



STRATEGIC ENVIRONMENTAL ASSESSMENT OF KILKENNY DRAFT CITY AND COUNTY DEVELOPMENT PLAN 2021

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Non-technical Summary

Section 1 Introduction and Terms of Reference

This is the Non-Technical Summary of the Environmental Report (ER) of the Kilkenny Draft City and County Development Plan. The purpose of the ER is to provide a clear understanding of the likely environmental consequences of decisions regarding the future development of Kilkenny.

What is an SEA?

SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a proposed plan, or other strategic action, in order to ensure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic, social and other considerations.

Why is it needed?

The SEA is being carried out in order to comply with the provisions of the SEA Regulations and in order to improve planning and environmental management within Kilkenny. The output of the process is an ER and SEA Statement, both of which should be read in conjunction with the Development Plan.

How does it work?

All of the main environmental issues in Kilkenny are assembled and presented to the team who prepare the Plan. This helped them to devise a Plan that protects whatever is sensitive in the environment. It also helped to identify wherever there are environmental problems in the area and ideally the Plan tries to improve these. To decide how best to make a Plan that protects the environment as much as possible the planners examined alternative versions of the Plan. This helped to highlight the type of Plan that are least likely to harm the environment.

What is included in the Environmental Report which accompanies the Plan?

The ER contains the following information:

- A description of the environment and the key environmental issues;
- A description and assessment of alternatives for the Plan;
- An assessment of the Plan objectives; and,
- Mitigation measures which set out to aid compliance with important environmental protection legislation - e.g. the Water Framework Directive, the Habitats Directive - and which will avoid/reduce the environmental effects of implementing the Plan.

What happens at the end of the process?

On the making of the Plan a document will be made public, referred to as the SEA Statement. The SEA Statement includes information on how environmental considerations have been integrated into the Plan and why the preferred alternative was chosen for the Plan in light of the other alternatives.

Section 2 The Plan

2.1 Content of the Plan

The Plan has been prepared by Kilkenny County Council and comprises a written document with maps, and appendices. The contents of the Plan (as set out in its chapter headings) are as follows;

Volume 1:

- 1 Introduction
- 2 Climate Change
- 3 Demographic and Socio Economic trends
- 4 Core Strategy and Zoning
- 5 Economic development & Tourism
- 6 Housing and Community
- 7 Rural Development
- 8 Open Space and Recreation
- 9 Culture and Heritage
- 10 Infrastructure and Environment
- 11 Renewable Energy Strategy/Energy efficiency
- 12 Movement and Mobility
- 13 Requirements for Developments

Volume 2: Kilkenny City

- 2.1 Introduction
- 2.2 Core Strategy and Zoning
- 2.3 Economic and Retail Strategy
- 2.4 Heritage Strategy
- 2.5 Movement and Mobility Strategy
- 2.6 Kilkenny City Place-making
- 2.7 Infrastructure and Environment

2.2 Interactions with Relevant Policy, Plans or Programmes

The Plan sits within a hierarchy of other plans. The Plan must comply with higher level strategic plans and may, in turn, guide lower level strategic plans. The higher level plans include the following:

- Climate Action Plan 2019
- [National Climate Change Adaptation Framework](#)¹
- National Planning Framework
- National Development Plan 2018-2027
- Ministerial Guidelines, including those on [Architectural Heritage Protection](#), [Childcare Facilities](#), [Development Plans](#), [Landscapes](#), [The Planning System and Flood Risk Management](#), [Retail Planning](#), [Strategic Environmental Assessment](#), [Sustainable Residential Development in Urban Areas](#) and [Sustainable Rural Housing](#)
- Food Wise 2025

¹ Department of Environment, Community and Local Government, [National Climate Change Adaptation Framework](#), 2012

- National River Basin Management Plan 2018-2021 (RBMP)
- Local Economic and Community Plan 2016-2021
- Regional Spatial and Economic Strategy Southern Region (RSES)

The Plan will set the strategic context for any lower-tier plans, such as Local Area Plans (LAPs) to be prepared in the county. LAPs are in place for Callan, Castlecomer, Ferrybank/Belview, Graiguenamanagh and Thomastown. In order to be realised, projects included in the Development Plan (in a similar way to other projects from any other sector) will have to comply, as relevant, with various legislation, policies, plans and programmes (including requirements for lower-tier Appropriate Assessment, Environmental Impact Assessment and other licencing requirements as appropriate) that form the statutory decision-making and consent granting framework.

Section 3 The Environmental Baseline

3.1 Introduction

The environmental baseline of Kilkenny is described in this section. This baseline together with the Strategic Environmental Objectives, which are identified in Section 3.3, is used in order to identify, describe and evaluate the likely significant environmental effects of implementing the Plan and to determine appropriate monitoring measures.

The environmental baseline is described in line with the legislative requirements encompassing the following components –

1. Biodiversity, Flora and Fauna
2. Population and Human Health
3. Soil
4. Water
5. Air
6. Climatic factors
7. Material Assets
8. Cultural Heritage (architectural and archaeological)
9. Landscape
10. The inter-relationship between these issues

3.2 Evolution of Environment in the absence of a Plan

Problems were outlined under each heading above and historical trends were presented where possible. In the absence of the new Plan there would be no long term framework or guidance for development within Kilkenny. Specifically, the following could occur:

1. Biodiversity, Flora and Fauna

Although some areas of sensitivity, such as the Natura 2000 sites would continue to be protected under EU law, undesignated habitats such as hedgerows would suffer from a lack of protection.

2. Population and Human Health

In the absence of a Core Strategy and appropriate settlement policies there would be no framework directing development away from the most sensitive areas.

3. Soil

There would be no framework for directing development and growth to appropriate brownfield sites and therefore greenfield development would occur on an increased basis, resulting in a loss of non-renewable soil resources.

4. Water

Water supplies and wastewater treatment would continue to be governed by the Water Framework Directive. However the Groundwater Protection Scheme would not be implemented and therefore applications would proceed on an ad-hoc basis, without due regard to the potential for affecting a particular aquifer or source.

5. Air

In the absence of detailed Smarter Travel objectives and a settlement hierarchy, development would occur in a dispersed pattern, leading to an increase in unsustainable travel patterns and a subsequent increase in travel related emissions.

6. Climatic factors

With no Strategic Flood Risk Assessment, inappropriate development could take place in areas of flood risk.

7. Material Assets

There would be no framework to provide the infrastructure, such as energy infrastructure, that the county requires.

8. Cultural Heritage (architectural and archaeological)

The Plan includes a review of the Record of Protected Structures and Architectural Conservation Areas, amongst other designations. If this were not to occur, cultural heritage would not be protected to the fullest extent possible, as additions to either the RPS or ACAs would not be carried out.

9. Landscape

In the absence of a Landscape Character Assessment, which forms part of the Plan, there would be no framework guiding developments to avoid areas of highest sensitivity. There would be no Wind Energy Development Strategy and new wind farm developments would be assessed on an individual basis, with no clear strategy.

3.3 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are measures against which the environmental effects of the Plan can be tested. If complied with in full, SEOs would result in an environmentally neutral impact from implementation of the Planning Scheme.

The SEA Directive requires that relevant environmental protection objectives (EPOs), established at international, EU or national level are listed in the Environmental Report. Given the position of the Development Plan in the land use planning hierarchy beneath the Southern RSES, the measures identified in that RSES SEA have been used here, with some modification where appropriate.

The SEA of the RSES was based on a set of overarching principles. Falling out of these principles, specific Strategic Environmental Objectives (SEOs) were devised.

International, National documents/strategies/guidelines	European, policy	Guiding Principle	SEO Ref.	SEO
EU Habitats Directive (92/43/EEC) EU Birds Directive (79/409/EEC) UN Convention on Biological Diversity Ireland's National Biodiversity Plan		BIODIVERSITY FLORA AND FAUNA Guiding Principle: No net contribution to biodiversity losses or deterioration	B1 B2 B3 B4 B5	<ul style="list-style-type: none"> • To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species. • Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function. • Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species. • Enhance biodiversity in line with the National Biodiversity Strategy and its targets. • To protect, maintain and conserve the County's Natural Capital
Agenda 21 (1992) Our Sustainable Future: A framework for sustainable development for Ireland (2012) National Planning Framework Smarter Travel, A sustainable Transport Future, A new transport policy for Ireland 2009-2020 (2009)		POPULATION AND HUMAN HEALTH Guiding Principle: Improve quality of life for all ages and abilities based on high-quality, serviced, well connected and sustainable residential, working, educational and recreational environments	P1 P2 P3 P4 P5 P6	<ul style="list-style-type: none"> • To create an environment where every individual and sector of society can play their part in achieving a more healthy Ireland. • Consolidate growth and limit urban sprawl. • Enhance human health and promote healthy living through access to active travel opportunities, especially walking and cycling. • Promote economic growth to encourage retention of working age population. • Ensure that existing population and planned growth is matched with the required public infrastructure and the required services. • Safeguard the county's citizens from environment-related pressures and risks to health and

			well-being.
<p>EU Water Framework Directive (2000/60/EC) EU Directive on the assessment and management of flood risks [2007/60/EC], The Planning System and Flood Risk Management Guidelines for Planning Authorities (2009)</p>	<p>WATER Guiding Principle: Protection, improvement and sustainable management of the water resource</p>	<p>W1 W2 W3 W4 W5</p>	<ul style="list-style-type: none"> • Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the WFD and MSFD. • Ensure that economic growth of the marine resource and its ecosystems are managed sustainably. • Ensure water resources are sustainably managed to deliver proposed growth in the context of existing and projected water supply and wastewater capacity constraints ensuring the protection of receiving environments. • Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion. • Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals.
<p>Waste Management Act, 1996 as amended. A Resource Opportunity, Waste Management Policy in Ireland². <i>Southern Region Waste Management Plan 2015-2021.</i></p>	<p>LAND AND SOILS Guiding Principle: Ensure the long-term sustainable management of land</p>	<p>S1 S2 S3</p>	<ul style="list-style-type: none"> • Protect soils against pollution, and prevent degradation of the soil resource. • Promote the sustainable use of infill and brownfield sites over the use of greenfield. • Safeguard areas of prime agricultural land and designated geological sites.
<p>Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) Directive 2002/49/EC of 25 June 2002 relating to the assessment and management of environmental noise Directive 96/62/EC – Air Quality</p>	<p>AIR Guiding Principle: Support clean air policies that reduce the impact of air pollution on the environment</p>	<p>A1 A2 A3 A4</p>	<ul style="list-style-type: none"> • To avoid, prevent or reduce harmful effects on human health and the environment as a whole resulting from emissions to air from all sectors with particular reference to emissions from transport, residential heating, industry and agriculture. • Maintain and promote continuing

² Department of the Environment, Community and Local Government, [A Resource Opportunity, Waste Management Policy in Ireland](#), 2012

Framework Directive	and public health	A5 A6	<p>improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency.</p> <ul style="list-style-type: none"> • Promote continuing improvement in air quality. • Reduction of emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter which are responsible for acidification, eutrophication and ground-level ozone pollution • Meet Air Quality Directive standards for the protection of human health — Air Quality Directive • Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels
National Climate Change Adaptation Framework (2012) Climate Action Plan (2019)	CLIMATE Guiding Principle: Achieving transition to a competitive, low carbon, climate-resilient economy that is cognisant of environmental impacts.	C1 C2 C3 C4 C5	<ul style="list-style-type: none"> • To minimise emissions of greenhouse gasses. • Integrate sustainable design solutions into infrastructure (e.g. energy efficient buildings; green infrastructure). • Contribute towards the reduction of greenhouse gas emissions in line with national targets. • Promote development resilient to the effects of climate change. • Promote the use of renewable energy, energy efficient development and increased use of public transport.
Our Sustainable Future: A framework for sustainable development for Ireland (2012) National Development Plan 2018 – 2027.	MATERIAL ASSETS Guiding Principle: Sustainable and efficient use of natural resources	M1 M2 M3 M4 M5	<ul style="list-style-type: none"> • Optimise existing infrastructure and provide new infrastructure to match population distribution proposals. • Ensure access to affordable, reliable, sustainable and modern energy for all which encourages a broad energy generation mix to ensure security of supply – wind, wave solar, tidal, biomass, energy from waste (EfW), and traditional fossil fuels. • Promote the circular economy, reduce waste, and increase energy

		M6 M7	<p>efficiencies.</p> <ul style="list-style-type: none"> • Ensure there is adequate sewerage and drainage infrastructure in place to support new development. • Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes. • Encourage the transition to a zero carbon economy by developing grid infrastructure to support renewables (onshore and offshore), and international connectivity. • Reduce the average energy consumption per capita including promoting energy efficient buildings, retrofitting, smart-buildings, cities and grids.
European Convention on the Protection of Archaeological Heritage (1992) Framework and Principles for the Protection of the Archaeological Heritage (1999) Architectural Heritage Protection Guidelines (2004)	<p>CULTURAL HERITAGE</p> <p>Guiding Principle: Safeguard cultural heritage features and their settings through responsible design and positioning of development.</p>	H1	<ul style="list-style-type: none"> • Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage
<p>The European Convention on Landscape, 2000</p> <p>A National Landscape Strategy for Ireland Strategy Issues paper for consultation (2011)</p> <p>National Landscape Strategy for Ireland 2015-2025</p>	<p>LANDSCAPE</p> <p>Guiding Principle: Protect and enhance the landscape character</p>	L1	<ul style="list-style-type: none"> • To provide a framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention

Section 4 Alternative Scenarios

4.1 Description of the Alternative Plan Scenarios

One of the critical roles of the SEA is to facilitate an evaluation of the likely environmental consequences of a range of alternative scenarios for the future development of Kilkenny. The

Regional Spatial and Economic Strategy has allocated a projected population growth figure for the county, which must be adhered to. This population projection is translated into a housing land requirement, or a 'pot' of zoned land, which must be distributed in the county. Three alternatives were considered, each focusing on a different distribution of the growth as allocated by the RSES. One other element that was included in the alternatives was the development of wind energy. National policy and guidelines recommend that a Strategy is undertaken, but the form this strategy takes is determined at local level through the plan process.

Alternative 1: Continued consolidation

Alternative 1 concentrates growth mainly into the seven main settlements of Kilkenny, Ferrybank, the Environs of New Ross, the District Towns of Callan, Castlecomer, Graiguenamanagh and Thomastown, with little growth being allocated to the smaller level settlements or to rural areas. Access to public transport is a guiding principle of this approach, and Thomastown, as the only District Town served by rail, is prioritised above the level of the other three District towns. Wind energy developments are concentrated only where they exist at present, with no allowance made for new locations.

Alternative 2: Dispersed growth

This scenario is one which places very few restrictions on development throughout the Plan area. No specific targets or limitations on growth would be set in the core strategy of the Plan for settlements within the county at a level lower than the hub and gateway. The 'pot' of zoned land, would be distributed amongst all remaining settlements without prioritisation. Development would be allowed to proceed in an ad hoc manner and would follow market forces to a great extent. Developments such as quarries and wind energy developments would be located where demand is greatest. Most development would occur on greenfield sites.

Alternative 3: Selection of new growth areas

This alternative acknowledges the designation of Kilkenny as a Key Town, and Waterford as a Metropolitan area within the National Planning Framework, but redesignates the 'District Towns'. The 2014 District Towns were designated on the basis of the [Regional Planning Guidelines](#), which categorised towns of between 1,500 and 5,000 as 'District Towns'. The 2016 Census shows that Castlecomer just barely met the 1,500 mark, and Graiguenamanagh's population did not reach it. In this alternative, Piltown and Mooncoin, which have the next highest populations, are designated as District Towns in place of Castlecomer and Graiguenamanagh.

As part of this alternative, new areas for wind energy development would be selected on the basis of viability alone. Only those areas with highest wind speeds would be selected for wind farm development, regardless of landscape sensitivities or the presence or absence of existing wind farms.

4.2 Evaluation of Alternative Scenarios

This section summarises the evaluation of the Alternative Scenarios that is found in Section 5.5 of the Environmental Report.

Alternative 1: Continued consolidation - Likely significant effects

Environmental impacts

This alternative concentrates populations into locations with existing services and facilities, and access to public transport. Investment in key infrastructure can be concentrated into a very small number of settlements. Sustainable travel is promoted. Valuable natural resources such as water

quality are protected through targeted infrastructural measures. No allowance is made for additional wind energy developments, which would result in less use of renewable energy sources.

Planning impacts

This alternative does not support the rural population, which may lead to a population decline in rural areas and in smaller settlements.

Alternative 2: Dispersed growth - Likely significant effects

Environmental impacts

The environmental consequences of this alternative are potentially severe. The dispersal of rural housing and other non agriculture related development in the countryside would lead to unsustainable transport patterns; it could lead to a deterioration in ground water quality through the proliferation of septic tanks; surface water quality could be affected through contaminated ground water, habitats and areas of natural interest could be lost or fragmented; and finally a deterioration in landscape quality could ensue.

Planning impacts

The provision of key services such as water supply and wastewater treatment would become costly in both financial and environmental quality terms.

Alternative 3: Selection of new growth areas - Likely significant effects

Environmental impacts

In this alternative, a large growth area would be formed around Ferrybank, Piltown and Mooncoin in the south of the county. As Piltown's wastewater treatment plant is currently overloaded, any additional loading would negatively affect water quality in Piltown. This may have a resulting negative effect on the conservation status of the Lower River Suir cSAC which is located in close proximity to both settlements. Directing growth into the smaller centres of Piltown and Mooncoin would detract from the emphasis on Ferrybank as part of Waterford city, and would result in an increase in unsustainable travel patterns and a negative effect on air quality. As Piltown and Mooncoin were not historically large service centres, there are very few opportunities for brownfield redevelopment, and most development in both would take place on the edges of the centres, on greenfield land. This would have negative environmental effects through the increased replacement of agricultural land by artificial surfaces.

As part of this alternative, new areas for wind energy development would be selected on the basis of viability alone. Only those areas with highest wind speeds would be selected for wind farm development, regardless of landscape sensitivities or the presence or absence of existing wind farms.

Planning impacts

From a social and economic perspective, existing services in Castlecomer and Graigueenamanagh would suffer with the removal of their District Town designation.

4.3 Selection of Preferred Alternative

The preferred alternative which emerged from the evaluation process is Alternative 1, Continued Consolidation, with an element of Alternative 2, Dispersed Growth to encourage some level of growth of the smaller settlements to ensure that these smaller settlements are sustained. In relation to wind energy, the best solution is the recognition of areas of highest viability (Alternative 3) whilst taking account of landscape sensitivities (Alternative 1).

This scenario contributes towards the protection of the environment and conforms to high level planning objectives.

By complying with appropriate mitigation measures - including those which have been integrated into the Plan - potential adverse environmental effects which could arise as a result of implementing this scenario would be likely to be avoided, reduced or offset.

Section 6 of the Environmental Report evaluates the individual strategic aims and objectives which have been prepared to realise the selected scenario.

4.4 Appropriate Assessment and Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) was carried out for the Plan; this forms Appendix 1 to the Environmental Report. An Appropriate Assessment has also been carried out for the Plan; this is produced as a separate Natura Impact Report.

The preparation of the Plan, SEA, AA and SFRA has taken place concurrently and the findings of the AA and SFRA have informed both the Plan and the SEA.

Section 5 Mitigation and Monitoring Measures

5.1 Mitigation

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Plan. Potential adverse effects have been and will be avoided, reduced or offset through:

- The consideration of alternatives;
- Through communication of environmental considerations and integration of these considerations into the Plan;
- Through the application of a comprehensive risk-based planning approach to flood management in the Strategic Flood Risk Assessment; and
- Adherence to mitigation measures which have been integrated into the Plan either as Objectives in the case of Natura 2000 sites and flood risk management, or Development Management Requirements.

5.2 Monitoring

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. The Environmental Report contains proposals for monitoring the Plan which are adopted alongside the Plan. Monitoring enables the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

The Environmental Report identifies indicators - which allow quantitative measures of trends and progress in the environment over time. Measurements for indicators generally come from existing monitoring sources. A monitoring report will be prepared as part of the Chief Executive's Report on the implementation of the Development Plan, which must be carried out within two years of the making of the Plan.

1 Introduction

A review of the City and County Development Plans for Kilkenny (2014-2020) is being carried out by Kilkenny County Council, and one City and County Development Plan is being prepared. This Plan will cover the City area, and county as a whole, including a zoning framework for Kilkenny City and New Ross Environs and a settlement boundary for twenty-two settlements in total (Ballyhale, Ballyragget, Bennettsbridge, Clogh, Fiddown, Freshford, Goresbridge, Gowran, Inistioge, Johnstown, Kells, Kilmacow, Kilmaganny, Knocktopher, Moneenroe, Mooncoin, Mullinavat, Paulstown, Piltown, Slieverue, Stoneyford, Urlingford). The Planning and Development (Strategic Environmental Assessment) (SEA) Regulations 2004, as amended³, require that a draft development plan shall be accompanied by or include an environmental report where the population (or target population) is more than 10,000 persons. The population of Kilkenny County is 99,232⁴ therefore an Environmental Report is required.

SEA is the formal, systematic evaluation of the likely significant effects of implementing the plan, before a decision is made. The process includes preparing an Environmental Report where the likely significant effects are identified and evaluated.

This report has been prepared in accordance with the [SEA Guidelines for Regional and Planning Authorities](#)⁵.

1.1 Report Structure

Information to be included in the Environmental Report is set out in Schedule 2B to the Planning and Development Regulations 2001 (hereafter referred to as the Regulations). The [SEA Guidelines for Regional and Planning Authorities](#) also include a recommended layout, which this Report follows for the most part. The table below sets out how the layout of this Report satisfies the requirements of the Regulations.

Requirements of Schedule 2B	Section of Environmental Report
A. an outline of the contents and main objectives of the plan and relationship with other relevant plans;	Chapter 2: Contents and Description of the Plan
B. the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan;	Chapter 3: Current state of the environment
C. the environmental characteristics of areas likely to be significantly affected;	Chapter 3: Current state of the environment
D. any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Birds	Chapter 3: Current state of the environment

³ Article 7 of S.I. No. 436 of 2004 Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2004 and Article 3(d) of S.I. No. 201/2011 – Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011

⁴ CSO, Census 2016 Population Classified by Area

⁵ [Implementation of SEA Directive \(2001/42/EC\): Assessment of the Effects of Certain Plans and Programmes on the Environment, Guidelines for Regional and Planning Authorities](#) November 2004

Directive or Habitats Directive;

E. the environmental protection objectives, established at international, European Union or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation;

F. the likely significant effects ⁶ on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;

G. the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan;

H. an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;

I. a description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan;

J. a non-technical summary of the information provided under the above headings.

Chapter 4: Policy objectives

Chapter 6: Likely significant effects on the environment

Chapter 7: Mitigation measures

Chapter 5: Assessment of Alternatives

Chapter 8: Development Plan Monitoring

Non-technical Summary

1.2 Methodology

1.2.1 Screening

Screening was not carried out, as SEA is mandatory in this case.

1.2.2 Scoping

A brief scoping report was prepared in April 2020 in accordance with the [SEA Guidelines for Regional and Planning Authorities](#)⁷. The purpose of the scoping report was to ensure the identification of relevant environmental issues so they could be addressed appropriately in the Environmental Report. The scoping report also indicated the level of detail necessary for the SEA of the Development Plan.

⁶ These effects should include secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary, positive and negative effects.

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

1.2.2.1 Consultation

In line with the Planning and Development (SEA) Regulations 2004 as amended⁸, the Environmental and Planning Authorities were given notice on the 27th June 2018 of the intention of Kilkenny County Council to carry out an environmental assessment.

A response was received from the Department of Culture, Heritage & the Gaeltacht on the 25th July 2018 in relation to underwater archaeological heritage and to nature conservation.

A response was also received from the EPA (on the 7th June 2018) to the Pre-Draft stage of the Development Plan, which stated that Guidance on the SEA Scoping Process, including an SEA Pack, Integration Guidance, SEA Checklist, SEA Spatial Information Sources and guidance on Integrating Climate Change into SEA, is available on the EPA website and should be considered in the preparation of the SEA.

The comments from both bodies were incorporated within the Scoping Report and are taken into account in the content of this Environmental Report in accordance with the Regulations. (See Section 3.3 for Nature conservation and Section 3.10 for reference to underwater archaeology.) In particular, the EPA publication, [*SEA of Local Authority Land-Use Plans, EPA Recommendations and Resources, Version 1.3*](#) has been utilised.

1.2.3 Public Consultation

Public consultation regarding the Plan commenced in early 2018, and was divided into two parts; the awareness raising stage and the formal submissions stage. The awareness raising stage started in early 2018 and the formal stage in April 2018. The formal stage concluded on the 15th of June for public submissions and 22nd August 2018 for statutory bodies. The full pre-draft consultation process is outlined in the *Chief Executive's Report on the Pre-draft Stage* (September 2018).

Submissions from the public were invited between the 20th April and 15th June 2018. Four submissions were received in relation to the SEA, from the EPA (CDP6), the Southern Regional Assembly (CDP46), An Taisce (CDP27), and Irish Water (CDP31). These submissions were addressed in the Chief Executive's Report. The issues raised included compliance with National and Regional policy, the SEA process and resources, water services and infrastructure and general environmental considerations.

1.2.4 Environmental Baseline Data

The baseline data assists in assessing the current state of the environment, facilitating the identification, evaluation and subsequent monitoring of the effects of the plan.

Baseline data was collected based on the various broad environmental topics described in the [*SEA Directive*](#) and Schedule 2B of the Regulations; i.e. biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage and landscape. The Directive requires that information be focused upon relevant aspects of the environmental characteristics of the area likely to be significantly affected by the plan and the likely change, both positive and negative terms where applicable. The baseline data was collated from currently available, relevant data sources, as the [*SEA Directive*](#) does not

⁸ Planning and Development Strategic Environmental Assessment (Amendment) Regulations 2011 S.I. 201 of 2011

require major new research to be carried out. Where deficiencies or gaps in the information were identified, this is noted.

The [SEA Directive](#) requires that information is provided on any existing environmental problems which are relevant to the plan. Environmental problems arise where there is a conflict between current environmental conditions and ideal targets.

1.2.5 Selection of Strategic Environmental Objectives

The Regulations require that relevant environmental protection objectives (EPOs), established at international, EU or national level are identified and listed. At national level, the National Planning Framework (NPF) sets out Ireland's planning policy direction to 2040. The NPF is to be implemented through Regional Spatial and Economic Strategies (RSESs) and lower tier Development Plans and Local Area Plans (see Section 2.3). For Kilkenny, the [Southern Regional Spatial and Economic Strategy](#)⁹ (RSES) provides a context for the making of this Plan.

Given the position of the Development Plan in the land use planning hierarchy beneath the Southern RSES, the Strategic Environmental Objectives (SEOs) utilised in the RSES have been applied here also.

1.2.6 Consideration of Alternatives

The SEA Directive (at Article 5) recommends that alternative development scenarios for the plan are included for assessment. Alternatives need to be '*realistic and capable of implementation*' and should represent a range of different approaches within the statutory and operational requirements of the particular plan. Three alternatives were considered and assessed against the SEOs and one alternative emerged as the preferred plan strategy having satisfied the most SEOs. This is discussed in detail in Chapter 5.

1.2.7 Environmental Assessment of the Development Plan

The selected alternative forms the basis of the Plan. Detailed objectives were worked up around this Strategy to implement this Plan. This was an iterative process whereby the findings of the SEA were communicated to the plan making team on an ongoing basis in order to be integrated into the Plan.

The development objectives in the Plan were then assessed against the SEOs. The assessment described within this Environmental Report aims to highlight the potential conflicts, if they are present, between the stated development objectives contained in the Plan with the SEOs.

In accordance with SEA [Guidelines](#) the assessment categorised the potential effects of the Plan on the SEOs as follows:

- Significant beneficial impact
- Uncertain impact
- Significant adverse impact
- No relationship, or insignificant impact

1.2.8 Changes to the Plan as a result of SEA

The formulation of the Plan and the preparation of the SEA is an iterative process that takes place over many months (this stage lasted from April 2018 to December 2020) and therefore it is difficult

⁹ Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2019

to document the evolution of every objective in the Plan. However, there are a number of significant changes for which the SEA is mainly responsible, which are noted here.

In the first place, the entire ethos behind the writing of the Plan was to provide a clarity which could readily be understood, and assessed by the SEA process. This led to a decision from the outset to structure the Plan mainly in terms of 'objectives' and 'development management requirements', as had first been introduced in the 2014 Plans. Objectives were used as the main statement of intent and had to satisfy the criteria of SMART and be; Specific, Measurable, Attainable, Realistic and Time-sensitive. One example from Vol. 1, Chapter 8 Recreation is: *"8G Investigate the development of a horse trail/bridle path at Woodstock estate."*

This leads to a clear assessment, and should also lead to greater clarity in monitoring the effects of the Plan. 'Development management requirements' were used to set out what would be required to be satisfied as part of any planning application, so for the most part these were used as mitigation measures. An example of one of these from Chapter 9, related to views, is:

"To ensure that development in upland areas or on steep slopes will not have a disproportionate or dominating visual impact (due to excessive bulk, scale or inappropriate siting) and will not significantly interfere or detract from scenic upland vistas...."

Another structural issue, employed in the 2014 Plans, and continued here, is the use of 'strategic aims' to set out the overarching aim of each chapter. These strategic aims provide a standard against which every objective within the chapter is measured against.

Furthermore, specific changes to the Development Plan text were introduced as a result of the SEA process. This includes a new chapter on climate change, new sections on pollinators, wetlands, archaeological landscapes and the Blue Dot waterbodies, a new DM requirement for invasives, hedgerows, changes to zoning as a result of the SFRA and also the incorporation of a number of protected views in the City which have arisen following changes in the environment. (See Section 7.1 also.)

1.2.8.1 Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) has been carried out as part of the SEA process. The SFRA is included as an appendix to this SEA. As outlined in that SFRA, the two zoning maps for Kilkenny City and the Environs of New Ross were subjected to various changes as a result of the SFRA's justification test. These changes, and the changes to the text in Section 10.2.6 Flooding, are all documented in detail in the SFRA.

1.2.9 Mitigation

Following on from the assessment of the detailed development objectives against the SEOs, if there was any uncertain impact identified, mitigation measures were identified to counter any negative effects. These are outlined in Chapter 7. As stated previously, the formulation of the Plan and the preparation of the SEA is an iterative process and therefore, many of the potential negative aspects of the Plan were removed prior to reaching this stage of the process.

1.2.10 Monitoring

Article 10 of the SEA Directive sets out the requirement that monitoring is to be carried out of the significant environmental effects of the implementation of the Plan in order to identify at an early stage any unforeseen adverse effects and to be able to undertake appropriate remedial action.

Chapter 8 of this Report outlines the monitoring requirements. Methods of monitoring and indicators of change in the environment have been proposed with set targets to be reviewed over the duration of the Plan.

1.2.11 Technical Difficulties Encountered

The lack of a centralised data source that could make all environmental baseline data for the County available in a consistent format posed a significant difficulty to the SEA process. Each aspect had to be examined in detail individually. The EPA maps, and Environmental Sensitivity Mapping (ESM) Webtool, were utilised to their fullest extent, however county level datasets also needed to be added and analysed.

Also, there are some gaps in information available, for instance in relation to complete ecological coverage, e.g. habitats, trees, hedgerows etc. Other gaps include a lack of availability of detailed conservation management plans for most of the Natura 2000 sites within the County. Gaps are referenced under each relevant heading in Chapter 3.

1.2.12 Report Preparation

This report has been prepared by the Forward Planning Section of Kilkenny County Council.

2 Contents and Description of the Plan

2.1 Content

Kilkenny County Council is currently preparing the Kilkenny City and County Development Plan 2021 (hereafter referred to as the Plan) which will replace the existing Development Plans for 2014 - 2020. This Plan is being prepared under the provisions of the Planning and Development Acts 2000-2019 to develop and improve the county in a sustainable manner.

The Plan will cover Kilkenny City and Environs, and the county as a whole, and also a number of settlements in detail. Twenty-two settlements will be subject to a settlement boundary with associated policies: Ballyhale, Ballyragget, Bennettsbridge, Clogh, Fiddown, Freshford, Goresbridge, Gowran, Inistioge, Johnstown, Kells, Kilmacow, Kilmaganny, Knocktopher, Moneenroe, Mooncoin, Mullinavat, Paulstown, Piltown, Slieverue, Stoneyford and Urlingford. Two zoning maps will be prepared under this Plan, for Kilkenny City & Environs and the Environs of New Ross.

The contents are best described through a list of the chapter headings:

Volume 1:

- 1 Introduction
- 2 Climate Change
- 3 Demographic and Socio Economic trends
- 4 Core Strategy and Zoning
- 5 Economic development & Tourism
- 6 Housing and Community
- 7 Rural Development
- 8 Open Space and Recreation
- 9 Culture and Heritage
- 10 Infrastructure and Environment
- 11 Renewable Energy Strategy/Energy efficiency
- 12 Movement and Mobility
- 13 Requirements for Developments

Volume 2: Kilkenny City

- 2.1 Introduction
- 2.2 Core Strategy and Zoning
- 2.3 Economic and Retail Strategy
- 2.4 Heritage Strategy
- 2.5 Movement and Mobility Strategy
- 2.6 Kilkenny City Place-making
- 2.7 Infrastructure and Environment

As the Core Strategy included in Vol. 1 Chapter 4 of the Plan outlines, the focus for new development will be in the main settlements of Kilkenny City, Ferrybank (as part of Waterford City) and the four District Towns (Callan, Castlecomer, Graiguenamanagh and Thomastown). The estimated population increase amongst those settlements is 6,512. The estimated population increase for the remainder of the county (all other settlements plus rural areas) is 5,329.

2.2 Objectives

The main objectives and ethos of the Plan can be summarised in its Mission Statement (section 1.7) as follows:

“Kilkenny County Council is committed to working with the people of Kilkenny to develop sustainable, connected, economically thriving and proud communities with the consideration of climate change embedded into all of our policies and services”.

2.3 Relationship with other relevant plans and programmes

The Draft Plan sits within a hierarchy of statutory documents setting out public policy for, amongst other things, land use planning, infrastructure, sustainable development, tourism, environmental protection and environmental management. In its making, the Plan must comply with relevant higher-level strategic actions. These documents include plans and programmes which are detailed in the relevant sections, see Section 3 “Current state of the environment”, Section 4 “Strategic Environmental Objectives”, Section 5 “Assessment of Alternatives” and Section 7 “Mitigation Measures”. These documents have been subject to their own environmental assessment processes, as relevant.

The National Planning Framework (NPF) sets out Ireland’s planning policy direction to 2040. The NPF is to be implemented through Regional Spatial and Economic Strategies (RSESs) and lower tier Development Plans and Local Area Plans. For Kilkenny, the [Southern Regional Spatial and Economic Strategy](#)¹⁰ (RSES) provides a context for the making of this Plan. The RSES allocated a projected population growth figure for the county, which must be adhered to. This population projection is translated into a housing land requirement, or a ‘pot’ of zoned land, which must be distributed in the county. The RSES has specified what allocation must be directed to Kilkenny City and Ferrybank as part of the Waterford Metropolitan Area, but other than that the Council has discretion to distribute the remainder. The Core Strategy of the Plan (Chapter 4) sets out how all of the population allocation is distributed.

The drafting of the RSES was subject to the SEA process, and [Chapter 4 of the Environmental Report on the Draft RSES](#) details the relevant documents that were reviewed covering key policy areas such as maritime and land use spatial planning, climate change, renewable energy, flooding, agriculture, water and wastewater services, waste, and conservation. These documents have been incorporated into the drafting of the Strategic Environmental Objectives for the SEA process, as outlined in Chapter 4.

The Plan will set the strategic context for any lower-tier plans, such as Local Area Plans (LAPs) to be prepared in the county. LAPs are in place for Callan, Castlecomer, Ferrybank/Belview, Graiguenamanagh and Thomastown. In order to be realised, projects included in the Development Plan (in a similar way to other projects from any other sector) will have to comply, as relevant, with various legislation, policies, plans and programmes (including requirements for lower-tier Appropriate Assessment, Environmental Impact Assessment and other licencing requirements as appropriate) that form the statutory decision-making and consent granting framework.

¹⁰ Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2019

3 Current state of the environment and do nothing scenario

3.1 Statistical overview of the area

County Kilkenny has a land area of 206,300 hectares. Its population in 2016 was 99,232 and this is projected to increase to 111,074 during the period of this Plan. The populations of the settlements being included in this Plan are as follows:

Table 3.1 Population 2016	
Settlement	Population 2016
Ballyhale	174
Ballyragget	1,082
Bennettsbridge	745
Clogh	344
Fiddown	369
Freshford	662
Goresbridge	347
Gowran	804
Inistioge	285
Johnstown	444
Kells	274
Kilmacow	647
Kilmoganny	245
Knocktopher	166
Kilkenny City	26,512
Kilmacow	647
Moneenroe	722
Mooncoin	1175
Mullinavat	233
Paulstown	905
Piltown	1220
Slieverue	476
Stoneyford	376
Urlingford	1,038
New Ross Environs (Rosbercon Rural ED)	684

3.2 Description of the physical environment of the area

The baseline environmental data available is analysed under the headings below. Where possible, historical data and trends are outlined in order to provide a picture of the do nothing scenario; i.e. what would happen if current development trends in a certain area were to continue into the future.

1. Biodiversity, Flora and Fauna
2. Population and Human Health
3. Soil
4. Water
5. Air
6. Climatic factors
7. Material Assets
8. Cultural Heritage (architectural and archaeological)
9. Landscape
10. The inter-relationship between these issues

In accordance with the scoping report, and with the Department's Guidance, each element is only examined where relevant, in areas where the Plan would be likely to result in an impact, if unmitigated. Areas of environmental importance and areas experiencing environmental problems at present are examined in detail.

3.3 Biodiversity, Flora and Fauna

Information on biodiversity and flora and fauna which is relevant to project planning and development and associated environmental assessment includes available information on designated ecological sites and protected species, ecological connectivity (including stepping stones and corridors) and non-designated habitats. Information on habitats and biodiversity is available from the National Biodiversity Data Centre¹¹. Nationally, Ireland has developed a National Biodiversity Plan which has been updated to cover the period 2017-2021 to address issues and halt the loss of biodiversity, in line with international commitments. At local level, the *Kilkenny County Council Cultural Strategy for Arts, Heritage and Libraries*¹² sets out the strategy towards biodiversity in the county.

Natural capital is the stock of living and non-living resources that combine to provide 'ecosystem services'- the services provided by the natural environment that benefit people.

3.3.1 Designated sites

Habitats in the county, of international and national importance, are designated under EU and national legislation. The five categories of designated site in effect in County Kilkenny are:

- I. Special Areas of Conservation (SAC)
SAC's have been, and are being, designated under the EU Habitats Directive to conserve habitats and species of European importance.
- II. Special Protection Area (SPA)
SPAs have been, and are being, designated under the EU Habitats Directive to protect birds which are rare, in danger of extinction or vulnerable to changes in habitat and which need protection.
- III. Natural Heritage Areas (NHA)
NHA's have been, and are being, designated to conserve habitats and species of national importance and sites of geological interest, under the Wildlife (Amendment) Act, 2000.

¹¹ <http://www.biodiversityireland.ie/>

¹² Kilkenny County Council, *Cultural Strategy for Arts, Heritage and Libraries 2018–2022*, 2018

IV. Statutory Nature Reserve

Nature reserves, designated under the Wildlife Act 1976 and Wildlife (Amendment) Act, 2000, are wildlife habitats which meet certain scientific criteria, are worthy of conservation, and where nature conservation is the primary objective and takes precedence over all other activities.

V. Wildfowl Sanctuary

Wildfowl Sanctuaries are designated under the Wildlife Act 1976 and Wildlife (Amendment) Act, 2000 to protect ducks, geese and waders from hunting.

At present there are 36 designated natural heritage sites of international and national importance in County Kilkenny, covering approximately 4.5% of the county. Data is available on all of these sites from the National Parks and Wildlife Service (NPWS), to varying degrees.

All cSAC sites are mapped and have a Site Synopsis, which includes a section on potential threats to the SAC. Threats are outlined in the various Site Synopses as follows:

- Cullahill Mountain: Abandonment of traditional agricultural practices or land reclamation, Intensive or very low grazing levels, use of artificial fertiliser.
- Hugginstown Fen: Draining for cropland, Infilling, Fertiliser pollution, Eutrophication.
- Galmoy Fen: Peat mining, Draining for cropland, Infilling, Fertiliser pollution, Eutrophication
- Spa Hill & Clomantagh Hill: Abandonment of traditional agricultural practices or land reclamation, Intensive or very low grazing levels, use of artificial fertiliser.
- The Loughans: Nutrient enrichment, Inappropriate grazing regimes.
- Thomastown Quarry: Land reclamation, Drainage, Abandonment
- Lower River Suir: Fragmentation, abundance of alien invasive species, grazing regimes, drainage, eutrophication, infilling and reclamation, weirs, water pollution.
- River Barrow and River Nore: Fragmentation, abundance of alien invasive species, grazing regimes, fishing, water pollution, Eutrophication, Land reclamation, Afforestation, drainage, sea-level rise, weirs, channel maintenance.

SPAs - River Nore Site Code 4233 – threats are outlined as follows: Disturbance, Water Quality, Invasive Species.

Conservation management plans (CMPs) have been devised by the NPWS for some of the SACs. For Kilkenny, only one CMP has been completed, for Cullahill Mountain¹³.

All sites are identified on Figure 3.1a for the County (which is the same as Figure 9.1 from the Plan) and Figure 3.1b for the City (same as Vol.2 HS1).

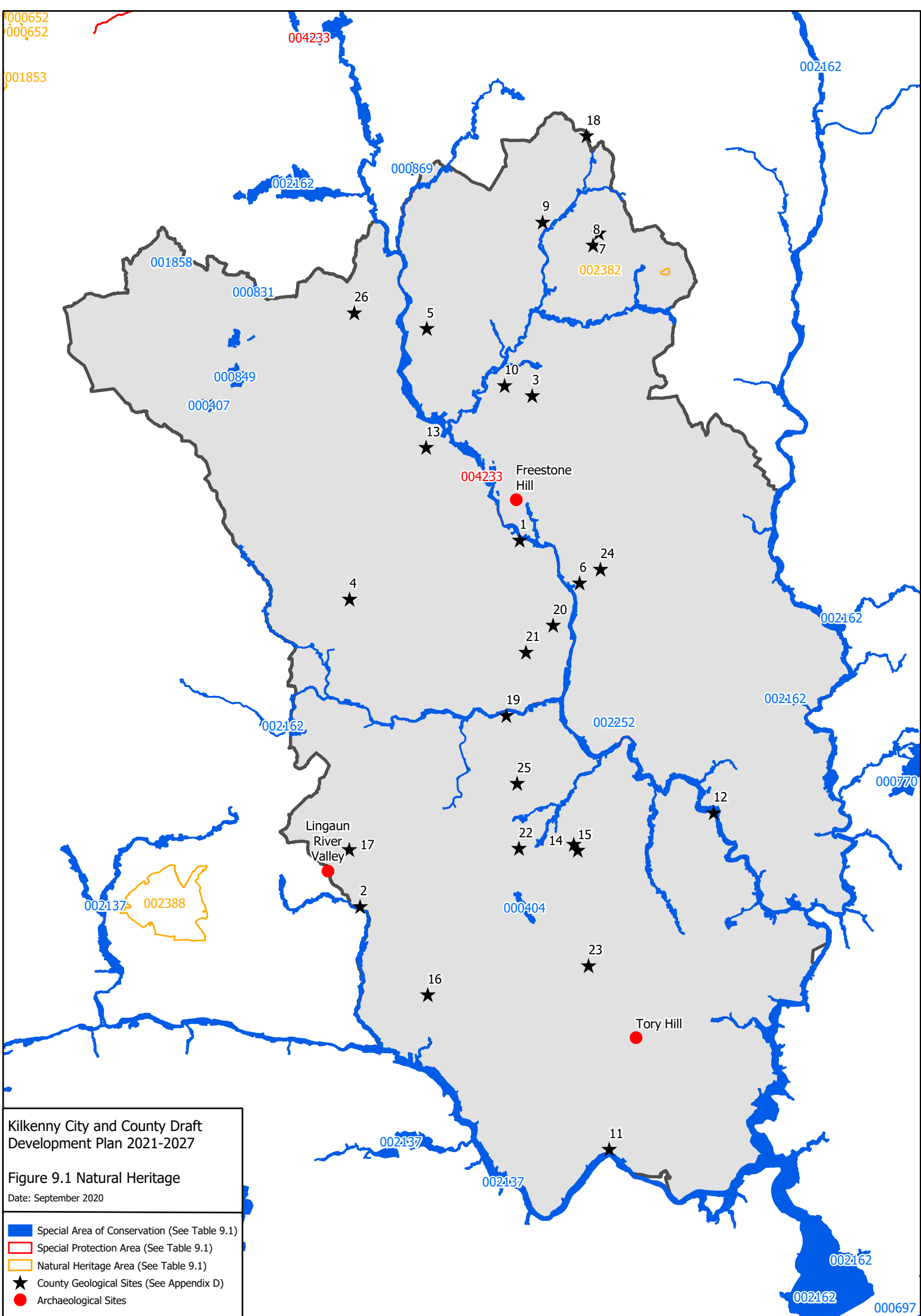
Every six years, the NPWS publish a report on the conservation status of habitats and species protected under the Habitats Directive. Report have been published in 2008¹⁴, 2013¹⁵ and 2019¹⁶. Volume 2 (Habitats) and Volume 3 (Species) contain the detailed reports and relevant scientific information, including the conservation status of each SAC and the SPA by habitats and species.

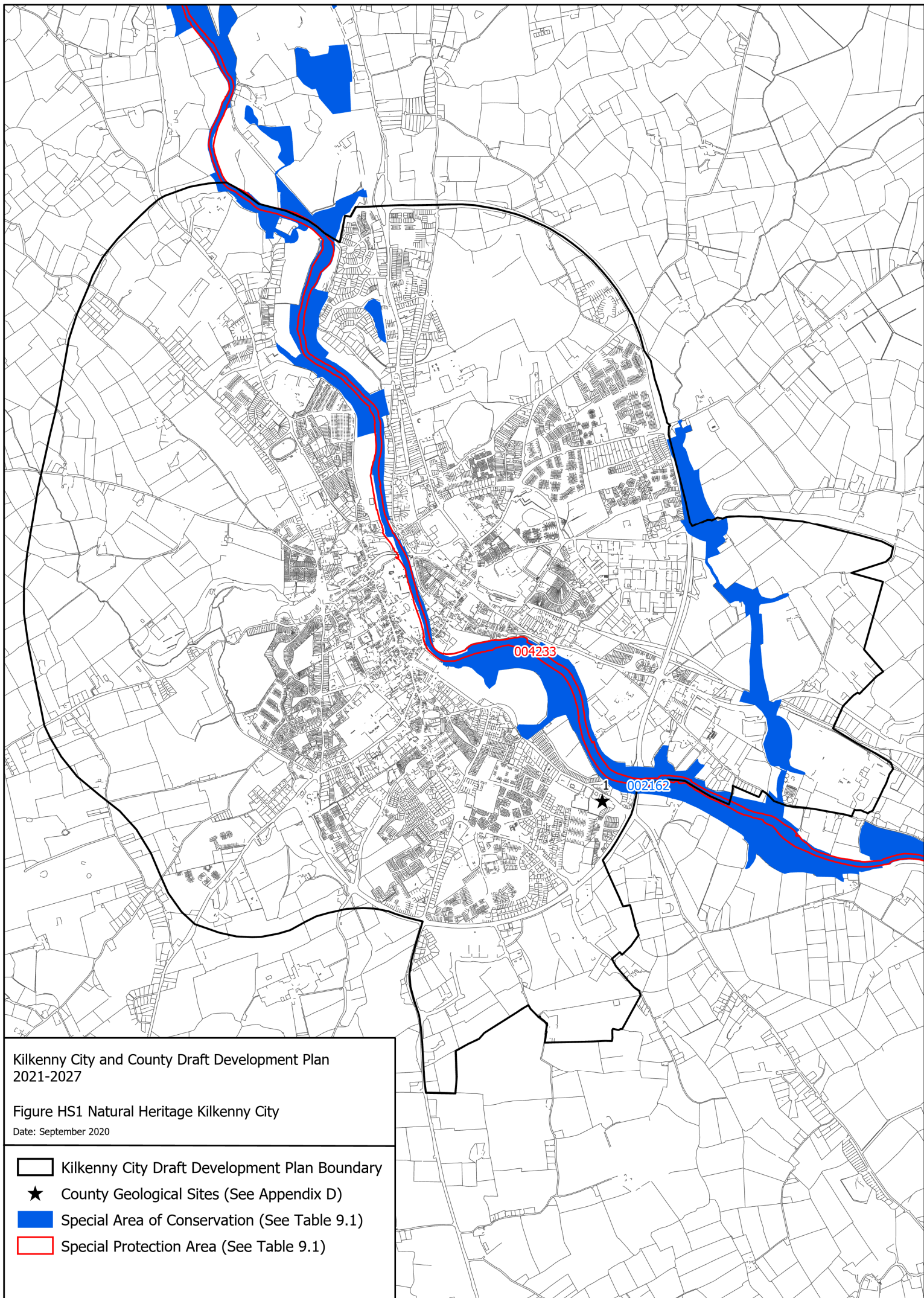
¹³ NPWS, [Conservation Plan for 2005-2010, Cullahill Mountain cSAC, Site Code 831](#), 2005

¹⁴ NPWS, *The Status of EU Protected Habitats and Species in Ireland*, 2008

¹⁵ NPWS, *The Status of EU Protected Habitats and Species in Ireland*, 2013

¹⁶ NPWS, *The Status of EU Protected Habitats and Species in Ireland*, 2019





Kilkenny City and County Draft Development Plan
2021-2027

Figure HS1 Natural Heritage Kilkenny City

Date: September 2020





















































-  Kilkenny City Draft Development Plan Boundary
-  County Geological Sites (See Appendix D)
-  Special Area of Conservation (See Table 9.1)
-  Special Protection Area (See Table 9.1)





Table 3.2 sets out the conservation status of each SAC and SPA by habitats and species for 2008, 2013 and 2019.




Table 3.2 Conservation status of Natura 2000 sites in Co. Kilkenny									
Site Name	Site Code/Ref	Habitats	Conservation Status			Species	Conservation Status		
			2008	2013 (Operator)	2019 (Trend)		2008	2013	2019
Cullahill Mountain in cSAC	000831	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(* important orchid sites) [6210]							
Hugginstown Fen cSAC	000404	Alkaline fens [7230]							
Galmoy Fen cSAC	001858	Alkaline fens [7230]							
Lower River Suir cSAC	002137	Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330]				Freshwater Pearl Mussel, incorporating Nore Pearl Mussel [1029]			
		Mediterranean salt meadows (Juncetalia maritimi) [1410]				White-clawed crayfish [1092]			
		Vegetation of flowing waters [3260]				Sea lamprey [1095]			
		Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]				Brook lamprey [1096]			
		Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]				River lamprey [1099]			

River Barrow & River Nore/ Barrow Estuary / Abbeylex Wood Complex cSAC	002162	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) [91E0]				Twaite shad [1103]			
		* <i>Taxus baccata</i> woods of the British Isles [91J0]				Atlantic Salmon [1106]			
						Otter [1355]			
		Estuaries [1130]				Desmoulin's whorl snail [1016]			
		Mudflats and sandflats not covered by seawater at low tide [1140]				Freshwater pearl mussel incorporating Nore Pearl Mussel [1029]			
		<i>Salicornia</i> and other annuals colonizing mud and sand [1310]				White-clawed crayfish [1092]			
		Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330]				Sea lamprey [1095]			
		Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]				Brook lamprey [1096]			
						River lamprey [1099]			
						Twaite shad [1103]			
						Atlantic Salmon [1106]			
						Otter [1355]			
						Killarney fern (6985)			

River Nore SPA	004233					<i>Alcedo atthis</i> [breeding] Kingfisher		Amber ¹⁷	
Spa Hill & Clomantagh Hill cSAC	000849	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>)(* important orchid sites) [6210]							
The Loughans cSAC	000407	Turloughs [3180]							
Thomas town Quarry cSAC	002252	Petrifying springs with tufa formation (<i>Cratoneurion</i>) [7220]							

Source: *The Status of EU Protected Habitats and Species in Ireland, 2019*

STATUS: Favourable  Unfavourable-Inadequate  Unfavourable-Bad  Unknown 

TREND: Improving  Stable  Declining  Unknown X

¹⁷ BirdWatch Ireland and the RSPB NI have agreed a list of priority bird species for conservation action on the island of Ireland. These Birds of Conservation Concern in Ireland (2014-2019) are published in a list known as the BoCCI List. In this BoCCI List, birds are classified into three separate lists (Red, Amber and Green), based on the conservation status of the bird and hence conservation priority. The **Red List** birds are of high conservation concern, the **Amber List** birds are of medium conservation concern and the **Green List** birds are not considered threatened.

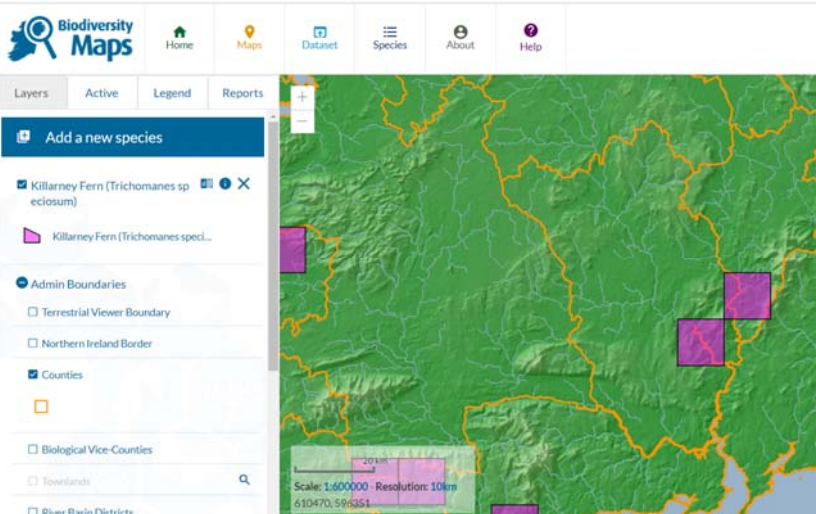
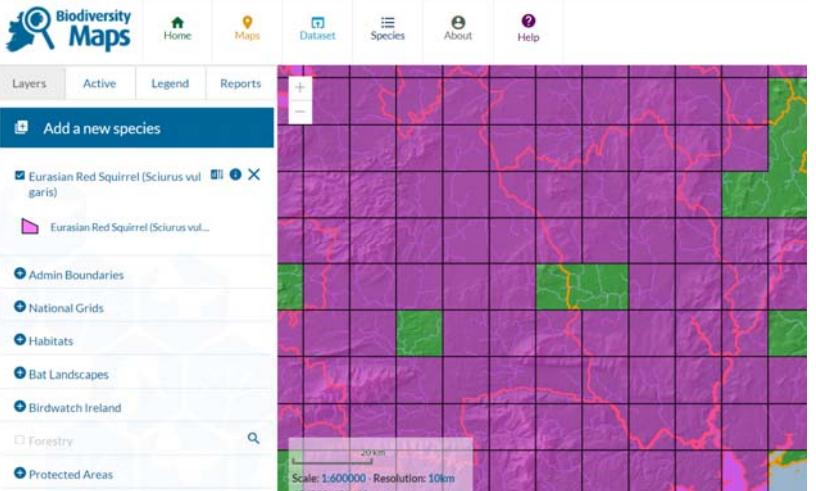
Table 3.3 Protected Natural Heritage sites in Co. Kilkenny						
Site Name	Site Code/Ref	cSAC	SPA	pNHA	SNR	WF
Cullahill Mountain	000831	✓				
Hugginstown Fen	000404	✓		✓		
Galmoy Fen	001858	✓		✓		
Lower River Suir	002137	✓				
River Barrow & River Nore/ Barrow Estuary/ Abbeyleix Wood Complex	002162	✓		000698 002076		✓
River Nore	004233		✓			
Spa Hill & Clomantagh Hill	000849	✓				
The Loughans	000407	✓				
Thomastown Quarry	002252	✓				
Archersgrove	002051			✓		
Ardaloo Fen	000821			✓		
Ballykeeffe Woodland	000400			✓	✓	
Barrow River Estuary	000698			✓		
Brownstown Wood	000827			✓		
Clohasia	000830			✓		
Coan Bogs (Designated NHA)	002382			✓		
Dunmore Cave	000401			✓		
Dunmore Complex	001859			✓		
Esker Pits	000832			✓		
Fiddown Island	000402			✓	✓	
Garryrickin Nature Reserve	000403			✓	✓	
Grannyferry	000833			✓		
Ice House near Inistioge	002094			✓		
Inchbeg	000836			✓		
Inistioge	000837			✓		
Kilkeasy Bog	000839			✓		
Kyleadohir Wood Nature Reserve	000405			✓	✓	
Kylecorragh Wood	000842			✓		
Lough Cullin	000406			✓		✓
Lough Macask	001914			✓		
Mothel Church, Coolcullen	000408			✓		
Mount Juliet	000843			✓		
Murphy's of the River	000844			✓		
Newpark Marsh	000845			✓		
Rathsnagadan Wood	000409			✓		
Red Bog, Dungarvan	000846			✓		
Thomastown	000410			✓		
Tibberaghny Marshes	000411			✓		
Whitehall Quarries	000855			✓		

3.3.2 Flora and Fauna

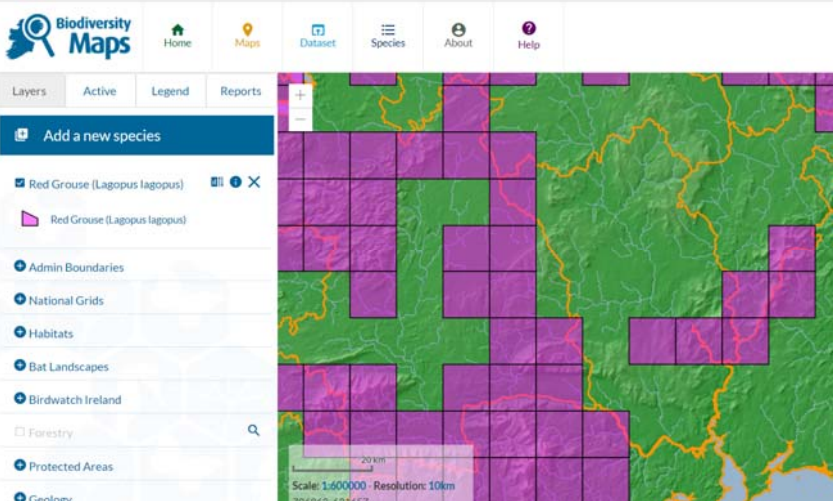
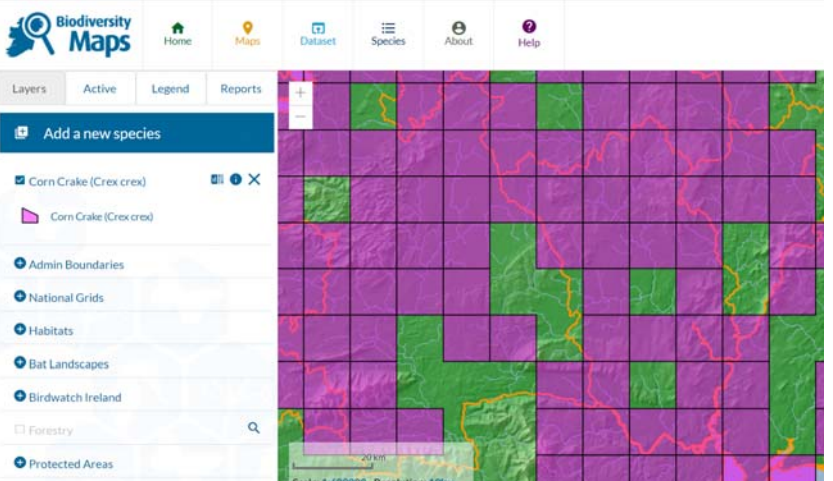
A number of species are protected under European and national law, under Annex IV of the Habitats Directive and the Wildlife Acts. Data is available from the National Biodiversity Data Centre on the

occurrence of species in Co. Kilkenny. The NPWS produce a number of plans in relation to some protected species, these are set out below, and the distribution of the species in Kilkenny is included.

The NPWS have produced a number of Species Action Plans for particular species of highest conservation concern as follows;

Table 3.4: Distribution of species of conservation concern in Kilkenny	
Species Action Plan	Distribution in Kilkenny¹⁸
Species Action Plan Bats 2008	Widely found
Species Action Plan Killarney Fern 2008	
Species Action Plan Red Squirrel 2008	

¹⁸ [National Biodiversity Data Centre website](#) accessed May 2020

Red Grouse Species Action Plan, 2013	
Species Action Plan Irish Lady's-tresses, Pollan, Hare, Corncrake 2005	
Irish Lady's-tresses	None in Kilkenny
Pollan	None in Kilkenny
Hare (Lepus timidus hibernicus)	Widely found
Corncrake	

Threat Response plans have also been issued for particular species. These three year plans provide detailed information on range, distribution and habitat. They also focus on the particular threats facing each species and identify the measures required to address these threats, as well as identifying who is responsible for implementing them and providing a time frame for delivery.

Threat Response Plan Vesper Bats 2009-2011 – widely found

Threat Response Plan Otter 2009-2011 – widely found

Threat Response to Kerry Slug May 2010 – none found in Co. Kilkenny

Conservation Plan for Irish Cetaceans 2009 – none found in Co. Kilkenny

Aquatic flora and fauna is addressed also under Section 3.6.

3.3.3 Woodlands, Trees and hedgerows

There are five Tree Preservation Orders in Co. Kilkenny, as follows:

Table 3.5: Tree Preservation Orders in County Kilkenny

Site	TPO Ref No.
Oldcourt, Inistioge	1/85
Keatingstown	1/84
Barna, Freshford	1/92
Sawney's Wood, Castlecomer	1/67
Christendom Wood, Ferrybank	1/2008

The National Survey of Native Woodlands (NSNW)

The NSNW surveyed a total of 58 sites in Kilkenny as part of the National Survey (BEC consultants 2003-2008), see Figure 3.2. A range of data types from both the general site survey (e.g. area, occurrence of rare species, presence of hydrological features) and a sample dataset of the trees (e.g. structural diversity, regeneration status) was used to produce a conservation score for each of the woodlands surveyed. Eight sites in Kilkenny were categorised as “Very Good” or “Excellent” quality, scoring over 60%, see Table 3.6.

Table 3.6: NSNW sites scoring over 60%

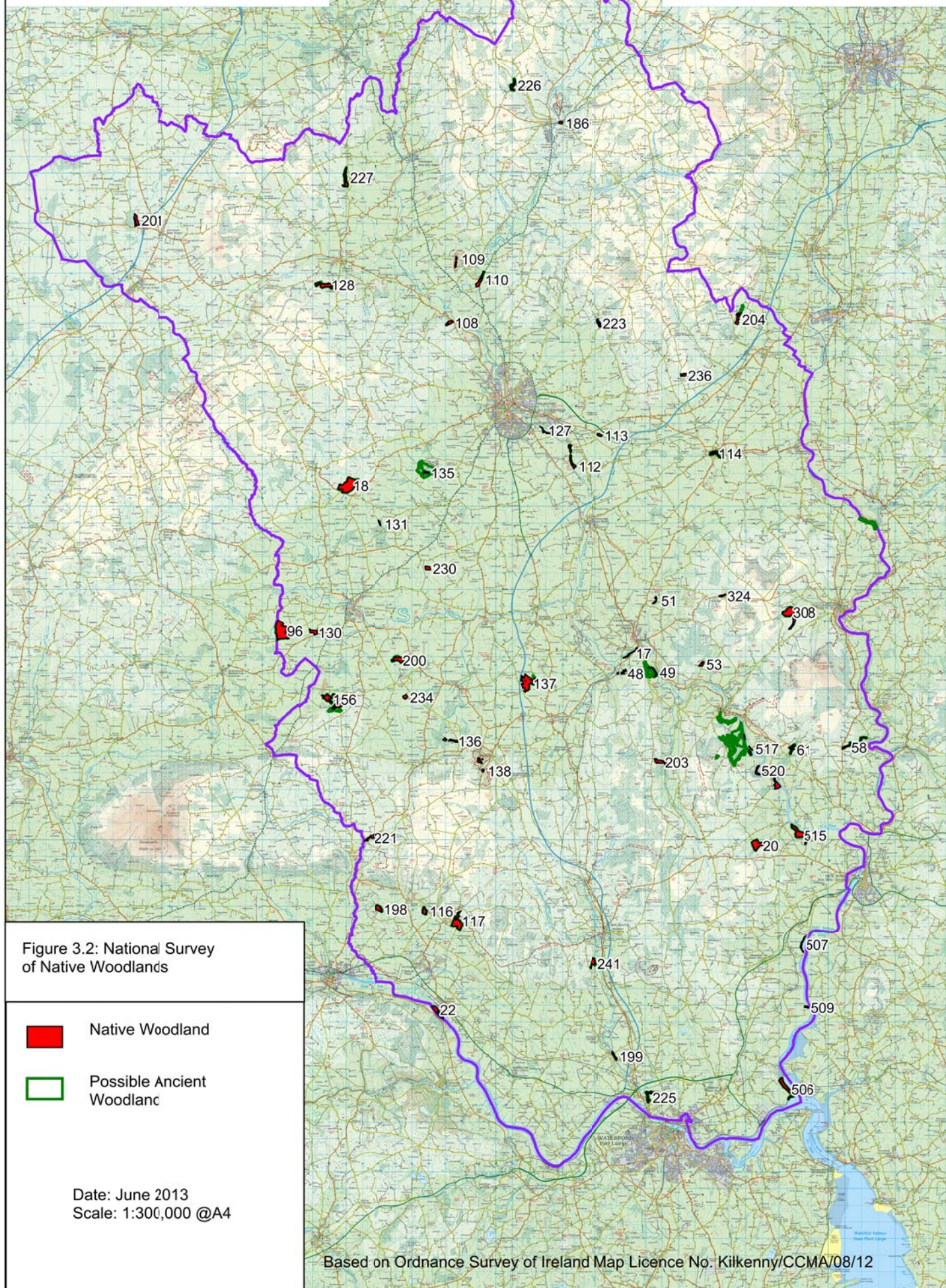
Site No.	Woodland Name	%Score
20	Brownstown Wood	60.6
49	Grenan Wood	63.6
96	Kyleadahir Wood	60.6
128	Brown's Wood	60.6
137	Knockadrina	63.6
156	Garryricken North	63.6
200	Ballytobin/Ballaghtobin	63.6
515	Kylecorragh	66.7

A threat score was also produced to give an indication of the threats posed to woodlands from primarily internal sources, such as invasive species infestation. These threat scores should be regarded as the minimum threat potential to Irish woodlands as, for example, sites at which invasive species are a major problem may have failed to meet the criteria for survey. Threat scores above 40% are considered high, and two sites in Kilkenny scored higher than 40%; Maddockstown/Nore Cottage and Greatwood.

