

# KILKENNY CITY AND COUNTY DRAFT DEVELOPMENT PLAN

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## Strategic Environmental Assessment (incl. Strategic Flood Risk Assessment) &

## Natura Impact Report



December 2020

# NATURA IMPACT REPORT

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## IN SUPPORT OF THE **APPROPRIATE ASSESSMENT**

FOR THE

## **CHIEF EXECUTIVE'S DRAFT KILKENNY CITY AND COUNTY DEVELOPMENT PLAN 2021-2027**

**for: Kilkenny County Council**

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# Section 1 Introduction

## 1.1 Background

This Natura Impact Report (NIR) has been prepared in support of the Appropriate Assessment (AA) of the Chief Executive's Draft Kilkenny City and County Development Plan 2021-2027 in accordance with the requirements of Article 6(3) of Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (hereafter referred to as the "Habitats Directive").

This report is part of the ongoing AA process that is being undertaken alongside the preparation of the Plan. It will be considered, alongside other documentation prepared as part of this process, when Kilkenny County Council finalises the AA at adoption of the Plan.

## 1.2 Legislative Context

The Habitats Directive provides legal protection for habitats and species of European importance. The overall aim of the Habitats Directive is to maintain or restore the "favourable conservation status" of habitats and species of European Community Interest. These habitats and species are listed in the Habitats and Birds Directives (Council Directive 2009/147/EC on the conservation of wild birds) with Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated to afford protection to the most vulnerable of them. These two designations are collectively known as European Sites (also known as Natura 2000 sites).

AA is required by the Habitats Directive, as transposed into Irish legislation by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) and the Planning and Development Act 2000 (as amended). AA is an assessment of the potential for adverse or negative effects of a plan or project, in combination with other plans or projects, on the conservation objectives of a European Site. These sites consist of SACs and SPAs and provide for the protection and long-term survival of Europe's most valuable and threatened species and habitats.

## 1.3 Approach

The AA is based on best scientific knowledge and has utilised ecological and hydrological expertise. In addition, a detailed online review of published scientific literature and grey literature<sup>1</sup> was conducted. This included a detailed review of the National Parks and Wildlife (NPWS) website including mapping and available reports for relevant sites and in particular sensitive qualifying interests/special conservation interests described and their conservation objectives (including spatial data collected for the most recent Article 17 conservation status reporting cycle, 2019).

In addition to being informed by these reports, the Natura Impact Report was also informed by the Council's:

- New Draft City and County Development Plan 2021-2027 and accompanying SEA Environmental Report;
- Current County Development Plan 2014-2020, and accompanying SEA/AA documents; and
- Current County Development Plan 2014-2020, and accompanying SEA/AA documents.

These data sources are likely to be useful for AAs that must be undertaken for lower-tier plans/projects under the Plan.

The ecological desktop study completed for the AA of the Plan comprised the following elements:

- Identification of European Sites within 15 km of the Plan boundary with identification of potential pathway links for specific sites (if relevant) greater than 15 km from the Plan boundary;
- Review of the NPWS site synopsis and conservation objectives for European Sites with identification of potential pathways from the Plan area; and
- Examination of available information on protected species.

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<sup>1</sup> Various documents where publishing, in journals for example, is not the primary activity of the producing body. Examples include: conference presentations; regulatory data; unpublished trial data; government publications; and dissertations/theses.



There are four main stages in the AA process as follow:

**Stage One: Screening**

The process that identifies the likely impacts upon a European Site of a project or plan, either alone or in combination with other projects or plans and considers whether these impacts are likely to be significant.

**Stage Two: Appropriate Assessment**

The consideration of the impact on the integrity of the European Site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts. If adequate mitigation is proposed to ensure no significant adverse impacts on European Sites, then the process may end at this stage. However, if the likelihood of significant impacts remains, then the process must proceed to Stage Three.

**Stage Three: Assessment of Alternative Solutions**

The process that examines alternative ways of achieving the objectives of the project or plan that avoids adverse impacts on the integrity of the European Site.

**Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain**

An assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. This approach aims to avoid any impacts on European Sites by identifying possible impacts early in the plan-making process and avoiding such impacts. Second, the approach involves the application of mitigation measures, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If potential impacts on European Sites remain, the approach requires the consideration of alternative solutions. If no alternative solutions are identified and the plan/project is required for imperative reasons of overriding public interest, then compensation measures are required for any remaining adverse effect(s).

The assessment of potential effects on European Sites is conducted following a standard source-pathway-receptor<sup>2</sup> model, where, in order for an effect to be established all three elements of this mechanism must be in place. The absence or removal of one of the elements of the model is sufficient to conclude that a potential effect is not of any relevance or significance.

In the interest of this report, receptors are the ecological features that are known to be utilised by the qualifying interests or special conservation interests of a European Site. A source is any identifiable element of the Plan provision that is known to interact with ecological processes. The pathways are any connections or links between the source and the receptor. This report provides information on whether direct, indirect and cumulative adverse effects could arise from the Plan.

The AA exercise has been prepared taking into account legislation including the aforementioned legislation and guidance including the following:

- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government, 2009;
- "Commission Notice: Managing Natura 2000 sites - The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC", European Commission 2018;
- "Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC", European Commission Environment DG, 2002; and
- "Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC", European Commission, 2000.

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<sup>2</sup> Source(s) – e.g. pollutant run-off from proposed works; Pathway(s) – e.g. groundwater connecting to nearby qualifying wetland habitats; and Receptor(s) – qualifying aquatic habitats and species of European Sites.

## Section 2 Description of the Draft Plan

The Kilkenny City and County Development Plan is a land use plan and overall strategy for the proper planning and sustainable development of the functional area of County Kilkenny over the six-year period 2021-2027. Not later than four years after the adoption of the Plan, the Council is required to review it and commence the preparation of a new Plan.

This Plan comprises two Volumes:

- Volume 1 consists of a written statement and accompanying maps and includes the overarching strategies, objectives and Development Management Standards common to both the City and the County. Volume I is divided into 13 chapters setting out various provisions under the headings of:
  - Chapter 1: Introduction
  - Chapter 2: Climate Change
  - Chapter 3: Demographic and Socio-Economic Trends
  - Chapter 4: Core Strategy
  - Chapter 5: Economic Development and Tourism
  - Chapter 6: Housing and Community
  - Chapter 7: Rural Development
  - Chapter 8: Open Space and Recreation
  - Chapter 9: Heritage and Culture
  - Chapter 10: Infrastructure and Environment
  - Chapter 11: Renewable Energy Strategy
  - Chapter 12: Movement and Mobility
  - Chapter 13: Requirements for Developments
- Volume 2, Kilkenny City Strategies, consists of City-specific strategies (which apply to the area defined by the City Development Boundary), such as a Core Strategy, Retail Strategy and Heritage Strategy.

The text of both volumes is a statement of Council policy. Each chapter contains objectives and also has Development Management Standards in relation to specific areas and topics. These development management standards will apply to development proposals in addition to the other requirements for development set out in Volumes 1 and 2. Each chapter is not a stand-alone chapter, but should be read in conjunction with all other chapters.

## Section 3 Screening for Appropriate Assessment

### 3.1 Introduction to Screening

This stage of the process identifies any potential significant effects to European Sites from a project or plan, either alone or in combination with other projects or plans.

An important element of the AA process is the identification of the “conservation objectives”, “Qualifying Interests” (QIs) and/ or “Special Conservation Interests” (SCIs) of European Sites requiring assessment. QIs are the habitat features and species listed in Annexes I and II of the Habitats Directive for which each European Site has been designated and afforded protection. SCIs are wetland habitats and bird species listed within Annexes I and II of the Birds Directive. It is also vital that the threats to the ecological / environmental conditions that are required to support QIs and SCIs are considered as part of the assessment.

The following NPWS Generic Conservation Objectives have been considered in the screening:

- For SACs, to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected; and
- For SPAs, to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.

Where available, Site-Specific Conservation Objectives (SSCOs) designed to define favourable conservation status for a particular habitat<sup>3</sup> or species<sup>4</sup> at that site have been considered.

### 3.2 Identification of Relevant European Sites

The Department of the Environment (2009) Guidance on AA recommends a 15 km buffer zone to be considered. Although sites beyond this buffer zone would be considered if relevant, a review of all sites within this zone has allowed a determination to be made that in the absence of significant hydrological links the characteristics of the Plan will not impose effects beyond the 15 km buffer.

Details of European Sites that occur within 15 km of the County are provided in Table 3.1. European Sites and EPA Rivers and Catchments are also mapped in Figure 3.1. Information on QIs, SCIs and site-specific vulnerabilities (see Appendix I) and background information (such as that within Ireland’s Article 17 Report to the European Commission, site synopses and Natura 2000 standard data forms) have been considered by both the AA screening assessment (provided under this section) and Stage 2 AA (provided under Section 4). Conservation objectives that have been considered by the assessment are included in the following National Parks and Wildlife Service documents:

- NPWS (2019) Conservation Objectives for Hugginstown Fen SAC [000404] Version1.
- NPWS (2018) Conservation Objectives for The Loughans SAC [000407] Version6.
- NPWS (2013) Conservation Objectives for Tramore Dunes and Backstrand SAC [000671] Version1.
- NPWS (2011) Conservation Objectives for Bannow Bay SAC [000697] Version1.
- NPWS (2011) Conservation Objectives for Hook Head SAC [000764] Version1.
- NPWS (2019) Conservation Objectives for Blackstairs Mountains SAC [000770] Version1.
- NPWS (2011) Conservation Objectives for Slaney River Valley SAC [000781] Version1.
- NPWS (2018) Conservation Objectives for Cullahill Mountain SAC [000831] Version6.
- NPWS (2018) Conservation Objectives for Spahill and Clomantagh Hill SAC [000849] Version6.
- NPWS (2018) Conservation Objectives for Lisbigney Bog SAC [000869] Version6.
- NPWS (2019) Conservation Objectives for Galmoy Fen SAC [001858] Version1.
- NPWS (2018) Conservation Objectives for Comeragh Mountains SAC [001952] Version6.
- NPWS (2017) Conservation Objectives for Lower River Suir SAC [002137] Version1.
- NPWS (2011) Conservation Objectives for River Barrow and River Nore SAC [002162] Version1.
- NPWS (2019) Conservation Objectives for Thomastown Quarry SAC [002252] Version1.

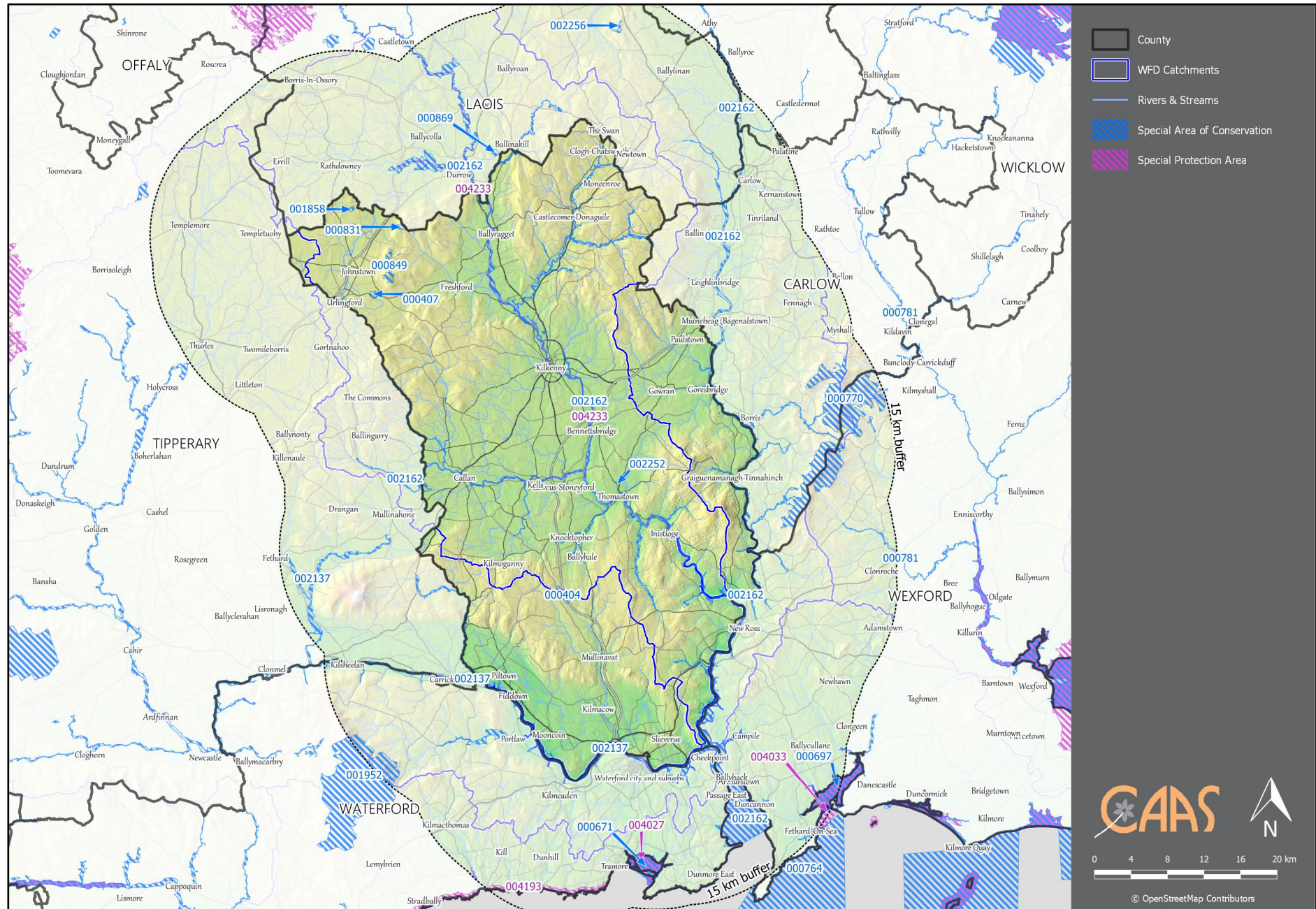
<sup>3</sup> Favourable conservation status of a habitat is achieved when: its natural range, and area it covers within that range, are stable or increasing; the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and the conservation status of its typical species is favourable.

<sup>4</sup> The favourable conservation status of a species is achieved when: population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats; the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.



- NPWS (2013) Conservation Objectives for Tramore Back Strand SPA [004027] Version1.
- NPWS (2012) Conservation Objectives for Bannow Bay SPA [004033] Version1.
- NPWS (2018) Conservation Objectives for Mid-Waterford Coast SPA [004193] Version6.
- NPWS (2018) Conservation Objectives for River Nore SPA [004233] Version6.

The assessment considers available conservation objectives. Since conservation objectives focus on maintaining the favourable conservation condition of the QIs/SCIs of each site, the screening process concentrated on assessing the potential effects of the Plan against the QIs/SCIs of each site. The conservation objectives for each site were consulted throughout the assessment process.



**Figure 3.1 European Sites within and within 15 km of County Kilkenny**

### 3.3 Assessment Criteria and Screening

#### 3.3.1 Is the Plan Necessary to the Management of European Sites?

The overarching objective of the Plan is not the nature conservation management of the sites, but to coordinate and plan the future development of Kilkenny. Therefore, the Plan is not considered to be directly connected with or necessary to the management of European Sites.

#### 3.3.2 Elements of the Draft Plan with Potential to Give Rise to Effects

The Plan provides a framework for the sustainable development of the Kilkenny area. Plan elements that could potentially affect the integrity of European Sites include:

- Provisions for sectors such as climate action, economic development and tourism, housing and community development, open space and recreation, heritage and culture, infrastructure and environment, renewable energy and movement and mobility; and
- Loading pressures from the operational phase of developments – these sources could result in habitat loss, disturbance effects, interactions with water quality and habitat fragmentation.

The elements of the Draft Plan with the highest potential to give rise to the effects indicated above are generally associated with construction phase elements of the implementation of the Plan. The operational phase elements of the Plan are generally consistent with the existing condition of the area; however, these will also need to be carefully considered. All policies and objectives are considered in this assessment with respect to the ecological integrity of each of the European Sites identified. The assessment considers the sensitivities/vulnerabilities of the QIs and SCIs in relation to all potential sources for effects and potential pathways for such effects. Where sources and pathways for effects are identified, potential effects are assessed in relation to the SSCOs.

#### 3.3.3 Screening of Sites

Table 3.1 examines whether there is potential for effects on European Sites considering information provided above, including Appendix I. Sites are screened based on one or a combination of the following criteria:

- The existence of potential for pathways for significant effects, such as hydrological links, Plan proposals and the site to be screened;
- The distance of the relevant site from the County boundary; and
- The existence of a link between identified threats or vulnerabilities at a site to potential impacts that may arise from the Plan.



**Table 3.1 Screening of European Sites**

Site Code	European site	Distance (km)	Qualifying Features (Qualifying Interest and Special Conservation Interests)	Potential effects (refer also to Sections 3.3.2 and 3.3.3 above)	Pathway for Significant Effects	Potential for In-Combination Effects
000404	Hugginstown Fen SAC	Within	Alkaline fens [7230]	The Plan provides a framework for land use development and activities with potential for construction and operation source effects throughout the County. As this site is within the County boundary there are pathways for potential direct effects to the ecological integrity of the site and consideration at Stage 2 AA is required.	Yes	Yes
000407	The Loughans SAC	Within	Turloughs [3180]	The Plan provides a framework for land use development and activities with potential for construction and operation source effects throughout the County. As this site is within the County boundary there are pathways for potential direct effects to the ecological integrity of the site and consideration at Stage 2 AA is required.	Yes	Yes
000831	Cullahill Mountain SAC	Within	Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) [6210]	The Plan provides a framework for land use development and activities with potential for construction and operation source effects throughout the County. As this site is within the County boundary there are pathways for potential direct effects to the ecological integrity of the site and consideration at Stage 2 AA is required.	Yes	Yes
000849	Spahill and Clomantagh Hill SAC	Within	Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) [6210]	The Plan provides a framework for land use development and activities with potential for construction and operation source effects throughout the County. As this site is within the County boundary there are pathways for potential direct effects to the ecological integrity of the site and consideration at Stage 2 AA is required.	Yes	Yes
001858	Galmoy Fen SAC	Within	Alkaline fens [7230]	The Plan provides a framework for land use development and activities with potential for construction and operation source effects throughout the County. As this site is within the County boundary there are pathways for potential direct effects to the ecological integrity of the site and consideration at Stage 2 AA is required.	Yes	Yes
002137	Lower River Suir SAC	Within	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) [91EO], Atlantic salt meadows ( <i>Glaucopuccinellietalia maritimae</i> ) [1330], Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410], Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260], Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430], Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0], <i>Taxus baccata</i> woods of the British Isles [91J0], <i>Margaritifera margaritifera</i> [1029], <i>Austropotamobius pallipes</i> [1092], <i>Petromyzon marinus</i> [1095], <i>Lampetra planeri</i> [1096], <i>Lampetra fluviatilis</i> [1099], <i>Alosa fallax fallax</i> [1103], <i>Salmo salar</i> [1106], <i>Lutra lutra</i> [1355]	The Plan provides a framework for land use development and activities with potential for construction and operation source effects throughout the County. As this site is within the County boundary there are pathways for potential direct effects to the ecological integrity of the site and consideration at Stage 2 AA is required.	Yes	Yes
002162	River Barrow and River Nore SAC	Within	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) [91EO], Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Reefs [1170], <i>Salicornia</i> and other annuals colonising mud and sand [1310], Atlantic salt meadows ( <i>Glaucopuccinellietalia maritimae</i> ) [1330], Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410], Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260], European dry heaths [4030], Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430], Petrifying springs with tufa formation ( <i>Cratoneurion</i> ) [7220], Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0], <i>Vertigo moulinsiana</i> [1016], <i>Margaritifera margaritifera</i> [1029], <i>Austropotamobius pallipes</i> [1092], <i>Petromyzon marinus</i> [1095], <i>Lampetra planeri</i> [1096], <i>Lampetra fluviatilis</i>	The Plan provides a framework for land use development and activities with potential for construction and operation source effects throughout the County. As this site is within the County boundary there are pathways for potential direct effects to the ecological integrity of the site and consideration at Stage 2 AA is required.	Yes	Yes

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Site Code	European site	Distance (km)	Qualifying Features (Qualifying Interest and Special Conservation Interests)	Potential effects (refer also to Sections 3.3.2 and 3.3.3 above)	Pathway for Significant Effects	Potential for In-Combination Effects
			<i>[1099]</i> , <i>Alosa fallax fallax</i> [1103], <i>Salmo salar</i> [1106], <i>Lutra lutra</i> [1355], <i>Trichomanes speciosum</i> [1421], <i>Margaritifera durrovensis</i> [1990]			
002252	Thomastown Quarry SAC	Within	Petrifying springs with tufa formation (Cratoneurion) [7220]	The Plan provides a framework for land use development and activities with potential for construction and operation source effects throughout the County. As this site is within the County boundary there are pathways for potential direct effects to the ecological integrity of the site and consideration at Stage 2 AA is required.	Yes	Yes
004233	River Nore SPA	Within	Kingfisher <i>Alcedo atthis</i> [A229]	The Plan provides a framework for land use development and activities with potential for construction and operation source effects throughout the County. As this site is within the County boundary there are pathways for potential direct effects to the ecological integrity of the site and consideration at Stage 2 AA is required.	Yes	Yes
000869	Lisbigney Bog SAC	0.15	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> [7210], <i>Vertigo moulinsiana</i> [1016]	This site is designated for terrestrial grassland and terrestrial species that are sensitive to direct land use management action such as drainage and graze management. Due to its proximity the River Barrow and Nore SAC, and the Kilkenny County border, Lisbigney Bog is considered to have pathways for direct potential effects to the ecological integrity and thus consideration under Stage 2 AA is required.	Yes	Yes
000770	Blackstairs Mountains SAC	3	Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010], European dry heaths [4030]	This site is designated for terrestrial heathland habitats that are sensitive to direct land use management action such as drainage, burning and graze management. There are no provisions in the Plan that introduce any sources for effects to the land use of the SAC. As there are no sources with pathways for effects, no further assessment is required.	No	No
000671	Tramore Dunes and Backstrand SAC	8.95	Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Perennial vegetation of stony banks [1220], <i>Salicornia</i> and other annuals colonising mud and sand [1310], Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> ) [1330], Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410], Embryonic shifting dunes [2110], Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	The dilution effects of the sea and tidal interactions are identified to be significant in relation to minimising potential adverse effects to the qualifying interests of this site. There are no provisions in the Plan that introduce any sources for effects to the land use of the SAC. As there are no sources with pathways for effects, no further assessment is required.	No	No
004027	Tramore Back Strand SPA	8.97	Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) [A046] Golden Plover ( <i>Pluvialis apricaria</i> ) [A140] Grey Plover ( <i>Pluvialis squatarola</i> ) [A141] Lapwing ( <i>Vanellus vanellus</i> ) [A142] Dunlin ( <i>Calidris alpina</i> ) [A149] Black-tailed Godwit ( <i>Limosa limosa</i> ) [A156] Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157] Curlew ( <i>Numenius arquata</i> ) [A160] Wetland and Waterbirds [A999]	The dilution effects of the sea and tidal interactions are identified to be significant in relation to minimising potential adverse effects to the special conservation interests of this site. There are no provisions in the plan that introduce any sources for effects to the land use of the SPA. As there are no sources with pathways for effects, no further assessment is required.	No	No
000781	Slaney River Valley SAC	9.54	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, <i>Salicion albae</i> ) [91EO], Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> ) [1330], Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410], Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260], Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0], <i>Margaritifera margaritifera</i> [1029], <i>Petromyzon marinus</i> [1095], <i>Lampetra planeri</i> [1096], <i>Lampetra fluviatilis</i> [1099], <i>Alosa fallax fallax</i> [1103], <i>Salmo salar</i> [1106], <i>Lutra lutra</i> [1355], <i>Phoca vitulina</i> [1365]	The Plan area is hydrologically isolated from this site. There are no provisions in the plan that introduce any sources for effects to the land use of the SAC. As there are no sources with pathways for effects, no further assessment is required.	No	No

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Site Code	European site	Distance (km)	Qualifying Features (Qualifying Interest and Special Conservation Interests)	Potential effects (refer also to Sections 3.3.2 and 3.3.3 above)	Pathway for Significant Effects	Potential for In-Combination Effects
002256	Ballyprior Grassland SAC	10.1	Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) [6210]	The Plan area is hydrologically isolated from this site. There are no provisions in the plan that introduce any sources for effects to the land use of the SAC. As there are no sources with pathways for effects, no further assessment is required.	No	No
004193	Mid-Waterford Coast SPA	11.39	Cormorant ( <i>Phalacrocorax carbo</i> ) [A017] Peregrine ( <i>Falco peregrinus</i> ) [A103] Herring Gull ( <i>Larus argentatus</i> ) [A184] Chough ( <i>Pyrrhocorax pyrrhocorax</i> ) [A346]	The dilution effects of the sea and tidal interactions are identified to be significant in relation to minimising potential adverse effects to the special conservation interests of this site. There are no provisions in the plan that introduce any sources for effects to the land use of the SPA. As there are no sources with pathways for effects, no further assessment is required.	No	No
000697	Bannow Bay SAC	11.49	Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Perennial vegetation of stony banks [1220], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows ( <i>Glaucopuccinellietalia maritimae</i> ) [1330], Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410], Mediterranean and thermo-Atlantic halophilous scrubs ( <i>Sarcocornetea fruticosi</i> ) [1420], Embryonic shifting dunes [2110], Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	The dilution effects of the sea and tidal interactions are identified to be significant in relation to minimising potential adverse effects to the qualifying interests of this site. There are no provisions in the Plan that introduce any sources for effects to the land use of the SAC. As there are no sources with pathways for effects, no further assessment is required.	No	No
004033	Bannow Bay SPA	12.03	Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) [A046] Shelduck ( <i>Tadorna tadorna</i> ) [A048] Pintail ( <i>Anas acuta</i> ) [A054] Oystercatcher ( <i>Haematopus ostralegus</i> ) [A130] Golden Plover ( <i>Pluvialis apricaria</i> ) [A140] Grey Plover ( <i>Pluvialis squatarola</i> ) [A141] Lapwing ( <i>Vanellus vanellus</i> ) [A142] Knot ( <i>Calidris canutus</i> ) [A143] Dunlin ( <i>Calidris alpina</i> ) [A149] Black-tailed Godwit ( <i>Limosa limosa</i> ) [A156] Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157] Curlew ( <i>Numenius arquata</i> ) [A160] Redshank ( <i>Tringa totanus</i> ) [A162] Wetland and Waterbirds [A999]	The dilution effects of the sea and tidal interactions are identified to be significant in relation to minimising potential adverse effects to the special conservation interests of this site. There are no provisions in the plan that introduce any sources for effects to the land use of the SPA. As there are no sources with pathways for effects, no further assessment is required.	No	No
001952	Comeragh Mountains SAC	12.51	Oligotrophic waters containing very few minerals of sandy plains ( <i>Littorelletalia uniflorae</i> ) [3110], Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation [3260], Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010], European dry heaths [4030], Alpine and Boreal heaths [4060], Siliceous scree of the montane to snow levels ( <i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i> ) [8110], Calcareous rocky slopes with chasmophytic vegetation [8210], Siliceous rocky slopes with chasmophytic vegetation [8220], <i>Drepanocladus vernicosus</i> [1393]	The Plan area is hydrologically isolated from this site. There are no provisions in the plan that introduce any sources for effects to the land use of the SAC. As there are no sources with pathways for effects, no further assessment is required.	No	No
000764	Hook Head SAC	14.84	Large shallow inlets and bays [1160], Reefs [1170], Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	The dilution effects of the sea and tidal interactions are identified to be significant in relation to minimising potential adverse effects to the qualifying interests of this site. There are no provisions in the Plan that introduce any sources for effects to the land use of the SAC. As there are no sources with pathways for effects, no further assessment is required.	No	No



### 3.4 Other Plans and Programmes

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or programmes that might, in combination with the plan or project, have the potential to adversely affect European Sites. Appendix II outlines a selection of plans or projects that may interact with the Plan to cause in-combination effects to European Sites. These plans, programmes, strategies etc. were considered throughout the assessment.

