style="list-style-type: none"> • Sets out the legislative requirements for urban waste water collection and treatment systems • Provides for monitoring programmes of discharges • Specifies threshold values and minimum standards for water quality 	Urban Waste Water Treatment Directive (91/271/EEC)	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
Water Services Act 2007 Water Services (Amendment) Act 2012 Water Services Act 2013	<ul style="list-style-type: none"> • Provides the water services infrastructure • Outlines the responsibilities involved in delivering and managing water services • Identifies the authority in charge of provision of water and waste water supply • Irish Water was given the responsibility of the provision of water and waste water services in the amendment act during 2013, therefore these services are no longer the responsibility of the 34 Local Authorities in Ireland 	<p>Key strategic objectives include:</p> <ul style="list-style-type: none"> • Ensuring Irish Water delivers infrastructural projects that meet key public health, environmental and economic objectives in the water services sector. • Ensuring the provision of adequate water and sewerage services in the gateways and hubs listed in the National Spatial Strategy, and in other locations where services need to be enhanced. • Ensuring good quality drinking water is available to all consumers of public and group water supplies, in compliance with national and EU drinking water standards • Ensuring the provision of the remaining infrastructure needed to provide secondary waste water treatment, for compliance with the requirements of the EU Urban Waste water Treatment Directive. • Promoting water conservation through Irish Water's Capital Investment Plan, the Rural Water Programme and other measures. • Monitoring the on-going implementation of septic tanks inspection regime and the National Inspection Plan for Domestic Waste Water Treatment Systems. • Ensuring a fair funding model to deliver water services. • Overseeing the establishment of an economic regulation function under the CER. 	not applicable	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan 2014-2016	<ul style="list-style-type: none"> • This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term. 	<p>Six strategic objectives as follows:</p> <ul style="list-style-type: none"> • Meet Customer Expectations. • Ensure a Safe and Reliable Water Supply. • Provide Effective Management of Waste water. • Protect and Enhance the Environment. • Support Social and Economic Growth. • Invest in Our Future. 	The Water Services (No. 2) Act (2013)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

<p>Ireland 2040 - Our Plan, the National Planning Framework</p>	<ul style="list-style-type: none"> The National Planning Framework is the Government's high-level strategic plan for shaping the future growth and development of to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for people, and to protect and enhance the environment - from villages to cities, and everything around and in between. 	<p>The National Planning Framework and accompanying National Development Plan share ten National Strategic Outcomes as follows:</p> <ol style="list-style-type: none"> 1. Compact Growth 2. Enhanced Regional Accessibility 3. Strengthened Rural Economies and Communities 4. Sustainable Mobility 5. A Strong Economy, supported by Enterprise, Innovation and Skills 6. High-Quality International Connectivity 7. Enhanced Amenity and Heritage 8. Transition to a Low-Carbon and Climate-Resilient Society 9. Sustainable Management of Water and other Environmental Resources 10. Access to Quality Childcare, Education and Health Services 	<p>not applicable</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>National Development Plan 2018-2027</p>	<p>The National Development Plan sets out the investment priorities that will underpin the successful implementation of the new National Planning Framework. This will guide national, regional and local planning and investment decisions in Ireland over the next two decades, to cater for an expected population increase of over 1 million people.</p>	<p>The National Planning Framework and accompanying National Development Plan share ten National Strategic Outcomes as follows:</p> <ol style="list-style-type: none"> 1. Compact Growth 2. Enhanced Regional Accessibility 3. Strengthened Rural Economies and Communities 4. Sustainable Mobility 5. A Strong Economy, supported by Enterprise, Innovation and Skills 6. High-Quality International Connectivity 7. Enhanced Amenity and Heritage 8. Transition to a Low-Carbon and Climate-Resilient Society 9. Sustainable Management of Water and other Environmental Resources 10. Access to Quality Childcare, Education and Health Services 	<p>not applicable</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>Grid25 Implementation Programme</p>	<ul style="list-style-type: none"> Framework for the development of the electricity transmission grid in the short, medium and long terms, to support a long-term sustainable and reliable electricity supply 	<ul style="list-style-type: none"> Seeks to implement the provisions of the 2007 Government White Paper on Energy - "Delivering a Sustainable Energy Future for Ireland" in terms of development of electricity transmission infrastructure 	<p>not applicable</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>