Table 3.7: NSNW sites with high threat scores

Site No.	Woodland Name	%Threat Score	%Conservation Score
112	Maddockstown/Nore Cottage	41.7	54.5
131	Greatwood	50	42.4

Ancient woodlands



Ancient woodlands are defined in Ireland as areas which have been wooded since 1660. Possible ancient woodlands (PAWS) and long established woodlands (LEWS) were identified from documentary and archaeological evidence by the NPWS. A total of 28 PAWS and LEWS were identified in Co. Kilkenny. These are illustrated on Figure 3.2.

3.3.4 Green Infrastructure

Ecological networks are important as corridors and stepping stones for wildlife, including for migration, dispersal and genetic exchange. Green infrastructure (GI) has been studied as part of the Habitat studies carried out for Ballyragget, Ballyhale, Fiddown, Gowran, Johnstown, Kilkenny, Knocktopher, Mooncoin, Piltown and Urlingford. Hedgerows are an important component of GI and are under threat from farming practices and development in rural areas.

3.3.5 Habitats

A report on [Habitat Survey and Mapping of Kilkenny City](#) was completed in 2010¹⁹.

The Council has commissioned, and continues to commission, habitat and green infrastructure studies for various settlements in Co. Kilkenny. These studies classified habitats on the Fossitt²⁰ habitat classification system. They include Ballyragget, Ballyhale, Fiddown, Gowran, Johnstown, Knocktopher, Mooncoin, Piltown, Thomastown and Urlingford. This information was published for Fiddown, Gowran and Piltown as part of the Local Area Plans for those settlements. The findings of these surveys are vital to improving our understanding of biodiversity resources in the county and will be used to inform the development management process. For the remaining settlements, further work is required to map the habitats and green infrastructural networks.

3.3.6 Invasive Species

Invasive species such as Japanese Knotweed, rhododendron, sycamore and laurel can cause major ecological changes and damage to habitats where they become established. Information is available on invasive species from the National Biodiversity Data Centre²¹. Species listed as invasive in Ireland come from the Invasive Species in Ireland prioritization risk assessment last undertaken in 2013. From this, 48 non-native species were ranked as at risk of having a High Impact and 78 species at risk of having a Medium Impact. There is also a list of potential invaders, not known to appear in Ireland, with a risk of High Impact, and these are known as the Watch List species (51 in total).

A list of the top twelve invasive species in the region, known as The Dirty Dozen Report²², was published by the National Biodiversity Data Centre in 2010. This report provided detailed information, including distribution maps and species profiles, for the top twelve invasive species in

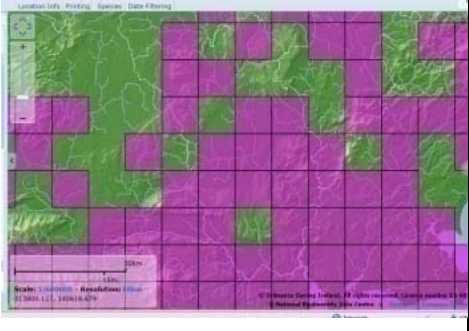
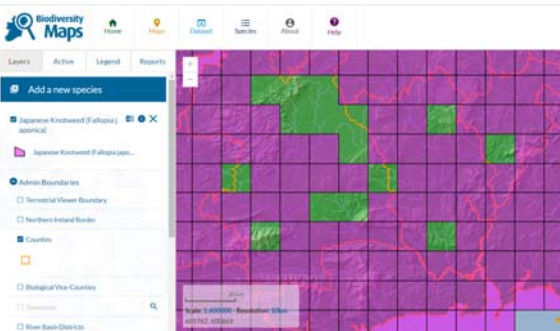
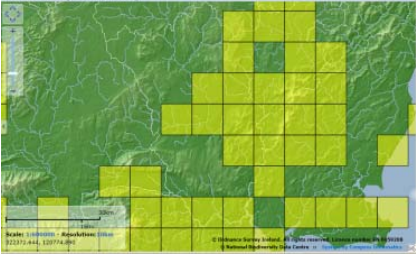
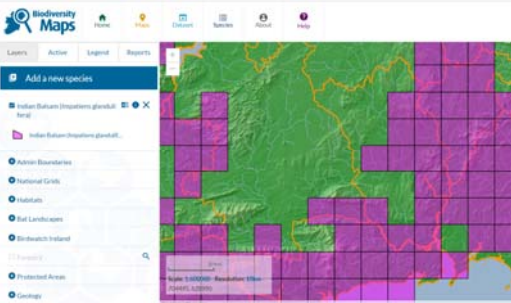
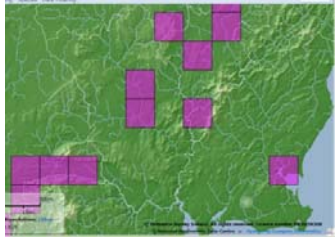
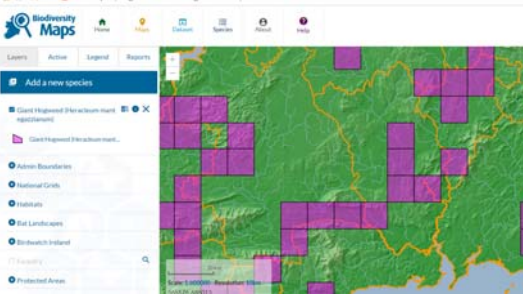
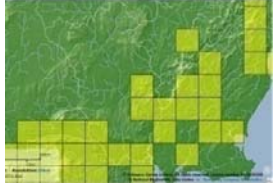
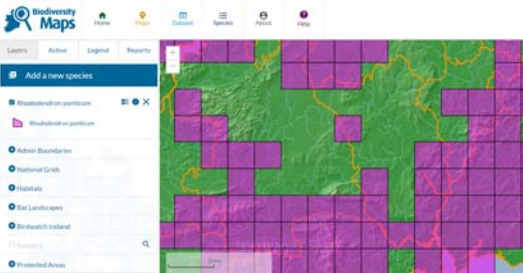
¹⁹ Kilkenny Local Authorities, [Habitat Survey and Mapping of Kilkenny City Habitat Survey Report](#), 2010

²⁰ Fossitt, J. A. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

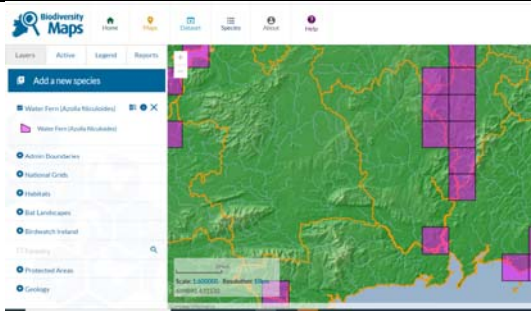


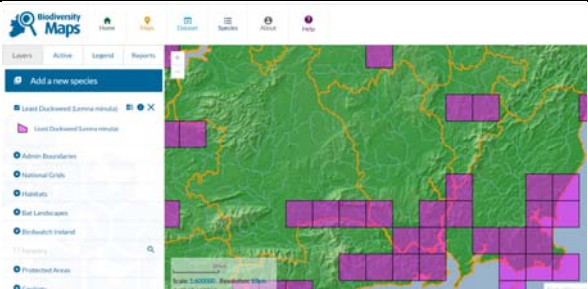

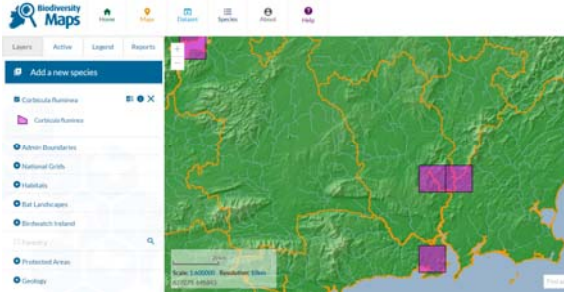
²¹ <http://invasives.biodiversityireland.ie/>


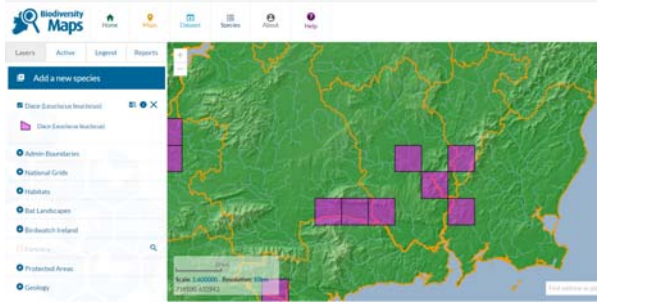

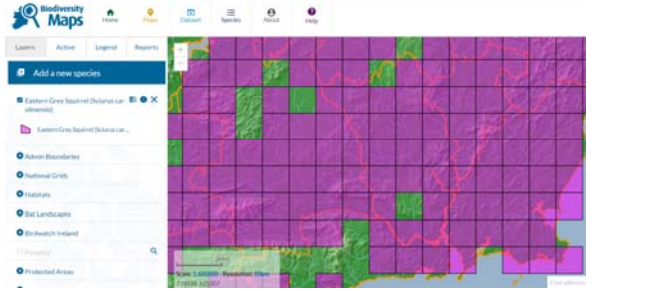

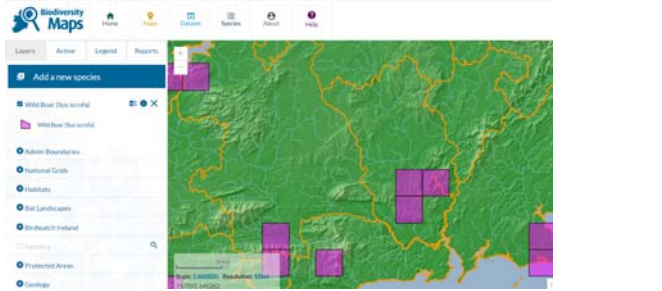
²² <http://invasives.biodiversityireland.ie/wp-content/uploads/Dirty-Dozen-invasive-species-Kilkenny-Co-Co-2010.pdf>

the region. The distribution of those twelve species within the county in 2013 and 2020 are compared below²³.

Name	Distribution (2013)	Distribution (2020)
Japanese Knotweed (<i>Falopia Japonica</i>)		
Himalayan/Indian Balsam (<i>Impatiens Glandulifera</i>)		
Giant Hogweed (<i>Heracleum Mantegazzianum</i>)		
Rhododendron (<i>Rhododendron Ponticum</i>)		

²³ Taken from <http://maps.biodiversityireland.ie/#/Map/NbdcTerrestrial/Species/28772> on 9/1/2013 and <https://maps.biodiversityireland.ie/Map> on 5/5/2020

Water fern (Azolla Filiculoides)		
Nuttall's Waterweed (Elodea Nuttallii)		
Least Duckweed (Lemna Minuta)		
Common Cord-Grass (Spartina Anglica)		
Asian Clam (Corbicula Fluminea)		

Dace (<i>Leusiscus</i> <i>Leusiscus</i>)		
Grey Squirrel (<i>Sciurus</i> <i>Carolinensis</i>)		
Wild Boar (<i>Sus</i> <i>Scrofa</i>)		

3.3.7 Land Cover

Land cover is the physical description of what is present on the surface of the land. The CORINE map for Co. Kilkenny provides a digital map of land cover. Corine stands for *Coordination of Information on the Environment* and is a map of the European environmental landscape based on interpretation of satellite images. The Corine Land Cover update of 2018 is shown on Figure 3.3. This shows that the majority of land in County Kilkenny is covered with pasture (light green) and arable land (orange). There are areas of forestry (darker greens), scrub (pink), bogs and moors and peatlands (purple) dispersed throughout the county.

Categories from CORINE mapping that may indicate areas likely to contain Annex I habitats, in the area to which the Plan relates, include:

- Peat bogs;
- Natural grassland;
- Water bodies;
- Mixed forests;
- Coniferous forest;
- Broad-leaved forests;
- Intertidal flats;
- Inland marshes;

- Stream courses;
- Water bodies;
- Transitional woodland and scrub; and
- Land principally occupied by agriculture with areas of natural vegetation.

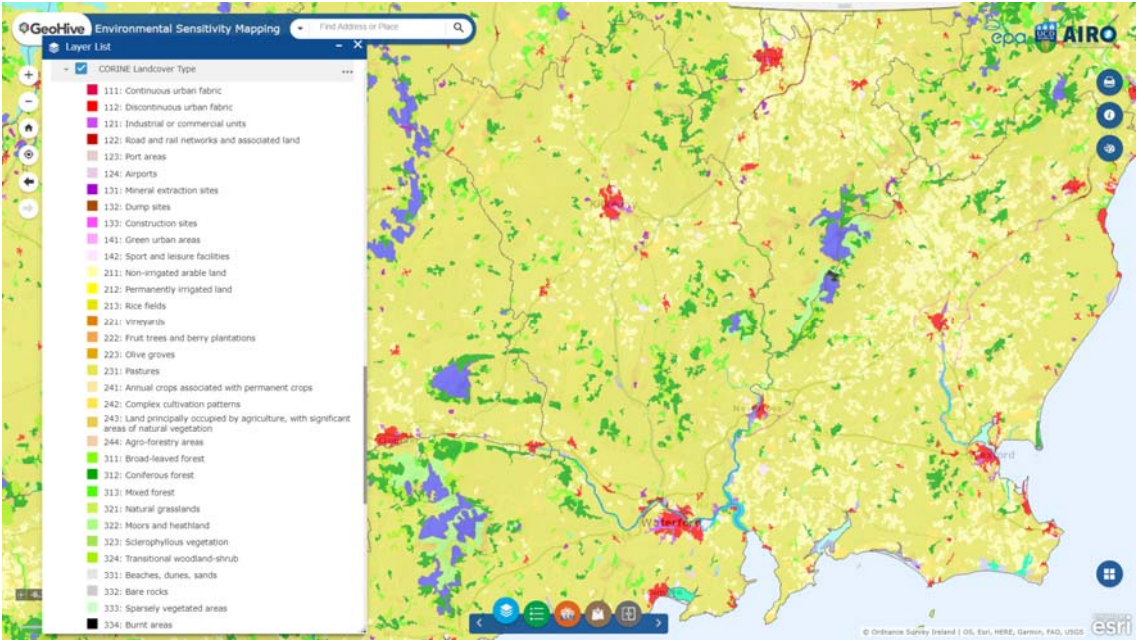
3.3.8 Wetlands

Wetlands comprise areas of marsh, fen, peatland or water. They are a very important resource in terms of biodiversity, amenity value, green infrastructure and climate adaptation/resilience. A survey of wetlands in Co. Kilkenny was commissioned in the Spring of 2020. This *County Kilkenny Preliminary Wetland survey* provides baseline ecological data on wetland sites in the county. Year One will include a desk based assessment of all wetlands in the county using published reports and surveys, plus individual site surveys of 10-15 sites. Year 2 will comprise further site surveys as required. The data available from this survey will be incorporated into the Plan process as appropriate.

3.3.9 Existing Problems

- SACs & SPAs – the conservation status of most of the habitats and species in the Natura 2000 sites in the county is either Unfavourable-Inadequate or Unfavourable-bad, with a number exhibiting declining trends.
- As three of the county's main rivers are designated Natura 2000 sites, with the conservation status ranging from Unfavourable-Inadequate to Unfavourable-bad, water quality is a hugely significant issue for Co. Kilkenny.
- Continued replacement of natural and semi-natural habitats with artificial surfaces results in loss of non-designated flora and fauna
- Removal of hedgerows results in a loss of GI and connections
- The distribution of Invasive species has increased since the last Development Plan, and poses a threat to biodiversity in the county.

Figure 3.3 Corine 2018 Land Cover



3.4 Population and Human Health

3.4.1 County Population Distribution

County Kilkenny's population continues to grow, from 95,419 in 2011 to 99,232 in 2016. The Core Strategy in the 2014 Plan sets out the settlement hierarchy for the county. This is shown on Figure 3.4a.

Figure 3.5 shows the rates of population change over the period 2011 to 2016. The northern part of the county is the area with the lowest growth. The highest growth rates have been occurring around Kilkenny City in general, with the exception of Coolaghmore ED, in the west of the County, just north of Windgap which increased by over 20%.

The Core Strategy of the last Plan aimed to direct population growth into the urban settlements where services and infrastructure are available. In general this aim has been successful, however the urban area of Graiguenamanagh experienced population decline over the 2011 to 2016 period.

In contrast, some rural EDs, experienced very high rates of increase, despite having no designated settlement.

The Core Strategy as set out in Chapter 4, is shown in Table 3.9.

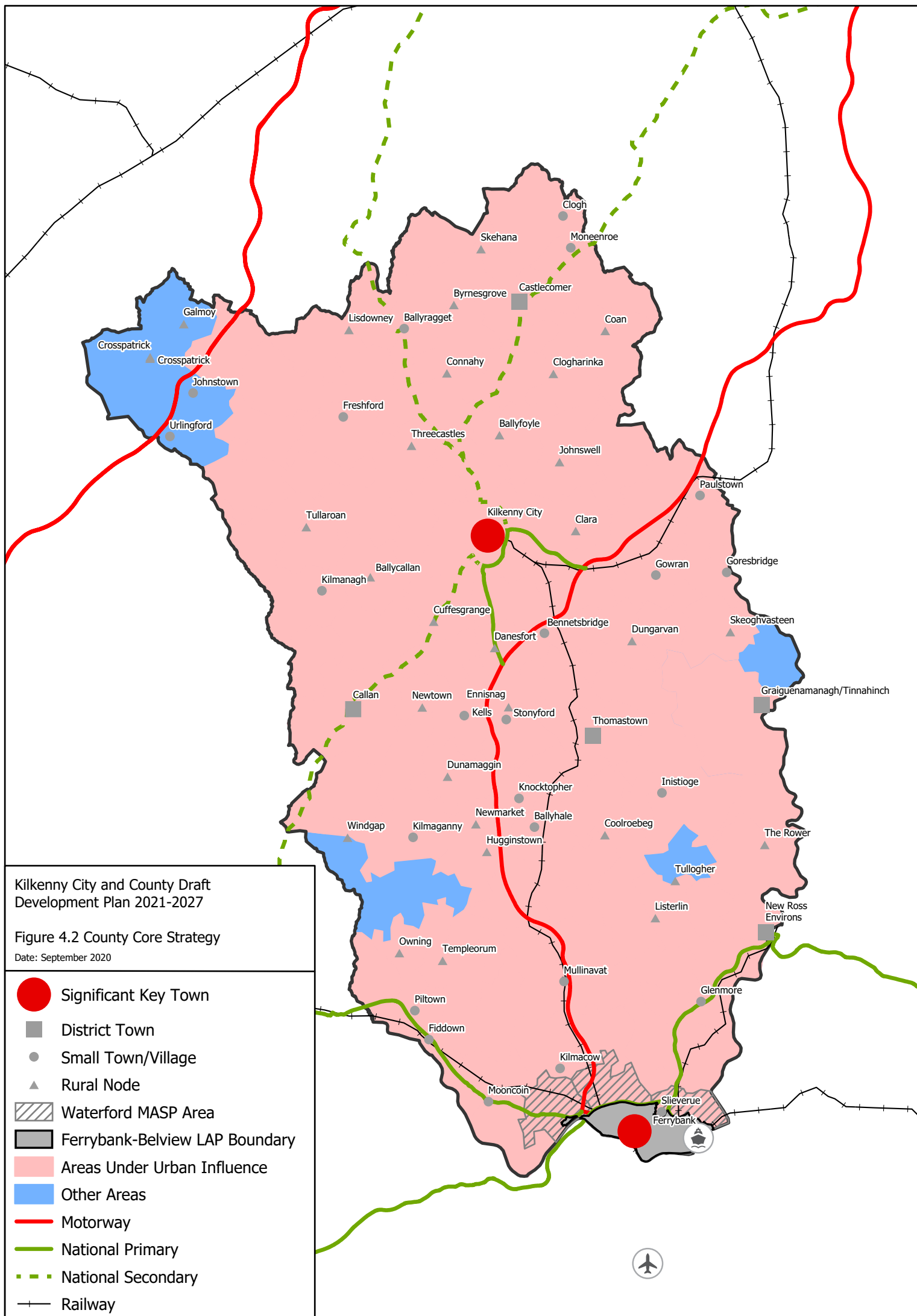
Table 3.9: Core Strategy Population Allocation		
Settlement	Core	strategy
	population	allocation
County Kilkenny	11,842	
Kilkenny City (Key Town)	3,641	
Ferrybank/Belview (Part of Waterford Metropolitan Area)	1,452	
District Towns		
Callan	441	
Castlecomer	264	
Graiguenamanagh	278	
Thomastown	437	
Remainder area to include smaller towns and villages and environs of New Ross and the rural area of the county	4,045	
Total	11,842	

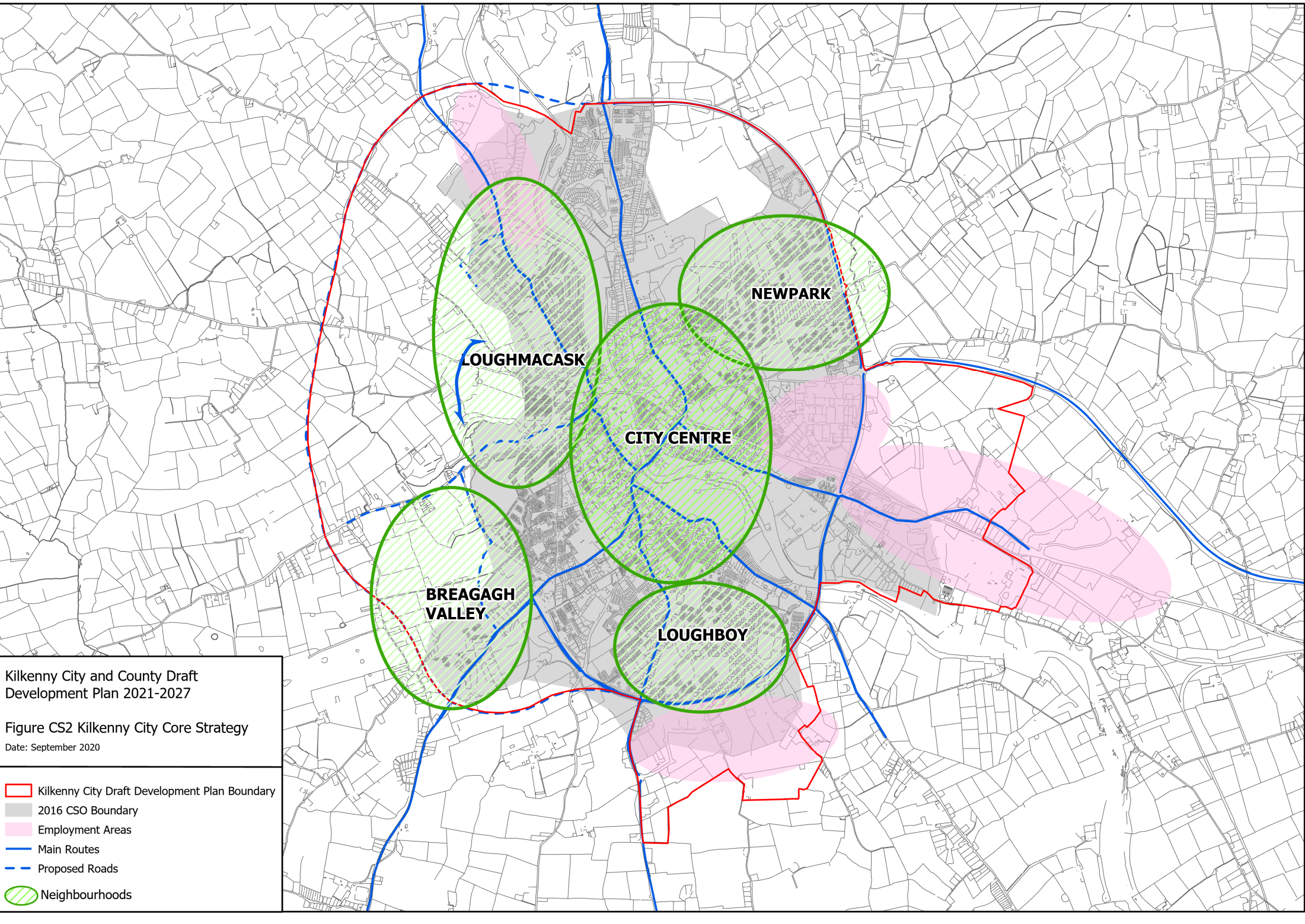
3.4.2 City Population Distribution

The last two Development Plans set out a 4 neighbourhood strategy, to accommodate expansion around the existing city, and this continues to be appropriate for Kilkenny. The four areas identified for the development of neighbourhoods (See Figure 3.4b) were:

1. Loughboy/Archerstreet
2. Newpark Upper/Eastern Environs
3. Poulgour/Wetlands/Western Environs (now known as Breaghagh Valley)
4. Loughmacask

As Loughboy/Archerstreet and Newpark Upper are substantially built out and are incorporated into the built up area of the City, as defined by the CSO, the two remaining areas of the Breaghagh Valley





Kilkenny City and County Draft
Development Plan 2021-2027

Figure CS2 Kilkenny City Core Strategy

Date: September 2020

-  Kilkenny City Draft Development Plan Boundary
-  2016 CSO Boundary
-  Employment Areas
-  Main Routes
-  Proposed Roads
-  Neighbourhoods

(formerly Western Environs) and Loughmacask will be the focus for greenfield development over the plan period. The majority of these areas are located outside the built-up area but are immediately contiguous to it. Both of these areas were the subject of Local Area Plans in the past.

3.4.3 Human health

Availability of spatial data on human health on a county basis is limited; however a key area for consideration is the interrelationships of human health and water quality to include drinking water, waste water treatment, fisheries and shellfish waters. There will also be interrelationships between human health and air quality and climatic factors, such as flood risk. These are examined under the relevant headings.

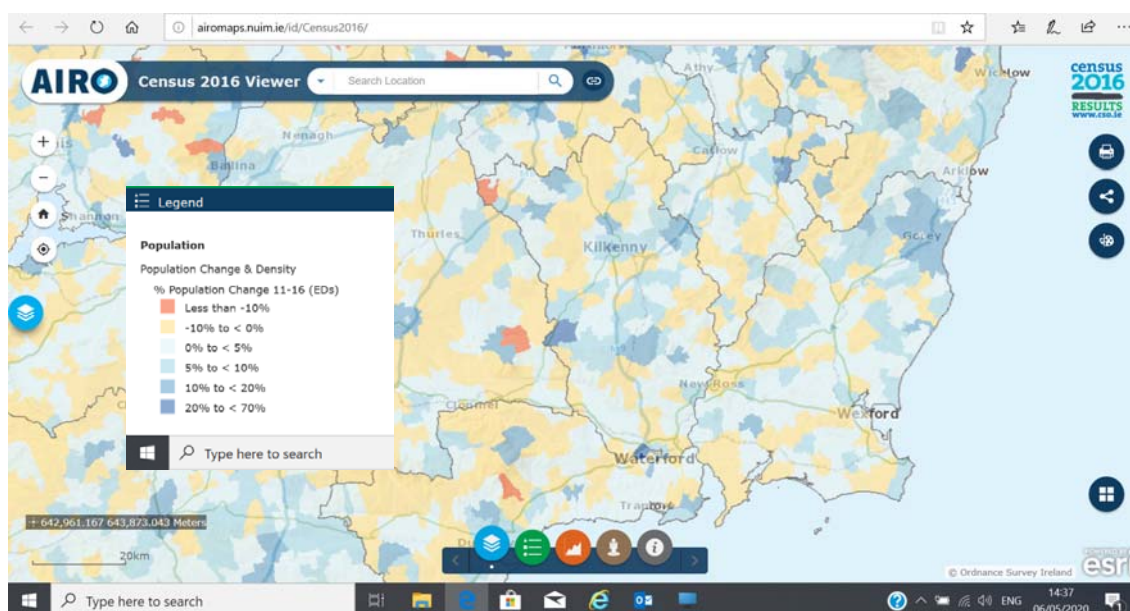


Figure 3.5 Population Change 2011-2016 by ED

3.4.3.1 Major Accidents Directive

The Major Accidents Directive (EU Directive 96/82/EC, known as the Seveso II Directive), seeks to reduce the risk and to limit the consequences to people and the environment, of accidents at manufacturing and storage facilities involving dangerous substances. There are a total of 3 Seveso (Control of Major Accident Hazards Directive) sites (all Upper Tier) in the county; Grassland Fertilisers (Kilkenny) Ltd. Palmerstown on the Tullaroan Road in Kilkenny City, Nitrofert Ltd, Raheen, near New Ross and Trans-Stock Warehousing and Cold Storage in Christendom, Ferrybank. As the Ferrybank Local Area Plan covers the Trans-Stock site, the other two sites are of most relevance to this Plan.

There are also two sites in Co. Wexford's administrative area, which are in close proximity to Co. Kilkenny. These sites (Goulding Chemicals Ltd, Stokestown, New Ross and SEE Generation Ireland Ltd., Campile) must be also taken into account in land use planning.

3.4.4 Waste Management

The Government has set out its waste management policy for Ireland in “*A Resource Opportunity – Waste Management Policy in Ireland*”. The issue of waste is now dealt with on a regional basis, and there is a Joint Waste Management Plan in place for the Southern Region. A Litter Management Plan is in place for Kilkenny County (2018-2020). As this issue is addressed by other plans, it is not considered that this requires further detail here.

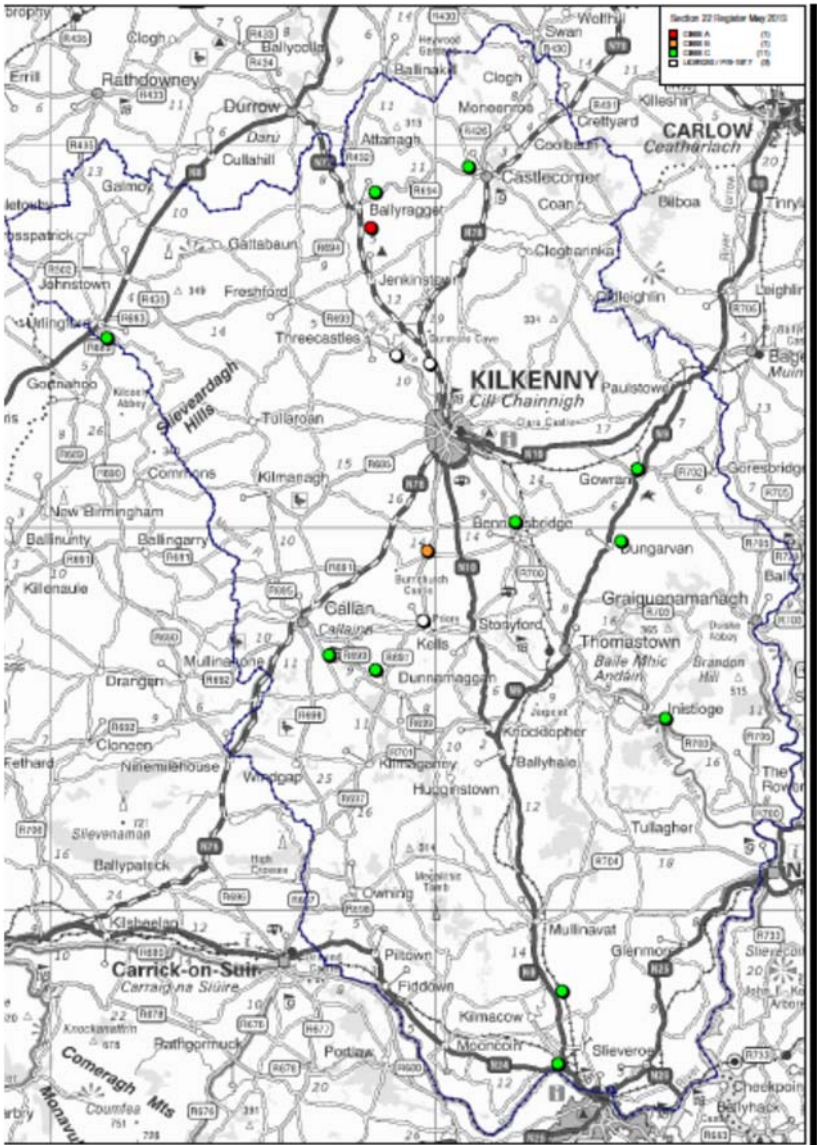
Local Authorities are required to identify historic waste disposal or recovery sites and to place them on a register. Non-hazardous sites are to be placed on the Section 22 Register and hazardous sites are to be placed on the Section 26 register. Once sites are on the registers, there is a requirement to carry out risk assessments. A total of 13 sites have been identified in Kilkenny²⁴ (See Figure 3.6). Phase 1 risk assessments have been carried out and the sites have been classified as follows: 1 at high risk, and 12 at moderate, or low risk. A Phase 2 Risk Assessment has been carried out for the high risk site, and remediation has been carried out. It is intended that further phases of risk assessments will be carried out for the remainder of the sites as resources allow. (One additional site is currently under consideration and is undergoing a risk assessment process in accordance with the EPA’s Code of Practice).

3.4.5 Existing Problems

- In terms of population distribution, the Settlement hierarchy, and Core Strategy of the last Plan has not fully succeeded in focusing most of the growth into urban areas. The decline in population in Graiguenamanagh is of concern. The large level of increase in population growth in some rural areas is also of concern, as these areas are not serviced by social or physical infrastructure. Also, rapid population growth may cause problems if the associated infrastructural and social services are not provided in tandem with the growth.
- Seveso (COMAH) sites in New Ross must be provided for in the land use zoning map for New Ross Environs and the Seveso site in Kilkenny City must be incorporated into the City zoning map.
- Work is still ongoing in relation to the tiered risk assessments for sites on the EPA Section 22 Register of non-licensed closed landfills (i.e. historic unregulated waste disposal sites).

Figure 3.6: Section 22-26 sites

²⁴ South Tipperary County Council, [Report on the Evaluation of the Joint Waste Management Plan for the South East Region, 2006](#), November 2012



3.5 Soil

Soil is a valuable resource that performs many ecosystem services: production of food; production of biomass; storage, filtration and transformation of nutrients and water; carbon storage and cycling; and contributes to the landscape and cultural environment. 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. The predominant soil types have been mapped nationally at a scale of 1:50,000 by Teagasc in collaboration with the EPA, Forest Service and GSI, completed in 2006.

Further, in 2014 the EPA, in conjunction with Teagasc and Cranfield University, launched the Third Edition Soil Map, part of the Irish Soil Information System. This project combined traditional soil survey techniques with digital mapping in a GIS-based soil information system. The overall objective of the project was to produce soil map of Ireland at a scale of 1:250,000 with an associated web-based soil information system in the public domain. This project provides valuable information on existing soils in the region. In this map, soils are mapped by soil association, or groups of soils that commonly occur together in the landscape.

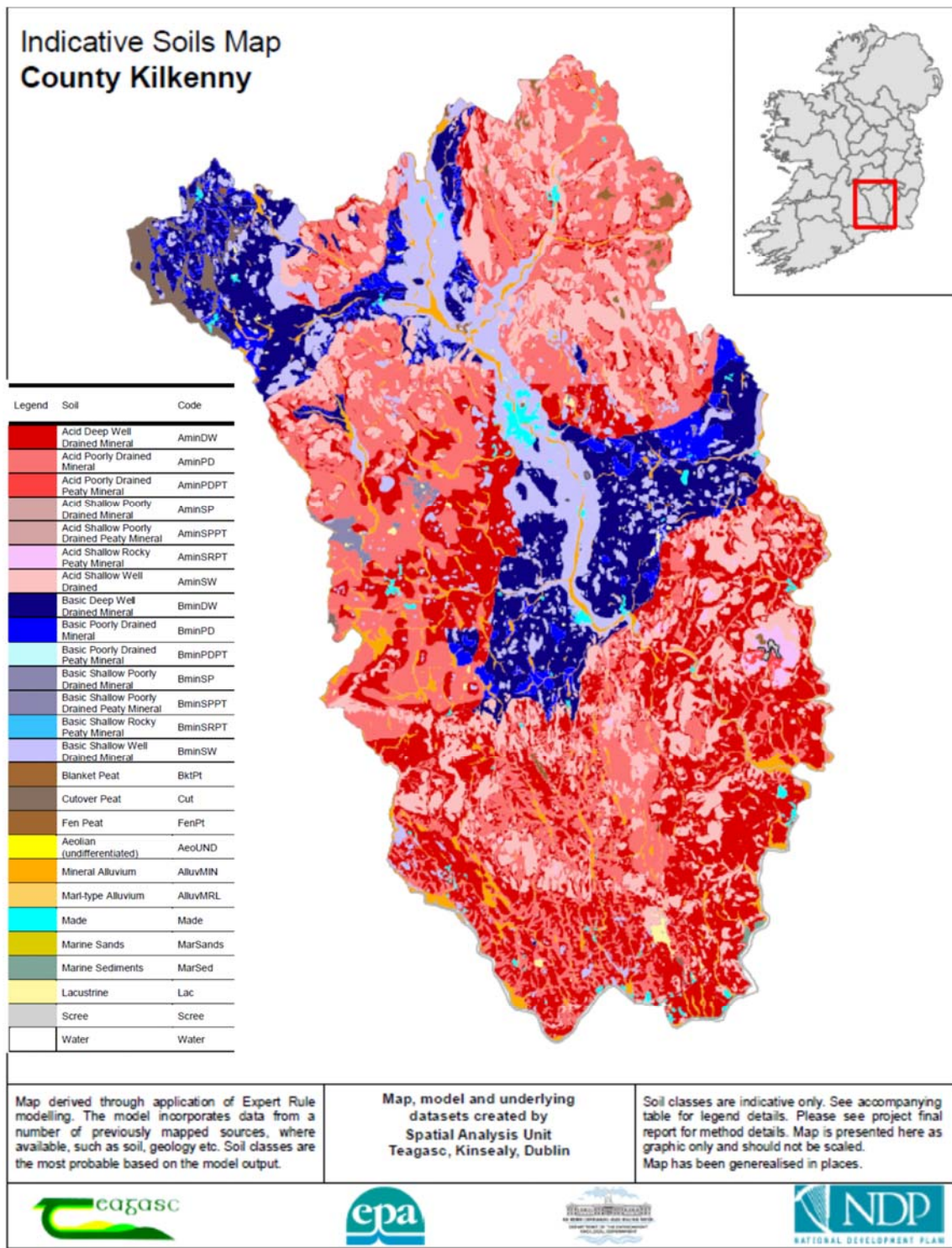
The soils map for Kilkenny from 2006, Figure 3.7, shows that the south of the county is dominated by AminDW, which is in the Acid Brown Earths/Brown Podzolics soil group. The centre and northwest of the county contains a swathe of BminDW - Grey Brown Podzolics/ Brown Earths Basic and BminPD - Surface water Gleys / Ground water Gleys. Along the county's rivers are found BminSW - Renzinas / Lithosols. The north of the county is dominated by AminPD - Surface water Gleys / Ground water Gleys. The general properties of the main soil groups found in Co. Kilkenny are set out in the Table 3.10 below.

Table 3.10: Soil Groups in Co. Kilkenny				
Soil Description	Code	Included Great Soil Groups	General Properties	
Deep well drained mineral				
Derived from mainly non-calcareous parent materials	AminDW	Acid Brown Earths	Most occur on lime-deficient parent materials, therefore acidic in nature, relatively mature and well drained	
		Brown Podzolics	Good physical characteristics	
Derived from mainly calcareous parent materials	BminDW	Grey Brown Podzolics	Usually formed from calcareous parent material which counteracts the effects of leaching, can be light to heavy textured	
		Brown Earths (medium-high base status)	Most occur on lime-deficient parent materials, therefore acidic in nature, relatively mature and well drained	
Shallow well drained mineral				
Derived from mainly calcareous parent materials	BminSW	Renzinas	Shallow soils, usually no more than 50cm depth, usually derived from limestone parent material, use limited by shallow depth	
		Lithosols	Skeletal stony soils usually overlying solid or shattered bedrock, use limited to rough grazing and forestry	
Deep poorly drained mineral				
Derived from mainly non-calcareous parent	AminPD	Surface water Gleys	Developed under the influence of permanent or intermittent	

materials		Ground water Gleys	waterlogging, impervious with poor physical structure, unsuitable for cultivation or intensive grazing
Derived from mainly calcareous parent materials	BminPD	Surface water Gleys Ground water Gleys	Developed under the influence of permanent or intermittent waterlogging, impervious with poor physical structure, unsuitable for cultivation or intensive grazing

Source: Spatial Analysis Group, Teagasc, EPA Soil and Subsoil Mapping Project, 2006

Figure 3.7: Indicative Soils Map, Co. Kilkenny



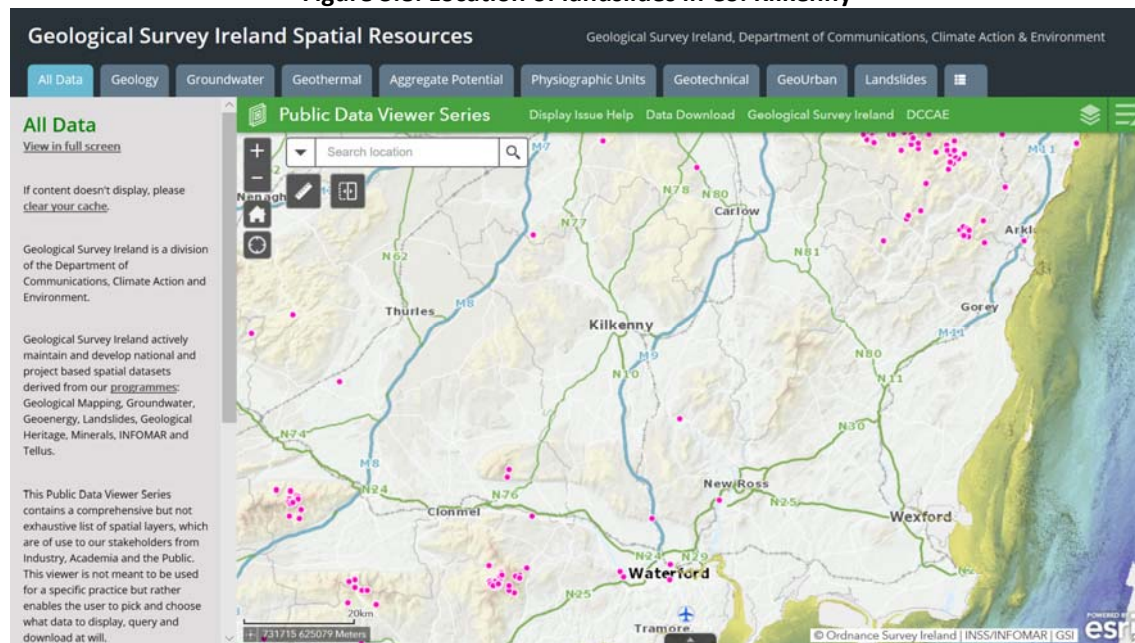
There is no national soil protection strategy. The EU Commission set up the Thematic Group for Soil Strategy in 2004 to identify the potential threats to soil function. Its analysis identified six soil degradation processes that impact on soils; soil sealing, erosion, organic matter decline, compaction, salination and landslides. While a number of these processes are naturally occurring, human activity can be an additional driver of degradation through poor land management.

3.5.1 Landslides

The GSI maintain a National Landslide Database. According to the GSI, it is likely that in the future there will be increased landslide activity as development increases and expands into potentially hazardous areas. It is also predicted that climate change will result in increased landslide hazard. To date, three landslides have been recorded in Co. Kilkenny; in Rossinan, Mullinavat, Brownsbarn Bridge near Inistioge and in Forestalstown, Glenmore. In addition, two more have occurred near the county boundary, one in Sally Park in Waterford City and one in Cullahill, Co. Laois, see Figure 3.8 below.

The GSI Irish Landslides Working Group (ILWG) has also compiled a landslide susceptibility database in order to assess the scale of the landslide problem historically and also to assess the susceptibility of areas to landslide hazard in the future. This has direct relevance to the sustainable development of the landscape in terms of housing, infrastructure etc. and is therefore an important issue for the planning process. This national landslide susceptibility mapping was completed in 2016. The majority of County Kilkenny is classed as having 'Low' landslide susceptibility. The data indicates that risk increases to 'Moderately High' and 'High' in more uplands areas, notably Mount Brandon, see Figure 3.9.

Figure 3.8: Location of landslides in Co. Kilkenny



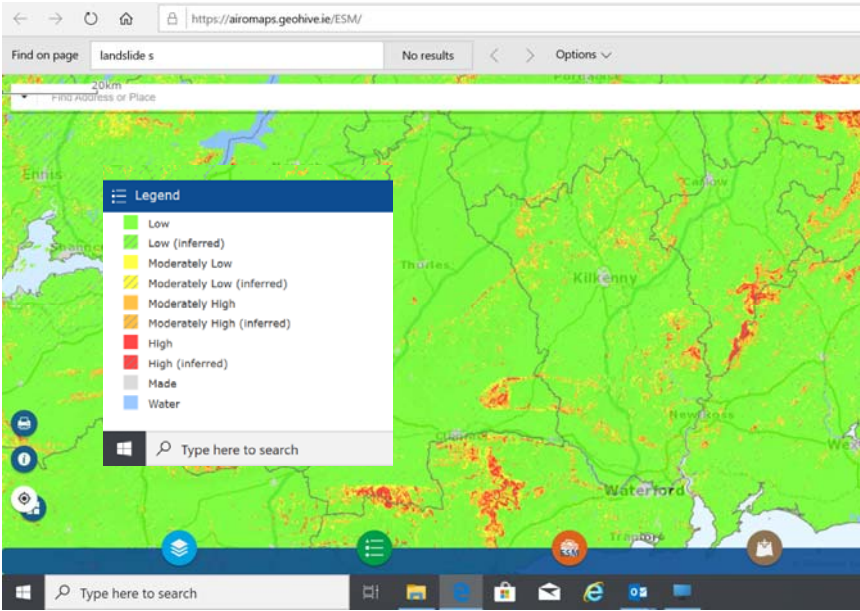
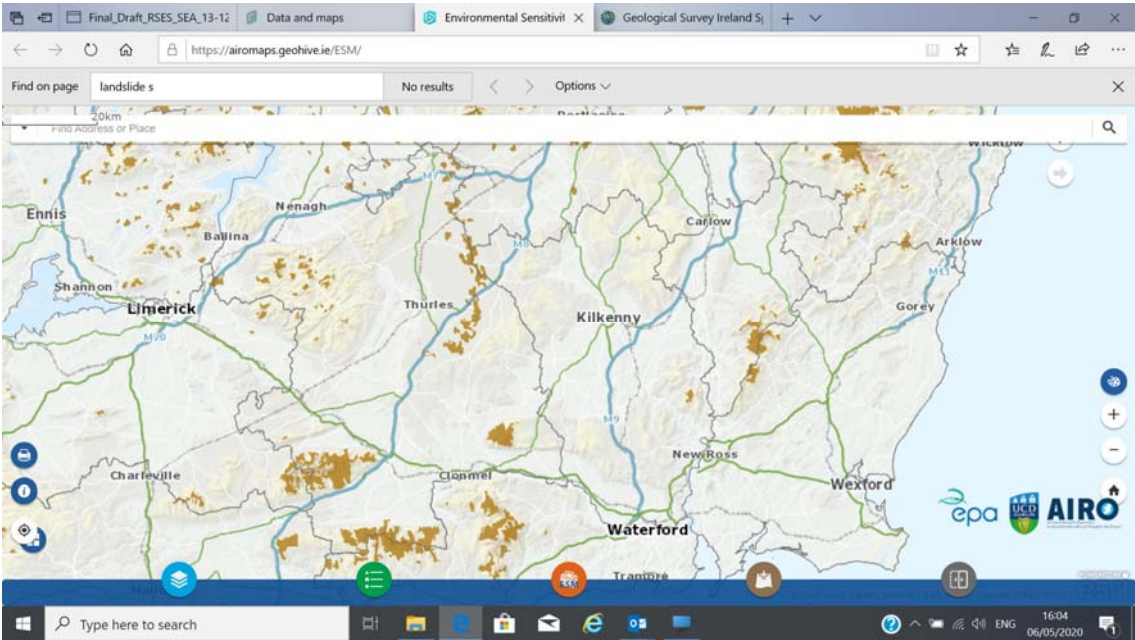


Figure 3.9: Landslide susceptibility in Co. Kilkenny

3.5.2 Peatland

Peatlands are important ecosystems sustaining a range of animal and plant species. The distribution of peatland in Kilkenny is shown on Figure 3.10 below. This amounted to approximately 1.3% of the total land area of Co. Kilkenny in 2006. There is no industrial extraction of peat for energy and horticulture in Kilkenny, however damage to peatland can occur from domestic peat extraction, afforestation, wind farms, recreational activities and invasive species.

Figure 3.10: Location of Peatlands





3.5.3 Geology

According to the GSI, the underlying bedrock geology of Kilkenny is dominated by Lower Carboniferous rocks, mostly of limestone, which were formed at a time when Ireland was almost completely submerged in tropical waters. To the south of this main body of limestone are older sedimentary and igneous rocks that have formed in a variety of geological environments over the past 500 million years. Some of the last sediments in Kilkenny accumulated during the Quaternary period (1.6 million years ago to present) when a series of large ice sheets moved over Ireland, depositing glacial till (clay, sand and gravel) and scouring the underlying bedrock to give Kilkenny much of its present day geomorphological characteristics²⁵.

3.5.3.1 County Geological Sites

A list of County Geological Sites was developed in partnership with the Geological Survey of Ireland and designated in 2007, these are shown on Figure 3.1.

3.5.3.2 Aggregate Potential Mapping

As part of a National Development Plan funded programme, Aggregate Potential Mapping (APM) was carried out by the GSI for County Kilkenny²⁶. Aggregate consists of any hard, inert material, used in variously-sized fragments, either loose or in bound form, in the building of roads and other construction. Aggregate in Ireland is acquired from (a) sands and gravels, known as granular, and (b) bedrock which is blasted and crushed in quarries. The APM has identified both the Granular Aggregate Potential (GAP) and the Crushed Rock Aggregate Potential (CRP).

The GAP map, Figure 3.11, shows very high potential in the north of the county, along the Rivers Nore, Dinin and Nuenna. The CRP map, Figure 3.12 shows great variation throughout the county in levels of potential.

²⁵ Aaron Clarke, Matthew Parkes and Sarah Gatley. GSI, *The Geological Heritage of Kilkenny An audit of County Geological Sites in Kilkenny*, 2007

²⁶ <http://spatial.dcenr.gov.ie/APM/index.html>

Figure 3.11: Granular Aggregate Potential (GAP)

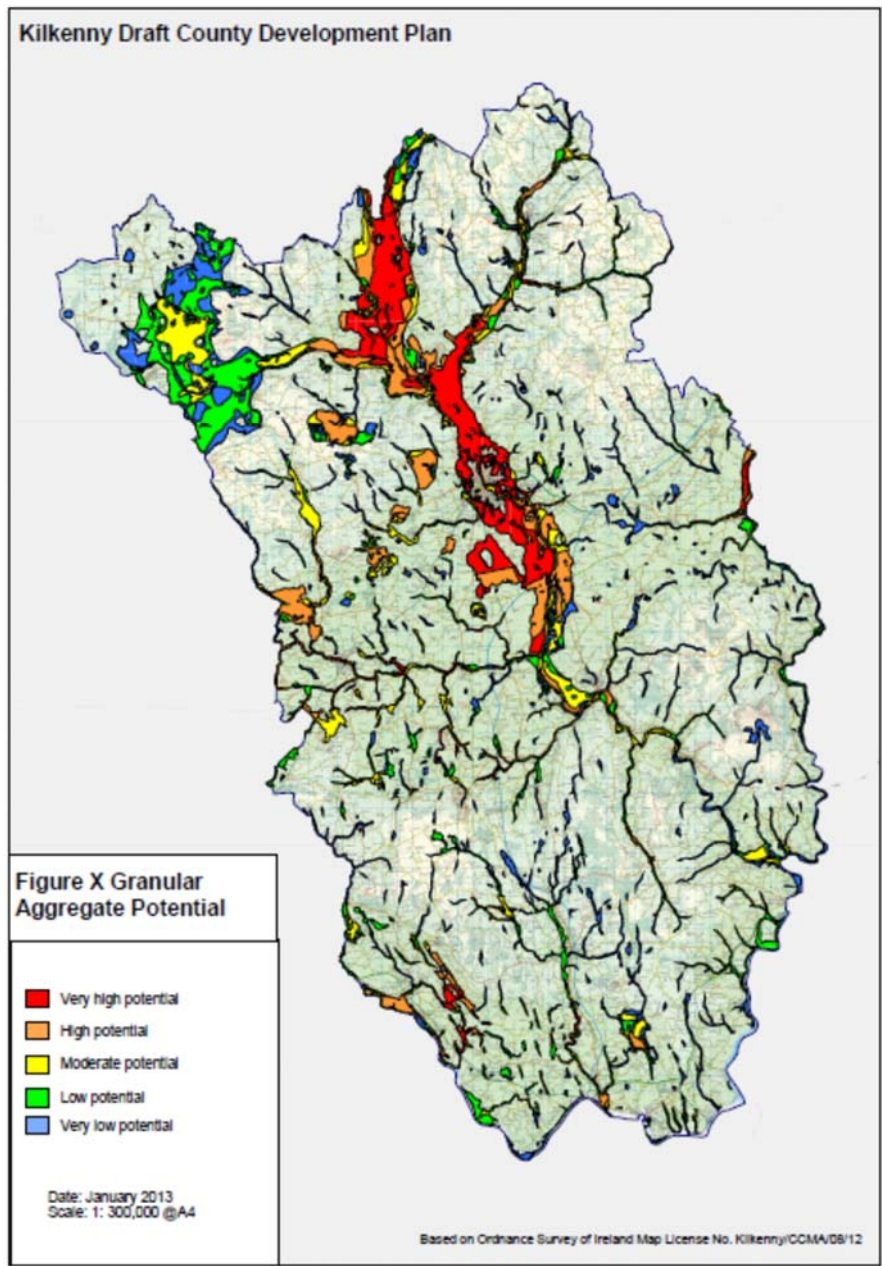
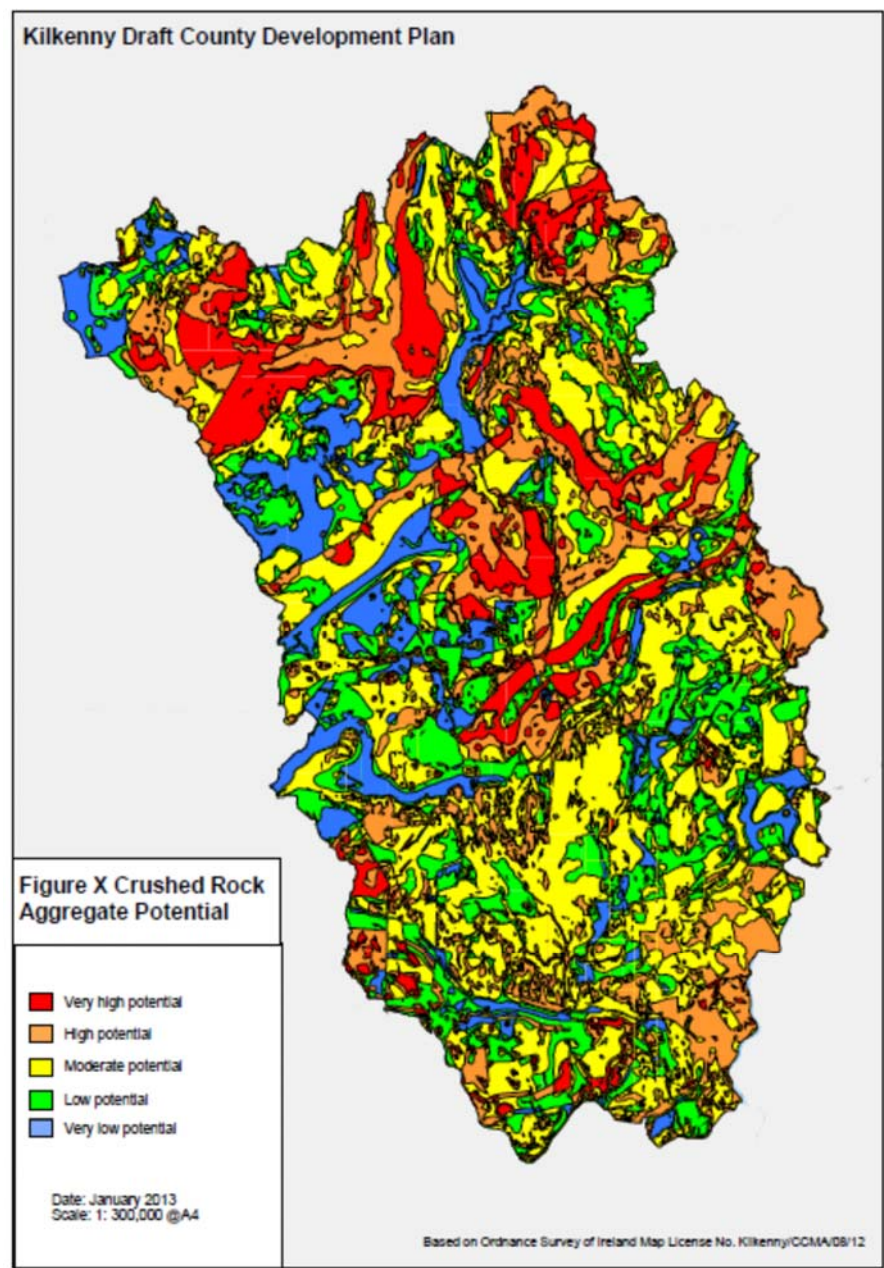


Figure 3.12: Crushed Rock Aggregate Potential (CRP)

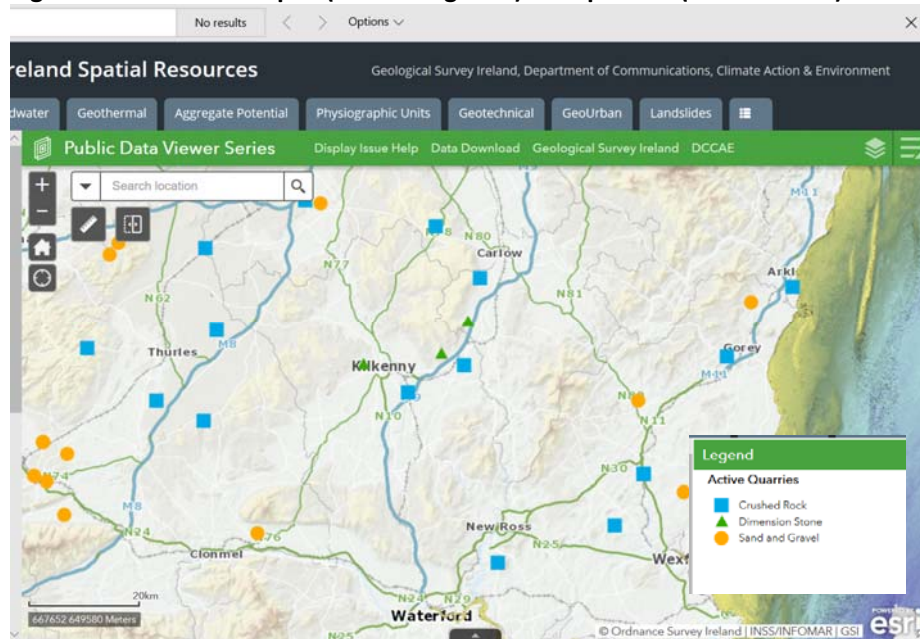


3.5.3.3 Extractive Industries

The Geological Survey of Ireland maintains a record of all pits (sand and gravel) and quarries (crushed rock) in the country, see Figure 3.13.

There is one mine in Kilkenny, at Galmoy. This was an underground zinc mine and operated from for over a twenty year period, however production has now ceased at the site.

Figure 3.13 Location of pits (sand and gravel) and quarries (crushed rock) in the county



Source: Geological Survey Ireland Spatial Resources

3.5.4 Existing Problems

- Landslides have occurred in three sites in Co. Kilkenny
- Peatland continues to be disturbed by various activities and invasive species.

3.6 Water

This topic can be broken down under various headings, as set out below.

3.6.1 Water Framework Directive

The [Water Framework Directive](#)²⁷ established a framework for the protection of all waters including rivers, lakes, estuaries, coastal waters, groundwater, canals and other artificial bodies for the benefit of everyone.

Since 2000, the Water Framework Directive (WFD) has directed water management in the EU. A key development in meeting the requirements of the WFD has been the publication of River Basin Management Plans (RBMPs). For the second cycle period covering 2018-2021, the first cycle Eastern, South Eastern, South Western, Western and Shannon River Basin Districts (RBD) merged to form one national RBD.

Water in the District has been divided into groundwater, rivers, lakes, estuarine and coastal waters, which are in turn divided into specific waterbodies. Each waterbody is categorised in terms of its water quality status as follows: High, good, moderate, poor, bad, yet to be determined. Further, under the second cycle RBMP, characterisation of water bodies was undertaken to assess the risk of not achieving their assigned environmental objectives e.g. Good or High status, and the risk of deterioration of status. The Environmental Protection Agency manages the monitoring of all waterbodies, and the latest information on the status of each waterbody is available at <https://gis.epa.ie/EPAMaps/>.

3.6.1.1 Register of Protected Areas

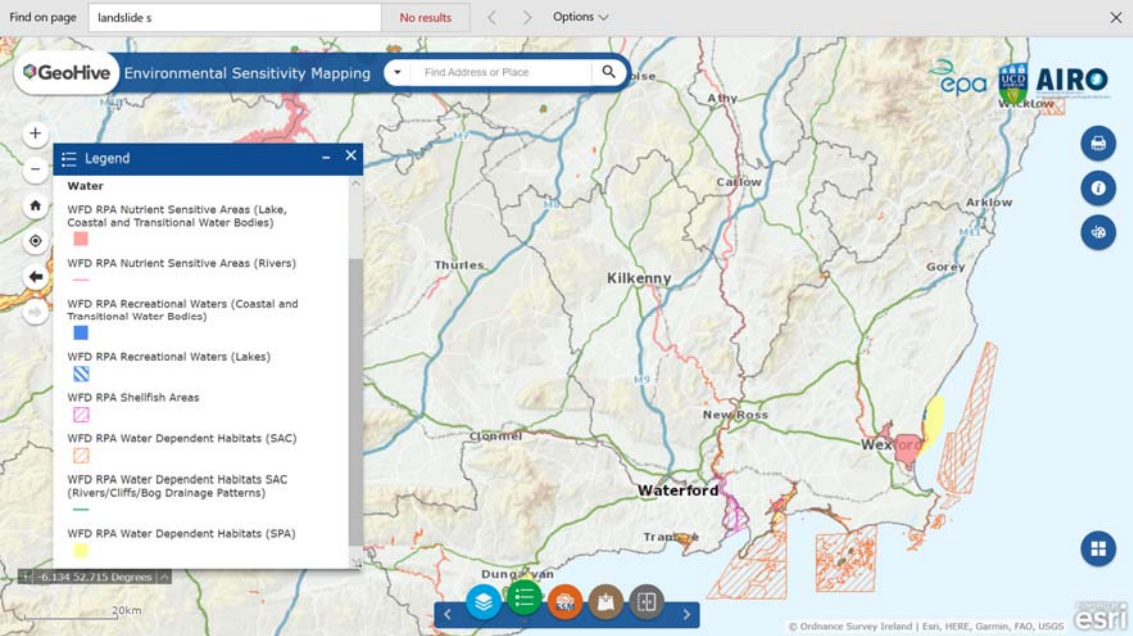
Article 6 (Annex IV) of the WFD requires each Member State to establish a register of protected areas for water bodies or parts of water bodies that must have extra controls on their quality by virtue of how their waters are used by people and wildlife. This register is split into five categories as follows:

- i. Areas designated for the abstraction of water intended for human consumption under Article 7;
- ii. Areas designated for the protection of economically significant aquatic species;
- iii. Bodies of water designated as recreational waters, including areas designated as bathing waters under Directive 76/160/EEC;
- iv. Nutrient-sensitive areas, including areas designated as vulnerable zones under Directive 91/676/EEC and areas designated as sensitive areas under Directive 91/271/EEC; and
- v. Areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant European Sites (Natura 2000) designated under Directive 92/43/EEC and Directive 79/409/EEC.

In Ireland, waters intended for human consumption are protected under the Drinking Water Regulations (S.I. No. 122 of 2014). The actual protected areas for drinking water are not outlined within these regulations, so the protected area for drinking waters is represented by the water body from which the water is abstracted, be it groundwater, river or lake. The breakdown of WFD protected areas within the County is shown on Figure 3.14.

²⁷[Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy](#)

Figure 3.14: WFD protected areas



3.6.1.2 Groundwater quality

Groundwater is categorised as mostly good status throughout the county, with one area on the Laois border classified as poor. This is a deterioration from 2014 when the whole county was classified as Good.