The Draft Plan sits within a hierarchy of statutory documents setting out public policy for, among other things, land use planning, infrastructure, sustainable development, recreation, environmental protection and environmental management, which have been subject to their own environmental assessment processes, as relevant. The Plan must comply with relevant higher-level strategic actions and will, in turn, guide lower level strategic actions.

The National Planning Framework (NPF) sets out Ireland's planning policy direction for the next 20 years. The NPF is to be implemented through Regional Spatial and Economic Strategies (RSEs) and lower tier Development Plans and Local Area Plans. The RSE for the Southern Region sets out objectives for land use planning, tourism, infrastructure, sustainable development, environmental protection and environmental management that have been subject to environmental assessment and must be implemented through the County Development Plan.

As required by the Planning and Development Act 2000, as amended, the Draft County Development Plan complies with higher level plans, policies, strategies, etc. including the NPF and the RSE for the Southern Region. The County Development Plan may, in turn, guide lower level strategic actions, such as the Local Area Plans that will be subject to their own lower-tier environmental assessments.

In order to be realised, projects included in the County 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.

All projects within the Draft Plan area and receiving environment will be considered in combination with any and all lower tier projects that may arise due to the implementation of the Plan. Given the uncertainties that exist with regard to the scale and location of developments facilitated by the Draft Plan, it is recognised that the identification of in-combination effects is limited and that the assessment of in-combination effects will need to be undertaken in a more comprehensive manner at the project-level.

Additional information on the relationship with other plans and programmes is provided at Appendix II.


### 3.5 AA Screening Conclusion

The effects that could arise from the Plan have been examined in the context of several factors that could potentially affect the integrity of any European Site. On the basis of the findings of this Screening for AA, it is concluded that the Plan:

- Is not directly connected with or necessary to the management of any European Site; and
- May, if unmitigated, have significant effects on 9 (no.) European Sites.

Therefore, a Stage 2 AA is required for the Plan (see Section 4 of this report). An AA Screening Determination undertaken by the planning authority is provided at Figure 3.2.

<p><b>Comhairle Chontae Chill Chainnigh</b> Halla an Chontae Sraid Eoin Cill Chainnigh</p>	<p><b>Kilkenny County Council</b> County Hall John Street Kilkenny</p>
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**Screening for Appropriate Assessment**

**Determination**

under  
the Planning and Development Act 2000, as amended,  
for the

**Emerging Draft Kilkenny City and County Development Plan 2021-2027**

In order to comply with the requirements of the Planning and Development Act 2000, as amended, this determination has been made by Kilkenny County Council relating to the potential for the emerging Draft Kilkenny City and County Development Plan 2021-2027 to have significant effects on European sites.

In making the determination that Appropriate Assessment (AA) is required, the information on the likely significant effects on European Sites arising from the emerging Draft Plan has been taken into account (this information will be placed on public display in the Natura Impact Report alongside the emerging Draft Plan). The process of screening for AA began at an early stage in the drafting of the Plan. The screening process assessed whether the emerging Draft Plan had the potential to have significant effects on any European sites, either alone or in combination with other plans and projects.


The screening process concluded that an AA of the emerging Draft Plan would be required, as the Plan: is not directly connected with or necessary to the management of European sites; and may, on the basis of objective information, individually, or in combination with other plans and projects, if unmitigated have significant adverse effects on 10 (no.) European sites.

Factors that could potentially affect the integrity of European sites include:

- Provisions for sectors such as climate action, economic development and tourism, housing and community development, open space and recreation, heritage and culture, infrastructure and environment, renewable energy and movement and mobility; and
- Loading pressures from the operational phase of developments – these sources could result in habitat loss, disturbance effects, interactions with water quality and habitat fragmentation.

Therefore, Stage 2 AA (including the preparation of the Natura Impact Report) is required for the emerging Draft Plan.

The undersigned, having carefully considered the information referred to above agrees with and adopts the reasoning and conclusion presented above. The undersigned hereby determines pursuant to the Planning and Development Act 2000, as amended, and for the purposes of Article 6(3) of the Habitats Directive that it could not be excluded, on the basis of objective information, that the emerging Draft Plan, individually, or in combination with other plans and projects would have a likely significant effect on a European site and therefore an AA is required.

**Signatory:** 

**Date:** 4/12/2020

**Figure 3.2 Screening for Appropriate Assessment Determination**

## Section 4 Stage 2 Appropriate Assessment

### 4.1 Introduction

The Stage 2 AA assesses whether the Plan alone, or in-combination with other plans, programmes, and/or projects, would result in adverse impacts on the integrity of the 10 European Sites brought forward from screening (those considered on Table 3.1 for which there is "Potential Pathway for Significant Effects" and/or "Potential for In-Combination Effects"), with respect to site structure, function and/or conservation objectives.

### 4.2 Characterisation of European Sites Potentially Affected

The AA Screening identified 10 European Sites with pathway receptors for potential effects arising from the implementation of the Plan.

Appendix I characterises each of the qualifying features of the 10 European Sites brought forward from Stage 1 in context of each of the sites' vulnerabilities. Each of these site characterisations were taken from the NPWS website<sup>5</sup>.

### 4.3 Identifying and Characterising Potential Significant Effects

The following parameters can be used when characterising impacts<sup>6</sup>:

**Direct and Indirect Impacts** - An impact can be caused either as a direct or as an indirect consequence of a Plan/Project.

**Magnitude** - Magnitude measures the size of an impact, which is described as high, medium, low, very low or negligible.

**Extent** - The area over that the impact occurs – this should be predicted in a quantified manner.

**Duration** - The time that the effect is expected to last prior to recovery or replacement of the resource or feature.

- Temporary: Up to 1 Year;
- Short Term: The effects would take 1-7 years to be mitigated;
- Medium Term: The effects would take 7-15 years to be mitigated;
- Long Term: The effects would take 15-60 years to be mitigated; and
- Permanent: The effects would take 60+ years to be mitigated.

**Likelihood** – The probability of the effect occurring taking into account all available information.

- Certain/Near Certain: >95% chance of occurring as predicted;
- Probable: 50-95% chance as occurring as predicted;
- Unlikely: 5-50% chance as occurring as predicted; and
- Extremely Unlikely: <5% chance as occurring as predicted.

**Ecologically Significant Impact** - An impact (negative or positive) on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a given geographic area.

**Integrity of a Site** - The coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.

The Habitats Directive requires the focus of the assessment at this stage to be on the integrity of the site as indicated by its Conservation Objectives. It is an aim of NPWS to draw up conservation management plans for all areas designated for nature conservation. These plans will, among other things, set clear objectives for the conservation of the features of interest within a site.

Site-Specific Conservation Objectives (SSCOs) have been prepared for a number of European Sites. These detailed SSCO aim to define favourable conservation condition for the qualifying habitats and species at that site by setting targets for appropriate attributes that define the character habitat. The maintenance of the favourable condition for these habitats and species at the site level will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

***Favourable conservation status of a species** can be described as being achieved when: 'population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.'*

***Favourable conservation status of a habitat** can be described as being achieved when: 'its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that are necessary for its long-term maintenance*

<sup>5</sup> Last accessed 25<sup>th</sup> October 2020 <https://www.npws.ie/protected-sites>

<sup>6</sup> These descriptions are informed by publications including: Chartered Institute of Ecology and Environmental Management (2016) "Guidelines for ecological impact assessment"; Environmental Protection Agency (2002) "Guidelines on the Information to be contained in Environmental Impact Statements"; and National Roads Authority (2009) "Guidelines for Assessment of Ecological Impacts of National Roads Schemes".

*exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable’.*

#### Generic Conservation Objective for SACs:

- To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species that the SAC has been selected.

#### Generic Conservation Objective for SPAs:

- To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.

### 4.3.1 Types of Potential Effects

Assessment of potential adverse effects on European Sites is conducted utilising a standard source-pathway model (see approach referred to under Sections 1.3 and 3). The 2001 European Commission AA guidance outlines the following potential changes that may occur at a designated site, which may result in effects on the integrity and function of that site: loss/reduction of habitat area; habitat or species fragmentation; disturbance to key species; reduction in species density; changes in key indicators of conservation value (e.g. water quality); and climate change. Each of these potential changes are considered below and in Table 4.1 with reference to the QIs/SCIs of all of the European Sites brought forward from Stage 1 of the AA process (see Section 3).

#### 4.3.1.1 Loss/Reduction of Habitat Area

The Plan provides for development across the County with specific settlements identified to facilitate more intensive development in these areas. The development of all infrastructural works such as those relating to water services, energy, residential and commercial structures, roads, access tracks and pathways have associated construction phase effects. These potential effects include land take, habitat destruction, disturbance effects, light pollution, dust, hydrological interactions, airborne pollution and excessive noise. Therefore, mitigation measures are required to ensure that there are no significant adverse effects due to construction on the ecological integrity of any European site.

As identified above, County Kilkenny has several European sites within it; therefore, there is potential for effects to European sites as a result of the Plan. However, several mitigation measures have been integrated into the Plan to ensure that its implementation will not result in the loss of any habitat necessary for the ecological integrity of any European site, such as those detailed in Sections 1.3<sup>7</sup>, 9.2.1.5<sup>8</sup>, 9.2.7<sup>9</sup> and 13.29<sup>10</sup>.

These Policy Objectives will ensure that there will be no loss of habitat or supporting habitat for species that are necessary to maintain the ecological integrity of European sites throughout the lifetime of the Plan. Please see Section 5 of this report for a full list of measures.

<sup>7</sup> 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 Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, 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.

<sup>8</sup> Ensure that an ecological impact assessment is carried out, by suitably qualified professional(s), for any proposed development likely to have a significant impact on rare and threatened species including those species protected by law and their habitats. Ensure appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment

<sup>9</sup> The Council will protect, manage and enhance the wetlands of the County having regard to the 'County Kilkenny Preliminary Wetland Survey, 2020' and subsequent surveys published during the lifetime of this plan. The Council will also ensure that there is an appropriate level of assessment in relation to proposals which involve draining, reclaiming or infilling of wetland habitats.

<sup>10</sup> Topographical Survey, Accurately measured showing all relevant site features. Soil assessment – where appropriate to determine whether a soil is shrinkable, that may cause the potential for indirect damage. Soil structure composition and PH for the provisions of new planting. A tree survey - details trees and hedgerows identified on the topographical survey and on land adjacent to the development site, including individual trees, groups of trees and woodlands. Identifying tree dimensions, quality and retention value in accordance with the context of the proposed development. The tree survey - should identify the constraints posed by trees, both above and below ground, which will inform the site layout design. Constraints include, the presence of a Tree Preservation Order (TPO), the existing and eventual crown spreads of trees and their unreasonable obstruction of light etc. Arboricultural Impact Assessment - a report should be compiled by an arboriculturist using the data collated from the site survey. The report should assess the impact and the effects the proposed design has directly and indirectly on the trees and where necessary recommends mitigation. A Tree Protection Plan – details the proposed design layout shown on a plan with all trees clearly identified with their root protection areas (RPA) annotated based on the topographical survey to include all trees. The classification of each tree and the required protection measures during development. New Planting – takes account of existing landscape features and is essential for consideration in the layout, design and future use of a proposed development. New planting should account for the future growth of canopies, stems and root systems to maturity and their potential effects on existing site structures. Arboricultural Method Statements – demonstrates how unavoidable construction operations may take place within the RPA or crown spread of trees (whichever is greatest), clearly demonstrating how these operations will have a little detriment to retained trees. These operations may include but are not exclusive to: a. Temporary access; b. Installation of service runs; c. Construction of hard standing; d. Foundation excavations; e. Subterranean structures e.g. basement extensions

### 4.3.1.2 Habitat or species Fragmentation

As previously stated, the Plan provides for developments which have associated effects. These effects could result in the fragmentation of habitat and or species through light pollution, habitat loss and/or removal of stepping stone habitats, for example. Therefore, mitigation measures are required to ensure that there are no significant adverse effects in relation to fragmentation on the ecological integrity of any European site.

The Plan recognises the role of non-designated sites for the maintenance and enhancement of European sites due to the connectivity and accessibility of ecological resources, such as Section 9.2.2<sup>11</sup> and 9.2.3<sup>12</sup>. The Plan provides Policy Objectives to minimise potential fragmentation and to facilitate the enhancement of ecological corridors such as riparian zones and pollinator greenways - these include 9.2.9<sup>13</sup>, 13.29 and 2.9.7 (Volume 2)<sup>14</sup>. Inappropriate lighting will be minimised through the implementation of Policy Objectives set out in Section 9 of the Plan, such as those under Sections 9.3.9<sup>15</sup> and 10.2.5<sup>16</sup>.

Further to these provisions there are Policy Objectives related to specific ecological resources and/or habitats such as: waterways, in Section 10.2.8<sup>17</sup>; hedgerows and trees, in Section 9.2.5.1<sup>18</sup>; and agriculture, in Section 7.7.1<sup>19</sup>. These Policy Objectives apply to all plans, programmes and/or projects that may arise due to the implementation of the Plan and will ensure that habitat or species fragmentation will not occur in relation to the connectivity of the ecological resources necessary to maintain the ecological integrity of European sites throughout the lifetime of the Plan. Please see Section 5 of this report for a full list of measures.

### 4.3.1.3 Disturbance to Key Species

Disturbance effects are caused by any activity that has potential to alter the movement patterns/distribution of species. Disturbance effects can relate to direct disturbance through human

<sup>11</sup> 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. Development Management Requirements:

- To Ensure that development proposals, where relevant, improve the ecological coherence of the Natura 2000 network and encourage the retention and management of landscape features that are of major importance for wild fauna and flora as per Article 10 of the Habitats Directive.
- To Protect and where possible enhance wildlife habitats and landscape features which act as ecological corridors/networks and stepping stones, such as river corridors, hedgerows and road verges, and to minimise the loss of habitats and features of the wider countryside (such as ponds, wetlands, trees) which are not within designated sites.
- To ensure that appropriate mitigation and/or compensation measures to conserve biodiversity, landscape character and green infrastructure networks are required in developments where habitats are at risk or lost as part of a development.

<sup>12</sup> 9B To identify and map green infrastructure assets and sites of local biodiversity value over the lifetime of the Plan.

<sup>13</sup> The Council will in as far as is practicable and affordable manage and restore semi-natural habitats and their native plants on Council land.

<sup>14</sup> To allow for green links and biodiversity conservation and to preserve, provide and improve recreational open space.

<sup>15</sup> Development Management Requirements: To require an assessment, including mitigation measures, of the potential environmental, visual, and heritage impacts of proposals to floodlight buildings and structures.

<sup>16</sup> To ensure that lighting is carefully and sensitively designed; To require that the design of external lighting minimises the incidence of light spillage or pollution into the surrounding environment.

<sup>17</sup> For developments adjacent to watercourses of a significant conveyance capacity any structures (including hard landscaping) must be set back a minimum of 5-10m from the edge of the watercourse to allow access for channel clearing/maintenance. Any required setback may be increased to provide for habitat protection. Development consisting of construction of embankments, wide bridge piers, or similar structures will not normally be permitted in or across flood plains or river channels.

<sup>18</sup> The Council will promote the planting of native tree and shrub species, by committing to using native species (of local provenance wherever possible) in its landscaping work and on County Council property and maximise the opportunity to enhance biodiversity within the City & County during the life time of the plan. Development Management Requirements:

- To protect existing woodlands, trees and hedgerows which are of amenity or biodiversity value and/or contribute to landscape character of the county, and to ensure that proper provision is made for their protection and management, when undertaking, approving or authorising development.
- To ensure that when undertaking, approving or authorising development that sufficient information is provided to enable an assessment of impacts on woodlands, trees, and hedgerows.
- To have regard to, and seek the conservation of identified trees and woodlands from a) the National Survey of Ancient and Long-Established Woodlands, b) the Tree Register of Ireland (c) sites of significance identified in the Kilkenny Woodlands Survey 1997, (d) the National Survey of Native Woodlands, and (e) Survey of Mature Trees in Kilkenny City and Environs, in the assessment of planning applications
- To retain hedgerows, and other distinctive boundary treatment such as stone walls, when undertaking, authorising or approving development; where the loss of the existing boundary is unavoidable as part of development, to ensure that a new hedgerow is planted using native species, and species of local provenance to replace the existing hedgerow and/or that the wall is re-built using local stone and local vernacular design.
- To discourage the felling of mature trees to facilitate development and, where appropriate make use of Tree Preservation Orders to protect important trees and groups of trees which may be at risk or have an amenity, biodiversity or historic value.
- To require the planting of native broadleaved species, and species of local provenance, in new developments as appropriate. See Appendix G for a list of native trees and shrubs.

<sup>19</sup> Agriculture developments will be constructed and located so as to ensure that there is no threat of pollution to ground or surface waters.

activity/movement or noise pollution. This is particularly relevant in relation to tourism and recreation as many of the County's destinations or attractions are in or adjacent to European sites. Many European sites within the Kilkenny area have recreational related pressures such as water sports or hiking trails as known threats and pressures. Policy Objectives such as 8A to 8I<sup>20</sup> have the potential to add to these sources for effects. However, policy detailed in Section 8.4.3<sup>21</sup> focuses on promoting sustainable tourism while protecting European Sites.

The Plan accounts for noise pollution effects through its Policy Objectives affording protection to European sites by ensuring any projects that arise from the implementation of the Plan avoid or minimise noise in compliance with the Environmental Noise Directive and associated National Regulations through the County Kilkenny Council Draft Noise Action Plan 2019-2023 (prepared under SI No. 140 of 2006). Other disturbance effects could relate to a reduction in habitat quality due to anthropocentric sensitivities for protected birds and mammals. Policy Objectives of noise mapping, such as that under Section 10.2.3<sup>22</sup>, have been built into the Plan.

These measures are robust to ensure that any sensitive habitat features or species will be identified and only compliant applications will be granted. Please see Section 5 of this report for a full list of measures.

#### **4.3.1.4 Reduction in species density**

Species densities are reliant on species distributions, habitat condition, connectivity of ecological resources and availability of resources such as prey/food. The Plan introduces potential sources for effects to affect these four determinant factors in the form of construction phase effects such as habitat destruction, light pollution, hydrological interaction or operational effects such as disturbance effects,

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<sup>20</sup> 8A To develop a recreational and biodiversity park on the site of the now closed municipal landfill at Dunmore; 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; 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; 8D To undertake a feasibility study to determine the optimal location for, and to develop, a water sports hub on the River Nore; 8E To provide a pedestrian crossing along the northern side of Greens Bridge

<sup>21</sup> It will not have adverse impacts on any Natura 2000 site, will not result in damage to sites of nature conservation importance or features of the archaeological and built heritage; The development will not result in over intensification of use leading to pollution, excessive noise and nuisance.

<sup>22</sup> 10E To continue to update Noise Mapping in accordance with revised or updated thresholds for Noise Mapping. 10F Develop priority list of actionable works to mitigate against excessive noise and implement subject to cost benefit analysis.

habitat encroachment and trampling. However, the Plan mitigates effects by requiring compliance with the Habitats and Birds Directives – for example in Sections 1.3<sup>23</sup>, 11.5.3<sup>24</sup> and 11.5.3.1<sup>25</sup>.

Overall, the Plan identifies an approach that can be taken when assessing the ecological impacts of a proposed development on European sites, and the precautions surrounding this approach.

Furthermore, the Plan contains provisions to enhance biodiversity, landscape and the environment within Kilkenny through native planting, preservation of hedgerows and natural features, and restoration of semi natural habitats, where affordable. Similarly, the Plan recognises the role of non-designated sites for the maintenance and enhancement of species diversity overall through connectivity and accessibility of ecological resources in developments. Further to these provisions there are Policy Objectives related to specific ecological resources and/or habitats such as waterways (detailed above) or existing trees and hedgerows. These Policy Objectives apply to all plans, programmes and projects that may arise due to the implementation of the Plan. Measures relating to light pollution, noise pollution, habitat loss and fragmentation are addressed above. In addition to this the Plan identifies Policy Objectives to protect and improve water quality interactions, which can influence species densities. There are also a number of provisions relating to protective buffer zones, further assessment requirements as well as commitments to increasing water quality standards. Further details in relation to relevant mitigation measures are in Section 5 below.

#### 4.3.1.5 Changes of Indicators of Conservation Value

Water quality is the primary macro indicator of conservation value. The Plan contains many robust Policy Objectives to ensure the protection of both surface and ground water quality. Groundwater quantity is also a potential issue as most of the drinking water in the County comes from groundwater

<sup>23</sup> 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 Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, 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.

<sup>24</sup> In accordance with the guidance, when considering an application for wind energy development, the planning authority may consider some if not all of the following matters:

- Environmental Assessments (EIA, AA etc. See 10.5.3.1 below) including mitigation included in Construction Environment Management Plans (CEMPs);
- Community engagement and participation aspects of the proposal and how its Community Benefit Fund will contribute to the wider County of Kilkenny's Energy Efficiency targets at a local level. (the www.3cea.ie coordinate such proposals under the County Climate Action Plan.)
- Grid Connection details
- Geology and ground conditions, including peat stability; and management plans to deal with any potential material impact. Reference should be made to the National Landslide Susceptibility Map to confirm ground conditions are suitably stable for project;
- Site drainage and hydrological effects, such as
  - water supply and quality and watercourse crossings;
  - management plans to deal with any potential material impact on watercourses;
  - the hydrological table;
  - flood risk including mitigation measures;
- Landscape and visual impact assessment, including the size, scale and layout and the degree to which the wind energy project is visible over certain areas and in certain views;
- Visual impact of ancillary development, such as grid connection and access roads;
- Potential impact of the project on natural heritage, to include direct and indirect effects on protected sites or species, on habitats of ecological sensitivity and biodiversity value and, where necessary, management plans to deal with the satisfactory co-existence of the wind energy development and the particular species/habitat identified;
- Potential impact of the project on the built heritage including archaeological and architectural heritage;
- It is recommended that consideration of carbon emissions balance is demonstrated when the wind energy developments requires peat extraction.
- Local environmental impacts including noise, shadow flicker, electromagnetic interference, etc.;
- Adequacy of local access road network to facilitate construction of the project and transportation of large machinery and turbine parts to site, including a traffic management plan;
- Information on any cumulative effects due to other projects, including effects on natural heritage and visual effects;
- Information on the location of quarries to be used or borrow pits proposed during the construction phase and associated remedial works thereafter;
- Disposal or elimination of waste/surplus material from construction/site clearance, particularly significant for peatland.

<sup>25</sup>The assessment of the impacts of developments shall comply with the relevant European Directives as transposed into Irish legislation, including the EIA Directive, the Habitats Directive and the Birds Directive. As regards the directives, these assessments will relate to all mandatory categories and where, following screening, if required, a full EIAR or NIS is produced, these must include the impacts of both the planning application and its grid connections. In relation to EIAR, the assessment must address the direct effects and any short, medium and long-term, permanent and temporary, positive and negative, indirect, secondary, cumulative and transboundary effects of the whole project, i.e. the wind energy development and the grid connection. In relation to the grid connection it is preferable that the corridor approach be used. In relation to NIS, the assessment shall consider all potential impacts on Natura 2000 sites. It is recommended that Construction Environment Management Plans (CEMPs) of projects be submitted with applications. These plans generally include mitigation measures which should ideally input into both Environmental Impact Assessment Report or Appropriate Assessment at planning application stage. All planning application submission (and in particular the EIAR) must include details of the site compound and access arrangements. The applications must include details of the location and design of the site compound and construction methods, environmental mitigation methods and proposed reinstatement.

sources. Abstractions for drinking water could individually and/or cumulatively could impact upon ecology, including European sites. Development within the vicinity of groundwater or surface water dependant European sites will not be permitted where there is potential for a likely significant impact upon the groundwater or surface water supply to the European sites (10.1.8.2<sup>26</sup>). Policy Objectives that specifically relate to the protection of water quality that account for potential effects to European sites are included in Sections 8.4.3 and 9.2.2<sup>27</sup>.