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National Landscape Strategy 2015	<ul style="list-style-type: none"> Aims to implement the European Landscape Convention in Ireland by providing for specific measures to promote the protection, management and planning of the landscape. 	<p>The objectives of the National Landscape Strategy are to:</p> <ul style="list-style-type: none"> Recognise landscapes in law Develop a National Landscape Character Assessment; Develop Landscape Policies; Increase Landscape Awareness; Identity Education, Research and Training Needs; and Strengthen Public Participation. 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Rural Development Programme 2014-2020	<ul style="list-style-type: none"> The National Rural Development Programme, prepared by the Department of Agriculture, Fisheries and Food, sets out a national programme based on the EU framework for rural development and prioritises improving the competitiveness of agriculture, improving the environment and improving the quality of life in rural areas 	<p>At a more detailed level, the programme also:</p> <ul style="list-style-type: none"> Supports structural change at farm level including training young farmers and encouraging early retirement, support for restructuring, development and innovation; Aims to improve the environment, biodiversity and the amenity value of the countryside by support for land management through funds such as Natura 2000 payments etc.; and Aims to improve quality of life in rural areas and encouraging diversification of economic activity through the implementation of local development strategies such as non-agricultural activities 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Forestry Programme 2014-2020	<ul style="list-style-type: none"> Represents Ireland's proposals for 100% State aid funding for a new Forestry Programme for the period 2014 – 2020. 	<p>Measures include the following:</p> <ul style="list-style-type: none"> Afforestation and Creation of Woodland NeighbourWood Scheme Forest Roads Reconstitution Scheme Woodland Improvement Scheme Native Woodland Conservation Scheme Knowledge Transfer and Information Actions Producer Groups Innovative Forest Technology Forest Genetic Reproductive Material Forest Management Plans 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Peatlands Strategy (finalised)	<ul style="list-style-type: none"> This Draft Strategy, prepared by the National Parks and Wildlife Service, sets out principles in relation to Irish peatlands in order to guide Government policy. The Strategy aims to provide a framework for which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution. 	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Hazardous Waste Management Plan (EPA) 2014-2020	<ul style="list-style-type: none"> Sets out the priorities to be pursued over the next number of years to continually improve the management of Ireland's hazardous waste. 	<p>The objectives of the revised Plan are:</p> <ul style="list-style-type: none"> To prevent and reduce the generation of hazardous waste by industry and society generally; To maximise the collection of hazardous waste with a view to reducing the environmental and health impacts of any unregulated waste; 	Section 26 of the Waste Management Act 1996 as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for