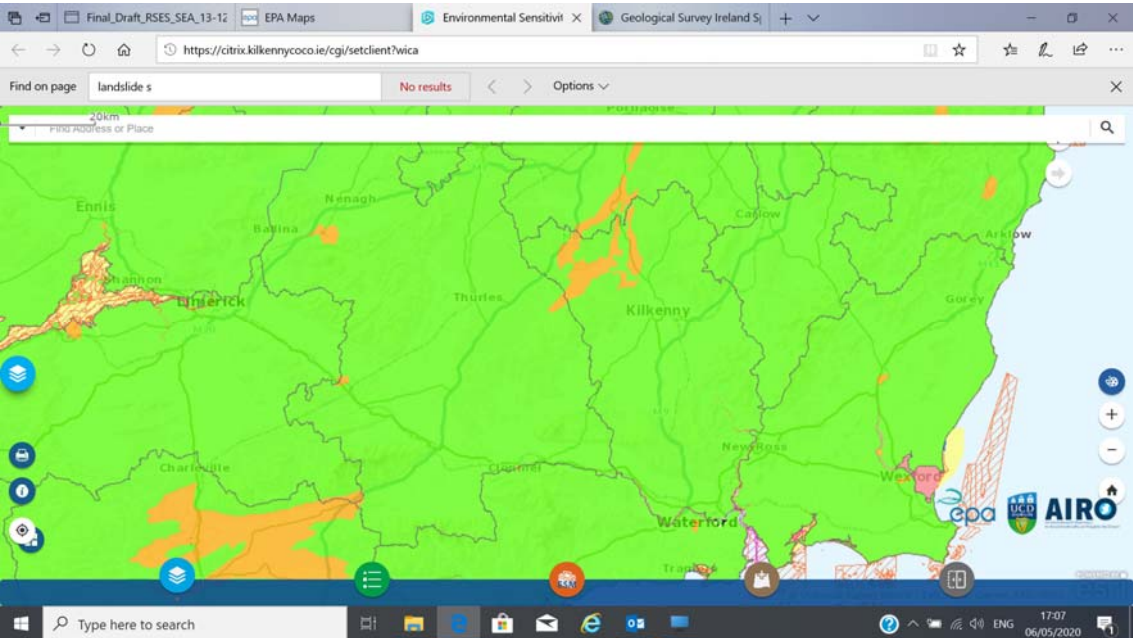
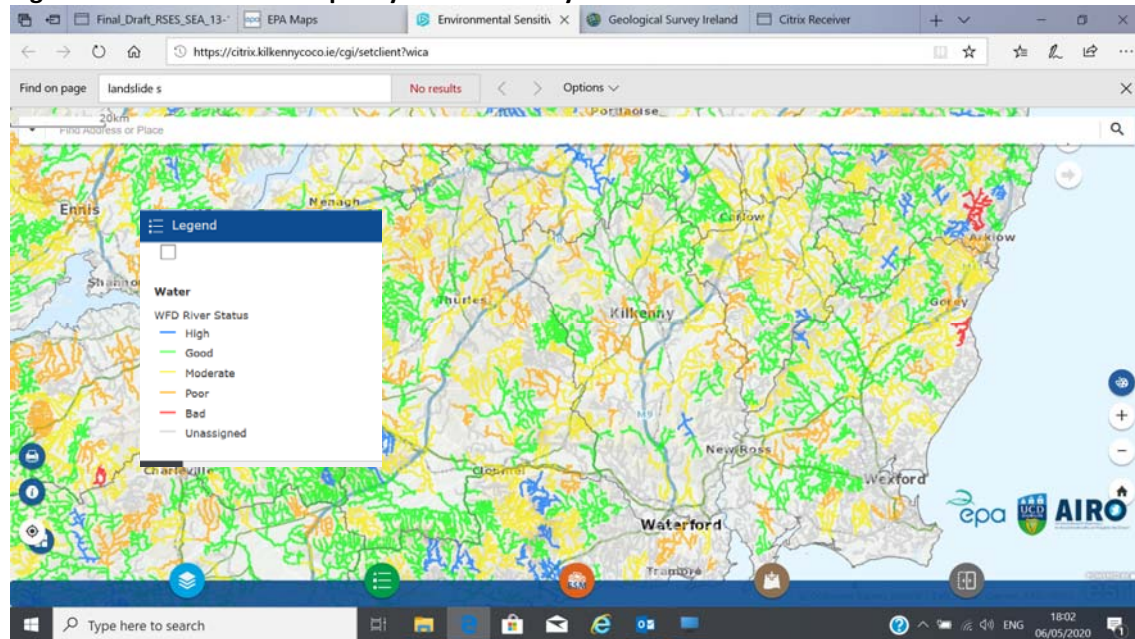


Figure 3.15: Groundwater Quality

3.6.1.3 Surface water quality

The [South East River Basin Management Plan](#) noted that two rivers in the county were classified as Bad status, the River Nore south of Thomastown IE_SE_15_1994_7 and the River Gowran (IE_SE_14_1879), which is a tributary of the Barrow. In 2013, no river in the county was classified as Bad status, but a number of rivers were classified as Poor. This situation has remained static, see Figure 3.15.

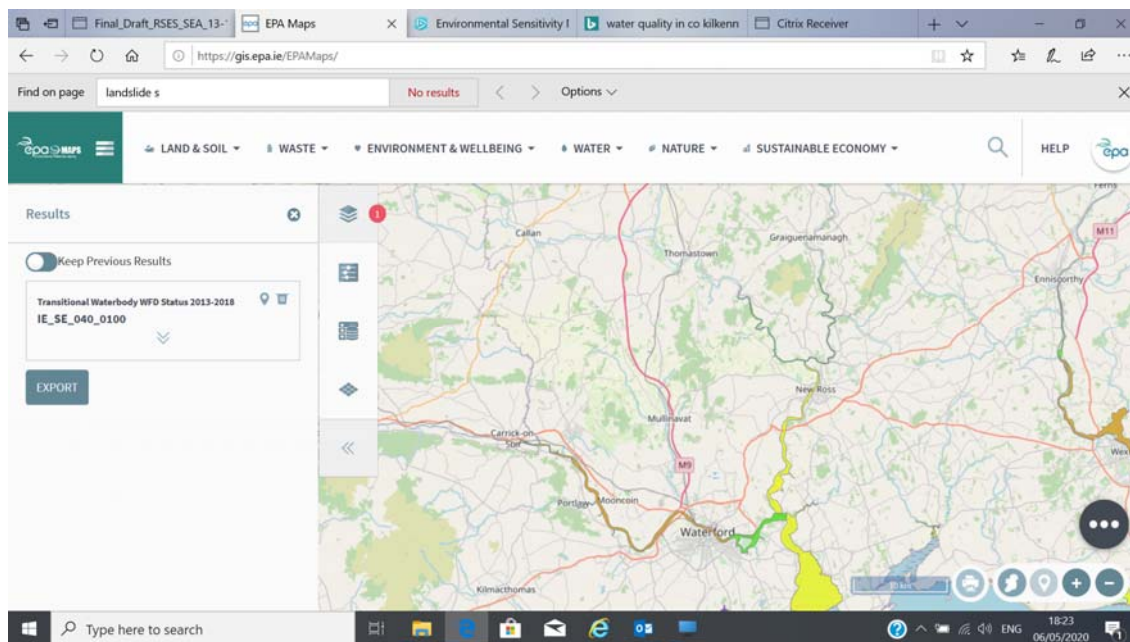
Figure 3.16: Surface Water quality in Co. Kilkenny in 2018



3.6.1.4 Estuarine waters

Estuarine waters include the Upper River Suir, Upper River Barrow and the River Nore. As of 06/5/2020, all estuarine waters were either at good or moderate status, see Figure 3.16 below.

Figure 3.17: Estuarine Water quality in Co. Kilkenny



3.6.1.4.1 Waterford Harbour Shellfish Growing Area

The Waterford Harbour Shellfish Growing Area was designated in 2009. A Pollution Reduction Programme was prepared based on the Characterisation Report²⁸. This found that the key pressures on the site were urban wastewater systems, on-site waste water treatment systems and agriculture. The pressure arising from the urban wastewater systems was alleviated in 2010 with the opening of the upgraded Waste Water Treatment plant in Belview. On site waste water treatment systems such as septic tanks are addressed in section 3.6.4.

3.6.1.5 Blue Dot Designations

The objective of the Blue Dot Catchment programme is to protect and restore the high-water status waterbodies by protecting their catchment. Kilkenny has one blue dot designation, the catchment area of which is located at Muckalee.

²⁸ Department of Environment, Heritage and Local Government, [Waterford Harbour Pollution Reduction Programme](#), 2009



The Marine Strategy Framework Directive (MSFD) (2008/56/EC) has adopted an ecosystem-based approach to protect and manage the marine environment. This forms an integral component of maritime spatial planning within the EU and requires Member States to develop a strategy to achieve or maintain good environmental status in their marine waters by 2020. Ireland has developed a Programme of Measures that will meet targets set in order to achieve or maintain good environmental status.

There are a total of 35 public wastewater treatment schemes within the county, of varying size and complexity, see Table 3.12 below.

Appendix A: Priority areas lists 20 urban areas around the country where improvements are needed to resolve our environmental priorities. Three areas in Co. Kilkenny are listed: Freshford, Goresbridge and Johnstown.

Table 3.12: Wastewater Treatment capacity

²⁹ EPA, [Urban Waste Water Treatment 2018](#), 2019

Settlement	Licence Reg. No.	Comment on WWTP capacity:
Ballyhale	D0530-01	No Capacity available.
Ballyragget	D0337-01	Limited capacity - available capacity estimated at approximately 180 housing units (housing units could be either new units or existing unconnected units).
Bennettsbridge	D0400-01	No capacity available.
Callan	D0159-01	Capacity available estimated at approximately 360 housing units (housing units could be either new units or existing unconnected units).
Castlecomer	D0149-01	Very limited capacity available - estimated at approximately 28 housing units (housing units could be either new units or existing unconnected units).
Clogh-Moneenroe	D0340-01	Capacity available estimated at approximately 365 housing units (housing units could be either new units or existing unconnected units).
Fiddown	D0528-01	No Capacity available. Design capacity of WWTP is 200 PE.
Freshford	D0526-01	Limited capacity - available capacity estimated at approximately 65 housing units (housing units could be either new units or existing unconnected units). WWTP recently constructed.
Goresbridge	D0529-01	Limited capacity - available capacity estimated at approximately 25 housing units (housing units could be either new units or existing unconnected units). WWTP recently constructed.
Gowran	D0335-01	No Capacity available.
Graiguenamanagh	D0155-01	Limited capacity - available capacity estimated at approximately 220 housing units (housing units could be either new units or existing unconnected units). Potential also for 3no. Schools in the area to connect.
Johnstown	D0401-01	Limited capacity - available capacity estimated at approximately 20 housing units (housing units could be either new units or existing unconnected units). WWTP recently constructed.
Kilkenny City	D0018-01	Capacity available in WWTP.
Kilmacow	D0525-01	Capacity available estimated at approximately 600 housing units (housing units could be either new units or existing unconnected units).
Mooncoin	D0145-01	Capacity available estimated at approximately 400 housing units (housing units could be either new units or existing unconnected units).
Paulstown	D0339-01	No Capacity available
Piltown	D0157-01	No Capacity available
Thomastown	D0151-01	Capacity available estimated at approximately 1300 housing units (housing units could be either new units or existing unconnected units).
Urlingford	D0336-01	No Capacity available
Ferrybank/ Belview	D0022-01	Capacity available, however, any proposed industrial development would need to be assessed on a case by case basis.

3.6.4 Septic tanks

A total of 15,318 housing units in the county were served by septic tanks, or other individual sewerage treatment systems according to the 2016 Census. This was an increase of 155 from the 2011 total of 15,163.

These systems vary in age, levels of maintenance and suitability to site-specific conditions. There is a large proportion of existing septic tanks within the county which were not designed to deal with the quantity and characteristics of the throughput arising from modern lifestyles. Reports by the EPA have identified septic tanks as a potential source of water pollution, particularly of groundwater sources but also of surface waters.

The Government introduced a programme for registration and inspection of septic tanks in 2013. Currently, policies in the Kilkenny Development Plan requires that septic tanks comply with the EPA's Code of Practice.

3.6.5 Water supply schemes

There are a total of 20 public water supplies serving various settlements in the county. Public water supplies have the potential to impact hugely on human health.

Table 3.13 Water supply schemes

Settlement	Water Supply Zone:	Comments:
Ballyragget	Ballyragget WSP	Capacity available
Bennetsbridge	Bennetsbridge Regional WS	No capacity available.
Callan	Callan WS	Limited capacity available.
Castlecomer	Castlecomer (Nannys Well), Clogh-Castlecomer WTP & Clogh-Castlecomer WS	No capacity available. Options due to be reviewed.
Clogh-Moneenroe	Clogh-Castlecomer WS	
Fiddown	Piltown-Fiddown WS	Capacity available
Piltown	Piltown-Fiddown WS	
Goresbridge	Gowran-Goresbridge-Paulstown WS	Limited capacity available. Project planned. Completion date TBC.
Gowran	Gowran-Goresbridge-Paulstown WS	
Paulstown	Paulstown-Choill Rua WS	
Graiguenamanagh	Graiguenamanagh WS	No capacity available. However, interim solution due to be completed by end 2018, which will provide additional capacity.
Kilkenny City	Kilkenny city (Radestown) WS	Limited capacity at present. Project on capital investment programme to decommission Radestown and connect to upgraded Troyswood WTP. Completion

	Kilkenny city (Troyswood) WS	date 2020. Water Networks Programme for Kilkenny city is ongoing (at design stage currently) and includes pressure reduction and backyard service replacement programmes.
Mooncoin	Mooncoin Regional WS	Capacity available
Thomastown	Thomastown WS	Capacity available - current project progressing to connect Inistioge to the Thomastown WS
Inistioge	Inistioge WS	Current infrastructure project to connect Inistioge to Thomastown is progressing.
Urlingford	Urlingford-Johnstown WS	Capacity available
Johnstown	Urlingford-Johnstown WS	
Ferrybank/ Belview	South Kilkenny Environs	Capacity available, however any proposed industrial development would need to be assessed on a case by case basis.
	Mooncoin Regional WS	Capacity available, however any proposed industrial development would need to be assessed on a case by case basis.

Detail on water quality is contained in the EPA Report *Drinking Water Quality in Public Supplies 2018*³⁰. Of the 23 operational public water supply schemes, five were listed on the Remedial Action List (RAL) at the end of 2018. The RAL is a list of public water supplies where remedial action was required to ensure compliance with drinking water standards and is used to focus attention on resolving any deficiencies in public water supplies. The primary issues addressed by the RAL include disinfection for *E. coli*, *Cryptosporidium* barriers, adequate treatment for trihalomethanes and operational controls for managing aluminium, and turbidity levels. The remedial actions are due to be completed for four of those by 2019 and for one by 2021; Kilkenny City (Radestown). The remedial action involves replacing the water supply by connecting to an alternative source, and Irish Water have experienced delays in the design and planning process.

One public water supply, at Ballyragget, was included in the list of Boil Notices and Water Restriction Notices in place on public water supplies during 2018. Directions were issued from the EPA in relation to two water supplies; Inistioge for non-compliance with THM standards and Kilkenny City, Troyswood for persistent pesticide failures.

3.6.6 Ground water protection scheme

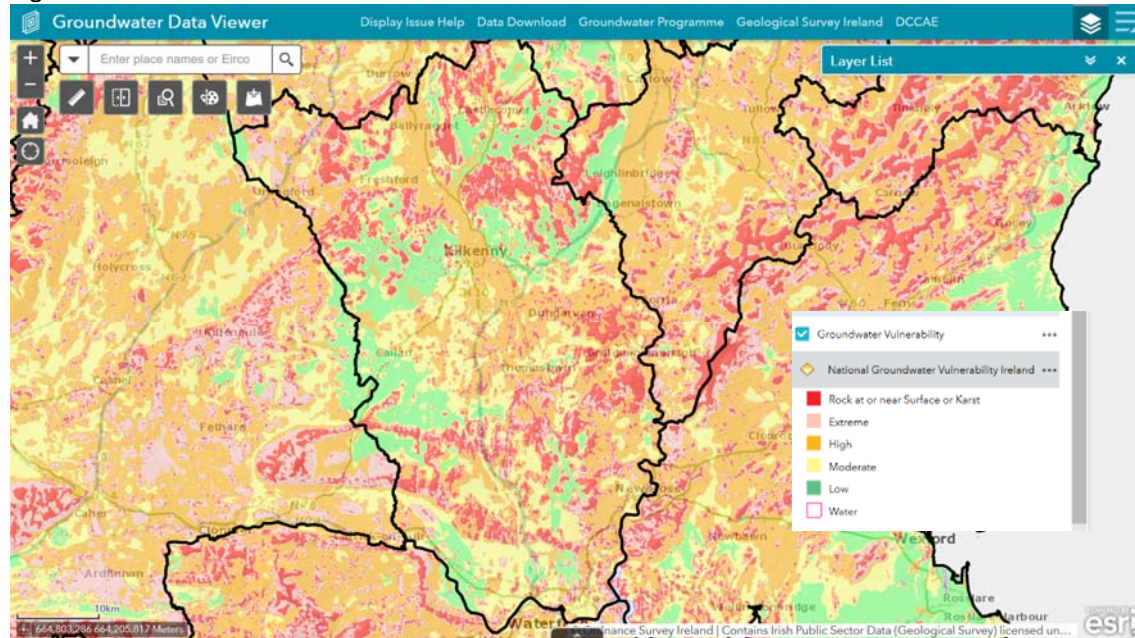
The Geological Survey of Ireland has completed a Groundwater Protection Scheme for County Kilkenny. The overall aim of a Groundwater Protection Scheme is to preserve the quality of groundwater, for drinking water, surface water ecosystems and terrestrial ecosystems, for the benefit of present and future generations. The Groundwater Protection Scheme rates aquifers according to their vulnerability to pollution and groundwater vulnerability is depicted on Figure 3.19. As can be seen a large extent of the county's ground waters are classified as either extreme or high vulnerability.

³⁰ EPA, *Drinking Water Quality in Public Supplies 2018, 2019*

There are GSI source protection reports for the following drinking water supplies:

- Bennettsbridge
- Callan
- Glenmore
- Graiguenamanagh
- Paulstown
- Piltown Fiddown
- Thomastown
- Urlingford Johnstown

Figure 3.19: Groundwater Protection Scheme

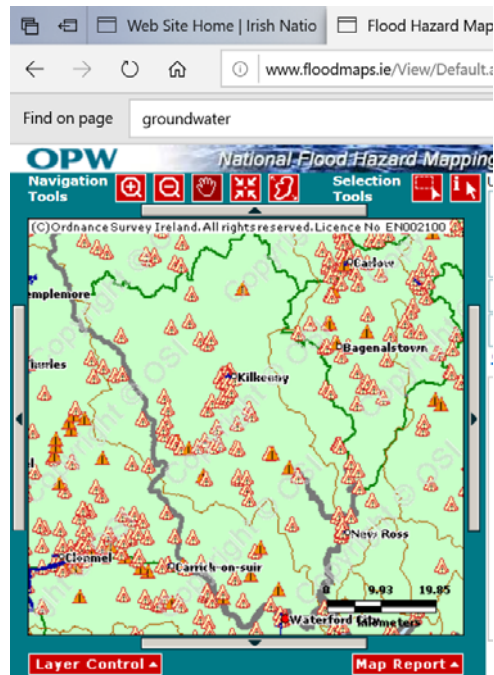


3.6.7 Flooding

The OPW record flood events throughout the country³¹. The locations of all recorded flood events are shown on Figure 3.20. A Strategic Flood Risk Assessment has been carried out as part of the Development Plan review process and forms an appendix to this SEA report.

Figure 3.20: Recorded Flood events

³¹ <http://www.floodmaps.ie/View/Default.aspx>



3.6.8 Existing Problems

- A number of the County's rivers are classified as being of Poor status under the Water Framework Directive, this is of particular concern where this Poor status overlaps with the cSAC or SPA.
- There are continuing pressures on the Waterford Harbour Shellfish growing area arising from on-site wastewater treatment systems.
- Waste water treatment plants require upgrading in a number of settlements
- The proliferation of septic tanks can have an impact on the quality of groundwater and surface water.
- Water supply schemes require upgrading in a number of settlements and one scheme remains on the Remedial Action List
- A large portion of the County's aquifers are rated as either extreme or high vulnerability, which presents challenges to determine appropriate uses.
- Flooding continues to occur in a number of locations in the county.

3.7 Air

Ambient air quality monitoring and assessment in Ireland is carried out in accordance with the requirements of the [Ambient Air Quality and Cleaner Air for Europe \(CAFE\) Directive](#)³², also known as the CAFE Directive. The CAFE Directive has been transposed into national legislation by the [Air Quality Standards Regulations 2011](#).

Data on air quality is available from the EPA. EU legislation on air quality requires that member states divide their territory into zones for the assessment and management of air quality. Kilkenny city, and the area encompassed by the Ferrybank Local Area Plan is located in Zone C (as a centre with a population greater than 15,000) and the rest of Co. Kilkenny is located within Zone D. As of 8/5/2020, air quality was categorised as 'Good' in both Zones.

Air quality is monitored at the EPA Regional Inspectorate at Seville Lodge on the Callan Road. The data published on the EPA website is real-time data, and as at 8/5/2020, the AQIH was Good³³. The ambient air quality pollutants of most importance on an EU-wide level are nitrogen dioxide, particulate matter and ozone. They can impact on human health and are at levels approaching the relevant limit value or long-term objective. There were zero exceedances for each of these three pollutants during 2019. There has been no update to the *Ambient Air Monitoring in Kilkenny* report of 2005³⁴, as quoted in the previous SEAs on the 2008 and 2014 Development Plans.

According to the EPA, emissions from road traffic are the main source of many air pollutants harmful to human health, including nitrogen dioxide, oxides of nitrogen, particulate matter, carbon monoxide, volatile organic compounds (VOC) and heavy metals.

Air pollution has a transboundary aspect meaning that emissions in one country can cause pollution in a different country. National emissions ceilings are in place across Europe to control emissions of four key transboundary pollutants: sulphur dioxide (SO₂), oxides of nitrogen (NO_x), volatile organic compounds (VOC) and ammonia (NH₃). These pollutants can contribute to acidification, eutrophication and ozone formation. Strategies implemented in Ireland in recent years have substantially reduced emissions of SO₂, VOC and NH₃, but levels of NO_x are expected to remain high in the short term. Large increases in road transport are responsible for high NO_x emissions levels.

A move towards sustainable modes of transport would reduce emissions from road traffic. According to Census 2016, a total of 21% of commuters used sustainable means of travel (cycling, walking, bus or train). This compared to 32% nationally, and for Co. Kilkenny this was a slight decrease from 22% in 2011. The philosophy of "Smarter Travel" involves using sustainable modes of transport, such as public transport, walking or cycling, and reducing overall travel demand. Locating houses close to places of employment and services can contribute to an increase in Smarter Travel. In general, rural housing increases car dependency and contributes to a rise in unsustainable modes of transport.

3.7.1 Existing Problems

- Road traffic is the main source of nitrogen oxides and air pollution generally and there is a need to reduce the level of unsustainable modes of commuting through prioritising sustainable patterns of land use whereby residential areas are located within walking distance of employment and social centres.

³² EU, [Ambient Air Quality and Cleaner Air for Europe \(CAFE\) Directive](#), 2008

³³ <http://www.epa.ie/whatwedo/monitoring/air/data/kk/>

³⁴ EPA, [Ambient Air Monitoring in Kilkenny 29th April 2005 to 25th October 2005](#), 2005

3.8 Climatic Factors

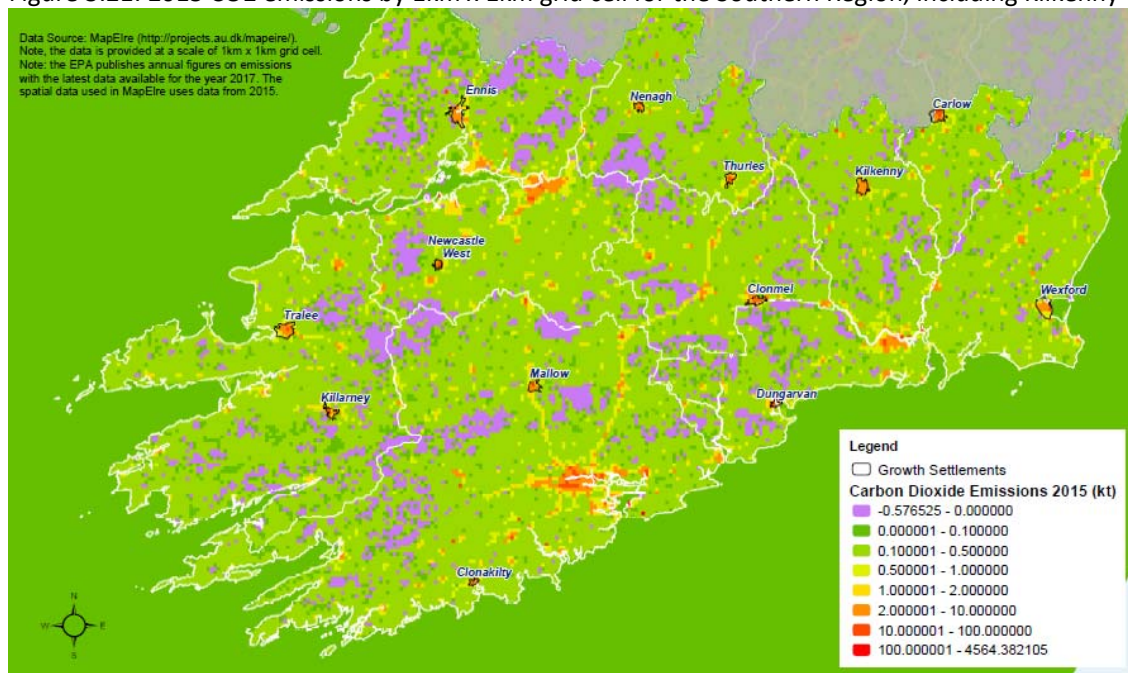
The causes and consequences of climate change pose an immense global challenge. The *National Climate Action Plan 2019* is an all of Government plan to tackle climate change and bring about a step change in Ireland's climate ambition over the coming years. The plan sets out an ambitious course of action to address the diverse and wide-ranging impacts climate disruption is having on Ireland's environment, society, economic and natural resources. The *Climate Action Plan* sets out clear targets for each sector with the ultimate objective of achieving a transition to a competitive, low carbon, climate-resilient, and environmentally sustainable society and economy by 2050.

3.8.1 Greenhouse gases

Increased atmospheric concentrations of greenhouse gases such as carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O), released by human activities, trap additional energy in the Earth's climate system. This gives rise to a range of system changes, broadly referred to as climate change.

Estimates of GHG emissions at a county level are now available through a spatial mapping project, MapEire, delivered via an EPA research project run in collaboration with the University of Aarhus, Denmark. The data is delivered spatially at a scale of 1km x 1km grid cells, and utilises the 2015 emissions inventory reported by the EPA as required under the Convention on Long-range Transboundary Air Pollution (CLRTAP). For Ireland, CO₂ forms the majority of Ireland's total GHG emissions. Figure 3.21 illustrates the 2015 CO₂ emissions by 1km x 1km grid cell for the Southern Region, including Kilkenny. The pattern of emissions is clear and shows that highest concentrations occur in Cork, Limerick and Waterford Cities, the major settlements, and along the national road network. The areas shown in purple show zero to negative CO₂ emissions – these areas represent carbon sinks, or areas which can remove CO₂ from the atmosphere, such as bogs and large areas of forestry.

Figure 3.21: 2015 CO₂ emissions by 1km x 1km grid cell for the Southern Region, including Kilkenny



3.8.2 Noise

In 2006, the Government made regulations relating to Environmental noise ([S.I. 140 of 2006](#)). Environmental noise is defined in the Regulations as unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport, road traffic, rail traffic, air traffic, and from sites of industrial activity.

The regulations require that a Noise Mapping Action Plan must refer to places near major roads, major railways and major airports, and within any relevant agglomeration. The current Noise Action Plan for Kilkenny is for 2019-2023. The major noise source meeting the criteria set out in the Regulations are those associated with roads with more than 6 million vehicle passages per year. In the case of the Kilkenny the following areas are within the subject criteria of the Regulations:

- The M8 and M9 Motorways within County Kilkenny.
- The N10, N24 and N25 National Primary Routes within County Kilkenny.
- The Section of the N76 National Secondary Route from the Waterford Road Roundabout on the Kilkenny Ring Road to its junction with the R692 Kilbride Junction south of Callan.
- The Section of the N77 National Secondary Route from its junction with the N78 at Hennebry's Cross to the Hebron Road Roundabout on the N77 Kilkenny Ring Road.
- The following Sections of Regional Roads located within and in the vicinity of Kilkenny City:
 - The R693 Regional Route (Freshford Road to Vicar St to Parliament St) from its junction with the L6600 local road at Thornback to its junction with St. Kieran's Street;
 - The R695 Regional Route (Dean St to Kennyswell Road) from its junction with the R693 at Irishtown to its junction with the Kennyswell Road;
 - The R712 Regional Route (Castlecomer Road to Old Dublin (Carlow) Road) from its junction with the N77 Castlecomer Road Roundabout on the N77 Kilkenny Ring Road to its junction with the R702 Regional Road (Gowran);
 - The R886 Regional Route from its junction with the R693 at Green Street to its junction with the R712 Castlecomer Road (Green Street and New Road);
 - The R887 Regional Route (John St and Rose Inn Street) from its junction with the R712 at the old Dublin Road to its junction with the R693 at The Parade;
 - The R909 Regional Route from its junction with the N76 Callan Road Roundabout on the N76 Kilkenny Ring Road to its junction with the R950 at the Old Callan Road (Callan Road);
 - The R910 Regional Route (Patrick Street to Waterford Road) from its junction with the R693 at The Parade to its junction with the Bohernatounish Road (L2610);
 - The R950 Regional Route (Old Callan Road) from its junction with the R909 at College Road to its junction with Walkin Street.
- The following Sections of Regional Roads located within County Kilkenny in the environs of Waterford City:
 - The R448 Regional Route from the County Boundary near Newrath to its junction with the R861 at the Newrath Roundabout;
 - The R711 Regional Route from the County Boundary at Ferrybank to its roundabout junction with the N29 National Route;
 - The R861 Regional Route from the N25 Grannagh Junction Roundabout to its junction with the R448 at the Newrath Roundabout.

It is proposed to develop a process within the Noise Action Plan to effectively manage environmental noise throughout the County. The programme is scheduled to be phased over 5 years culminating in the preparation of the 4th phase noise action plan to be completed in 2023.

The programme for evaluation over this 5 year second phase of development of the Noise Action Plan proposes to review the Action Plan on an annualised basis or as the need arises. Any works to be carried out, subject to funding, will be monitored and appraised, a report for round 3 will detail progress against the planned timetable, any actions commenced or undertaken and any costs and outcomes or benefits achieved.

Quiet Areas:

Several quiet areas were considered for Kilkenny. Under Article 3 (1) of the Regulations (S.I. No. 140 of 2006), a distinction is made between quiet areas in agglomerations and quiet areas in open country. Quiet areas to be established in County Kilkenny will be quiet areas in open country. The Regulations define the requirements of quiet areas in open country as an area that is “undisturbed by noise from traffic, industry or recreational activities”. From a usability aspect, the preferred location of quiet areas in open country would be in public areas and parks which are under the ownership of Kilkenny County Council. This removes any restrictions on designating the area as a quiet area.

Following a qualitative assessment of the potential areas, the location below where deemed to be suitable for County Kilkenny and Kilkenny City.

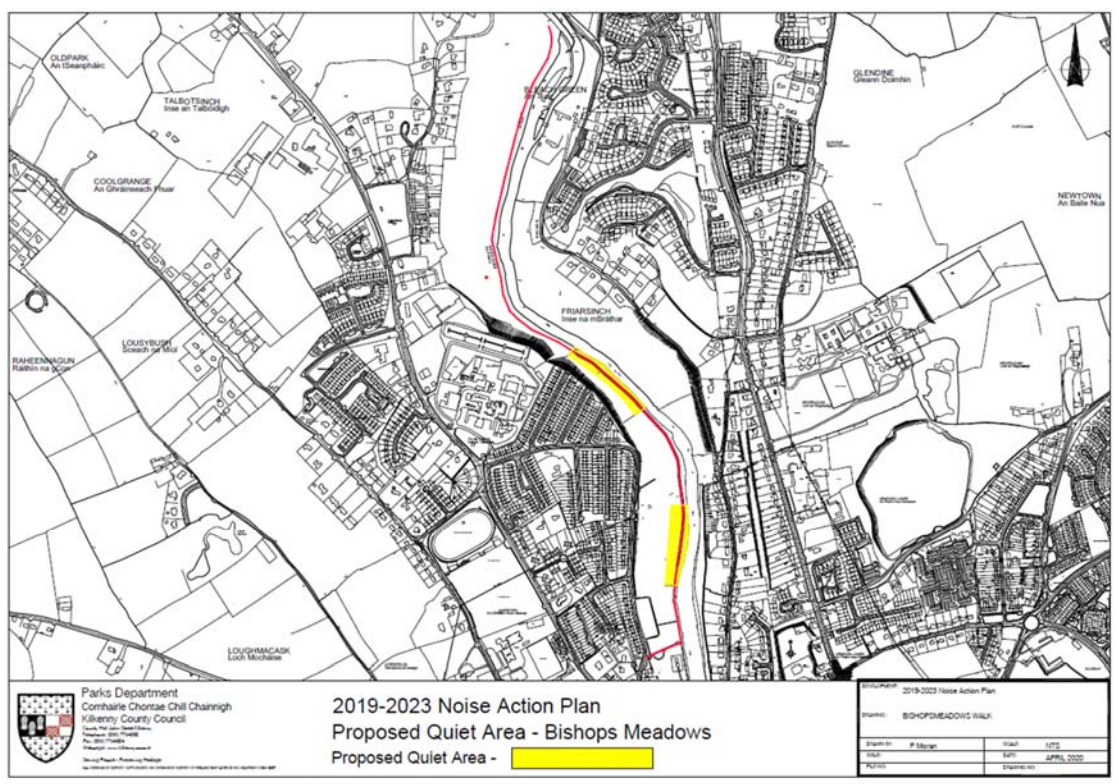


Figure 3.22a Proposed quiet Areas: Bishops Meadows Walk, Kilkenny

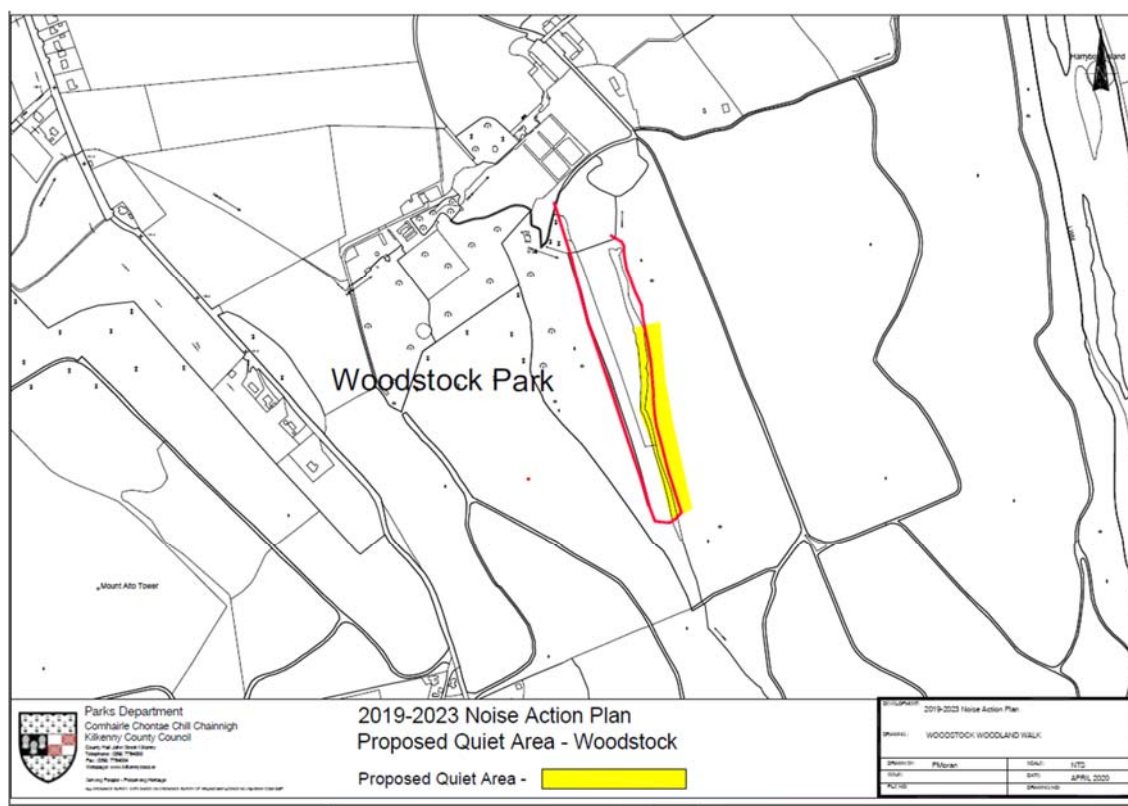


Figure 3.22b: Proposed Quiet Area: Woodstock Gardens and Arboretum, Inistioge, Co. Kilkenny

As part of the Integrated Pollution Prevention Control (IPPC) and Waste Licensing systems, certain scheduled activities and operations have conditions attached to their licences which effect control over emissions of noise. Noise control measures and limits are generally stipulated by specific licensing conditions. The EPA compiles data on the number of licence exceedances due to noise disturbance or odours but in general, noise monitoring has not been carried out widely. Data is not available by county on exceedances.

3.8.3 Existing Problems

- Projected impacts of climate change in Ireland include: increasing average temperatures, more extreme weather conditions including rainfall events, increased likelihood of river and coastal flooding, water shortages, changes in the type and distribution of species and the possible extinction of vulnerable species. The main sources of greenhouse gas emissions are Agriculture, Energy and Transport.
- Several locations in the county may be affected by environmental noise levels from roads, and the identified Quiet areas require increased awareness.

3.9 Material Assets

Material assets are taken to include infrastructure and utilities including rail, road and energy/telecommunications infrastructure. It also includes economic/natural assets such as quarries, forests and agriculture.

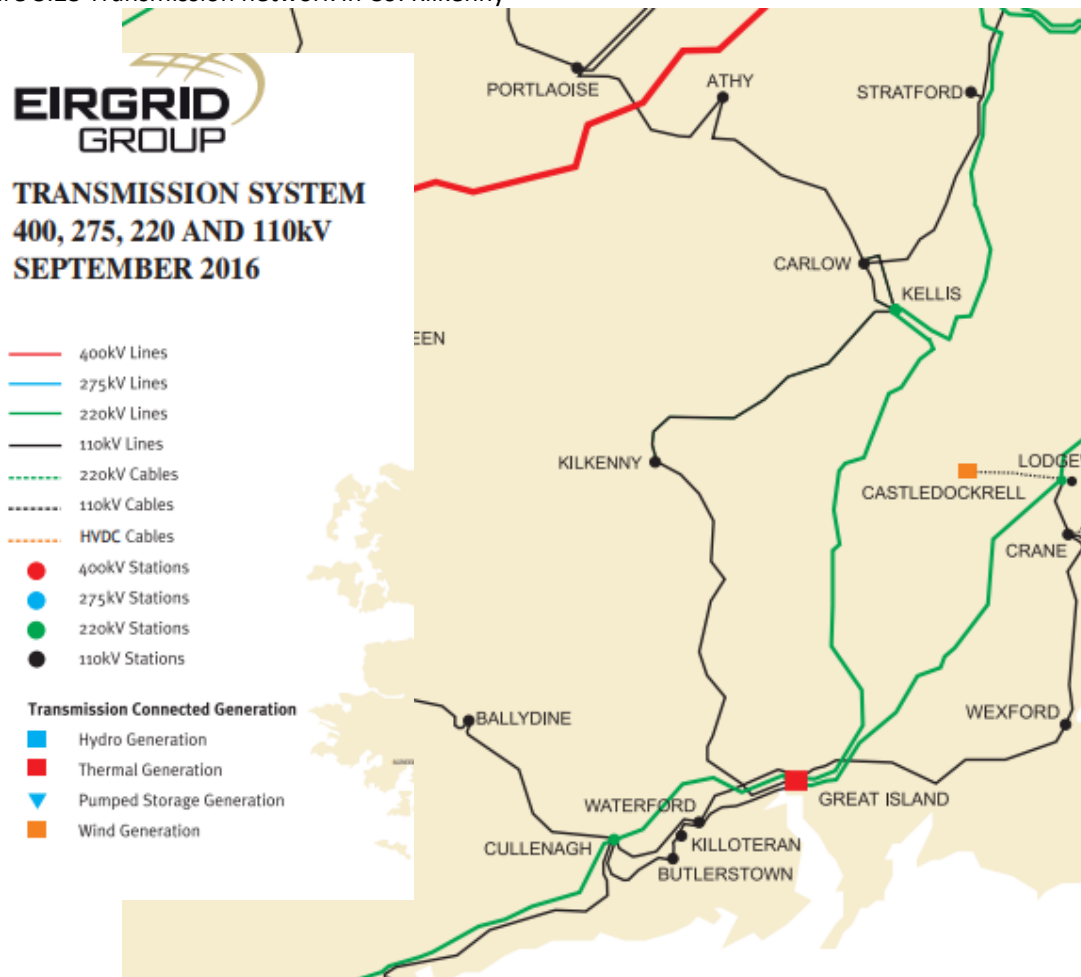
3.9.1 Transportation

The County's transportation infrastructure is shown on Figure 3.4, Core Strategy.

3.9.2 Energy infrastructure

The existing transmission network in County Kilkenny comprises mostly 110 kV circuits and one 220 kV circuit in the south of the county. There is one transmission substation, Kilkenny, which is served by two 110 kV overhead lines, see Figure 3.23.

Figure 3.23 Transmission network in Co. Kilkenny



Source: <http://www.eirgridgroup.com/site-files/library/EirGrid/EirGrid-Group-Transmission-System-Geographic-Map-Sept-2016.pdf>

Two projects are being developed by Eirgrid in or affecting Kilkenny; the Laois – Kilkenny Reinforcement Project to increase the quality and security of supply to the area, and GridLink, which will link Cork and Kildare via Great Island in Wexford with a 400 kV line.

3.9.3 Quarries

A database of all quarries in the county (active and closed) has been prepared by the Planning Section. Figure 3.13 shows the location of pits (sand and gravel) and quarries (crushed rock) in the county. Remediation of quarries is governed under the planning application for each quarry, and will not be addressed as part of the Development Plan. The Aggregate Potential of the county has been discussed under Section 3.5.3 Geology.

3.9.4 Forestry

According to the Forest Service, 9.6% of the county was in forest cover in 2017³⁵. This has decreased slightly from 9.98% in 2011³⁶, but is an increase on the 2007 level of 7.8%. Nationally, 11% of land is under forest cover. According to Corine 2006 data, the breakdown in forestry amongst broad-leaved and coniferous forests was as follows:

Table 3.14: Forestry cover in County by type in 2006

Site code	Forestry type	% of total
311	Broad-leaved forests	14.2%
312	Coniferous forests	76.1%
313	Mixed forests	9.7%

³⁵ Forest Service, National Forest Inventory, 2017

³⁶ Forest Service, [Afforestation Statistics](#), 2011

The Department of Agriculture, Food and the Marine published *Forests, products and people Ireland's forest policy – a renewed vision* in 2014. This sets out national policy to guide the expansion of the forest sector out to 2046 in a sustainable and cost efficient manner.

The [Indicative Forest Statement](#) of 2008³⁷ provides high-level, national guidance in relation to the suitability of land for afforestation. This statement divides the country into four mapped category areas according to its suitability as follows:

Category 1: Suitable for a range of forest types (38% nationally)

Category 2: Suitable for certain types of forest development (27%)

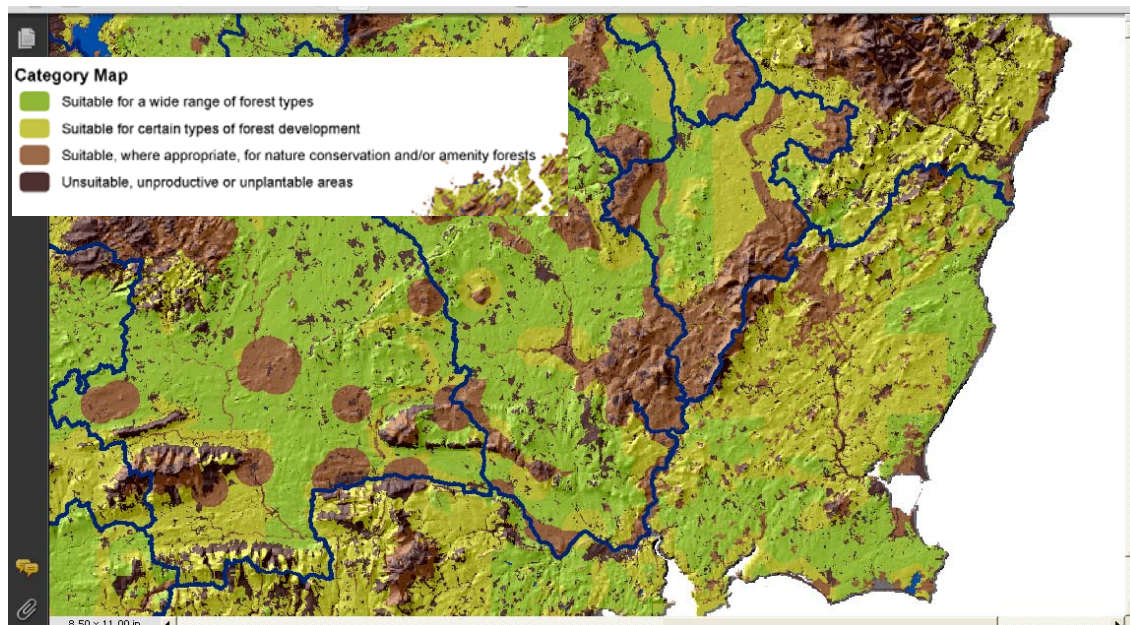
Category 3: Suitable, where appropriate, for nature conservation and/or amenity forests (20%)

Category 4: Unsuitable, unproductive or unplantable (15%)

The IFS map is primarily related to the consultation system for the processing of Forest Service grants. All areas are categorised by reference to the level of consultation required, their varying silvicultural suitability or whether or not the areas are plantable or there is existing forest cover. County Kilkenny falls mainly within Category 1, but also has areas within each of the other three categories, see Figure 3.24.

³⁷ Department of Agriculture, Fisheries and Food, Forest Service, [Indicative Forest Statement](#), 2008

Figure 3.24: Indicative Forestry Statement Map



3.9.5 Agriculture

Agriculture, forestry and fishing accounted for approximately 7.6% of national gross value added in 2014³⁸. (GVA is equal to the sum of the values of goods and services produced, including depreciation and subsidies on production, but excluding taxes on production.) The potential for agriculture and its associated agri-food industry to support growth in the Irish economy has been highlighted in two strategies: [Food Harvest 2020](#) and [Food Wise 2025](#). Increasing the export and employment contribution of the sector in a manner that is compatible with sustainable growth may have environmental effects in terms of greenhouse gas emissions and water quality. The environmental issues arising from this are mainly addressed at EU level, through the Common Agriculture Policy (CAP), which requires that farmers are cross compliant. Applicants must maintain their land in 'good agricultural and environmental condition'.

3.9.6 Existing Problems

- There is a need to upgrade the energy infrastructure in the county.

³⁸ EPA, [Ireland's Environment, An Assessment](#), 2016, p.187

3.10 Cultural Heritage (architectural and archaeological)

Heritage, by definition, means inherited properties, inherited characteristics and anything transmitted by past ages and ancestors. It covers everything, from objects and buildings to the environment. Cultural heritage includes physical buildings, structures and objects complete or in part, which have been left on the landscape by previous and indeed current generations. Co. Kilkenny has a wealth of architectural and archaeological heritage.

3.10.1 Archaeological Heritage

Archaeology in Ireland is protected under the National Monuments Acts.

3.10.1.1 *Record of Monuments and Places*

A level of universal protection is afforded to all monuments listed in the Record of Monuments and Places (RMP). A lesser number of monuments are accorded a higher level of protection, that is, some are entered on the Register of Historic Monuments, and some are deemed to be of national significance and are National Monuments. The up-to-date RMP is available at the Department of Arts, Heritage and the Gaeltacht's website www.archaeology.ie. See Figures 3.25 a and b for the current distribution of recorded monuments in the County and City. Development pressure can lead to loss or impairment of a feature of importance.

3.10.1.2 *Underwater Archaeology*

Section 3 of the National Monuments (Amendment) Act, 1987 makes specific provision for the protection of shipwrecks and underwater archaeological objects. Kilkenny's rivers and the Barrow Estuary may contain such objects. Flood relief schemes, dredging, bridge or drainage works may impact on this archaeological heritage.

3.10.2 Architectural Heritage

County Kilkenny is rich in structures and places of historic and architectural value that are symbols of the social, economic and cultural development of the county and which contribute to its essential character.

3.10.2.1 *Record of Protected Structures*

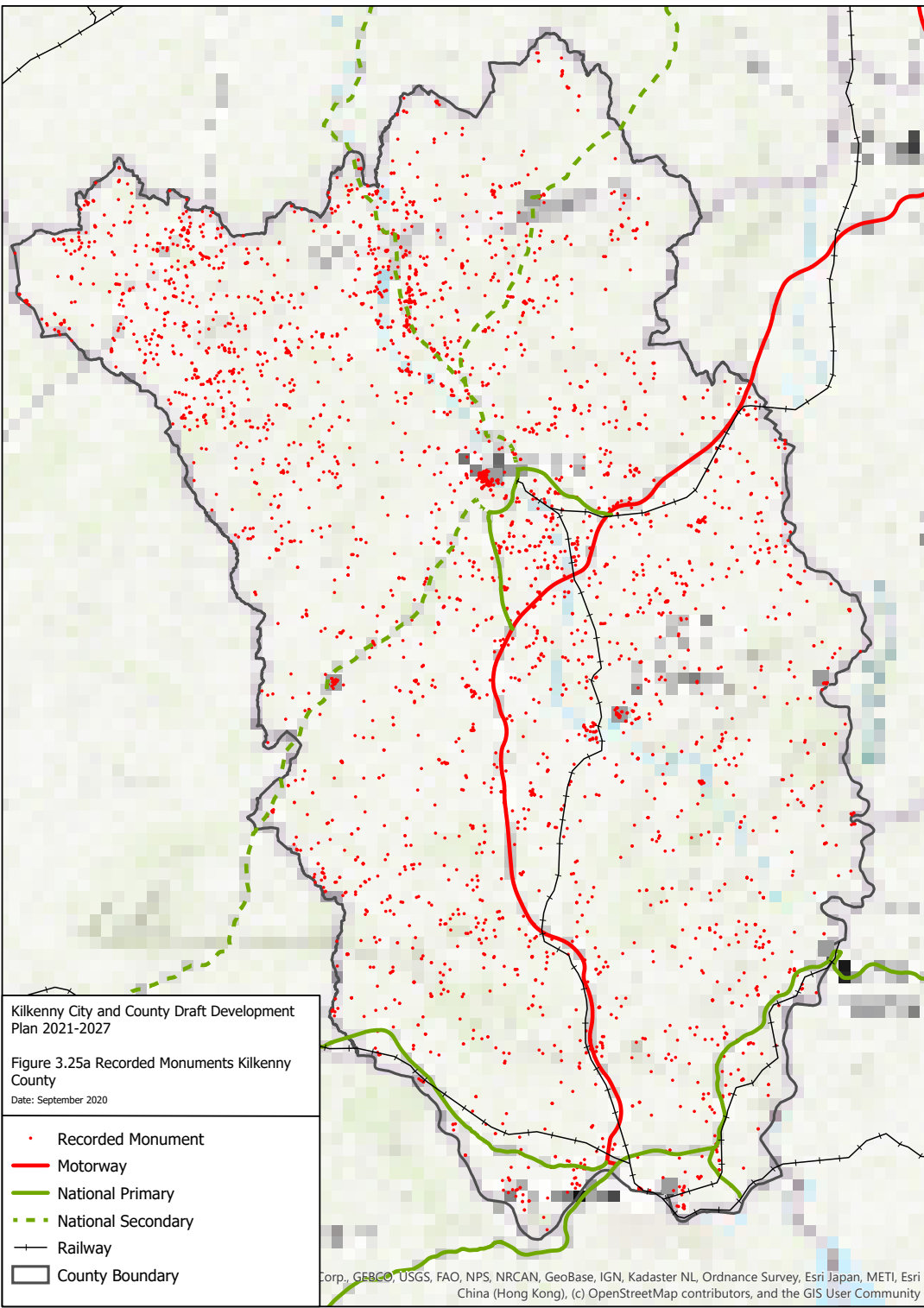
A Protected Structure, unless otherwise stated in the RPS, includes the interior of the structure, the land lying within its curtilage, any other structures lying within that curtilage and their interiors, plus all fixtures and features which form part of the interior or exterior of any of these structures. See Figures 3.26 a and b for the current distribution of Protected Structures in the County and City.

3.10.2.2 *National Inventory of Architectural Heritage*

The National Inventory of Architectural Heritage (NIAH) was a national survey of structures of importance, and can be viewed at www.niah.ie. See Figure 3.27a and b for the current distribution of NIAH structures in the County and City. The Council is responding to the Ministerial recommendation made in 2006 to consider structures included in the survey and rated Regional and above for inclusion in the RPS and additions are being made to the RPS on a phased basis. A total of 18 structures were added during the period of the last Plan.

3.10.2.3 *Architectural Conservation Areas*

The Planning and Development Act, 2000 provides for the inclusion of objectives for preserving the character of places, areas, groups of structures or townscapes where the planning authority is of the opinion that such an area:

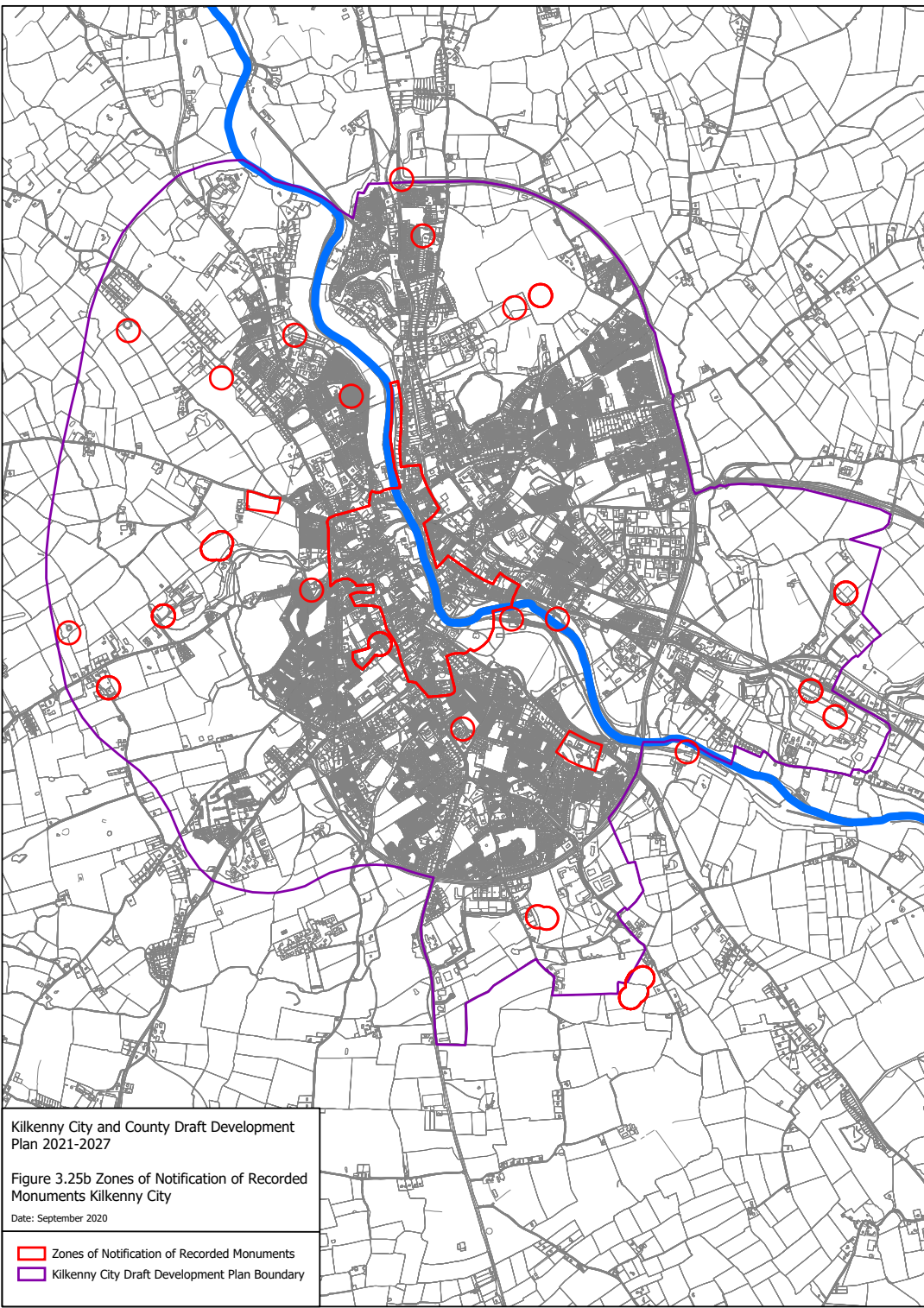


Kilkenny City and County Draft Development
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Figure 3.25a Recorded Monuments Kilkenny
County
Date: September 2020

- Recorded Monument
- Motorway
- National Primary
- - - National Secondary
- + + + Railway
- County Boundary

Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri
China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

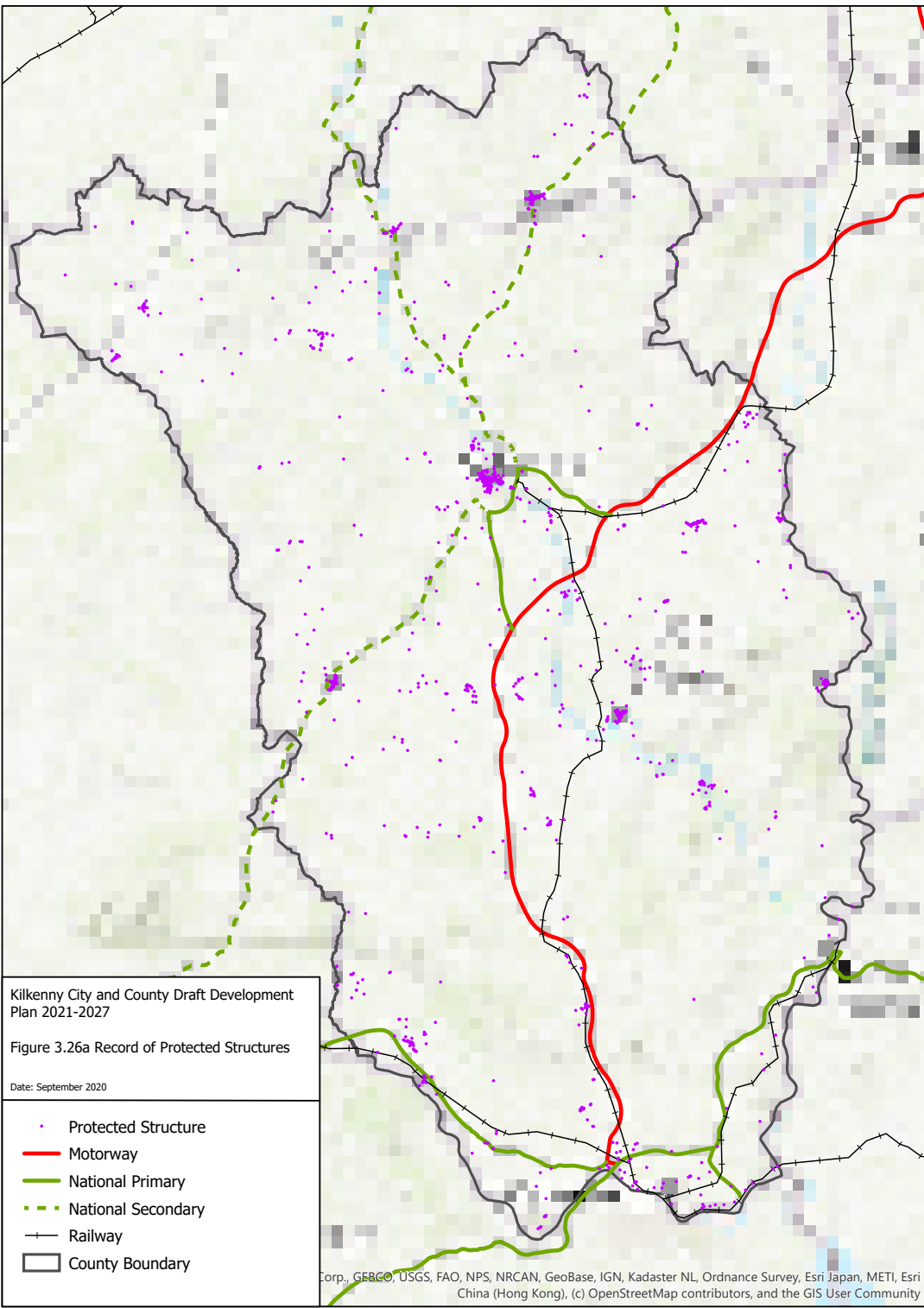


Kilkenny City and County Draft Development Plan 2021-2027

Figure 3.25b Zones of Notification of Recorded Monuments Kilkenny City

Date: September 2020

- ▭ Zones of Notification of Recorded Monuments
- ▭ Kilkenny City Draft Development Plan Boundary

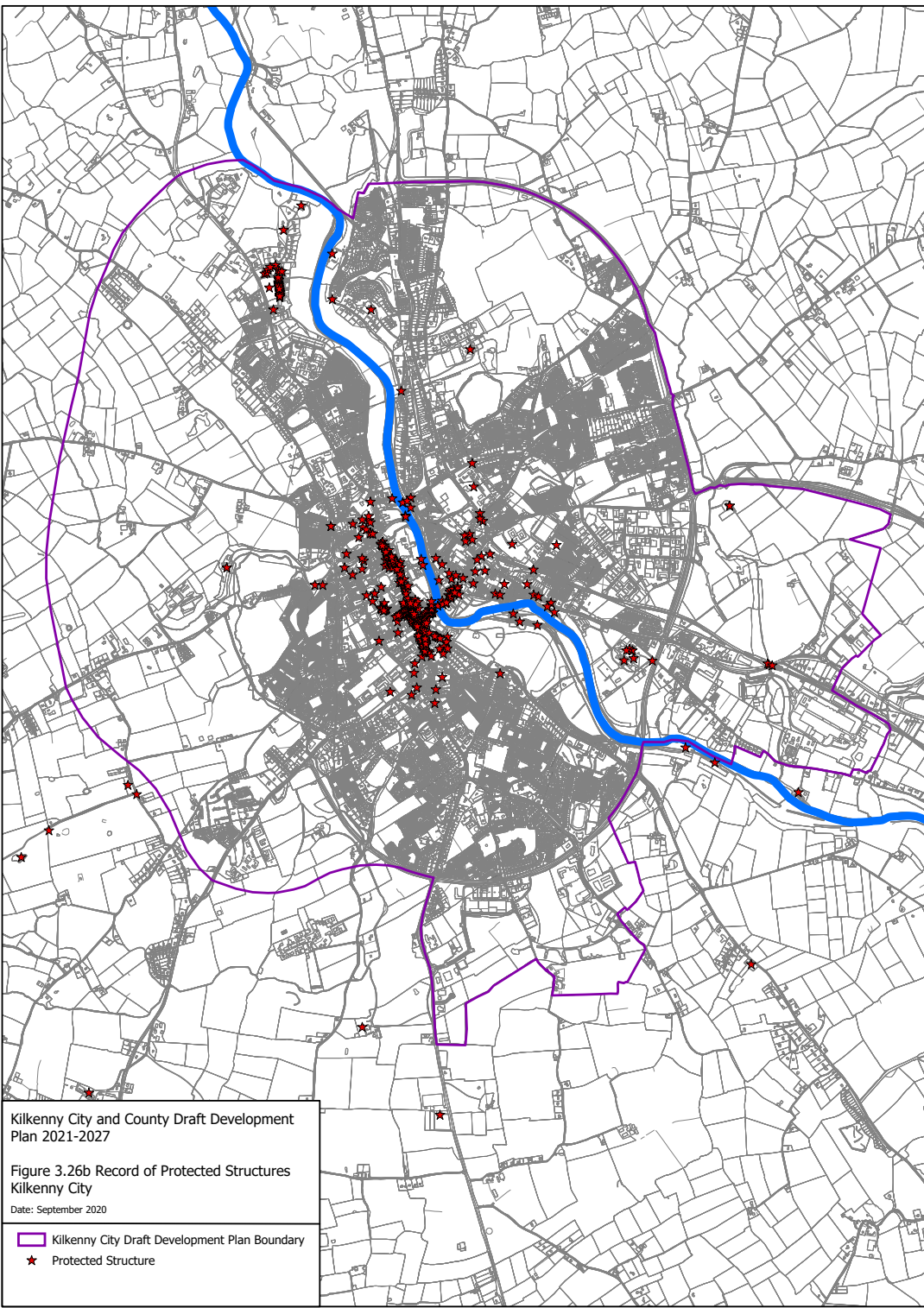


Kilkenny City and County Draft Development
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Figure 3.26a Record of Protected Structures

Date: September 2020



- Protected Structure
- Motorway
- National Primary
- National Secondary
- Railway
- County Boundary

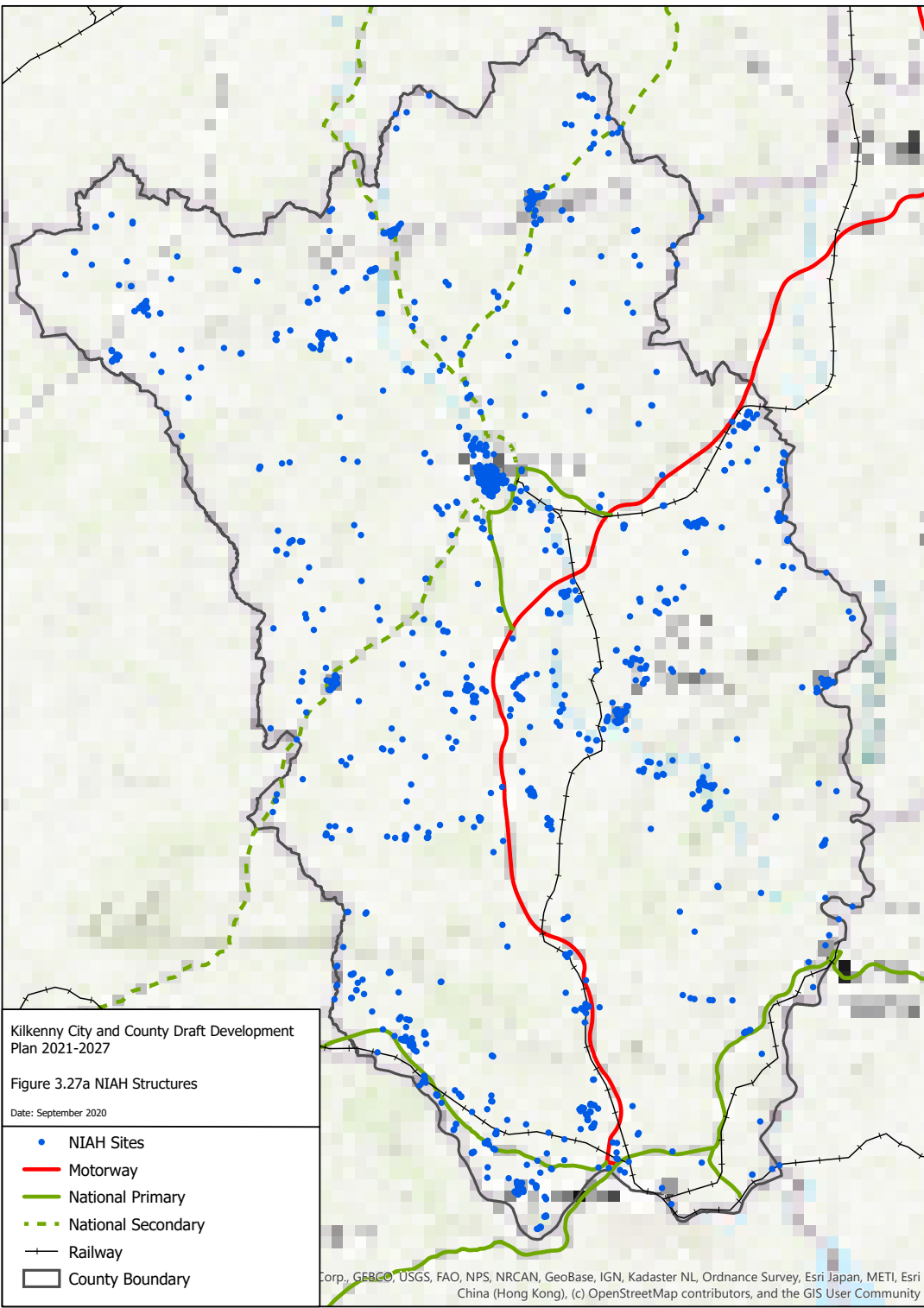


Kilkenny City and County Draft Development Plan 2021-2027

Figure 3.26b Record of Protected Structures
Kilkenny City

Date: September 2020

-  Kilkenny City Draft Development Plan Boundary
-  Protected Structure

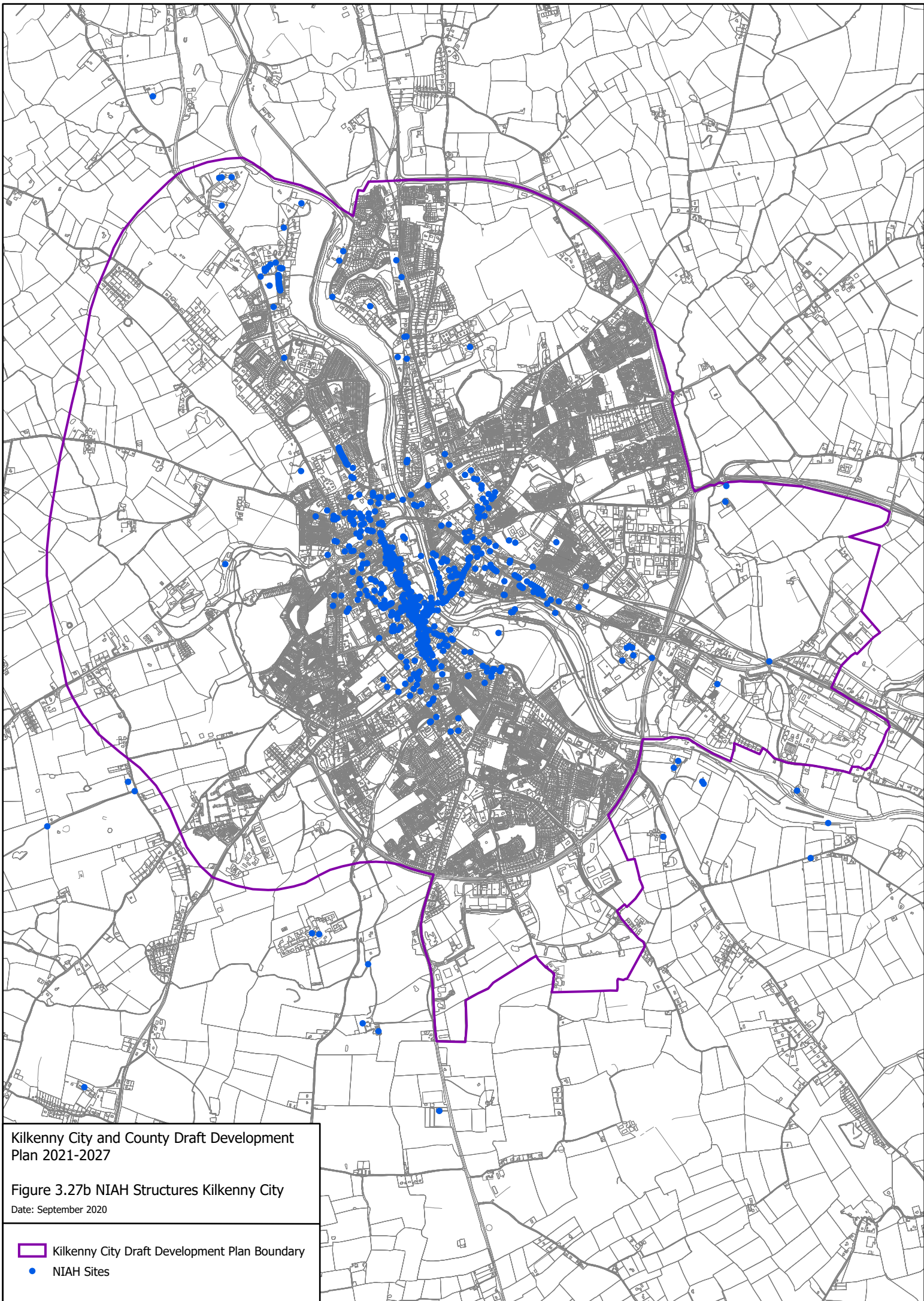


Kilkenny City and County Draft Development Plan 2021-2027

Figure 3.27a NIAH Structures

Date: September 2020

- NIAH Sites
- Motorway
- National Primary
- - - National Secondary
- + + + Railway
- ▭ County Boundary



- (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.