Similarly, emissions to air and hazardous waste have potential to adversely affect the conservation status of European sites; however, the Plan contains Policy Objectives in Sections 7.5.2<sup>28</sup> and 10.2.1.1<sup>29</sup>, which account for this. Increased development pressures could place additional loadings onto the existing waste water treatment plant facilities. The SEA indicates the available capacity within the existing Waste Water Treatment infrastructure in the County.

#### 4.3.1.6 Climate change

The Plan includes provisions that potentially conflict with climate mitigation and provisions that will help to contribute towards climate mitigation. Section 1.3 "Appropriate Assessment" of the Plan provides that 'Projects giving rise to significant cumulative, direct, indirect or secondary impacts on European sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall not be permitted on the basis of this Plan (either individually or in combination with other plans or projects) <sup>30</sup>'. Greenhouse gas emissions arising from the Plan will not affect changes projected to arise from climate change to the degree that it would affect the QIs or SCIs of the European Sites considered.

<sup>26</sup> The Council will support and protect the high-water quality status of the Kilkenny Blue Dot designated catchment area by restricting high intensity agriculture and other developments that may impact the quality of the water in the catchment.

<sup>27</sup> 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. Development Management Requirements:

- To Ensure that development proposals, where relevant, improve the ecological coherence of the Natura 2000 network and encourage the retention and management of landscape features that are of major importance for wild fauna and flora as per Article 10 of the Habitats Directive.
- To Protect and where possible enhance wildlife habitats and landscape features which act as ecological corridors/networks and stepping stones, such as river corridors, hedgerows and road verges, and to minimise the loss of habitats and features of the wider countryside (such as ponds, wetlands, trees) which are not within designated sites.
- To ensure that appropriate mitigation and/or compensation measures to conserve biodiversity, landscape character and green infrastructure networks are required in developments where habitats are at risk or lost as part of a development.

<sup>28</sup> Undertaking non-energy extractive activities in accordance with Natura 2000 requirements; NPWS Guidelines for the protection of Biodiversity within the Extractive Industry and the GSI's Geological Heritage Guidelines for the Extractive Industry.

<sup>29</sup> The Council will promote the best ambient air quality compatible achievable with sustainable development.

<sup>30</sup> Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be: a) no alternative solution available, b) imperative reasons of overriding public interest for the project to proceed; and c) Adequate compensatory measures in place.



**Table 4.1 Characterisation of Potential Effects arising from the Plan**

Site Code	Site Name <sup>31</sup>	Distance (Km)	Characterisation of Potential Effects <sup>32</sup>
000404	Hugginstown Fen SAC	Within	<p>The known threats to this site are land abandonment (and associated succession), overgrazing, drainage and pollution.</p> <p>These pressures relate to agriculture, natural processes, direct land use management and waste disposal. No direct land take or habitat loss will occur due to the implementation of the Plan either within any European sites or any connectivity corridors necessary to support the ecological integrity of the site, due to Policy Objectives in Sections 1.3, 9.2.1.5, 9.2.2, 9.2.5.1, 9.2.7, 9.2.8 and 10.1.8.5. Similarly, the removal of hedgerows or coppicing will be managed through Policy Objectives such as those in Section 13.29. There are no provisions in the Plan that relate to mowing or grazing regimes specifically, therefore there are no sources for effects in this regard. Wetlands and peatlands have been considered for protection in Plan Sections 9.2.7 and 9.2.8, with regard to their biodiversity value – such habitats help reduce flood risk and increase water filtration.</p> <p>For further details in relation to mitigation measures incorporated into the Plan please refer to Section 5 below.</p>
000407	The Loughans SAC	Within	<p>The known threats to this site are drainage, groundwater pollution and ecologically unsuitable grazing. These pressures relate to agriculture, natural processes, direct land use management and waste disposal. No direct land take or habitat loss will occur due to the implementation of the Plan either within any European sites or any connectivity corridors necessary to support the ecological integrity of the site, due to Policy Objectives in Sections 1.3, 9.2.1.5, 9.2.2, 9.2.5.1, 9.2.7, 9.2.8 and 10.1.8.5. Similarly, the removal of hedgerows or coppicing will be managed through Policy Objectives such as those in Section 13.29. There are no provisions in the Plan that relate to mowing or grazing regimes specifically, therefore there are no sources for effects in this regard.</p> <p>For further details in relation to mitigation measures incorporated into the Plan please refer to Section 5 below.</p>
000831	Cullahill Mountain SAC	Within	<p>The known threats to this site are removal of hedges and coppices or scrub, abandonment of pastoral systems lack of grazing, non-intensive mowing.</p> <p>These pressures relate to agriculture, natural processes, direct land use management and waste disposal. No direct land take or habitat loss will occur due to the implementation of the Plan either within any European sites or any connectivity corridors necessary to support the ecological integrity of the site, due to Policy Objectives in Sections 1.3, 9.2.1.5, 9.2.2, 9.2.5.1, 9.2.7, 9.2.8 and 10.1.8.5. Similarly, the removal of hedgerows or coppicing will be managed through Policy Objectives such as those in Section 13.29. There are no provisions in the Plan that relate to mowing or grazing regimes specifically, therefore there are no sources for effects in this regard.</p> <p>For further details in relation to mitigation measures incorporated into the Plan please refer to Section 5 below.</p>
000849	Spahill and Clomantagh Hill SAC	Within	<p>The known threats to this site fertilisation, Intensive grazing and Removal of hedges and coppices or scrub.</p> <p>These pressures relate to agriculture, natural processes, direct land use management and waste disposal. No direct land take or habitat loss will occur due to the implementation of the Plan either within any European sites or any connectivity corridors necessary to support the ecological integrity of the site, due to Policy Objectives in Sections 1.3, 9.2.1.5, 9.2.2, 9.2.5.1, 9.2.7, 9.2.8 and 10.1.8.5. Similarly, the removal of hedgerows or coppicing will be managed through Policy Objectives such as those in Section 13.29. There are no provisions in the Plan that relate to mowing or grazing regimes specifically, therefore there are no sources for effects in this regard.</p> <p>For further details in relation to mitigation measures incorporated into the Plan please refer to Section 5 below.</p>
001858	Galmoy Fen SAC	Within	<p>The known threats to this site are underground mining, grazing, silviculture, and forestry.</p> <p>These pressures relate to foresting and mining. No direct land take or habitat loss will occur due to the implementation of the Plan either within any European sites or any connectivity corridors necessary to support the ecological integrity of the site, due to Policy Objectives in Sections 1.3, 9.2.1.5, 9.2.2, 9.2.5.1, 9.2.7, 9.2.8 and 10.1.8.5. Similarly, the removal of hedgerows or coppicing will be managed through Policy Objectives such as those in Section 13.29. There are no provisions in the Plan that relate to mowing or grazing regimes specifically, therefore there are no sources for effects in this regard. Sustainable forestry practices are provided for in the Plan, detailed in Section 7.4.2. Wetlands and peatlands have been considered for protection in Plan Sections 9.2.7 and 9.2.8, with regard to their biodiversity value – such habitats help reduce flood risk and increase water filtration.</p> <p>For further details in relation to mitigation measures incorporated into the Plan please refer to Section 5 below.</p>
002137	Lower River Suir SAC	Within	<p>The known threats to this site port areas, Reclamation of land from sea, estuary or marsh, landfill, land reclamation and drying out, general, cultivation, dykes and flooding defence in inland water systems, Discharges, Pollution to surface waters (limnic and terrestrial; marine and brackish), Silviculture, forestry, Invasive non-native species, Urbanised areas, human habitation and Fertilisation.</p> <p>These pressures relate to human habitation, hydrological interactions, fisheries, erosion, flood risk management, pollution and invasive species. No direct land take or habitat loss will occur due to the implementation of the Plan either within any European sites or any connectivity corridors necessary to support the ecological integrity of the site, due to Policy Objectives in Sections 1.3, 9.2.1.5, 9.2.2, 9.2.5.1, 9.2.7, 9.2.8 and 10.1.8.5. Similarly, the removal of hedgerows or coppicing will be managed through Policy Objectives such as those in Section 13.29. The Plan also provides for flood risk management in accordance with the Guidelines for Planning Authorities in Section 10.2.6.2, and appropriate surface water drainage in Section 10.2.8. Water quality management to protect groundwater is provided for in the Plan in Section 10.1.8.5. Wetlands and peatlands have been considered for protection in Plan Sections 9.2.7 and 9.2.8, with regard to</p>

<sup>31</sup> For distance from Plan boundary and qualifying features for each European Site (QIs and SCIs), please refer to Table 3.1

<sup>32</sup> Informed by, inter alia, The Status of Protected EU Habitats and Species in Ireland, Overview Volume 1 (NPWS, 2019)

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Site Code	Site Name <sup>31</sup>	Distance (Km)	Characterisation of Potential Effects <sup>32</sup>
			<p>their biodiversity value – such habitats help reduce flood risk and increase water filtration. Section 9.2.10 details a policy for the identification and development of a management plan for invasive species on developments within the county.</p> <p>For further details in relation to mitigation measures incorporated into the Plan please refer to Section 5 below.</p>
002162	River Barrow and River Nore SAC	Within	<p>The known threats to this site are industrial or commercial areas, agricultural intensification, dykes and flooding defence in inland water systems, removal of hedges and coppices or scrub, fishing and harvesting aquatic resources, Sand and gravel quarries, reduction in migration or migration barriers, forestry activities not referred to above, invasive non-native species, peat extraction, netting, forest replanting (native trees), human induced changes in hydraulic conditions, port areas, changes in abiotic conditions, modifying structures of inland water courses, Leisure fishing, pollution to surface waters (limnic and terrestrial; marine and brackish), forest and plantation management &amp; use, intensive cattle grazing, dredging or removal of limnic sediments, water abstractions from surface waters, use of fertilizers (forestry), intensive fish farming, intensification, erosion.</p> <p>These pressures relate to agriculture, forestry, hydrological interactions and alterations, habitat fragmentation, fisheries, pollution and erosion. No direct land take or habitat loss will occur due to the implementation of the Plan either within any European sites or any connectivity corridors necessary to support the ecological integrity of the site, due to Policy Objectives in Sections 1.3, 9.2.1.5, 9.2.2, 9.2.5.1, 9.2.7, 9.2.8 and 10.1.8.5. Similarly, the removal of hedgerows or coppicing will be managed through Policy Objectives such as those in Section 13.29. Section 7.4.2 provides policy for forestry development within the County to be progressed with environmental considerations of increasing woodland cover. Furthermore, habitat connectivity will be maintained through Policy Objectives such as: 9.2.2, 9.2.3 and 9.2.4. There are no provisions in the Plan that relate to fire management, mowing or grazing regimes specifically, therefore there are no sources for effects in this regard.</p> <p>Policies requiring adherence to Natura 2000 requirements for non-energy extractive activities, and adherence to NPWS guidelines for the protection of biodiversity in the extractive industry, are detailed in Section 7.5.2 of the Plan. The Plan promotes the development of agricultural activities however Policy Objectives contained within the Plan in Section 7.7.1 ensure that intensive agriculture and agricultural run-off to surface waters will be managed appropriately. The Plan has Policy Objectives to ensure the implementation of the Plan will not result in significant adverse effects to hydrological interactions for surface and ground water detailed in Sections 10.1.8.2, 10.1.8.4 and 10.1.8.5.</p> <p>There are no provisions related to fish farming within the Plan as these threats are identified in the downstream reaches of the SAC, which are outside the boundaries of the Plan. Leisure fishing in Ireland is strictly controlled by IFI using a monitored licencing process therefore there are no likely significant effects identified in this regard. There is consideration for migration of fish where necessary in development proposals within the county; detailed in Section 7.6.1. The Plan also provides for flood risk management in accordance with the Guidelines for Planning Authorities in Section 10.2.6.2, and appropriate surface water drainage in Section 10.2.8. Wetlands and peatlands have been considered for protection in Plan Sections 9.2.7 and 9.2.8, with regard to their biodiversity value – such habitats help reduce flood risk and increase water filtration. Section 9.2.10 details a policy for the identification and development of a management plan for invasive species on developments within the county.</p> <p>For further details in relation to mitigation measures incorporated into the Plan please refer to Section 5 below.</p>
002252	Thomastown Quarry SAC	Within	<p>The known threats to this site ground water interactions, on site management activities particularly affecting hydrology, pollution.</p> <p>These pressures relate to hydrology, direct management and pollution. No direct land take or habitat loss will occur due to the implementation of the Plan either within any European sites or any connectivity corridors necessary to support the ecological integrity of the site, due to Policy Objectives in Sections 1.3, 9.2.1.5, 9.2.2, 9.2.5.1, 9.2.7, 9.2.8 and 10.1.8.5. The Plan has Policy Objectives to ensure the implementation of the Plan will not result in significant adverse effects to hydrological interactions for surface and ground water detailed in Sections 10.1.8.2, 10.1.8.4 and 10.1.8.5. The Plan also provides for flood risk management in accordance with the Guidelines for Planning Authorities in Section 10.2.6.2, and appropriate surface water drainage in Section 10.2.8. Section 9.2.10 details a policy for the identification and development of a management plan for invasive species on developments within the county. Policies requiring adherence to Natura 2000 requirements for non-energy extractive activities, and adherence to NPWS guidelines for the protection of biodiversity in the extractive industry, are detailed in Section 7.5.2 of the Plan.</p> <p>For further details in relation to mitigation measures incorporated into the Plan please refer to Section 5 below.</p>
004233	River Nore SPA	Within	<p>The known threats to this site are landfill, land reclamation and drying out, and port areas.</p> <p>These threats and pressures relate to the coastal areas of the SPA that are outside of the Plan boundary. However, the SCI species are sensitive to disturbance effects through noise pollution that are mitigated for by Policy Objectives in Sections 8.4.3, 8.5. and 10.2.3.</p> <p>For further details in relation to mitigation measures incorporated into the Plan please refer to Section 5 below.</p>
000869	Lisbigney Bog SAC	0.15	<p>The known threats to this site are disposal of household or recreational facility waste, burning down, landfill, land reclamation and drying out, general, abandonment of pastoral systems lack of grazing, disposal of inert materials, species composition change (succession).</p> <p>These pressures relate to agriculture, natural processes, direct land use management and waste disposal. No direct land take or habitat loss will occur due to the implementation of the Plan either within any European sites or any connectivity corridors necessary to support the ecological integrity of the site, due to Policy Objectives in Sections 1.3, 9.2.1.5, 9.2.2, 9.2.5.1, 9.2.7, 9.2.8 and 10.1.8.5. Similarly, the removal of hedgerows or coppicing will be managed through Policy Objectives such as those in Section 13.29.</p> <p>There are no provisions in the Plan that relate to mowing or grazing regimes specifically, therefore there are no sources for effects either positive or negative in this regard. Policies that aim to increase biodiversity of selected sites and increase connectivity have potential to be positive for this SAC, such policies are described in Sections 9.2.3, 9.2.7, 9.2.8, 9.2.9 - and 2.9.7 and 4.2.2 of Volume 2.</p> <p>For further details in relation to mitigation measures incorporated into the Plan please refer to Section 5 below.</p>

## Section 5 Mitigation Measures

Table 5.1 outlines measures that have been incorporated into the Draft Plan in order to mitigate against potential effects to European Sites as identified above. The Draft Plan was prepared in an iterative manner whereby the Plan and AA documents have informed subsequent versions of the other. These mitigation measures ensure that there will be no significant effects to the ecological integrity of any European Site from implementation of the Plan. The mitigation measures most relevant to the protection of European Sites are identified in Table 5.1 below.

**Table 5.1 Mitigation Measures that will protect European sites**

Plan Section	Policy Description	Mitigation measure(s), including
<b>VOL. 1</b>		
1.3	Appropriate Assessment	<ul style="list-style-type: none"> <li>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 Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, 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.</li> </ul>
1.4	Sustainability	<ul style="list-style-type: none"> <li>Objectives for sustainability “across all of the Plan sections” defined for the council by World Commission on Environment and Development definition: “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs”</li> </ul>
1.5	Structure of the Plan	<ul style="list-style-type: none"> <li>To implement the Development Management Standards and requirements for new development out in the Volume 1 and Volume 2 of the Plan as appropriate.</li> </ul>
1.6.1.2	The Climate Action Plan 2019	<ul style="list-style-type: none"> <li>The Council has had regard to the National Climate Change Adaptation Framework in framing this development plan and has already sought to introduce planning and development measures in the overall approach to adaptation to climate change, for example by ensuring that risks of flooding are identified and integrated into the planning process. The local authority recognises that a proactive approach, in which the challenges posed by climate change are integrated into the development of policies, plans and programmes is essential.</li> <li>The Council have integrated and will continue to integrate both mitigation and adaptation measures into the City &amp; County Development as required by National and Regional policies and objectives.</li> </ul>
2.1	Climate change	<ul style="list-style-type: none"> <li>To embed climate change adaptation and mitigation considerations in all the policies and services of the Council.</li> </ul>
2.5	Strategic Objectives	<ul style="list-style-type: none"> <li>2A To provide policies and detailed SMART4 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.</li> <li>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:</li> <li>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,</li> <li>2D To integrate appropriate mitigation and adaptation considerations and measures into all forms of development.</li> <li>2E To ensure that the Draft Development Plan transposes, supports and implements strategic objectives of the National Planning Framework and the Southern Regional Spatial and Economic Strategy 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.</li> <li>2F To promote and encourage nature-based approaches and green infrastructural solutions as viable mitigation and adaptation measures to reduce greenhouse gas emissions</li> <li>2G To reduce energy related CO2 emissions of Kilkenny County Council</li> <li>2H To achieve the commitment under the European Climate Alliance to the reduction of greenhouse gas emissions by 10 percent every 5 years.</li> </ul>
5.2.6	Woodstock	<ul style="list-style-type: none"> <li>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.</li> </ul>
5.2.9	Tourism Objectives	<ul style="list-style-type: none"> <li>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.</li> <li>5F Development of Kilkenny Greenway as part of the South East Greenway in South Kilkenny,</li> <li>5G Development of the Waterford to Rosslare Greenway</li> <li>5H Continue the development of projects for submission under the Outdoor Recreation Infrastructure Scheme (ORIS) and other funding schemes (e.g. LEADER Programme.) The Council will continue the development of major flagship tourism projects within the county to enhance the tourism product.</li> </ul>
7.2.4	Fencing	<ul style="list-style-type: none"> <li>The Council will facilitate the development of environmentally sustainable agricultural activities, whereby watercourses, wildlife habitats, areas of ecological importance and other environmental assets are protected from the threat of pollution, and where development does not impinge on the visual amenity of the countryside. As such the Council will also ensure that developments shall not be detrimental to archaeological and heritage features of importance.</li> </ul>
7.4.2	Sustainable Forest Management	<ul style="list-style-type: none"> <li>To have regard to the Indicative Forest Statement and all relevant Forest Service Guidelines in the assessment of any forestry applications.</li> <li>To encourage sustainable forest management and require a diversity of species in afforestation proposals and in particular to require a proportion of all new forestry development to consist of native hardwood species in order to extend the range of potential end uses and to reduce the potential for adverse impact on the landscape resulting from monoculture.</li> <li>To ensure that Forestry shall not obstruct existing public rights of way and established walking routes.</li> </ul>

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Plan Section	Policy Description	Mitigation measure(s), including
7.5.2	Aggregate Potential Mapping	<ul style="list-style-type: none"> <li>Undertaking non-energy extractive activities in accordance with Natura 2000 requirements</li> <li>NPWS Guidelines for the protection of Biodiversity within the Extractive Industry and the GSI's Geological Heritage Guidelines for the Extractive Industry.</li> </ul>
7.6.1	Fishing	<ul style="list-style-type: none"> <li>Require that adequate provisions are made to accommodate free upstream and downstream migration of all fish in development proposals.</li> <li>Protection of water quality will be a primary consideration in relation to assessing development proposals.</li> </ul>
7.7.1	Diversification	<ul style="list-style-type: none"> <li>A high standard of design and maintenance will be required in all developments in rural areas.</li> <li>Agriculture developments will be constructed and located so as to ensure that there is no threat of pollution to ground or surface waters.</li> <li>Fencing in upland or highly scenic areas will not normally be permitted unless such fencing is essential to the viability of the farm and that it conforms to the best agricultural practice. The nature of the material to be used, the height of the fence, and in the case of a wire fence the type of wire to be used will be taken into account. Barbed wire will not be used for the top line of wire. Stiles or gates at appropriate places will be required.</li> </ul>
7.8.3	Rural Housing Policies – Other rural areas	<ul style="list-style-type: none"> <li>Any proposed vehicular access would not endanger public safety by giving rise to a traffic hazard'</li> <li>That any proposed on-site waste water disposal system is designed, located and maintained in a way which protects water quality,</li> <li>That the siting and design of new dwellings takes account of and integrates appropriately with its physical surroundings and other aspects of the natural and cultural heritage and,</li> <li>That the proposed site otherwise accords with the objectives of the development plan in general.</li> </ul>
8.3	Trails, Cycleways and Linear Parks	<ul style="list-style-type: none"> <li>8A To develop a recreational and biodiversity park on the site of the now closed municipal landfill at Dunmore.</li> <li>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.</li> <li>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</li> <li>8D To undertake a feasibility study to determine the optimal location for, and to develop, a water sports hub on the River Nore</li> <li>8E To provide a pedestrian crossing along the northern side of Greens Bridge</li> </ul>
8.3	Trails, Walkways and Linear Parks	<ul style="list-style-type: none"> <li>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.</li> <li>8G Investigate the development of a horse trail/bridle path at Woodstock estate.</li> <li>8H To complete the development of the linear park along the River Nore in the area of the Abbey Quarter.</li> <li>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.</li> </ul>
8.4	Greenways and Blueways	<ul style="list-style-type: none"> <li>8J To complete the construction of the Kilkenny Greenway, connecting New Ross to Waterford.</li> <li>8K To promote and development of the Waterford to Rosslare Greenway in association with Waterford City and County council and Wexford County Council</li> </ul>
8.4.3	Development associated with Water Sports	<ul style="list-style-type: none"> <li>It will not have adverse impacts on any Natura 2000 site, will not result in damage to sites of nature conservation importance or features of the archaeological and built heritage;</li> <li>The development will not result in over intensification of use leading to pollution, excessive noise and nuisance.</li> </ul>
8.5.4	Intensive and major sports facilities	<ul style="list-style-type: none"> <li>It is designed so as to minimise the impact of noise and light pollution.</li> <li>There is no significant detrimental impact on the natural environment or features of the archaeological or built heritage.</li> </ul>
9.2.1.5	Protected Plant and Animal Species	<ul style="list-style-type: none"> <li>Ensure that an ecological impact assessment is carried out, by suitably qualified professional(s), for any proposed development likely to have a significant impact on rare and threatened species including those species protected by law and their habitats. Ensure appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment.</li> </ul>
9.2.2	Biodiversity Outside of Habitats Designated for Nature Conservation	<p>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. Development Management Requirements:</p> <ul style="list-style-type: none"> <li>To Ensure that development proposals, where relevant, improve the ecological coherence of the Natura 2000 network and encourage the retention and management of landscape features that are of major importance for wild fauna and flora as per Article 10 of the Habitats Directive.</li> <li>To Protect and where possible enhance wildlife habitats and landscape features which act as ecological corridors/networks and stepping stones, such as river corridors, hedgerows and road verges, and to minimise the loss of habitats and features of the wider countryside (such as ponds, wetlands, trees) which are not within designated sites.</li> <li>To ensure that appropriate mitigation and/or compensation measures to conserve biodiversity, landscape character and green infrastructure networks are required in developments where habitats are at risk or lost as part of a development.</li> </ul>
9.2.3	Green Infrastructure	9B To identify and map green infrastructure assets and sites of local biodiversity value over the lifetime of the Plan
9.2.4	Geological Heritage	<ul style="list-style-type: none"> <li>Require all new developments in the early preplanning stage of the planning process to identify, protect and enhance ecological features by making provision for local biodiversity (e.g. through provision of swift boxes, bat roost sites, green roofs, etc.) and provide links to the wider Green Infrastructure network as an essential part of the design process.</li> </ul>
9.2.5.1	Hedgerows	<p>The Council will promote the planting of native tree and shrub species, by committing to using native species (of local provenance wherever possible) in its landscaping work and on County Council property and maximise the opportunity to enhance biodiversity within the City &amp; County during the life time of the plan. Development Management Requirements:</p> <ul style="list-style-type: none"> <li>To protect existing woodlands, trees and hedgerows which are of amenity or biodiversity value and/or contribute to landscape character of the county, and to ensure that proper provision is made for their protection and management, when undertaking, approving or authorising development.</li> <li>To ensure that when undertaking, approving or authorising development that sufficient information is provided to enable an assessment of impacts on woodlands, trees, and hedgerows.</li> <li>To have regard to, and seek the conservation of identified trees and woodlands from a) the National Survey of Ancient and Long-Established Woodlands, b) the Tree Register of Ireland (c) sites of significance identified in the Kilkenny Woodlands Survey 1997, (d) the National Survey of Native Woodlands, and (e) Survey of Mature Trees in Kilkenny City and Environs, in the assessment of planning applications</li> </ul>