		<ul style="list-style-type: none"> To strive for increased self-sufficiency in the management of hazardous waste and to minimise hazardous waste export; To minimise the environmental, health, social and economic impacts of hazardous waste generation and management 		environmental protection and management
Regional and Inter-County				
Plan/Programme	Highest Level Aim/ Purpose/ Objective	Lower level relevant objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Plan
River Basin Management Plans	<ul style="list-style-type: none"> Establish a framework for the protection of water bodies at River Basin District (RBD) level Preserve, prevent the deterioration of water status and where necessary improve and maintain <i>good status</i> of water bodies in that RBD Promote sustainable water usage 	<ul style="list-style-type: none"> Aims to protect and enhance all water bodies in the RBD and meet the environmental objectives outlined in Article 4 of the Water Framework Directive Identifies and manages water bodies in the RBD Establishes a programme of measures for monitoring and improving water quality in the RBD Involves the public through consultations 	<p>Water Framework Directive (2000/60/EC)</p> <p>European Communities (Water Policy) Regulations, 2003 (SI No. 722) (as amended)</p> <p>Guidelines for the Establishment of River Basin District Advisory Councils (RBDAC)</p>	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
<p>Regional Spatial Economic Strategy</p> <p>(Replacing Regional Planning Guidelines; To commence in 2018 and will be adopted over lifetime of the Plan)</p>	<p>Regional Planning Guidelines (RPGs) provide long-term strategic planning frameworks and will be replaced by Regional Spatial and Economic Strategies (RSESs).</p> <p>Each one of the three Regional Assemblies will prepare their own RSES, with the Northern and Western Regional Assembly, of which Galway County Council is part, responsible for the preparation of a RSES for the Northern and Western Region. The Regional Spatial and Economic Strategies will provide a long-term regional level strategic planning and economic framework in support of the implementation of the National Planning Framework.</p>	<ul style="list-style-type: none"> RSESs will give regional effect to the National Planning Framework. Account will be taken in the drafting of RSESs of the proposed spatial plans (i.e. Development Plans) and economic plans (i.e. Local, Economic, Community Plans) of local authorities to ensure that the RSESs are informed by identified local and regional needs. 	not applicable	Implementation of the Guidelines need to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
Draft Freshwater Pearl Mussel Sub-Basin Management Plans	<ul style="list-style-type: none"> Identifies the current status of the species and the reason for loss or decline Identifies measure required to improve or restore current status 	<ul style="list-style-type: none"> Identifies pressures on Freshwater Pearl Mussels for each of the designated populations in Ireland Outlines restoration measures required to ensure favourable conservation status 	<p>Water Framework Directive (2000/60/EC) and Habitats Directive (92/43/EEC)</p> <p>European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003)</p> <p>European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) The Wildlife Act 1976 and the Wildlife (Amendment) Act 2000</p>	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Management Plans for European Sites	Article 6(1) of the Habitats Directive requires that Member States establish the necessary conservation measures for Special Area of Conservation involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans.	<ul style="list-style-type: none"> Integrated Management Plans can be practical, achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations and with special regard to local communities. 	Habitats Directive	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Outputs from the Western Catchment Flood Risk Assessment and Management Programme	The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive. The Programme is being implemented through CFRAM Studies which are being undertaken for each of the six river basin districts in Ireland.	<p>CFRAM Studies are being undertaken for all River Basin Districts.</p> <p>The studies are focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. Flood Maps have been published and Flood Risk Management Plans are currently being finalised having previously been subject to public consultations.</p>	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Connacht-Ulster Regional Waste Management Plan	This plan provides the framework for waste management for 6 years and sets out a range of policies and actions in order to meet specified mandatory and performance targets.	The strategic vision of the regional waste plan is to rethink our approach to managing waste, by viewing our waste streams as valuable material resources, leading to a healthier environment and sustainable commercial opportunities for our economy. Strategic objectives: Policy & Legislation; Prevention; Resource Efficiency; Coordination; Infrastructure Planning; Enforcement & Regulations; Protection; and Other Wastes	European Directive (2008/98/EC) on Waste (Waste Framework Directive); Council Decision (200/532/EC) establishing a list of wastes; and Regulation (1013/2006) on the shipments of waste	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
County and Local				
Plan/Programme	Highest Level Aim/ Purpose/ Objective	Lower level relevant objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Plan
County Development Plans including the Galway County Development Plan 2015-2021 (as varied)	<ul style="list-style-type: none"> Outlines planning objectives for County/Town development over six-year lifespan Strategic framework for planning and sustainable development including those set out in National Spatial Strategy and Regional Planning Guidelines 	<ul style="list-style-type: none"> Identifies future infrastructure, development and zoning required Protects and enhances amenities and environment Guides planning authority in assessing proposals 	Requirement of the Planning and Development Act (2000), as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Proposed Variation No. 2 (a) to the Galway County Development Plan 2015-2021	<ul style="list-style-type: none"> Proposed Variation 2 (a) is to integrate a plan (including land use zoning) for sustainable development of Bearna into the County Development Plan. 	<ul style="list-style-type: none"> The Bearna Plan further contributes towards the existing framework for the planned, co-ordinated and sustainable development of the Bearna area, and for enhancement and facilitation of the balancing of economic, social and environmental infrastructure in order to maintain and develop a high quality of life, without compromising the protection of the environment and the needs of future generations 	Planning and Development Act (2000), as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management.