The 2014 County Plan included ACA's within Ballyragget, Callan, Castlecomer, Freshford, Gowran, Graiguenamanagh, Inistioge, Johnstown and Thomastown. The Draft Plan includes additional ACA's for Bennettsbridge, Kells, Piltown and Stoneyford. There are nine ACA's within the City and Environs. Maps of the ACAs are contained within the Development Plan.

3.10.3 Existing Problems

- The process of adding NIAH structures, rated Regional and above, to the RPS has yet to be completed.

3.11 Landscape

A Landscape Character Assessment for the County is contained within the 2014 Plan. This divides the County into four landscape character unit types. There are also a number of protected views within the 2014 Plan. The landscape character areas and protected views are shown on Figure 3.28a.

In addition to the designated views in the current Plan, a number of views have been opened up in the City with the construction of the St. Francis Bridge. These should be incorporated into the Draft Plan to ensure their protection. The protected views in the City are included on Figure 3.28b.

3.11.1 Archaeological Landscapes

An archaeological landscape is a natural landscape that has been deliberately modified by a group (or groups) of people during a particular archaeological period (or periods). It provides context and meaning to individual archaeological sites and helps us to understand how our ancestors lived. Such landscapes have the potential to be of cultural, economic, social and/or environmental value.

In 2019 the Council carried out a *Preliminary Audit of Archaeological Landscapes in County Kilkenny* which identified a number of potential archaeological landscape sites, including 3 sites which were selected as a priority for protection, as follows:

- Freestone Hill and environs
- The Lingaun River Valley - specifically the Megalithic monuments within it and the relationships between them
- Tory Hill and environs

3.11.2 Spahill and Clomantagh

The area of Spahill and Clomantagh Hill in the northwest of the county is one of the potential archaeological landscape sites identified in the *Preliminary Audit of Archaeological Landscapes in County Kilkenny*. Parts of this area are also designated as a Special Area of Conservation (SAC) (000849 Spahill and Clomantagh Hill) and Proposed Natural Heritage Area (000849 Spahill and Clomantagh Hill). A protected view is also located here, V14: Views north and east on the Johnstown/Gattabaun Road No. LP1805 between junctions with Road nos. LT18054 and LT18056. Any large scale development here, in particular such as a wind farm, may have a potential cumulative impact on the natural and cultural heritage features on this site. This area has therefore been identified as a layer for inclusion in the Sieve analysis conducted for the Wind Energy Strategy, see Appendix K.



3.11.3 Adjoining Development Plans

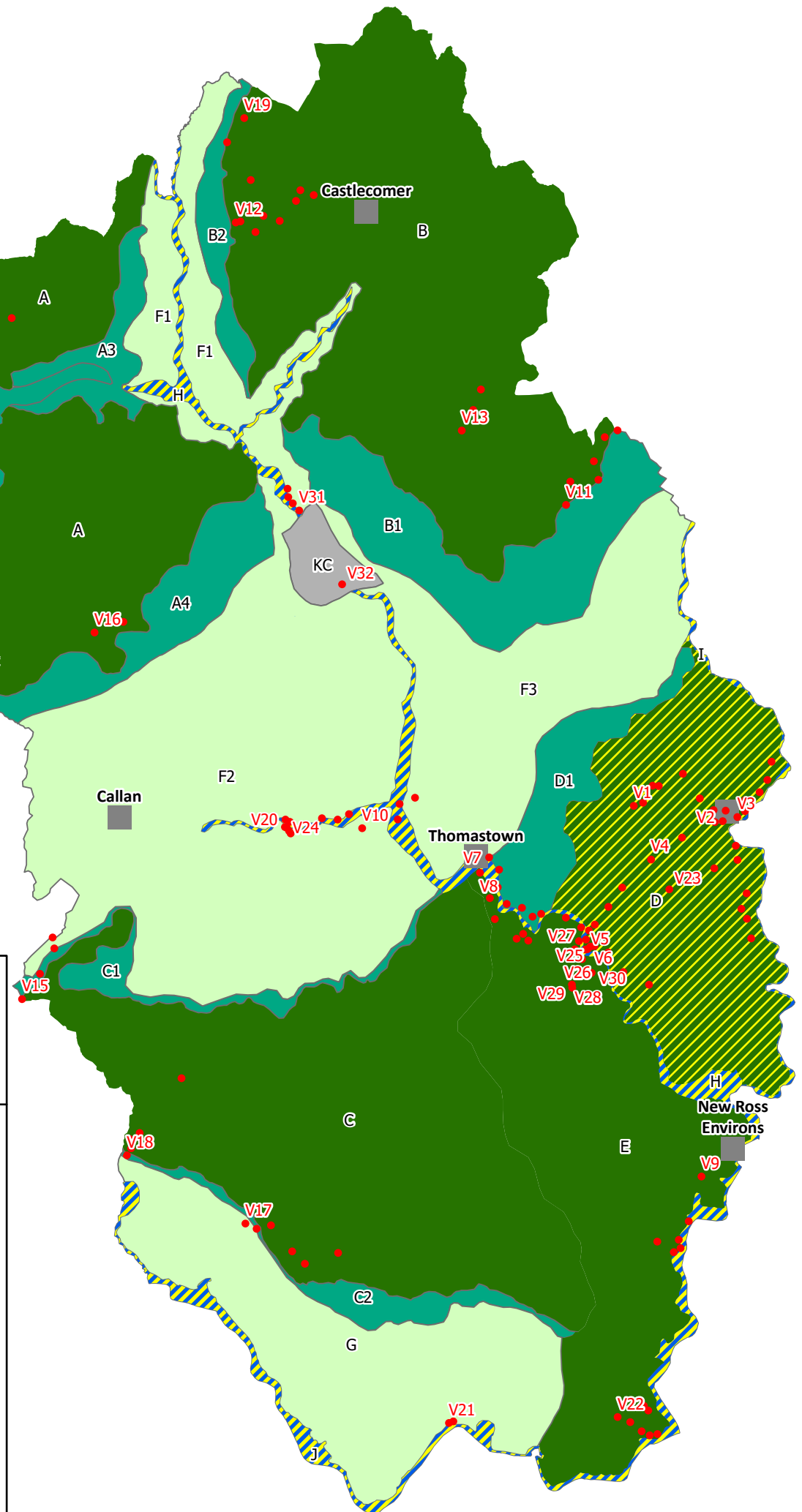
A review of the policies in adjoining Development Plans is necessary in order to establish any possible effects on adjoining authorities' landscape designations. This is set out in the table below. Sensitivities identified in adjoining counties will be taken into account, particularly as part of the sieve mapping approach in the development of the Wind Energy Strategy.

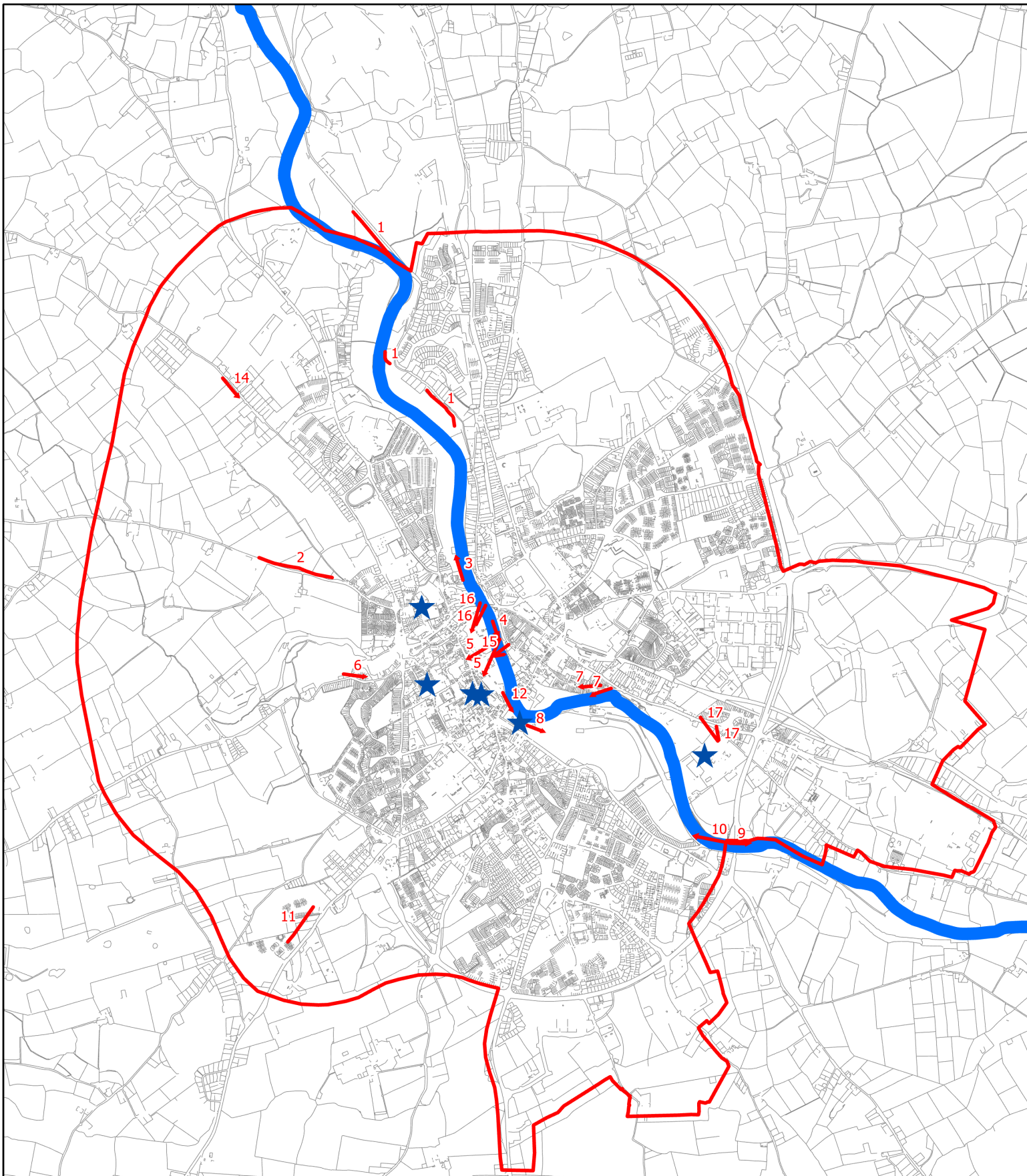
Kilkenny City and County Draft Development Plan 2021-2027

Figure 9.2 Landscape Character Assessment

Date: September 2020

- Protected View
-  Highly Scenic/
Visually
-  Pleasing
- A - Slieveardagh Hills (North & South)
- A1 - Slieveardagh Western Transition Zone
- A2 - Slieveardagh Central Transition Zone
- A3 - Slieveardagh Eastern Transition
- A4 - Slieveardagh Southern Transition
- B - Castlecomer Plateau
- B1 - Castlecomer Southern Transition Zone
- B2 - Castlecomer Western Transition
- C - South Western Hills
- C1 - South Western Hills Northern Transition
- C2 - South Western Hills Southern Transition
- D - Brandon Hill
- D1 - Brandon Hill Transition Zone
- E - South Eastern Hills
- F1 - Kilkenny Northern Basin
- F2 - Kilkenny Western Basin
- F3 - Kilkenny Eastern Basin
- G - South Kilkenny Lowlands
- H - Nore Valley South
- I - Barrow Valley
- J - Suir Valley





Kilkenny City and County Draft Development Plan
2021-2027

Figure HS15 Kilkenny City Views and Prospects

Date: September 2020



Landmark Buildings



Views and Prospects



Kilkenny City Draft Development Plan Boundary



See Section 3.6 Vol 1 Heritage Strategy

Table 3.15: Review of adjoining Development Plans in relation to landscape sensitivity

Plan	Views/scenic routes	Special sensitivity
Carlow County Development Plan 2015 -2021 Appendix 6 – LCA and Protected Views	Scenic routes (no.s 6,7,8 &9) and views (no.s 31, 32 and 33) just east of Castlecomer. All views have easterly orientation, away from Co. Kilkenny Scenic views (no.s 45-49) and scenic routes (no.s 14 &15) east of Graiguenamanagh. Scenic views 46 and 48 are into Co. Kilkenny, based around the River Barrow and Mount Brandon. Scenic route 15 is based around Barrow Valley and Kilkenny hills to west.	No area of sensitivity adjoining Co. Kilkenny boundary.
Laois County Development Plan 2017-2023 Figure 29 and Table 27: Designated Views Appendix 6: LCA	Two views into Kilkenny south of Cullahill and Durrow.	No area of sensitivity adjoining Co. Kilkenny boundary
Waterford County Development Plan 2011-2017 – term has been extended.	No scenic routes adjoining Co. Kilkenny boundary	No area of sensitivity adjoining Co. Kilkenny boundary
Waterford City Development Plan 2013-2019 – term has been extended.	No protected views adjoining Co. Kilkenny boundary.	
Wexford Draft County Development Plan 2021 Chapter 11: Landscape SEA Figure 5.17: Landscape Character Types	Scenic routes not designated.	No landscapes of greater sensitivity adjoining Co. Kilkenny boundary
South Tipperary County Development Plan 2009 – term has been extended	Appendix 4: V51, V61	Map 9: Slieveardagh Hills – secondary amenity area Map 11: Slievenamon Primary & secondary amenity areas

Population growth can be a threat to the landscape quality, depending on the type and nature of new housing distribution. The dereliction of farms and stone cottages and their replacement by modern dwellings not reflective of traditional vernacular styles can have an impact on the area. Farming practices may also pose a threat, where hedgerows are being removed and replaced with post and wire fencing resulting in an open and more diminished landscape condition. In upland areas, masts in prominent high points threaten the visual quality of the landscape. The development

of access roads for communication masts and forestry can also impact adversely on sensitive upland habitats which exist within this area. Archaeological landscapes are very vulnerable to development which may impact on the visual inter-relationships between connected sites.

3.11.4 Existing Problems

- Removal of hedgerows has caused dilution of inherent landscape character
- Visually prominent communications structures have detracted from the scenic quality of upland areas
- Archaeological landscapes are very vulnerable to development which may impact on the visual inter-relationships between connected sites, but further research is required to inform an enhanced policy framework.

3.12 Inter-relationship between these issues

Environmental factors as outlined above cannot be considered in isolation from each other. Many of the topics as outlined above have inter-relationships, such as that between human health and drinking water quality and waste water treatment and water quality.

This environmental report has approached each of the environmental receptors on an individual basis, at a 'root' level. Where interactions are likely, they have been identified under each topic.

To highlight the extent of the relationship between the various elements of the environment Table 3.16 provides an indication of the interactions present between environmental receptors.

Is this aspect of the environment likely to interact with other aspects of the environment?	Biodiversity -Flora and Fauna	Population and Human Health	Soil	Water	Air	Climatic factors	Material Assets	Cultural Heritage	Landscape
Biodiversity -Flora and Fauna		Y	Y	Y		Y	Y	Y	Y
Population and Human Health	Y		Y	Y	Y	Y	Y	Y	Y
Soil	Y	Y		Y			Y	Y	
Water	Y	Y	Y			Y	Y		
Air		Y							
Climatic factors	Y	Y		Y			Y	Y	Y
Material Assets	Y	Y	Y	Y		Y		Y	Y
Cultural Heritage	Y	Y	Y			Y	Y		Y
Landscape	Y	Y				Y	Y	Y	

3.13 Evolution of Environment without implementation of the Plan

Problems have been outlined under each heading and historical trends presented where possible. There are many plans and guidance documents at European, National and local level, which aim to guide development in order to ensure that the environment is protected. It is acknowledged that some areas of environmental sensitivity, such as the Natura sites, are protected under EU law and this protection would continue in the absence of a Plan. However, there are many areas and issues for which the Development Plan provides the main guidance document. Such areas include undesignated habitats such as hedgerows, County Geological sites, the Groundwater Protection scheme, the Record of Protected Structures, Architectural Conservation Areas, and the Landscape Character Assessment.

In the absence of a Plan, environmental protection for these components would be reduced and the occurrence and magnitude of adverse impacts would likely increase. In the absence of the new Plan there would be no long term framework or guidance for development within Kilkenny. As a result, each planning application in the plan area would be determined in isolation and there would be no assessment of long term, cumulative or causal impacts on sensitive areas. In general, future investment in key infrastructure would not be targeted appropriately to key development areas. The result would be a haphazard, un-coordinated delivery of service, resulting in negative environmental impacts.

Specifically, the following could occur:

10. Biodiversity, Flora and Fauna

Although some areas of sensitivity, such as the Natura 2000 sites would continue to be protected under EU law, undesignated habitats such as hedgerows would suffer from a lack of protection.

11. Population and Human Health

In the absence of a Core Strategy and appropriate settlement policies there would be no framework directing development away from the most sensitive areas.

12. Soil

There would be no framework for directing development and growth to appropriate brownfield sites and therefore greenfield development would occur on an increased basis, resulting in a loss of non-renewable soil resources.

13. Water

Water supplies and wastewater treatment would continue to be governed by the Water Framework Directive. However the Groundwater Protection Scheme would not be implemented and therefore applications would proceed on an ad-hoc basis, without due regard to the potential for affecting a particular aquifer or source.

14. Air

In the absence of detailed Smarter Travel objectives and a settlement hierarchy, development would occur in a dispersed pattern, leading to an increase in unsustainable travel patterns and a subsequent increase in travel related emissions.

15. Climatic factors

With no Strategic Flood Risk Assessment, inappropriate development could take place in areas of flood risk.

16. Material Assets

There would be no framework to provide the infrastructure, such as energy infrastructure, that the county requires.

17. Cultural Heritage (architectural and archaeological)

The Plan includes a review of the Record of Protected Structures and Architectural Conservation Areas. If this were not to occur, cultural heritage would not be protected to the fullest extent possible, as additions to either the RPS or ACAs would not be carried out.

18. Landscape

In the absence of a Landscape Character Assessment, which forms part of the Plan, there would be no framework guiding developments to avoid areas of highest sensitivity. There would be no Wind Energy Development Strategy and new wind farm developments would be assessed on an individual basis, with no clear strategy.

4 Strategic Environmental Objectives

The SEA Directive requires that relevant environmental protection objectives (EPOs), established at international, EU or national level are listed in the Environmental Report. The [Guidelines](#) include an indicative list of EPOs. Given the position of the Development Plan in the land use planning hierarchy beneath the Southern RSES, the measures identified in that RSES SEA have been used here, with some modification where appropriate.

The SEA of the RSES was based on a set of overarching principles. Falling out of these principles, specific Strategic Environmental Objectives (SEOs) were devised. These were used to assess the objectives included in the RSES. The SEO's are aligned with the environmental topics listed in the SEA Directive. Each SEO specifies a desired outcome e.g. reduce CO² emissions, against which the future impacts of the plans can be measured. These high-level SEOs are paired with specific targets which can be monitored using indicators (see Chapter 8).

The Guiding Principles and SEOs for this SEA are set out below.

Table 4.1 SEA Objectives

Guiding Principle	SEO Ref.	SEO
BIODIVERSITY FLORA AND FAUNA Guiding Principle: No net contribution to biodiversity losses or deterioration	B1	<ul style="list-style-type: none"> To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species.
	B2	<ul style="list-style-type: none"> Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function.
	B3	<ul style="list-style-type: none"> Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species.
	B4	<ul style="list-style-type: none"> Enhance biodiversity in line with the National Biodiversity Strategy and its targets.
	B5	<ul style="list-style-type: none"> To protect, maintain and conserve the County's Natural Capital
POPULATION AND HUMAN HEALTH Guiding Principle: Improve quality of life for all ages and abilities based on high-quality, serviced, well connected and sustainable residential, working, educational and recreational environments	P1	<ul style="list-style-type: none"> To create an environment where every individual and sector of society can play their part in achieving a more healthy Ireland.
	P2	<ul style="list-style-type: none"> Consolidate growth and limit urban sprawl.
	P3	<ul style="list-style-type: none"> Enhance human health and promote healthy living through access to active travel opportunities, especially walking and cycling.
	P4	<ul style="list-style-type: none"> Promote economic growth to encourage retention of working age population.
	P5	<ul style="list-style-type: none"> Ensure that existing population and planned growth is matched with the required public infrastructure and the required services.
	P6	<ul style="list-style-type: none"> Safeguard the county's citizens from environment-related

		pressures and risks to health and well-being.
WATER Guiding Principle: Protection, improvement and sustainable management of the water resource	W1 W2 W3 W4 W5	<ul style="list-style-type: none"> • Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the WFD and MSFD. • Ensure that economic growth of the marine resource and its ecosystems are managed sustainably. • Ensure water resources are sustainably managed to deliver proposed growth in the context of existing and projected water supply and wastewater capacity constraints ensuring the protection of receiving environments. • Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion. • Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals.
LAND AND SOILS Guiding Principle: Ensure the long-term sustainable management of land	S1 S2 S3	<ul style="list-style-type: none"> • Protect soils against pollution, and prevent degradation of the soil resource. • Promote the sustainable use of infill and brownfield sites over the use of greenfield. • Safeguard areas of prime agricultural land and designated geological sites.
AIR Guiding Principle: Support clean air policies that reduce the impact of air pollution on the environment and public health	A1 A2 A3 A4 A5 A6	<ul style="list-style-type: none"> • To avoid, prevent or reduce harmful effects on human health and the environment as a whole resulting from emissions to air from all sectors with particular reference to emissions from transport, residential heating, industry and agriculture. • Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency. • Promote continuing improvement in air quality. • Reduction of emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter which are responsible for acidification, eutrophication and ground-level ozone pollution • Meet Air Quality Directive standards for the protection of human health — Air Quality Directive • Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels
CLIMATE Guiding Principle: Achieving transition to a competitive, low carbon, climate-resilient economy that is cognisant of environmental impacts.	C1 C2 C3 C4 C5	<ul style="list-style-type: none"> • To minimise emissions of greenhouse gasses. • Integrate sustainable design solutions into infrastructure (e.g. energy efficient buildings; green infrastructure). • Contribute towards the reduction of greenhouse gas emissions in line with national targets. • Promote development resilient to the effects of climate change. • Promote the use of renewable energy, energy efficient development and increased use of public transport.

MATERIAL ASSETS Guiding Principle: Sustainable and efficient use of natural resources	M1 M2 M3 M4 M5 M6 M7	<ul style="list-style-type: none"> • Optimise existing infrastructure and provide new infrastructure to match population distribution proposals. • Ensure access to affordable, reliable, sustainable and modern energy for all which encourages a broad energy generation mix to ensure security of supply – wind, wave solar, tidal, biomass, energy from waste (EfW), and traditional fossil fuels. • Promote the circular economy, reduce waste, and increase energy efficiencies. • Ensure there is adequate sewerage and drainage infrastructure in place to support new development. • Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes. • Encourage the transition to a zero carbon economy by developing grid infrastructure to support renewables (onshore and offshore), and international connectivity. • Reduce the average energy consumption per capita including promoting energy efficient buildings, retrofitting, smart-buildings, cities and grids.
CULTURAL HERITAGE Guiding Principle: Safeguard cultural heritage features and their settings through responsible design and positioning of development.	H1	<ul style="list-style-type: none"> • Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage
LANDSCAPE Guiding Principle: Protect and enhance the landscape character	L1	<ul style="list-style-type: none"> • To provide a framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention

5 Assessment of Alternatives

5.1 Introduction

The [SEA Directive](#)³⁹ requires the Environmental Report to consider reasonable alternatives taking into account the objectives and geographical scope of the plan or programme and the significant environmental effects of the alternatives selected.

The alternative plan scenarios were considered at an early stage of the process and through an iterative process, the most appropriate development plan scenario was selected.

In accordance with the [Guidelines](#) the alternatives put forward should be reasonable, realistic and capable of implementation. They should also be in line with the appropriate strategic level at which the Plan will be implemented within the national planning hierarchy. The Plan will be framed within a policy context set by a hierarchy of National and Regional level strategic plans as well as the Irish and European legislative framework. Therefore the options for alternatives are limited, and a scenario such as the 'do nothing' scenario has not been included as the Council is required to prepare a Plan and as such this scenario is not reasonable nor realistic.

As set out under Section 2.3, the RSES allocated a projected population growth figure for the county, which must be adhered to. This population projection is translated into a housing land requirement, or a 'pot' of zoned land, which must be distributed in the county. The RSES specified what allocation must be directed to Kilkenny and Ferrybank as part of Waterford, but other than that the Council has discretion with its Core Strategy. Therefore, it is alternative distributions of this growth that are examined here.

One other element that was included in the alternatives was the development of wind energy. National policy and guidelines recommend that a Strategy is undertaken, but the form this strategy takes is determined at local level through the plan process.

5.2 Alternative 1: Continued consolidation

The 2021 settlement hierarchy, as set out in Section 3.4.1, prioritises the following settlements:

- Kilkenny City as the key town,
- Ferrybank as part of the Waterford Metropolitan Area, and
- Callan, Castlecomer, Graigueenamanagh and Thomastown as the four District towns.

Alternative 1 concentrates growth mainly into these six settlements, with little growth being allocated to the smaller level settlements or to rural areas. Access to public transport is a guiding principle of this approach, and Thomastown, as the only District Town served by rail, is prioritised above the level of the other three District towns. Wind energy developments are concentrated only where they exist at present, with no allowance made for new locations.

³⁹ EU, [Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment](#)

5.3 Alternative 2: Dispersed growth

This scenario is one which places very few restrictions on development throughout the Plan area. No specific targets or limitations on growth would be set in the core strategy of the Plan for settlements within the county at a level lower than the Key Town and Metropolitan area. The 'pot' of zoned land, would be distributed amongst all remaining settlements without prioritisation. Development would be allowed to proceed in an ad hoc manner and would follow market forces to a great extent. Developments such as quarries and wind energy developments would be located where demand is greatest. Most development would occur on greenfield sites.

Alternative 2 envisages potentially inappropriate lands around settlements zoned for development without truly assessing the overall need for, or scale of development in those settlements. Significant levels of ribbon development along roads between settlements would result. Development would occur in unserved or in insufficiently served areas. It would most likely lead to a highly dispersed settlement pattern, with severe development pressure in the rural areas adjacent to Kilkenny city and Ferrybank.

This would lead to a weakening of town and village structures throughout the county. While this alternative would allow for a freedom of development and would provide some short term economic benefits to the settlements in the plan area and their surrounding hinterlands, it is not sustainable. It would lead to a deterioration of the settlement structures of the county, with a significant shift towards rural rather than urban development. Ultimately it could lead to a loss of population base within key centres and consequently a loss of critical mass for the development of key services and facilities within those centres. Furthermore, urban generated housing within the transport corridors would have long term implications for future road development and would compromise re-alignments, or road geometry with adverse risks to road users. The proliferation of one-off housing would have negative effects on water quality (which is identified as a key SEO for the Plan) and a rise in unsustainable travel patterns with resulting effects on air quality and greenhouse gas emissions. The provision of key services such as water supply and wastewater treatment would become costly in both financial and environmental quality terms.

5.4 Alternative 3: Selection of new growth areas

This alternative acknowledges the designation of Kilkenny as a Key Town, and Waterford as a Metropolitan area within the National Planning Framework and RSES, but redesignates the 'District Towns'. The 2014 District Towns were designated on the basis of the [Regional Planning Guidelines](#), which categorised towns of between 1,500 and 5,000 as 'District Towns'.

The 2016 Census shows that Castlecomer just barely met the 1,500 mark, and Graigueanamanagh's populations did not reach it. In this alternative, Piltown and Mooncoin, which have the next highest populations, are designated as District Towns in place of Castlecomer and Graigueanamanagh.

Table 5.1: Population of urban centres (2016)

Town	2016 Population
Callan	2,475
Thomastown	2,445
Castlecomer	1,502
Graigueanamanagh	1,475
Piltown	1,220
Mooncoin	1,175

Piltown and Mooncoin would benefit from this designation, with the concentration of resources and additional population into these centres. Both would be subject to large levels of zoning in this Plan to accommodate the proposed increase. A large growth area would be formed around Ferrybank, Piltown and Mooncoin in the south of the county.

As part of this alternative, new areas for wind energy development would be selected on the basis of viability alone. Only those areas with highest wind speeds would be selected for wind farm development, regardless of landscape sensitivities or the presence or absence of existing wind farms.

In terms of water services, Piltown has capacity in water supply, but not in wastewater services. Mooncoin has capacity in both water and wastewater. In this alternative therefore, water quality in Piltown could be adversely affected.

Castlecomer and Graigueenamanagh were subject to a Flood Risk Assessment as part of their Local Area Plans⁴⁰. Both have areas of flood risk within the town centres. Mooncoin was included in the Strategic Flood Risk Assessment carried out for the County Development Plan 2014. Mooncoin has a very small area of flood risk within the town centre. Piltown was included in the SFRA for Variation 3 to the County Development Plan 2014. This indicated that the central area of the town is subject to flooding.

Castlecomer was designated as a District Town in 2008 as it had surpassed the 1,500 population threshold. Graigueenamanagh was designated as a District Town on the basis of existing services and historical context. Both were historically significant market towns which have grown in population since 1966, as shown in Table 5.2 below. Both have good levels of services including a range of commercial services and secondary schools. In both cases, there are numerous brownfield, centrally located sites which would benefit from redevelopment. The Council has invested in both towns over the years, with libraries, fire stations, and Area Offices being situated in each.

This is in contrast to Piltown and Mooncoin, both of which have experienced recent rapid population growth. For the most part, development in either settlement would take place on greenfield land. These settlements are both located in the south of the county, in close proximity to the designated metropolitan area of Waterford. Development in this area should be directed into Ferrybank, which has a large area of zoned land, and the services, to accommodate such an increase. Waterford and Belview are the largest employment and service centres in this area and in order to encourage sustainable transport patterns, most residential development should be directed into Ferrybank. Designating Piltown and Mooncoin as growth centres would result in less development for Ferrybank and an increase in unsustainable travel patterns.

From a social and economic perspective, existing services in Castlecomer and Graigueenamanagh would suffer with the removal of their District Town designation.

	Table 5.2: Comparison of Population Growth							
Town		Population						Rate of growth
	2016	2011	2006	2002	1996	1991	1966	

⁴⁰ http://www.kilkennycoco.ie/eng/Services/Planning/Local%20Area%20Plans/Adopted_Local_Area_Plans/

								1966-2016
Castlecomer	1,502	1,456	1,531	1,482	1,380	1,396	1,141	32%
Graiguenamanagh	1,475	1,252	1,097	1,166	1,113	1,112	1,177	25%
Piltown	1,220	1,187	968	778	716	717	418	192%
Mooncoin	1,175	1,166	1,002	854	855	810	505	133%

5.5 Assessment of Alternatives

These three alternatives are assessed against the chosen Strategic Environmental Objectives (SEOs) as identified in Chapter 4. Each alternative is assessed as to whether it would have a potentially **positive**, **neutral** or potentially **negative** impact on each objective. These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects. A short description of the impacts is set out below.

5.5.1 Alternative 1: Continued consolidation - Likely significant effects

Environmental impacts

This alternative concentrates populations into locations with existing services and facilities, and access to public transport. Investment in key infrastructure can be concentrated into a very small number of settlements. Sustainable travel is promoted. Valuable natural resources such as water quality are protected through targeted infrastructural measures. No allowance is made for additional wind energy developments, which would result in less use of renewable energy sources.

Planning impacts

This alternative does not support the rural population, which may lead to a population decline in rural areas and in smaller settlements.

5.5.2 Alternative 2: Dispersed growth - Likely significant effects

Environmental impacts

The environmental consequences of this alternative are potentially severe. The dispersal of rural housing and other non agriculture related development in the countryside would lead to unsustainable transport patterns; it could lead to a deterioration in ground water quality through the proliferation of septic tanks; surface water quality could be affected through contaminated ground water, habitats and areas of natural interest could be lost or fragmented; and finally a deterioration in landscape quality could ensue.

Planning impacts

The provision of key services such as water supply and wastewater treatment would become costly in both financial and environmental quality terms.

5.5.3 Alternative 3: Selection of new growth areas - Likely significant effects

Environmental impacts

In this alternative, a large growth area would be formed around Ferrybank, Piltown and Mooncoin in the south of the county. As Piltown's wastewater treatment plant is currently overloaded, any additional loading would negatively affect water quality in Piltown. This may have a resulting negative effect on the conservation status of the Lower River Suir cSAC which is located in close proximity to both settlements. Directing growth into the smaller centres of Piltown and Mooncoin would detract from the emphasis on Ferrybank as part of the Waterford Metropolitan area, and would result in an increase in unsustainable travel patterns and a negative effect on air quality. As Piltown and Mooncoin were not historically large service centres, there are very few opportunities for brownfield redevelopment, and most development in both would take place on the edges of the centres, on greenfield land. This would have negative environmental effects through the increased replacement of agricultural land by artificial surfaces.

As part of this alternative, new areas for wind energy development would be selected on the basis of viability alone. Only those areas with highest wind speeds would be selected for wind farm development, regardless of landscape sensitivities or the presence or absence of existing wind farms.

Planning impacts

From a social and economic perspective, existing services in Castlecomer and Graigueanamanagh would suffer with the removal of their District Town designation.

5.5.4 Assessment against each SEA Objective

Table 5.3 below assesses each Alternative against each of the SEOs.

Table 5.3: Assessment of Alternatives			
Environmental Parameter – SEO's	Alternative		
	1: Continued Consolidation	2: Dispersed Growth	3: Selection of new growth areas
Biodiversity, fauna and flora			
• To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species.			
• Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function.			
• Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species.			
• Enhance biodiversity in line with the National Biodiversity Strategy and its targets.			
• To protect, maintain and conserve the County's Natural Capital			
Population and Human Health			
• To create an environment where every individual and sector of society can play their part in achieving a more healthy Ireland.			
• Consolidate growth and limit urban sprawl.			
• Enhance human health and promote healthy living through			

access to active travel opportunities, especially walking and cycling.			
<ul style="list-style-type: none"> Promote economic growth to encourage retention of working age population. 			
<ul style="list-style-type: none"> Ensure that existing population and planned growth is matched with the required public infrastructure and the required services. 			
<ul style="list-style-type: none"> Safeguard the county's citizens from environment-related pressures and risks to health and well-being. 			
Water			
<ul style="list-style-type: none"> Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the WFD and MSFD. 			
<ul style="list-style-type: none"> Ensure that economic growth of the marine resource and its ecosystems are managed sustainably. 			
Ensure water resources are sustainably managed to deliver proposed growth in the context of existing and projected water supply and wastewater capacity constraints ensuring the protection of receiving environments.			
<ul style="list-style-type: none"> Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion. 			
<ul style="list-style-type: none"> Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals. 			
Land and Soils			
<ul style="list-style-type: none"> Protect soils against pollution, and prevent degradation of the soil resource. 			
<ul style="list-style-type: none"> Promote the sustainable use of infill and brownfield sites over the use of greenfield. 			
<ul style="list-style-type: none"> Safeguard areas of prime agricultural land and designated geological sites. 			
Air			
<ul style="list-style-type: none"> To avoid, prevent or reduce harmful effects on human health and the environment as a whole resulting from emissions to air from all sectors with particular reference to emissions from transport, residential heating, industry and agriculture. 			
<ul style="list-style-type: none"> Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency. 			
<ul style="list-style-type: none"> Promote continuing improvement in air quality. 			
<ul style="list-style-type: none"> Reduction of emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter which are responsible for acidification, eutrophication and ground-level ozone pollution 			
<ul style="list-style-type: none"> Meet Air Quality Directive standards for the protection of human health — Air Quality Directive 			
<ul style="list-style-type: none"> Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels 			
Climate			
<ul style="list-style-type: none"> To minimise emissions of greenhouse gasses. 			
<ul style="list-style-type: none"> Integrate sustainable design solutions into infrastructure (e.g. energy efficient buildings; green infrastructure). 			
<ul style="list-style-type: none"> Contribute towards the reduction of greenhouse gas emissions in line 			

with national targets.			
• Promote development resilient to the effects of climate change.			
• Promote the use of renewable energy, energy efficient development and increased use of public transport.			
Material Assets			
• Optimise existing infrastructure and provide new infrastructure to match population distribution proposals.			
• Ensure access to affordable, reliable, sustainable and modern energy for all which encourages a broad energy generation mix to ensure security of supply – wind, wave solar, tidal, biomass, energy from waste (EfW), and traditional fossil fuels.			
• Promote the circular economy, reduce waste, and increase energy efficiencies.			
• Ensure there is adequate sewerage and drainage infrastructure in place to support new development.			
• Reduce the energy demand from the transport sector and support moves to electrification of road and rail transport modes.			
• Encourage the transition to a zero carbon economy by developing grid infrastructure to support renewables (onshore and offshore), and international connectivity.			
• Reduce the average energy consumption per capita including promoting energy efficient buildings, retrofitting, smart- buildings, cities and grids.			
Cultural Heritage			
• Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage			
Landscape			
To provide a framework for identification, assessment, protection, management and planning of landscapes having regard to the European Landscape Convention			

5.6 Selection of Preferred Alternative

Alternative 1: Continued Consolidation emerges as the preferred alternative, however an element of Alternative 2: Dispersed Growth, in relation to encouraging some level of growth of the smaller settlements should be incorporated to ensure that these smaller settlements are sustained.

In relation to the Wind energy development strategy, each alternative has downsides. Alternative 1: Consolidation, makes no allowance for new areas in order to protect the landscape from any negative visual impacts. Alternative 2: Dispersed growth imposes no restrictions on the development of wind energy, and therefore doesn't take account of any potentially negative effect on the landscape. Alternative 3: new growth areas, directs developments into areas of highest viability, but does not take account of locations of existing windfarms, or landscape impacts. The best solution is the recognition of areas of highest viability, whilst taking account of landscape sensitivities.

Therefore the final preferred alternative is consolidation of the existing settlement hierarchy with reinforcement of smaller settlements, with a Wind energy development strategy based on areas of highest viability, taking environmental sensitivities into account. The preferred settlement hierarchy is set out in Table 5.4.

Table 5.4: Core Strategy Population Allocation	
Settlement	Core strategy population allocation
County Kilkenny	11,842
Kilkenny City (Key Town)	3,641
Ferrybank/Belview (Part of Waterford Metropolitan Area)	1,452
District Towns	
Callan	441
Castlecomer	264
Graigenamanagh	278
Thomastown	437
Remainder area to include smaller towns and villages and environs of New Ross and the rural area of the county	4,045
Total	11,842

6 Likely significant effects on the Environment

6.1 Introduction

The preferred Plan strategy was selected based on an assessment of the three alternatives. This section evaluates the preferred Plan strategy in detail. It would be unworkable to evaluate every line of text in the Plan; therefore, to provide an overview, this evaluation focuses on each chapter's Strategic Aim, which sets out the main priorities and emphases of the chapter. The evaluation then moves to the objectives of each chapter.

In line with the requirements of Section 10 of the Planning and Development Acts 2000-2010, the Plan must include a number of mandatory objectives. In addition, a number of elective objectives have been devised. In order to distinguish between the SEA objectives, as outlined in Chapter 4, and the Plan objectives, the Plan objectives are referred to as 'Development objectives'. All development objectives are subjected to assessment in the context of each of the SEA Objectives as selected in Chapter 4.

6.2 Evaluation of the Plan

The purpose of this section of the Environmental Report is to highlight any potential conflicts between the strategic aims and development objectives contained in the Plan and the SEA Objectives. Furthermore, the assessment examines the potential impact arising from the implementation of the development objectives on sensitive environmental receptors.

In accordance with the [Guidelines](#), the potential effects of the Plan are categorised as follows:

- Significant beneficial impact
- Uncertain impact (the impact will need mitigation to ensure that no significant adverse impacts occur.)
- Significant adverse impact
- No relationship, or insignificant impact

Where a development objective has a significant adverse impact, this is discussed in more detail.

Volume 1 Chapter	Development objective	Assessment of impact on SEA objectives (See Chapter 4)			
		Significant beneficial impact	Uncertain impact	Significant adverse impact	No relationship or insignificant impact
Volume 1 Chapter 1 Introduction					
1	1A To implement the provisions of Articles 6(3) and 6(4) of the EU Habitats Directive and ensure that any plan or project within the functional area of the Planning Authority is subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009 and is assessed in accordance with Article 6 of the Habitats Directive in order to avoid adverse impacts on the integrity and conservation objectives of the site.	B1 B2 B3 B4 B5 W1 W3			P1 P2 P3 P4 P5 P6 W2 W4 W5 S1 S2 S3 S4 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	1B To implement the Development Management Standards and requirements for new development set out in Volume 1 and Volume 2 of the Plan as appropriate.	B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1			
Volume 1 Chapter 2 Climate Change					
2	Strategic Aim: To provide a policy framework with objectives and actions in City and County Development Plan to facilitate the transition to a low carbon and climate resilient County with an emphasis on reduction in energy demand and greenhouse gas emissions, through a combination of effective	P1 P2 P3 P5 P6 W4 W5 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6			B1 B2 B3 B4 B5 P4 W1 W2 W3 S3 A6 M4 H1 L1

	<i>mitigation and adaptation responses to climate change.</i>	M7			
	2A To provide policies and objectives that support and encourage sustainable compact growth and settlement patterns, integrate land use and transportation, and maximise opportunities through development form, layout and design to secure climate resilience and reduce carbon emissions.	P1 P2 P3 P5 P6 W5 S1 S2 S3 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M5 M6 M7	W4		B1 B2 B3 B4 B5 P4 W1 W2 W3 A6 C4 M4 H1 L1
	2B To support the implementation of the National Climate Action Plan and the National Climate Action Charter for Local Authorities, and to facilitate measures which seek to reduce emissions of greenhouse gases by embedding appropriate policies within the Development Plan.	P1 P2 P3 P5 P6 W4 W5 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6 M7			B1 B2 B3 B4 B5 P4 W1 W2 W3 S3 A6 M4 H1 L1
	2C To promote, support and direct effective climate action policies and objectives that seek to improve climate outcomes across the settlement areas and communities of County Kilkenny helping to successfully contribute and deliver on the obligations of the State to transition to low carbon and climate resilient society.	P1 P2 P3 P5 P6 W4 W5 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6 M7			B1 B2 B3 B4 B5 P4 W1 W2 W3 S3 A6 M4 H1 L1
	2D To integrate appropriate mitigation and adaptation considerations and measures into all forms of development.	P1 P2 P3 P5 P6 W4 W5 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6 M7	P4		B1 B2 B3 B4 B5 W1 W2 W3 S3 A6 M4 H1 L1
	2E To ensure that the Draft Development Plan transposes, supports and implements strategic objectives of the National Planning Framework and the <i>Southern Regional Spatial and Economic Strategy</i> to create an enabling local development framework that: (a) promotes and integrates important climate considerations	P1 P2 P3 P5 P6 W4 W5 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6 M7	P4		B1 B2 B3 B4 B5 W1 W2 W3 S3 A6 M4 H1 L1

	in local development and the assessment of planning applications and (b) supports the practical implementation of national climate policy and targets to assist in the delivery of the national transition objective.				
	2F To promote and encourage nature-based approaches and green infrastructural solutions as viable mitigation and adaptation measures to reduce greenhouse gas emissions	B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W4 W5 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6 M7			B1 B2 B3 B4 B5 P4 W1 W2 W3 S3 A6 M4 H1 L1
	2G To reduce energy related CO ₂ emissions of Kilkenny County Council	P1 P2 P3 P5 P6 W4 W5 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6 M7			B1 B2 B3 B4 B5 P4 W1 W2 W3 S3 A6 M4 H1 L1
	2H To achieve the commitment under the European Climate Alliance to the reduction of greenhouse gas emissions by 10 percent every 5 years.	P1 P2 P3 P5 P6 W4 W5 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6 M7	P4		B1 B2 B3 B4 B5 W1 W2 W3 S3 A6 M4 H1 L1
Volume 1 Chapter 4 Core Strategy					
4	<i>Strategic Aim: To implement the provisions of the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES) and to promote the compact growth of Kilkenny City, Ferrybank/Belview (as part of WMASP), the District Towns, the other settlements in the hierarchy and to strengthen rural economies and communities through growth and development of rural areas.</i>	B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4			

		M5 M6 M7 H1 L1			
	4A To accommodate future population growth for County Kilkenny in accordance with projections contained in the Implementation Roadmap for the NPF and Appendix 1 of the Regional Spatial and Economic Strategy of the Southern Region.	P1 P2 P3 P4 P5 P6 W1 W3 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M4 M5 M6 M7 L1	W4		B1 B2 B3 B4 B5 W2 W5 S3 A6 C4 H1
	4B To ensure growth is achieved in a compact form, with: 40% of the projected growth of the County to be delivered in Kilkenny City and the towns and villages within the county 30% of the new housing earmarked for the City and towns to be catered for within their built-up footprints ⁴¹ 50% new housing earmarked for the Waterford MASP area catered for within the built-up footprint of the Waterford area, including that part within County Kilkenny	P1 P2 P3 P4 P5 P6 W1 W3 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M4 M5 M6 M7 L1	W4 B1 H1		B2 B3 B4 B5 W2 W5 S3 A6 C4
	4C To actively promote the redevelopment and renewal of areas in need of regeneration whether urban or rural through appropriate active land management measures during the period of the Plan.	P1 P2 P3 P4 P5 P6 W1 W3 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M4 M5 M6 M7 L1	B1 W4 H1		B2 B3 B4 B5 W2 W5 S3 A6 C4
	4D To monitor the delivery of residential developments throughout the City and County in order to ensure alignment with the NPF, RSES and the Core Strategy and to adjust the approach as necessary where Core Strategy objectives are not being met.	P1 P2 P3 P4 P5 P6 W1 W3 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M4 M5 M6 M7 L1			B1 B2 B3 B4 B5 W2 W4 W5 S3 A6 C4 H1
	4E To strengthen the role of Kilkenny City as a self-sustaining	P1 P2 P3 P4 P5 P6	W4		B1 B2 B3 B4 B5 W2 W5 S3 A6

⁴¹ This means within the existing built-up footprint, as defined by the CSO in line with UN criteria i.e. having a minimum of 50 occupied dwellings, with a maximum distance between any dwelling and the building closest to it of 100 metres, and where there is evidence of an urban centre (shop, school etc.).

regional economic driver with a significant zone of influence and a Key Town on Dublin – Carlow-Kilkenny Waterford M9 Road/Rail	W1 W3 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M4 M5 M6 M7 L1			C4 H1
4F To ensure investment and delivery of comprehensive infrastructure packages to meet growth targets that prioritise compact growth and sustainable mobility as per the NPF.	P1 P2 P3 P4 P5 P6 W1 W3 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M4 M5 M6 M7 L1	B1 W4		B2 B3 B4 B5 W2 W5 S3 A6 C4 H1
4G To achieve a growth of more than 30% in population for Kilkenny City from 2016 to 2040 to 34,500, subject to capacity analysis and sustainable criteria under Section 3.3 of the RSES	P1 P2 P3 P4 P5 P6 W1 W3 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M4 M5 M6 M7 L1	B1 W4		B2 B3 B4 B5 W2 W5 S3 A6 C4 H1
4H To deliver 30% of that growth within the current built footprint of the city.	P1 P2 P3 P4 P5 P6 W1 W3 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M4 M5 M6 M7 L1	B1 W4		B2 B3 B4 B5 W2 W5 S3 A6 C4 H1
4I To review the Ferrybank Belview Local Area Plan having regard to the MASP and to incorporate into the Kilkenny City & County Development Plan by way of variation.	P1 P2 P3 P4 P5 P6 W1 W3 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M4 M5 M6 M7 L1	B1 B2 B3 B4 B5 W4 W5 S3 A6 C4 H1 W2		
4J To develop a programme for ‘new homes in small towns and villages’ with local authorities, public infrastructure agencies such as Irish Water and local communities to provide serviced sites with appropriate infrastructure to attract people	P1 P3 P5 W3	P2 S2 S3 C1		B1 B2 B3 B4 B5 P4 P6 W1 W2 W4 W5 S1 A1 A2 A3 A4 A5 A6 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1

	to build their own homes and live in small towns and villages.				
	4K To facilitate and assist Irish Water with the provision of Water and Wastewater treatment plant upgrades in settlements, including the villages of Mullinavat, Paulstown, Bennettsbridge, Inistioge, Piltown, Fiddown, Kells and others where capacity is required.	B1 B2 B3 B4 B5 P1 P2 P6 W1 W2 W3 W4 W5 C4 M4			P3 P4 P5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C5 M1 M2 M3 M5 M6 M7 H1 L1
	4L To prepare design and best practice guidelines for the provision of cluster housing in the rural settlements and rural nodes of the County.				B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	4M To monitor the implementation of the Core Strategy during the lifetime of the plan to ensure effective alignment with National and Regional policy and objectives and to adjust, where necessary, the policy and objectives of the Development Plan to secure effective alignment.	P1 P2 P3 P4 P5 P6 W1 W3 S1 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M2 M3 M4 M5 M6 M7 L1			B1 B2 B3 B4 B5 W2 W4 W5 S3 A6 C4 H1
Volume 1 Chapter 5 Economic Development					
5	<i>Strategic Aim: To provide a framework for the implementation of the Council's economic strategy by fostering competitiveness and innovation in all sectors within a high-quality physical environment while having due regard to the protection of the environment and heritage, in order to position the county for sustainable economic growth.</i>	P1 P4 P5 H1 L1			B1 B2 B3 B4 B5 P2 P3 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5M1 M2 M3 M4 M5 M6 M7
	5A To ensure an adequate amount of employment land is available within the City and County for ICT and technology office-based industry at the appropriate strategic locations.	P1 P2 P4 P5 C5 M1 M2 M4 M5 H1 L1	S2 S3 A1 A2 A3 A4 A5 A6 C1 C3 C4		B1 B2 B3 B4 B5 P3 P6 W1 W2 W3 W4 W5 S1 C2 M3 M6 M7
	5B To ensure that there is sufficient quantity of zoned land available and serviced at suitable locations within the City and County to maximise the potential for employment and Foreign Direct Investment in the County.	P1 P2 P4 P5 C5 M1 M2 M4 M5 H1 L1	S2 S3 A1 A2 A3 A4 A5 A6 C1 C3 C4		B1 B2 B3 B4 B5 P3 P6 W1 W2 W3 W4 W5 S1 C2 M3 M6 M7
	5C To continue to develop high quality tourism, leisure and	P1 P2 P4 P5	H1		B1 B2 B3 B4 B5 P3 P6 W1 W2

complementary activities for the City & County with the key stakeholders enhancing the position of Kilkenny as a Hero site within the Ireland's Ancient East branding.				W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
5D To implement the Woodstock Business Plan on a phased basis as resources permit subject to the outcome of environmental assessments and the planning process.	P1	B1 B2 B3 B4 B5 W1 H1		P2 P3 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
5E Invest in public realm to create more multi-functional vibrant and inviting public spaces in urban areas and villages, which will greatly enhance the overall quality of place and act as a catalyst to stimulate private sector development. The public realm will be informed by the Kilkenny Access for All Strategy 2018-2021.	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
5F Development of Kilkenny Greenway as part of the South East Greenway in South Kilkenny.	P1 P3 A1 A2 A3 A4 A5 C1 C2 C3 M5	B1 B2 B3 B4 B5 W1		P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A6 C4 C5 M1 M2 M3 M4 M6 M7 H1 L1
5G Development of the Waterford to Rosslare Greenway	P1 P3 A1 A2 A3 A4 A5 C1 C2 C3 M5	B1 B2 B3 B4 B5 W1		P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A6 C4 C5 M1 M2 M3 M4 M6 M7 H1 L1
5H Continue the development of projects for submission under the Outdoor Recreation Infrastructure Scheme (ORIS) and other funding schemes (e.g. LEADER Programme.)	P1 P3 A1 A2 A3 A4 A5 C1 C2 C3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A6 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
5I To secure the development of a third and/or fourth level campus(es) in Kilkenny as part of the development of a Technological University for the South East.	P4			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
5J To continue to work with Transport Infrastructure Ireland to finalise an approach for access to the zoned lands along the N29 at Belview (See Chapter 12 Transport objectives).	P4 P5	S2 S3 C1 C3 C5		B1 B2 B3 B4 B5 P1 P2 P3 P6 W1 W2 W3 W4 W5 S1 A1 A2 A3 A4 A5 A6 C2 C4 M1 M2 M3 M4 M5 M6 M7 H1 L1

5K To ensure the sustainable development of the District towns in the County to achieve their target populations and enhance their capacity to attract new investment in employment, services and public transport for the benefit of their own populations and that of their rural hinterlands.	P1 P2 P3 P5 P6 M1			B1 B2 B3 B4 B5 P4 S1 S2 S3 W1 W2 W3 W4 W5 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
5L To promote a diverse and sustainable local economy through the designation of sufficient lands for employment related uses, including facilities, to promote SME growth through the Local Area Plans for the District towns.	P1 P2 P3 P5 P6 M1			B1 B2 B3 B4 B5 P4 S1 S2 S3 W1 W2 W3 W4 W5 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
5M To ensure that Kilkenny County possesses a clear policy framework that can adequately meet the retail needs of the County's residents over the plan period.	P3 P4 P5 S2 C5 M1			B1 B2 B3 B4 B5 P1 P2 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M3 M4 M5 M6 M7 H1 L1
5N To sustain and enhance the vitality and viability of the four District Towns and their retail offer, and to support their continued growth in accordance with the Core Strategy.	P3 P4 P5 S2 C5 M1			B1 B2 B3 B4 B5 P1 P2 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M3 M4 M5 M6 M7 H1 L1
5O To ensure all new development respect and enhances the historic environment	H1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
5P To ensure that the synergies between tourism and retailing are taken advantage of.	P3 P4 P5 C5 M1			B1 B2 B3 B4 B5 P1 P2 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M3 M4 M5 M6 M7 H1 L1
5Q To improve the accessibility of each of the County's town centres and promote all modes of transport.	P1 P2 P3 P5 C5 M1 M5			B1 B2 B3 B4 B5 P4 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M3 M4 M6 M7 H1 L1
5R To enhance and promote the vitality and viability of Kilkenny City Centre, and to support the centre's role as the dominant retail destination within the County.	P1 P2 P3 P4 P5 S2 C5 M1 M5	H1		B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M3

					M4 M6 M7 L1
5S Promote Kilkenny City Centre as a shopping destination that is competitive with other comparable shopping destinations in the South East and further afield.	P1 P2 P3 P4 P5 S2 C5 M1 M5				B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M3 M4 M6 M7 H1 L1
5T To promote a mix of uses within the County's centres, and, promote residential development on upper floors.	P1 P2 P3 P4 P5 S2 C5 M1 M3 M5				B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M6 M7 H1 L1
5U To ensure a town centre first approach is adopted for all future retail development across the County, whereby the order of priority for the sequential approach will be City and Town Centre sites first, then edge-of-centre sites, and then out-of-centre sites.	P1 P2 P3 P4 P5 S2 C5 M1 M5	H1			B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M3 M4 M6 M7 L1
5V To encourage the reduction in vacant floorspace, taking into account suitability, obsolescence, and potential alternative uses that may be appropriate where possible.	P1 P2 P3 P4 P5 S2 C5 M1 M3 M5				B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M6 M7 H1 L1
5W To facilitate the regeneration and reuse of derelict buildings in appropriate locations for town centre uses and support the retention and maintenance of heritage premises and shopfronts.	P1 P2 P3 P4 P5 S2 C5 M1 M3 M5				B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M6 M7 H1 L1
5X To promote investment in Place-Making and high-quality public realm through new development, and the enhancement of existing public realm in the City as well as throughout the County's centres. The aim is to provide more attractive and vibrant urban centre and village locations, supporting retail activity and the wider commercial economy of our settlements and thereby increase footfall.	P1 P3				B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
5Y Promote the adaptive reuse of existing units as a priority ahead of developing sites for additional retail floorspace, unless there is a demonstrated need.	P1 P2 P3 P4 P5 S2 C5 M1 M3 M5				B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M6 M7 H1 L1

	5Z a joint Retail Strategy shall be undertaken between Kilkenny County Council and Waterford City and County Council for the area covered by the Waterford Metropolitan Area Strategic Plan (MASP) in accordance with the retail guidelines and RSES.	P3 P4 P5 S2 C5 M1			B1 B2 B3 B4 B5 P1 P2 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M3 M4 M5 M6 M7 H1 L1
	5Aa To appropriately manage car parking and accessibility in the short term, whilst also planning for the transition to sustainable modes of transport, looking ahead to a future where private vehicle travel will not be the dominant form of transport.	P1 P2 P3 P5 C1 C3 C5 M1 M5			B1 B2 B3 B4 B5 P4 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C2 C4 M2 M3 M4 M6 M7 H1 L1
6	Housing and Community				
6	<i>Strategic Aim: To develop and support vibrant sustainable communities in an attractive living and working environment where people can live, work and enjoy a high quality of life, with access to a wide range of community facilities and amenities, while ensuring coordinated investment in infrastructure that will support economic competitiveness.</i>	P1 P2 P3 P4 P5			B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	6A To ensure the creation of attractive, liveable, well designed, high quality urban places that are home to diverse and integrated communities that enjoy a high quality of life and well-being.	P1 P2 P3 P4 P5			B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	6B To secure through the application of Development Management Requirements within the Plan the making of quality urban spaces embodying inclusive and universal access design principles for our building stock, public realm, amenities and transport services.	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	6C To promote the redevelopment and renewal of areas identified having regard to the core strategy, that need regeneration, in order to prevent— (i) adverse effects on existing amenities in such areas, in particular as a result of the ruinous or neglected condition of any land,	P1 P2 P3 P4 P5 S2 C5 M1 M3 M5	B1 W4 H1		B2 B3 B4 B5 P6 W1 W2 W3 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M6 M7 L1

	(ii) urban blight and decay, (iii) anti-social behaviour, or (iv) a shortage of habitable houses or of land suitable for residential use or a mixture of residential and other uses.				
	6D To identify vacant sites where appropriate zoning applies and maintain a Vacant Sites Register in the plan area for the purpose of the Vacant Site Levy.	P1 P2 P3 P4 P5 S2 C5 M1 M3 M5			B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M6 M7 H1 L1
	6E To implement the provisions of the Housing Strategy contained in Appendix B.	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	6F To require 10% of the land zoned for residential use, or for a mixture of residential and other uses, be made available for the provision of social housing.	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	6G To require that a mixture of residential unit types and sizes are developed to reasonably match the requirements of different categories of households within the city and county.	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	6H To implement the provisions of the Traveller Accommodation programme 2019-2024 and any updates thereof.	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	6I To ensure that all new housing developments and developments for renewal which includes housing, includes a mix of house types with universal design so as to provide for an aging population.	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1

	6J To ensure the widest possible range of housing options in each new development and to prevent the proliferation of limited option house types in any particular area.	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	6K To seek that all new private residential developments on zoned lands in excess of 20 residential units provide for a minimum of 10% units that can be converted to Universal Design standards in accordance with the requirements of the 'Building for Everyone: A Universal Design' developed by the Centre for Excellence in Universal Design (National Disability Authority).	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	6L To continue to promote and facilitate the delivery of the objectives and actions set out in the <i>Kilkenny Local Economic and Community Plan 2016-2021</i> (or any subsequent replacement).	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	6M To identify and facilitate the provision of suitable sites for new educational facilities as the need arises throughout the City and County.	P1 P5 M1			B1 B2 B3 B4 B5 P2 P3 P4 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	6N To complete the preparation of a masterplan for the lands at St Canice's campus in partnership with the Health Service Executive within the period of the plan (See Volume 2 Core Strategy).	P1 P5 M1			B1 B2 B3 B4 B5 P2 P3 P4 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
Volume 1 Chapter 7 Rural Development					
7	<i>Strategic Aim: To manage rural change and guide development to strengthen the rural economy and community through the network of towns and villages ensuring vibrant, sustainable and resilient rural areas whilst conserving and sustainably managing our environment and heritage.</i>	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1