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Plan Section	Policy Description	Mitigation measure(s), including
		<ul style="list-style-type: none"> <li>To retain hedgerows, and other distinctive boundary treatment such as stone walls, when undertaking, authorising or approving development; where the loss of the existing boundary is unavoidable as part of development, to ensure that a new hedgerow is planted using native species, and species of local provenance to replace the existing hedgerow and/or that the wall is re-built using local stone and local vernacular design.</li> <li>To discourage the felling of mature trees to facilitate development and, where appropriate make use of Tree Preservation Orders to protect important trees and groups of trees which may be at risk or have an amenity, biodiversity or historic value.</li> <li>To require the planting of native broadleaved species, and species of local provenance, in new developments as appropriate. See Appendix G for a list of native trees and shrubs.</li> </ul>
9.2.7	Wetlands	<ul style="list-style-type: none"> <li>The Council will protect, manage and enhance the wetlands of the County having regard to the 'County Kilkenny Preliminary Wetland Survey, 2020' and subsequent surveys published during the lifetime of this plan. The Council will also ensure that there is an appropriate level of assessment in relation to proposals which involve draining, reclaiming or infilling of wetland habitats.</li> </ul>
9.2.8	Peatlands	<ul style="list-style-type: none"> <li>The Council will protect peatlands from inappropriate development having regard to their amenity and biodiversity value and their visual sensitivity.</li> </ul>
9.2.9	Pollinators	<ul style="list-style-type: none"> <li>The Council will in as far as is practicable and affordable manage and restore semi-natural habitats and their native plants on Council land.</li> </ul>
9.2.10	Invasive Species	<ul style="list-style-type: none"> <li>To require relevant development proposals to address the presence or absence of invasive alien species on proposed development sites and (if necessary) require applicants to prepare and submit an Invasive Species Management Plan where such a species exists to comply with the provisions of the European Communities (Birds and Natural Habitats) Regulations 2011-2015.</li> </ul>
9.2.11	Native Plant Species	<ul style="list-style-type: none"> <li>To promote the use of native plants and seeds from indigenous seed sources in all landscape projects.</li> </ul>
9.3.9	Floodlighting	<ul style="list-style-type: none"> <li>To require an assessment, including mitigation measures, of the potential environmental, visual, and heritage impacts of proposals to floodlight buildings and structures.</li> </ul>
10.1.8.2	Blue Dot Designations	<ul style="list-style-type: none"> <li>The Council will support and protect the high-water quality status of the Kilkenny Blue Dot designated catchment area by restricting high intensity agriculture and other developments that may impact the quality of the water in the catchment.</li> </ul>
10.1.8.4	Water Quality	<ul style="list-style-type: none"> <li>10A To complete the mapping of source protection areas and to map Source Protection Areas for any new public water supply schemes as appropriate.</li> <li>10B To ensure that Source Protection Areas are identified for any multiple unit housing developments with private water supplies.</li> </ul>
10.1.8.5	Water Quality Development Management Standards	<ul style="list-style-type: none"> <li>To have regard to the Groundwater Protection Scheme and to comply with the Water Services Acts 2007 as amended in decision-making on the location, nature and control of developments and activities in order to protect groundwater.</li> </ul>
10.2.1.1	Air Quality	<ul style="list-style-type: none"> <li>The Council will promote the best ambient air quality compatible achievable with sustainable development.</li> </ul>
10.2.3	Noise mapping	<ul style="list-style-type: none"> <li>10C To continue to update Noise Mapping in accordance with revised or updated thresholds for Noise Mapping.</li> <li>10D Develop priority list of actionable works to mitigate against excessive noise and implement subject to cost benefit analysis.</li> </ul>
10.2.5	Light pollution	<ul style="list-style-type: none"> <li>To ensure that lighting is carefully and sensitively designed</li> <li>To require that the design of external lighting minimises the incidence of light spillage or pollution into the surrounding environment.</li> </ul>
10.2.6.2	Flood management	<ul style="list-style-type: none"> <li>It is Council policy to adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk. In accordance with the Planning System and Flood Risk Management – Guidelines for Planning Authorities, the avoidance of development in areas where flood risk has been identified shall be the primary response.</li> </ul>
10.2.8	Surface Water Drainage	<ul style="list-style-type: none"> <li>For developments adjacent to watercourses of a significant conveyance capacity any structures (including hard landscaping) must be set back a minimum of 5-10m from the edge of the watercourse to allow access for channel clearing/maintenance. Any required setback may be increased to provide for habitat protection. Development consisting of construction of embankments, wide bridge piers, or similar structures will not normally be permitted in or across flood plains or river channels.</li> <li>Adequate allowance be made for climate change in designing surface water proposals a multiplication factor of 1.2 shall be applied to all river return periods up to 100 years except in circumstances where the OPW have provided advice specifying the particular multiplication factor for return periods up to 100 years. In the case of rainfall a multiplication factor of 1.1 shall be applied to rainfall intensities to make allowance for climate change requirements.</li> </ul>
11.4	Energy Targets	<ul style="list-style-type: none"> <li>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.</li> </ul>
11.5.3	Wind Energy Development Strategy – Development Management Guidance	<p>In accordance with the guidance, when considering an application for wind energy development, the planning authority may consider some if not all of the following matters:</p> <ul style="list-style-type: none"> <li>Environmental Assessments (EIA, AA etc. See 10.5.3.1 below) including mitigation included in Construction Environment Management Plans (CEMPs);</li> <li>Community engagement and participation aspects of the proposal and how its Community Benefit Fund will contribute to the wider County of Kilkenny's Energy Efficiency targets at a local level. (the www.3cea.ie coordinate such proposals under the County Climate Action Plan.)</li> <li>Grid Connection details</li> <li>Geology and ground conditions, including peat stability; and management plans to deal with any potential material impact. Reference should be made to the National Landslide Susceptibility Map to confirm ground conditions are suitably stable for project;</li> <li>Site drainage and hydrological effects, such as <ul style="list-style-type: none"> <li>water supply and quality and watercourse crossings;</li> <li>management plans to deal with any potential material impact on watercourses;</li> <li>the hydrological table;</li> <li>flood risk including mitigation measures;</li> </ul> </li> <li>Landscape and visual impact assessment, including the size, scale and layout and the degree to which the wind energy project is visible over certain areas and in certain views;</li> <li>Visual impact of ancillary development, such as grid connection and access roads;</li> <li>Potential impact of the project on natural heritage, to include direct and indirect effects on protected sites or species, on habitats of ecological sensitivity and biodiversity value and, where necessary, management plans to deal with the satisfactory co-existence of the wind energy development and the particular species/habitat identified;</li> <li>Potential impact of the project on the built heritage including archaeological and architectural heritage;</li> <li>It is recommended that consideration of carbon emissions balance is demonstrated when the wind energy developments requires peat extraction.</li> </ul>

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Plan Section	Policy Description	Mitigation measure(s), including
		<ul style="list-style-type: none"> <li>Local environmental impacts including noise, shadow flicker, electromagnetic interference, etc.;</li> <li>Adequacy of local access road network to facilitate construction of the project and transportation of large machinery and turbine parts to site, including a traffic management plan;</li> <li>Information on any cumulative effects due to other projects, including effects on natural heritage and visual effects;</li> <li>Information on the location of quarries to be used or borrow pits proposed during the construction phase and associated remedial works thereafter;</li> <li>Disposal or elimination of waste/surplus material from construction/site clearance, particularly significant for peatland.</li> </ul>
11.5.3.1	Environmental Assessments	The assessment of the impacts of developments shall comply with the relevant European Directives as transposed into Irish legislation, including the EIA Directive, the Habitats Directive and the Birds Directive. As regards the directives, these assessments will relate to all mandatory categories and where, following screening, if required, a full EIAR or NIS is produced, these must include the impacts of both the planning application and its grid connections. In relation to EIAR, the assessment must address the direct effects and any short, medium and long-term, permanent and temporary, positive and negative, indirect, secondary, cumulative and transboundary effects of the whole project, i.e. the wind energy development and the grid connection. In relation to the grid connection it is preferable that the corridor approach be used. In relation to NIS, the assessment shall consider all potential impacts on Natura 2000 sites. It is recommended that Construction Environment Management Plans (CEMPs) of projects be submitted with applications. These plans generally include mitigation measures which should ideally input into both Environmental Impact Assessment Report or Appropriate Assessment at planning application stage. All planning application submission (and in particular the EIAR) must include details of the site compound and access arrangements. The applications must include details of the location and design of the site compound and construction methods, environmental mitigation methods and proposed reinstatement.
11.6.10	Bioenergy	<p>Bioenergy CHP plants shall not be located where such plants have the potential to impact residential or other amenities or environmental quality by virtue of:</p> <ul style="list-style-type: none"> <li>emissions to air, ground, water,</li> <li>visual impact,</li> <li>noise or light pollution.</li> </ul>
13.29	Tree and Hedgerow Preservation	<ul style="list-style-type: none"> <li>Topographical Survey - Accurately measured showing all relevant site features.</li> <li>Soil assessment – where appropriate to determine whether a soil is shrinkable, that may cause the potential for indirect damage. Soil structure composition and PH for the provisions of new planting.</li> <li>A tree survey - details trees and hedgerows identified on the topographical survey and on land adjacent to the development site, including individual trees, groups of trees and woodlands. Kilkenny Draft CCDP Volume 1 Draft 23/11/2020 266 Identifying tree dimensions, quality and retention value in accordance with the context of the proposed development.</li> <li>The tree survey - should identify the constraints posed by trees, both above and below ground, which will inform the site layout design. Constraints include, the presence of a Tree Preservation Order (TPO), the existing and eventual crown spreads of trees and their unreasonable obstruction of light etc.</li> <li>Arboricultural Impact Assessment - a report should be compiled by an arboriculturist using the data collated from the site survey. The report should assess the impact and the effects the proposed design has directly and indirectly on the trees and where necessary recommends mitigation.</li> <li>A Tree Protection Plan – details the proposed design layout shown on a plan with all trees clearly identified with their root protection areas (RPA) annotated based on the topographical survey to include all trees. The classification of each tree and the required protection measures during development. New Planting – takes account of existing landscape features and is essential for consideration in the layout, design and future use of a proposed development. New planting should account for the future growth of canopies, stems and root systems to maturity and their potential effects on existing site structures.</li> <li>Arboricultural Method Statements – demonstrates how unavoidable construction operations may take place within the RPA or crown spread of trees (whichever is greatest), clearly demonstrating how these operations will have a little detriment to retained trees. These operations may include but are not exclusive to: <ul style="list-style-type: none"> <li>a. Temporary access</li> <li>b. Installation of service runs</li> <li>c. Construction of hard standing</li> <li>d. Foundation excavations</li> <li>e. Subterranean structures e.g. basement extensions</li> </ul> </li> </ul>
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2.9.7	Biodiversity	<ul style="list-style-type: none"> <li>To allow for green links and biodiversity conservation and to preserve, provide and improve recreational open space.</li> </ul>
4.2.2	Green Infrastructure	<ul style="list-style-type: none"> <li>C4A To identify and map green infrastructure assets and sites of local biodiversity value over the lifetime of the Plan</li> <li>C4B To develop a green infrastructure strategy integrating the existing assets and identifying new assets.</li> </ul>



## Section 6 Conclusion

Stage 1 AA Screening and Stage 2 AA of the Draft Kilkenny City and County Development Plan has been carried out. Implementation of the Draft Plan has the potential to result in effects to the integrity of any European Sites, if unmitigated.

The risks to the safeguarding and integrity of the qualifying interests, special conservation interests and conservation objectives of the European Sites have been addressed by the inclusion of mitigation measures that will prioritise the avoidance of effects in the first place and mitigate effects where these cannot be avoided. In addition, all lower level plans and projects arising through the implementation of the Draft Plan will themselves be subject to AA/screening for AA when further details of design and location are known.

In-combination effects from interactions with other plans and projects was considered in the assessment and the mitigation measures incorporated into the Plan, are seen to be robust to ensure there will be no significant effects as a result of the implementation of the Draft Plan either alone or in-combination with other plans/projects.

Having incorporated mitigation measures, it is concluded that the Draft Kilkenny City and County Development Plan 2021-2027 is not foreseen to give rise to any significant effects on designated European Sites, alone or in combination with other plans or projects<sup>33</sup>. This evaluation is made in view of the conservation objectives of the habitats or species, for which these sites have been designated.

The AA process is ongoing and will inform and be concluded at adoption of the Plan.

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<sup>33</sup> Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be: a) no alternative solution available, b) imperative reasons of overriding public interest for the plan to proceed; and c) Adequate compensatory measures in place.

# Appendix I Background information on European Sites

**List of European Sites considered by the assessment; including the Qualifying features (Qualifying Interests or Special Conservation Interests) and Site Description/Vulnerability**

Site Code	Site Name	Distance (km)	Qualifying Features (Qualifying Interests and Special Conservation Interests)	Site Description/Vulnerability
000404	Hugginstown Fen SAC	Within	Alkaline fens [7230]	Hugginstown Fen is situated approximately 4 km south-west of Ballyhale, Co. Kilkenny. The site consists of a relatively large, isolated area of swamp and floating fen developed in a small valley in hilly country. It is underlain by limestone glacial till overlying and surrounded by acid Old Red Sandstone. The catchment is relatively small and iron-rich springs are an important source of water for the wetland. This site has been damaged to some extent by drainage, especially in the southern part. The standard data form for the site identifies agricultural and forestry practices to be known threats and pressures for the site.
000407	The Loughans SAC	Within	Turloughs [3180]	The Loughans is a turlough situated in flat land about 3 km east of Urlingford, below the Slieve Ardagh Hills, in Co. Kilkenny. The basin is slightly undulating, with banks and hummocks of glacial drift around which the water rises. It has a level floor for the most part, but swallow holes and subsidence hollows are present. The turlough floods regularly, despite some drainage. In summer, it retains a permanent central pond and there are several subsidiary wet hollows at the eastern end. The standard data form for the site identifies agricultural practices to be known threats and pressures for the site.
000831	Cullahill Mountain SAC	Within	Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) [6210]	Cullahill Mountain SAC lies on a western outlier of the Castlecomer plateau, 6 km north-east of Johnstown in Co. Kilkenny. In this area, the underlying limestone has been exposed relatively recently by erosion of the higher shales. The rock is in the form of an escarpment, with a steep side facing the central plain (and the CorkDublin road) and more gradual slopes to the south-east where the shale soon appears. The standard data form for the site identifies agricultural practices to be known threats and pressures for the site.
000849	Spahill and Clomantagh Hill SAC	Within	Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) [6210]	Spahill and the adjacent hills form part of an escarpment which links the Slieve Ardagh Hills with the Castlecomer Plateau in Co. Kilkenny. The hills are of limestone overlain by shales and/or sandstones, and so the surface geology is variable, with different rock types supporting different vegetation types. This particular site is mostly limestone, exposed as small ledges or as flat sheets. When the latter occurs it is often weathered into a pavement pattern, similar to that found in the Burren, Co. Clare. The hills are generally low and rounded - they rise relatively steeply from the central plain but drop south-eastwards more gently. Their surface is grassy in appearance but the soil is shallow, especially on the upper parts, and the rock breaks through frequently. The standard data form for the site identifies agricultural practices to be known threats and pressures for the site.
001858	Galmoy Fen SAC	Within	Alkaline fens [7230]	Galmoy Fen is situated 7 km north of Johnstown in Co. Kilkenny, close to the boundary with Co. Laois. It comprises a cutover raised bog that has become flooded with base-rich groundwater and that now supports alkaline fen vegetation. It lies in a depression and is underlain by Carboniferous limestone. Parts of the site are grazed by cattle and the whole area is used for shooting. The standard data form for the site identifies underground mining, agricultural and forestry practices to be known threats and pressures for the site.
002137	Lower River Suir SAC	Within	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) [91EO], Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> ) [1330], Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410], Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260], Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430], Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0], <i>Taxus baccata</i> woods of the British Isles [91J0], <i>Margaritifera margaritifera</i> [1029], <i>Austropotamobius pallipes</i> [1092], <i>Petromyzon marinus</i> [1095], <i>Lampetra planeri</i> [1096], <i>Lampetra fluviatilis</i> [1099], <i>Alosa fallax fallax</i> [1103], <i>Salmo salar</i> [1106], <i>Lutra lutra</i> [1355]	Lower River Suir SAC consists of the freshwater stretches of the River Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford, and many tributaries including the Clodiagh in Co. Waterford, the Lingaun, Anner, Nier, Tar, Aherlow, Multeen and Clodiagh in Co. Tipperary. The Suir and its tributaries flow through the counties of Tipperary, Kilkenny and Waterford. Land use at the site consists mainly of agricultural activities including grazing, silage production, fertilising and land reclamation. The grassland is intensively managed and the rivers are therefore vulnerable to pollution from run-off of fertilisers and slurry. Arable crops are also grown. Fishing is a main tourist attraction on stretches of the Suir and some of its tributaries, and there are a number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place on the rivers. The Aherlow River is a designated Salmonid Water under the E.U. Freshwater Fish Directive. Other recreational activities such as boating, golfing and walking are also popular. Several industrial developments, which discharge into the river, border the site including three dairy related operations and a tannery. The standard data form for the site identifies forestry, agriculture, urban discharges, reclaiming of land, port activities, pollution to surface waters, urbanisation and invasive species to be the known threats and pressures for the site.
002162	River Barrow and River Nore SAC	Within	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) [91EO] Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Reefs [1170], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> ) [1330], Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410], Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260], European dry heaths [4030], Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430], Petrifying springs with tufa formation (Cratoneurion) [7220], Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0], <i>Vertigo moulinsiana</i> [1016], <i>Margaritifera margaritifera</i> [1029], <i>Austropotamobius pallipes</i> [1092],	This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The site passes through eight counties – Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford. Major towns along the edge of the site include Mountmellick, Portarlington, Monasterevin, Stradbally, Athy, Carlow, Leighlinbridge, Graigenamanagh, New Ross, Inistioge, Thomastown, Callan, Bennettsbridge, Kilkenny and Durrow. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow, and the Delour, Dinin, Erkina, Oweveg, Munster, Arrigle and King's Rivers on the Nore. The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel ( <i>Prunus laurocerasus</i> ) and Rhododendron ( <i>Rhododendron ponticum</i> ). The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Good quality is dependent on controlling fertilisation of the grasslands, particularly along the Nore. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and shad. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein. The standard data form for the site identifies forestry, agriculture, urban discharges, fisheries activities including leisure/sport fishing, reclaiming of land, port activities, pollution to surface waters, urbanisation, extraction of material, erosion and invasive species to be the known threats and pressures for the site.



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Site Code	Site Name	Distance (km)	Qualifying Features (Qualifying Interests and Special Conservation Interests)	Site Description/Vulnerability
			<i>Petromyzon marinus</i> [1095], <i>Lampetra planeri</i> [1096], <i>Lampetra fluviatilis</i> [1099] <i>Alosa fallax fallax</i> [1103], <i>Salmo salar</i> [1106], <i>Lutra lutra</i> [1355], <i>Trichomanes speciosum</i> [1421], <i>Margaritifera durrovensis</i> [1990]	
002252	Thomastown Quarry SAC	Within	Petrifying springs with tufa formation (Cratoneurion) [7220]	Thomastown Quarry is situated along the R700 road about 1 km north of Thomastown, Co. Kilkenny. It comprises a disused limestone quarry in which an excellent diversity of calcareous habitat types has developed. The standard data form for the site identifies urbanisation. Extraction and agricultural practices to be the known threats and pressures for the site.
004233	River Nore SPA	Within	Kingfisher <i>Alcedo atthis</i> [A229]	The River Nore SPA is a long, linear site that includes the following river sections: the River Nore from the bridge at Townparks, (north-west of Borris in Ossory) to Coolnamuck (approximately 3 km south of Inistioge) in Co. Kilkenny; the Delour River from its junction with the River Nore to Derrynaseera bridge (west of Castletown) in Co. Laois; the Erkina River from its junction with the River Nore at Durrow Mills to Boston Bridge in Co. Laois; a 1.5 km stretch of the River Goul upstream of its junction with the Erkina River; the Kings River from its junction with the River Nore to a bridge at Mill Island, Co. Kilkenny. <u>The site includes the river channel and marginal vegetation.</u> The standard data form for the site identifies port activities, landfill, land reclamation and drying out, general to be the known threats and pressures for the site.
000869	Lisbigney Bog SAC	0.15	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> [7210], <i>Vertigo moulinsiana</i> [1016]	Lisbigney Bog is situated about 5 km north-east of Durrow in Co. Laois. Although referred to as a bog, this site is actually a wetland dominated by fen vegetation. It is a former lake basin, and is now criss-crossed by streams. The standard data form for the site identifies burning, landfill, land reclamation and drying out, general, agricultural practices, discharges of material and successional processes to be the known threats and pressures for the site.
000770	Blackstairs Mountains SAC	3	Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010], European dry heaths [4030]	The Blackstairs Mountains are located along the border of the Counties Wexford and Carlow, forming a mountain chain that runs in a north-east/south-west direction for approximately 22 km, and includes six peaks over 520 m. The range has a core of granite, and on the Carlow side, erosion has cut deeply into the dome exposing successive layers of granite, giving a steeply stepped slope. On the east side some overlying Ordovician slates and sandstones are evident. Land use within the site is centred on grazing. Overall, sheep numbers are low, though there are some pockets where high numbers are found. In these areas there are patches of bare ground, an abundance of Mat-grass and in some places upland grassland replaces the heath. Burning of the Heather is carried out on what appears to be a rotational basis. Heather is regenerating in the burnt areas. From a distance the age structure is evident in the different hues of brown to be seen. Cattle are overwintered on the slopes just inside the boundary of the commonage. Severe poaching is associated with this, especially where supplementary feeding is carried out. Coniferous forestry is present over much of the slopes of the mountain (outside of the site), extending to a height of 640 m north of Mount Leinster. The standard data form for the site identifies erosion, recreational activity, forestry, agriculture and burning to be the known threats and pressures for the site.
000671	Tramore Dunes and Backstrand SAC	8.95	Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Perennial vegetation of stony banks [1220], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows ( <i>Glaucopuccinellietalia maritimae</i> ) [1330], Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410], Embryonic shifting dunes [2110], Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	This composite coastal site lies at the head of Tramore Bay, east of Tramore town in Co. Waterford. The Tramore dunes (Burrow) are the result of a classic inshore process - the growth of a spit of shingle and sand across a shallow bay. Behind the spit lies the Back Strand which dries out at low tide and is connected to the open sea by narrows at Rinneshark. The Burrow has a narrow neck and expands eastwards. Longshore drift is from the west so any loose material accumulates at the tip, which is hooked, and on the opposing spit at Bass Point. The main threat to the stability of the dune habitats is from recreational pressures, with heavy usage of the site due to its proximity to Tramore, a popular holiday town. Already some large blow-outs and areas of bare sand are present. Driftline and shingle vegetation is also under pressure from heavy usage of the beach area. The intertidal and saltmarsh habitats are not under significant threat, though possible seepage from the nearby landfill site is a potential threat. The standard data form for the site identifies agriculture, recreational activity, fisheries activities including leisure fishing, urbanisation, and invasive species to be the known threats and pressures for the site.
004027	Tramore Back Strand SPA	8.97	Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) [A046] Golden Plover ( <i>Pluvialis apricaria</i> ) [A140] Grey Plover ( <i>Pluvialis squatarola</i> ) [A141] Lapwing ( <i>Vanellus vanellus</i> ) [A142] Dunlin ( <i>Calidris alpina</i> ) [A149] Black-tailed Godwit ( <i>Limosa limosa</i> ) [A156] Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157] Curlew ( <i>Numenius arquata</i> ) [A160] Wetland and Waterbirds [A999]	Tramore Back Strand SPA is located approximately 2 km east of Tramore town in County Waterford. It comprises a medium-sized estuary sheltered from the open sea by a long shingle spit, with high dunes. The area known as the Back Strand empties almost completely at low tide; it is connected to the outer bay and sea by narrows at Rinnashark. The standard data form for the site identifies agriculture, recreational activity, urbanisation, pollution and invasive species to be the known threats and pressures for the site.
000781	Slaney River Valley SAC	9.54	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91EO], Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Atlantic salt meadows ( <i>Glaucopuccinellietalia maritimae</i> ) [1330], Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410], Water courses of plain to montane levels with the <i>Ranunculo fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260], Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0], <i>Margaritifera margaritifera</i> [1029], <i>Petromyzon marinus</i> [1095], <i>Lampetra planeri</i> [1096], <i>Lampetra fluviatilis</i> [1099], <i>Alosa fallax fallax</i> [1103], <i>Salmo salar</i> [1106], <i>Lutra lutra</i> [1355], <i>Phoca vitulina</i> [1365]	This site comprises the freshwater stretches of the River Slaney as far as the Wicklow Mountains; a number of tributaries, the larger of which include the Bann, Boro, Glasha, Clody, Derry, Derreen, Douglas and Carrigower Rivers; the estuary at Ferrycarrig, and Wexford Harbour. The site flows through the Counties of Wicklow, Wexford and Carlow. Towns along the site but not within it include Baltinglass, Hacketstown, Tinahely, Tullow, Bundlody, Camolin, Enniscorthy and Wexford. The river is up to 100 m wide in places and is tidal at the southern end from Edermine Bridge below Enniscorthy. In the upper and central regions almost as far as the confluence with the Derry River the geology consists of granite. Above Kilcarr Bridge, the Slaney has cut a gorge into the granite plain. The Derry and Bann Rivers are bounded by a narrow line of uplands which corresponds to schist outcrops. Where these tributaries cut through this belt of hard rocks they have carved deep gorges, more than two miles long at Tinahely and Shillelagh. South of Kildavin the Slaney flows through an area of Ordovician slates and grits. Agriculture is the main land use. Arable crops are important. Improved grassland and silage account for much of the remainder. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the populations of E.U. Habitats Directive Annex II animal species within it. Run-off is undoubtedly occurring, as some of the fields slope steeply directly to the river bank. In addition, cattle have access to the river bank in places. Fishing is a main tourist attraction along stretches of the Slaney and its tributaries, and there are a number of Angler Associations, some with a number of boats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place. There are some gravel pits along the river below Bundlody and many of these are active. There is a large landfill site adjacent to the river close to Hacketstown and at Killurin. Boating, bait-digging and fishing occur in parts of Wexford Harbour. Waste water outflows, runoff from intensive agricultural enterprises, a meat factory at Clohamon, a landfill site adjacent to the river, and further industrial development upstream in Enniscorthy and in other towns could all have