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Variation No. 2 (b) to the Galway County Development Plan 2015-2021	<ul style="list-style-type: none"> Variation 2 (b) is to integrate a plan (including land use zoning) for sustainable development of the Gaeltacht (including the settlements of An Cheathrú Rua An Spidéal and Baile Chláir) into the County Development Plan. 	<ul style="list-style-type: none"> The Gaeltacht Plan further contributes towards the existing framework for the planned, co-ordinated and sustainable development of the Gaeltacht area, and for enhancement and facilitation of the balancing of economic, social and environmental infrastructure in order to maintain and develop a high quality of life, without compromising the protection of the environment and the needs of future generations 	Planning and Development Act (2000), as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management.
Local Area Plans, and where relevant Draft Local Area Plans, including those for Athenry, Craughwell, Gort, Loughrea, Maigh Cullinn, Oranmore, Oughterard, Portumna and Clifden	<ul style="list-style-type: none"> Statutory documents which provide detailed planning policies to ensure proper planning and sustainable development of area Set out objectives for future planning and development 	<ul style="list-style-type: none"> Identifies issues of relevance to the area and outlines principles for future development of area Is consistent with relevant County/Town Development Plans, National Spatial Strategy and Regional Planning Guidelines 	Local Government (Planning and Development) Act, 1963 (as amended) Requirement of the Planning and Development (Amendment) Act (2010)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Local Economic and Community Plan for County Galway	<ul style="list-style-type: none"> The LECP is to set out, for a six-year period, the objectives and actions needed to promote and support the economic development and the local and community development of the local authority area, both by itself directly and in partnership with other economic and community development stakeholders. 	<ul style="list-style-type: none"> The LECP and County Development Plan are closely linked. The LECP must be consistent with the Core Strategy of the County Plan. 	Local Government Reform Act 2014	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Groundwater Protection Scheme for County Galway	<ul style="list-style-type: none"> Aims to preserve the quality of groundwater for drinking purposes and other beneficial uses, and for the benefit of present and future generations. 	The objectives, which are interrelated, are as follows: <ul style="list-style-type: none"> to assist the statutory authorities in meeting their responsibilities for the protection and conservation of groundwater resources; to provide geological and hydrogeological information for the planning process, so that potentially polluting developments can be located and controlled in an environmentally acceptable way; to integrate the factors associated with groundwater contamination risk, to focus attention on the higher risk areas and activities, and to provide a logical structure within which contamination control measures can be selected 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Galway County Heritage & Biodiversity Plan 2017-2022	The aim of the Galway County Heritage & Biodiversity Plan 2017- 2022 is to place heritage and biodiversity at the heart of public life in the county through increasing awareness, participation, enjoyment, knowledge and understanding of our shared heritage to lead to its proper conservation, management and protection and safeguarding it for future generations.	Three overarching objectives have been identified for the Heritage & Biodiversity Plan as follows: <ol style="list-style-type: none"> To increase awareness, appreciation and participation To gather and share knowledge To manage and conserve our heritage including biodiversity. 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Appendix II SEA Screening Determination

**Strategic Environmental Assessment (SEA)
Screening Determination under:**

The Planning and Development Act 2000 (as amended)

for:

Proposed Material Alterations to the Draft Tuam Local Area Plan 2018-2024

Overview

A Strategic Environmental Assessment (SEA) Screening determination is being made by Galway County Council regarding Proposed Material Alterations to the Tuam Local Area Plan 2018-2024.

Section 20 (3) (f) of the Planning and Development Act 2000 (as amended), requires, inter alia, a determination to be made as to whether Proposed Material Alterations to Local Area Plans warrant the undertaking of SEA.

Such a determination takes into account relevant criteria set out in Schedule 2A 'Criteria for determining whether a plan is likely to have significant effects on the environment' of the SEA Regulations, as amended. These criteria are considered in Appendix I to this determination.

SEA is required for various Proposed Material Alterations due to both: the likely adverse environmental effects arising from providing for inappropriate development within areas that are at elevated risk of flooding; and the cumulative adverse effects on all environmental components likely to arise from the provision of unnecessary zoning at various lands across the Plan area.

A period of 14 weeks is considered necessary to facilitate the SEA of the Proposed Material Alterations.