	7A To monitor the trends in rural housing and population during the lifetime of the plan to ascertain if further rural housing policy responses are required during the plan period.				B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
Volume 1 Chapter 8 Open Space and Recreation					
8	<i>Strategic Aim: To ensure the provision of open space and recreational facilities in order to maintain, and improve open spaces that contribute to the well-being and making of place for the benefit of residents, workers and visitors to the County while protecting and enhancing biodiversity.</i>	B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 H1 L1			M1 M2 M3 M4 M5 M6 M7
	8A To develop a recreational and biodiversity park on the site of the now closed municipal landfill at Dunmore.	B1 B2 B3 B4 B5 P1 P6			P2 P3 P4 P5 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	8B To progress plans for the provision of a pedestrian bridge upstream of Greens Bridge including the provision of access along the eastern bank of the river up from Greensbridge, to the proposed bio-diversity park at Dunmore as part of the River Nore Linear Park.	P1 P3	B1 B2 B3 B4 B5 W1		P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	8C Construction of a Boardwalk at Greensbridge to link the River Nore Riverside Walk with the new Riverside Linear Park in the Abbey Quarter and onwards to the Canal Walk.	P1 P3	B1 B2 B3 B4 B5 W1 H1		P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
	8D To undertake a feasibility study to determine the optimal location for, and to develop, a water sports hub on the River Nore.	P1 P3	B1 B2 B3 B4 B5 H1		P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
	8E To provide a pedestrian crossing along the northern side of Greens Bridge.	P1 P3	B1 B2 B3 B4 B5 H1		P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2

					M3 M4 M5 M6 M7 L1
8F To continue the development of new trails and walkways such as the Castlecomer, Knockdrinna Wood and Ballyhale Looped Walks and the upgrade of others such as the Freshford, Gathabawn and Kilmacoliver Looped Walks and the Nore Valley Walk.	P1 P3	B1 B2 B3 B4 B5			P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
8G Investigate the development of a horse trail/bridle path at Woodstock estate.	P1	B1 B2 B3 B4 B5			P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
8H To complete the development of the linear park along the River Nore in the area of the Abbey Quarter.	P1	B1 B2 B3 B4 B5 W1 W4			P2 P3 P4 P5 P6 W2 W3 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
8I To extend the linear park at the Abbey Quarter to link with the existing section of the River Nore Linear Park at Riverside Drive.	P1 P3	B1 B2 B3 B4 B5 W1 W4			P2 P4 P5 P6 W2 W3 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
8J To complete the construction of the Kilkenny Greenway, connecting New Ross to Waterford.	P1 P3 C1 C3	B1 B2 B3 B4 B5 W1			P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C2 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
8K To promote and development of the Waterford to Rosslare Greenway in association with Waterford City and County Council and Wexford County Council	P1 P3 C1 C3	B1 B2 B3 B4 B5 W1			P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C2 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
8L To complete the skate park as part of the Riverside Park at the Abbey Quarter.	P1				B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
8M To undertake a survey to establish any additional existing public rights of way in the county and establish a register	P1				B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2

	within the life of the Plan.				S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	8N To protect existing public rights of way that give access to estuary, mountain, lakeshore, riverbank or other places of natural beauty or recreational use.	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
Volume 1 Chapter 9 Heritage and Culture					
9	<i>Strategic Aim: To seek the protection and sustainable management of Kilkenny's heritage for the benefit of current and future generations; to encourage the collection of knowledge to inform its protection; and to promote access to, awareness of and enjoyment of heritage.</i>	B1 B2 B3 B4 B5 P1 P6 W1 H1 L1			P2 P3 P4 P5 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7
	9A Continue to identify and map habitats and green infrastructure of county importance, and raise awareness and understanding of the county's natural heritage and biodiversity.	B1 B2 B3 B4 B5 P1 P6 W1 H1 L1			P2 P3 P4 P5 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7
	9B To identify and map green infrastructure assets and sites of local biodiversity value over the lifetime of the Plan.	B1 B2 B3 B4 B5 P1 P6 W1 H1 L1			P2 P3 P4 P5 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7
	9C To protect archaeological sites and monuments (including their setting), underwater archaeology, and archaeological objects, including those that are listed in the Record of Monuments and Places, and in the Urban Archaeological Survey of County Kilkenny or newly discovered sub-surface and underwater archaeological remains.	H1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
	9D To carry out further research on the eighteen archaeological landscapes as identified in the <i>Preliminary Audit of Archaeological Landscapes in County Kilkenny</i> .	H1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1

9E To develop an enhanced policy framework for the three priority sites identified in Section 9.3.1.1 above, plus for any additional sites identified through Objective 9D above.	H1				B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
9F To provide assistance to owners of protected structures in undertaking essential repairs and maintenance by the provision of relevant information.	H1				B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
9G To respond to the Ministerial recommendation to include in the RPS, structures which have been identified as being of Regional, National or International significance in the National Inventory of Architectural Heritage survey and to consider for inclusion those rated as being of local significance.	H1				B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
9H To continue to review the Record of Protected Structures and add or delete structures as appropriate.	H1				B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
9I To ensure all digital mapping for the Record of Protected Structures is up to date and current, and readily accessible to the public.	H1				B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
9J To ensure the preservation of the special character of each ACA listed in this Plan (See Table 9.2 and Volume 2 Heritage Strategy) with particular regard to building scale, proportions, historical plot sizes, building lines, height, general land use, fenestration, signage, and other appendages such as electrical wiring, building materials, historic street furniture, paving and	H1				B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1

	shopfronts.				
	9K To designate ACAs where appropriate and provide a local policy framework for the preservation of the character of these areas.	H1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
	9L To prepare and introduce a set of Shopfront Guidelines.	H1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
	9M To provide for a facility for the Barnstorm Theatre group within the Abbey Quarter	M1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	9N To implement the Kilkenny County Council Cultural Strategy				B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	9O To progress and achieve completion of a City Library for Kilkenny City at the Mayfair ballroom.	M1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	9P Investigate and examine the redevelopment of library services in Thomastown and Callan.	M1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
Volume 1 Chapter 10 Infrastructure and Environment					
10	<i>Strategic Aim: To ensure a sufficient level of water services</i>	B1 B2 B3 B4 B5			P3 P4 P5 S1 S2 S3 A1 A2 A3

	<i>within the county for the implementation of the core strategy, provide a framework for the protection of the environment, including water quality, the avoidance of flood risk and the provision of a high-quality telecommunications infrastructure.</i>	P1 P2 P6 W1 W2 W3 W4 W5 C4 M4			A4 A5 A6 C1 C2 C3 C5 M1 M2 M3 M5 M6 M7 H1 L1
	10A To facilitate Irish Water and to assist, subject to service level agreements, with the provision of Water and Wastewater infrastructure provision in accordance with the water services strategic plan, made in accordance with the Water Services Act 2007.	B1 B2 B3 B4 B5 P1 P2 P6 W1 W2 W3 W4 W5 C4 M4			P3 P4 P5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C5 M1 M2 M3 M5 M6 M7 H1 L1
	10B To implement the measures of the River Basin Management Plan, including continuing to work with communities through the Local Authority Waters Programme to restore and improve water quality in the identified areas of action.	B1 B2 B3 B4 B5 P1 P6 W1 W2 W3 W4 W5 M4			P2 P3 P4 P5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6 M7 H1 L1
	10C To complete the mapping of source protection areas and to map Source Protection Areas for any new public water supply schemes as appropriate.	B1 B2 B3 B4 B5 P1 P6 W1 W2 W3 W4 W5 M4			P2 P3 P4 P5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6 M7 H1 L1
	10D To ensure that Source Protection Areas are identified for any multiple unit housing developments with private water supplies.	B1 B2 B3 B4 B5 P1 P6 W1 W2 W3 W4 W5 M4			P2 P3 P4 P5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M5 M6 M7 H1 L1
	10E To continue to update Noise Mapping in accordance with revised or updated thresholds for Noise Mapping.	P1 A6			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	10F Develop priority list of actionable works to mitigate against excessive noise and implement subject to cost benefit analysis.	P1 A6			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	10G To implement the Southern Region Waste Management Plan.	P1 P6 W1 S1 M3			B1 B2 B3 B4 B5 P2 P3 P4 P5 W2 W3 W4 W5 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5

					M1 M2 M4 M5 M6 M7 H1 L1
	10H To, with due regard to the provisions of the Major Accidents Directive and Regulations, give effect to the Directive by controlling development with respect to— • The siting of Major Accident Hazard sites • The modification of an existing Major Accident Hazard site • Development in the vicinity of a Major Accident Hazard site	P1 P6 A1			B1 B2 B3 B4 B5 P2 P3 P4 P5 W1 W2 W3 W4 W5 S1 S2 S3 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	10I To support and facilitate the delivery of high capacity Information Communications Technology Infrastructure, broadband connectivity and digital broadcasting, throughout the County, in order to ensure economic competitiveness for the enterprise and commercial sectors and in enabling more flexible work practices e.g. remote working subject to other relevant policies and objectives of the Plan.	M1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	10J To set up and maintain a register of approved telecommunications structures which will provide a useful input to the assessment of future telecommunications developments and would also be useful from the point of view of maximising the potential for future mast sharing and co-location.	M1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
Volume 1 Chapter 11 Renewable Energy					
11	<i>Strategic Aim: To generate 70% of electricity demand for the County through renewables by 2030 by promoting and facilitating all forms of renewable energies and energy efficiency improvements in a sustainable manner as a response to climate change.</i>	P6 A1 A2 A3 A4 C1 C2 C3 C4 C5 M1 M2 M3 M6	H1		B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 W1 W2 W3 W4 W5 S1 S2 S3 A5 A6 M4 M5 M7 L1
	11A To support and facilitate the provision of energy in accordance with Ireland's transition to a Low Carbon Energy Future by means of the maintenance and upgrading of electricity and gas network grid infrastructure and by integrating renewable energy sources and ensuring our	P6 A1 A2 A3 A4 C1 C2 C3 C4 C5 M1 M2 M3 M6	H1		B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 W1 W2 W3 W4 W5 S1 S2 S3 A5 A6 M4 M5 M7 L1

	national and regional energy system remains safe, secure and ready to meet increased demand as the regional economy grows over the period of the plan.				
	11B To designate a pilot Sustainable Energy Zone in accordance with the Guidelines for a Sustainable Energy Community (SEAI, 2011).	P6 A1 A2 A3 A4 C1 C2 C3 C4 C5 M2 M3 M6 M7			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 W1 W2 W3 W4 W5 S1 S2 S3A5 A6 M1 M4 M5 H1 L1
	11C To meet 100% of electricity needs for Kilkenny from renewable sources by 2030, including Wind energy, Solar energy and bio energy and to work with agencies, including the 3CEA to proactively achieve this target.	P6 A1 A2 A3 A4 C1 C2 C3 C4 C5 M1 M2 M3 M6	H1		B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 W1 W2 W3 W4 W5 S1 S2 S3 A5 A6 M4 M5 M7 L1
Volume 1 Chapter 12 Movement and Mobility					
12	<i>Strategic Aim: To co-ordinate transport and land use planning, reducing the demand for travel and the reliance on the private car in favour of public transport, cycling and walking by providing for a greater mix of suitable uses and by promoting and facilitating the transition to electrification of our transport modes moving away carbon intensive modes to new technologies such as electric vehicles.</i>	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
	12A To plan for a sustainable, integrated and low carbon transport system by enhancing the existing transport infrastructure in terms of road, bus, rail, cycling and pedestrian facilities and interfacing different modes as the opportunity arises.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
	12B To plan for a transition towards sustainable and low carbon transport modes, through the promotion of alternative modes of transport, and 'walkable communities' together with promotion of compact urban forms close to public transport corridors to encourage more sustainable patterns of movement in all settlements.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
	12C To undertake appropriate traffic management measures within the City and County to reduce congestion and minimise travel times.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 M2 M3 M4 M6 H1 L1

12D To develop a 10-minute city framework for Kilkenny City to map and identify infrastructural requirements to support the '10 minute' city.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
12E To deliver on sustainable mobility with an accompanying investment in infrastructure to provide for integration between all modes of transport to support the use of sustainable travel choices.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
12F Implement strategies to meet the mode share targets during the lifetime of the plan.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
12G To achieve a modal shift from the private car to walking or cycling in accordance with the targets in Table 12.1 for County Kilkenny.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
12H To compile a Cycling Strategy for the County	P1 P3 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A6 M1 M2 M3 M4 M5 M6 M7 H1 L1
12I To develop a network of cycling and pedestrian routes within Kilkenny city to provide connectivity and provide an alternative to car-based transport.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 C4 C5 M2 M3 M4 M6 H1 L1
12J To develop a cycle route between the Eastern Environs and the Breagagh Valley.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
12K To investigate the provision of a cycle route along the River Nore Linear Park connecting north of the City with the east and south of the City.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1

12L To improve cycling infrastructure throughout the city in accordance with the recommendations of the Kilkenny Local Area Transport Plan as resources permit.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
12M To reduce the Council's carbon footprint through the implementation of the Council's own cycle scheme, which will encourage staff members to discharge their official duties in a more sustainable way.	P3 A1 A2 A3 A4 C1 C3 M5			B1 B2 B3 B4 B5 P1 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A5 A6 C2 C4 C5 M1 M2 M3 M4 M6 M7 H1 L1
12N To carry out an appraisal of each of the District Towns to determine measures to facilitate cycling and walking and improve connectivity within the town particularly from an age friendly perspective.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
12O To invest in cycling and other smarter travel projects in support of the compact '10-minute city' concept.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
12P To provide connections to the Kilkenny Greenway to settlements along its route as the need arises and resources permit.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
12Q To, in combination with Waterford City and County Council, the NTA, TII and other stakeholders, undertake a Metropolitan Area Transport Strategy in accordance with Waterford MASP Objectives 6(a) and 6(b), covering the Waterford MASP area of County Kilkenny and to implement the adopted strategy to guide investment priorities in accordance with Waterford MASP Objectives 3.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C4 M2 M3 M4 M6 H1 L1
12R Support the improved regional connectivity of Kilkenny with Waterford and the South East Region generally through the development and maintenance of Strategic Transport Infrastructure in accordance with Waterford MASP Objective 7 and to prioritise transport investment accordingly.	P4 P5 M1	B1 B2 B3 B4 B5 H1		P1 P2 P3 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
12S Develop the Link Road from the Abbey Road to the	P1 P2 P3 P5 M1	B1 B2 B3 B4		P4 P6 W1 W2 W3 W4 W5 S1

	Belmont Road.		B5 S2		S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12T To carry out improvements to the Abbey Road from the boundary with Waterford City and County Council to facilitate smarter travel improvements to Abbey Road and connect to the Link Road in above objective.	P1 P2 P3 P5 A1 A2 A3 A4 A5 C1 C3 M1			B1 B2 B3 B4 B5 P4 P6 W1 W2 W3 W4 W5 S1 S2 S3 A6 C2 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12U Construct a roundabout on the N29 at the L3412 (Rathculliheen) junction.	P4	B1 B2 B3 B4 B5 S2		P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	12V Provide for traffic calming measures between the roundabout and the port gate on the N29.	P4			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	12W To introduce a 60km/hr speed limit on the section of the N29 between the roundabout and the port gate.	P4			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	12X To develop and agree an appropriately planned policy response to access the N10 roundabout at Blanchfieldlands near Hebron House in Kilkenny City.	P4			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	12Y To investigate a link between the Hebron industrial estate/business park to the link road, see objective above.	P4			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1

	12Z To preserve free from development proposed road realignment/improvement lines and associated corridors where such development would prejudice the implementation of Transport Infrastructure Ireland (TII) or County Council plans.	M1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12AA To progress a relief road for Thomastown.	M1	B1 B2 B3 B4 B5 H1		P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	12AB To seek an upgrade of the R700 between New Ross and Kilkenny to National Secondary status.	M1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12AC To seek an upgrade of the Kilkenny to Urlingford road (R693) to National Secondary status.	M1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12AD Reserve the proposed line of the proposed Northern Ring road Extension in Kilkenny City and progress it through the planning process.	M1	B1 B2 B3 B4 B5 H1		P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	12AE Provision of a relief road from the Loughboy IDA estate to the Waterford Road including an upgrade to the Outrath Road.	P4 M1	B1 B2 B3 B4 B5 H1		P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	12AF To implement the recommendations of the Kilkenny City Local Transport Plan.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	12AG Completion of internal roads in Kilkenny City to serve the Western Environs\Breaghagh valley and Loughmacask. (The	P2 P4 P5 S2 M1	B1 B2 B3 B4 B5 H1		P1 P3 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1

	Central Access Scheme) See Volume 2, Figure CS3.				C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	12AH To provide for a second access from the Hebron industrial estate/business park onto Hebron road.	P4 M1			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12AI To investigate a connection between the internal roads within the Hebron industrial estate /business park.	P4 M1			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12AJ To implement the traffic strategy and road cross sections for the Hebron area in accordance with the <i>Hebron Urban Design Strategy</i> .	P4 M1			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12AK To improve substandard sections of regional\county roads throughout the County, in particular those most heavily trafficked, and those providing access to existing or proposed industrial, residential or commercial developments as required and as resources permit.	M1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12AL To maintain, develop and improve existing roads and to construct new roads as needs arise and resources permit in accordance with the Annual Roadworks programme.	M1	B1 B2 B3 B4 B5 C1		P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12AM To carry out road safety improvements measures at Victoria Bridge, Ahenny.	M1			B1 B2 B3 B4 B5P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	12AN To provide further age friendly parking spaces in Kilkenny City and the District Towns following consultation	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2

	with the relevant stakeholders.				S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
Volume 1 Chapter 13 Requirements for Developments					
13	<i>Strategic Aim: To encourage the creation of living and working environments of the highest quality by ensuring a high quality of design, layout and function for all development under the Planning Acts and Regulations, to conserve and build upon positive elements in the built and natural environment, and to protect amenities.</i>	B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1			
	13A To compile an analysis and a development guidance criterion for housing opportunities in Kilkenny City's backland areas, underutilised lands and brownfield sites.	P2 S2 M1	C4 H1		B1 B2 B3 B4 B5 P1 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C5 M2 M3 M4 M5 M6 M7 L1

Volume 2 Chapter	Development objective	Assessment of impact on SEA objectives (See Chapter 4)			
		Significant beneficial impact	Uncertain impact	Significant adverse impact	No relationship or insignificant impact
Volume 2 Chapter C1 Introduction					
C1	C1A To implement the Development Management Requirements set out in Volume 2 for Kilkenny City or as otherwise as set out in Volume 1 as appropriate.	B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1			
Volume 2 Chapter C2 Core Strategy					
C2	C2A To continue to implement the Abbey Quarter	P1 P2 P3 P4 P5 S2 C5 M1 M3 M5 M7	B1 B2 B3 B4 B5 H1 W4		P6 W1 W2 W3 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4

	Masterplan and Urban Design Code and secure the overall development of the area in accordance with their objectives.				M2 M4 M6 L1
	C2B To monitor the implementation of the Abbey Quarter Masterplan and Urban Design Code at least every 12 months from the adoption of this Plan.	P1 P2 P3 P4 P5 S2 C5 M1 M3 M5 M7			B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M6 H1 L1
	C2C To complete the masterplanning process for St. Canice's campus during the lifetime of the Plan in conjunction with the Health Services Executive.	P1 P2 P3 P4 P5 S2 C5 M1 M3	H1 W4		B1 B2 B3 B4 B5 P6 W1 W2 W3 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M5 M6 M7 L1
	C2D To complete a masterplan for the Fair Green area during the lifetime of the Plan.	P1 P2 P3 P4 P5 S2 C5 M1 M3			B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M5 M6 M7 H1 L1
	C2E Develop a masterplan for the former Mart (Ref Z10) site to deal inter alia with the mix of uses, movement, public realm, design, building heights etc.	P1 P2 P3 P4 P5 S2 C5 M1 M3			B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M5 M6 M7 H1 L1
	C2F To implement the Urban Design Strategy for the Hebron Road as resources permit and as redevelopment opportunities arise.	P4 S2 M1			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	C2G To improve the public realm and introduce mobility/smarter travel options and shared spaces along High Street and Rose Inn Street; (A on Figure CS3)	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C2H To upgrade the streetscape and public realm along Ormonde Street to include provision of a new one-way system; (B on Figure CS3)	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6

					M7 H1 L1
	C2I To upgrade the streetscape along the pedestrianised St Kieran's Street and the laneways and slips that connect it with High Street; (C on Figure CS3)	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C2J To upgrade the streetscape and laneways in the St Mary's Precinct; (D on Figure CS3)	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C2K To upgrade the public realm in Carnegie Plaza and the streetscape along Barrack Lane, linking to John Street. (E on Figure CS3).	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
Volume 2 Chapter C3 Economic and Retail Strategy					
	C3A To ensure an adequate amount of employment and enterprise land is available within the City at the appropriate strategic locations.	P1 P2 P4 P5 C5 M1 M2 M4 M5 H1 L1	A1 A2 A3 A4 A5 A6 C1 C3 C4		B1 B2 B3 B4 B5 P3 P6 W1 W2 W3 W4 W5 S1 S2 S3 C2 M3 M6 M7
	C3B Develop an urban street through the Abbey Quarter linking Bateman Quay and St. Francis Bridge and an urban park and public plaza around St Francis' Abbey (linking to the Riverside Linear Park) in accordance with the Abbey Quarter Masterplan.	P1 P2 P3 P4 P5 S2 C5 M1 M3 M5 M7	H1 C4		B1 B2 B3 B4 B5 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 M2 M4 M6 L1
	C3C Improve Trails, Greenways and Walkways, (see Vol. 1 Chapter 8 Open Space), including the construction of a Boardwalk at Greensbridge to link the River Nore Riverside Walk with the new Riverside Linear Park in the Abbey Quarter and onwards to the Canal Walk, and New urban park in Abbey Quarter.	P1 P2 P3 S2 A1 C1 M5	B1 B2 B3 B4 B5 W1 H1		P4 P5 P6 W2 W3 W4 W5 S1 S3 A2 A3 A4 A5 A6 C2 C3 C4 C5 M1 M2 M3 M4 M6 M7 L1

	C3D Implement the Kilkenny City Orientation Study to rebalance the perceived centre of gravity of the City, attracting more visitors from the Castle into the City Centre, thereby increasing visitor dwell time.	P1 P2 P4 P5			B1 B2 B3 B4 B5 P3 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C3E Provide for enhanced pedestrian facilities at the junction of The Parade, Rose Inn St, High Street and Patrick Street.	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C3F To provide high quality office accommodation in the Abbey Quarter appropriate to the needs of Kilkenny.	P2 P4 P5 S2 C5 M1 M5	B1 B2 B3 B4 B5 W4 H1		P1 P3 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M3 M4 M6 M7 L1
	C3G To ensure that an adequate quantity and range of land is available for enterprise development and that the appropriate infrastructure is provided.	P1 P2 P4 P5 C5 M1 M2 M4 M5 H1 L1	A1 A2 A3 A4 A5 A6 C1 C3 C4		B1 B2 B3 B4 B5 P3 P6 W1 W2 W3 W4 W5 S1 S2 S3 C2 M3 M6 M7
Volume 2 Chapter C4 Heritage Strategy					
	C4A To identify and map green infrastructure assets and sites of local biodiversity value over the lifetime of the Plan	B1 B2 B3 B4 B5 P1 P6 W1 H1 L1			P2 P3 P4 P5 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7
	C4B To develop a green infrastructure strategy integrating the existing assets and identifying new assets.	B1 B2 B3 B4 B5 P1 P6 W1 H1 L1			P2 P3 P4 P5 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7
	C4C To undertake an update of the Survey of Mature Trees in the City worthy of preservation.	B1 B2 B3 B4 B5			P1 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1 H1
	C4D To facilitate and support the implementation of	H1			B1 B2 B3 B4 B5 P1 P2 P3 P4

	existing (and any further) conservation plans, as resources allow.				P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
Volume 2 Chapter C5 Movement and Mobility Strategy					
	<p>C5A To prepare a comprehensive Local Transport Plan for Kilkenny City in accordance with the Area Based Transport Assessment Guidelines (TII, 2018) within the concept of a 10-minute City addressing:</p> <ul style="list-style-type: none"> o Walking, o Cycling, o Public transport o Motorised transport o Carparking strategy/Car parking demand management 	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5B To implement the recommendations of the Local Transport Plan for Kilkenny city once adopted.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5C To map and identify infrastructural requirements to support the '10-minute' city concept within the City.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5D To promote compact urban forms close to public transport corridors to encourage more sustainable patterns of movement.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5E To undertake appropriate traffic management measures within the City to reduce congestion and minimise travel times.	P6 S2 A1 A2 A3 A4 A5 A6 C1 C3 C5 M1			B1 B2 B3 B4 B5 P1 P2 P3 P4 P5 W1 W2 W3 W4 W5 S1 S3 C2 C4 M2 M3 M4 M5 M6 M7

					H1 L1
	C5F Implement strategies to meet the modal share targets.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5G To achieve a modal shift from the private car to walking or cycling in accordance with the targets in Table 4.1 for Kilkenny City. This target will be subject to any refinements which may arise through the Local Transport Plan for Kilkenny City.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5H To further improve and enhance the network of cycling and pedestrian routes in accordance with the recommendations of the Kilkenny Local Area Transport Plan as resources permit.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5I To develop a cycle route between the Eastern Environs and the Breagagh Valley.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7	B1 B2 B3 B4 B5		W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5J To investigate the provision of appropriate cycling facilities along the River Nore Linear Park connecting the north of the City with the east and south.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7	B1 B2 B3 B4 B5		W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5K To reduce the Council's carbon footprint through the implementation of the Council's own cycle scheme, which will encourage staff members to discharge their official duties in a more sustainable way.	P3 A1 A2 A3 A4 C1 C3 M5			B1 B2 B3 B4 B5 P1 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A5 A6 C2 C4 C5 M1 M2 M3 M4 M6 M7 H1 L1
	C5L To invest in cycling and other Smarter Travel projects in support of the compact '10-minute city' concept	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C2 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 M2 M3 M4 M6 H1 L1
	C5M To monitor and assess the one-way traffic system	P1 P2 P3 P4 P5 P6			B1 B2 B3 B4 B5 W1 W2 W3

	introduced to Rose Inn Street, High Street and Bateman Quay to determine its suitability for the overall transport strategy for the City.	A1 A2 A3 A4 A5 C1 C3 C5 M1 M5			W4 W5 S1 S2 S3 A6 C2 C4 M2 M3 M4 M6 M7 H1 L1
	C5N Complete the demarcation of the Gateways and prioritise pedestrian and cyclist movement within the Gateways.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5O To progress plans for the provision of a pedestrian bridge at Talbotsinch, including the provision of access along the eastern bank of the river up from Greensbridge, to the proposed bio-diversity park at Dunmore as part of the River Nore Linear Park.	P1 P2 P3 S2 A1 C1 M5	B1 B2 B3 B4 B5 W1		P4 P5 P6 W2 W3 W4 W5 S1 S3 A2 A3 A4 A5 A6 C2 C3 C4 C5 M1 M2 M3 M4 M6 M7 H1 L1
	C5P Construct a Boardwalk at Greensbridge to link the River Nore Riverside Walk with the new Riverside Linear Park in the Abbey Quarter and onwards to the Canal Walk.	P1 P3	B1 B2 B3 B4 B5 W1 H1		P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
	C5Q To progress plans for the provision of an additional pedestrian bridge between Ossory Bridge and John's Bridge to connect St. Canice's campus to the Canal Walk.	P1 P3	B1 B2 B3 B4 B5 W1 H1		P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
	C5R To develop and agree an appropriately planned policy response to access the N10 roundabout at Blanchfieldslands near Hebron House in Kilkenny City	P4			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C5S To develop a link road from the roundabout at Blanchfields lands on the N10/motorway access roundabout to the old Dublin road (R712) in conjunction with TII.	P4 M1	B1 B2 B3 B4 B5		P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1

	C5T To investigate the provision of additional cycle and pedestrian crossing facilities to connect across the Ring Road, in conjunction with TII.	P1 P2 P3 P4 P5 P6 S2 A1 A2 A3 A4 A5 C1 C3 C4 C5 M1 M5 M7			B1 B2 B3 B4 B5 W1 W2 W3 W4 W5 S1 S3 A6 C2 M2 M3 M4 M6 H1 L1
	C5U To Implement to the following Roads Objectives: (See Figure MS6 Road Objectives) R1: Reserve the proposed line of the western by-pass for the city from the Castlecomer Road to the Waterford Road free from development, including for a river crossing and seek approval from An Bord Pleanála for Phase 1 of the Western By-pass, the Kilkenny Northern Ring Road Extension.	P2 P4 P5 S2 M1	B1 B2 B3 B4 B5 H1		P1 P3 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	R2: Complete the Outrath Road Improvement Scheme and link the Bohernatounish Road to the Outrath Road.	P2 P4 P5 S2 M1	B1 B2 B3 B4 B5 H1		P1 P3 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	R3: To provide for a link road through development lands linking the Outrath Road through to the existing Smithlands business park and onto the Waterford Road.	P2 P4 P5 S2 M1	B1 B2 B3 B4 B5 H1		P1 P3 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	R4: Reserve the proposed line of a new road link from the Callan Road to the Waterford Road roundabout free from development.	P2 P4 P5 S2 M1	B1 B2 B3 B4 B5 H1		P1 P3 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	R5: Reserve the line of Phase 2 of the Central Access Scheme from the Waterbarrack roundabout to the roundabout on the Kilcreene Road.	P2 P4 P5 S2 M1	B1 B2 B3 B4 B5 H1		P1 P3 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	R6: Provide for a road connection from the Freshford Road to the site reserved for a proposed secondary	P2 P4 P5 S2 M1	B1 B2 B3 B4 B5 H1		P1 P3 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1

	school within the Loughmacask masterplan area.				C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	R7: To progress the route selection, planning and development of a road connecting the R695 Kilmanagh Road to the R693 Freshford Road.	P2 P4 P5 S2 M1	B1 B2 B3 B4 B5 H1		P1 P3 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	R8: To progress the planning and development of a route connection from the existing roundabout on the N10 to the R712 (old Dublin Road) and to reserve such route free from development.	P4 M1	B1 B2 B3 B4 B5		P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	R9: To progress the planning and development of a route connection from the Hebron Business park to the N10 and the R712 via R8 and to reserve this route free from development.	P4 M1	B1 B2 B3 B4 B5		P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	R10: To provide a second entrance to the Hebron Business Park from the Hebron Road.	P4 M1			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	R11: To implement the traffic strategy and road cross sections for the Hebron area in accordance with the <i>Hebron Road Urban Design Strategy</i> .	P4 M1			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
Volume 2 Chapter C6 Kilkenny City Place-making					
	C6A To implement the provisions of the Housing Strategy contained in Appendix B.	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C6B To require 10% of the land zoned for residential use, or	P1 P3			B1 B2 B3 B4 B5 P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3

	for a mixture of residential and other uses, be made available for the provision of social housing.				A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C6C To require that a mixture of residential unit types and sizes are developed to reasonably match the requirements of different categories of households within the city and county.	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C6D To implement the provisions of the Traveller Accommodation programme 2019-2024 and any updates thereof.	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C6E To compile an analysis and a development guidance criterion with recommended interventions for housing opportunities in Kilkenny City's backland areas, underutilised lands and brownfield sites.	P1 P2 P3 P5 S2 M1			B1 B2 B3 B4 B5 P4 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	C6F To promote the redevelopment and renewal of areas identified having regard to the core strategy, that need regeneration, in order to prevent: i. adverse effects on existing amenities in such areas, in particular as a result of the ruinous or neglected condition of any land, ii. urban blight and decay iii. anti-social behaviour, or iv. a shortage of habitable houses or of land suitable for residential use or a mixture of residential and other uses.	P1 P2 P3 P4 P5 S2 C5 M1 M3 M5	B1 W4 H1		B2 B3 B4 B5 P6 W1 W2 W3 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M6 M7 L1
	C6G To identify vacant sites where appropriate zoning	P1 P2 P3 P4 P5 S2			B1 B2 B3 B4 B5 P6 W1 W2

	applies and maintain and update a Vacant Sites Register in the plan area for the purpose of the Vacant Site Levy.	C5 M1 M3 M5			W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 M2 M4 M6 M7 H1 L1
	C6H To secure the development of two ETB schools in the Breaghagh Valley neighbourhood in Kilkenny City during the lifetime of the plan.	P1 P5 M1			B1 B2 B3 B4 B5 P2 P3 P4 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	C6I To secure the development of a new primary school in the Breaghagh Valley neighbourhood in Kilkenny City during the lifetime of the plan.	P1 P5 M1			B1 B2 B3 B4 B5 P2 P3 P4 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 H1 L1
	C6J To secure the relocation of the CBS secondary school from James Street to a new site in the Loughmacask masterplan area.	P1 P5 M1	B1 B2 B3 B4 B5 S2 H1		P2 P3 P4 P6 W1 W2 W3 W4 W5 S1 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M2 M3 M4 M5 M6 M7 L1
	C6K To secure the development of a third and/or fourth level campus(es) within Kilkenny city as part of the development of a Technological University for the South East.	P4			B1 B2 B3 B4 B5 P1 P2 P3 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C6L To progress plans for the provision of pedestrian bridge crossings at the northern side of Greens Bridge (upstream) proximate to Talbotsinch and between John's Bridge and Ossory Bridge.	P1 P3	B1 B2 B3 B4 B5 W1		P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C6M To develop access along the eastern bank of the river up from Greensbridge, to the proposed bio-diversity park at Dunmore (See Vol. 1 8.2.1 Regional Parks) as part of the River Nore Linear Park as opportunities arise and resources permit	P1 P3	B1 B2 B3 B4 B5 W1		P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C6N To construct a Boardwalk at Greensbridge to link the	P1 P3	B1 B2 B3 B4 B5 W1 H1		P2 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6

	River Nore Riverside Walk at Riverside Drive with the new Riverside Linear Park in the Abbey Quarter and onwards to the Canal Walk.				C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
	C6O To undertake a feasibility study to determine the optimal location for, and to develop, a water sports hub on the River Nore.	P1 P3	B1 B2 B3 B4 B5 H1		P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
	C6P To complete the development of the linear park along the River Nore in the area of the Abbey Quarter.	P1	B1 B2 B3 B4 B5 W1 W4		P2 P3 P4 P5 P6 W2 W3 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C6Q To develop a pedestrian/cycle crossing at Greensbridge connecting the east and west banks of the River Nore.	P1 P3	B1 B2 B3 B4 B5 H1		P2 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 L1
	C6R To prepare and implement an amenity scheme for the Glendine Amenity area, to include drainage proposals.	P1	B1 B2 B3 B4 B5 W1		P2 P3 P4 P5 P6 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C6S To prepare and implement an Amenity Masterplan for the Pococke amenity area beside the Pococke Valley Estate on the Johnswell road.	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1
	C6T To complete the skate park as part of the Riverside Park at the Abbey Quarter.	P1			B1 B2 B3 B4 B5 P2 P3 P4 P5 P6 W1 W2 W3 W4 W5 S1 S2 S3 A1 A2 A3 A4 A5 A6 C1 C2 C3 C4 C5 M1 M2 M3 M4 M5 M6 M7 H1 L1

6.3 Summary of assessment

It is worth reiterating that the process of SEA and Development Plan formulation is an iterative one and as such environmental considerations have informed all stages of plan preparation carried out to date in order for the potential for significant adverse effects arising from implementation of the development objectives to be minimised.

Therefore, as can be seen, no development objectives are predicted to have a significant adverse impact. However, a number of development objectives are predicted to have an uncertain impact. Mitigation measures to lessen any possible impacts are outlined in Chapter 7 of this report.

7 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 the development objectives. Mitigation has taken place throughout the plan-making process.

Mitigation took place through the consideration of alternatives, as environmental considerations (as outlined in Chapter 3) were communicated to the Planning team to enable them to make an informed choice as to which alternative was put before the Members of the Council. Mitigation also took place through the Strategic Flood Risk Assessment, see Appendix 1, where land was rezoned to ensure no inappropriate uses would be considered on land which was subject to flood risk.

Environmental considerations were also communicated to the Planning team throughout the plan-making process. This allowed the team to integrate these considerations into the text and maps of the Plan. A key decision from the outset was for the most part, that mitigation measures would be incorporated into each section of the Plan as “Development Management Requirements”, see Section 1.2.8.

The two main exceptions to this are the Objectives in relation to the Habitats Directive and Flooding. The objective for Natura 2000 sites is set out in Volume 1 of the Plan Section 1.3 *Appropriate Assessment*. This objective ensures that any plan or project is subject to appropriate assessment in order to avoid adverse impacts on any Natura 2000 sites. The objective in relation to flooding is set out in Section 10.2.6 of Volume 1 of the Plan and this ensures that a comprehensive risk-based planning approach to flood management will take place to prevent or minimise flood risk.

As outlined in Chapter 6, no development objectives have been identified as having significant adverse impacts, and given this, the requirement for specific mitigation measures is largely unnecessary. However, a number of development objectives are predicted to have uncertain impacts. Uncertain impacts require mitigation to ensure that significant adverse impacts do not occur. Therefore this section of the Environmental Report will focus on and discuss how the SEA objectives will be protected through mitigation of any uncertain effects.

7.1 Mitigation of environmental problems as identified

Section 3 of this report set out the current state of the environment, and a number of environmental problems were identified. Specific mitigation measures have been included in the Plan to address these problems as follows:

- A new Chapter was included on Climate Change, see Volume 1, Chapter 2, outlining how adaptation has been included in the Development Plan.
- New section was included on Wetlands, see Volume 1 Section 9.2.7, with strengthened policies to protect, manage and enhance wetlands.
- New section included on Pollinators, see Vol. 1 Section 9.2.9.
- The prevention of Invasive Species has been strengthened with the addition of a Development management requirement, see Volume 1 Section 9.2.10.
- New section was included on Archaeological landscapes, in Section 9.3.1.1 Vol. 1, and objectives and a development management requirement were added to protect them from inappropriate development.

- New section on Blue dot waterbodies was included in Vol. 1 Chapter 10.
- New policy in relation to discouraging the removal of Hedgerows was included in 13.22.1 Access and Sight Lines.
- A number of protected views were added to the list of Protected views in Kilkenny City Views and Prospects, see Volume 2, Section 4.6.

7.2 Development objectives

A number of development objectives have been identified as having uncertain impacts on the SEA objectives. These are outlined below, with a discussion of the possible effects, and how the mitigation measures to be included in the Plan will ensure no significant adverse impact.

7.2.1 Volume 1 Objectives

Volume 1 Chapter 2: Climate Change	
Objective	Uncertain effects on SEA objective
2A To provide policies and objectives that support and encourage sustainable compact growth and settlement patterns, integrate land use and transportation, and maximise opportunities through development form, layout and design to secure climate resilience and reduce carbon emissions.	W4
Mitigation included in Plan: See Volume 1 Chapter 10 Prioritising compact growth may lead to conflicts with environmental considerations, in particular an impetus to develop land located within flood zones. As stated in Vol. 1 Section 10.2.6, the Plan will “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines . The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned.	
2D To integrate appropriate mitigation and adaptation considerations and measures into all forms of development.	P4
Mitigation included in Plan: See Volume 1 Chapter 5 Economic Development and Tourism and Vol. 2 Chapter 3 Economic and Retail Strategy It is recognised that some climate mitigation and adaptation measures may incur an economic cost, however numerous policies and objectives are included in the Plan to ensure the stimulation and support of economic growth and development, see Chapters referenced above.	
2E To ensure that the Draft Development Plan transposes, supports and implements strategic objectives of the National Planning Framework and the <i>Southern Regional Spatial and Economic Strategy</i> to create an enabling local development framework that: (a) promotes and integrates important climate considerations in local development and the assessment of planning applications and (b) supports the practical implementation of national climate policy and targets to assist in the delivery of the national transition objective.	P4
Mitigation included in Plan: See Volume 1 Chapter 5 Economic Development and Tourism and Vol. 2 Chapter 3 Economic and Retail Strategy As set out above.	
2H To achieve the commitment under the European Climate Alliance to the	P4

reduction of greenhouse gas emissions by 10 percent every 5 years.	
Mitigation included in Plan: See Volume 1 Chapter 5 Economic Development and Tourism and Vol. 2 Chapter 3 Economic and Retail Strategy As set out above.	
Chapter 4: Core Strategy	
Development Objective	Uncertain effects on SEA objectives
4A To accommodate future population growth for County Kilkenny in accordance with projections contained in the Implementation Roadmap for the NPF and Appendix 1 of the Regional Spatial and Economic Strategy of the Southern Region.	W4
Mitigation included in Plan: See Volume 1 Chapter 10 The Implementation Roadmap for the NPF prioritises compact growth and this may lead to conflicts with environmental considerations, in particular an impetus to develop land located within flood zones. As stated in Vol. 1 Section 10.2.6, the Plan will “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines . The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned.	
4B To ensure growth is achieved in a compact form, with: 40% of the projected growth of the County to be delivered in Kilkenny City and the towns and villages within the county 30% of the new housing earmarked for the City and towns to be catered for within their built-up footprints ⁴² 50% new housing earmarked for the Waterford MASP area catered for within the built-up footprint of the Waterford area, including that part within County Kilkenny	W4 B1 H1
Mitigation included in Plan: See Volume 1 Chapter 10 Prioritising compact growth may lead to conflicts with environmental considerations, in particular an impetus to develop land located within flood zones. As stated in Vol. 1 Section 10.2.6, the Plan will “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines . The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned. In addition, there may be other negative effects, including on natural heritage. There are numerous mitigation measures included in the Plan however to ensure no such negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). Therefore any adverse effects are unlikely.	
4C To actively promote the redevelopment and renewal of areas in need of regeneration whether urban or rural through appropriate active land management measures during the period of the Plan.	B1 W4 H1
Mitigation included in Plan: See Volume 1 Chapter 10 Prioritising compact growth may lead to conflicts with environmental considerations, in particular	

⁴² This means within the existing built-up footprint, as defined by the CSO in line with UN criteria i.e. having a minimum of 50 occupied dwellings, with a maximum distance between any dwelling and the building closest to it of 100 metres, and where there is evidence of an urban centre (shop, school etc.).

<p>an impetus to develop land located within flood zones. As stated in Vol. 1 Section 10.2.6, the Plan will “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines. The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned.</p> <p>In addition, there may be other negative effects, including on natural heritage. There are numerous mitigation measures included in the Plan however to ensure no such negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). Therefore any adverse effects are unlikely.</p>	
4E To strengthen the role of Kilkenny City as a self-sustaining regional economic driver with a significant zone of influence and a Key Town on Dublin – Carlow-Kilkenny Waterford M9 Road/Rail	W4
<p>Mitigation included in Plan: See Volume 1 Chapter 10</p> <p>Expanding Kilkenny’s economic growth may lead to conflicts with environmental considerations, in particular an impetus to develop land located within flood zones. As stated in Vol. 1 Section 10.2.6, the Plan will “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines. The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned.</p>	
4F To ensure investment and delivery of comprehensive infrastructure packages to meet growth targets that prioritise compact growth and sustainable mobility as per the NPF.	B1 W4
<p>Mitigation included in Plan:</p> <p>Delivering on infrastructure packages may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). The Plan will also “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines. Therefore any adverse effects are unlikely.</p>	
4G To achieve a growth of more than 30% in population for Kilkenny City from 2016 to 2040 to 34,500, subject to capacity analysis and sustainable criteria under Section 3.3 of the RSES	B1 W4
<p>Mitigation included in Plan:</p> <p>Achieving this growth may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). The Plan will also “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines. Therefore any adverse effects are unlikely.</p>	
4H To deliver 30% of that growth within the current built footprint of the city.	B1 W4
<p>Mitigation included in Plan:</p> <p>Achieving this growth may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage</p>	

(Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). The Plan will also “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines . Therefore any adverse effects are unlikely.	
4I To review the Ferrybank Belview Local Area Plan having regard to the MASP and to incorporate into the Kilkenny City & County Development Plan by way of variation.	B1 B2 B3 B4 B5 W4 W5 S3 A6 C4 H1 W2
Mitigation included in Plan: See Chapters 1, 9 & 10 As the LAP must adhere to any higher-level Plans such as the MASP, the LAP will be reviewed and the Plan will be varied as necessary. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management standards in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage, landscape (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). Additionally, each Local Area Plan is subject to its own SEA process therefore any adverse effects will be assessed and mitigated through that process.	
4J To develop a programme for ‘new homes in small towns and villages’ with local authorities, public infrastructure agencies such as Irish Water and local communities to provide serviced sites with appropriate infrastructure to attract people to build their own homes and live in small towns and villages.	P2 S2 S3 C1
Mitigation included in Plan: This objective encourages development on greenfield land in smaller settlements around the county, and may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9), Climate Change (Vol. 1 Chapter 2) and Renewable Energy (Vol. 1 Chapter 11).	
Chapter 5 Development Objective	Uncertain effects on SEA objectives
5A To ensure an adequate amount of employment land is available within the City and County for ICT and technology office-based industry at the appropriate strategic locations.	S2 S3 A1 A2 A3 A4 A5 A6 C1 C3 C4
Mitigation included in Plan: The provision of employment land on greenfield sites may lead to conflicts with environmental considerations, in particular effects in relation to emissions and air quality. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10).	
5B To ensure that there is sufficient quantity of zoned land available and serviced at suitable locations within the City and County to maximise the potential for employment and Foreign Direct Investment in the County.	S2 S3 A1 A2 A3 A4 A5 A6 C1 C3 C4
Mitigation included in Plan: Zoning employment land on greenfield sites may lead to conflicts with environmental considerations, in particular effects in relation to emissions and air quality. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10).	

Development management requirements are also included in Chapter 10 in relation to air and noise pollution.	
5C To continue to develop high quality tourism, leisure and complementary activities for the City & County with the key stakeholders enhancing the position of Kilkenny as a Hero site within the Ireland's Ancient East branding.	H1
Mitigation included in Plan: The development of heritage sites for tourism may lead to conflicts with their protection. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to cultural heritage (Vol. 1 Chapter 9).	
5D To implement the Woodstock Business Plan on a phased basis as resources permit subject to the outcome of environmental assessments and the planning process.	B1 B2 B3 B4 B5 W1 H1
Mitigation included in Plan: The implementation of this Business Plan may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10).	
5F Development of Kilkenny Greenway as part of the South East Greenway in South Kilkenny.	B1 B2 B3 B4 B5 W1
Mitigation included in Plan: The development of the Greenway may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10).	
5G Development of the Waterford to Rosslare Greenway.	B1 B2 B3 B4 B5 W1
Mitigation included in Plan: The development of the Greenway may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10).	
5J To continue to work with Transport Infrastructure Ireland to finalise an approach for access to the zoned lands along the N29 at Belview (See Chapter 12 Transport objectives).	S2 S3 C1 C3 C5
Mitigation included in Plan: The provision of access to the zoned lands at Belview may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10).	
5R To enhance and promote the vitality and viability of Kilkenny City	H1

Centre, and to support the centre's role as the dominant retail destination within the County.	
Mitigation included in Plan: Kilkenny City Centre is rich in built heritage assets, and any additional development may lead to conflicts with their protection. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to cultural heritage (Vol. 2 Chapter 4).	
5U To ensure a town centre first approach is adopted for all future retail development across the County, whereby the order of priority for the sequential approach will be City and Town Centre sites first, then edge-of-centre sites, and then out-of-centre sites.	H1
Mitigation included in Plan: Kilkenny City Centre is rich in built heritage assets, and any additional development may lead to conflicts with their protection. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to cultural heritage (Vol. 1 Chapter 9 and Vol. 2 Chapter 4).	
Chapter 6 Housing and Community Development Objective	Uncertain effects on SEA objectives
6C To promote the redevelopment and renewal of areas identified having regard to the core strategy, that need regeneration, in order to prevent— (i) adverse effects on existing amenities in such areas, in particular as a result of the ruinous or neglected condition of any land, (ii) urban blight and decay, (iii) anti-social behaviour, or (iv) a shortage of habitable houses or of land suitable for residential use or a mixture of residential and other uses.	B1 W4 H1
Mitigation included in Plan: Prioritising redevelopment of central areas may lead to conflicts with environmental considerations, in particular an impetus to develop land located within flood zones. As stated in Vol. 1 Section 10.2.6, the Plan will “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines . The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned. In addition, there may be other negative effects, including on natural heritage. There are numerous mitigation measures included in the Plan however to ensure no such negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9, Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 9, Vol.2 Chapter 4) and water quality (Vol. 1 Chapter 10). Therefore any adverse effects are unlikely.	
Chapter 8 Open Space and Recreation	
Development Objective	Uncertain effects on SEA objectives
8B To progress plans for the provision of a pedestrian bridge upstream of Greens Bridge including the provision of access along the eastern bank of the river up from Greensbridge, to the proposed bio-diversity park at Dunmore as part of the River Nore Linear Park.	B1 B2 B3 B4 B5 W1
Mitigation: The provision of a pedestrian bridge may lead to conflicts with environmental considerations.	

There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9, Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 9, Vol. 2 Chapter 4) and water quality (Vol. 1 Chapter 10). The River Nore is a designated SPA and SAC. Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
8C Construction of a Boardwalk at Greensbridge to link the River Nore Riverside Walk with the new Riverside Linear Park in the Abbey Quarter and onwards to the Canal Walk.	B1 B2 B3 B4 B5 W1 H1
Mitigation: The construction of a pedestrian bridge may lead to conflicts with environmental considerations, including the impact on Greensbridge, a protected structure. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9 and Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 9 and Vol. 2 Chapter 4) and water quality (Vol. 1 Chapter 10). The River Nore is a designated SPA and SAC. Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
8D To undertake a feasibility study to determine the optimal location for, and to develop, a water sports hub on the River Nore.	B1 B2 B3 B4 B5 H1
Mitigation: The development of a water sports hub may lead to conflicts with environmental considerations, particularly as the River Nore is a designated SPA and SAC. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9, Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). Section 1.3 of Vol. 1 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
8E To provide a pedestrian crossing along the northern side of Greens Bridge.	B1 B2 B3 B4 B5 W1 H1
Mitigation: The construction of a pedestrian bridge may lead to conflicts with environmental considerations, including the impact on Greensbridge, a protected structure. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). The River Nore is a designated SPA and SAC. Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
8F To continue the development of new trails and walkways such as the Castlecomer, Knockdrinna Wood and Ballyhale Looped Walks and the upgrade	B1 B2 B3 B4 B5

of others such as the Freshford, Gathabawn and Kilmacoliver Looped Walks and the Nore Valley Walk.	
Mitigation: The development of new trails and walkways may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Volume 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
8G Investigate the development of a horse trail/bridle path at Woodstock estate.	B1 B2 B3 B4 B5
Mitigation: The development of a new trail may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). Vol. 1 Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
8H To complete the development of the linear park along the River Nore in the area of the Abbey Quarter.	B1 B2 B3 B4 B5 W1 W4
Mitigation: The development of the linear park may lead to conflicts with environmental considerations. All environmental considerations were taken into account in the development of the proposal. There are numerous mitigation measures included in the Plan to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9, Vol. 2 Ch.4), cultural heritage (Vol. 1 Chapter 9, Vol. 2 Ch.4) and water quality (Vol. 1 Chapter 10). Section 1.3 of Vol. 1 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
8I To extend the linear park at the Abbey Quarter to link with the existing section of the River Nore Linear Park at Riverside Drive.	B1 B2 B3 B4 B5 W1 W4
Mitigation: The extension of the linear park may lead to conflicts with environmental considerations. All environmental considerations were taken into account in the development of the proposal. There are numerous mitigation measures included in the Plan also to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). Vol. 1 Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in</i>	

<i>Ireland – Guidance for Planning Authorities, 2009, therefore any potential adverse effects will be dealt with in that assessment.</i>	
8J To complete the construction of the Kilkenny Greenway, connecting New Ross to Waterford.	B1 B2 B3 B4 B5 W1
Mitigation included in Plan: The development of the Greenway may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10).	
8K To promote and development of the Waterford to Rosslare Greenway in association with Waterford City and County Council and Wexford County Council.	B1 B2 B3 B4 B5 W1
Mitigation included in Plan: The development of the Greenway may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10).	
Volume 1 Chapter 11 Renewable Energy	
<i>Strategic Aim: To generate 70% of electricity demand for the County through renewables by 2030 by promoting and facilitating all forms of renewable energies and energy efficiency improvements in a sustainable manner as a response to climate change.</i>	H1
Mitigation included in Plan: See Chapter 9 In some cases the promotion of renewable energies may cause adverse effects on cultural heritage and landscape through adverse visual impacts. Mitigation measures are included in Vol. 1 Chapter 9 as development management requirements in relation to cultural heritage and landscape to ensure that no development will have a negative effect on cultural heritage or landscape.	
11A To support and facilitate the provision of energy in accordance with Ireland's transition to a Low Carbon Energy Future by means of the maintenance and upgrading of electricity and gas network grid infrastructure and by integrating renewable energy sources and ensuring our national and regional energy system remains safe, secure and ready to meet increased demand as the regional economy grows over the period of the plan.	H1
Mitigation included in Plan: See Chapter 9 In some cases the provision of renewable energies may cause adverse effects on cultural heritage and landscape through adverse visual impacts. Mitigation measures are included in Vol. 1 Chapter 9 as development management requirements in relation to cultural heritage and landscape to ensure that no development will have a negative effect on cultural heritage or landscape.	
11C To meet 100% of electricity needs for Kilkenny from renewable sources by 2030, including Wind energy, Solar energy and bio energy and to work with agencies, including the 3CEA to proactively achieve this target.	H1

Mitigation included in Plan: See Chapter 9 In some cases the development of renewable energy producers, such as wind turbines, may cause adverse effects on cultural heritage and landscape through visual impacts. Hydro power projects may have an adverse effect on species, water quality and cultural heritage, if unmitigated. Mitigation measures are included in Vol. 1 Chapter 9 as development management requirements in relation to cultural heritage and landscape and in Chapter 10 in relation to water quality to ensure that no development will have a negative effect on natural, cultural heritage, landscape or water quality.	
Volume 1 Chapter 12 Movement and Mobility	
Development Objective	Uncertain effects on SEA objectives
12R Support the improved regional connectivity of Kilkenny with Waterford and the South East Region generally through the development and maintenance of Strategic Transport Infrastructure in accordance with Waterford MASP Objective 7 and to prioritise transport investment accordingly.	B1 B2 B3 B4 B5 H1
Mitigation: The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Vol. 1 Chapters 1 and 9 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Chapter 10 in relation to air and noise pollution.	
12S Develop the Link Road from Abbey Road to the Belmont Road.	B1 B2 B3 B4 B5 S2
Mitigation: The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Vol. 1 Chapters 1 and 9 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Chapter 10 in relation to air and noise pollution.	
12U Construct a roundabout on the N29 at the L3412 (Rathculliheen) junction.	B1 B2 B3 B4 B5 S2
Mitigation: No detailed design work has been carried out for this project to date. The planning of any such road improvement is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Vol. 1 Chapters 1 and 9 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Vol. 1 Chapter 10 in relation to air and noise pollution.	
12AA To progress a relief road for Thomastown.	B1 B2 B3 B4 B5 H1
Mitigation: The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. The provision of a relief road for Thomastown was subject to a Part 8 process in 2007, and as part of this, a <i>Route Selection and Environmental Report</i> was compiled by Clifton Scannell Emerson Associates Consulting Engineers. This Report included mitigation	

measures to offset any adverse environmental effects, which will be incorporated into the scheme. Mitigation measures are also included in Volume 1, Chapters 1 and 9 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Vol. 1 Chapter 10 in relation to air and noise pollution.	
12AD Reserve the proposed line of the proposed Northern Ring road Extension in Kilkenny City and progress it through the planning process.	B1 B2 B3 B4 B5 H1
Mitigation: The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. This road will cross the River Nore, a designated Natura site. Mitigation measures are included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution. Section 1.3 of Volume 1 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
12AE Provision of a relief road from the Loughboy IDA estate to the Waterford Road including an upgrade to the Outrath Road.	B1 B2 B3 B4 B5 H1
Mitigation: No detailed design work has been carried out for this project to date. The Plan is merely reserving the line free from development. The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.	
12AG Completion of internal roads in Kilkenny City to serve the Western Environs\Breaghagh valley and Loughmacask. (The Central Access Scheme) See Volume 2, Figure CS3.	B1 B2 B3 B4 B5 H1
Mitigation: The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.	
12AL To maintain, develop and improve existing roads and to construct new roads as needs arise and resources permit in accordance with the Annual Roadworks programme.	B1 B2 B3 B4 B5 C1
Mitigation: The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1 Chapters 1 and 9 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air	

and noise pollution.	
Volume 1 Chapter 13 Requirements for Developments	
Development Objective	Uncertain effects on SEA objectives
13A To compile an analysis and a development guidance criterion for housing opportunities in Kilkenny City's backland areas, underutilised lands and brownfield sites.	C4 H1
Mitigation included in Plan: This objective to consolidate development in backland areas, may lead to conflicts with environmental considerations, including development on lands within the flood zones. Mitigation measures are included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage. In relation to flooding, as stated in Volume 1 Section 10.2.6, the Plan will "adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk", in accordance with the Guidelines . The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned.	

7.2.2 Volume 2 Objectives

Volume 2 Chapter C2 Core Strategy	
C2A To continue to implement the Abbey Quarter Masterplan and Urban Design Code and secure the overall development of the area in accordance with their objectives.	B1 B2 B3 B4 B5 H1 W4
Mitigation: The development of this site may have an effect on natural and cultural heritage and water quality, however the Abbey Quarter Masterplan was subject to its own environmental assessment process. There are numerous mitigation measures included in the Plan to ensure no negative effects from this objective. This includes objectives and development management standards in relation to heritage (Volume Chapter 1 and Chapter 9, Volume 2 Chapter 4), and water quality (Vol. 1 Chapter 10). Therefore any adverse effects are unlikely.	
C2C To complete the masterplanning process for St. Canice's campus during the lifetime of the Plan in conjunction with the Health Services Executive.	H1 C4
Mitigation: St. Canice's Campus, located adjacent to the River Nore, is rich in natural and built heritage assets. Any masterplan could potentially lead to conflicts with environmental considerations, including development on lands within the flood zones. Mitigation measures are included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage. In relation to flooding, as stated in Volume 1 Section 10.2.6, the Plan will "adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk", in accordance with the Guidelines . The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned.	
Volume 2 Chapter C3 Economic and Retail Strategy	
C3A To ensure an adequate amount of employment and enterprise	A1 A2 A3 A4 A5

land is available within the City at the appropriate strategic locations.	A6 C1 C3 C4
Mitigation: The implementation of the Council's economic strategy may have numerous effects. The protection of environment and heritage however is built into the Plan. Protection of other environmental effects, such as noise and emissions and maximising brownfield land must be mitigated also. There are numerous mitigation measures included in the Plan to ensure no negative effects from this objective. This includes objectives and development management requirements in relation to noise and air pollution (Vol. 1 Chapter 10) and the promotion of areas in need of regeneration (Vol. 1 Chapter 6). Therefore any adverse effects are unlikely.	
C3B Develop an urban street through the Abbey Quarter linking Bateman Quay and St. Francis Bridge and an urban park and public plaza around St Francis' Abbey (linking to the Riverside Linear Park) in accordance with the Abbey Quarter Masterplan.	H1 C4
Mitigation: The Abbey Quarter is rich in heritage assets. The Part 8 process for the development of the Abbey Quarter Urban Park and Street included environmental assessments. In addition there are numerous mitigation measures included in the Plan to ensure no negative effects from this objective. Mitigation measures are included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage. In relation to flooding, as stated in Volume 1 Section 10.2.6, the Plan will "adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk", in accordance with the Guidelines . The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned.	
C3C Improve Trails, Greenways and Walkways, (see Vol. 1 Chapter 8 Open Space), including the construction of a Boardwalk at Greensbridge to link the River Nore Riverside Walk with the new Riverside Linear Park in the Abbey Quarter and onwards to the Canal Walk, and New urban park in Abbey Quarter.	B1 B2 B3 B4 B5 W1 H1
Mitigation: The development of new trails and walkways, and a boardwalk, may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Volume 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). Section 1.3 of Volume 1 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the <i>Guidance Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
C3F To provide high quality office accommodation in the Abbey Quarter appropriate to the needs of Kilkenny.	B1 B2 B3 B4 B5 W4 H1
Mitigation: The development of this site may have an effect on natural and cultural heritage and water quality, however the Abbey Quarter Masterplan was subject to its own environmental assessment process. There are numerous mitigation measures included in the Plan to ensure no negative effects from this objective. This includes objectives and development management standards in relation to heritage (Volume Chapter 1 and Chapter 9, Volume 2 Chapter 4), and water quality (Vol. 1 Chapter	

10). Therefore any adverse effects are unlikely. The site is also located in a Flood Zone, and as stated in Volume 1 Section 10.2.6, the Plan will “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines . The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned.	
C3G To ensure that an adequate quantity and range of land is available for enterprise development and that the appropriate infrastructure is provided.	A1 A2 A3 A4 A5 A6 C1 C3 C4
Mitigation: The implementation of the Council’s economic strategy may have numerous effects. The protection of environment and heritage however is built into the Plan. Protection of other environmental effects, such as noise and emissions and maximising brownfield land must be mitigated also. There are numerous mitigation measures included in the Plan to ensure no negative effects from this objective. This includes objectives and development management requirements in relation to noise and air pollution (Vol. 1 Chapter 10) and the promotion of areas in need of regeneration (Vol. 1 Chapter 6). Therefore any adverse effects are unlikely.	
Volume 2 Chapter C5 Movement and Mobility Strategy	
C5I To develop a cycle route between the Eastern Environs and the Breaghagh Valley.	B1 B2 B3 B4 B5
Mitigation: The development of such a cycle route may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9 and Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 1 and Chapter 9 and Vol. 2 Chapter 4) and water quality (Vol. 1 Chapter 10).	
C5J To investigate the provision of appropriate cycling facilities along the River Nore Linear Park connecting the north of the City with the east and south.	B1 B2 B3 B4 B5
Mitigation: The development of such cycling facilities along the River Nore (Natura site) may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9 and Vol. 2 Chapter 4) and water quality (Vol. 1 Chapter 10). Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
C5O To progress plans for the provision of a pedestrian bridge at Talbotsinch, including the provision of access along the eastern bank of the river up from Greensbridge, to the proposed bio-diversity park at Dunmore as part of the River Nore Linear Park.	B1 B2 B3 B4 B5 W1
Mitigation: The development of such facilities across and along the River Nore (Natura site) may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development	

<p>management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9 and Vol. 2 Chapter 4) and water quality (Vol. 1 Chapter 10).</p> <p>Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i>, 2009, therefore any potential adverse effects will be dealt with in that assessment.</p>	
<p>C5P Construct a Boardwalk at Greensbridge to link the River Nore Riverside Walk with the new Riverside Linear Park in the Abbey Quarter and onwards to the Canal Walk.</p>	<p>B1 B2 B3 B4 B5 W1 H1</p>
<p>Mitigation:</p> <p>The construction of a boardwalk may lead to conflicts with environmental considerations, including an impact on Greensbridge, a protected structure. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). The River Nore is a designated SPA and SAC. Vol. 1 Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i>, 2009, therefore any potential adverse effects will be dealt with in that assessment.</p>	
<p>C5Q To progress plans for the provision of an additional pedestrian bridge between Ossory Bridge and John's Bridge to connect St. Canice's campus to the Canal Walk.</p>	<p>B1 B2 B3 B4 B5 W1 H1</p>
<p>Mitigation:</p> <p>The provision of a pedestrian bridge across the River Nore (Natura site) may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9 and Vol. 2 Chapter 4) and water quality (Vol. 1 Chapter 10).</p> <p>Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i>, 2009, therefore any potential adverse effects will be dealt with in that assessment.</p>	
<p>C5S To develop a link road from the roundabout at Blanchfields lands on the N10/motorway access roundabout to the old Dublin road (R712) in conjunction with TII.</p>	<p>B1 B2 B3 B4 B5</p>
<p>Mitigation:</p> <p>No detailed design work has been carried out for this project to date. The Plan is merely including an objective in this regard. The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.</p>	
<p>C5U To Implement to the following Roads Objectives: (See Figure MS6 Road Objectives)</p> <p>R1: Reserve the proposed line of the western by-pass for the city from the</p>	<p>B1 B2 B3 B4 B5 H1</p>

Castlecomer Road to the Waterford Road free from development, including for a river crossing and seek approval from An Bord Pleanála for Phase 1 of the Western By-pass, the Kilkenny Northern Ring Road Extension.	
<p>Mitigation:</p> <p>The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. This road will cross the River Nore, a designated Natura site. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.</p> <p>Section 1.3 of Volume 1 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i>, 2009, therefore any potential adverse effects will be dealt with in that assessment.</p>	
R2: Complete the Outrath Road Improvement Scheme and link the Bohernatounish Road to the Outrath Road.	B1 B2 B3 B4 B5 H1
<p>Mitigation:</p> <p>The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.</p>	
R3: To provide for a link road through development lands linking the Outrath Road through to the existing Smithlands business park and onto the Waterford Road.	B1 B2 B3 B4 B5 H1
<p>Mitigation:</p> <p>The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.</p>	
R4: Reserve the proposed line of a new road link from the Callan Road to the Waterford Road roundabout free from development.	B1 B2 B3 B4 B5 H1
<p>Mitigation:</p> <p>No detailed design work has been carried out for this project to date. The Plan is merely reserving the line free from development. The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1 Chapters 1 and 9 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.</p>	
R5: Reserve the line of Phase 2 of the Central Access Scheme from the Waterbarrack roundabout to the roundabout on the Kilcreene Road.	B1 B2 B3 B4 B5 H1
<p>Mitigation:</p>	

The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.	
R6: Provide for a road connection from the Freshford Road to the site reserved for a proposed secondary school within the Loughmacask masterplan area.	B1 B2 B3 B4 B5 H1
Mitigation: The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.	
R7: To progress the route selection, planning and development of a road connecting the R695 Kilmanagh Road to the R693 Freshford Road.	B1 B2 B3 B4 B5 H1
Mitigation: The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.	
R8: To progress the planning and development of a route connection from the existing roundabout on the N10 to the R712 (old Dublin Road) and to reserve such route free from development.	B1 B2 B3 B4 B5
Mitigation: No detailed design work has been carried out for this project to date. The Plan is merely including an objective in this regard. The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included in Volume 1 Chapter 10 in relation to air and noise pollution.	
R9: To progress the planning and development of a route connection from the Hebron Business park to the N10 and the R712 via R8 and to reserve this route free from development.	B1 B2 B3 B4 B5
Mitigation: No detailed design work has been carried out for this project to date. The Plan is merely including an objective in this regard. The planning of any road project is subject to environmental assessment to ensure no adverse effects on the environment. Mitigation measures are also included in Volume 1, Chapters 1 and 9 and Volume 2, Chapter 4 as development management requirements in relation to natural and cultural heritage to ensure that no development will have a negative effect on natural/cultural heritage or landscape. Development management requirements are also included	

in Volume 1 Chapter 10 in relation to air and noise pollution.		
Volume 2 Chapter C6 Kilkenny City Place-making		
C6F	To promote the redevelopment and renewal of areas identified having regard to the core strategy, that need regeneration, in order to prevent: <ul style="list-style-type: none"> i. adverse effects on existing amenities in such areas, in particular as a result of the ruinous or neglected condition of any land, ii. urban blight and decay iii. anti-social behaviour, or iv. a shortage of habitable houses or of land suitable for residential use or a mixture of residential and other uses. 	B1 W4 H1
Mitigation included in Plan: Prioritising redevelopment of central areas may lead to conflicts with environmental considerations, in particular an impetus to develop land located within flood zones. As stated in Vol. 1 Section 10.2.6, the Plan will “adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk”, in accordance with the Guidelines . The Guidelines include for a justification test to be carried out where land is centrally located and is well situated for sustainable development reasons. If the justification test is satisfied, the land can be zoned. In addition, there may be other negative effects, including on natural heritage. There are numerous mitigation measures included in the Plan however to ensure no such negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9, Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 9, Vol.2 Chapter 4) and water quality (Vol. 1 Chapter 10). Therefore any adverse effects are unlikely.		
C6J	To secure the relocation of the CBS secondary school from James Street to a new site in the Loughmacask masterplan area.	B1 B2 B3 B4 B5 S2 H1
Mitigation included in Plan: This objective entails relocating a school from a central site to a greenfield site, which may lead to conflicts with environmental considerations, such as natural and cultural heritage. This also has the effect of prioritising a greenfield site over a site with access to existing facilities, which currently contributes to the vibrancy of the city centre. The mitigation measure for this is that Vol. 1 Chapter 6 includes objectives and development management requirements in relation to the promotion of areas in need of regeneration. In relation to heritage, there are numerous mitigation measures included in the Plan to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9, Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 9, Vol.2 Chapter 4) and water quality (Vol. 1 Chapter 10). Therefore any adverse effects are unlikely.		
C6L	To progress plans for the provision of pedestrian bridge crossings at the northern side of Greens Bridge (upstream) proximate to Talbotsinch and between John’s Bridge and Ossory Bridge.	B1 B2 B3 B4 B5 W1
Mitigation: The development of such facilities across and along the River Nore (Natura site) may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9 and Vol. 2 Chapter 4) and water quality (Vol. 1 Chapter 10). Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.		