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Site Code	Site Name	Distance (km)	Qualifying Features (Qualifying Interests and Special Conservation Interests)	Site Description/Vulnerability
				potential adverse impacts on the water quality unless they are carefully managed. The spread of exotic species is reducing the quality of the woodlands. The standard data form for the site identifies agriculture, recreational activity, hydrological interactions, extraction, land reclamation, urbanisation, pollution and invasive species to be the known threats and pressures for the site.
002256	Ballyprior Grassland SAC	10.1	Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites) [6210]	Ballyprior Grassland, 4 km south of the village of Stradbally in Co. Laois, is located at the north end of the Castlecomer Plateau on largely limestone bedrock. The soils of the area are generally thin and well drained, varying from a deeper sandy loam in lower places (10-20 cm depth), to thin or stony soil over local drift (5-10 cm depth) on the elevated plateau. Ballyprior Grassland was traditionally managed as a commonage for grazing of cattle and horses. But the recent division of the lands into private holdings has led to a drive to improve the agricultural quality and output of these lands. Much of the farmland in surrounding areas is improved. Recent damage has occurred to parts of the site and some damaged habitat has been excluded. Semi-improved grassland has developed from enrichment and fertilising in the west of the site, with persistent Common Sorrel ( <i>Rumex acetosa</i> ) in places. South of the site, recent afforestation has resulted in loss of contiguous grassland habitat. The standard data form for the site identifies agriculture, forestry and paths, track & cycleways to be the known threats and pressures for the site.
004193	Mid-Waterford Coast SPA	11.39	Cormorant ( <i>Phalacrocorax carbo</i> ) [A017] Peregrine ( <i>Falco peregrinus</i> ) [A103] Herring Gull ( <i>Larus argentatus</i> ) [A184] Chough ( <i>Pyrrhocorax pyrrhocorax</i> ) [A346]	The Mid-Waterford Coast SPA encompasses the areas of high coast and sea cliffs in Co. Waterford between Newtown Cove to the east and Ballyvoyle to the west. The site includes the sea cliffs and the land adjacent to the cliff edge. The high-water mark forms the seaward boundary. The site is underlain by Devonian sandstones, siltstones, mudstones and conglomerates as well as a variety of volcanic rocks of Ordovician age. Sea cliffs are the predominant habitat of the site; these occur along its length and are generally well-vegetated by a suite of typical sea cliff species. Above the cliff's areas of heath, improved grassland, unimproved wet and dry grassland, and woodland occur. The standard data form for the site identifies infrastructure within the landscape, storage of materials and agricultural practices to be the known threats and pressures for the site.
000697	Bannow Bay SAC	11.49	Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Perennial vegetation of stony banks [1220], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows ( <i>Glaucopuccinellietalia maritima</i> ) [1330], Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410], Mediterranean and thermo-Atlantic halophilous scrubs ( <i>Sarcocornetea fruticosi</i> ) [1420], Embryonic shifting dunes [2110], Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	Bannow Bay SAC is a relatively large estuarine site, approximately 14 km long, on the south coast of Co. Wexford. Small rivers and streams to the north and south-west flow into the bay and their sub-estuaries from part of the site. The bay contains large areas of mud and sand, and the underlying geology is mainly of Ordovician slates with the exception of the areas to the east of Bannow Island which are underlain by Cambrian slates. Land use at the site consists mainly of shellfish farming; approximately 20 ha of the intertidal area is under cultivation. Current annual production of oysters is approximately 100 tonnes, concentrated mainly on three farms. There are other farms, but these are in the initial stages of cultivation and current production is negligible. There is evidence of poor farm management in some locations. There are numerous abandoned trestles in the intertidal zone and along the top of the shore. Grading equipment is permanently left on the shore and some areas of saltmarsh are being used as a grading area for oysters. In some areas damage is caused to the shingle vegetation and to the substrate by tractors accessing the aquaculture farms. Any further increase in aquaculture poses a threat. Other land uses include shooting, bird-watching, conservation management, grazing in some of the dune areas, horse-riding on the beach and Big Burrow sand dunes, picnicking, swimming, sailboarding, jet-skiing, line fishing and bait digging. The removal of sand and beach material also occurs at the site. The standard data form for the site identifies dumping, depositing of dredged deposits, hydrological interactions, invasive species, urbanisation, discharge, transport infrastructures, recreational activities, fisheries activities including leisure fishing, extraction of material and land reclamation to be the known threats and pressures for the site.
004033	Bannow Bay SPA	12.03	Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) [A046] Shelduck ( <i>Tadorna tadorna</i> ) [A048] Pintail ( <i>Anas acuta</i> ) [A054] Oystercatcher ( <i>Haematopus ostralegus</i> ) [A130] Golden Plover ( <i>Pluvialis apricaria</i> ) [A140] Grey Plover ( <i>Pluvialis squatarola</i> ) [A141] Lapwing ( <i>Vanellus vanellus</i> ) [A142] Knot ( <i>Calidris canutus</i> ) [A143] Dunlin ( <i>Calidris alpina</i> ) [A149] Black-tailed Godwit ( <i>Limosa limosa</i> ) [A156] Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157] Curlew ( <i>Numenius arquata</i> ) [A160] Redshank ( <i>Tringa totanus</i> ) [A162] Wetland and Waterbirds [A999]	Bannow Bay is a large, very sheltered, estuarine system with a narrow outlet to the sea, situated on the south coast of Co. Wexford. It is up to 14 km long along its north-east/south-west axis and has an average width of about 2 km. A number of small- to medium-sized rivers flow into the site, the principal being the Owenduff and the Corock which enter at the top end of the estuary. Very extensive intertidal mud and sand flats are exposed at low tide. The sediments have a rich macroinvertebrate fauna, with such species as Peppery Furrow-shell ( <i>Scrobicularia plana</i> ), Ragworm ( <i>Hediste diversicolor</i> ) and Lugworm ( <i>Arenicola arenaria</i> ) occurring frequently. Mats of green algae ( <i>Ulva</i> spp.) are present on the intertidal flats and shorelines. Salt marshes are well-developed in the sheltered areas of the site and are characterised by species such as Common Saltmarsh-grass ( <i>Puccinellia maritima</i> ), Sea Aster ( <i>Aster tripolium</i> ), Thrift ( <i>Armeria maritima</i> ), Sea Plantain ( <i>Plantago maritima</i> ), Red Fescue ( <i>Festuca rubra</i> ), Saltmarsh Rush ( <i>Juncus gerardi</i> ) and Sea Rush ( <i>Juncus maritimus</i> ). Swards of Glasswort ( <i>Salicornia</i> spp.) occur on the lower zones of the salt marshes and extend onto the intertidal flats. The standard data form for the site identifies agriculture, discharge, recreational activities, tracks, paths & trails and fishery practices to be the known threats and pressures for the site.
001952	Comeragh Mountains SAC	12.51	Oligotrophic waters containing very few minerals of sandy plains ( <i>Littorelletalia uniflorae</i> ) [3110], Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260], Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010], European dry heaths [4030], Alpine and Boreal heaths [4060], Siliceous scree of the montane to snow levels ( <i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i> ) [8110], Calcareous rocky slopes with chasmophytic vegetation [8210], Siliceous rocky slopes with chasmophytic vegetation [8220], <i>Drepanocladus vernicosus</i> [1393]	The Comeragh Mountains are situated approximately 11 km south-west of Carrickon-Suir in Co. Waterford. They consist of a plateau of Old Red Sandstone with its edges deeply scarred by recent glaciation. Corries and deep valleys are cut into the eastern and western sides leaving a central ridge with a width reduced to 270 m at its narrowest point. The rocks, which are horizontally-bedded, stand out as a series of terraces around these corries, which often house small mountain lakes such as Coumshingaun, the Sgilloge Loughs, the Coum Iarthar Loughs and Crotty's Lough. The integrity of the remaining areas of blanket bog and the general habitat diversity of the site are under threat from land use pressures such as grazing, burning, afforestation and leisure activities. The standard data form for the site identifies erosion, recreational activities, tracks, paths & trails, invasive species, peat extraction, agricultural and forestry practices to be the known threats and pressures for the site.
000764	Hook Head SAC	14.84	Large shallow inlets and bays [1160], Reefs [1170], Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	The areas of conservation interest at Hook Head comprise marine subtidal reefs to the south and east of the Hook Head Peninsula, and also sea cliffs from Hook Head to Baginbun and Ingard Point. The peninsula forms the eastern side of Waterford Harbour, while to the east it adjoins the estuary mouth of Bannow Bay. Hook Head itself is composed of Carboniferous limestone overlain by Devonian Old Red Sandstone and is palaeontologically of international importance. The standard data form for the site identifies siltation rate changes, dumping, depositing of dredged deposits, erosion, recreational activities and fishery practices to be the known threats and pressures for the site.

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## List of all Qualifying Interests of SACs that have undergone Assessment including Summaries of Current Threats and Sensitivity to Effects

Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
<i>Alkaline fens</i> [7230]	Land reclamation, peat extraction; afforestation; erosion and landslides triggered by human activity; drainage; burning and infrastructural development.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
<i>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)</i> [91EO]	Inappropriate grazing levels; invasive species; and clearance for agriculture or felling for timber.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Changes in management.
<i>Alpine and Boreal heaths</i> [4060]	Abandonment; overgrazing; burning; outdoor recreation; quarries; communication networks; and wind farm developments.	Changes in management. Changes in nutrient or base status. Moderately sensitive to hydrological change.
<i>Annual vegetation of drift lines</i> [1210]	Grazing; sand and gravel extraction; recreational activities; coastal protection works.	Overgrazing and erosion. Changes in management.
<i>Atlantic salt meadows (Glauco-Puccinellietalia maritimae)</i> [1330]	Overgrazing; erosion; invasive species, particularly common cordgrass ( <i>Spartina anglica</i> ); infilling and reclamation.	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion.
<i>Brook Lamprey (Lampetra planeri)</i> [1096]	Channel maintenance, barriers, passage obstruction, gross pollution and specific pollutants.	Surface water dependent Highly sensitive to hydrological change.
<i>Calcareous fens with species of the <i>Cladium mariscus</i> and <i>Caricion davallianae</i></i> [7210]	Hydrological changes, pollution to surface waters, urbanisation, roads development, groundwater interactions, grazing and cultivation practices and the inappropriate use of pesticides.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
<i>Calcareous rocky slopes with chasmophytic vegetation</i> [8210]	Overgrazing; extractive industries; recreational activities and improved access.	Erosion, overgrazing and recreation.
<i>Desmoulin's Whorl Snail (Vertigo moulinsiana)</i> [1016]	Loss of riverside and canalside habitat; exploitation of esker sites and drainage of wetlands, and sheep grazing and overexploitation of dune sites.	Changes to ground vegetation condition, groundwater dependent and is highly sensitive to hydrological changes.
<i>Embryonic shifting dunes</i> [2110]	Natural erosion processes exacerbated by recreation and sand extraction. Coastal protection interfering with natural processes.	Overgrazing, and erosion. Changes in management.
<i>Estuaries</i> [1130]	Pollution, fishing /aquaculture and habitat quality.	Inappropriate development, changes in turbidity
<i>European dry heaths</i> [4030]	Afforestation, overburning, over-grazing, under-grazing and bracken invasion.	Moderately sensitive to hydrological change. Changes in management. Changes in nutrient status.
<i>Fixed coastal dunes with herbaceous vegetation (grey dunes)</i> [2130]	Recreation; overgrazing and inappropriate grazing: non-native plant species, particularly sea buckthorn ( <i>Hippophae rhamnoides</i> ).	Overgrazing, and erosion. Changes in management.
<i>Freshwater Pearl Mussel (Margaritifera margaritifera)</i> [1029]	In stream works, hydrological and morphological alterations, sediment and enrichment, pollution due to urbanisation etc. Poor substrate quality due to increased growth of algal and macrophyte vegetation as a result of severe nutrient enrichment, as well as physical siltation.	Surface water dependent. Highly sensitive to hydrological change. Very highly sensitive to pollution.
<i>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels</i> [6430]	Agricultural intensification; drainage; abandonment of pastoral systems.	Surface and groundwater dependent. Moderately sensitive to hydrological change. Changes in management. Changes in nutrient status.
<i>Killarney Fern (Trichomanes speciosum)</i> [1421]	Threatened by habitat loss, deliberate collection, encroachment of invasive or vigorous species, or indirectly by water pollution, removal of woodland or alteration of watercourses.	Land use management and direct impacts.
<i>Large shallow inlets and bays</i> [1160]	<i>Pressures on the habitat include nutrient enrichment, dredging and invasive alien species. Overall Status is assessed as Bad and deteriorating, a genuine decline since the 2013 assessment of Inadequate and improving, and is based on more detailed information.</i>	Inappropriate development, changes in turbidity, surface water runoff, discharge etc. On site management activities.
<i>Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)</i> [1420]	Area losses, associated with algal mats formed as a consequence of water pollution, which resulted in a contraction of the range of the habitat.	Changes in management. Changes in nutrient or base status. Introduction of alien species.
<i>Mediterranean salt meadows (Juncetalia maritimi)</i> [1410]	Over-grazing by cattle or sheep; infilling and reclamation.	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Coastal development and reclamation.
<i>Mudflats and sandflats not covered by seawater at low tide</i> [1140]	Aquaculture, fishing, bait digging, removal of fauna, reclamation of land, coastal protection works and invasive species, particularly cord-grass; hard coastal defence structures; sea-level rise.	Surface and marine water dependent. Moderately sensitive to hydrological change. Moderate sensitivity to pollution. Changes to salinity and tidal regime. Coastal development.
<i>Northern Atlantic wet heaths with Erica tetralix</i> [4010]	Reclamation, afforestation and burning; overstocking; invasion by non-heath species; exposure of peat to severe erosion.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
<i>Old sessile oak woods with Ilex and Blechnum in the British Isles</i> [91A0]	The introduction of alien species; sub-optimal grazing patterns; general forestry management; increases in urbanisation and human habitation adjacent to oak woodlands; and the construction of communication networks through the woodland.	Changes in management. Changes in nutrient or base status. Introduction of alien species.
<i>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)</i> [3110]	Nutrient enrichment; afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
<i>Otter (Lutra lutra)</i> [1355]	Decrease in water quality: Use of pesticides; fertilization; vegetation removal; professional fishing (including lobster pots and fyke nets); unting; poisoning; sand and gravel extraction; mechanical removal of peat; urbanised areas; human habitation; continuous urbanization; drainage; management of aquatic and bank vegetation for drainage purposes; and canalization or modifying structures of inland water course.	Surface and marine water dependent. Moderately sensitive to hydrological change. Sensitivity to pollution.
<i>Perennial vegetation of stony banks</i> [1220]	Disruption of the sediment supply, owing to the interruption of the coastal processes, caused by developments such as car parks and coastal defence structures including rock armour and sea walls. The removal of gravel.	Marine water dependent. Low sensitivity to hydrological changes. Coastal development, trampling from recreational activity and gravel removal.
<i>Petrifying springs with tufa formation (Cratoneurion)</i> [7220]	Ground water interactions, on site management activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
<i>Reefs</i> [1170]	Professional fishing; taking for fauna; taking for flora; water pollution; climate change; and change in species composition.	Sensitive to disturbance and pollution.
<i>River Lamprey (Lampetra fluviatilis)</i> [1099]	Channel maintenance, barriers, passage obstruction, gross pollution and specific pollutants.	Surface water dependent Highly sensitive to hydrological change.
<i>River Nore Freshwater Pearl Mussel (Margaritifera durrovensis)</i> [1990]	In stream works, hydrological and morphological alterations, sediment and enrichment, pollution due to urbanisation etc. Poor substrate quality due to increased growth of algal and macrophyte vegetation as a result of severe nutrient enrichment, as well as physical siltation.	Surface water dependent. Highly sensitive to hydrological change. Very highly sensitive to pollution.
<i>Salicornia and other annuals colonising mud and sand</i> [1310]	Invasive Species; erosion and accretion.	Marine water dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Infilling, reclamation, invasive species.
<i>Salmon (Salmo salar)</i> [1106]	Marine survival rates are of concern for the populations.	Disease, parasites and barriers to movement.

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Qualifying Interests	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
<i>Sea Lamprey (Petromyzon marinus)</i> [1095]	Barriers to upstream migration (e.g. weirs), which limit access to spawning beds and juvenile habitat are main threats to this species.	Marine water dependent. Low sensitivity to hydrological changes. Coastal development, trampling from recreational activity.
<i>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)</i> [6210]	Land reclamation, afforestation; drainage; and infrastructural development.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
<i>Shifting dunes along the shoreline with Ammophila arenaria (white dunes)</i> [2120]	Recreation and coastal defences, which may interfere with local sediment dynamics.	Overgrazing, and erosion. Changes in management.
<i>Siliceous rocky slopes with chasmophytic vegetation</i> [8220]	Pressures associated with the non-native invasive species New Zealand willowherb ( <i>Epilobium brunnescens</i> ).	Erosion, overgrazing and recreation.
<i>Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)</i> [8110]	Overgrazing, undergrazing and succession were recorded as medium-importance pressures in this reporting period, and Structure and functions were again assessed as Inadequate, the trend is considered to be stable rather than improving. This change is due to improved knowledge and the habitat is considered to have been stable since before the last assessment.	Erosion, overgrazing and recreation.
<i>Slender Green Feather Moss (Drepanocladus vernicosus)</i> [1393]	Pollution, land use, climate change and invasive species.	Erosion, overgrazing and recreation.
<i>Taxus baccata woods of the British Isles</i> [9110]	Invasive Species; erosion and accretion.	Changes in management. Changes in nutrient or base status. Introduction of alien species.
<i>Turloughs</i> [3180]	Nutrient enrichment; afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
<i>Twaite Shad (Alosa fallax fallax)</i> [1103]	Habitat quality, particularly at spawning sites is the most notable threat to this species.	Changes in management. Changes in nutrient or base status. Moderately sensitive to hydrological change.
<i>Vegetated sea cliffs of the Atlantic and Baltic coasts</i> [1230]	A number of significant pressures were identified, including trampling by walkers, invasive non-native species, gravel extraction, and sea-level and wave exposure changes due to climate change. There have been no significant losses in sea cliff habitat since the Directive came into force.	Land use activities such as tourism and/or agricultural practices. Direct alteration to the habitat or effects such as burning or drainage.
<i>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation</i> [3260]	Hydrological and morphological changes, water quality, enrichment, and surface water discharges from industrial site and/or agriculture.	Surface water dependent Highly sensitive to hydrological change and direct physical interactions.
<i>White-clawed Crayfish (Austropotamobius pallipes)</i> [1092]	Poor substrate quality due to increased growth of algal and macrophyte vegetation as a result of severe nutrient enrichment, as well as physical siltation.	Invasive species, disease, surface water dependent. Highly sensitive to hydrological change. Very highly sensitive to pollution.

List of all Special Conservation Interest of SPAs that have undergone Assessment including Summaries of Current Threats and Sensitivity to Effects

Current threats to Qualifying Interests			Vulnerabilities of species of conservation interest
Red-throated diver ( <i>Gavia stellata</i> ) [A001] Great crested grebe ( <i>Podiceps cristatus</i> ) [A005] Northern fulmar ( <i>Fulmarus glacialis</i> ) [A009] Northern gannet ( <i>Morus bassanus</i> ) [A016] Great cormorant ( <i>Phalacrocorax carbo</i> ) [A017] Little egret ( <i>Egretta garzetta</i> ) [A026] Whooper swan ( <i>Cygnus cygnus</i> ) [A038] Greylag goose ( <i>Anser anser</i> ) [A043] Greylag goose ( <i>Anser anser</i> [Iceland/UK/Ireland]) [A043] Common shelduck ( <i>Tadorna tadorna</i> ) [A048] Eurasian wigeon ( <i>Anas penelope</i> ) [A050] Gadwall ( <i>Anas strepera</i> ) [A051] Eurasian teal ( <i>Anas crecca</i> ) [A052] Mallard ( <i>Anas platyrhynchos</i> ) [A053] Northern pintail ( <i>Anas acuta</i> ) [A054] Northern shoveler ( <i>Anas clypeata</i> ) [A056] Common goldeneye ( <i>Bucephala clangula</i> ) [A067] Wetlands for waterbirds [A999]	Red-breasted merganser ( <i>Mergus serrator</i> ) [A069] Merlin ( <i>Falco columbarius</i> ) [A098] Peregrine falcon ( <i>Falco peregrinus</i> ) [A103] Eurasian oystercatcher ( <i>Haematopus ostralegus</i> ) [A130] Ringed plover ( <i>Charadrius hiaticula</i> ) [A137] European golden plover ( <i>Pluvialis apricaria</i> ) [A140] Grey plover ( <i>Pluvialis squatarola</i> ) [A141] Northern lapwing ( <i>Vanellus vanellus</i> ) [A142] Red knot ( <i>Calidris canutus</i> ) [A143] Sanderling ( <i>Calidris alba</i> ) [A144] Ruff ( <i>Philomachus pugnax</i> ) [A151] Bar-tailed godwit ( <i>Limosa lapponica</i> ) [A157] Eurasian curlew ( <i>Numerius arquata</i> ) [A160] Common redshank ( <i>Tringa totanus</i> ) [A162] Common greenshank ( <i>Tringa nebularia</i> ) [A164] Ruddy turnstone ( <i>Arenaria interpres</i> ) [A169] Mediterranean gull ( <i>Larus melanocephalus</i> ) [A176]	Black-headed gull ( <i>Larus ridibundus</i> ) [A179] Mew gull ( <i>Larus canus</i> ) [A182] Lesser black-backed gull ( <i>Larus fuscus</i> ) [A183] Herring gull ( <i>Larus argentatus</i> ) [A184] Black-legged kittiwake ( <i>Rissa tridactyla</i> ) [A188] Sandwich tern ( <i>Sterna sandvicensis</i> ) [A191] Roseate tern ( <i>Sterna dougallii</i> ) [A192] Common tern ( <i>Sterna hirundo</i> ) [A193] Arctic tern ( <i>Sterna paradisaea</i> ) [A194] Little tern ( <i>Sterna albigrons</i> ) [A195] Common guillemot ( <i>Uria aalge</i> ) [A199] Razorbill ( <i>Alca torda</i> ) [A200] Atlantic puffin ( <i>Fratercula arctica</i> ) [A204] Short-eared owl ( <i>Asio flammeus</i> ) [A222] Wood warbler ( <i>Phylloscopus sibilatrix</i> ) [A314] Greenland white-fronted goose ( <i>Anser albifrons flavirostris</i> ) [A395]	<ul style="list-style-type: none"> <li>Bird species are particularly vulnerable to direct disturbance due to noise and/or vibration. These effects are localised, and disturbance effects are foreseen to be low at distances beyond 2km.</li> <li>Direct habitat loss is a serious concern for bird species, as well as the reduction in habitat quality. Habitat degradation could occur through effects such as local enrichment due to agricultural practices or damage to habitat through activities such as trampling.</li> <li>Prey species diversity and availability is a key element of species conservation. Community dynamics and ecosystem functionality are complex concepts and require site specific information. The site synopsis and conservation objectives for the SPAs identified within the ZOI were used to identify any specific prey sensitivities.</li> <li>Availability of nesting/roosting habitat.</li> <li>Vegetation composition, structure and functionality</li> </ul> <p>Direct land take is a common vulnerability to all sites; as well as significant water quality effects. The conservation objective of all SPAs designated for Wetland and Waterbirds is to maintain the favourable conservation condition of the wetland habitat as a resource for the regularly-occurring migratory waterbirds using it.</p>

# Appendix II Relationship Other Plans and Programmes

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

Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
<b>International/ European Level</b>			
<b>SEA Directive (2001/42/EC)</b>	<ul style="list-style-type: none"> <li>Contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.</li> <li>Provide for a high level of protection of the environment by carrying out an environmental assessment of plans and programmes which are likely to have significant effects on the environment.</li> </ul>	<ul style="list-style-type: none"> <li>Carry out and environmental assessment for plans or programmes referred to in Articles 2 to 4 of the Directive.</li> <li>Prepare an environmental report which identifies, describes and evaluates the likely significant effects on the environment of implementing the plan or programme and reasonable alternatives that consider the objectives and the geographical scope of the plan or programme.</li> <li>Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission.</li> <li>Consult other Member States where the implementation of a plan or programme is likely to have transboundary environmental effects.</li> <li>Inform relevant authorities and stakeholders on the decision to implement the plan or programme.</li> <li>Issue a statement to include requirements detailed in Article 9 of the Directive.</li> <li>Monitor and mitigate significant environmental effects identified by the assessment.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>EIA Directive (2011/92/EU as amended by 2014/52/EU)</b>	<ul style="list-style-type: none"> <li>Requires the assessment of the environmental effects of public and private projects which are likely to have significant effects on the environment.</li> <li>Aims to assess and implement avoidance or mitigation measures to eliminate environmental effects, before consent is given of projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects. Those projects are defined in Article 4.</li> </ul>	<ul style="list-style-type: none"> <li>All projects listed in Annex I are considered as having significant effects on the environment and require an EIA.</li> <li>For projects listed in Annex II, a “screening procedure” is required to determine the effects of projects on the basis of thresholds/criteria or a case by case examination. This should take into account Annex III.</li> <li>The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 12, the direct and indirect effects of a project on the following factors: human beings, fauna and flora, soil, water, air, climate and the landscape, material assets and the cultural heritage, the interaction between each factor.</li> <li>Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission before a decision is made.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Habitats Directive (92/43/EEC)</b>	<ul style="list-style-type: none"> <li>Promote the preservation, protection and improvement of the quality of the environment, including the conservation of natural habitats and of wild fauna and flora.</li> <li>Contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora.</li> <li>Maintain or restore to favourable conservation status, natural habitats and species of wild fauna and flora of community interest.</li> <li>Promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Propose and protect sites of importance to habitats, plant and animal species.</li> <li>Establish a network of European sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, to enable the natural habitat types and the species’ habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range.</li> <li>Carry out comprehensive assessment of habitat types and species present.</li> <li>Establish a system of strict protection for the animal species and plant species listed in Annex IV.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Birds Directive (2009/147/EC)</b>	<ul style="list-style-type: none"> <li>Conserve all species of naturally occurring birds in the wild state including their eggs, nests and habitats.</li> <li>Protect, manage and control these species and comply with regulations relating to their exploitation.</li> <li>The species included in Annex I shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution.</li> </ul>	<ul style="list-style-type: none"> <li>Preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Annex 1.</li> <li>Preserve, maintain and establish biotopes and habitats to include the creation of protected areas (Special Protection Areas).</li> <li>Ensure the upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones, re-establish destroyed biotopes and creation of biotopes.</li> <li>Measures for regularly occurring migratory species not listed in Annex I are required as regards their breeding, moulting and wintering areas and staging posts along their migration routes. The protection of wetlands and particularly wetlands of international importance.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>EU Nitrates Directive (91/676/EC)</b>	<ul style="list-style-type: none"> <li>Reducing water pollution caused or induced by nitrates from agricultural sources and – preventing further such pollution.</li> </ul>	<p>Ireland’s Nitrates Action Programme is designed to prevent pollution of surface waters and ground water from agricultural sources and to protect and improve water quality. Ireland’s third NAP came into operation in 2014. Each Member State’s NAP must include:</p> <ul style="list-style-type: none"> <li>a limit on the amount of livestock manure applied to the land each year</li> <li>set periods when land spreading is prohibited due to risk</li> <li>set capacity levels for the storage of livestock manure</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory



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Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
<b>EU Integrated Pollution Prevention Control Directive (2008/1/EC)</b>	<ul style="list-style-type: none"> <li>The purpose of this Directive is to achieve integrated prevention and control of pollution arising from the activities listed in Annex I. It lays down measures designed to prevent or, where that is not practicable, to reduce emissions in the air, water and land from the abovementioned activities, including measures concerning waste, in order to achieve a high level of protection of the environment taken as a whole, without prejudice to Directive 85/337/EEC and other relevant Community provisions.</li> </ul>	<p>The IPPC Directive is based on several principles:</p> <ul style="list-style-type: none"> <li>an integrated approach</li> <li>best available techniques,</li> <li>flexibility; and</li> <li>public participation</li> </ul>	<p>framework for environmental protection and management.</p> <p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>EU Plant Protection (products) Directive 2009/127/EC</b>	<ul style="list-style-type: none"> <li>The Directive aims at reducing the risks and impacts of pesticide use on human health and</li> <li>the environment by introducing different targets, tools and measures such as Integrated Pest Management (IPM) or National Action Plans (NAPs).</li> </ul>	<ul style="list-style-type: none"> <li>The Framework Directive applies to pesticides which are plant protection products.</li> <li>Regarding pesticide application equipment already in professional use, the Framework Directive introduces requirements for the inspection and maintenance to be carried out on such equipment.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>EU Renewables Directive (2009/28/EC)</b>	<ul style="list-style-type: none"> <li>The Renewable Energy Directive establishes an overall policy for the production and promotion of energy from renewable sources in the EU. It requires the EU to fulfil at least 20% of its total energy needs with renewables by 2020 – to be achieved through the attainment of individual national targets.</li> <li>All EU countries must also ensure that at least 10% of their transport fuels come from renewable sources by 2020.</li> </ul>	<ul style="list-style-type: none"> <li>The Directive promotes cooperation amongst EU countries (and with countries outside the EU) to help them meet their renewable energy targets.</li> <li>The Directive specifies national renewable energy targets for each country, taking into account its starting point and overall potential for renewables.</li> <li>EU countries set out how they plan to meet these targets and the general course of their renewable energy policy in national renewable energy action plans.</li> <li>Progress towards national targets is measured every two years when EU countries publish national renewable energy progress reports.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>Indirect Land Use Change Directive (2012/0288 (COD))</b>	<ul style="list-style-type: none"> <li>Article 3(4) of Directive 2009/28/EC of the European Parliament and of the Council (3) requires Member States to ensure that the share of energy from renewable energy sources in all forms of transport in 2020 is at least 10 % of their final energy consumption.</li> <li>The blending of biofuels is one of the methods available for Member States to meet this target, and is expected to be the main contributor.</li> <li>Other methods available to meet the target are the reduction of energy consumption, which is imperative because a mandatory percentage target for energy from renewable sources is likely to become increasingly difficult to achieve sustainably if overall demand for energy for transport continues to rise, and the use of electricity from renewable energy sources.</li> </ul>	<ul style="list-style-type: none"> <li>Limit the contribution that conventional biofuels (with a risk of ILUC emissions) make towards attainment of the targets in the Renewable Energy Directive;</li> <li>Improve the greenhouse gas performance of biofuel production processes (reducing associated emissions) by raising the greenhouse gas saving threshold for new installations subject to protecting installations already in operation on 1<sup>st</sup> July 2014;</li> <li>Encourage a greater market penetration of advanced (low-ILUC) biofuels by allowing such fuels to contribute more to the targets in the Renewable Energy Directive than conventional biofuels;</li> <li>Improve the reporting of greenhouse gas emissions by obliging Member States and fuel suppliers to report the estimated indirect land-use change emissions of biofuels.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>Alternative Fuels Infrastructure Directive (2014/94/EU)</b>	<ul style="list-style-type: none"> <li>This Directive establishes a common framework of measures for the deployment of alternative fuels infrastructure in the Union in order to minimise dependence on oil and to mitigate the environmental impact of transport.</li> </ul>	<ul style="list-style-type: none"> <li>This Directive sets out minimum requirements for the building-up of alternative fuels infrastructure, including recharging points for electric vehicles and refuelling points for natural gas (LNG and CNG) and hydrogen, to be implemented by means of Member States' national policy frameworks, as well as common technical specifications for such recharging and refuelling points, and user information requirements.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>EU Energy Efficiency Directive (2012/27/EU)</b>	<ul style="list-style-type: none"> <li>Establishes a set of binding measures to help the EU reach its 20% energy efficiency target by 2020.</li> <li>Under the Directive, all EU countries are required to use energy more efficiently at all stages of the energy chain, from production to final consumption.</li> </ul>	<ul style="list-style-type: none"> <li>Energy distributors or retail energy sales companies have to achieve 1.5% energy savings per year through the implementation of energy efficiency measures</li> <li>EU countries can opt to achieve the same level of savings through other means, such as improving the efficiency of heating systems, installing double glazed windows or insulating roofs</li> <li>The public sector in EU countries should purchase energy efficient buildings, products and services</li> <li>Every year, governments in EU countries must carry out energy efficient renovations on at least 3% (by floor area) of the buildings they own and occupy</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory</p>



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Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
		<ul style="list-style-type: none"> <li>Energy consumers should be empowered to better manage consumption. This includes easy and free access to data on consumption through individual metering</li> <li>National incentives for SMEs to undergo energy audits</li> <li>Large companies will make audits of their energy consumption to help them identify ways to reduce it</li> <li>Monitoring efficiency levels in new energy generation capacities.</li> </ul>	framework for environmental protection and management.
<b>EU Seveso Directive (2012/18/EU)</b>	<ul style="list-style-type: none"> <li>This Directive lays down rules for the prevention of major accidents which involve dangerous substances, and the limitation of their consequences for human health and the environment, with a view to ensuring a high level of protection throughout the Union in a consistent and effective manner.</li> </ul>	<p>The Seveso Directive is well integrated with other EU policies, thus avoiding double regulation or other administrative burden. This includes the following related policy areas:</p> <ul style="list-style-type: none"> <li>Classification, labelling and packaging of chemicals;</li> <li>The Union's Civil Protection Mechanism;</li> <li>The Security Union Agenda including CBRN-E and Protection of critical infrastructure;</li> <li>Policy on environmental liability and on the protection of the environment through criminal law;</li> <li>Safety of offshore oil and gas operations.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>European Union Biodiversity Strategy to 2020</b>	<ul style="list-style-type: none"> <li>Aims to halt or reverse biodiversity loss and speed up the EU's transition towards a resource efficient and green economy.</li> <li>Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible.</li> </ul>	<ul style="list-style-type: none"> <li>Outlines six targets and twenty actions to aid European Union in halting the loss to biodiversity and eco-system services.</li> <li>The six targets cover: <ul style="list-style-type: none"> <li>Full implementation of EU nature legislation to protect biodiversity</li> <li>Maintaining, enhancing and protecting for ecosystems, and green infrastructure</li> <li>Ensuring sustainable agriculture, and forestry</li> <li>Sustainable management of fish stocks</li> <li>Reducing invasive alien species</li> <li>Addressing the global need to contribute towards averting global biodiversity loss</li> </ul> </li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>EU Green Infrastructure Strategy</b>	Aims to create a robust enabling framework in order to promote and facilitate Green Infrastructure (GI) projects.	<ul style="list-style-type: none"> <li>Promoting GI in the main EU policy areas.</li> <li>Supporting EU-level GI projects.</li> <li>Improving access to finance for GI projects.</li> <li>Improving information and promoting innovation.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>UN (1992) The Convention on Biological Diversity</b>	An overall objective is to develop national strategies for the conservation and sustainable use of biological diversity.	<p>The Convention has three main goals:</p> <ul style="list-style-type: none"> <li>the conservation of biological diversity (or biodiversity);</li> <li>the sustainable use of its components; and</li> <li>the fair and equitable sharing of benefits arising from genetic resources.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>UN (1992) Framework Convention on Climate Change</b>	It is aimed at stabilising greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.	The Convention acknowledges the vulnerability of all countries to the effects of climate change and calls for special efforts to ease the consequences, especially in developing countries which lack the resources to do so on their own.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>UN Kyoto Protocol (2<sup>nd</sup> Kyoto Period), the Second European Climate Change Programme (ECCP II), Paris climate conference (COP21) 2015 (Paris Agreement)</b>	<p>The UN Kyoto Protocol set of policy measures to reduce greenhouse gas emissions.</p> <p>The Second European Climate Change Programme (ECCP II) aims to identify and develop all the necessary elements of an EU strategy to implement the Kyoto Protocol.</p>	<ul style="list-style-type: none"> <li>The Kyoto Protocol is implemented through the European Climate Change Programme (ECCP II).</li> <li>EU member states implement measures to improve on or complement the specified measures and policies arising from the ECCP.</li> <li>Under COP21, governments agreed to come together every 5 years to set more ambitious targets as required by science; report to each other and the public on how</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and

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Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
	At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C.	well they are doing to implement their targets; track progress towards the long-term goal through a robust transparency and accountability system.	cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>EU 2020 Climate and Energy Package</b>	<ul style="list-style-type: none"> <li>Binding legislation which aims to ensure the European Union meets its climate and energy targets for 2020.</li> <li>Aims to achieve a 20% reduction in EU greenhouse gas emissions from 1990 levels.</li> <li>Aims to raise the share of EU energy consumption produced from renewable resources to 20%.</li> <li>Achieve a 20% improvement in the EU's energy efficiency.</li> </ul>	<p>Four pieces of complimentary legislation:</p> <ul style="list-style-type: none"> <li>Reform of the EU Emissions Trading System (EU ETS) to include a cap on emission allowances in addition to existing system of national caps.</li> <li>Member States have agreed national targets for non-EU ETS emissions from countries outside the EU.</li> <li>Meet the national renewable energy targets of 16% for Ireland by 2020.</li> <li>Preparing a legal framework for technologies in carbon capture and storage.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>EU 2030 Framework for Climate and Energy</b>	<ul style="list-style-type: none"> <li>A 2030 Framework for climate and energy, including EU-wide targets and policy objectives for the period between 2020 and 2030 that has been agreed by European countries.</li> <li>Targets include a 40% cut in greenhouse gas emissions compared to 1990 levels, at least a 27% share of renewable energy consumption and at least 27% energy savings compared with the business-as-usual scenario.</li> </ul>	<p>To meet the targets, the European Commission has proposed the following policies for 2030:</p> <ul style="list-style-type: none"> <li>A reformed EU emissions trading scheme (ETS).</li> <li>New indicators for the competitiveness and security of the energy system, such as price differences with major trading partners, diversification of supply, and interconnection capacity between EU countries.</li> <li>First ideas for a new governance system based on national plans for competitive, secure, and sustainable energy. These plans will follow a common EU approach. They will ensure stronger investor certainty, greater transparency, enhanced policy coherence and improved coordination across the EU.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>The Clean Air for Europe Directive (2008/50/EC)</b> <b>(EU Air Framework Directive)</b>  <b>Fourth Daughter Directive (2004/107/EC)</b>	<ul style="list-style-type: none"> <li>The CAFE Directive merges existing legislation into a single directive (except for the fourth daughter directive).</li> <li>Sets new air quality objectives for PM<sub>2.5</sub> (fine particles) including the limit value and exposure related objectives.</li> <li>Accounts for the possibility to discount natural sources of pollution when assessing compliance against limit values.</li> <li>Allows the possibility for time extensions of three years (PM<sub>10</sub>) or up to five years (NO<sub>2</sub>, benzene) for complying with limit values, based on conditions and the assessment by the European Commission.</li> <li>The Fourth Daughter Directive lists pollutants, target values and monitoring requirements for the following: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.</li> </ul>	<ul style="list-style-type: none"> <li>Sets objectives for ambient air quality designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole.</li> <li>Aims to assess the ambient air quality in Member States on the basis of common methods and criteria.</li> <li>Obtains information on ambient air quality in order to help combat air pollution and nuisance and to monitor long-term trends and improvements resulting from national and community measures.</li> <li>Ensures that such information on ambient air quality is made available to the public.</li> <li>Aims to maintain air quality where it is good and improving it in other cases.</li> <li>Aims to promote increased cooperation between the Member States in reducing air pollution.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Noise Directive (2002/49/EC)</b>	The Noise Directive - Directive 2002/49/EC relating to the assessment and management of environmental noise - is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing Community policy on noise reduction from source.	<p>The Directive requires competent authorities in Member States to:</p> <ul style="list-style-type: none"> <li>Draw up strategic noise maps for major roads, railways, airports and agglomerations, using harmonised noise indicators and use these maps to assess the number of people which may be impacted upon as a result of excessive noise levels;</li> <li>Draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good; and</li> <li>Inform and consult the public about noise exposure, its effects, and the measures considered to address noise.</li> </ul> <p>The Directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities.</p>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Floods Directive (2007/60/EC)</b>	<ul style="list-style-type: none"> <li>Establishes a framework for the assessment and management of flood risks</li> <li>Reduce adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community</li> </ul>	<ul style="list-style-type: none"> <li>Assess all water courses and coast lines at risk from flooding through Flood Risk Assessment</li> <li>Prepare flood hazard maps and flood risk maps outlining the extent or potential of flooding and assets and humans at risk in these areas at River Basin District level (Article 3(2) (b)) and areas covered by Article 5(1) and Article 13(1) (b) in accordance with paragraphs 2 and 3.</li> <li>Implement flood risk management plans and take adequate and coordinated measures to reduce flood risk for the areas covered by the Articles listed above.</li> <li>Inform the public and allow the public to participate in planning process.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

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<b>Water Framework Directive (2000/60/EC)</b>	<ul style="list-style-type: none"> <li>Establish a framework for the protection of water bodies to include inland surface waters, transitional waters, coastal waters and groundwater and their dependent wildlife and habitats.</li> <li>Preserve and prevent the deterioration of water status and where necessary improve and maintain "good status" of water bodies.</li> <li>Promote sustainable water usage.</li> <li>The Water Framework Directive repealed the following Directives: <ul style="list-style-type: none"> <li>The Drinking Water Abstraction Directive</li> <li>Sampling Drinking Water Directive</li> <li>Exchange of Information on Quality of Surface Freshwater Directive</li> <li>Shellfish Directive</li> <li>Freshwater Fish Directive</li> <li>Groundwater (Dangerous Substances) Directive</li> <li>Dangerous Substances Directive</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Protect, enhance and restore all water bodies and meet the environmental objectives outlined in Article 4 of the Directive.</li> <li>Achieve "good status" for all waters.</li> <li>Manage water bodies based on identifying and establishing river basins districts.</li> <li>Involve the public and streamline legislation.</li> <li>Prepare and implement a River Basin Management Plan for each river basin districts identified and a Register of Protected Areas.</li> <li>Establish a programme of monitoring for surface water status, groundwater status and protected areas.</li> <li>Recover costs for water services.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Groundwater Directive (2006/118/EC)</b>	<ul style="list-style-type: none"> <li>Protect, control and conserve groundwater.</li> <li>Prevent the deterioration of the status of all bodies of groundwater.</li> <li>Implements measures to prevent and control groundwater pollution, including criteria for assessing good groundwater chemical status and criteria for the identification of significant and sustained upward trends and for the definition of starting points for trend reversals.</li> </ul>	<ul style="list-style-type: none"> <li>Meet minimum groundwater standards listed in Annex 1 of Directive.</li> <li>Meet threshold values adopted by national legislation for the pollutants, groups of pollutants and indicators of pollution which have been identified as contributing to the characterisation of bodies or groups of bodies of groundwater as being at risk, also taking into account Part B of Annex II.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Drinking Water Directive (98/83/EC)</b>	<ul style="list-style-type: none"> <li>Improve and maintain the quality of water intended for human consumption.</li> <li>Protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean.</li> </ul>	<ul style="list-style-type: none"> <li>Set values applicable to water intended for human consumption for the parameters set out in Annex I.</li> <li>Set values for additional parameters not included in Annex I, where the protection of human health within national territory or part of it so requires. The values set should, as a minimum, satisfy the requirements of Article 4(1) (a).</li> <li>Implement all measures necessary to ensure that regular monitoring of the quality of water intended for human consumption is carried out, in order to check that the water available to consumers meets the requirements of this Directive and in particular the parametric values set in accordance with Article 5.</li> <li>Ensure that any failure to meet the parametric values set in accordance with Article 5 is immediately investigated in order to identify the cause.</li> <li>Ensure that the necessary remedial action is taken as soon as possible to restore its quality and shall give priority to their enforcement action.</li> <li>Undertake remedial action to restore the quality of the water where necessary to protect human health.</li> <li>Notify consumers when remedial action is being undertaken except where the competent authorities consider the non-compliance with the parametric value to be trivial.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Urban Waste Water Treatment Directive (91/271/EEC)</b>	<ul style="list-style-type: none"> <li>This Directive concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors.</li> <li>The objective of the Directive is to protect the environment from the adverse effects of waste water discharges.</li> </ul>	<ul style="list-style-type: none"> <li>Urban waste water entering collecting systems shall before discharge, be subject to secondary treatment.</li> <li>Annex II requires the designation of areas sensitive to eutrophication which receive water discharges.</li> <li>Establishes minimum requirements for urban waste water collection and treatment systems in specified agglomerations to include special requirements for sensitive areas and certain industrial sectors.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Environmental Liability Directive (2004/35/EC) as amended by Directive 2006/21/EC, Directive 2009/31/EC and Directive 2013/30/EU</b>	<ul style="list-style-type: none"> <li>Establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage.</li> </ul>	<ul style="list-style-type: none"> <li>Relates to environmental damage caused by any of the occupational activities listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities; damage to protected species and natural habitats caused by any occupational activities other than those listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities, whenever the operator has been at fault or negligent.</li> <li>Where environmental damage has not yet occurred but there is an imminent threat of such damage occurring, the operator shall, without delay, take the necessary preventive measures.</li> <li>Where environmental damage has occurred the operator shall, without delay, inform the competent authority of all relevant aspects of the situation and take all practicable steps to immediately control, contain, remove or otherwise manage the relevant</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

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		<p>contaminants and/or any other damage factors in order to limit or to prevent further environmental damage and adverse effects on human health or further impairment of services and the necessary remedial measures, in accordance with Article 7.</p> <ul style="list-style-type: none"> <li>The operator shall bear the costs for the preventive and remedial actions taken pursuant to this Directive.</li> <li>The competent authority shall be entitled to initiate cost recovery proceedings against the operator.</li> <li>The operator may be required to provide financial security guarantees to ensure their responsibilities under the directive are met.</li> <li>The Environmental Liability Directive has been amended through a number of Directives. Implementation of the Environmental Liability Directive is contributed towards by a Multi-Annual Work Programme (MAWP) 'Making the Environmental Liability Directive more fit for purpose' that is updated annually to changing developments, growing knowledge and new needs.</li> </ul>	
<b>European Convention on the Protection of the Archaeological Heritage (Valletta 1992)</b>	<ul style="list-style-type: none"> <li>The aim of this (revised) Convention is to protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study.</li> </ul>	The Valletta Convention makes the conservation and enhancement of the archaeological heritage one of the goals of urban and regional planning policies. The Convention sets guidelines for the funding of excavation and research work and publication of research findings. It also deals with public access, in particular to archaeological sites, and educational actions to be undertaken to develop public awareness of the value of the archaeological heritage. It also constitutes an institutional framework for pan-European co-operation on the archaeological heritage, entailing a systematic exchange of experience and experts among the various States.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Convention of the Protection of the Architectural Heritage of Europe (Granada 1995)</b>	<ul style="list-style-type: none"> <li>The main purpose of the Convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It also affirms the need for European solidarity with regard to heritage conservation and is designed to foster practical co-operation among the Parties. It establishes the principles of "European co-ordination of conservation policies" including consultations regarding the thrust of the policies to be implemented.</li> </ul>	<ul style="list-style-type: none"> <li>The reinforcement and promotion of policies for protecting and enhancing the heritage within the territories of the parties.</li> <li>The affirmation of European solidarity with regard to the protection of the heritage and the fostering of practical co-operation between states and regions.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>ICOMOS (2011) Principles for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes ('Dublin Principles')</b>	<ul style="list-style-type: none"> <li>It is aimed to assist in the documentation, protection, conservation and appreciation of industrial heritage as part of the heritage of human societies around the World.</li> </ul>	<ul style="list-style-type: none"> <li>(I) Document and understand industrial heritage structures, sites, areas and landscapes and their values;</li> <li>(II) Ensure effective protection and conservation of the industrial heritage structures, sites, areas and landscapes;</li> <li>(III) Conserve and maintain the industrial heritage structures, sites, areas and landscapes; and</li> <li>(IV) Present and communicate the heritage dimensions and values of industrial structures, sites, areas and landscapes to raise public and corporate awareness, and support training and research.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Council of Europe Framework Convention on the Value of Cultural Heritage for Society (Faro 2005)</b>	<ul style="list-style-type: none"> <li>Cultural heritage is a group of resources inherited from the past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time.</li> <li>A heritage community consists of people who value specific aspects of cultural heritage which they wish, within the framework of public action, to sustain and transmit to future generations.</li> </ul>	<ul style="list-style-type: none"> <li>Recognise that rights relating to cultural heritage are inherent in the right to participate in cultural life, as defined in the Universal Declaration of Human Rights.</li> <li>Recognise individual and collective responsibility towards cultural heritage.</li> <li>Emphasise that the conservation of cultural heritage and its sustainable use have human development and quality of life as their goal.</li> <li>Take the necessary steps to apply the provisions of this Convention concerning the role of cultural heritage in the construction of a peaceful and democratic society.</li> <li>Greater synergy of competencies among all the public, institutional and private actors concerned.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>European Landscape Convention 2000</b>	<ul style="list-style-type: none"> <li>The developments in agriculture, forestry, industrial and mineral production techniques, together with the practices followed in town and country planning, transport, networks, tourism and recreation, and at a more general level, changes in the world economy, have in many cases accelerated the transformation of landscapes. The Convention expresses a concern to achieve sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment. It aims to respond to the public's wish to enjoy high quality landscapes.</li> </ul>	<ul style="list-style-type: none"> <li>Promote protection, management and planning of landscapes.</li> <li>Organise European co-operation on landscape issues.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory

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<b>The Seventh Environmental Action Programme (EAP) of the European Community (2013-2020)</b>	<p>It identifies three key objectives:</p> <ul style="list-style-type: none"> <li>to protect, conserve and enhance the Union's natural capital</li> <li>to turn the Union into a resource-efficient, green, and competitive low-carbon economy</li> <li>to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing</li> </ul>	<p>Four so called "enablers" will help Europe deliver on these objectives (goals):</p> <ul style="list-style-type: none"> <li>Better implementation of legislation.</li> <li>Better information by improving the knowledge base.</li> <li>More and wiser investment for environment and climate policy.</li> <li>Full integration of environmental requirements and considerations into other policies.</li> </ul> <p>Two additional horizontal priority objectives complete the programme:</p> <ul style="list-style-type: none"> <li>To make the Union's cities more sustainable.</li> <li>To help the Union address international environmental and climate challenges more effectively.</li> </ul>	<p>framework for environmental protection and management.</p> <p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats)</b>	<p>The convention has three main aims:</p> <ul style="list-style-type: none"> <li>to conserve wild flora and fauna and their natural habitats</li> <li>to promote cooperation between states</li> <li>to give particular attention to endangered and vulnerable species including endangered and vulnerable migratory species</li> </ul>	<p>The Parties under the convention recognise the intrinsic value of nature, which needs to be preserved and passed to future generations, they also:</p> <ul style="list-style-type: none"> <li>Seek to ensure the conservation of nature in their countries, paying particular attention to planning and development policies and pollution control.</li> <li>Look at implementing the Bern Convention in central Eastern Europe and the Caucasus.</li> <li>Take account of the potential impact on natural heritage by other policies.</li> <li>Promote education and information of the public, ensuring the need to conserve species is understood and acted upon.</li> <li>Develop an extensive number of species action plans, codes of conducts, and guidelines, at their own initiative or in co-operation with other organisations.</li> <li>Created the Emerald Network, an ecological network made up of Areas of Special Conservation Interest.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>Bali Road Map (2007)</b>	<p>The overall goals of the project are twofold:</p> <ul style="list-style-type: none"> <li>To increase national capacity to co-ordinate ministerial views, participate in the UNFCCC process, and negotiate positions within the timeframe of the Bali Action Plan; and</li> <li>To assess investment and financial flows to address climate change for up to three key sectors and/or economic activities.</li> </ul>	<p>The Bali Action Plan is centred on four main building Blocks:</p> <ul style="list-style-type: none"> <li>mitigation</li> <li>adaptation</li> <li>technology</li> <li>financing</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>Cancun Agreements (2010)</b>	<p>Set of decisions taken at the COP 16 Conference in Cancun in 2010 which addresses a series of key issues in the fight against climate change. Cancun Agreements' main objectives cover:</p> <ul style="list-style-type: none"> <li>Mitigation</li> <li>Transparency of actions</li> <li>Technology</li> <li>Finance</li> <li>Adaptation</li> <li>Forests</li> <li>Capacity building</li> </ul>	<p>Among the most prominent agreements is the establishment of a Green Climate Fund to transfer money from the developed to developing world to tackle the impacts of climate change.</p>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>Doha Climate Gateway (2012)</b>	<p>Set of decisions taken at the COP 18 meeting in Doha in 2012 which pave the way for a new agreement in Paris in 2015.</p>	<ul style="list-style-type: none"> <li>Set out a timetable to adopt a universal climate agreement by 2015 (to come into effect in 2020);</li> <li>Complete the work under Bali Action Plan and to focus on new completing new targets;</li> <li>Strengthen the aim to cut greenhouse gases and help vulnerable countries to adapt;</li> <li>Amend Kyoto Protocol to include a new commitment period for cutting down the greenhouse gases emissions; and</li> <li>Provide the financial and technology support and new institutions to allow clean energy investment and sustainable growth in developing countries.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>EU Common Agricultural Policy</b>	<ul style="list-style-type: none"> <li>To improve agricultural productivity, so that consumers have a stable supply of affordable food; and</li> <li>To ensure that EU farmers can make a reasonable living.</li> </ul>	<ul style="list-style-type: none"> <li>ensuring viable food production that will contribute to feeding the world's population, which is expected to rise considerably in the future;</li> <li>Climate change and sustainable management of natural resources;</li> <li>Looking after the countryside across the EU and keeping the rural economy alive.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory</p>