Inappropriate Development within Areas that are at Elevated Risk of Flooding

Proposed Material Alterations (MA 1, MA 2 and MA 3) propose the provision of a range of incompatible uses within areas that are at elevated risk of flooding. The areas that are at elevated risk of flooding are have been identified by the Strategic Flood Risk Assessment.

Providing incompatible uses in these areas is contrary to proper and sustainable flood risk management and contrary to *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) and *Circular PL2/14* recently issued by the Department of the Environment, Heritage & Local Government.

If the lands subject to MA 1, MA 2 and MA 3 were developed, there would be a heightened risk of flooding and associated adverse effects on people and their assets. Such effects are identified on the table below and range from loss of life, to damage to property, to loss of income.

Table: Potential adverse effects that may occur as a result of flooding

Tangible Effects	Intangible Human and Other Effects
Damage to buildings (houses)	Loss of life
Damage to contents of buildings	Physical injury
Damage to new infrastructure e.g. roads	Increased stress
Loss of income	Physical and psychological trauma
Disruption of flow of employees to work causing knock on effects	Increase in flood related suicide
Enhanced rate of property deterioration and decay	Increase in ill health
Long term rot and damp	Homelessness
	Loss of uninsured possessions

In addition to these effects on people and property, if the lands subject to MA 1, MA 2 and MA 3 were developed, there would be elevated potential for water quality to be adversely affected (as a result of flooding of water treatment systems and collection networks and flooding of unknown substances

stored onsite). Polluted or contaminated waters would have the potential to adversely affect human health and biodiversity and flora and fauna (including designated European Sites).

The full range of effects will be considered by the assessments as necessary, including cumulative impacts on the local environment.

Industrial and Residential Zoning within Special Area of Conservation

Proposed Material Alteration (MA 1) proposes Industrial zoning within the designated Lough Corrib Special Area of Conservation (SAC), Site Code 000297. This European Site is protected by European and Irish legislation. Proposed Material Alteration (MA 11) proposes Residential zoning in the SAC.

Development of MA 1 and MA 11 lands that are subject to the SAC designation would lead to a heightened risk of adverse effects upon the qualifying interests of this site.

Cumulative Adverse Effects on all Environmental Components

Taking into account the considerable extent of lands involved, cumulative adverse effects would be likely to arise on all environmental components as a result of the provision of unnecessary zoning (for which there is no established planning need) at various lands across the plan area (including MA 1 to MA 16).

As there is no established planning need for the zoning of these lands, no positive effects arising from reducing the need to develop more sensitive, less well serviced areas beyond the Plan boundary are present.

Cumulative residual adverse effects likely to occur are identified on the table below.

Environmental Component	Residual Adverse Effects
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> • Loss of an extent of non-protected habitats and species arising from the replacement of semi-natural land covers with artificial surfaces • Losses or damage to ecology • Potential for adverse effects on European Sites
Population and Human Health	<ul style="list-style-type: none"> • Significant adverse effects on population and human health likely, arising from introduction of heightened flood risk to existing and future populations and property
Soil	<ul style="list-style-type: none"> • Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces
Water	<ul style="list-style-type: none"> • Increased loadings as a result of development • Introduces heightened flood risk to existing and future populations and property
Material Assets	<ul style="list-style-type: none"> • Residual wastes to be disposed of in line with higher level waste management policies • Significant adverse effects on property likely, arising from introduction of heightened flood risk to existing and future populations and property
Air and Climatic Factors	<ul style="list-style-type: none"> • An extent of travel related greenhouse gas and other emissions to air
Cultural Heritage	<ul style="list-style-type: none"> • Potential alteration to the context and setting of architectural heritage however these will occur in compliance with legislation • Potential alteration to the context and setting of archaeological heritage however this will occur in compliance with legislation • Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Plan as varied
Landscape	<ul style="list-style-type: none"> • Changes to appearance of lands

Signed: _____
 Signatory
 Approved Officer

SEA Determination Appendix I: Schedule 2A

Part 1

1. The characteristics of the plan having regard, in particular, to: the degree to which the plan sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources

The Proposed Material Alterations include a number of zoning changes to the Tuam Local Area Plan 2018-2024.