C6M To develop access along the eastern bank of the river up from Greensbridge, to the proposed bio-diversity park at Dunmore (See Vol. 1 8.2.1 Regional Parks) as part of the River Nore Linear Park as opportunities arise and resources permit.	B1 B2 B3 B4 B5 W1
Mitigation: The provision of access along the River Nore, a designated Natura site, may lead to conflicts with environmental considerations. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9, Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 9, Vol. 2 Chapter 4) and water quality (Vol. 1 Chapter 10). Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
C6N To construct a Boardwalk at Greensbridge to link the River Nore Riverside Walk at Riverside Drive with the new Riverside Linear Park in the Abbey Quarter and onwards to the Canal Walk.	B1 B2 B3 B4 B5 W1 H1
Mitigation: The construction of a pedestrian bridge may lead to conflicts with environmental considerations, including the impact on Greensbridge, a protected structure. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9 and Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 9 and Vol. 2 Chapter 4) and water quality (Vol. 1 Chapter 10). The River Nore is a designated SPA and SAC. Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
C6O To undertake a feasibility study to determine the optimal location for, and to develop, a water sports hub on the River Nore.	B1 B2 B3 B4 B5 H1
Mitigation: The development of a water sports hub may lead to conflicts with environmental considerations, particularly as the River Nore is a designated SPA and SAC. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9, Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 9) and water quality (Vol. 1 Chapter 10). Section 1.3 of Vol. 1 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i> , 2009, therefore any potential adverse effects will be dealt with in that assessment.	
C6P To complete the development of the linear park along the River Nore in the area of the Abbey Quarter.	B1 B2 B3 B4 B5 W1 W4
Mitigation: The development of the linear park may lead to conflicts with environmental considerations. All environmental considerations were taken into account in the development of the proposal. There are numerous mitigation measures included in the Plan to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1	

<p>Chapter 1 and Chapter 9, Vol. 2 Ch.4), cultural heritage (Vol. 1 Chapter 9, Vol. 2 Ch.4) and water quality (Vol. 1 Chapter 10).</p> <p>Section 1.3 of Vol. 1 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i>, 2009, therefore any potential adverse effects will be dealt with in that assessment.</p>	
C6Q To develop a pedestrian/cycle crossing at Greensbridge connecting the east and west banks of the River Nore.	B1 B2 B3 B4 B5 W1 H1
<p>Mitigation:</p> <p>The construction of a pedestrian bridge may lead to conflicts with environmental considerations, including the impact on Greensbridge, a protected structure. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9 and Vol. 2 Chapter 4), cultural heritage (Vol. 1 Chapter 9 and Vol. 2 Chapter 4) and water quality (Vol. 1 Chapter 10). The River Nore is a designated SPA and SAC. Section 1.3 of the Plan sets out that any development must be subject to appropriate assessment in accordance with the Guidance <i>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities</i>, 2009, therefore any potential adverse effects will be dealt with in that assessment.</p>	
C6R To prepare and implement an amenity scheme for the Glendine Amenity area, to include drainage proposals.	B1 B2 B3 B4 B5
<p>Mitigation:</p> <p>The implantation of such a scheme may lead to conflicts with environmental considerations, particularly on natural heritage. There are numerous mitigation measures included in the Plan however to ensure no negative effects. This includes objectives and development management requirements in relation to natural heritage (Vol. 1 Chapter 1 and Chapter 9 and Vol. 2 Chapter 4), and water quality (Vol. 1 Chapter 10).</p>	

8 Development Plan Monitoring

The SEA Directive requires Member states to monitor the significant environmental effects of the implementation of plans. This section puts forward proposals for monitoring the Plan. Monitoring of the Plan enables the identification of unforeseen adverse effects and the undertaking of appropriate remedial action. Existing monitoring arrangements may be used if appropriate, to avoid duplication of monitoring. The Council is responsible for monitoring and the preparation of monitoring evaluation report(s), the publication of these reports and, if necessary, the carrying out of corrective action. The Chief Executive's Report on the implementation of the Development Plan, which must be carried out within two years of the making of the Plan, will include detail on the monitoring of the indicators.

The SEA [Guidelines](#) state that monitoring must be linked to earlier stages in the SEA process, in particular to the environmental objectives and issues identified during the preparation of the Environmental Report. It is proposed to base monitoring on a series of indicators which measure changes in the environment, especially changes which are critical in terms of environmental quality, for example water or air pollution levels.

The indicators aim to simplify complex interrelationships and provide information about environmental issues which is easy to understand. A list of environmental indicators and targets is provided in Table 8.1. The indicators are based on the Strategic Environmental Objectives presented in Chapter 4. While considerable environmental data is directly available to the Council such as water quality, and information on the RPS etc, other sources of information may need to be accessed to provide a comprehensive view of the impact of the Plan. The sources of information are also identified in Table 8.1.

Environmental indicator assessment during monitoring can show positive/neutral impacts or negative impacts on the environment. Where an indicator value highlights a positive/neutral impact on the environment, it is likely that the objectives of the Plan are well defined with regard to the environment. Conversely where the objectives of the Plan have a negative impact on the environment, it may be necessary to review the objectives of the Plan or to take some other form of intervention. For example, if an objective is having a significant adverse impact, a variation may be considered during the lifetime of the Plan.

Table 8.1 Monitoring proposals for environmental categories

Environmental Category	Targets	Selected indicators	Data Sources	Monitoring frequency
Biodiversity -Flora and Fauna	No loss of important and/or designated habitats	Number of sites.	Kilkenny County Council/National Parks and Wildlife Service/Fisheries Board (depending on available information from relevant statutory authorities).	At monitoring evaluation
	No deterioration in the quality of protected areas	Overall conservation status of habitats in Co. Kilkenny	NPWS, Report on Overall Conservation Status of Habitats in Ireland listed under the Habitats Directive.	Every 6 years
	No loss of protected species	Overall conservation status of species in Co. Kilkenny, distribution of protected species in Co. Kilkenny	NPWS, Report on Overall Conservation Status of Habitats in Ireland listed under the Habitats Directive. National Biodiversity Data Centre	Every 6 years
	All actions contained within the Biodiversity Plan to be achieved during the lifetime of the County Development Plan.	Number of actions achieved.	Heritage Officer	At monitoring evaluation
	No spread of invasive species within the County	Numbers of new cases identified over 2020 levels	National Biodiversity Data Centre	At monitoring evaluation
Population and Human health	No further loss of population within Graiguenamanagh; total not to decrease on 2016 level.	Total population within Graiguenamanagh.	Census	Next Census
Soil	No significant increase in number of landslides	Total number of landslides	National Landslide Database	At monitoring evaluation

	No significant reduction in peatland; total area not to reduce by 20% over 2012 CORINE level ⁴³ .	Total area of peatland	Corine mapping resurvey	Unknown
Water	No decline in river water quality; no increase in percentage of sample stations in seriously polluted rivers.	Percentage of sample stations in seriously polluted rivers.	EPA Reports on River water quality	At monitoring evaluation
	No decline in estuarine water quality; no decline in status of estuarine waters from current status (good or moderate)	Status of estuarine waters	EPA	At monitoring evaluation
	No decline in surface water quality; no decline in status of surface waters from current status	Status of surface water	EPA	At monitoring evaluation
	No decline in groundwater quality; no decline in status of groundwater from current status	Status of groundwater	EPA	At monitoring evaluation
	No reduction in processing of waste water and treated effluent quality; no increase in number of waste water treatment plants that fail recommended EPA limits.	Number of waste water treatment plants that fail recommended EPA limits.	EPA	At monitoring evaluation
	Improvement in treatment of waste water; Reduction in <i>Appendix A: Priority areas</i> (3 in 2020)	Number of urban areas around where improvements are needed to resolve our environmental priorities.	Kilkenny County Council Water Services/ Irish Water	At monitoring evaluation
	Improvement in quality of drinking water; Reduction in numbers of public water supplies on the EPA's Remedial Action List, from 5 in 2018.	Numbers of public water supplies on the EPA's Remedial Action List.	EPA	At monitoring evaluation
	Improvement of application of ground water protection scheme.	Number of source protection areas that have been mapped.	GSI & Kilkenny County Council Environment	At monitoring evaluation

⁴³ CORINE 2012 shows this at 0.5%.

Air	Increase in proportion of people using sustainable transport.	Proportion of people walking, cycling or using public transport to get to school or work.	Census	Next Census
	No decrease in air quality; no exceedances in Nitrogen Dioxide and Ozone.	Exceedances in Nitrogen Dioxide and Ozone.	EPA	At monitoring evaluation
Climatic factors	Improved Climate Change Adaptation measures.	Implementation of Climate Change Adaptation Strategy Actions.	Kilkenny County Council.	At monitoring evaluation
Material Assets	Increase in afforestation of appropriate woodlands; increase in proportion of mixed and deciduous forest cover over coniferous forestry, as compared to 2012.	Proportion of mixed and deciduous forest cover.	Corine mapping resurvey	Unknown
	Improvements in energy infrastructure; upgrading of the Kilkenny city to Ballyragget line from 38 kv to 110 kv.	Status of the upgrade of the Kilkenny city to Ballyragget line.	Eirgrid	At monitoring evaluation
Cultural Heritage (architectural and archaeological)	Addition in number of structures listed on the RPS; increase in number of protected structures over that listed in 2014 Plan.	Number of protected structures.	Kilkenny County Council	At monitoring evaluation
Landscape	No decrease in sensitive land cover; proportion of county comprising sensitive land cover should not decrease from 2012 level ⁴⁴ .	Proportion of county comprising sensitive land cover.	Corine mapping resurvey	Unknown
	No reduction in number of protected views. Increase or no change in the number of protected views over that listed in the 2014 Plan – 13 views in City and 32 in County.	Number of protected views.	Kilkenny County Council	At monitoring evaluation

⁴⁴ CORINE 2012 reports that the proportion of sensitive land cover in the county is at 7.25%.



STRATEGIC FLOOD RISK ASSESSMENT

Appendix 1 to the Environmental Report on the
Strategic Environmental Assessment of the
Kilkenny Draft City & County Development Plan 2021



Forward Planning

Kilkenny County Council

DECEMBER 2020

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1 Introduction

The [*Planning System and Flood Risk Management – Guidelines for Planning Authorities*](#)¹ were published in November 2009. These Guidelines were issued under Section 28 of the Planning and Development Act 2000 as amended, and require Planning Authorities to introduce flood risk assessment as an integral and leading element of their development planning functions. This is achieved by ensuring that the various steps in the process of making a development plan, together with the associated Strategic Environmental Assessment (SEA), are supported by an appropriate Strategic Flood Risk Assessment (SFRA).

This SFRA forms Appendix 1 to the Environmental Report for the Kilkenny Draft City & County Development Plan (DCCDP) and should be read in conjunction with that Environmental report. The purpose of this SFRA is to inform the Strategic Environmental Assessment (SEA) of the draft plan, and in this way inform the policies and objectives of the plan.

1.1 Draft City and County Development Plan

As set out in the Environmental Report, Kilkenny DCCDP applies to the entire county. The DCCDP is strategic in nature, and sets out broad strategies, including a settlement strategy, on a County-wide basis. The DCCDP includes a development framework for a total of twenty-four settlements. The settlements of Kilkenny and New Ross Environs are dealt with in detail. In addition, twenty-two settlements (Ballyhale, Ballyragget, Bennettsbridge, Clogh-Chatsworth, Fiddown, Freshford, Goresbridge, Gowran, Inistioge, Johnstown, Kells, Kilmacow, Kilmoganny, Knocktopher, Moneenroe, Mooncoin, Mullinavat, Paulstown, Piltown, Slieverue, Stoneyford and Urlingford) are subject to a settlement boundary in the DCCDP.

There are other Local Area Plans covering settlements in the county, which are not affected by this DCCDP. These Plans are scheduled for review on a rolling six-year basis over the life of the CDP (Callan, Castlecomer, Ferrybank/Belview, Graiguenamanagh and Thomastown).

1.2 Disclaimer

The SFRA is a live document that is designed to be updated as further flood risk information becomes available and changes to the development plan are proposed under any variations.

Accordingly, all information in relation to flood risk is provided for general policy guidance only. It may be substantially altered in light of future data and analysis. As a result, all landowners and developers are advised that Kilkenny County Council and its agents can accept no responsibility for losses or damages arising due to assessments of the vulnerability to flooding of lands, uses and developments. Owners, users and developers are advised to take all reasonable measures to assess the vulnerability to flooding of lands in which they have an interest prior to making planning or development decisions.

¹ Department of Environment, [*The Planning System and Flood Risk Management – Guidelines for Planning Authorities*](#), 2009

1.3 Structure of this report

Section 2 gives an overview of the principles of the [Guidelines](#). Section 3 provides a review of data collection, flood history and predicted flood extent (including climate change impacts) in each of the settlements. Section 4 discusses how the sources are used in the generation of flood zones. Section 5 discusses the development frameworks proposed under this Plan. Section 6 provides policy guidance and suggested approaches to managing flood risk and development.

1.4 Purpose of Strategic Flood Risk Assessment

In line with the Guidelines, the purpose of this SFRA is to integrate an assessment of flood risk into the planning process, specifically to:

- Provide for an improved understanding of flood risk issues within the County Development Plan,
- Identify whether flood risk is an issue in the settlements for which the development management framework (e.g. zoning map or settlement boundary) is being altered.

More specifically the SFRA will complete the following tasks;

1. Undertake a flood risk assessment for the settlements,
2. Review the various sources of potential Flood Zone mapping,
3. Assist in the review of land use zoning objectives and the application of the sequential approach and justification test,
4. Prepare flood risk management objectives, development management standards and recommendations.

2 Flood Risk Principles

2.1 Introduction

Prior to discussing the management of flood risk, it is helpful to understand what is meant by the term. It is also important to define the components of flood risk in order to apply the principles of the Guidelines in a consistent manner. The Guidelines describe flooding as a natural process that can occur at any time and in a wide variety of locations. Flooding can often be beneficial, and many habitats rely on periodic inundation. However, when flooding interacts with human development, it can threaten people, their property and the environment.

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

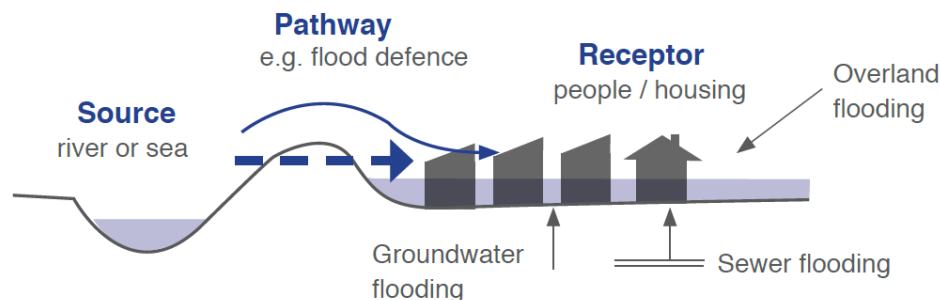
2.2 Definition of Flood Risk

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

Flood Risk = Probability of Flooding x Consequences of Flooding

The assessment of flood risk requires an understanding of the sources, the flow path of floodwater and the people and property that can be affected. The source - pathway - receptor model, shown below in Figure 2.1, illustrates this and is a widely used environmental model to assess and inform the management of risk.

Figure 2.1 Source Pathway Receptor Model (Fig. 2.2 of the Guidelines)



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

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

2.3 Likelihood of Flooding

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

Return period is often misunderstood to be the period between large flood events rather than an average recurrence interval. Annual exceedance probability is the inverse of return period as shown in Table 2.1.

Table 2.1 Probability of Flooding

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

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

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

2.4 Consequences of Flooding

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

The Guidelines have categorised land uses into three vulnerability classes and have also specified which vulnerability class would be appropriate in each flood zone, or where the Justification Test would be required.

The table of vulnerability classes (Table 3.1 of the Guidelines) is as follows:

Table 2.2: Classification of vulnerability of different types of development	
Vulnerability Class	Land uses and types of development which include*:
Highly vulnerable development (including	Garda, ambulance and fire stations and command centres required to be operational during flooding; Hospitals; Emergency access and egress points; Schools; Dwelling houses, student halls of residence and hostels;

essential infrastructure)	Residential institutions such as residential care homes, children's homes and social services homes; Caravans and mobile home parks; Dwelling houses designed, constructed or adapted for the elderly or, other people with impaired mobility; and Essential infrastructure, such as primary transport and utilities distribution, including electricity generating power stations and sub-stations, water and sewage treatment, and potential significant sources of pollution (SEVESO sites, IPPC sites, etc.) in the event of flooding.
Less vulnerable development	Buildings used for: retail, leisure, warehousing, commercial, industrial and non-residential institutions; Land and buildings used for holiday or short-let caravans and camping, subject to specific warning and evacuation plans; Land and buildings used for agriculture and forestry; Waste treatment (except landfill and hazardous waste); Mineral working and processing; and Local transport infrastructure.
Water-compatible development	Flood control infrastructure; Docks, marinas and wharves; Navigation facilities; Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location; Water-based recreation and tourism (excluding sleeping accommodation); Lifeguard and coastguard stations; Amenity open space, outdoor sports and recreation and essential facilities such as changing rooms; and Essential ancillary sleeping or residential accommodation for staff required by uses in this category (subject to a specific warning and evacuation plan).
*Uses not listed here should be considered on their own merits Source: Table 3.1 of the Flooding Guidelines	

2.5 Definition of Flood zones

In the Guidelines, Flood Zones are used to indicate the likelihood of a flood occurring. These Zones indicate a high, moderate or low probability of flooding from fluvial or tidal sources and are defined below.

It is important to note that the definition of the Flood Zones is based on an undefended scenario and does not take into account the presence of flood protection structures such as flood walls or embankments. This is to allow for the fact that there is a residual risk of flooding behind the defences due to overtopping or breach and that there may be no guarantee that the defences will be maintained in perpetuity.

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

There are three types of flood zones defined:

Zone A
High probability of flooding. This zone defines areas with the highest risk of flooding from rivers (i.e. more than 1% probability or more than 1 in 100) and the coast (i.e. more than 0.5% probability or more than 1 in 200).

Zone B This zone defines areas with a moderate risk of flooding from

Moderate probability of flooding.	rivers (i.e. 0.1% to 1% probability or between 1 in 100 and 1 in 1000) and the coast (i.e. 0.1% to 0.5% probability or between 1 in 200 and 1 in 1000).
Zone C	This zone defines areas with a low risk of flooding from rivers and the coast (i.e. less than 0.1% probability or less than 1 in 1000). Flood
Low probability of flooding.	Zone C covers all areas of the plan which are not in zones A or B.

2.6 The Sequential Approach

The sequential approach in terms of flood risk management is based on the following principles: AVOID - SUBSTITUTE - JUSTIFY - MITIGATE – PROCEED.

The primary objective of the sequential approach is that development is primarily directed towards land that is at low risk of flooding (Avoid). The next stage, and only where avoidance is not possible, is to ensure that the type of development proposed is not especially vulnerable to the adverse impacts of flooding (Substitution).

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

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

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

Table 2.3 shows which types of development, based on vulnerability to flood risk, are appropriate land uses for each of the Flood Zones. The aim of the SFRA is to guide development zonings to those which are 'appropriate' and thereby avoid the need to apply the Justification Test.

Table 2.3: Matrix of vulnerability classes and flood zones			
Development	Flood Zone A	Flood Zone B	Flood Zone C
Highly vulnerable	Justification Test	Justification Test	Appropriate
Less vulnerable	Justification Test	Appropriate	Appropriate
Water-compatible	Appropriate	Appropriate	Appropriate

Source: Table 3.2 of the Flooding Guidelines

2.7 Plan Making Justification Test

Only the Plan-Making Justification Test is relevant to a Strategic Flood Risk Assessment for a Plan, and this is described as follows.

Justification Test for Development Plans (See p.37 of the Guidelines)

“Where, as part of the preparation and adoption or variation or amendment of a development/local area plan, a planning authority is considering the future development of areas in an urban settlement that are at moderate or high risk of flooding, for uses or development vulnerable to flooding that would generally be inappropriate as set out in Table 3.2 of the Guidelines, all of the following criteria must be satisfied:

- 1) The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.
- 2) The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement and in particular:
 - a. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement
 - b. Comprises significant previously developed and/or under-utilised lands;
 - c. Is within or adjoining the core of an established or designated urban settlement;
 - d. Will be essential in achieving compact or sustainable urban growth;
 - e. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.
- 3) A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.

N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment.”

MITIGATION is the process where the flood risk is reduced to acceptable levels by means of land use strategies or by means of detailed proposals for the management of flood risk and surface water, all as addressed in the Flood Risk Assessment. The decision to PROCEED should only be taken after the Justification Test has been passed.

2.8 Stages of a Flood Risk Assessment (FRA)

The [Guidelines](#) recommend that a staged approach is adopted when undertaking a Flood Risk Assessment (FRA). The recommended stages are briefly described below:

- Stage 1 ~ Flood Risk Identification

To identify whether there may be any flooding or surface water management issues that will require further investigation. This stage comprised a comprehensive desk study of available information to establish whether a flood risk issue exists or whether one may exist in the future. The sources consulted are described in detail in Section 3.

- Stage 2 ~ Initial Flood Risk Assessment

If a flood risk issue is deemed to exist arising from the Stage 1 Flood Risk Identification process, the assessment proceeds to Stage 2 which confirms the sources of flooding, appraises the adequacy of existing information and determines the extent of additional surveys and the degree of modelling that will be required. Stage 2 must be sufficiently detailed to allow the application of the sequential approach (as described in Section 2.6) within the flood risk zone. For the purposes of this SFRA, Stage 2 was carried out for all the identified settlements (See Section 1.1), and is detailed in Section 4 and 5.

- Stage 3 ~ Detailed Flood Risk Assessment

A detailed FRA is carried out where necessary to assess flood risk issues in sufficient detail and to provide a quantitative appraisal of potential flood risk. No flood risk issues, which were significant enough to warrant Stage 3, were identified. The CFRAM study covered many of the settlements in detail.

2.9 Scales of Flood Risk Assessments

Flood Risk Assessments are undertaken at different scales by different organisations for many different purposes. The scales are as follows:

- Regional Flood Risk Appraisal (RFRA): A Regional Flood Risk Appraisal provides a broad overview of the source and significance of all types of flood risk across a region and highlights areas where more detailed study will be required. These appraisals are undertaken by regional authorities.

- Strategic Flood Risk Assessment (SFRA): A Strategic Flood Risk Assessment provides a broad (area-wide or county-wide) assessment of all types of flood risk to inform strategic land use planning decisions. The SFRA allows the Planning Authority to undertake the sequential approach (described below) and identify how flood risk can be reduced as part of the development plan process.

- Site Flood Risk Assessment (Site FRA): A Site FRA is undertaken to assess all types of flood risk for a new development. This requires identification of the sources of flood risk, the effects of climate change on the flood risk, the impact of the proposed development, the

effectiveness of flood mitigation and management measures and the residual risks that then remain.

This assessment is for a Draft Development Plan and therefore is at SFRA scale.

3 Data Collection and Review

The Strategic Flood Risk Assessment for the plan area is based on two stages:

- Stage 1 Flood Risk Identification
- Stage 2 Initial Flood Risk Assessment

This chapter sets out the process involved in Stage 1.

3.1 Stage 1 Flood Risk Identification

This purpose of this stage is to identify whether there are any flooding or surface water management issues relating to the plan area that may warrant further investigation.

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

There are a number of valuable sources of flood data for the county, including major projects such as the Suir and SouthEastern CFRAMs, and broadscale flood mapping such as the national PFRA study. The sources of information from the previous iterations of the SFRAs have been reviewed and relevant updates have been made using the CFRAM flood mapping.

3.1.1 Regional Flood Risk Appraisal

A Regional FRA (RFRA) was carried out and published as part of the Strategic Environmental Assessment of the *Southern Region's Regional Spatial and Economic Strategy*². This document provided guidance on the issues to be addressed in any SFRA.

Section 6.1 of the RFRA relates to Development Plans and states that the CFRAM FRMPs have the most up to date flood risk information available to help develop FRAs. Flood maps and the proposed flood risk management measures identified in the FRMPs should be reviewed for all development plans. They further state that *“Local Authorities should ensure that any FRAs they undertake or are assessing have considered flood zones as described in Section 3.7 and climate change scenarios as described in Section 3.8. The CFRAM FRMP have developed climate change scenario mapping that can be used for such assessments”*.

The RFRA examines Kilkenny as a Key Town and Ferrybank as part of the Waterford Metropolitan area. The RFRA recommends that planning authorities collaborate where relevant. The land use framework for Ferrybank is not under review at present, but Waterford City and County Council have commenced the review of their Development Plan 2022, and we are collaborating on a number of issues. It is more relevant at present that we collaborate with Wexford County Council in the flood risk assessment for New Ross and its environs. It is an objective of the Development Plan to review the zoning for the area of Rosbercon in County Kilkenny in a joint Local Area Plan for New Ross and Environs in conjunction with Wexford County Council.

² Southern Regional Authority, Southern Regional Spatial and Economic Strategy, 2020

3.1.2 OPW Publications

To comply with the 'Floods' Directive³, the OPW commenced a CFRAM (Catchment Flood Risk Assessment and Management) programme in Ireland in 2011.

The first cycle of the CFRAM Programme comprised three phases:

1. The Preliminary Flood Risk Assessment (PFRA): 2011
2. The CFRAM Studies and parallel activities: 2011-2015
3. Implementation and Review: 2016 onwards

The Programme provides for three main consultative stages:

1. 2011 Preliminary Flood Risk Assessments
2. 2013 Flood Hazard Mapping
3. 2015 Flood Risk Management Plans

The OPW are now into cycle two of the CFRAM, which includes detailed design of specific flood relief schemes in various towns and cities. The settlements earmarked for flood relief schemes in Kilkenny are: Ballyhale, Freshford, Graiguenamanagh, Inistioge, Piltown and Thomastown. An update to the PFRA mapping, known as the National Indicative Flood Maps, or NIFM, is also being carried out to produce higher resolution broadscale mapping across the whole country and is due to be published imminently. This will be taken into account once available.

3.1.2.1 Preliminary Flood Risk Management

The '[Floods' Directive](#)⁴ required Member States to undertake a national preliminary flood risk assessment by 2011 to identify areas where significant flood risk existed or might be considered likely to occur. In August 2011, the OPW published the National Preliminary Flood Risk Assessment, Draft for Public Consultation⁵ which comprised a Report and a set of broadscale maps.

This national screening exercise identified where there may be a significant risk associated with flooding, based on available and easily derivable information. The objective of the PFRA was to identify Areas for Further Assessment (AFAs) and this further assessment took place through Catchment Flood Risk Assessment and Management Studies (CFRAMS).

Maps of the County were published as part of the Draft PFRA. The OPW have stated that the maps, although draft and indicative, may be of use to the Local Authorities in a number of areas of activity, particularly in the performance of their planning function in relation to the implementation of the [Flooding Guidelines](#). However, the OPW also note that they "*should not be used as the sole basis for defining Flood Zones*" and should be supported by local site investigations and the knowledge of staff familiar with the area.

³ [Directive 2007/ 60/ EC of the European Parliament and of the Council of 23rd October 2007 on the assessment and management of flood risk: Official Journal L288/ 27-34.](#)

⁴ Directive 2007/ 60/ EC of the European Parliament and of the Council of 23rd October 2007 on the assessment and management of flood risk: Official Journal L288/ 27-34.

⁵ <http://www.cfram.ie/pfra/>

These maps indicate flood extents – for fluvial flooding they indicate the 100 year event and the extreme event, or 1 in 1000 year event. They also indicate coastal, pluvial and groundwater flood extents.

3.1.2.2 Catchment Based Management Plans

Phase 2 of the CFRAM programme was the production of CFRAM studies. The OPW in co-operation with various Local Authorities produced Catchment Flood Risk Assessment and Management Studies. These CFRAMS aim to map out current and possible future flood risk areas and develop risk assessment plans. They also identified possible structural and non-structural measures to improve the flood risk of the area.

The two CFRAMS that are of relevance for this Plan are the Suir and South Eastern CFRAMS.

Settlements included in the Suir CFRAMS are Waterford (Ferrybank), Fiddown, Mullinavat and Piltown.

The South Eastern River Basin District (SERBD) CFRAMS covered the rest of County Kilkenny. The South Eastern district is one of Ireland's largest river basin districts covering about one fifth of the country with an area of nearly 13,000km².

The CFRAMS coverage is divided into two categories; the High Priority Watercourses (HPWs), and Medium Priority watercourses (MPWs). The HPWs were modelled to a greater degree than the MPWs, and therefore offer a greater degree of accuracy. Settlements covered by the HPWs in Co. Kilkenny are; Ballyhale, Ballyragget, Callan, Freshford, Graiguenamanagh, Inistioge, Kilkenny, New Ross and Thomastown.

Settlements covered by the MPW modelling are: Bennettsbridge, Goresbridge, Kells and Kilmacow.

3.1.3 Alternative available sources

The data listed below is available for the county and provides information on the historical occurrence of flooding. Flooding and surface water issues in the county were also identified through consultation with the Area Engineers and from any other relevant sources. This information is summarised in Table 3.1 below.

i) OPW Flood Events Mapping

As part of the National Flood Risk Management Policy, the OPW developed the www.floodmaps.ie web-based data set, which contains information concerning historical flood data, displays related mapped information and provides tools to search for and display information about selected flood events.

ii) OPW Benefitting Lands mapping

These maps were prepared to identify areas that would benefit from land drainage schemes, and typically indicate low-lying land near rivers and streams that might be expected to be prone to flooding.

It should be noted that some of this data is historically derived, not prescriptive in relation to flood return periods and not yet predictive or inclusive for climate change analysis. Many of

these maps were based on survey work carried out from 1833-1844 with many updated in the 1930s and 1940s. Therefore, they do not show or take account of recent changes in surface drainage, such as development in floodplains, road realignments or drainage works for forestry or agriculture. Thus, there is significant potential that flood risk in some areas may have changed since they were prepared.

3.1.3.1 Flood Studies, Reports and Flood Relief Schemes

Flood reports have been completed for a number of areas within the county. Studies have been undertaken in respect of Callan, Graiguenamanagh and Thomastown. These three towns are subject to separate Local Area Plans and are not addressed in the CCDP.

3.1.3.2 New Ross

A Strategic Flood Risk Assessment was carried out for the Wexford Draft County Development Plan 2021 by JBA Consulting, and this examined the flood defence schemes in the town. Flood defence schemes were carried out in the last 15 years in New Ross to help reduce damage to properties and roads. An interim flood defence scheme was completed in 2009 and has now been incorporated into a much larger defence scheme which is not yet completed. The new defence extends 2.2km, runs along both banks of the River Barrow and includes demountable barriers, concrete walls and embankments. This flood defence scheme was undertaken post the CFRAM study and therefore, is not represented in the final flood extent mapping.

3.1.3.3 Kilkenny City Flood Relief Scheme

A flood relief scheme was completed in Kilkenny city in 2005 to provide defence against the 100 year flood from the Nore.

A report entitled *Kilkenny City Flooding Study* was published in 1986 by M.C. O'Sullivan. A subsequent report was published by the OPW in 1999, entitled *Kilkenny City Flood Relief Scheme Engineering Report – Protecting against the 100 year flood*. The benefiting lands map for the Kilkenny Scheme Design was obtained from the OPW. The Benefiting land outline generally equates to the 100 year flood outline or Flood Zone A. This map covers the centre of Kilkenny City, mainly around the Nore, but also with some coverage of the Breagagh.

3.1.3.4 Local Authority Personnel

The Area Engineers were consulted regarding historical flooding and flood relief works in the areas under consideration.

3.2 Dataset summary

A summary of the datasets reviewed, and their usefulness to the study, are detailed in the following table.

Table 3.1 Summary of available datasets

Dataset	Description / coverage	Robustness	Comment on usefulness
Suir CFRAM study	Areas for further assessment (AFAs), or settlements falling along modelled lengths, in County Kilkenny are: Waterford City (Ferrybank) Fiddown Mullinavat Piltown	Flood Zones and flood extents for current and future scenarios provided by OPW. Depth, velocity and risk to life, and defended areas are also available. Modelling is 'best of breed' and outputs will allow informed decisions to be made on zoning objectives. Design water levels will inform decisions relating to raising land and setting finished floor levels.	Very useful – it is considered unlikely that additional assessment will be needed to inform the SFRA as all information needed to carry out the JT for Plan Making will be provided. Site specific FRAs will still be required for planning applications, but information on water levels can form the basis of decision in relation to finished floor levels. However, it is important to note that CFRAM outputs should not be relied upon without review and consideration of appropriateness to the site in question, particularly for Medium Priority Watercourses (MPW).
South Eastern CFRAM Study	Areas for further assessment (AFAs), or settlements along HPWs, in County Kilkenny are: Ballyhale Ballyragget Callan Freshford Graiguenamanagh Inistioge Kilkenny ⁶ New Ross Thomastown Settlements along MPWs are: Bennettsbridge Goresbridge Kells Kilmacow		
County Development Plan Flood Map (2014-2020)	Based on the PFRA and other sources	Low-Moderate	See Fluvial PFRA
OPW Preliminary Flood Risk Assessment (PFRA) flood maps – Fluvial	The PFRA was a national screening exercise that was undertaken by OPW to identify areas at potential risk of flooding. Fluvial, coastal, pluvial and	Low	Covers all rivers (including non-CFRAM) so useful extent. Cannot be used without validation through site visit, and where site visit is inconclusive modelling may be

⁶ Flood mapping along the Breaghagh River in Kilkenny city is currently under review by the OPW.

	groundwater risks were identified at an indicative scale		needed. Had been used to inform the 2014-2020 Development Plan.
PFRA Maps – Pluvial and groundwater		Low	Used to add to commentary in the risk table and to identify potentially at risk areas of the county but should not be used to develop screening map or to inform zoning decisions without further analysis.
Historical event outlines and point observations and reports	Various, taken from www.floodmaps.ie	Indicative	Can be indirectly used to validate flood zones and identify non-fluvial and tidal flooding. Useful background information for site specific FRAs, but note the database is not exhaustive, absence of a record does not necessarily mean absence of flood risk.
Arterial Drainage Benefiting land maps	Show land which would (or have) benefited from a drainage scheme. This is not based on a 'design flood' (i.e. the events do not have a return period), but indicate low-lying, poorly drained land. It is not the same as lands which are protected by a flood relief scheme	Low	Superseded by the data sources listed above, although may be used to cross check Flood Zones.
Flood relief scheme details, including locations and lengths, standard of protection and areas which are protected	Defences in Ballyhale, Freshford, Graiguenamanagh, Inistioge, Kilkenny City, Piltown, Thomastown and Waterford, have all been included in the CFRAM modelling.	High (outputs from the CFRAM and /or detailed scheme design documents provide this information).	Flood Zones are defined without the benefit of defences, but the benefits should be considered when establishing the specific risk to a site, and in informing the site specific FRA. It is essential that the analysis of the defended area is carried out by someone who

			fully understands the approach taken in the CFRAM, as it is not straightforward.
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3.3 Pluvial Flooding

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

The PFRA study considered pluvial flood risk and produced a national set of pluvial flood maps. This dataset was reviewed and used to identify development areas at particular risk of surface water and pluvial flooding. However, the level of detail contained in the PFRA map, and the widespread distribution of areas at risk did not allow a commentary relating to pluvial flood risk to be developed, or for particularly high risk areas to be identified. Instead, an overall strategy for the management of pluvial risk is presented and should be implemented across all development proposals. This, and recommendations for the assessment of surface water risks, are provided in Section 6.

3.4 Groundwater Flooding

Groundwater flooding is caused by the emergence of water originating from underground and is particularly common in karst landscapes. This can emerge from either point or diffuse locations. The occurrence of groundwater flooding is usually very local and unlike flooding from rivers and the sea, does not generally pose a significant risk to life due to the slow rate at which the water level rises. However, groundwater flooding can cause significant damage to property, especially in urban areas and pose further risks to the environment and ground stability.

The OPW PFRA carried out a national scale Groundwater Flooding Report which concludes that ground water flooding is largely confined to the West Coast of Ireland due to the hydrogeology of the area. A total of four locations were identified as being at risk of groundwater flooding in Kilkenny; at Loughmacask; between the railway line and the M9 south of Mullinavat; just north of the N24 between Piltown and Carrick on Suir, and in northwest Kilkenny, east of Urlingford⁷.

3.4.1 Flood Risk Indicators

Having regard to all of the information sources as outlined above, the occurrence of flood risk indicators for each settlement included in the CCDP is identified in a Flood Risk Indicator Matrix. Of the 24 settlements included, Johnstown, Kilmaganny, Moneenroe, Paulstown, Stoneyford and Slieverue show no fluvial Flood Risk indicators. However, as most of the settlements could be subject to a potential flood risk issue, the assessment proceeds to Stage 2.

⁷ GSI Groundwater Flooding Viewer accessed on the 24/9/2020: <https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=848f83c85799436b808652f9c735b1cc>

Table 3.2 Flood Risk Indicator Matrix

Settlement /Town/ village	Available Data by source					
	CFRAM (HPW or MPW)	PFRAM	www.floodmaps.ie	Local Authority information	Benefitting lands	Flood relief scheme details
Ballyhale	HPW - Identified as Area for further assessment in SE CFRAM study		Recurring Flood Points recorded at Main Street. Road liable to flooding and properties affected	Flooding experienced to the rear of properties on Main St in the past – bridge on Station road replaced approx. 2003 – this has helped to alleviate the flooding. Collapsed walls in the area of the church replaced and river banks in area of church cleared in 2010 by church.	Benefitting lands mapped in village	
Ballyragget	HPW - Identified as Area for further assessment in SE CFRAM study		Recurring Flood Points recorded at River Nore	Flooding has occurred on several occasions in 2008, 2009 and 2010 during spell of prolonged heavy rain, affecting a commercial property at the bridge.	Benefitting lands mapped along River Nore	
Bennetts-bridge	MPW- Possible Area for Further Assessment in SE CFRAM – not selected as AFA.		Recurring Flood points recorded at Ennisnag Road	In severe events Annamult/Ennisnag road (LP4201) can become impassable as area is part of flood plain of River Nore. Worst affected from Mosses Mill to road leading to	Benefitting lands mapped along River Nore	

Settlement /Town/ village	Available Data by source					
	CFRAM (HPW or MPW)	PFRAM	www.floodmaps.ie	Local Authority information	Benefitting lands	Flood relief scheme details
				Danesfort (LP4200) Frequency/severity of events increasing.		
Clogh-Chatsworth		Yes, in centre of village along River Clogh.	No events recorded.	TBC	Benefitting lands mapped along River Clogh to the east of the village.	
Freshford	HPW - Identified as Area for further assessment in SE CFRAM study		Recurring flood points recorded at New Bridge Street, damage to shops and dwellings	Severe flooding occurred on the 29 th October 2010 at Creel Street from the junction with Old Bridge Street to the junction with Bohergloss Street, on the lower part of New Bridge Street and at Bohergloss Street. Flooding caused by a tributary of the Nuenna River.	Benefitting lands mapped along Nuenna River through most of the town	
Fiddown	HPW - Identified as Area for further assessment in Suir CFRAM Study		No events recorded.		No benefitting lands mapped in village.	

Settlement /Town/ village	Available Data by source					
	CFRAM (HPW or MPW)	PFRAM	www.floodmaps.ie	Local Authority information	Benefitting lands	Flood relief scheme details
Gores-bridge	MPW	Yes, along Gowran river to the north of village.	No flood incident points recorded.	No knowledge of properties being flooded.	No benefitting lands mapped in village.	
Gowran		Yes, to south of village centre along Gowran River.	No events recorded.		No benefitting lands mapped in village.	
Inistioge	HPW - Identified as Area for further assessment in SE CFRAM study		Recurring flood points at GAA pitch on R700 (Thomastown Road)	Recurring flooding in the area from the GAA pitch to the bridge over the river Nore on the R700 (western bank of river). Properties fronting onto the river (between the square and the bridge) have been badly flooded on a number of occasions.	Benefitting lands mapped along River Nore	

Settlement /Town/ village	Available Data by source					
	CFRAM (HPW or MPW)	PFRAM	www.floodmaps.ie	Local Authority information	Benefitting lands	Flood relief scheme details
Johnstown			No events recorded.		No benefitting lands mapped in village.	
Kells	MPW		Recurring flood points recorded at King's River Kells Bridge	R697 near Glory Cottage floods, road impassable on occasions. LP1023 Kells-Stoneyford road also floods circa 750m east of Kells Priory and road can be impassable. Frequency/severity of events increasing.	Benefitting lands mapped along King's River	
Kilmacow	MPW - Suir CFRAM Possible Area for further assessment – not selected as AFA.		No flood incident points recorded in village.	Flooding occurred in 2007 and 2008 on Upper Street in the village. Also flooding affected Dunkitt two houses flooded. Report by Ryan Hanley.	Benefitting lands mapped along River Blackwater	

Settlement /Town/ village	Available Data by source					
	CFRAM (HPW or MPW)	PFRAM	www.floodmaps.ie	Local Authority information	Benefitting lands	Flood relief scheme details
Kilmaganny			No flood incident points recorded in village. Incidents recorded at the Glory River to the north of the settlement.		Benefitting lands mapped along River Srughwadda, Shancashlaun and Glory to the north and west of the village.	
Knocktopher		Yes, along Little Arrigle River.	Recurring flood incident recorded to west of Knocktopher on R699 road and recurring incident to northwest on N10 road near Barretstown.	Regular flooding events on R699 link road from R448 (Old N10) to Knocktopher village and R448 in vicinity of Moanrue X. Floods from Little Arrigle River. Road generally always passable.	Benefitting lands mapped along stream through centre of village	
Moneenroe			No events recorded.		No benefitting lands mapped in village.	

Settlement /Town/ village	Available Data by source					
	CFRAM (HPW or MPW)	PFRAM	www.floodmaps.ie	Local Authority information	Benefitting lands	Flood relief scheme details
Mooncoin	Possible Area for further assessment in Suir CFRAM – not selected.		Flood incident recorded to the northwest of the village	Local information - surface-water/ storm-water run-off along the New Road and Ballytarsna Crossroads Ballytarsna Cross and Chapel St 2009/2010 Drainage measures completed.	No benefitting lands mapped in village.	
Mullinavat	HPW - Identified as Area for further assessment in Suir CFRAM study.		Flood incident recorded on Main street in November 2000	Flooding of Glen Crescent in 2008 and 2009. Works were undertaken in conjunction with the OPW to eliminate flood risk to houses.	Benefitting lands mapped along the River Blackwater to the west of the town.	Included in OPW Minor Flood Mitigation Works & Studies Scheme Approved Projects 2010
New Ross Environs	HPW - Identified as Area for further assessment in SE CFRAM study.		Flood incident recorded at the Quay, in Wexford's administrative area	Flooding occurred on the N24 west of New Ross in 2009. Road closed to all but HGV's for a period of time.	No benefitting lands mapped	Flood defence schemes undertaken over last 15 years.

Settlement /Town/ village	Available Data by source					
	CFRAM (HPW or MPW)	PFRAM	www.floodmaps.ie	Local Authority information	Benefitting lands	Flood relief scheme details
Paulstown			No flood incident points recorded in village		No benefitting lands mapped in village.	
Piltown	HPW - Identified as Area for further assessment in Suir CFRAM study.		Recurring flood points recorded at River Pil, last recorded 28/10/2004.		Benefitting lands mapped along River Pil.	
Slieverue			No flood incident points recorded in village	No occurrences of flooding to the village over the past number of years.	No benefitting lands mapped in village.	
Stoneyford		Yes, along stream through centre.	Two recurring flood incident points recorded on the Main Street	Improved drainage works in the town and its environs in 2009/2010/2011 have eased drainage issues significantly in the main area of the town. No incidents of note have occurred since this work was completed.	Benefitting lands mapped along the stream through the centre of the village.	

Settlement /Town/ village	Available Data by source					
	CFRAM (HPW or MPW)	PFRAM	www.floodmaps.ie	Local Authority information	Benefitting lands	Flood relief scheme details
Urlingford		Yes, in centre and southwest.	No flood incident points recorded in village	No flooding issues in town.	Benefitting lands mapped along River Goul to north, along stream through centre and on lands to southwest of town.	
Kilkenny City	HPW - Rivers Nore and Breaghagh ⁸ in Kilkenny identified as Areas of Further Assessment in SE CFRAMs.		A number of flood incident points recorded for the Breaghagh and the Nore. The last flood recorded for the Nore was in 1997, the last for the Breaghagh in 2006. The most recent Breaghagh flooding affected a sports pitch at the Water Barrack and properties on the Circular Road.	Flooding in Irishtown and Blackmill Street has been addressed through the Nore Flood Relief Scheme. Three locations in the city were subject to flooding: R. Breaghagh on Circular Road, adjacent to Robertshill housing estate and at the Water Barrack and R. Nore at Canal Walk. Flooding at Water Barrack affects the roadway and prevents vehicular access to some properties. Sections of the Breaghagh are cleaned annually to alleviate the	Benefitting lands mapped along River Nore through the centre of the city and also along the R. Breaghagh to the west and Pococke to the east.	Flood Relief Scheme for River Nore was completed in 2005

⁸ River Breaghagh currently under review.

Settlement /Town/ village	Available Data by source					
	CFRAM (HPW or MPW)	PFRAM	www.floodmaps.ie	Local Authority information	Benefitting lands	Flood relief scheme details
				<p>problem. Construction of the Western Environs access road will relieve flooding but not totally eliminate in Circular Road area. Minor river channel maintenance carried out in 2010 on R. Breagagh upstream of Kennyswell Road appears to have been very beneficial to the Circular Road, Robertshill area and no flooding event has taken place since.</p> <p>The R. Nore floods along the Canal Walk, directly downstream of the area remediated under Flood Relief scheme. It affects the Canal Walk footpath and prevents vehicular access to three residences.</p>		

4 Flood Zone Development

Following on from the data collection stage, Stage 2 confirms the sources of flooding, appraises the adequacy of existing information and determines the extent of additional surveys and the degree of modelling that will be required. As set out in the RSES Regional Flood Risk Appraisal Report, and under the Planning Guidelines, the Flood Zone mapping for the County is principally derived from the CFRAM Study where available. However, as can be seen in Table 3.1, a number of settlements in the county are not covered by the CFRAM. In this case, other datasets, as outlined in Table 3.1 were used as supplementary information to inform this SFRA.

Due to the indicative nature of the first generation PFRA mapping and the resulting flood extents, the approach used in this SFRA has been precautionary. All sources of available flood mapping were reviewed in cases where proposed undeveloped lands are zoned for highly or less vulnerable use (where CFRAM was not available).

When the NIF mapping is issued to Local Authorities the data will be used in conjunction with the other available datasets and site visits to provide a countywide Flood Zone dataset, subject to further verification.

The review of the suite of flood risk data has been developed as a spatial planning tool to guide the Council in making land-use zoning and development management decisions and it is recognised that site specific information may contradict the Flood Zones, either to demonstrate a greater or lesser level of flood risk. However, the data has been deemed appropriate for the planning decisions being made at this stage of the plan making process.

5 Settlement Zoning Review

The purpose of land use zoning objectives is to indicate the types of development the Planning Authority considers most appropriate in each land use category. The land use zoning objectives proposed under this Plan must be examined to ensure that all relevant flood risk issues are assessed in relation to the decisions to be made and potential conflicts between flood risk and development are addressed to the appropriate level of detail.

This section of the SFRA will:

- Outline the strategic approach to flood risk management.
- Consider the land use zoning objectives proposed and the flood risk for each settlement and assess the potential vulnerability to flooding.
- Based on the vulnerability of the particular use, establish whether the Justification Test is required.
- Conclusions will be drawn on how flood risk is proposed to be managed in the settlement.

5.1 *The Strategic Approach to Flood Risk Management*

Following the Planning Guidelines, development should always be located in areas of lowest flood risk first, and only when it has been established that there are no suitable alternative options should development (of the lowest vulnerability) proceed. Consideration may then be given to factors which moderate risks, such as defences, and finally consideration of suitable flood risk mitigation and site management measures is necessary. It is important to note that whilst it may be technically feasible to mitigate or manage flood risk at site level, strategically it may not be a sustainable approach.

As there are two different development frameworks proposed under this DCCDP (see Section 1.1, Draft City and County Development Plan) there are two different approaches to this stage, depending on whether a settlement boundary or zoning framework is proposed.

5.2 *Framework - Settlement boundaries*

Under this DCCDP, twenty-two settlements will be subject to settlement boundaries, within which the following objective will apply:

“To encourage development of economic activity, services and infrastructure provision in the smaller towns and villages of the county and allow for town renewal and serviced site housing provision in smaller towns and villages where services are available and or planned, at a scale and character which is proportionate to their scale, in order to sustain and renew population and services in these areas”.

Using a combination of the available datasets, as described earlier, the flood zones were mapped for each of these settlements, see Maps 1-22. Where CFRAM was available, this was used to denote flood zones. Where no CFRAM data was available, an area was denoted within which a site specific flood risk assessment will be required for any development proposal.

The maps illustrate the proposed settlement boundaries under the DCCDP. The proposed settlement boundary was devised having regard to a number of factors, including a consideration of flood risk.

Within these settlement boundaries, the sequential approach should be applied at the development management stage. If a Site Specific FRA demonstrates an unmanageable level of flood risk and/or impacts to 3rd party lands, development cannot proceed. Where CFRAM data was available, the flood zones were identified on the maps. Where CFRAM data was not available, an area of flood risk was identified. Any area within or adjoining a flood zone, or flood risk area, shall be the subject of a site-specific Flood Risk Assessment appropriate to the type and scale of the development being proposed. Section 10.2.6 Flooding of the DCCDP contains text referring to this requirement.

5.3 Framework - Zoned settlements: Kilkenny and New Ross Environs

For each of the two settlements which include zoning under this DCCDP, an iterative process of flood risk assessment has been undertaken.

This has involved the refinement of the zoning objective maps, which have been reviewed and amended according to the Flood Zones and the vulnerability of the proposed development.

Both settlements were included in the SE CFRAMs, and therefore the flood zone maps are based primarily on that.

5.3.1 Application of the Sequential Approach

Having identified the flood zones within the plan areas the next step is to apply the sequential approach to land use planning. The areas of flood risk were overlaid on the current zoning for each settlement. (This was taken from the 2014 Development Plan for New Ross Environs and Variation 6 to the City and Environs Development Plan (2018).) This identified where flood risk management and future development may cause a conflict.

Table 3.2 of the Guidelines sets out how the vulnerability classes interact with the flood zones and when the Justification Test is required, see Table 2.3.

Where some of the settlement is located within either Flood Zone A or B, the need for a further review of flood risk, and the specific zoning objectives, is required. If the proposed zoning was found to be water compatible (such as open space) and located within either Flood Zone A or B, there was no requirement to apply the Justification Test. If, however, less vulnerable uses were proposed for Flood Zone A, or highly vulnerable uses were proposed for Flood Zones A or B, the Justification Test was applied, and if necessary, the zoning objective revised. This process is detailed below.

Note: Vulnerability to pluvial flood risk should not be a limitation to development, but should be incorporated into the local drainage strategy (for Kilkenny City, see Irish Water's *Drainage Area Plan*), therefore areas of pluvial flooding were not subjected to the Sequential approach.

5.3.2 Kilkenny City Zoning Proposals

The Flood Zones in Kilkenny City were overlain on the Zoning Map, taken from the City & Environs Development Plan 2014, Variation 6, see Figure 23a.

A total of 15 zones govern land use in Kilkenny City. The uses permitted within each of these zones were examined in detail to ascertain in what circumstances the (plan level) Justification Test would be required. Four of the zones (Agriculture, Open Space/Biodiversity, Urban Agriculture and Strategic Reserve) do not pose a conflict between flood risk and development, as detailed below.

Agriculture

For the most part, the uses permissible under the Agriculture zoning fall into either the 'Less Vulnerable development' category or the 'Water Compatible development' categories of vulnerability. Houses, guesthouses and nursing homes, which are 'Highly vulnerable developments' are open for consideration within the Agriculture zoning, however, a proviso will be included that they will not be permitted within flood zones A or B. The Draft Plan also proposes to include a proviso that less vulnerable uses will not be permitted within the Agriculture zoning in Flood Zone A. In the case of less vulnerable development in Flood Zone B and Minor Developments in Flood Zone A or B, a suitably detailed site specific FRA should be carried out.

Open Space / Biodiversity

In the main, the uses permissible under the Open Space zoning fall into either the 'Less Vulnerable development' category or the 'Water Compatible development' categories of vulnerability. The Draft Plan also includes a proviso that less vulnerable uses will not be permitted within the Open Space zone in Flood Zone A. Therefore Justification Tests at this plan-making stage are not required for Agriculture zoning. In the case of less vulnerable development in Flood Zone B and Minor Developments in Flood Zone A or B, a suitably detailed site specific FRA should be carried out.

Urban Agriculture

The uses permissible under Urban Agriculture fall into either the 'Less Vulnerable development' category or the 'Water Compatible development' categories of vulnerability. The Draft Plan also includes a proviso that less vulnerable uses will not be permitted within the Urban Agriculture zone in Flood Zone A. In the case of less vulnerable development in Flood Zone B and Minor Developments in Flood Zone A or B, a suitably detailed site specific FRA should be carried out.

Strategic Reserve

For the most part, the uses permissible in Strategic Reserve zoning fall into either the 'Less Vulnerable development' category or the 'Water Compatible development' categories of vulnerability. Houses, guesthouses and nursing homes, which are 'Highly vulnerable developments' are open for consideration within Strategic Reserve, however, a proviso will be included that they will not be permitted within flood zones A or B. The Draft Plan also proposes to include a proviso that less vulnerable uses will not be permitted here within Flood Zone A. In the case of less vulnerable development in Flood Zone B and Minor Developments in Flood Zone A or B, a suitably detailed site specific FRA should be carried out.

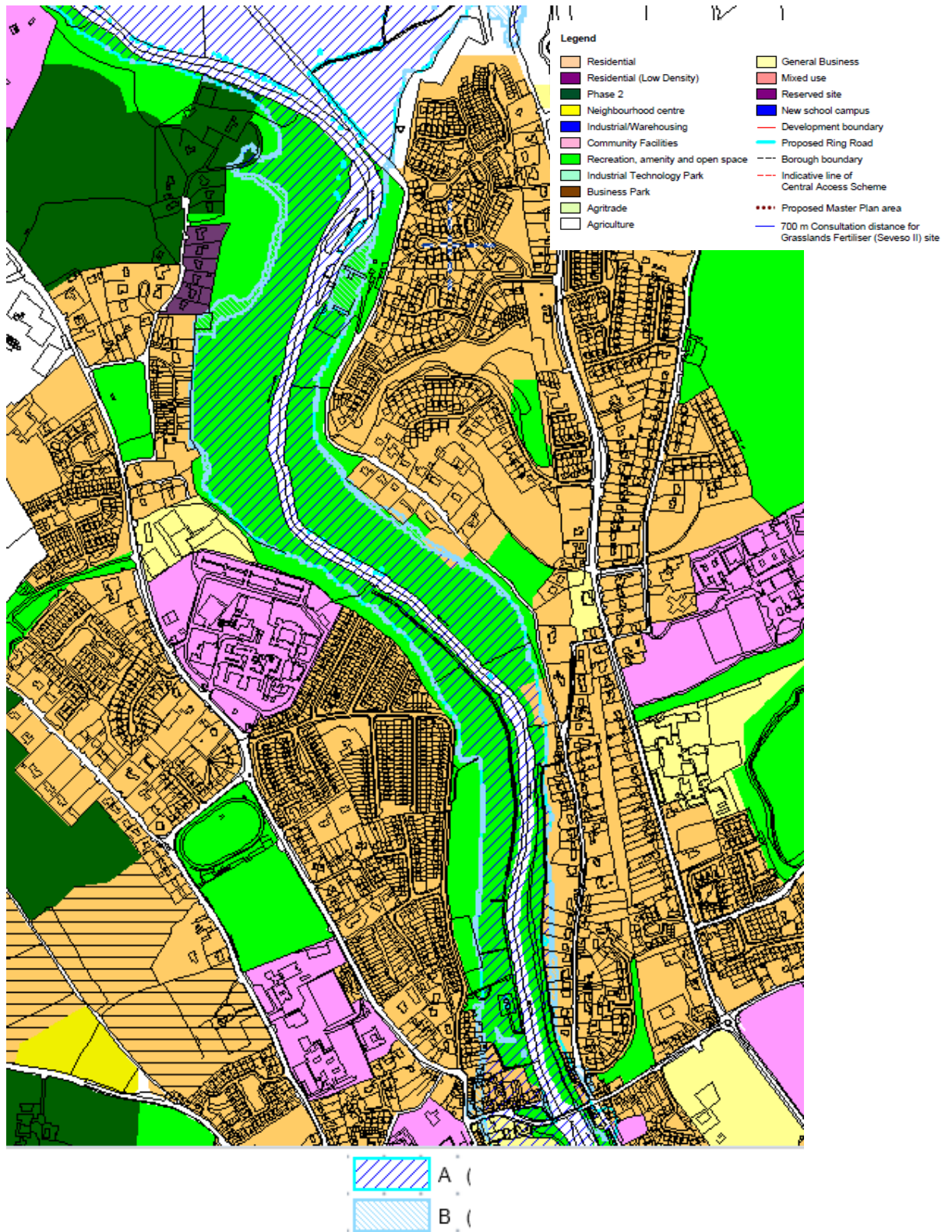
Minor developments

For each of the four zones above, Minor developments, such as extensions to existing uses or structures, and most changes of use, fall under Section 5.28 of the Flooding Guidelines and do not require the Justification Test.

5.3.3 Justification Tests for Kilkenny City

Having examined all the areas of overlap between flood risk and the development objectives, and ruled out the 4 zones as detailed above, a total of six areas of overlap are mapped, and the zoning in each of these areas was examined.

Area 1: Either side of the River Nore, north of Greens Bridge



A large proportion of the land within flood zones A and B is zoned for Open Space. This is a water compatible use, therefore no Justification Test is required.

For the highly vulnerable residential zoning, the Sequential approach was used and this resulted in the avoidance of 2 sites and rezoning as follows:

i. From Residential to Open space on the Bleech Road



ii) From Residential to Open space on the Bleech Road



The amended zoning map, incorporating these 2 changes, is shown on Figure 23b. Only a small amount of residentially zoned land remains within the flood zones, around Greens Bridge. In order for this land to remain zoned for residential use, the zoning must satisfy the Justification Test. The criteria are outlined in Section 2.7 and the test is set out below.

1) The urban settlement is targeted for growth....

Kilkenny is identified as a Key Town in the Southern Regional Spatial and Economic Strategy 2020⁹ and is targeted for growth in the County and City Development Plan.

2) The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement

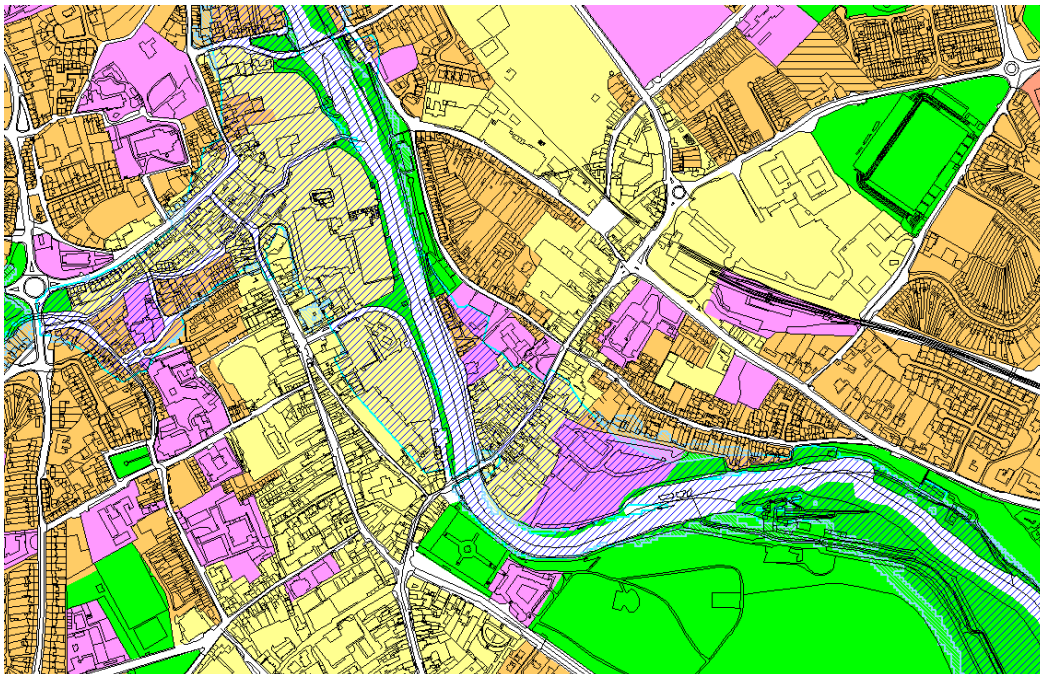
⁹ Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2020

- i. The zoning of this area for residential use is intended mainly to reflect the existing uses in operation. The continued zoning of the land will facilitate the regeneration and/or expansion of the centre.
- ii. All of the land is currently in use.
- iii. All of the land adjoins the core of Kilkenny (as core is defined in the [Flooding Guidelines](#)).
- iv. The continued development of this land is essential in achieving compact and sustainable urban growth as it will provide residential use to Kilkenny.
- v. The zoning of this land reflects the existing uses on the sites, and is intended to facilitate their appropriate expansion. Therefore this land is the most suitable for this purpose.

3) A flood risk assessment to an appropriate level of detail has been carried out....

In the main, this land is built out and the opportunities for future development are limited. In this context, this SFRA contains sufficient information appropriate to the scale and nature of the development potential. Mitigation measures are included in the DCCDP and an objective will state that any development within Flood Zone A or B will be subject to a site specific Flood Risk Assessment appropriate to the scale and type of the development being proposed. This mitigation measure will ensure that any development taking place will not exacerbate any flooding issue. Any vulnerable development proposed will have to satisfy the development management Justification Test.

Area 2: Between Green's bridge and John's Bridge/John Street as far as Maudlin Street/Dublin Road junction, around River Nore and to Dominic Street/Dean Street roundabout around R. Breagagh.



This area forms part of Kilkenny city centre, including the Abbey Quarter, and was zoned for numerous uses, namely General Business, Industrial, Open Space, Residential and Community facilities. Open space is a water compatible use and does not require the

Justification test, however the other uses, all of which are partially located within Flood Zone A, must satisfy the Justification Test. The criteria are outlined in Section 2.7 and the test is set out below.