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<b>EU REACH Regulation (EC 1907/2006)</b>	<ul style="list-style-type: none"> <li>Aims to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances.</li> </ul>	<p>The aims are achieved by applying REACH, namely:</p> <ul style="list-style-type: none"> <li>Registration,</li> <li>Evaluation,</li> <li>Authorisation; and</li> <li>Restriction of chemicals.</li> </ul> <p>REACH also aims to enhance innovation and competitiveness of the EU chemicals industry.</p>	<p>framework for environmental protection and management.</p> <p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>Stockholm Convention</b>	<ul style="list-style-type: none"> <li>The objective of the Stockholm Convention is to protect human health and the environment from persistent organic pollutants.</li> </ul>	<ul style="list-style-type: none"> <li>Prohibit and/or eliminate the production and use, as well as the import and export, of the intentionally produced POPs that are listed in Annex A to the Convention</li> <li>Restrict the production and use, as well as the import and export, of the intentionally produced POPs that are listed in Annex B to the Convention</li> <li>Reduce or eliminate releases from unintentionally produced POPs that are listed in Annex C to the Convention</li> <li>Ensure that stockpiles and wastes consisting of, containing or contaminated with POPs are managed safely and in an environmentally sound manner</li> <li>To target additional POPs</li> <li>Other provisions of the Convention relate to the development of implementation plans, information exchange, public information, awareness and education, research, development and monitoring, technical assistance, financial resources and mechanisms, reporting, effectiveness evaluation and non-compliance</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>Ramsar Convention</b>	<p>The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".</p>	<p>Under the "three pillars" of the Convention, the Contracting Parties commit to:</p> <ul style="list-style-type: none"> <li>Work towards the wise use of all their wetlands;</li> <li>Designate suitable wetlands for the list of Wetlands of International Importance (the "Ramsar List") and ensure their effective management;</li> <li>Cooperate internationally on transboundary wetlands, shared wetland systems and shared species.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>European 2020 Strategy for Growth</b>	<p>Europe 2020 sets out a vision of Europe's social market economy for the 21st century and puts forward three mutually reinforcing priorities:</p> <ul style="list-style-type: none"> <li>Smart growth: developing an economy based on knowledge and innovation;</li> <li>Sustainable growth: promoting a more resource efficient, greener and more competitive economy;</li> <li>Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.</li> </ul>	<p>In order to reach these priorities, the Commission proposes five quantitative targets to fulfil by 2020:</p> <ol style="list-style-type: none"> <li>75 % of the population aged 20-64 should be employed;</li> <li>3% of the EU's GDP should be invested in R&amp;D;</li> <li>the "20/20/20" climate/energy targets should be met (including an increase to 30% of emissions reduction if the conditions are right);</li> <li>the share of early school leavers should be under 10% and at least 40% of the younger generation should have a tertiary degree;</li> <li>20 million less people should be at risk of poverty.</li> </ol>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>The European Green Deal (EGD) 2019</b>	<p>The deal sets out how to make Europe the first climate-neutral continent by 2050, boosting the economy, improving people's quality of life, caring for nature and leaving no one behind.</p>	<ul style="list-style-type: none"> <li>It sets out a roadmap with actions to boost the efficient use of resources by moving to a clean, circular economy, restore biodiversity and cut pollution.</li> <li>It outlines investments required, financing tools available and explains how to ensure a just and inclusive transition.</li> <li>In order to meet the goal to become climate neutral by 2050 as part of the European Green Deal, the European Union (EU) Commission proposed on 4th March 2020 to bring about the first European Climate Law and legally bind the target of net zero greenhouse gas emissions by 2050.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>EU (2020) Biodiversity Strategy</b>	<p>A long-term plan for protecting nature and reversing the degradation of ecosystems across the European Union.</p>	<p>The Strategy contains specific commitments and actions to be delivered by 2030, including:</p> <ul style="list-style-type: none"> <li>Establishing a larger EU-wide network of protected areas on land and at sea, building upon existing Natura 2000 areas, with strict protection for areas of very high biodiversity and climate value.</li> <li>An EU Nature Restoration Plan - a series of concrete commitments and actions to restore degraded ecosystems across the EU by 2030, and manage them sustainably, addressing the key drivers of biodiversity loss.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the</p>



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		<ul style="list-style-type: none"> <li>A set of measures to enable the necessary transformative change: setting in motion a new, strengthened governance framework to ensure better implementation and track progress, improving knowledge, financing and investments and better respecting nature in public and business decision-making.</li> <li>Measures to tackle the global biodiversity challenge, demonstrating that the EU is ready to lead by example towards the successful adoption of an ambitious global biodiversity framework under the Convention on Biological Diversity.</li> </ul>	achievement of the objectives of the regulatory framework for environmental protection and management.
<b>EU (2018) Clean Air Policy Package</b>	Aims to substantially reduce air pollution across the EU.	The proposed strategy sets out objectives for reducing the health and environmental impacts of air pollution by 2030, and contains legislative proposals to implement stricter standards for emissions and air pollution.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Level</b>			
<b>Ireland 2040 - Our Plan, the National Planning Framework, (replacing the National Spatial Strategy 2002-2020) and the National Development Plan (2018-2027)</b>	<ul style="list-style-type: none"> <li>The National Planning Framework is the Government's high-level strategic plan for shaping the future growth and development of to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for people, and to protect and enhance the environment - from villages to cities, and everything around and in between.</li> <li>The National Development Plan sets out the investment priorities that will underpin the successful implementation of the new National Planning Framework. This will guide national, regional and local planning and investment decisions in Ireland over the next two decades, to cater for an expected population increase of over 1 million people.</li> </ul>	<p>National Strategic Outcomes as follows:</p> <ol style="list-style-type: none"> <li>1. Compact Growth</li> <li>2. Enhanced Regional Accessibility</li> <li>3. Strengthened Rural Economies and Communities</li> <li>4. Sustainable Mobility</li> <li>5. A Strong Economy, supported by Enterprise, Innovation and Skills</li> <li>6. High-Quality International Connectivity</li> <li>7. Enhanced Amenities and Heritage</li> <li>8. Transition to a Low-Carbon and Climate-Resilient Society</li> <li>9. Sustainable Management of Water and other Environmental Resources</li> <li>10. Access to Quality Childcare, Education and Health Services</li> </ol>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Planning, Land Use and Transport Outlook 2040 [in preparation]</b>	<p>The PLUTO will take account of forecasted future economic and demographic scenarios, affordability considerations and relevant Government policies and will:</p> <ol style="list-style-type: none"> <li>1. Quantify in broad terms the appropriate scale of financial investment in land transport over the long term;</li> <li>2. Consider how fiscal, environmental and technological developments might impact on this investment; and,</li> <li>3. Identify strategic priorities for future investment to ensure land transport infrastructure provision facilitates the objectives of Project Ireland 2040.</li> </ol>	In preparation	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Planning and Development Act 2000 (as amended)</b>	<ul style="list-style-type: none"> <li>The core principal objectives of this Act are to amend the Planning Acts of 2000 – 2009 with specific regard given to supporting economic renewal and sustainable development.</li> </ul>	<ul style="list-style-type: none"> <li>Development, with certain exceptions, is subject to development control under the Planning Acts and the local authorities grant or refuse planning permission for development, including ones within protected areas.</li> <li>There are, however, a range of exemptions from the planning system. Use of land for agriculture, peat extraction and afforestation, subject to certain thresholds, is generally exempt from the requirement to obtain planning permission.</li> <li>Additionally, Environmental Impact Assessment (EIA) is required for a range of classes and large-scale projects.</li> <li>Under planning legislation, Development Plans must include mandatory objectives for the conservation of the natural heritage and for the conservation of European sites and any other sites which may be prescribed. There are also discretionary powers to set objectives for the conservation of a variety of other elements of the natural heritage.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>European Communities (Environmental Assessment of Certain Plans and Programmes Regulations 2004 (S.I. 435 of 2004), as amended by S.I. 200 of 2011</b>	<ul style="list-style-type: none"> <li>The purpose of these Regulations is to transpose into Irish law Directive 2001/42/EC of 27 June 2001 (O.J. No. L 197, 21 July 2001) on the assessment of the effects of certain plans and programmes on the environment — commonly known as the Strategic Environmental Assessment (SEA) Directive.</li> </ul>	<ul style="list-style-type: none"> <li>The Regulations cover plans and programmes in all of the sectors listed in article 3(2) of the Directive except land-use planning.</li> <li>These Regulations also amend certain provisions of the Planning and Development Act 2000 to provide the statutory basis for the transposition of the Directive in respect of land-use planning.</li> <li>Transposition in respect of the land-use planning sector is contained in the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004).</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011, as amended)</b>	<ul style="list-style-type: none"> <li>These Regulations provide a new for the implementation in Ireland of Council Directive 92/43/EEC on habitats and protection of wild fauna and flora (as amended) and for the implementation of Directive 2009/147/EC</li> </ul>	<ul style="list-style-type: none"> <li>They provide, among other things, for: the appointment and functions of authorized officers; identification, classification and other procedures relative to the designation of Community sites.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-

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	of the European Parliament and of the Council on the protection of wild birds.	<ul style="list-style-type: none"> <li>The Regulations have been prepared to address several judgments of the CJEU against Ireland, notably cases C-418/04 and C-183/05, in respect of failure to transpose elements of the Birds Directive and the Habitats Directive into Irish law.</li> </ul>	combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Waste Management Act 1996, as amended</b>	<ul style="list-style-type: none"> <li>To make provision in relation to the prevention, management and control of waste; to give effect to provisions of certain acts adopted by institutions of the European communities in respect of those matters; to amend the Environmental Protection Agency Act, 1992, and to repeal certain enactments and to provide for related matters.</li> </ul>	<ul style="list-style-type: none"> <li>The Waste Management Act contains a number of key legal obligations, including requirements for waste management planning, waste collection and movement, the authorisation of waste facilities, measures to reduce the production of waste and/or promote its recovery.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>European Communities Environmental Objectives (FPM) Regulations 2009 (S.I. 296 of 2009)</b>	<ul style="list-style-type: none"> <li>The purpose of these Regulations is to support the achievement of favourable conservation status for freshwater pearl mussels</li> </ul>	<ul style="list-style-type: none"> <li>Set environmental quality objectives for the habitats of the freshwater pearl mussel populations named in the First Schedule to these Regulations that are within the boundaries of a site notified in a candidate list of European sites, or designated as a Special Area of Conservation, under the European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94/1997).</li> <li>Require the production of sub-basin management plans with programmes of measures to achieve these objectives.</li> <li>Set out the duties of public authorities in respect of the sub-basin management plans and programmes of measure.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. 9 of 2010), as amended (S.I. No. 366 of 2016)</b>	<ul style="list-style-type: none"> <li>To amend the European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9 of 2010) to make further provision to implement Commission Directive 2014/80/EU of 20 June 2014 amending Annex II to Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration.</li> </ul>	<p>The substances and threshold values set out in Schedule 5 to S.I. No. 9 of 2010 have been reviewed and amended where necessary, based on existing monitoring information and international guidelines on appropriate threshold values.</p> <ul style="list-style-type: none"> <li>Part A of Schedule 6 has been amended to include changes to the rules governing the determination of background levels for the purposes of establishing threshold values for groundwater pollutants and indicators of pollution.</li> <li>Part B of Schedule 6 has been amended to include nitrites and phosphorus (total) / phosphates among the minimum list of pollutants and their indicators which the Environmental Protection Agency (EPA) must consider when establishing threshold values.</li> <li>Part C of Schedule 6 amends the information to be provided to the Minister by the EPA with regard to the pollutants and their indicators for which threshold values have been established.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2014 (S.I. No. 31 of 2014)</b>	<ul style="list-style-type: none"> <li>These Regulations, which give effect to Ireland's 3<sup>rd</sup> Nitrates Action Programme, provide statutory support for good agricultural practice to protect waters against pollution from agricultural sources</li> </ul>	<p>The Regulations include measures such as:</p> <ul style="list-style-type: none"> <li>Periods when land application of fertilisers is prohibited</li> <li>Limits on the land application of fertilisers</li> <li>Storage requirements for livestock manure; and</li> <li>Monitoring of the effectiveness of the measures in terms of agricultural practice and impact on water quality.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Climate Action and Low Carbon Development Act 2015</b>	<ul style="list-style-type: none"> <li>An Act to provide for the approval of plans by the Government in relation to climate change for the purpose of pursuing the transition to a low carbon, climate resilient and environmentally sustainable economy.</li> </ul>	<p>When considering a plan or framework, for approval, the Government shall endeavour to achieve the national transition objective within the period to which the objective relates and shall, in endeavouring to achieve that objective, ensure that such objective is achieved by the implementation of measures that are cost effective and shall, for that purpose, have regard to:</p> <ul style="list-style-type: none"> <li>The ultimate objective specified in Article 2 of the United Nations Framework Convention on Climate Change done at New York on 9 May 1992 and any mitigation commitment entered into by the European Union in response or otherwise in relation to that objective,</li> <li>The policy of the Government on climate change,</li> <li>Climate justice,</li> <li>Any existing obligation of the State under the law of the European Union or any international agreement referred to in section 2; and</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

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<b>The Sustainable Development Goals National Implementation Plan (2018 – 2020)</b>	<ul style="list-style-type: none"> <li>National Implementation Plan 2018 - 2020 is in direct response to the 2030 Agenda for Sustainable Development and provides a whole-of-government approach to implement the 17 Sustainable Development Goals (SDGs).</li> <li>The Plan provides an 'SDG Matrix' which identifies the responsible Government Departments for each of the 169 targets. It also includes an 'SDG Policy Map' indicating the relevant national policies for each of the targets.</li> </ul>	<ul style="list-style-type: none"> <li>The most recent national greenhouse gas emissions inventory and projection of future greenhouse gas emissions, prepared by the Agency.</li> </ul> <p>The Plan identifies four strategic priorities to guide implementation:</p> <ul style="list-style-type: none"> <li>Awareness: raise public awareness of the SDGs;</li> <li>Participation: provide stakeholders opportunities to engage and contribute to follow-up and review processes, and further develop national implementation of the Goals;</li> <li>Support: encourage and support efforts of communities and organisations to contribute towards meeting the SDGs, and foster public participation; and</li> <li>Policy alignment: develop alignment of national policy with the SDGs and identify opportunities for policy coherence.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Infrastructure and Capital Investment Plan (2016-2021)</b>	<ul style="list-style-type: none"> <li>€27 billion multi-annual Exchequer Capital Investment Plan, which is supported by a programme of capital investment in the wider State sector, and which over the period 2016 to 2021 will help to lay the foundations for continued growth in Ireland.</li> </ul>	<ul style="list-style-type: none"> <li>This Capital Plan reflects the Government's commitment to supporting strong and sustainable economic growth and raising welfare and living standards for all.</li> <li>It includes allocations for new projects across a number of key areas and funding to ensure that the present stock of national infrastructure is refreshed and maintained.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>European Union (Birds and Natural Habitats) (Sea-Fisheries) Regulations 2013 (S.I. 290 of 2013)</b>	These regulations have been drafted to implement the responsibilities of the Minister for Agriculture Food and the Marine in relation to sea fisheries in Natura 2000 sites, in accordance with the Habitats and Birds Directives as transposed by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011).	<ul style="list-style-type: none"> <li>Regulation 3 provides for the submission of a Fisheries Natura Plan in relation to planned fisheries;</li> <li>Regulation 4 provides for a screening of a Fisheries Natura Plan to determine whether or not an appropriate assessment is required;</li> <li>Regulation 5 provides for an appropriate assessment of a Fisheries Natura Plan and also provides for public and statutory consultation;</li> <li>Regulation 6 provides for the Minister to make a determination to adopt a Fisheries Natura Plan. The Minister may amend, withdraw or revoke a plan;</li> <li>Regulation 7 provides for publication of the adopted Fisheries Natura Plan;</li> <li>Regulation 8 provides for a Risk Assessment of unplanned fisheries and also provides for public and statutory consultation on the assessment;</li> <li>Regulation 9 provides for the issue of a Natura Declaration to prohibit, restrict including restricting by permit, control, etc. of sea fishing activities;</li> <li>Regulation 10 provides for Natura Permits to be issued where required by Natura Declarations; and</li> <li>Regulations 11 to 31 deal with functions of authorised officers and related matters, offences, etc.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Ireland's National Renewable Energy Action Plan 2010 (Irish Government submission to the European Commission)</b>	<ul style="list-style-type: none"> <li>The National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach and concrete measures to deliver on Ireland's 16% target under Directive 2009/28/EC.</li> </ul>	<ul style="list-style-type: none"> <li>The NREAP sets out the Member State's national targets for the share of energy from renewable sources to be consumed in transport, electricity and heating and cooling in 2020, and demonstrates how the Member State will meet its overall national target established under the Directive.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Strategy for Renewable Energy (2012-2020)</b>	<ul style="list-style-type: none"> <li>The Government's overarching strategic objective is to make renewable energy an increasingly significant component of Ireland's energy supply by 2020, so that at a minimum it will achieve its legally binding 2020 target in the most cost-efficient manner for consumers.</li> <li>Of critical importance is the role which the renewable energy sector plays in job creation and economic activity as part of the Government's action plan for jobs.</li> </ul>	<p>This document sets out five strategic goals, reflecting the key dimensions of the renewable energy challenge to 2020:</p> <ul style="list-style-type: none"> <li>Increasing on and offshore wind,</li> <li>Building a sustainable bioenergy sector,</li> <li>Fostering R&amp;D in renewables such as wave &amp; tidal,</li> <li>Growing sustainable transport; and</li> <li>Building out robust and efficient networks.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Policy Position on Climate Action and Low Carbon Development (2014)</b>	<ul style="list-style-type: none"> <li>The National Policy Position provides a high-level policy direction for the adoption and implementation by Government of plans to enable the State to move to a low carbon economy by 2050.</li> </ul>	<p>National climate policy in Ireland:</p> <ul style="list-style-type: none"> <li>Recognises the threat of climate change for humanity;</li> <li>Anticipates and supports mobilisation of a comprehensive international response to climate change, and global transition to a low-carbon future;</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may

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Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
	<ul style="list-style-type: none"> <li>Statutory authority for the plans is set out in the Climate Action and Low Carbon Development Act 2015.</li> </ul>	<ul style="list-style-type: none"> <li>Recognises the challenges and opportunities of the broad transition agenda for society; and</li> <li>Aims, as a fundamental national objective, to achieve transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050.</li> </ul>	<p>arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>National Clean Air Strategy [in preparation]</b>	<ul style="list-style-type: none"> <li>The Clean Air Strategy will provide the strategic policy framework necessary to identify and promote integrated measures across government policy that are required to reduce air pollution and promote cleaner air while delivering on wider national objectives.</li> </ul>	<ul style="list-style-type: none"> <li>Having a National Strategy will provide a policy framework by which Ireland can develop the necessary policies and measures to comply with new and emerging EU legislation.</li> <li>The Strategy should also help tackle climate change.</li> <li>The Strategy will consider a wider range of national policies that are relevant to clean air policy such as transport, energy, home heating and agriculture.</li> <li>In any discussion relating to clean air policy, the issue of people's health is paramount and this will be a strong theme of the Strategy.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>EirGrid's Grid25 Strategy and associated Grid25 Implementation Programme 2017-2022</b>	<ul style="list-style-type: none"> <li>EirGrid's mission is to develop, maintain and operate a safe, secure, reliable, economical and efficient transmission system for Ireland; <i>"Our vision is of a grid developed to match future needs, so it can safely and reliably carry power all over the country to the major towns and cities and onwards to every home, farm and business where the electricity is consumed and so it can meet the needs of consumers and generators in a sustainable way."</i></li> </ul>	<ul style="list-style-type: none"> <li>Grid25, EirGrid's roadmap to uprate the electricity transmission grid by 2025, continues to be implemented so as to increase the capacity of the grid, to satisfy future demand, and to help Ireland meet its target of 40 per cent of electricity from renewable energy by 2020.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>All Island Grid Study 2008</b>	<ul style="list-style-type: none"> <li>The All Island Grid Study is the first comprehensive assessment of the ability of the electrical power system and, as part of that, the transmission network ("the grid") on the island of Ireland to absorb large amounts of electricity produced from renewable energy sources.</li> <li>The objective of this five-part study is to assess the technical feasibility and the relative costs and benefits associated with various scenarios for increased shares of electricity sourced from renewable energy in the all island power system.</li> </ul>	<p>Key conclusions of the study:</p> <ul style="list-style-type: none"> <li>The presented results indicate that the differences in cost between the highest cost and the lowest cost portfolios are low (7%), given the assumptions made and costs included in the Study.</li> <li>All but the high coal-based portfolio lead to significant reductions of CO2 emissions compared to portfolio 1</li> <li>All but the high coal-based portfolio lead to reductions on the dependency of the all island system on fuel and electricity imports.</li> <li>The limitations of the study may overstate the technical feasibility of the portfolios analysed and could impact the costs and benefits resulting. Further work is required to understand the extent of such impact.</li> <li>Timely development of the transmission networks, requiring means to address the planning challenge, is a precondition for implementation of the portfolios considered.</li> <li>Market mechanisms must facilitate the installation of complementary, i.e. flexible, dispatchable plant, so as to maintain adequate levels of system security.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>Strategy for the Future Development of National and Regional Greenways (2018)</b>	<ul style="list-style-type: none"> <li>The objective of this Strategy is to assist in the strategic development of nationally and regionally significant Greenways in appropriate locations constructed to an appropriate standard in order to deliver a quality experience for all Greenways users.</li> <li>It also aims to increase the number and geographical spread of Greenways of scale and quality around the country over the next 10 years with a consequent significant increase in the number of people using Greenways as a visitor experience and as a recreational amenity.</li> </ul>	<ul style="list-style-type: none"> <li>A Strategic Greenway network of national and regional routes, with a number of high capacity flagship routes that can be extended and/or link with local Greenways and other cycling and walking infrastructure;</li> <li>Greenways of scale and appropriate standard that have significant potential to deliver an increase in activity tourism to Ireland and are regularly used by overseas visitors, domestic visitors and locals thereby contributing to a healthier society through increased physical activity;</li> <li>Greenways that provide a substantially segregated off road experience linking places of interest, recreation and leisure in areas with beautiful scenery of different types with plenty to see and do; and</li> <li>Greenways that provide opportunities for the development of local businesses and economies, and</li> <li>Greenways that are developed with all relevant stakeholders in line with an agreed code of practice.</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.</p>
<b>National Water Resources Plan [in preparation]</b>	<ul style="list-style-type: none"> <li>The NWRP is a plan on how to provide a safe, secure and reliable water supply to customers for the next 25 years, without causing adverse impact on the environment.</li> <li>The objective of the NWRP is to set out how we intend to maintain the supply and demand for drinking water over the short, medium and long term whilst minimising the impact on the environment.</li> </ul>	<p>The key objectives of the plan are to:</p> <ul style="list-style-type: none"> <li>Identify areas where there are current and future potential water supply shortfalls, taking into account normal and extreme weather conditions</li> <li>Assess the current and future water demand from homes, businesses, farms, and industry</li> <li>Consider the impacts of climate change on Ireland's water resources</li> <li>Develop a drought plan advising measures to be taken before and during drought events</li> </ul>	<p>Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory</p>