Taking the examination of the Proposed Material Alterations provided in the main body of the determination into account, arising from the degree to which the Proposed Material Alterations and the Local Area Plan set a framework for projects and other activities, the Proposed Material Alterations would be likely to result in significant environmental effects.

2. The characteristics of the plan having regard, in particular, to: the degree to which the plan influences other plans, including those in a hierarchy

The Material Alterations are being proposed to the Tuam Local Area Plan 2018-2024. The Local Area Plan relates to the proper planning and sustainable development of Tuam.

Taking the above and the examination of the Proposed Material Alterations provided in the main body of the determination into account, arising from the degree to which the Proposed Material Alterations and the Local Area Plan influence other plans, the Proposed Material Alterations would be likely to result in significant environmental effects.

3. The characteristics of the plan having regard, in particular, to: the relevance of the plan for the integration of environmental considerations in particular with a view to promoting sustainable development

The Draft Tuam Local Area Plan 2018-2024 - to which the Proposed Material Alterations relate - has undergone SEA. This process integrated environmental considerations into the Plan and found that the Draft Plan that was placed on public display contributes to environmental protection and management and sustainable development.

Taking the above and the examination of the Proposed Material Alterations provided in the main body of the determination into account, arising from the degree to which the Proposed Material Alterations and the Local Area Plan are relevant for the integration of environmental considerations with a view to promoting sustainable development, the Proposed Material Alterations would be likely to result in significant environmental effects.

4. The characteristics of the plan having regard, in particular, to: environmental problems relevant to the plan

Environmental problems arise where there is a conflict between current environmental conditions and legislative targets.

The Proposed Material Alterations provide incompatible uses in areas that are at elevated risk of flooding. This is contrary to proper and sustainable flood risk management and contrary to The Planning System and Flood Risk Management Guidelines for Planning Authorities (2009) and Circular PL2/14 recently issued by the Department of the Environment, Heritage & Local Government.

Taking the above and the examination of the Proposed Material Alterations provided in the main body of the determination into account, arising from environmental problems relevant to the Proposed Material Alterations and the Local Area Plan, the Proposed Material Alterations would be likely to result in significant environmental effects.

5. The characteristics of the plan having regard, in particular, to: the relevance of the plan for the implementation of European Union legislation on the environment (e.g. plans linked to waste-management or water protection)

The Local Area Plan relates to the land use and town planning sector and has undergone SEA. This process integrated considerations with regard to EU and national legislation on the environment, including those relating to the waste management and the Water Framework Directive. However, the Proposed Material Alterations include proposals that would conflict with various environmental components.

Taking the above and the examination of the Proposed Material Alterations provided in the main body of the determination into account, arising from the relevance of the Proposed Material Alterations and the Local Area Plan for the implementation of European Union legislation on the environment, the Proposed Material Alterations would be likely to result in significant environmental effects.

Part 2

1. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the probability, duration, frequency and reversibility of the effects

The Proposed Material Alterations would be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Proposed Material Alterations provided in the main body of the determination).

2. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the cumulative nature of the effects

The Proposed Material Alterations would be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Proposed Material Alterations provided in the main body of the determination).

3. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the transboundary nature of the effects

The Proposed Material Alterations would be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Proposed Material Alterations provided in the main body of the determination).

4. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the risks to human health or the environment (e.g. due to accidents)

The Proposed Material Alterations would be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Proposed Material Alterations provided in the main body of the determination).

5. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected)

The Proposed Material Alterations would be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Proposed Material Alterations provided in the main body of the determination).

6. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the value and vulnerability of the area likely to be affected due to:

a) special natural characteristics or cultural heritage;

The Proposed Material Alterations would be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Proposed Material Alterations provided in the main body of the determination).

b) exceeded environmental quality standards or limit values, and;

The Proposed Material Alterations would be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Proposed Material Alterations provided in the main body of the determination).

c) intensive land-use.

The Proposed Material Alterations would be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Proposed Material Alterations provided in the main body of the determination).

7. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the effects on areas or landscapes which have a recognised national, European Union or international protection status

The Proposed Material Alterations would be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Proposed Material Alterations provided in the main body of the determination).