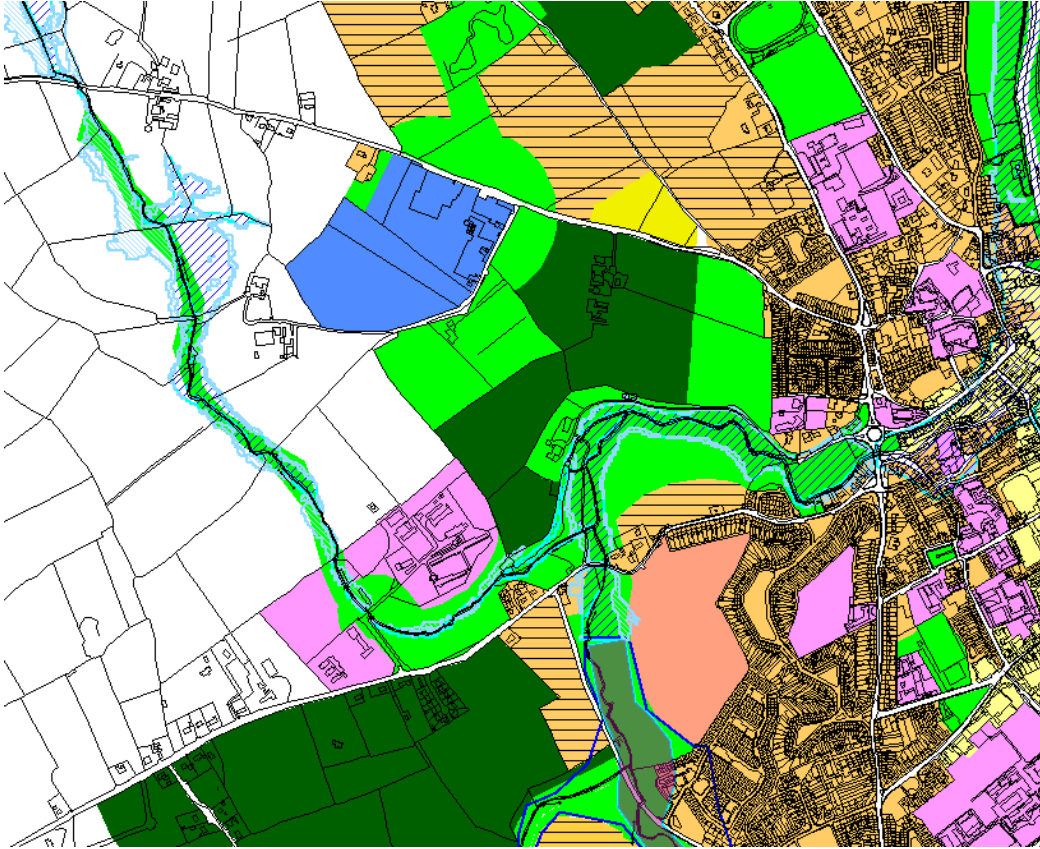
- 1) The urban settlement is targeted for growth....
Kilkenny is identified as a Key Town in the Southern Regional Spatial and Economic Strategy 2020¹⁰ and is targeted for growth in the County and City Development Plan.
- 2) The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement
 - i. The zoning of this area for this range of uses is intended mainly to reflect the existing uses in operation. The General Business zoning of the Abbey Quarter is essential to facilitate the regeneration and/or expansion of the centre.
 - ii. The land comprises significant previously developed and/or under-utilised lands.
 - iii. All of the land is within the core of Kilkenny (as core is defined in the [Flooding Guidelines](#)).
 - iv. The continued development of this land is essential in achieving compact and sustainable urban growth.
 - v. There are no suitable alternative lands within or adjoining the core to provide such city centre uses.
- 3) A flood risk assessment to an appropriate level of detail has been carried out....

In the main, apart from the Abbey Quarter, this land is built out and the opportunities for future development are limited. In this context, this SFRA contains sufficient information appropriate to the scale and nature of the development potential. The Abbey Quarter has significant development potential. A Flood Risk Assessment was prepared as part of the preparation of the Abbey Quarter Masterplan¹¹. Any development taking place will not exacerbate any flooding issue. Any vulnerable development proposed will have to satisfy the development management Justification Test.

Area 3: West of Dominic Street/Dean Street roundabout around Breaghagh, north of Croker's Hill.

¹⁰ Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2020

¹¹ <https://www.kilkennycoco.ie/eng/Services/Planning/Abbey-Quarter-Brewery-site/Appendix-D-Flood-Risk-Assessment.pdf>



This area lies to the west of the city centre and is zoned for numerous uses, namely Residential, Open Space, Community facilities and Agriculture. For the most part, the land within flood zones A and B are zoned as Open Space and Agriculture, which as discussed above, do not require the Plan making Justification Test.

For more vulnerable uses, the Sequential approach was used and this resulted in the avoidance of a site and rezoning as follows:

From Residential to Open Space at the Kilmanagh Road and Circular Road junction (Teehan's cottage).



One area of residential zoning remains within Flood zones A and B, near the Dean Street roundabout. As a highly vulnerable use, this must be subjected to the Justification Test, as follows:

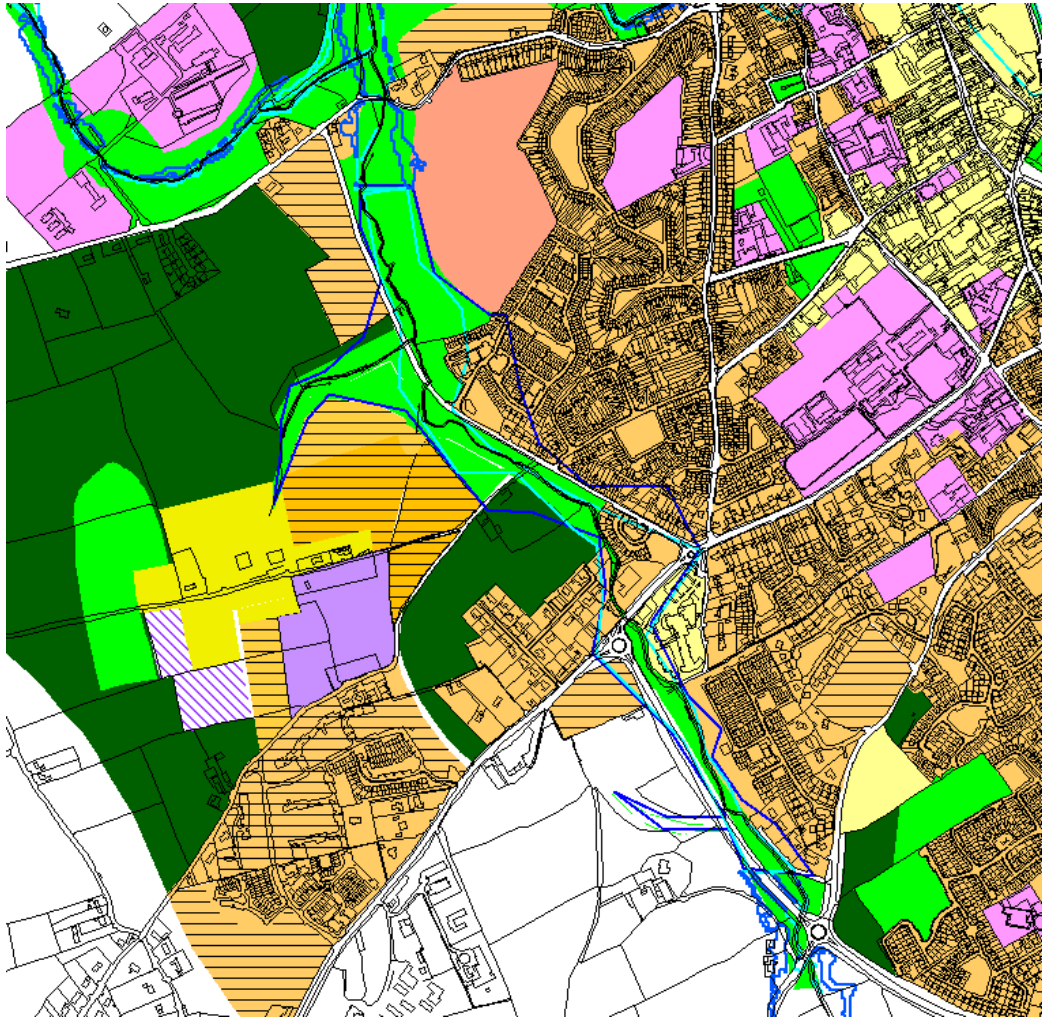
- 1) The urban settlement is targeted for growth....
Kilkenny is identified as a Key Town in the Southern Regional Spatial and Economic Strategy 2020¹² and is targeted for growth in the County and City Development Plan.
- 2) The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement
 - i. The zoning of this area for residential use is intended mainly to reflect the existing uses in operation. The continued zoning of the land will facilitate the regeneration and/or expansion of the centre.
 - ii. All of the land is currently in residential use.
 - iii. All of the land adjoins the core of Kilkenny (as core is defined in the [Flooding Guidelines](#)).
 - iv. The continued development of this land is essential in achieving compact and sustainable urban growth as it will provide residential use to Kilkenny.
 - v. The zoning of this land reflects the existing uses on the sites, and is intended to facilitate their appropriate expansion. Therefore this land is the most suitable for this purpose.
- 2) A flood risk assessment to an appropriate level of detail has been carried out....

In the main, this land is built out and the opportunities for future development are limited. In this context, this FRA contains sufficient information appropriate to the scale and nature of the development potential. Mitigation measures are included in the DCCDP and an objective will state that any development within Flood Zone A or B will be subject to a site specific Flood Risk Assessment appropriate to the scale and type of the development being proposed. This mitigation measure will ensure that any development taking place will not

¹² Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2020

exacerbate any flooding issue. Any vulnerable development proposed will have to satisfy the development management Justification Test.

Area 4: South of Croker's Hill around the River Breaghagh, to the Kells road roundabout.



This area adjoins the city centre and is zoned for numerous uses, namely Mixed use, Residential, Open Space, Phase 2, Neighbourhood centre and Agriculture.

Both Open Space and Phase 2 (development not to take place during the lifetime of this plan) are considered water compatible uses. In the Draft Plan, the Strategic Reserve zoning has replaced the Phase 2. The Strategic Reserve zone does not pose a conflict, as detailed earlier. As set out in Table 3.1, the Breaghagh is undergoing review by the OPW. The source of flood zone mapping is uncertain as it is based on the 1st generation PFRA, however no decision on land zoning has been made, and this area will be reviewed in the light of more detailed flood zone mapping at the next stage of the DP.

The amended zoning map is shown on Figure 23b. Only a small amount of zoned land (General Business and Residential) remains within either Flood zone A or B, near the Callan Road roundabout and Ring Road. As both zones can contain residential uses, which are a highly vulnerable use, they must be subjected to the Justification Test, as follows:

1) The urban settlement is targeted for growth....

Kilkenny is identified as a Key Town in the Southern Regional Spatial and Economic Strategy 2020¹³ and is targeted for growth in the County and City Development Plan.

2) The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement

- i. The zoning of this area for residential and General Business use is intended mainly to reflect the existing uses; Hotel Kilkenny, private residences and some sites with permission for residential use. The continued zoning of the land will facilitate the regeneration and/or expansion of the centre.
- ii. The land comprises significant previously developed and/or under-utilised lands.
- iii. All of the land adjoins the core of Kilkenny (as core is defined in the [Flooding Guidelines](#)).
- iv. The continued development of this land is essential in achieving compact and sustainable urban growth.
- v. The zoning of this land reflects the existing uses on the sites, and is intended to facilitate their appropriate expansion. Therefore this land is the most suitable for this purpose.

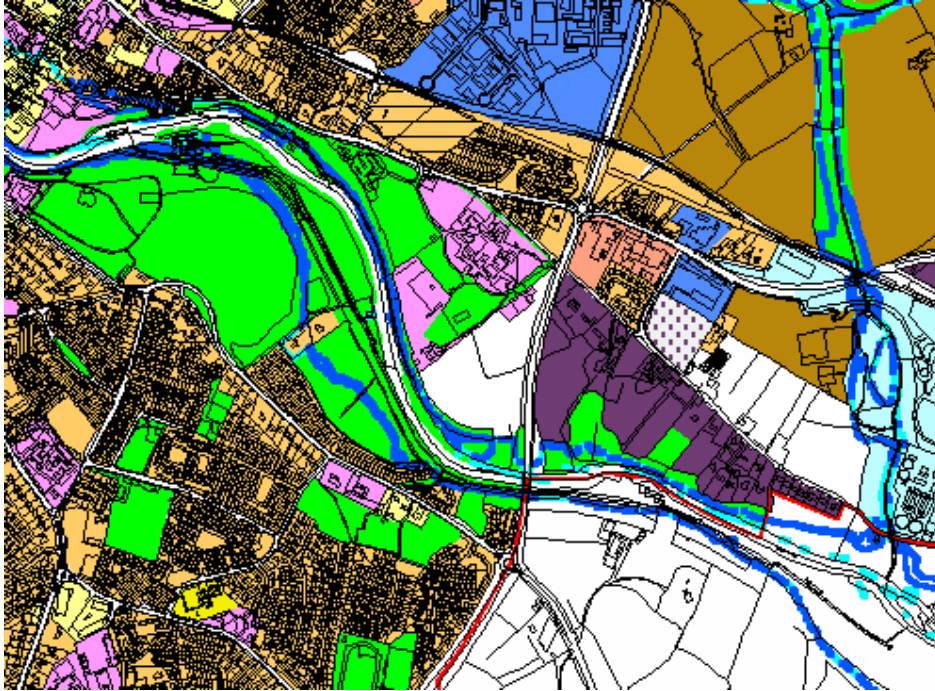
3) A flood risk assessment to an appropriate level of detail has been carried out....

In the main, the zoning of this land for water compatible uses in the area covered by the indicative PFRA is appropriate. A site specific FRA was carried out for the only site with significant development potential.

In this context, this FRA contains sufficient information appropriate to the scale and nature of the development potential. Mitigation measures are included in the DCCDP and an objective will state that any development within Flood Zone A or B will be subject to a site specific Flood Risk Assessment appropriate to the scale and type of the development being proposed. This mitigation measure will ensure that any development taking place will not exacerbate any flooding issue. Any vulnerable development proposed will have to satisfy the development management Justification Test.

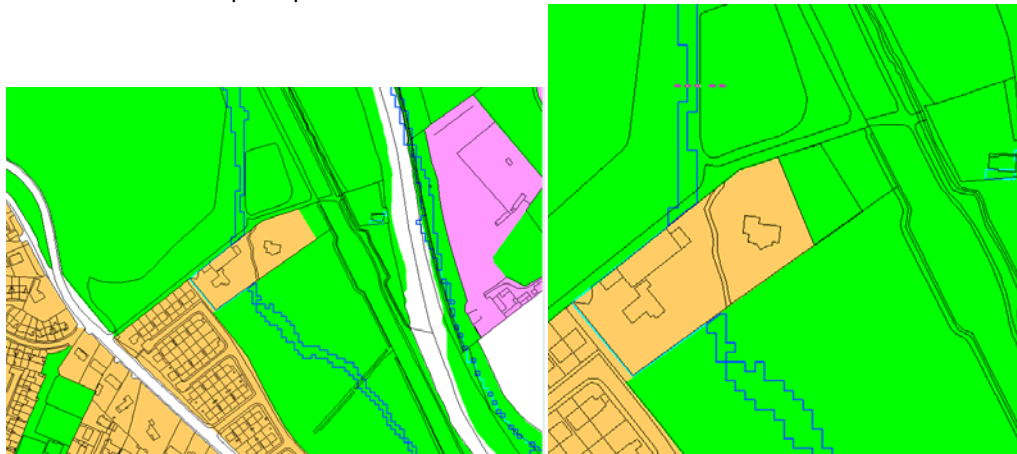
¹³ Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2020

Area 5: From Lacken Mill to City's eastern boundary around the River Nore.



For the less and highly vulnerable uses, the Sequential approach was used and this resulted in the avoidance of a greenfield site and rezoning as follows:

From Residential to Open Space at Canal Walk.



Only a small amount of zoned land (Residential) remains within either Flood zone A or B. As residential is a highly vulnerable use, these parcels must be subjected to the Justification Test, as follows:

1) The urban settlement is targeted for growth....

Kilkenny is identified as a Key Town in the Southern Regional Spatial and Economic Strategy 2020¹⁴ and is targeted for growth in the County and City Development Plan.

2) The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement

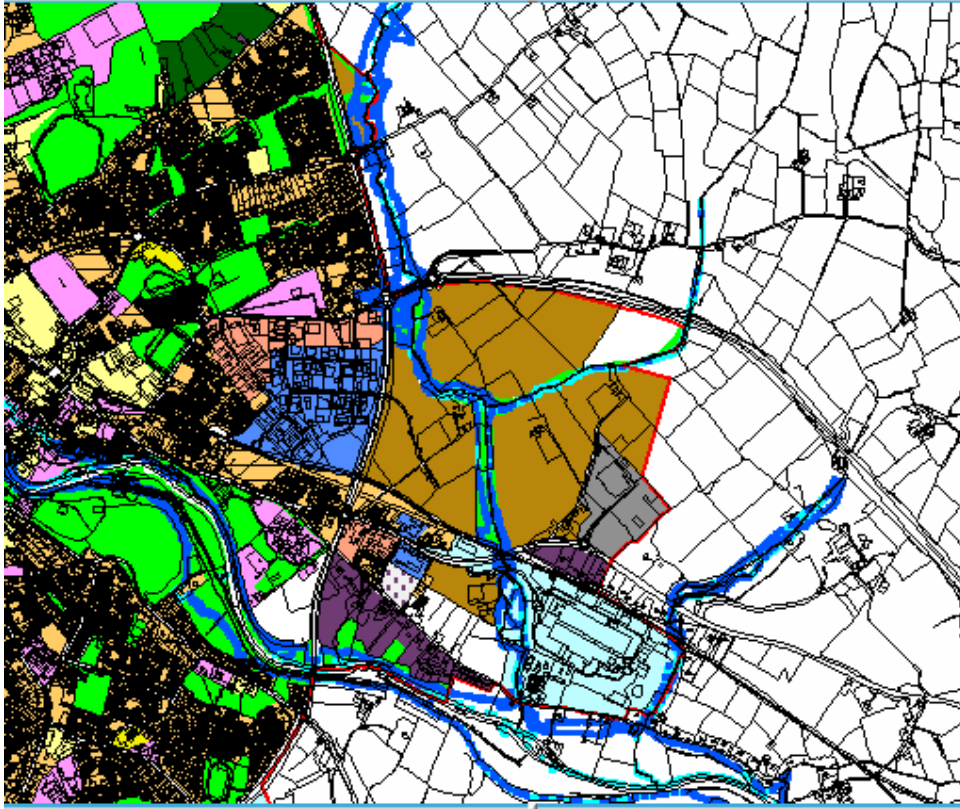
- i. The zoning of this area for residential use is intended mainly to reflect the existing uses of private residences. The continued zoning of the land will facilitate the regeneration and/or expansion of the centre.
- ii. The land comprises significant previously developed and/or under-utilised lands.
- iii. All of the land adjoins the core of Kilkenny (as core is defined in the [Flooding Guidelines](#)).
- iv. The continued development of this land is essential in achieving compact and sustainable urban growth.
- v. The zoning of this land reflects the existing uses on the sites, and is intended to facilitate their appropriate expansion. Therefore this land is the most suitable for this purpose.

4) A flood risk assessment to an appropriate level of detail has been carried out....

In the main, this land is built out and the opportunities for future development are limited. In this context, this FRA contains sufficient information appropriate to the scale and nature of the development potential. Mitigation measures are included in the DCCDP and an objective will state that any development within Flood Zone A or B will be subject to a site specific Flood Risk Assessment appropriate to the scale and type of the development being proposed. This mitigation measure will ensure that any development taking place will not exacerbate any flooding issue. Any vulnerable development proposed will have to satisfy the development management Justification Test.

Area 6: Area around Pocke River to east of city

¹⁴ Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2020



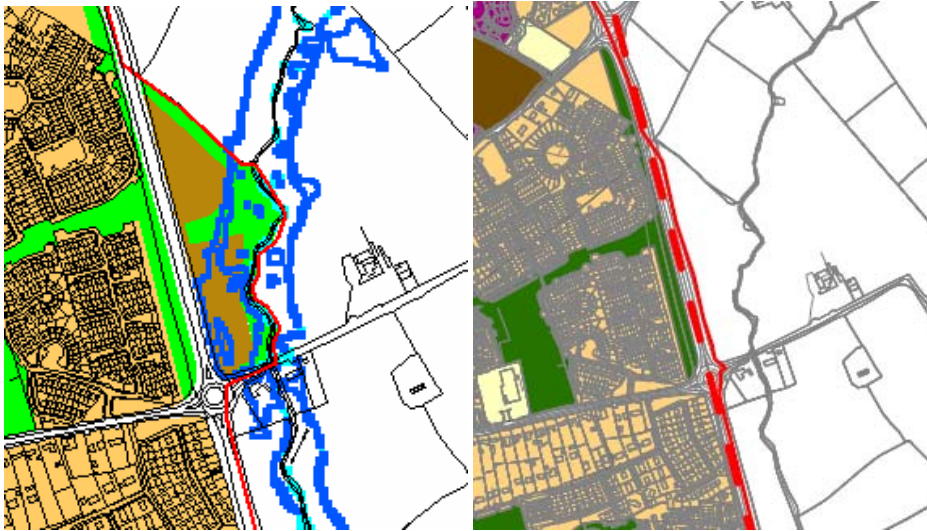
This area lies to the east of the city centre and is zoned for numerous uses, namely Industrial/Technology park, Residential, Open Space, Business park and Residential. For the most part, the area is undeveloped.

For the less and highly vulnerable uses, the Sequential approach was used and this resulted in the avoidance of sites and rezoning as follows:

- From Industrial/Technology Park to Open space at Purcellsinch (west and east sides).



- From Business park to outside the development boundary at the Pococke.



The amended zoning map is shown on Figure 23b. Only a small amount of General Business zoning remains within the flood zones at the M9 Motorway/Hebron Road roundabout.

As vulnerable uses, this land must be subjected to the Justification Test, as follows:

1) The urban settlement is targeted for growth....

Kilkenny is identified as a Key Town in the Southern Regional Spatial and Economic Strategy 2020¹⁵ and is targeted for growth in the County and City Development Plan.

2) The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement

- vi. The zoning of this area for General Business use reflects the existing use of a fast food takeaway/restaurant. The continued zoning of the land will facilitate the regeneration and/or expansion of the centre.
- vii. The land comprises significant previously developed and/or under-utilised lands.
- viii. All of the land adjoins the core of Kilkenny (as core is defined in the [Flooding Guidelines](#)).
- ix. The continued development of this land is essential in achieving compact and sustainable urban growth.
- x. The zoning of this land reflects the existing uses on the sites, and is intended to facilitate their appropriate expansion. Therefore this land is the most suitable for this purpose.

5) A flood risk assessment to an appropriate level of detail has been carried out....

In the main, this land is built out and the opportunities for future development are limited. In this context, this FRA contains sufficient information appropriate to the scale and nature of the development potential. Mitigation measures are included in the DCCDP and an objective will state that any development within Flood Zone A or B will be subject to a site specific Flood Risk Assessment appropriate to the scale and type of the development being

¹⁵ Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2020

proposed. This mitigation measure will ensure that any development taking place will not exacerbate any flooding issue. Any vulnerable development proposed will have to satisfy the development management Justification Test.

5.3.4 Environs of New Ross Zoning Proposals

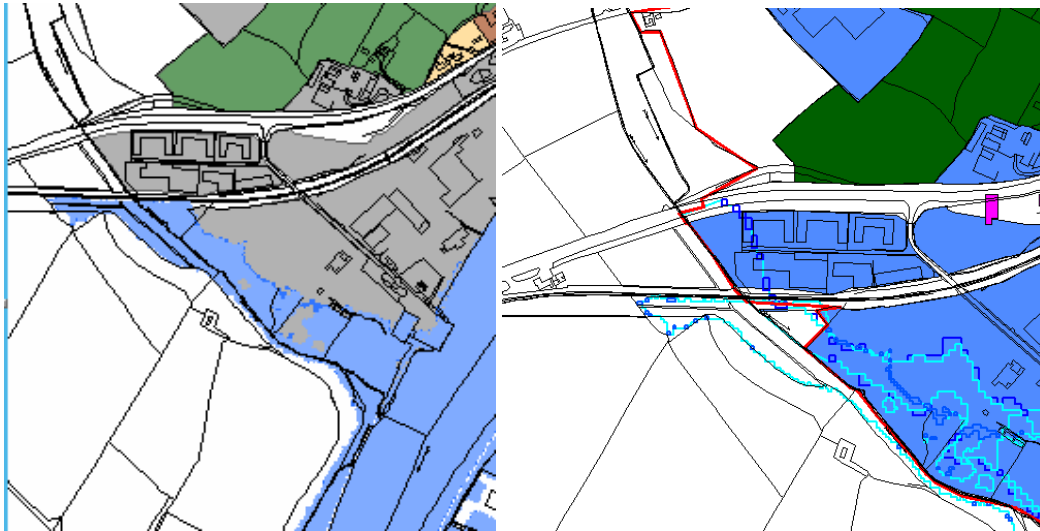
The Flood Zones in the Environs of New Ross were overlain on the Zoning Map, taken from the County Development Plan, 2014.

An area of possible conflict between flood risk and future development was identified around the Port area. The Sequential approach was used and this resulted in the avoidance of one greenfield site as follows:

- From Industrial to outside the Development boundary.

i) the industrial zoning in the south.

Just south of the rail line there is an area of greenfield land of approx. 0.6 hectares. Following the sequential approach, this land will be avoided, and the development boundary will be redrawn to exclude this parcel of land.



This is shown on Map 24a.

Under the proposed zoning for New Ross Environs, this area is included as Industrial. In order for this land to remain zoned, the zoning must satisfy the Justification Test. The criteria are outlined in Section 1.5 and the test is set out below.

1) The urban settlement is targeted for growth....

New Ross is identified as a Hinterland Town in the Southern Regional Spatial and Economic Strategy 2020, and is targeted for growth in both the Wexford Draft County Development Plan 2021 and the Kilkenny County Development Plan. According to the RSES, *"Sustainable growth of settlements in the Hinterland Area provides long-term options for employment and*

residential locations, where the towns of Carrick-on-Suir, New Ross and Tramore can be supported by sustainable transport links to the Metropolitan Area."

2) The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement

- a. The zoning of this area for industrial development is intended mainly to reflect the existing uses in operation. The continued zoning of the land will facilitate the regeneration and/or expansion of the centre.
- b. Most of the land is currently in use.
- c. The land adjoins the core of New Ross (as core is defined in the [Flooding Guidelines](#)).
- d. The continued development of this land is essential in achieving compact and sustainable urban growth as it provides employment and services to New Ross.
- e. The zoning of this land reflects the existing uses on the sites, and is intended to facilitate their appropriate expansion. Therefore this land is the most suitable for this purpose.

3) A flood risk assessment to an appropriate level of detail has been carried out....

In the main, this land is built out and the opportunities for future development are limited. In this context, this FRA contains sufficient information appropriate to the scale and nature of the development potential. Mitigation measures are included in the DCCDP and an objective will state that any development within Flood Zone A or B will be subject to a site specific Flood Risk Assessment appropriate to the scale and type of the development being proposed. This mitigation measure will ensure that any development taking place will not exacerbate any flooding issue. Any vulnerable development proposed will have to satisfy the development management Justification Test.

See Figure 24b for the revised zoning proposed for New Ross Environs.

6 Recommendations

This SFRA considers Kilkenny county, and towns and villages for which a specific development framework is included in the DCCDP.

For those functional areas where strategic land-use decisions will be made through any Local Area Plans, it is recommended that detailed flood risk assessments are carried out in respect of each such area.

For the settlements identified through this SFRA that are covered by either Flood Zone A or B, text will be included in Chapter 10 of the DCCDP to ensure that development proposals shall be the subject of a site-specific Flood Risk Assessment, appropriate to the type and scale of the development being proposed and shall be carried out in line with the Flooding Guidelines. Detailed guidance is set out below.

6.1 Development Management and Flood Risk

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

It should be noted that this section of the SFRA begins from the point that all land zoned for development has passed the Justification Test for Development Plans, and therefore passes Part 1 of the Justification Test for Development Management – which states that the land has in the first instance been zoned accordingly in a development plan (that underwent an SFRA).

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

6.1.1 Requirements for a Flood Risk Assessment

As specified under Chapter 10 of the DCCDP, assessment of flood risk is required in support of any planning application where flood risk may be an issue, and this may include sites in Flood Zone C (low probability of flooding) where a watercourse or field drain exists nearby. The level of detail will vary depending on the risks identified and the proposed land use. As a minimum, all proposed development, including that in Flood Zone C, must consider the impact of surface water flood risks on drainage design. In addition, flood risk from sources other than fluvial should be reviewed.

For sites within Flood Zone A or B (high/moderate probability of flooding), a site specific "Stage 2 - Initial FRA" will be required and may need to be developed into a "Stage 3 - Detailed FRA". The extents of Flood Zone A and B are delineated through this SFRA.

However, future studies may refine the extents (either to reduce or enlarge them) so a comprehensive review of available data should be undertaken once an FRA has been triggered.

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

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

6.1.2 Drainage Design

As set out in Chapter 10, all proposed development, whether in Flood Zone A, B or C, must consider the impact of surface water flood risks on drainage design as specified by the surface water management policies in the Greater Dublin Strategic Drainage Study (GSDSDS) and this will be considered in the planning process. This may be in the form of a section within the flood risk assessment (for sites in Flood Zone A or B) or part of a surface water management plan.

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

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

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

6.1.3 Development Proposals in Flood Zone C

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

The impacts of climate change should be considered for all proposed developments. A development which is currently in Flood Zone C may be shown to be at risk when 0.5m is added to the extreme (1 in 200 year) tide.

6.1.4 Applications for Developments in Flood Zone A or B

6.1.4.1 Minor Developments

Section 5.28 of the *Planning Guidelines on Flood Risk Management* identifies certain types of development as being 'minor works' and therefore exempt from the Justification Test. Such development relates to works associated with existing developments, such as extensions, renovations and rebuilding of the existing development, small scale infill and changes of use.

Despite the 'Sequential Approach' and 'Justification Test' not applying, as they relate to existing buildings, an assessment of the risks of flooding should accompany such applications. This must demonstrate that the development would not increase flood risks, by introducing significant numbers of additional people into the flood plain and/or putting additional pressure on emergency services or existing flood management infrastructure. The development must not have adverse impacts or impede access to a watercourse, floodplain or flood protection and management facilities. Where possible, the design of built elements in these applications should demonstrate principles of flood resilient design (See '*The Planning System and Flood Risk Management Guidelines for Planning Authorities Technical Appendices, 2009*', Section 4 - *Designing for Residual Flood Risk*).

Generally, the approach to deal with flood protection would involve raising the ground floor levels above the level of extreme river levels. If this leads to floor levels being much higher than adjacent streets it could create a hostile streetscape for pedestrians. This would cause problems for infill development sites if floor levels were required to be significantly higher than those of neighbouring properties. In this regard, it has been recognised that some flexibility could be allowed, in limited circumstances, on a site by site basis, for commercial and business developments. In these cases, the detailed design of the development should reflect the vulnerability of the site in terms of materials, fixtures and fittings and internal layout. For high risk areas, less vulnerable uses are encouraged at ground floor levels. A site-specific FRA will inform appropriate uses and detailed design and layout.

It should be noted that for residential buildings within Flood Zone A or B, bedroom accommodation is more appropriate at upper floor levels.

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

6.1.4.2 Highly Vulnerable Development in Flood Zone A or B

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

6.1.4.3 New Development

It is not appropriate for new highly vulnerable development to be located on greenfield land in Flood Zones A or B, particularly outside the core of a settlement and where there are no flood defences. Such proposals do not pass the Justification Test. Instead, a less vulnerable use should be considered.

6.1.4.4 Existing Developed Areas

In cases where development has been justified, the outline requirements for a flood risk assessment and flood management measures have been detailed in this SFRA. Of prime importance is the requirement to manage risk to the development site and not to increase flood risk elsewhere. This should give due consideration to safe evacuation routes and access for emergency services during a flood event.

6.1.4.5 Less Vulnerable Development in Flood Zone A or B

Less vulnerable development includes retail, leisure, warehousing, technology, enterprise and buildings used for agriculture and forestry, see Table 2.2.

The design and assessment of less vulnerable development should generally begin with 1% AEP fluvial event as standard, with climate change and a suitable freeboard included in the setting of finished floor levels. The site-specific FRA should ensure that the risks are defined, understood, and accepted. Operability and emergency response should also be clearly defined. In a limited number of cases this may allow construction as low as the 1% AEP level to be adopted, provided the risks of climate change are included in the development through adaptable designs or resilience measures.

6.2 Key Points for FRA for all types of Development

- Finished floor levels to be set above the 1% AEP fluvial (0.5% AEP tide) level, with an allowance for climate change plus a freeboard of at least 300mm. The freeboard allowance should be assessed, and the choice justified.
- Flow paths through the site and areas of surface water storage should be managed to maintain their function and without causing increased flood risk elsewhere.
- Compensatory storage is to be provided to balance floodplain loss as a result of raising ground levels within Flood Zone A. The storage should be provided within the flood cell and on a level for level basis up to the 1% level.
- In a defended site, compensatory storage is not required, but the impact of removing the net reduction in floodplain storage should be assessed, and any impacts to existing development mitigated for the 0.1% event or a breach of these defences.
- A site is considered to be defended if the standard of protection is 1% AEP, within which a freeboard of at least 300mm is included. The FFL of the proposed development needs to take into account the impacts of climate change and other residual risks, including the 0.1% event, unless this has also been incorporated into the defence design. This may be assessed through breach analysis, overtopping analysis or projection of levels from the channel inland.
- For less vulnerable development, it may be that a finished floor level as low as the 1% AEP level could be adopted, provided the risks of climate change are included in

the development through adaptable designs or resilience measures. This approach should reflect emergency planning and business continuity to be provided within the development. It may reflect the design life of the development, the proposed use, the vulnerability of items to be kept in the premises, the occupants and users, emergency plan and inclusion of flood resilience and recovery measures.

6.3 Incorporating Climate Change into Development Design

In all developments, climate change should be considered when assessing flood risk and in particular residual flood risk. Consideration of climate change is particularly important where flood alleviation measures are proposed, as the design standard of the proposal may reduce significantly in future years due to increased rainfall, river flows and sea levels.

The *Guidelines* recommend that a precautionary approach to climate change is adopted due to the level of uncertainty involved in the potential effects. A significant amount of research into climate change has been undertaken on both a national and international front, and updates are ongoing.

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

Table 6.1 Allowances for Future Scenarios (100-year Time Horizon)

Criteria	MRFS	HEFS
Extreme Rainfall Depths	+20%	+30%
Flood Flows	+20%	+30%
Mean Sea Level Rise	+500mm	+1000mm
Land Movement	-0.5mm / year*	-0.5mm / year*
Urbanisation	No General Allowance - Review on Case by Case Basis	No General Allowance - Review on Case by Case Basis
Forestation	-1/6 Tp**	-1/3 Tp** +10% SPR***
<p>Notes:</p> <p>* Applicable to the southern part of the country only (Dublin - Galway and south of this)</p> <p>** Reduce the time to peak (Tp) by a third; this allows for potential accelerated runoff that may arise as a result of drainage of afforested land</p> <p>*** Add 10% to the Standard Percentage Runoff (SPR) rate; this allows for increased runoff rates that may arise following felling of forestry</p>		

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

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

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

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

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

In general, climate change will be accounted for by the setting of finished floor levels to a height which includes an allowance for climate change. However, climate change may also reveal additional flow paths which need to be protected or give rise to flows which exceed culvert capacity or overtop defences. These outcomes will need to be specifically investigated for each site, and an appropriate response provided.

6.4 Flood Mitigation Measures at Site Design

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

Various mitigation measures are outlined below and further detail on flood resilience and flood resistance are included in the Technical Appendices of the Guidelines.

6.4.1.1 Site Layout and Design

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

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

6.4.1.2 Ground Levels, Floor Levels and Building Use

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

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

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

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

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

6.4.1.3 Raised Defences

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

6.5 'Green Corridor'

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

- Retention of all, or some, of the natural floodplain;
- Potential opportunities for amenity, including riverside walks and public open spaces;
- Maintenance of the connectivity between the river and its floodplain, encouraging the development of a full range of habitats;
- Natural attenuation of flows will help ensure no increase in flood risk downstream;
- Allows access to the river for maintenance works.

The width of this corridor should be determined by the available land, and topographical constraints, such as raised land and flood defences, but would ideally span the fully width of the floodplain (i.e. all of Flood Zone A).

6.5.1 Surface Water Drainage

This SFRA has also included a review of the current text in relation to flooding and surface water drainage. In line with the recommendations of the Guidelines, changes are proposed to the surface water drainage text to encourage the use of Sustainable Drainage Systems.

The proposed text is set out below.

6.6 Monitoring and Review

As outlined in Section 2, additional information, in the form of second generation PFRA mapping, or NIFM will be made available from the OPW soon that will inform flood risk assessments in the County. We are also awaiting the revised Breaghagh mapping.

It is recommended that the OPW be consulted and information on these two elements be updated prior to the preparation of any amendments to the Draft.

This SFRA is based on currently available data and in accordance with its status as a “living document” it will be subject to modification by these emerging datasets of maps and plans as they become available.

7 Maps

Maps are included for the following settlements:

Settlement boundary maps:

- 1) Ballyhale
- 2) Ballyragget
- 3) Bennettsbridge
- 4) Clogh-Chatsworth
- 5) Fiddown
- 6) Freshford
- 7) Goresbridge
- 8) Gowran
- 9) Inistioge
- 10) Johnstown
- 11) Kells
- 12) Kilmacow
- 13) Kilmaganny
- 14) Knocktopher
- 15) Moneenroe
- 16) Mooncoin
- 17) Mullinavat

- 18) Paulstown
- 19) Piltown
- 20) Slieverue
- 21) Stoneyford
- 22) Urlingford

Zoning maps:

- 23a) Kilkenny – Areas of flood risk on Variation 6 Zoning Map
- 23b) Kilkenny – Areas of flood risk on Draft Zoning Map
- 24 a) New Ross Environs – Areas of flood risk on Variation 2 Zoning Map
- 24b) New Ross Environs – Areas of flood risk on Draft zoning map

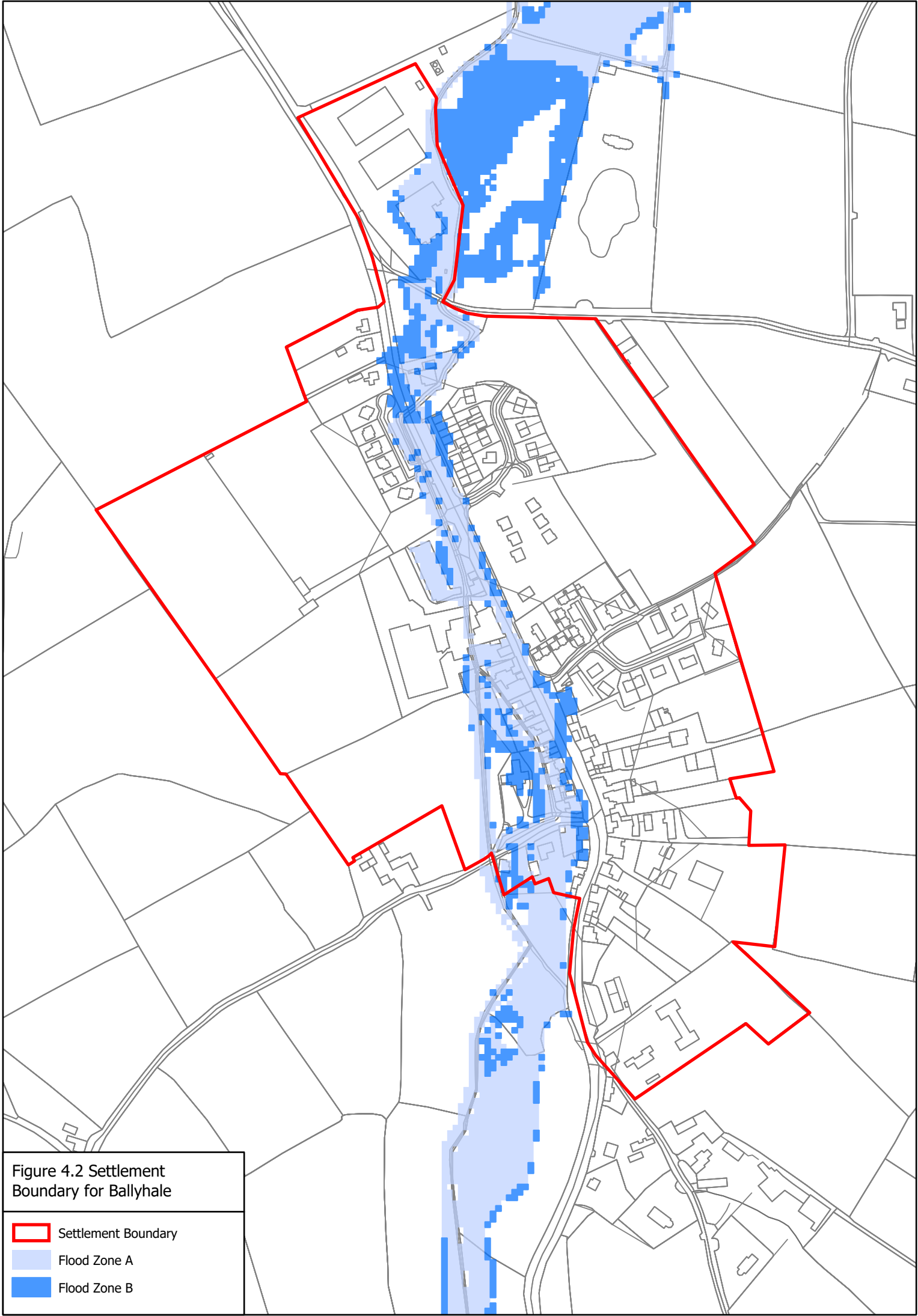





Figure 4.2 Settlement Boundary for Ballyhale

-  Settlement Boundary
-  Flood Zone A
-  Flood Zone B

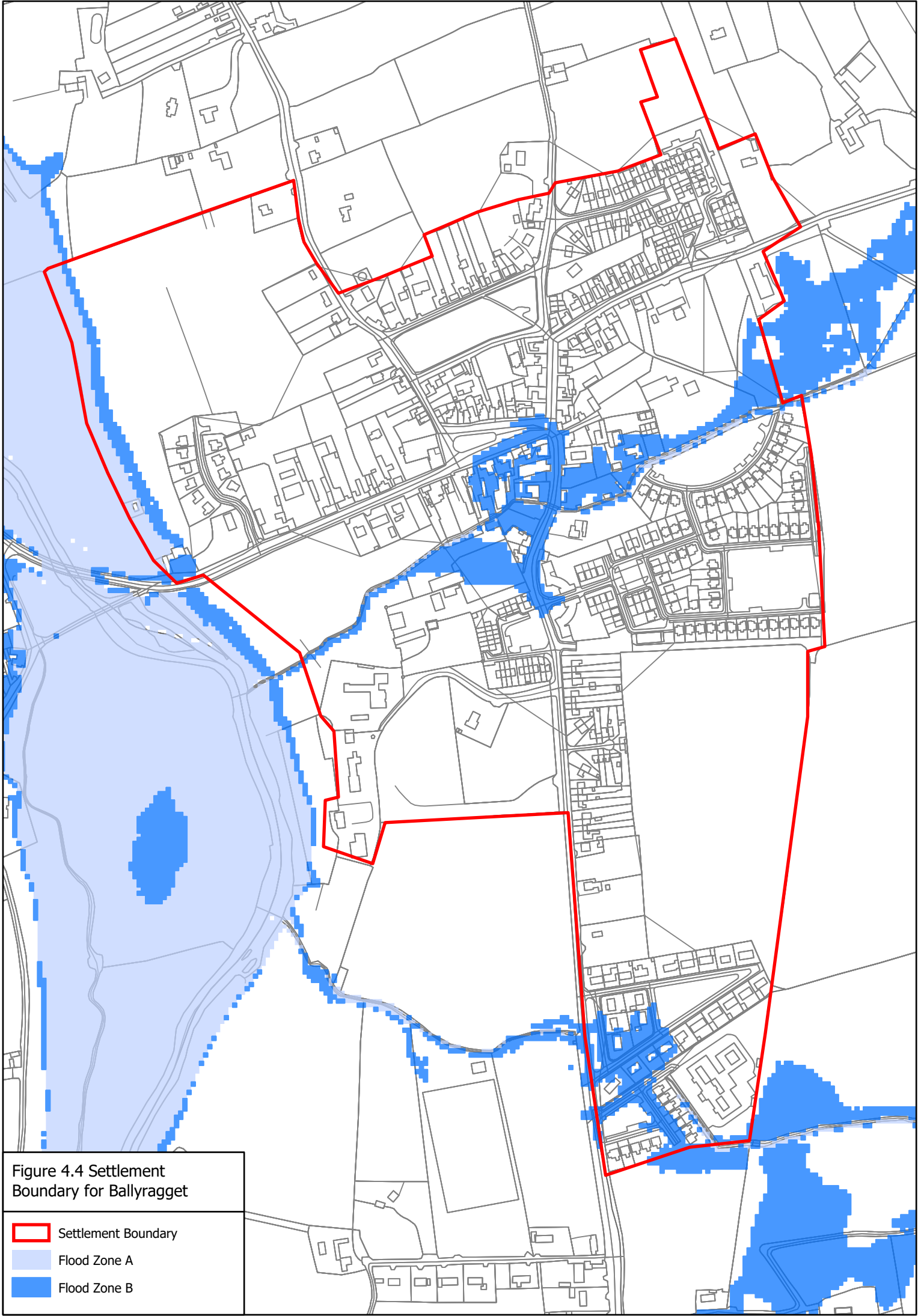



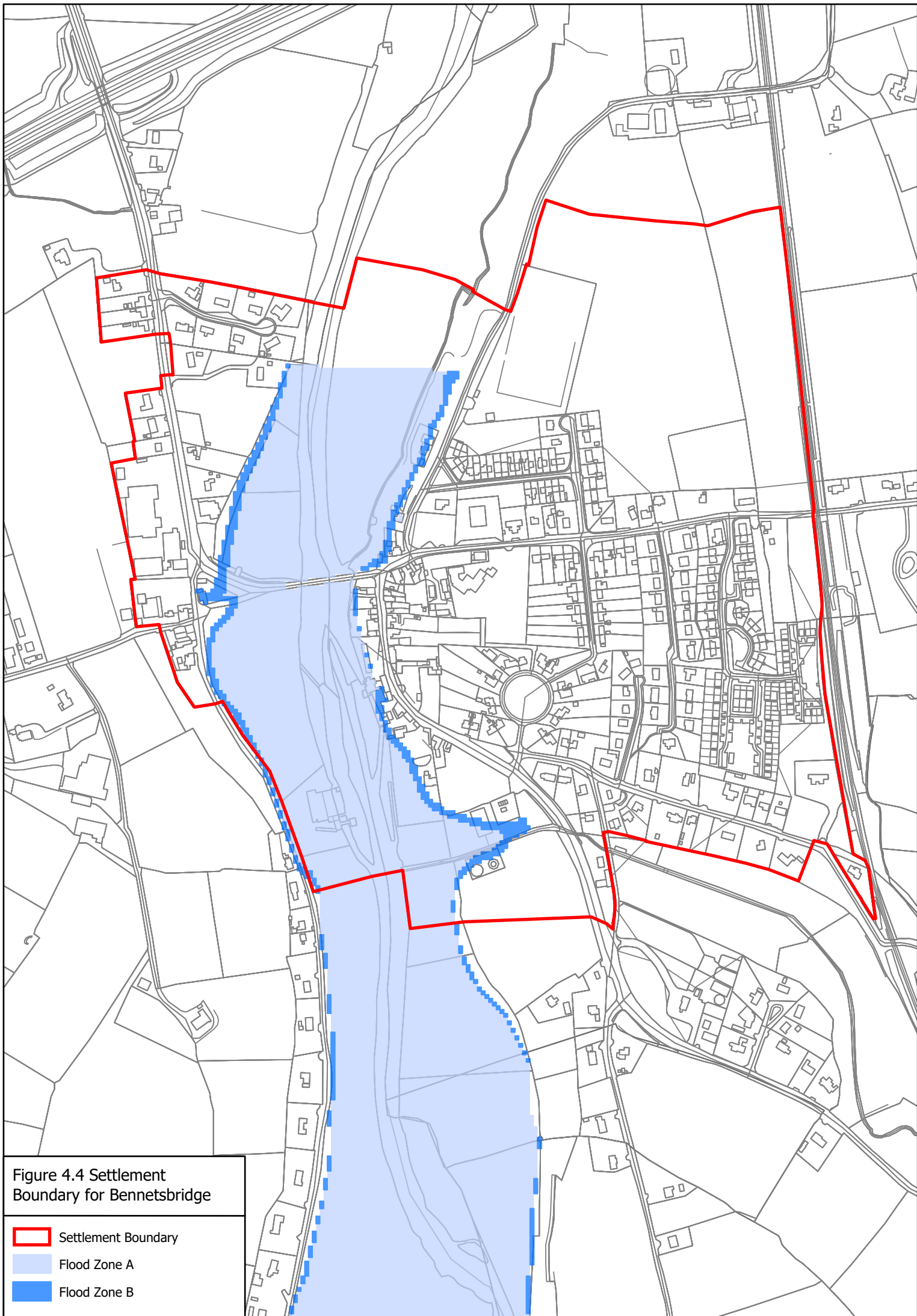


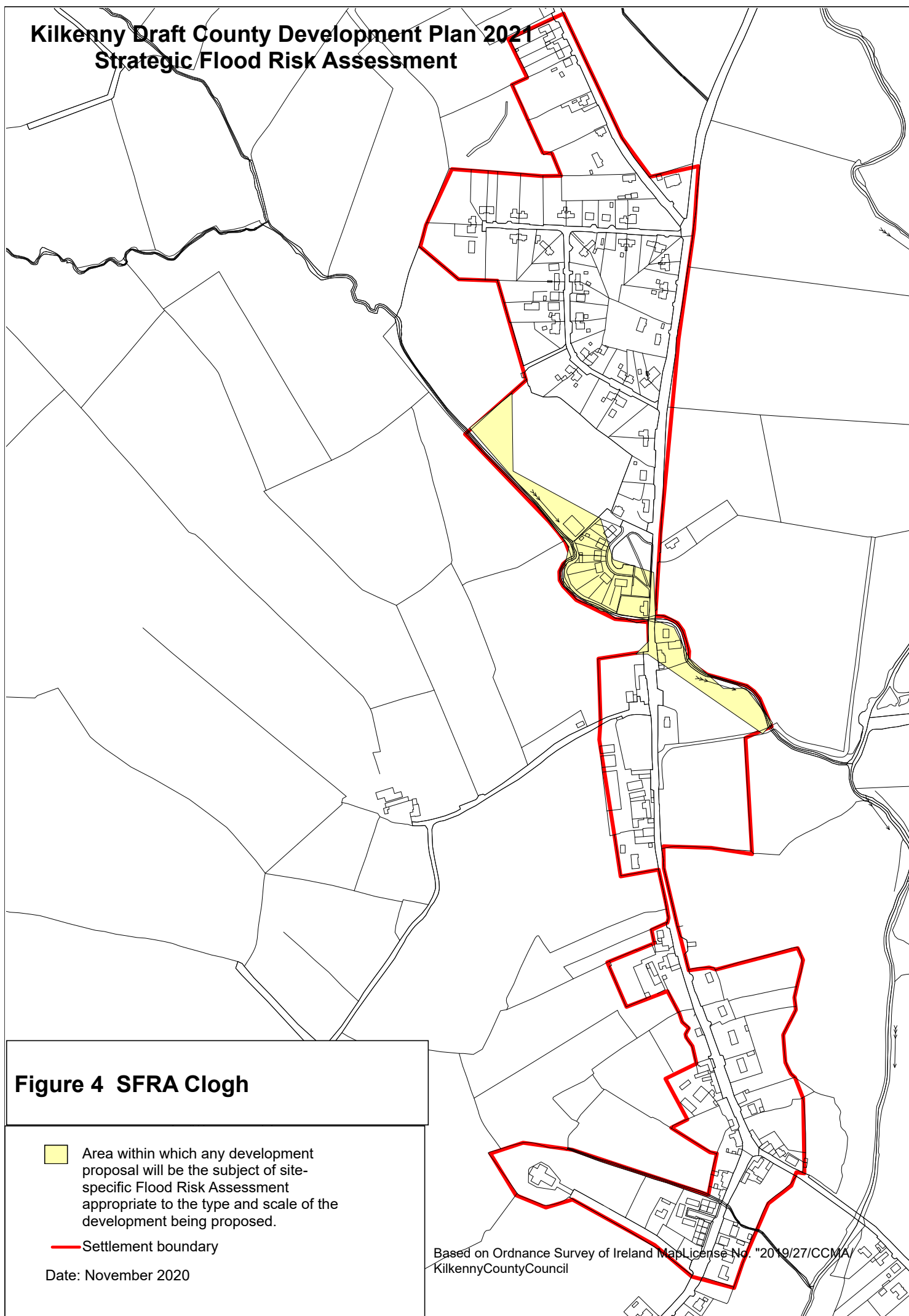
Figure 4.4 Settlement
Boundary for Ballyragget

-  Settlement Boundary
-  Flood Zone A
-  Flood Zone B

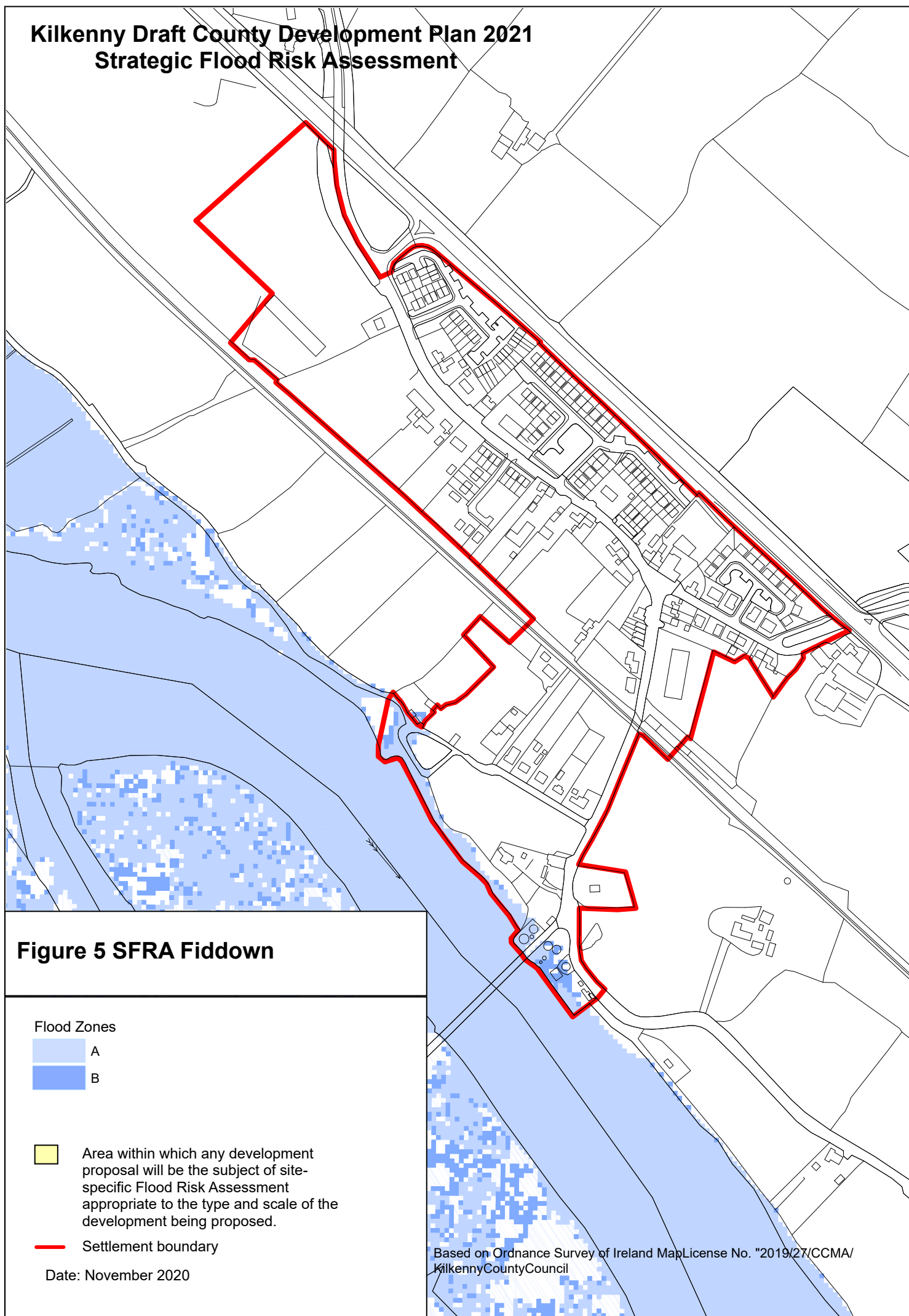


Kilkenny Draft County Development Plan 2021

Strategic Flood Risk Assessment



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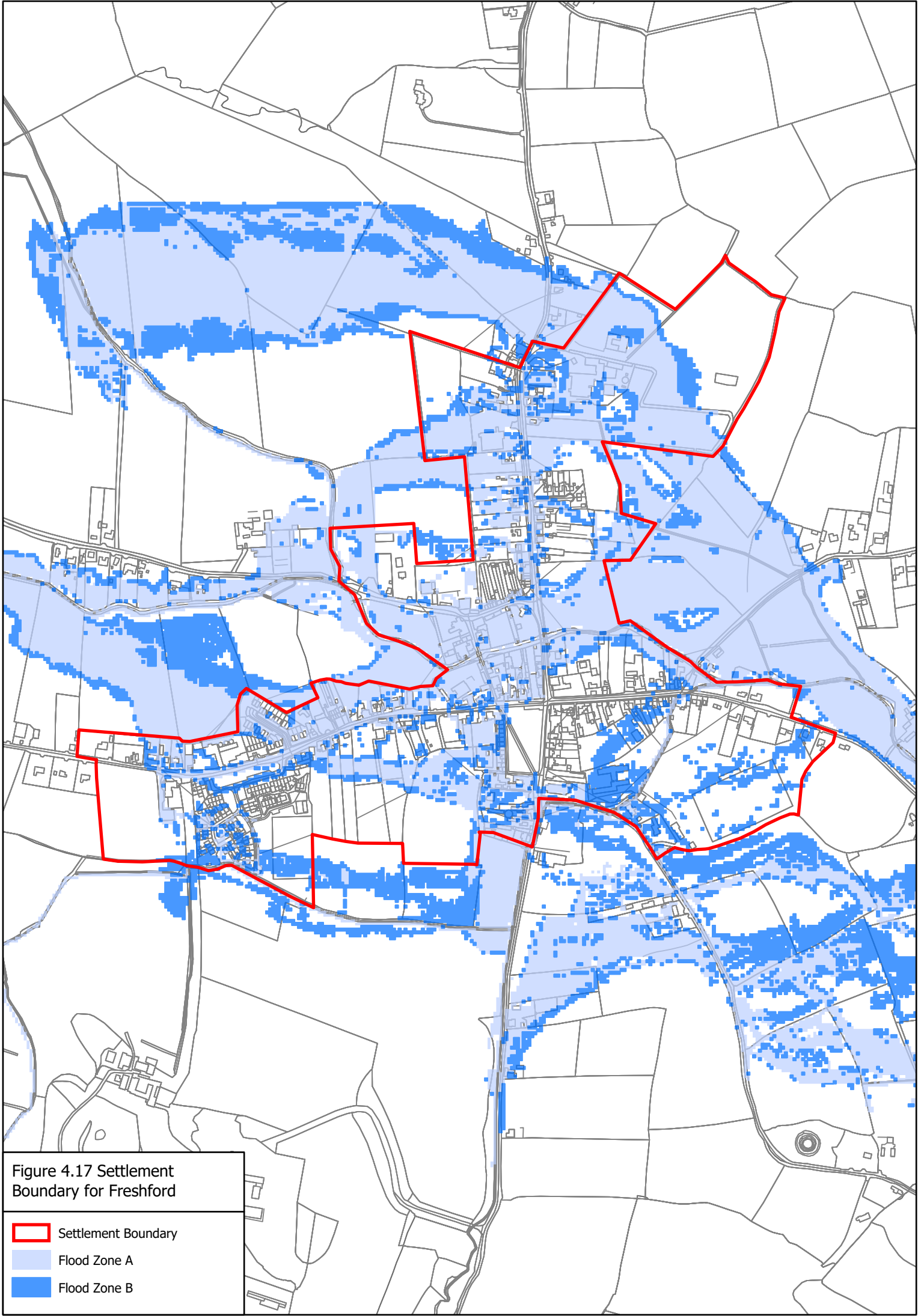



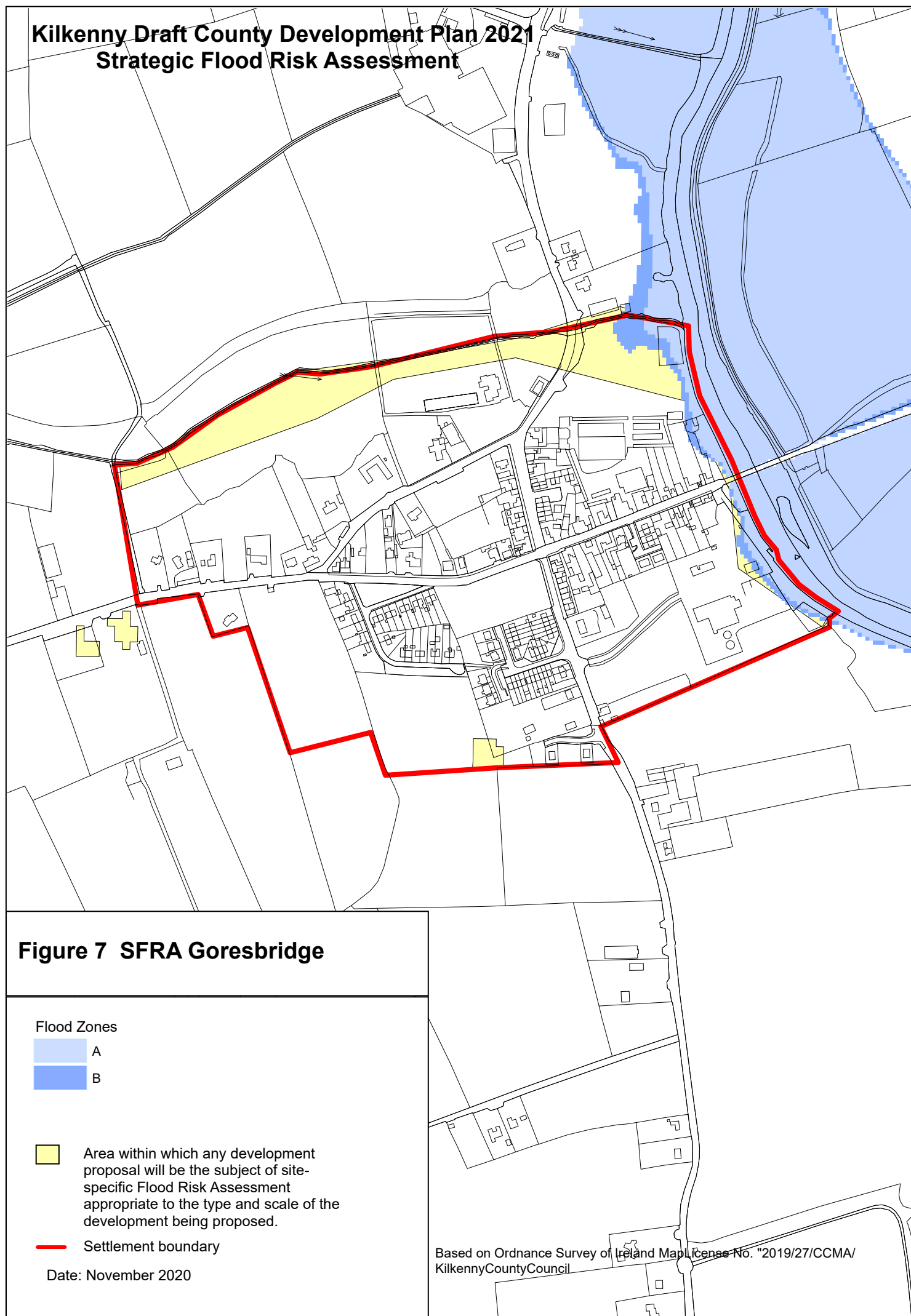


Figure 4.17 Settlement Boundary for Freshford

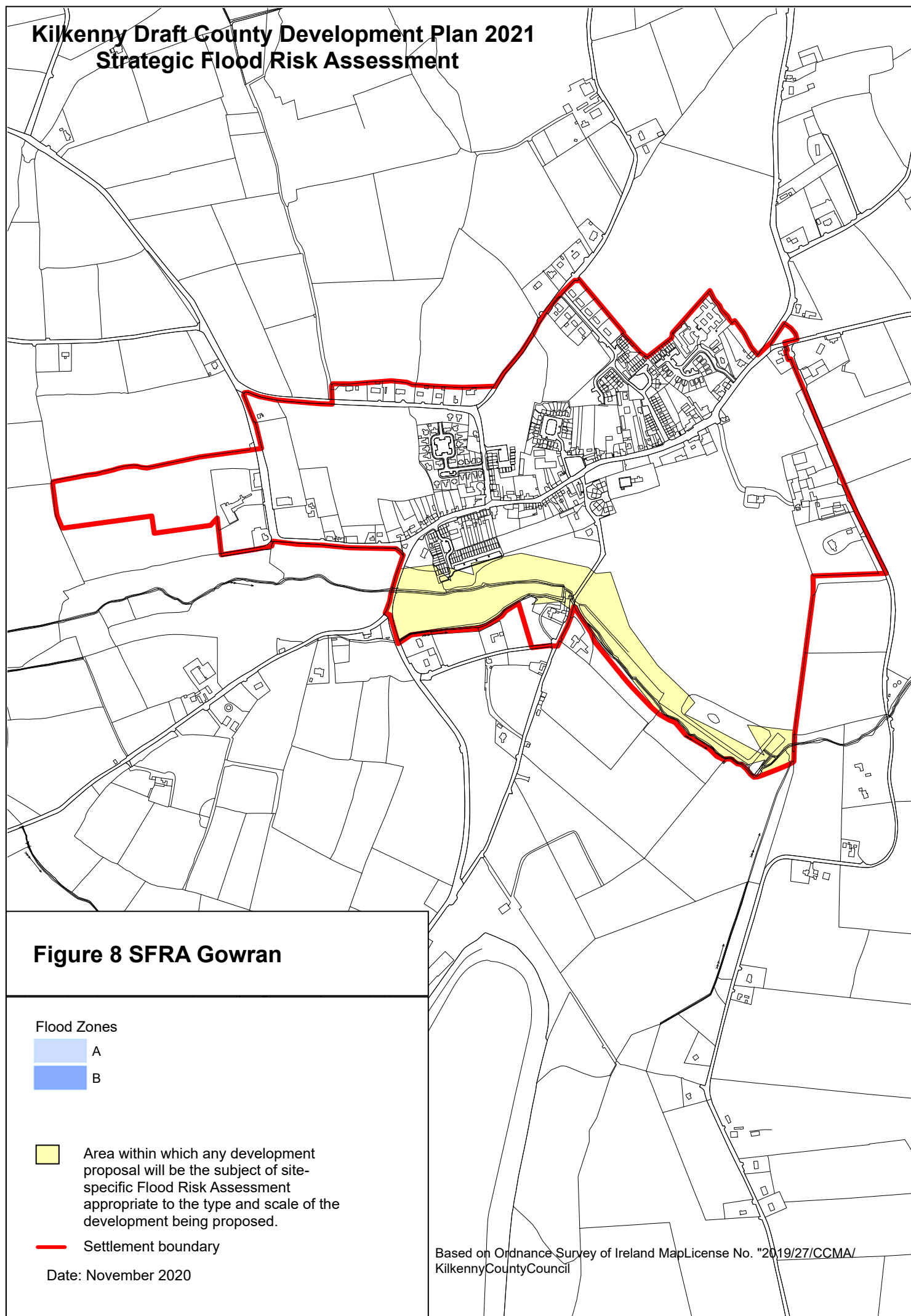
-  Settlement Boundary
-  Flood Zone A
-  Flood Zone B

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Strategic Flood Risk Assessment



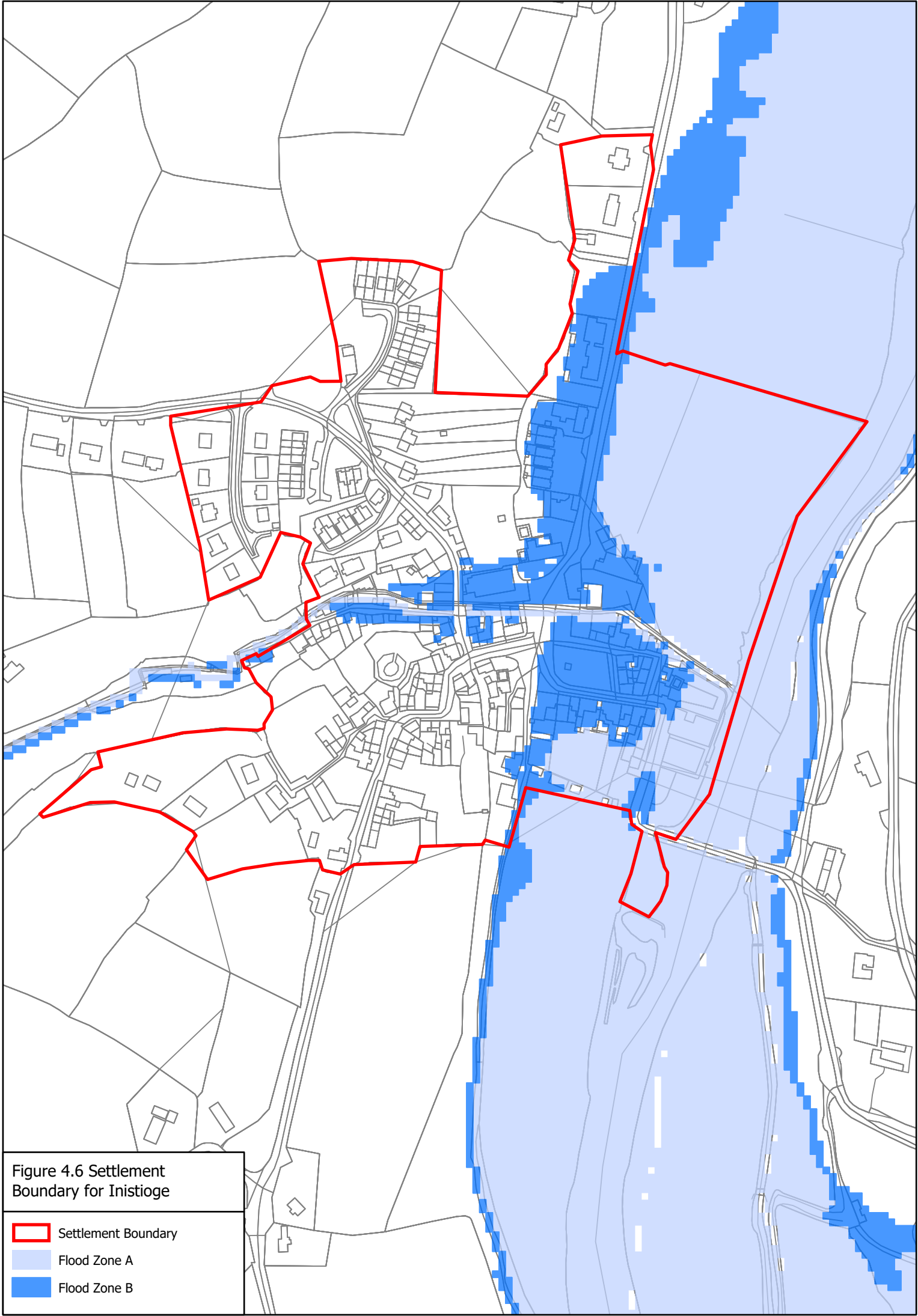





Figure 4.6 Settlement Boundary for Inistioge

-  Settlement Boundary
-  Flood Zone A
-  Flood Zone B

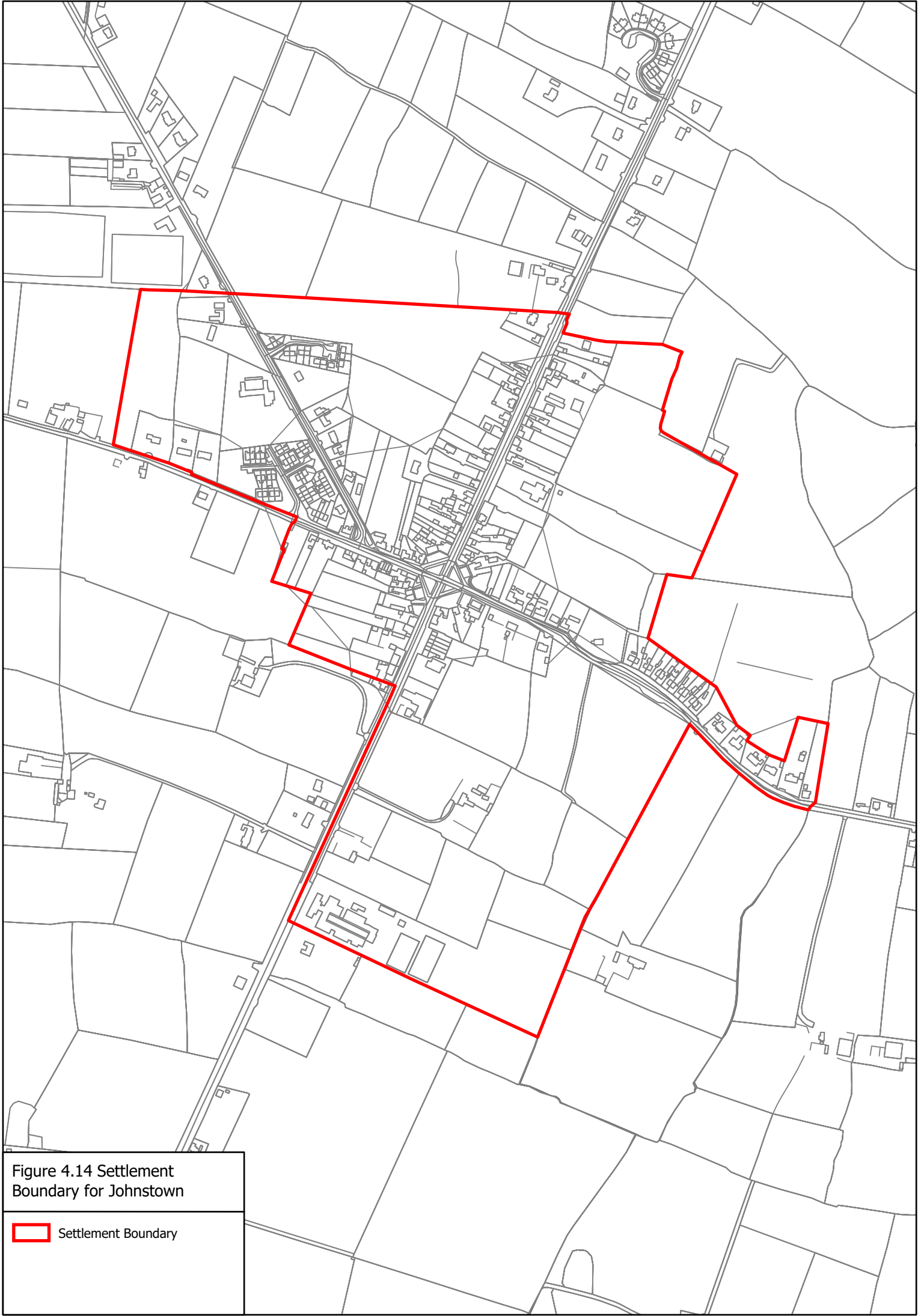

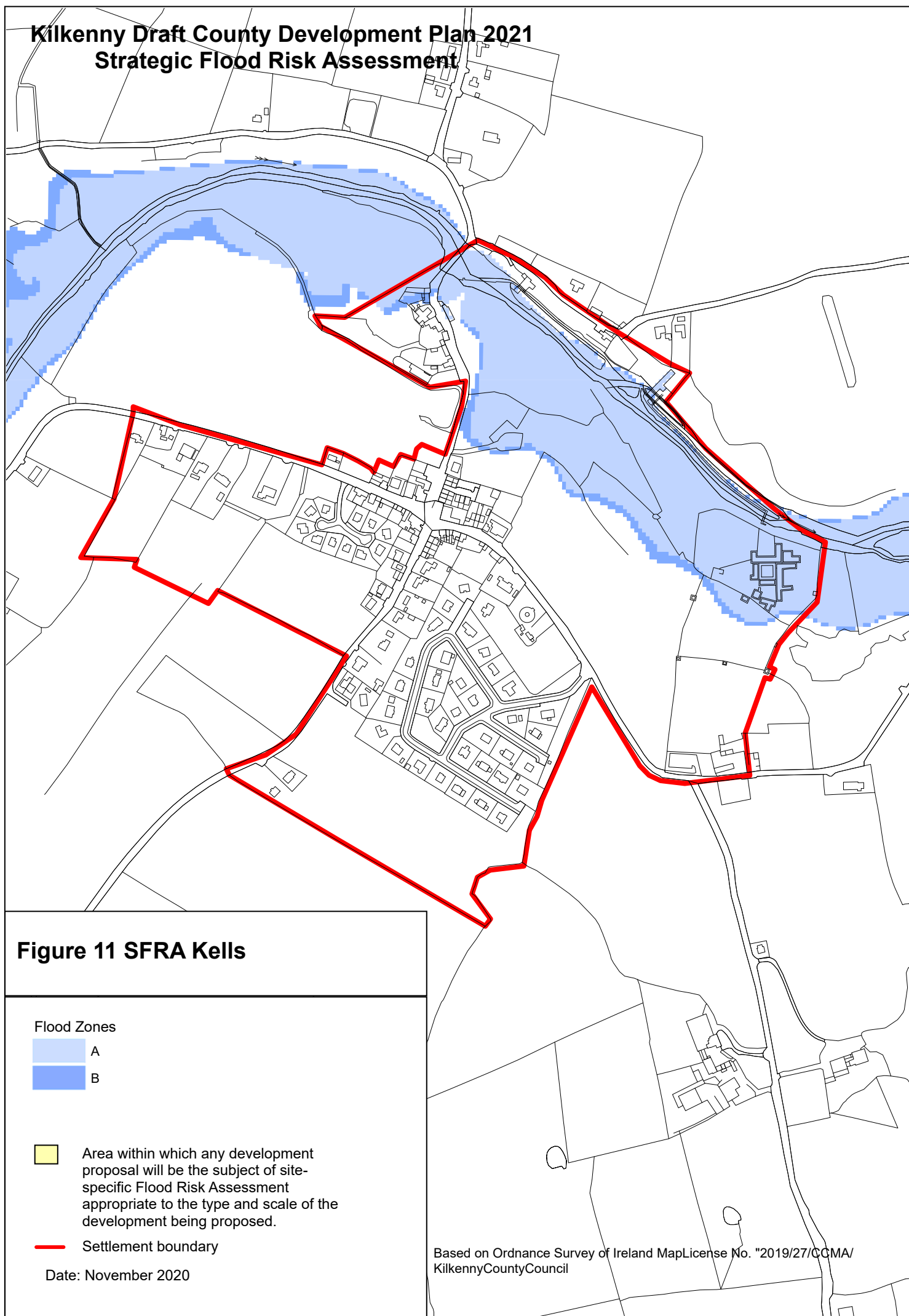


Figure 4.14 Settlement Boundary for Johnstown

 Settlement Boundary

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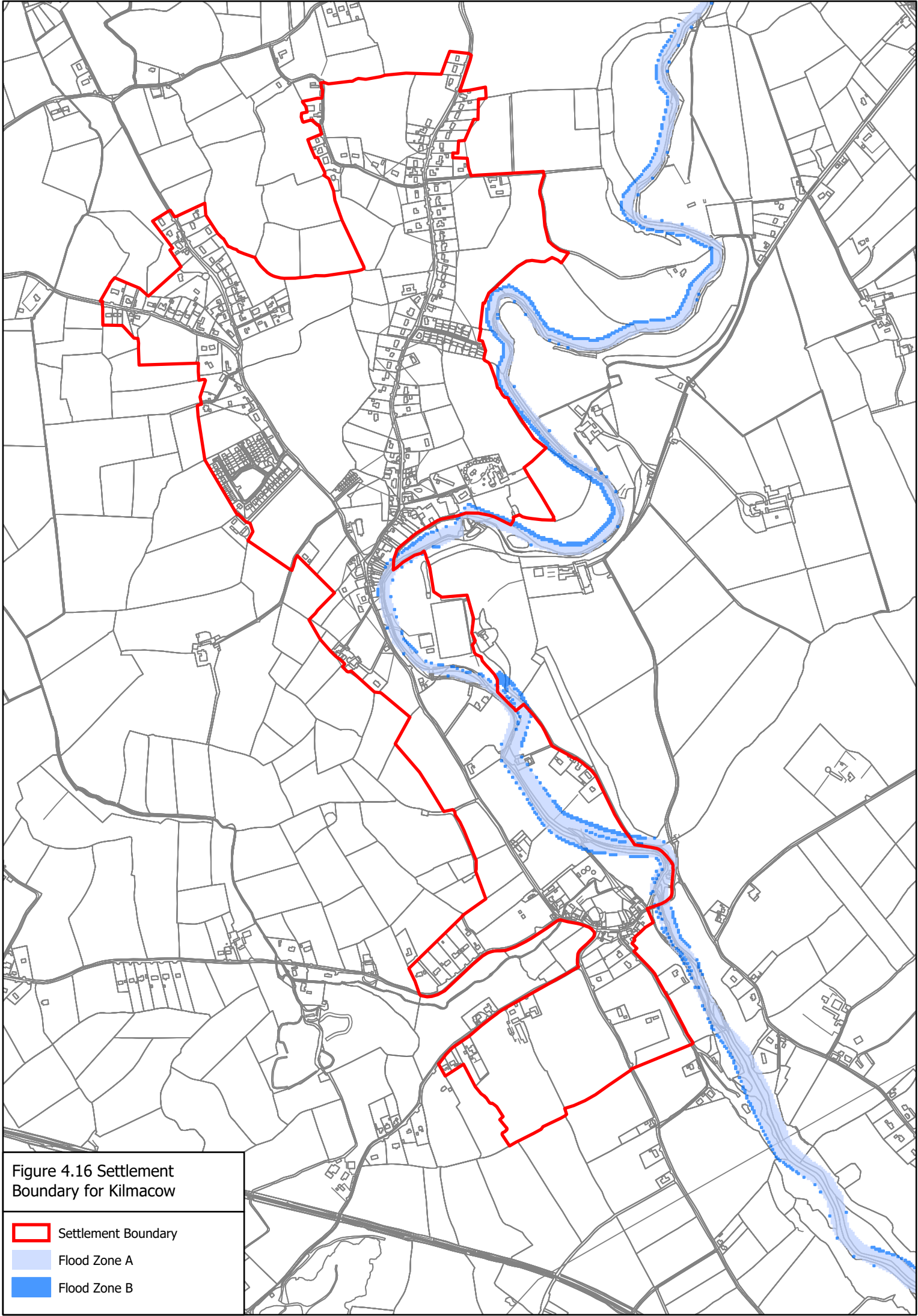



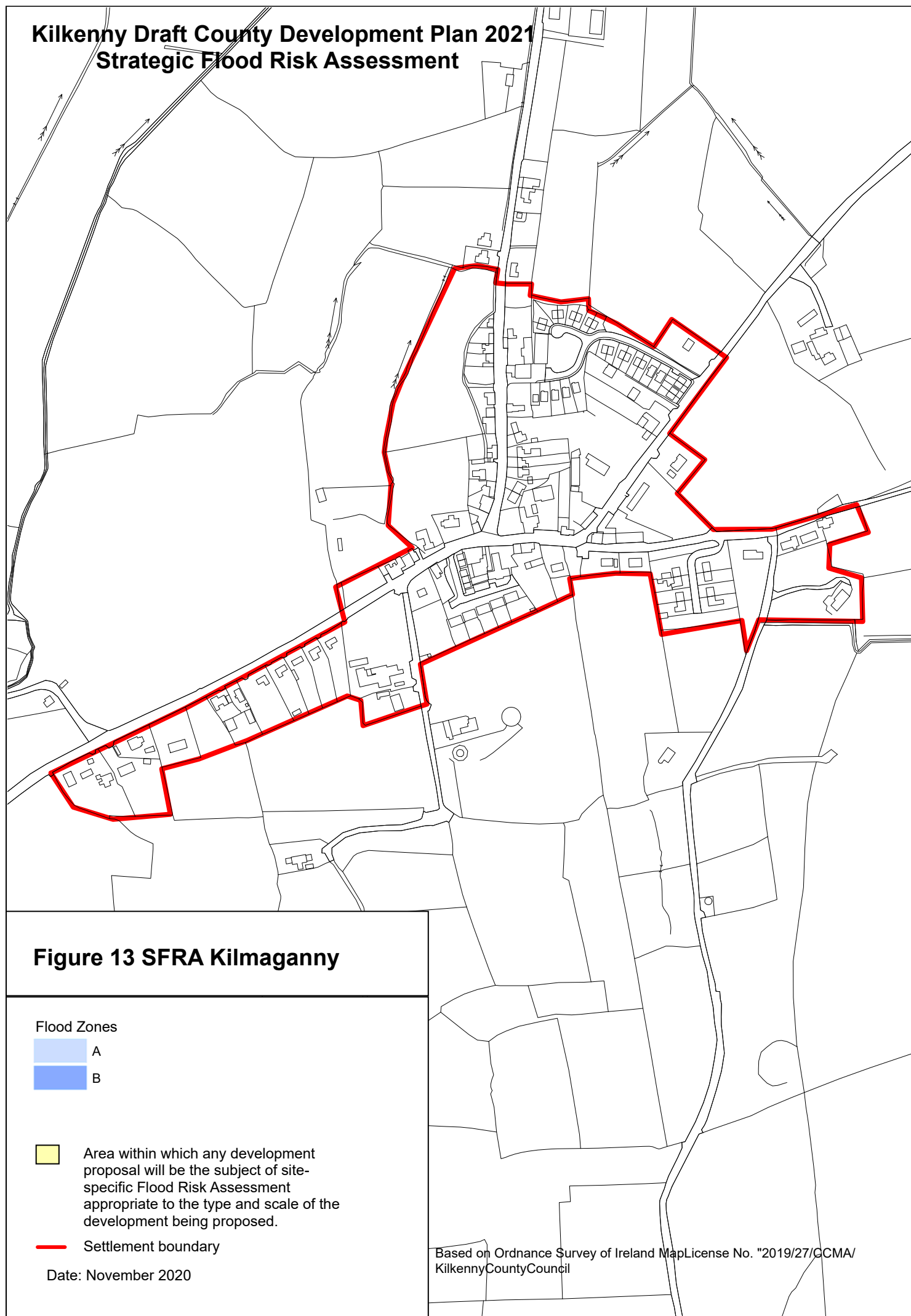


Figure 4.16 Settlement Boundary for Kilmacow

-  Settlement Boundary
-  Flood Zone A
-  Flood Zone B

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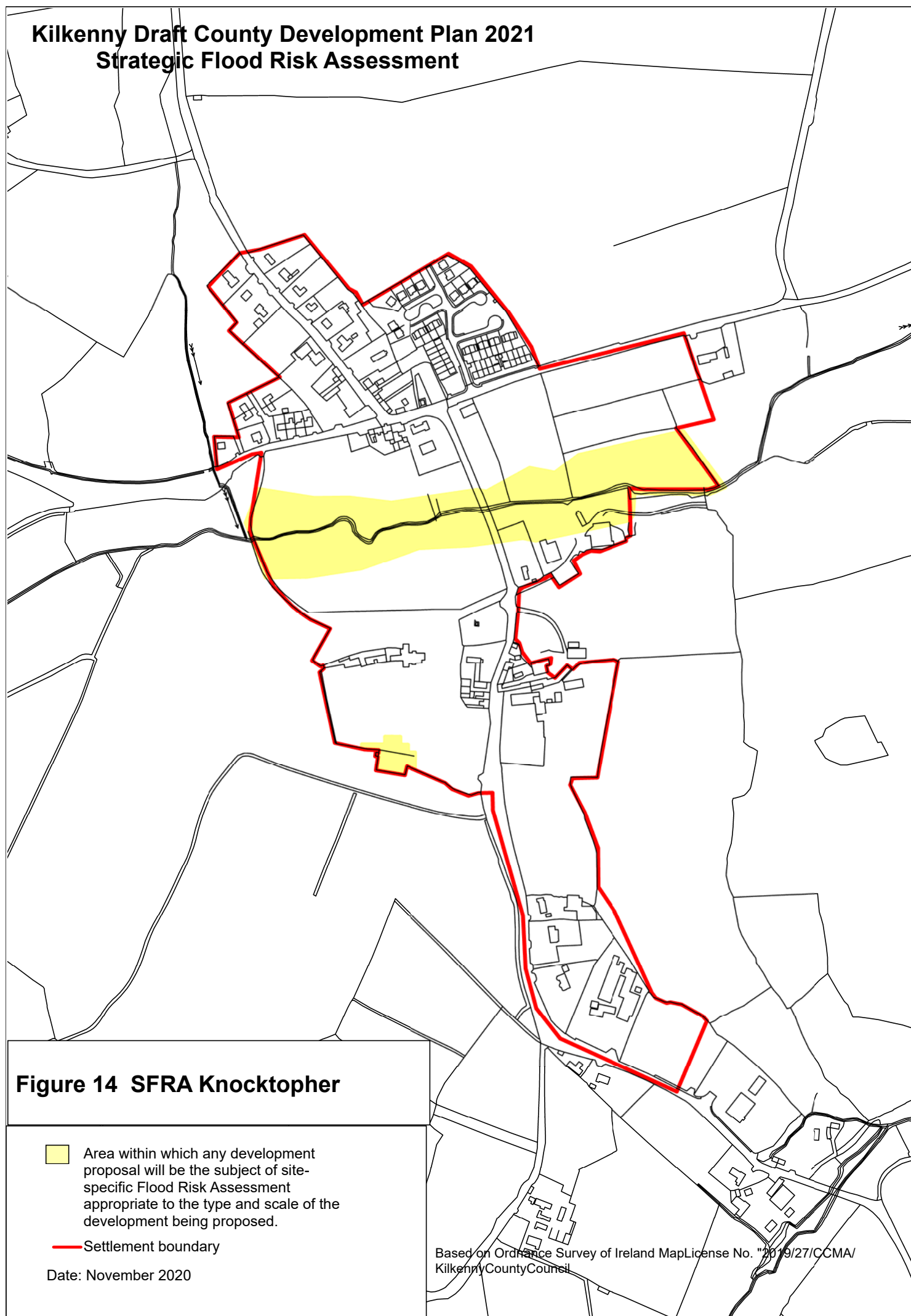



Figure 14 SFRA Knocktopher

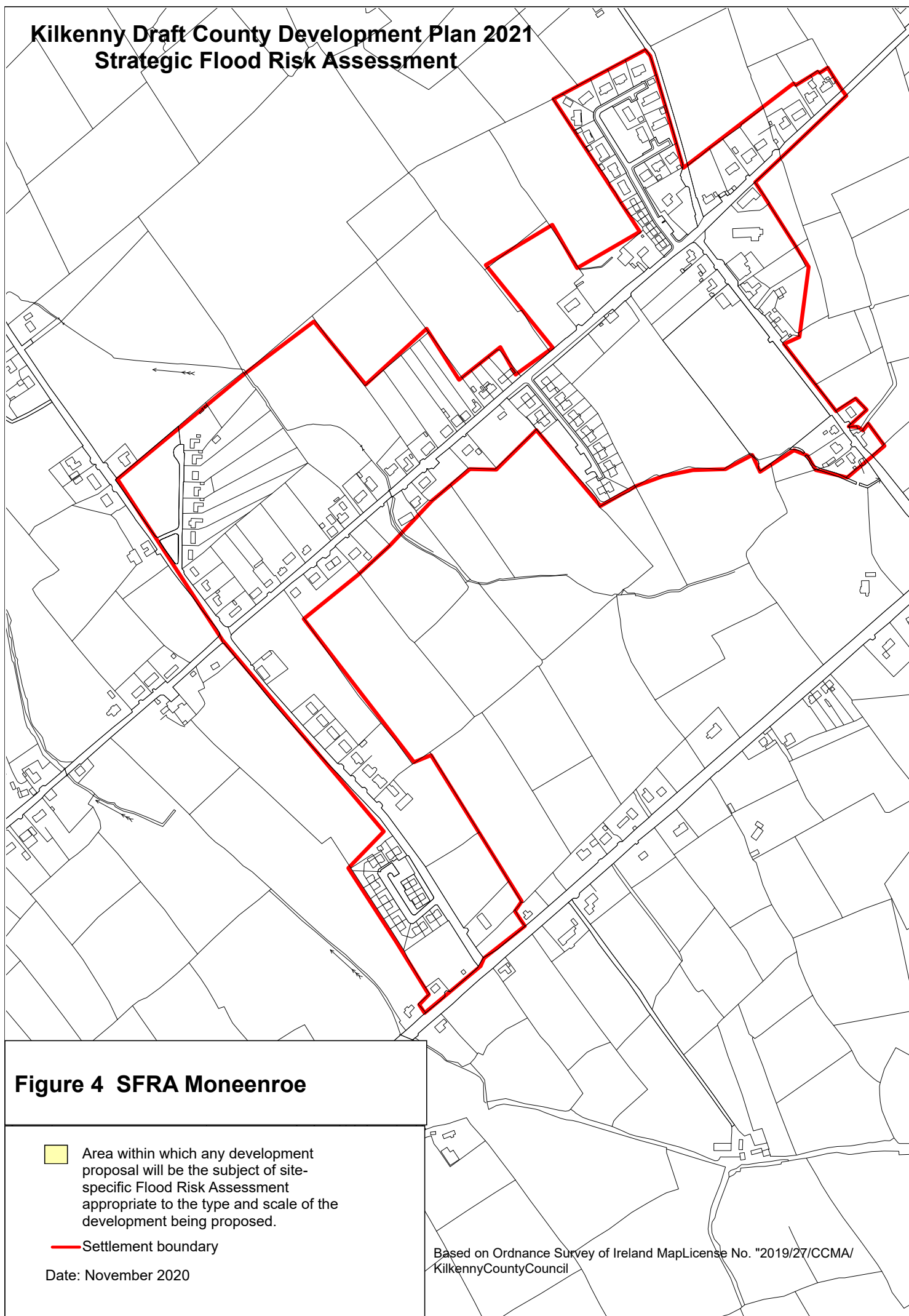
 Area within which any development proposal will be the subject of site-specific Flood Risk Assessment appropriate to the type and scale of the development being proposed.

 Settlement boundary

Date: November 2020

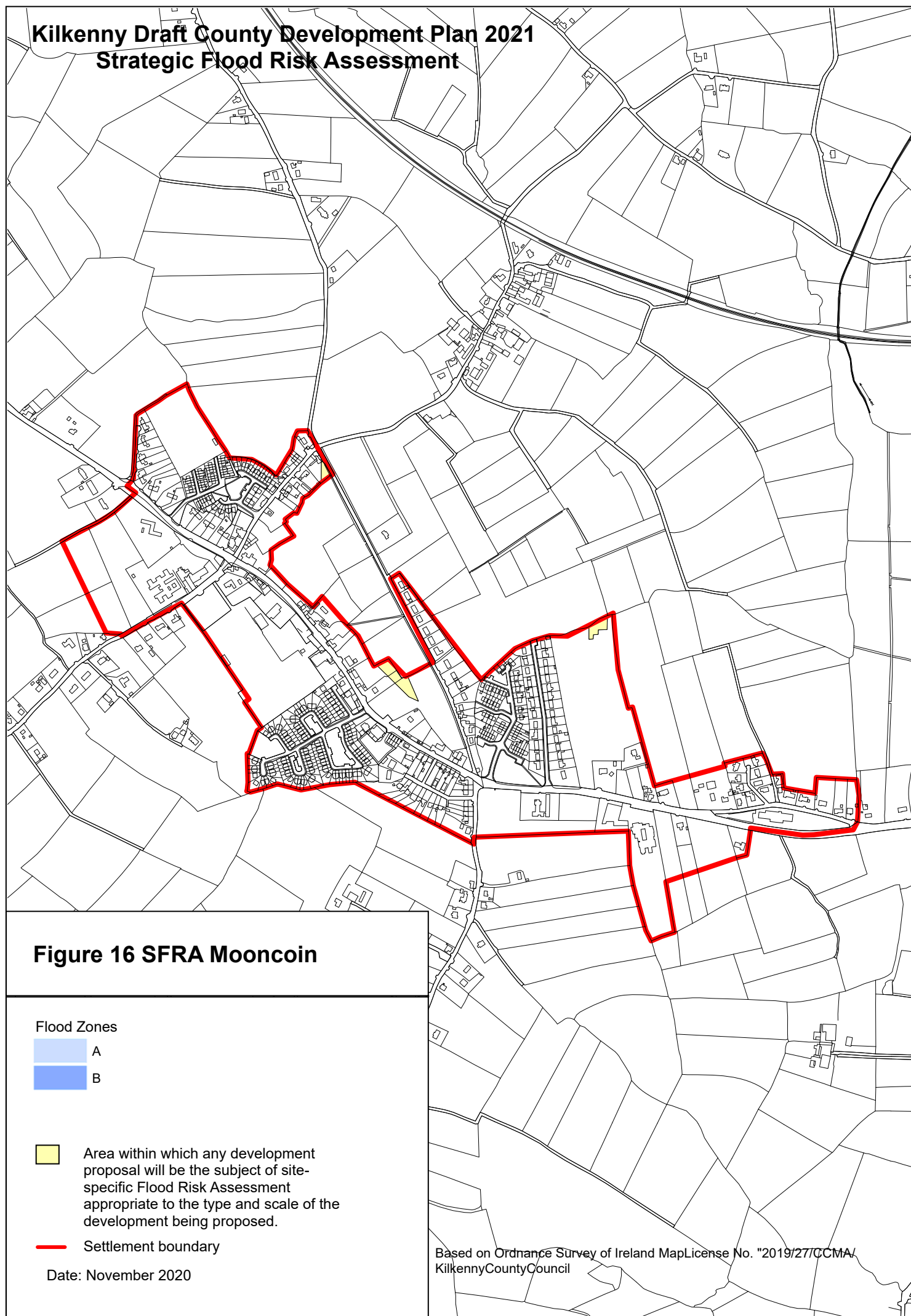
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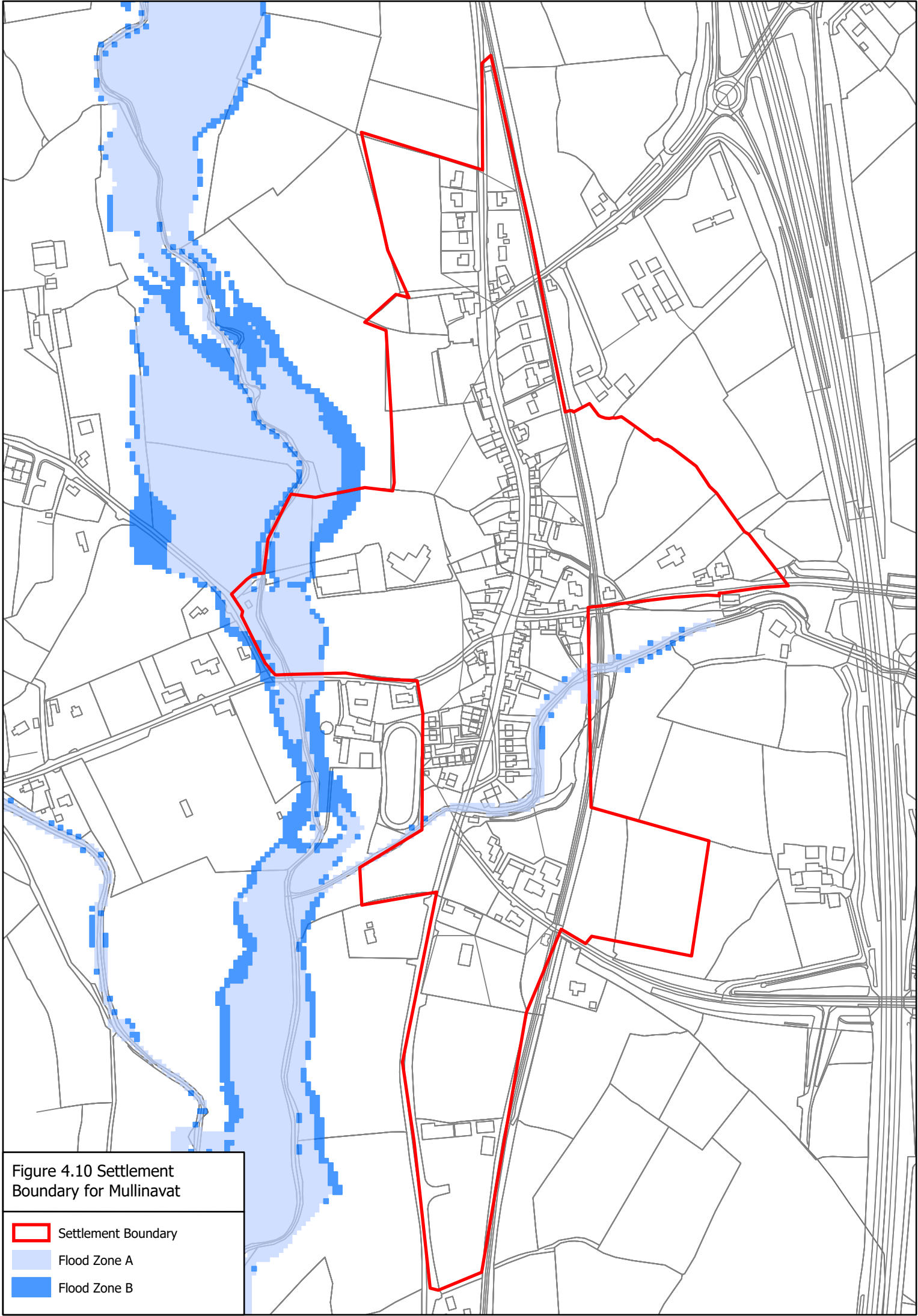





Figure 4.10 Settlement Boundary for Mullinavat

-  Settlement Boundary
-  Flood Zone A
-  Flood Zone B

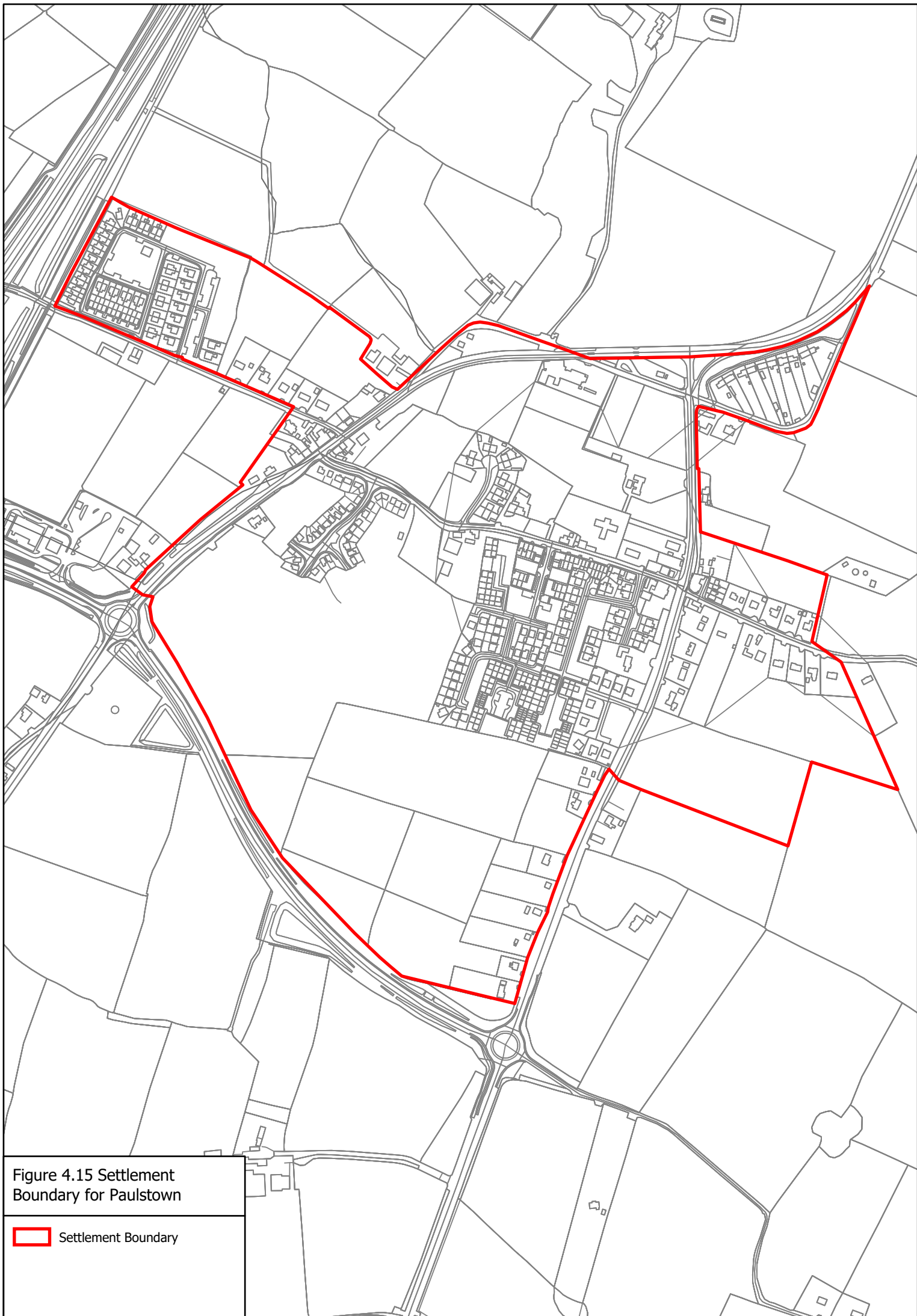
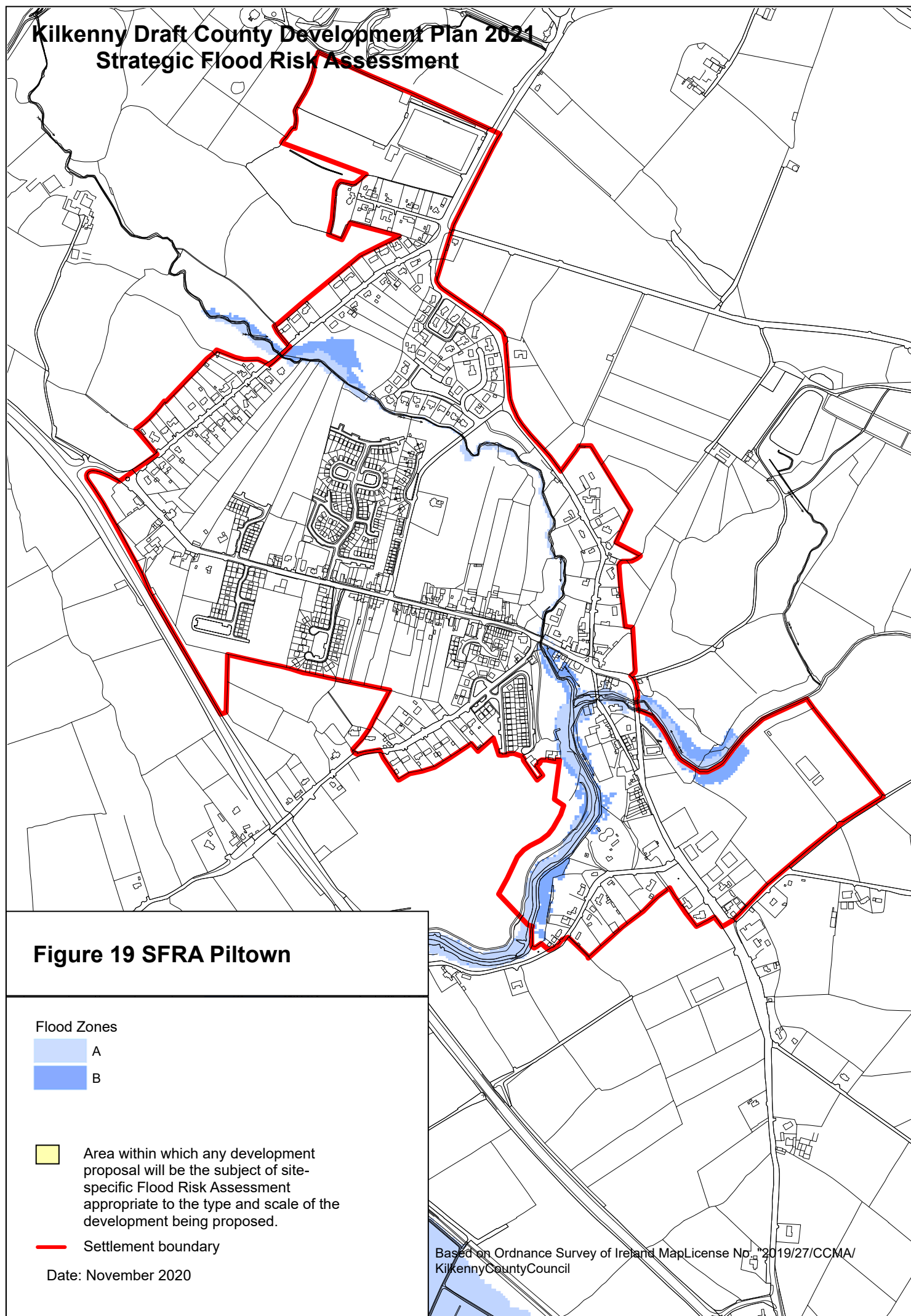


Figure 4.15 Settlement Boundary for Paulstown

 Settlement Boundary

Kilkenny Draft County Development Plan 2021 Strategic Flood Risk Assessment



Kilkenny Draft County Development Plan 2021 Strategic Flood Risk Assessment

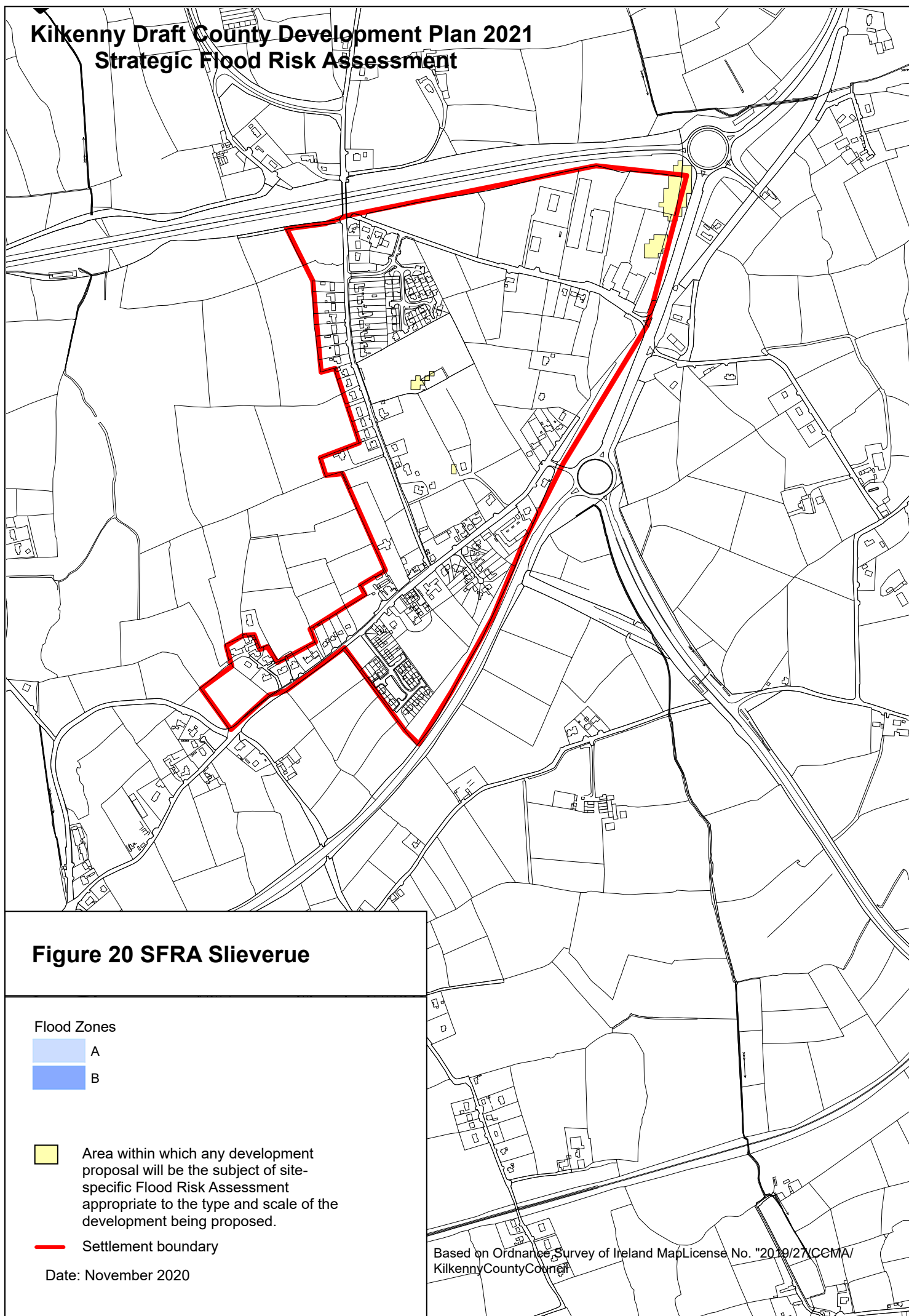




Figure 20 SFRA Slieverue

Flood Zones



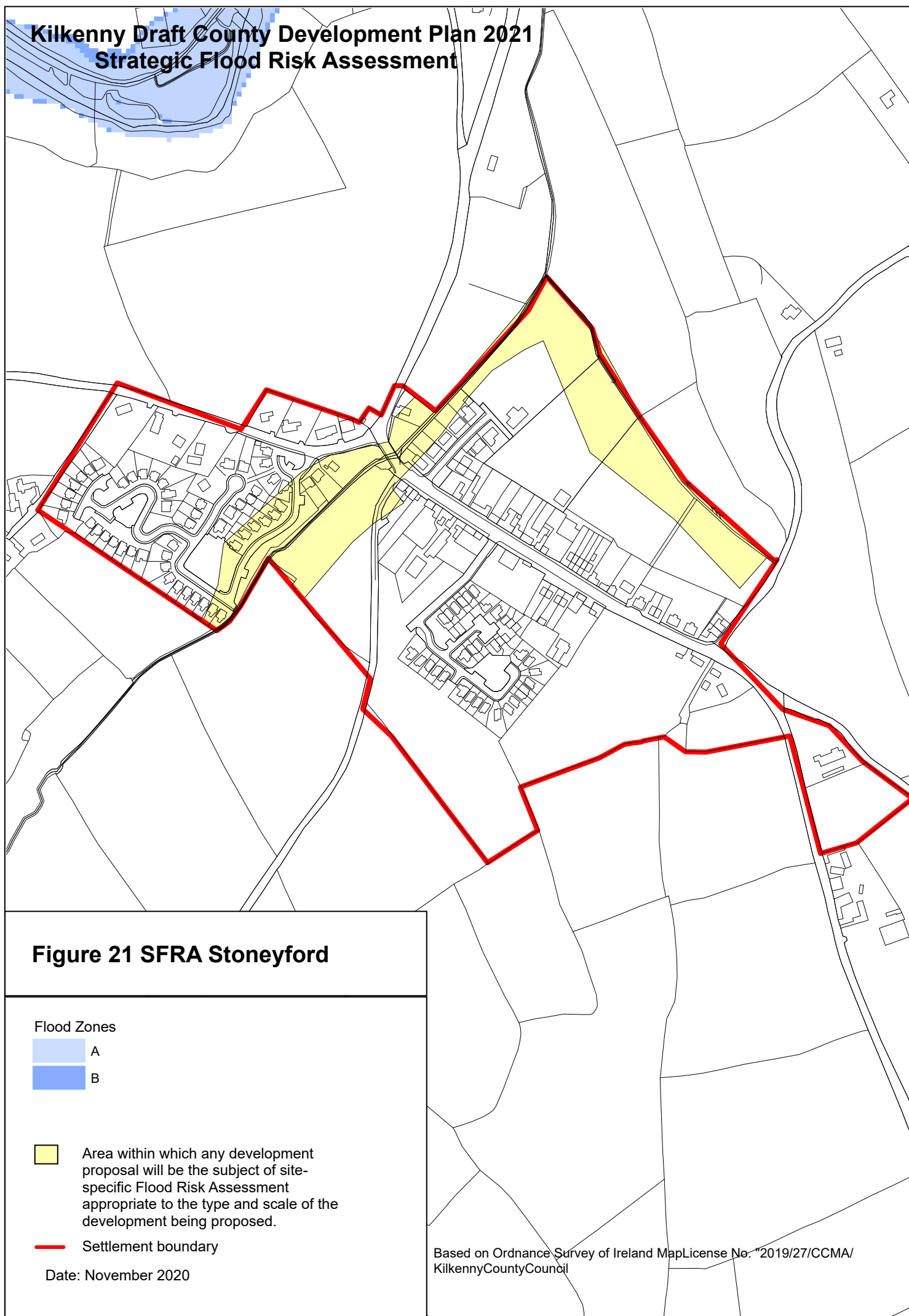
 Area within which any development proposal will be the subject of site-specific Flood Risk Assessment appropriate to the type and scale of the development being proposed.

 Settlement boundary

Date: November 2020

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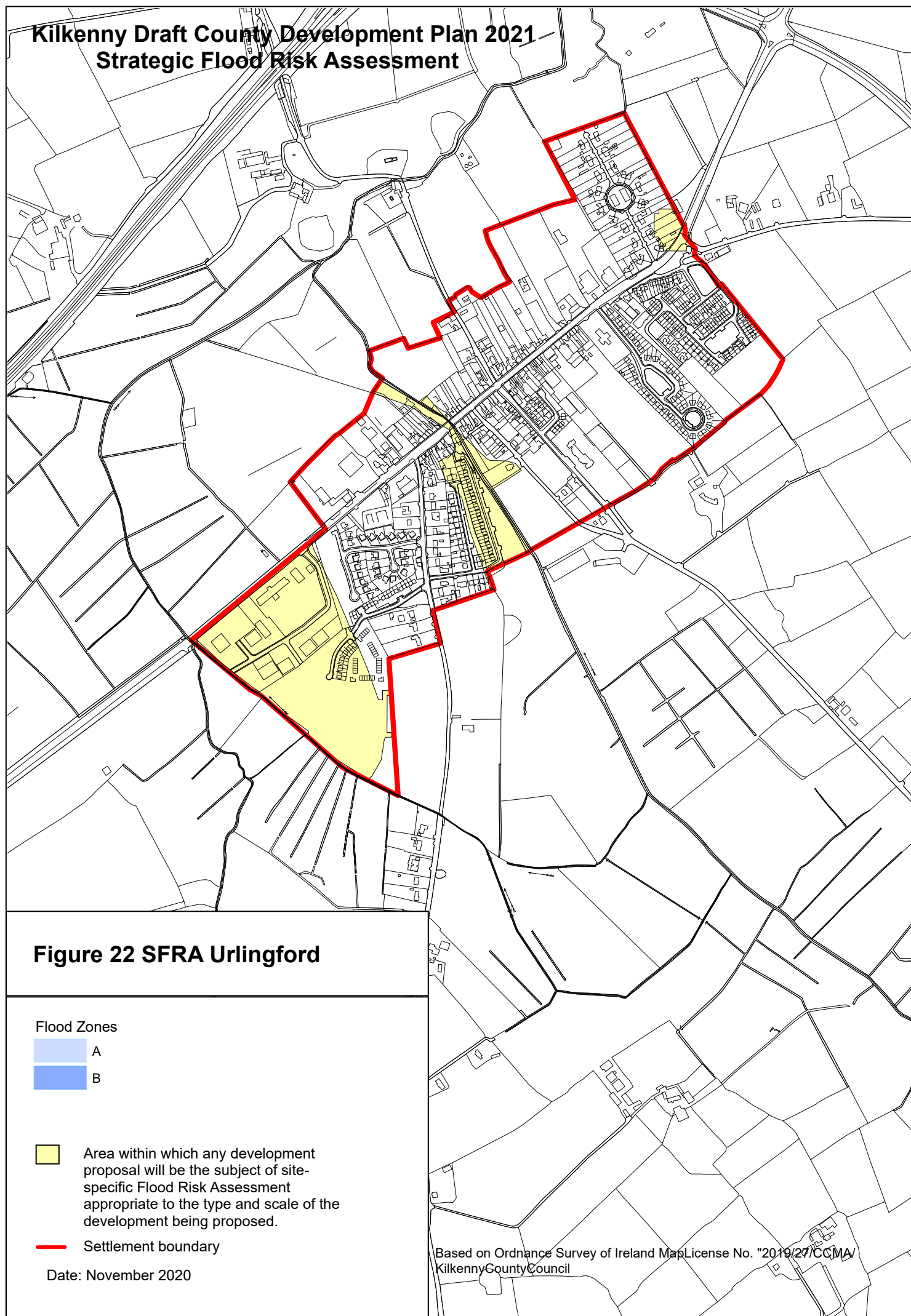




Figure 22 SFRA Urlingford

Flood Zones



 Area within which any development proposal will be the subject of site-specific Flood Risk Assessment appropriate to the type and scale of the development being proposed.

 Settlement boundary

Date: November 2020

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Kilkenny County Council

Figure 23a) Kilkenny – Areas of flood risk on Variation 6 Zoning Map

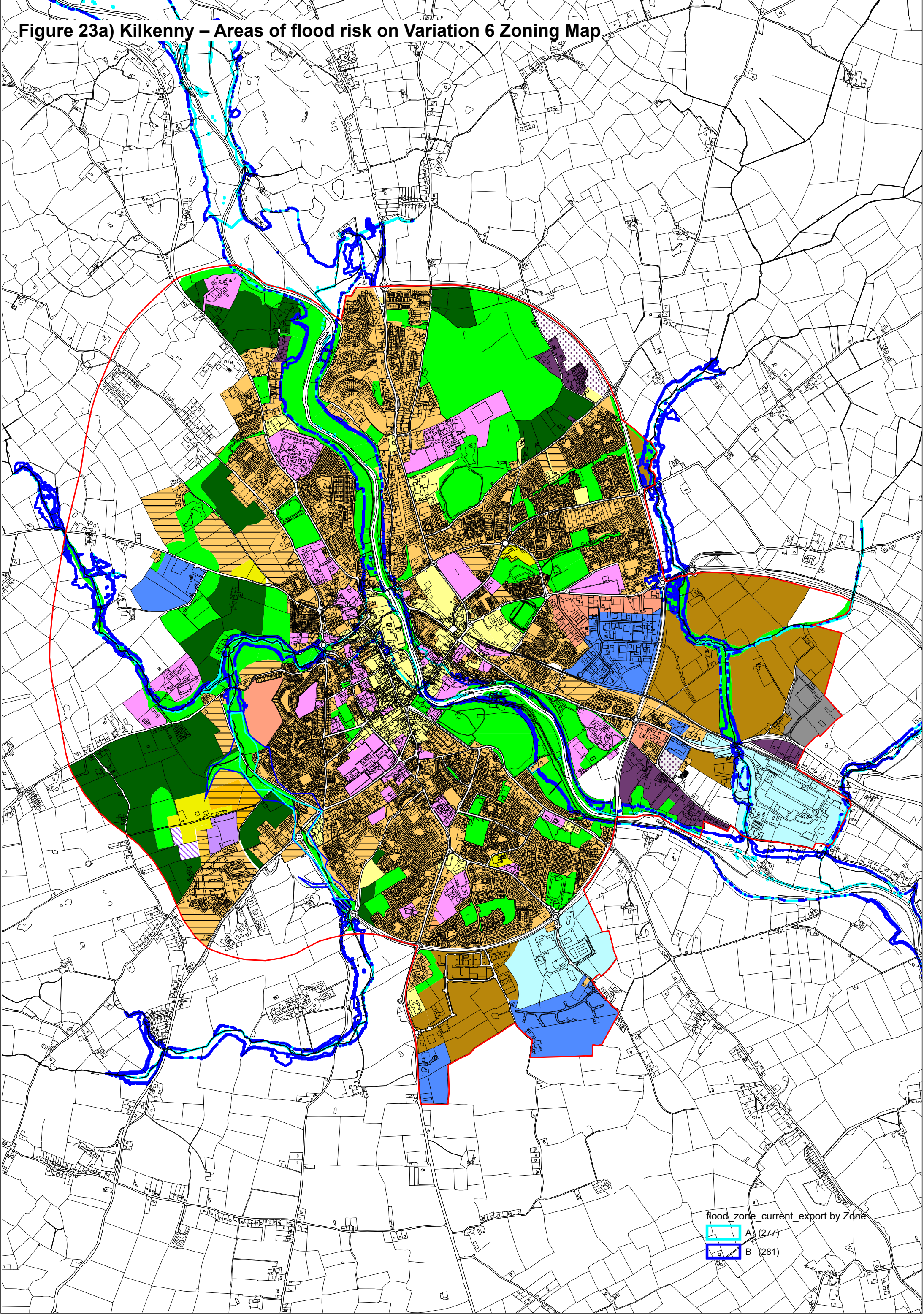
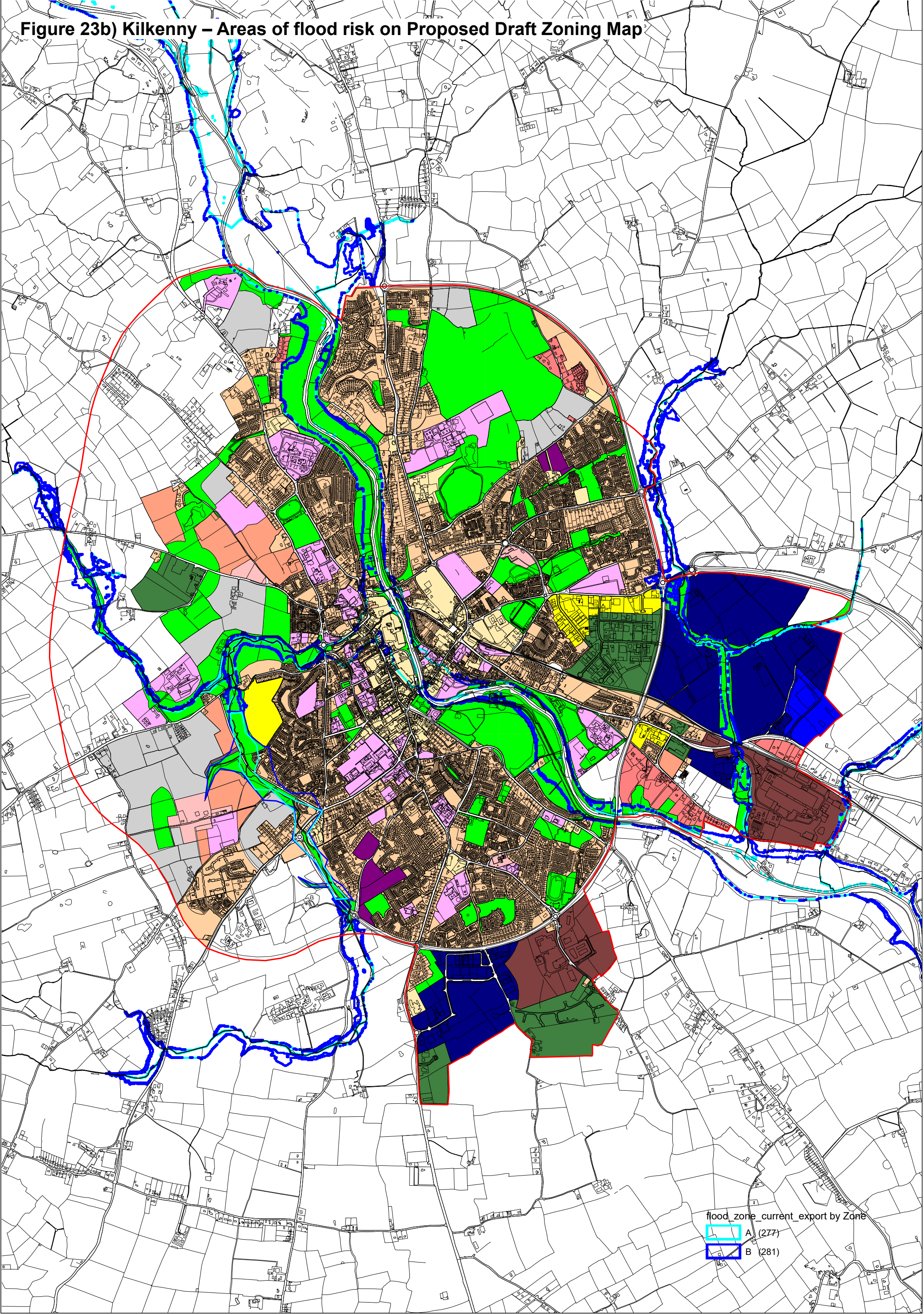


Figure 23b) Kilkenny – Areas of flood risk on Proposed Draft Zoning Map



Kilkenny Draft County Development Plan 2021 Strategic Flood Risk Assessment

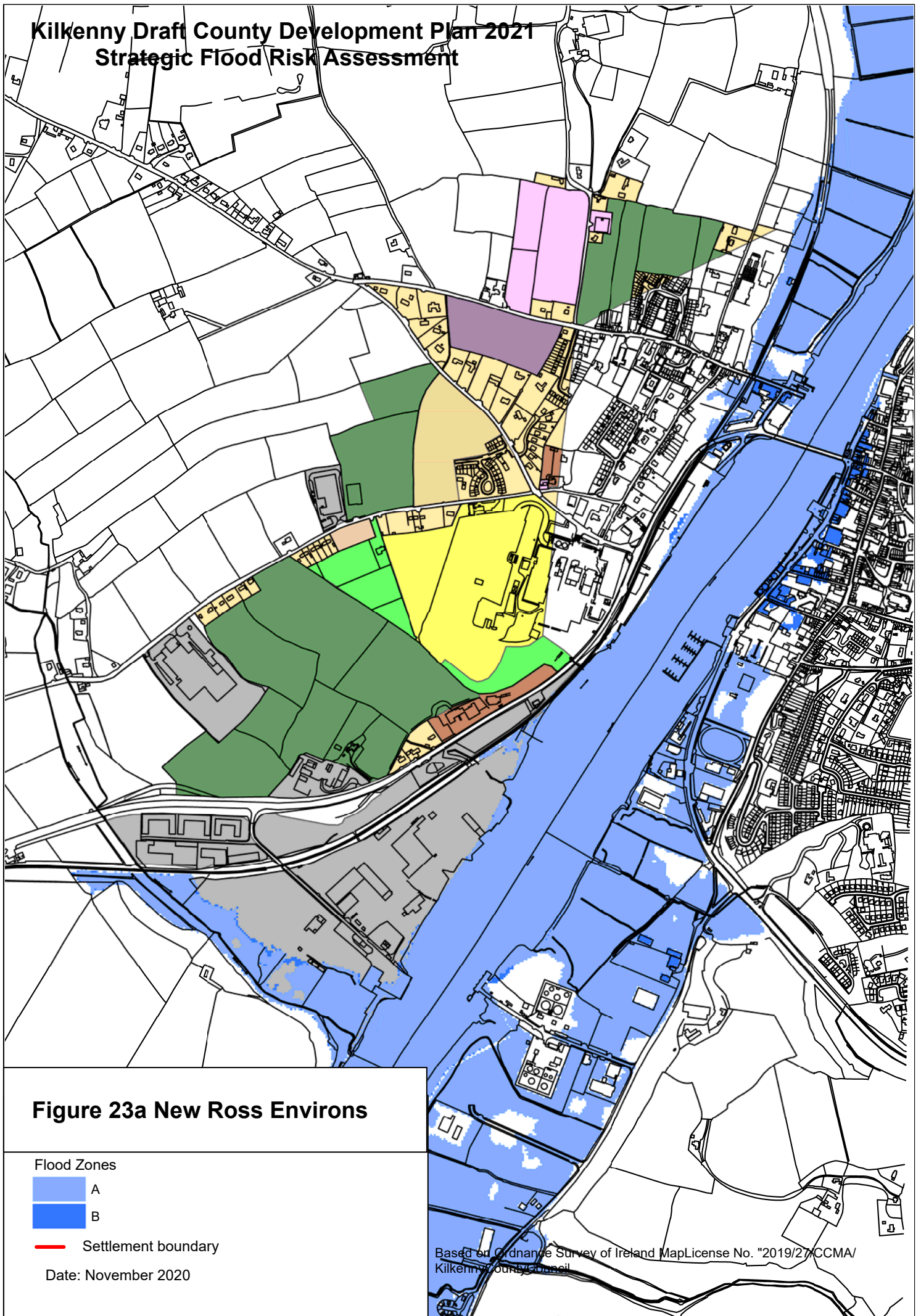


Figure 23a New Ross Environs

Flood Zones



— Settlement boundary

Date: November 2020

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