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		<ul style="list-style-type: none"> <li>Develop a plan detailing how we deal with the material that is produced as a result of treating drinking water</li> <li>Identify, develop and assess options to help meet potential shortfalls in water supplies</li> <li>Assess the water resources available at a national level including lakes, rivers and groundwater</li> </ul>	framework for environmental protection and management.
<b>National Strategic Plan for Aquaculture Development (2014-2020)</b>	Vision: "Aquaculture in RC is economically, socially and ecologically sustainable, with a developed infrastructure, strong human potentials and an organized market. The consumption of aquaculture products is equal or above EU average, while the technological development of the sector is among the best in the EU."	General development and growth objectives of marine and freshwater aquaculture (2014 – 2020): <ul style="list-style-type: none"> <li>Strengthen the social, business and administrative environment for aquaculture development</li> <li>Increase in the total production to 24,050 tonnes while adhering to the principles of economic, social and ecological sustainability</li> <li>Improvement of the perception and increase in the national consumption of National products</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Construction 2020, A Strategy for a Renewed Construction Sector</b>	<ul style="list-style-type: none"> <li>Construction 2020 sets out a package of measures agreed by the Government and is aimed at stimulating activity in the building industry.</li> <li>The Strategy aims both to increase the capacity of the sector to create and maintain jobs, and to deliver a sustainable sector, operating at an appropriate level. It seeks to learn the lessons of the past and to ensure that the right structures and mechanisms are in place so that they are not repeated.</li> </ul>	This Strategy therefore addresses issues including: <ul style="list-style-type: none"> <li>A strategic approach to the provision of housing, based on real and measured needs, with mechanisms in place to detect and act when things are going wrong;</li> <li>Continuing improvement of the planning process, striking the right balance between current and future requirements;</li> <li>The availability of financing for viable and worthwhile projects;</li> <li>Access to mortgage finance on reasonable and sustainable terms;</li> <li>Ensuring we have the tools we need to monitor and regulate the sector in a way that underpins public confidence and worker safety;</li> <li>Ensuring a fit for purpose sector supported by a highly skilled workforce achieving high quality and standards; and</li> <li>Ensuring opportunities are provided to unemployed former construction workers to contribute to the recovery of the sector.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Sustainable Development: A Strategy for Ireland (1997)</b>	<ul style="list-style-type: none"> <li>The overall aim of this Strategy is to ensure that economy and society in Ireland can develop to their full potential within a well-protected environment, without compromising the quality of that environment, and with responsibility towards present and future generations and the wider international community.</li> </ul>	<ul style="list-style-type: none"> <li>The Strategy addresses all areas of Government policy, and of economic and societal activity, which impact on the environment. It seeks to re-orientate policies as necessary to ensure that the strong growth Ireland enjoys and seeks to maintain will be environmentally sustainable.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Landscape Strategy for Ireland 2015-2025 and National Landscape Character Assessment (pending preparation)</b>	<ul style="list-style-type: none"> <li>The National Landscape Strategy will be used to ensure compliance with the European Landscape Convention and to establish principles for protecting and enhancing the landscape while positively managing its change. It will provide a high-level policy framework to achieve balance between the protection, management and planning of the landscape by way of supporting actions.</li> <li>Landscape Strategy Vision: "Our landscape reflects and embodies our cultural values and our shared natural heritage and contributes to the well-being of our society, environment and economy. We have an obligation to ourselves and to future generations to promote its sustainable protection, management and planning."</li> </ul>	The objectives of the National Landscape Strategy are to: <ul style="list-style-type: none"> <li>Implement the European Landscape Convention by integrating landscape into the approach to sustainable development;</li> <li>Establish and embed a public process of gathering, sharing and interpreting scientific, technical and cultural information in order to carry out evidence-based identification and description of the character, resources and processes of the landscape;</li> <li>Provide a policy framework, which will put in place measures at national, sectoral - including agriculture, tourism, energy, transport and marine - and local level, together with civil society, to protect, manage and properly plan through high quality design for the sustainable stewardship of the landscape;</li> <li>Ensure that we take advantage of opportunities to implement policies relating to landscape use that are complementary and mutually reinforcing and that conflicting policy objectives are avoided in as far as possible.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Hazardous Waste Management Plan (EPA) 2014-2020</b>	This Plan sets out the priorities to be pursued over the next six years and beyond to improve the management of hazardous waste, taking into account the progress made since the previous plan and the waste policy and legislative changes that have occurred since the previous plan was published. Section 26 of the Waste Management Act 1996 as amended, sets out the overarching objectives for the National Hazardous Waste Management Plan. In this context, the following objectives are included as priorities for the revised Plan period: <ul style="list-style-type: none"> <li>To prevent and reduce the generation of hazardous waste by industry and society generally;</li> <li>To maximise the collection of hazardous waste with a view to reducing the environmental and health impacts of any unregulated waste;</li> <li>To strive for increased self-sufficiency in the management of hazardous waste and to minimise hazardous waste export;</li> </ul>	The revised Plan makes 27 recommendations under the following topics: <ul style="list-style-type: none"> <li>Prevention</li> <li>Collection</li> <li>Self-sufficiency</li> <li>Regulation</li> <li>Legacy issues</li> <li>North-south cooperation</li> <li>Guidance and awareness</li> <li>Implementation</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.



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<b>Ministerial Guidelines such as Sustainable Rural Housing Guidelines and Flood Risk Management Guidelines</b>	<ul style="list-style-type: none"> <li>To minimise the environmental, health, social and economic impacts of hazardous waste generation and management.</li> <li>The Department produces a range of guidelines designed to help planning authorities, An Bord Pleanála, developers and the general public and cover a wide range of issues amongst others, architectural heritage, child care facilities, landscape, quarries and residential density.</li> </ul>	<ul style="list-style-type: none"> <li>The Minister issues statutory guidelines under Section 28 of the Act which planning authorities and An Bord Pleanála are obliged to have regard to in the performance of their planning functions.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>HSE Healthy Ireland Framework for Improved Health and Wellbeing 2013-2025</b>	<ul style="list-style-type: none"> <li>The vision is: <i>"A Healthy Ireland, where everyone can enjoy physical and mental health and wellbeing to their full potential, where wellbeing is valued and supported at every level of society and is everyone's responsibility."</i></li> </ul>	<p>These four goals are interlinked, interdependent and mutually supportive:</p> <ul style="list-style-type: none"> <li>Goal 1: Increase the proportion of people who are healthy at all stages of life</li> <li>Goal 2: Reduce health inequalities</li> <li>Goal 3: Protect the public from threats to health and wellbeing</li> <li>Goal 4: Create an environment where every individual and sector of society can play their part in achieving a healthy Ireland</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Our Sustainable Future: A framework for Sustainable Development for Ireland 2012</b>	A medium to long term framework for advancing sustainable development and the green economy in Ireland. It identifies spatial planning as a key challenge for sustainable development and sets a series of measures to address these challenges.	<ul style="list-style-type: none"> <li>Sets out the challenges facing us and how we might address them in making sure that quality of life and general wellbeing can be improved and sustained in the decades to come.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Smarter Travel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009 – 2020 (2009)</b>	<ul style="list-style-type: none"> <li>Outlines a policy for how a sustainable travel and transport system can be achieved.</li> <li>Sets out five key goals: <ul style="list-style-type: none"> <li>To reduce overall travel demand.</li> <li>To maximise the efficiency of the transport network.</li> <li>To reduce reliance on fossil fuels.</li> <li>To reduce transport emissions.</li> <li>To improve accessibility to transport.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Others lower level aims include: <ul style="list-style-type: none"> <li>reduce distance travelled by private car and encourage smarter travel, including focusing population growth in areas of employment and to encourage people to live in close proximity to places of employment</li> <li>ensuring that alternatives to the car are more widely available, mainly through a radically improved public transport service and through investment in cycling and walking</li> <li>improving the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies</li> <li>strengthening institutional arrangements to deliver the targets</li> </ul> </li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Investing in our Future: A Strategic Framework for Investment in Land Transport (SFILT) – Department of Transport, Tourism and Sport</b>	<ul style="list-style-type: none"> <li>SFILT sets out a set of priorities to guide the allocation of the State's investment to best develop and manage Ireland's land transport network over the coming decades.</li> </ul>	<p>The three priorities stated in SFILT are:</p> <ul style="list-style-type: none"> <li>Priority 1: Achieve steady state maintenance (meaning that the maintenance and renewal of the existing transport system is at a sufficient level to maintain the system in an adequate condition);</li> <li>Priority 2: Address urban congestion; and</li> <li>Priority 3: Maximise the value of the road network.</li> </ul> <p>In delivering on the steady state maintenance objective set out in SFILT, the Plan includes for:</p> <ul style="list-style-type: none"> <li>Planned replacement programme for the bus fleet operated under Public Service Obligation ("PSO") contracts;</li> <li>Tram refurbishment and asset renewal in the case of light rail; and</li> <li>To the extent within the Authority's remit, support for the operation of the existing rail network within the GDA.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework 2007 – 2020 (2007)</b>	<ul style="list-style-type: none"> <li>White paper setting out a framework for delivering a sustainable energy future in Ireland.</li> <li>Outlines strategic Goals for: <ul style="list-style-type: none"> <li>Security of Supply</li> <li>Sustainability of Energy</li> <li>Competitiveness of Energy Supply</li> </ul> </li> </ul>	<p>The underpinning Strategic Goals are:</p> <ul style="list-style-type: none"> <li>Ensuring that electricity supply consistently meets demand</li> <li>Ensuring the physical security and reliability of gas supplies to Ireland</li> <li>Enhancing the diversity of fuels used for power generation</li> <li>Delivering electricity and gas to homes and businesses over efficient, reliable and secure networks</li> <li>Creating a stable attractive environment for hydrocarbon exploration and production</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with



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		<ul style="list-style-type: none"> <li>Being prepared for energy supply disruptions</li> </ul>	other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Adaptation Framework (NAF) 2018 and associated regional, local and sectoral adaptation plans</b>	<ul style="list-style-type: none"> <li>NAF specifies the national strategy for the application of adaptation measures in different sectors and by local authorities in their administrative areas in order to reduce the vulnerability of the State to the negative effects of climate change and to avail of any positive effects that may occur</li> </ul>	<ul style="list-style-type: none"> <li>Adaptation under this Framework should seek to minimise costs and maximise the opportunities arising from climate change.</li> <li>Adaptation actions range from building adaptive capacity (e.g. increasing awareness, sharing information and targeted training) through to policy and finance-based actions.</li> <li>Adaptation actions must be risk based, informed by existing vulnerabilities of our society and systems and an understanding of projected climate change.</li> <li>Adaptation actions taken to increase climate resilience must also consider impacts on other sectors and levels of governance</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Governments White Paper 'Ireland's Transition to a Low Carbon Energy Future' (2015 – 2030)</b>	The White Paper sets out a vision and a framework to guide Irish energy policy between now and 2030. A complete energy policy update informed by the vision to transform Ireland into a low carbon society and economy by 2050.	<p>2030 will represent a significant milestone, meaning:</p> <ul style="list-style-type: none"> <li>Reduced GHG emissions from the energy sector by between 80% and 95%</li> <li>Ensuring that secure supplies of competitive and affordable energy remain available to citizens and businesses.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Renewable Energy Action Plan (2010)</b>	<ul style="list-style-type: none"> <li>Sets out the Member State's national targets for the share of energy from renewable sources to be consumed in transport, electricity and heating and cooling in 2020, and demonstrates how the Member State will meet its overall national target established under the Directive.</li> </ul>	Including Ireland's 16% target of gross final consumption to come from renewables by 2020.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Energy Efficiency Action Plan for Ireland (2009 – 2020)</b>	<ul style="list-style-type: none"> <li>This is the second National Energy Efficiency Action Plan for Ireland.</li> </ul>	<ul style="list-style-type: none"> <li>The Plan reviews the original 90 actions outlined in the first Plan and updates/renews/removes them as appropriate.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Wildlife Act of 1976</b> <b>Wildlife (Amendment) Act, 2000</b>	<ul style="list-style-type: none"> <li>The act provides protection and conservation of wild flora and fauna.</li> </ul>	<ul style="list-style-type: none"> <li>Provides protection for certain species, their habitats and important ecosystems</li> <li>Give statutory protection to NHAs</li> <li>Enhances wildlife species and their habitats</li> <li>Includes more species for protection</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Actions for Biodiversity (2017-2021)</b> <b>Ireland's National Biodiversity Plan</b>	<ul style="list-style-type: none"> <li>Sets out strategic objectives, targets and actions to conserve and restore Ireland's biodiversity and to prevent and reduce the loss of biodiversity in Ireland and globally.</li> </ul>	<ul style="list-style-type: none"> <li>To mainstream biodiversity in the decision-making process across all sectors.</li> <li>To substantially strengthen the knowledge base for conservation, management and sustainable use of biodiversity.</li> <li>To increase awareness and appreciation of biodiversity and ecosystems services.</li> <li>To conserve and restore biodiversity and ecosystem services in the wider countryside.</li> <li>To conserve and restore biodiversity and ecosystem services in the marine environment.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the

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		<ul style="list-style-type: none"> <li>To expand and improve on the management of protected areas and legally protected species.</li> <li>To substantially strengthen the effectiveness of international governance for biodiversity and ecosystem services.</li> </ul>	achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Broadband Plan (2012)</b>	<ul style="list-style-type: none"> <li>Sets out the strategy to deliver high speed broadband throughout Ireland.</li> </ul>	<p>The Plan sets out:</p> <ul style="list-style-type: none"> <li>A clear statement of Government policy on the delivery of High-Speed Broadband.</li> <li>Specific targets for the delivery and rollout of high-speed broadband and the speeds to be delivered.</li> <li>The strategy and interventions that will underpin the successful implementation of these targets.</li> <li>A series of specific complementary measures to promote implementation of Government policy in this area.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>European Communities (Water Policy) Regulations of 2003 (SI 722 of 2003)</b>  <b>European Communities (Water Policy) Regulations of 2003 (SI 350 of 2014)</b>  <b>European Communities Environmental Objectives (Surface waters) Regulations of 2009 (SI 272 of 2009)</b>	<ul style="list-style-type: none"> <li>Transpose the Water Framework Directive into legislation.</li> <li>Outlines the general duty of public authorities in relation to water.</li> <li>Identifies the competent authorities in charge of water policy (amended to Irish Water in 2013) and gives EPA and the CER the authority to regulate and supervise their actions.</li> </ul>	<ul style="list-style-type: none"> <li>Implements River basin districts and characterisation of RBDs and River Basin Management Plans.</li> <li>Requires the public to be informed and consulted on the Plan and for progress reports to be published on RBDs.</li> <li>Implements a Register of protected areas, Classification systems and Monitoring programmes for water bodies.</li> <li>Allows the competent authority to recover the cost of damage/destruction of status of water body.</li> <li>Outlines environmental objectives and programme of measures and environmental quality standards for priority substances.</li> <li>Outlines criteria for assessment of groundwater.</li> <li>Outlines environmental objectives to be achieved for surface water bodies.</li> <li>Outlines surface water quality standards.</li> <li>Establishes threshold values for the classification and protection of surface waters against pollution and deterioration in quality.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>European Communities Environmental Objectives (Groundwater) Regulations of 2010 (SI 9 of 2010)</b>	<ul style="list-style-type: none"> <li>Transpose the requirements of the Groundwater Directive 2006/118/EC into Irish Legislation.</li> </ul>	<ul style="list-style-type: none"> <li>Outlines environmental objectives to be achieved for groundwater bodies of groundwater against pollution and deterioration in quality.</li> <li>Sets groundwater quality standards.</li> <li>Outlines threshold values for the classification and protection of groundwater.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Water Pollution Acts 1977 to 1990</b>	<ul style="list-style-type: none"> <li>The Water Pollution Acts allow Local Authorities the authority regulate and supervise actions relating to water in their division.</li> </ul>	<p>The Water Pollution Acts enable local authorities to:</p> <ul style="list-style-type: none"> <li>Prosecute for water pollution offences.</li> <li>Attach appropriate pollution control conditions in the licensing of effluent discharges from industry, etc., made to waters.</li> <li>Issue notices ("section 12 notices") to farmers, etc., specifying measures to be taken within a prescribed period to prevent water pollution.</li> <li>Issue notices requiring a person to cease the pollution of waters and requiring the mitigation or remedying of any effects of the pollution in the manner and within the period specified in such notices;</li> <li>Seek court orders, including High Court injunctions, to prevent, terminate, mitigate or remedy pollution/its effects.</li> <li>Prepare water quality management plans for any waters in or adjoining their functional areas.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Water Services Act 2007</b>  <b>Water Services (Amendment) Act 2012</b>  <b>Water Services Act (No. 2) 2013</b>	<ul style="list-style-type: none"> <li>Provides the water services infrastructure.</li> <li>Outlines the responsibilities involved in delivering and managing water services.</li> <li>Identifies the authority in charge of provision of water and waste water supply.</li> <li>Irish Water was given the responsibility of the provision of water and waste water services in the amendment act during 2013, therefore these services are no longer the responsibility of the 34 Local Authorities in Ireland.</li> </ul>	<p>Key strategic objectives include:</p> <ul style="list-style-type: none"> <li>Ensuring Irish Water delivers infrastructural projects that meet key public health, environmental and economic objectives in the water services sector.</li> <li>Ensuring the provision of adequate water and sewerage services in the gateways and hubs listed in the National Spatial Strategy, and in other locations where services need to be enhanced.</li> <li>Ensuring good quality drinking water is available to all consumers of public and group water supplies, in compliance with national and EU drinking water standards</li> <li>Ensuring the provision of the remaining infrastructure needed to provide secondary waste water treatment, for compliance with the requirements of the EU Urban Waste water Treatment Directive.</li> <li>Promoting water conservation through Irish Water's Capital Investment Plan, the Rural Water Programme and other measures.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

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Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
		<ul style="list-style-type: none"> <li>Monitoring the on-going implementation of septic tanks inspection regime and the National Inspection Plan for Domestic Waste Water Treatment Systems.</li> <li>Ensuring a fair funding model to deliver water services.</li> <li>Overseeing the establishment of an economic regulation function under the CER.</li> </ul>	
<b>Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan (2014-2016)</b>	<ul style="list-style-type: none"> <li>This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term.</li> </ul>	<p>Six strategic objectives as follows:</p> <ul style="list-style-type: none"> <li>Meet Customer Expectations.</li> <li>Ensure a Safe and Reliable Water Supply.</li> <li>Provide Effective Management of Waste water.</li> <li>Protect and Enhance the Environment.</li> <li>Support Social and Economic Growth.</li> <li>Invest in the Future.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Raised Bog SAC Management Plan and Review of Raised Bog Natural Heritage Areas</b>	<ul style="list-style-type: none"> <li>Aims to meet nature conservation obligations while having regard to national and local economic, social and cultural needs</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that the implications of management choices for water levels, quantity and quality are fully explored, understood and factored into policy making and land use planning.</li> <li>Review the current raised bog NHA network in terms of its contribution to the national conservation objective for raised bog habitats and determine the most suitable sites to replace the losses of active raised bog habitat and high bog areas within the SAC network and to enhance the national network of NHAs.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Food Harvest 2020</b>	<ul style="list-style-type: none"> <li>Food Harvest 2020 is a roadmap for the Irish food industry, as it seeks to innovate and expand in response to increased global demand for quality foods. It sets out a vision for the potential growth in agricultural output after the removal of milk quotas.</li> </ul>	<ul style="list-style-type: none"> <li>Seeks for the improvement of all agricultural sectors at all levels in terms of sustainability, environmental consideration and marketing development.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Agri-vision 2015 Action Plan</b>	Outlines the vision for agricultural industry to improve competitiveness and response to market demand while respecting and enhancing the environment	not applicable	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Rural Environmental Protection Scheme (REPS)</b>  <b>Agri-Environmental Options Scheme (AEOS)</b>  <b>Green, Low-Carbon, Agri-environment Scheme (GLAS)</b>	<ul style="list-style-type: none"> <li>Agri-environmental funding schemes aimed at rural development for the environmental enhancement and protection.</li> <li>GLAS is the new replacement for REPS and AEOS which are both expiring.</li> </ul>	<ul style="list-style-type: none"> <li>Establish best practice farming methods and production methods in order to protect landscapes and maximise conservation.</li> <li>Protect biodiversity, endangered species of flora and fauna and wildlife habitats.</li> <li>Ensure food is produced with the highest regard to the environment.</li> <li>Implement nutrient management plans and grassland management plans.</li> <li>Protect and maintain water bodies, wetlands and cultural heritage.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Rural Development Programme</b>	<ul style="list-style-type: none"> <li>The National Rural Development Programme, prepared by the Department of Agriculture, Fisheries and Food, sets out a national programme based on the EU framework for rural development and prioritises improving the competitiveness of agriculture, improving the environment and improving the quality of life in rural areas</li> </ul>	<p>At a more detailed level, the programme also:</p> <ul style="list-style-type: none"> <li>Supports structural change at farm level including training young farmers and encouraging early retirement, support for restructuring, development and innovation;</li> <li>Aims to improve the environment, biodiversity and the amenity value of the countryside by support for land management through funds such as Natura 2000 payments etc.; and</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the

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Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
		<ul style="list-style-type: none"> <li>Aims to improve quality of life in rural areas and encouraging diversification of economic activity through the implementation of local development strategies such as non-agricultural activities</li> </ul>	achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Forestry Programme (2014-2020)</b>	<ul style="list-style-type: none"> <li>Represents Ireland's proposals for 100% State aid funding for a new Forestry Programme for the period 2014 – 2020.</li> </ul>	<p>Measures include the following:</p> <ul style="list-style-type: none"> <li>Afforestation and Creation of Woodland</li> <li>NeighbourWood Scheme</li> <li>Forest Roads</li> <li>Reconstitution Scheme</li> <li>Woodland Improvement Scheme</li> <li>Native Woodland Conservation Scheme</li> <li>Knowledge Transfer and Information Actions</li> <li>Producer Groups</li> <li>Innovative Forest Technology</li> <li>Forest Genetic Reproductive Material</li> <li>Forest Management Plans</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>River Basin Management Plan</b>	<ul style="list-style-type: none"> <li>River Basin Management Plans set out the measures planned to maintain and improve the status of waters.</li> </ul>	<ul style="list-style-type: none"> <li>Aim to protect and enhance all water bodies in the RBD and meet the environmental objectives outlined in Article 4 of the Water Framework Directive.</li> <li>Identify and manages water bodies in the RBD.</li> <li>Establish a programme of measures for monitoring and improving water quality in the RBD.</li> <li>Involve the public through consultations.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Peatlands Strategy (2015-2025)</b>	This Strategy aims to provide a long-term framework within which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution to the well-being of this and future generations.	<p>Objectives of the Strategy:</p> <ul style="list-style-type: none"> <li>To give direction to Ireland's approach to peatland management.</li> <li>To apply to all peatlands, including peat soils.</li> <li>To ensure that the relevant State authorities and state-owned companies that influence such decisions contribute to meeting cross-cutting objectives and obligations in their policies and actions.</li> <li>To ensure that Ireland's peatlands are sustainably managed so that their benefits can be enjoyed responsibly.</li> <li>To inform appropriate regulatory systems to facilitate good decision making in support of responsible use.</li> <li>To inform the provision of appropriate incentives, financial supports and disincentives where required.</li> <li>To provide a framework for determining and ensuring the most appropriate future use of cutover and cutaway bogs.</li> </ul> <p>To ensure that specific actions necessary for the achievement of its objectives are clearly identified and delivered by those involved in or responsible for peatlands management or for decisions affecting their management.</p>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Flood Risk Management Plans arising from National Catchment Flood Risk Assessment and Management Programme</b>	<ul style="list-style-type: none"> <li>The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive.</li> </ul>	CFRAM Studies have been undertaken for all River Basin Districts. The studies are focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. Flood Risk and Hazard mapping, including Flood Extent Mapping, was finalised in 2017. The final outputs from the studies are the CFRAM Plans, finalised in 2018. The Plans define the current and future flood risk in the River Basin Districts and set out how this risk can be managed.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Draft National Bioenergy Plan 2014 - 2020</b>	<p>The Draft Bioenergy Plan sets out a vision as follows:</p> <ul style="list-style-type: none"> <li>Bioenergy resources contributing to economic development and sustainable growth, generating jobs for citizens, supported by coherent policy, planning and regulation, and managed in an integrated manner.</li> </ul>	<p>Three high level goals, of equal importance, based on the concept of sustainable development are identified:</p> <ul style="list-style-type: none"> <li>To harness the market opportunities presented by bioenergy in order to achieve economic development, growth and jobs.</li> <li>To increase awareness of the value, opportunities and societal benefits of developing bioenergy.</li> <li>To ensure that bioenergy developments do not adversely impact the environment and its living and non-living resources.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

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Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
<b>Draft Renewable Electricity Policy and Development Framework (DCCAE) 2016</b>	Goal: To optimise the opportunities in Ireland for renewable electricity development on land at significant scale, to serve both the All Island Single Electricity Market and any future regional market within the European Union, in accordance with European and Irish law, including Directive 2009/28/EC: On the promotion of the use of energy from renewable resources.	Objective: To develop a Policy and Development Framework for renewable electricity generation on land to serve both the All Island Single Electricity Market and any future regional market within the European Union, with particular focus on large scale projects for indigenous renewable electricity generation. This will, inter alia, provide guidance for planning authorities and An Bord Pleanála.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Alternative Fuels Infrastructure for the Transport Sector (DTTAS) 2017- 2030</b>	This Framework sets targets to achieve an appropriate level of alternative fuels infrastructure for transport, which is relative to national policy and Irish market needs. Non-infrastructure-based incentives to support the use of the infrastructure and the uptake of alternative fuels are also included within the scope of the Framework.	Targets for alternative fuel infrastructure include the following: <ul style="list-style-type: none"> <li>• AFV forecasts</li> <li>• Electricity targets</li> <li>• Natural gas (CNG, LNG) targets</li> <li>• Hydrogen targets</li> <li>• Biofuels targets</li> <li>• LPG targets</li> <li>• Synthetic and paraffinic fuels targets</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Food Wise 2025 (DAFM)</b>	Food Wise 2025 sets out a ten-year plan for the agri-food sector. It underlines the sector's unique and special position within the Irish economy, and it illustrates the potential which exists for this sector to grow even further.	Food Wise 2025 identifies ambitious and challenging growth projections for the industry over the next ten years including: <ul style="list-style-type: none"> <li>• 85% increase in exports to €19 billion.</li> <li>• 70% increase in value added to €13 billion.</li> <li>• 60% increase in primary production to €10 billion.</li> <li>• The creation of 23,000 additional jobs all along the supply chain from producer level to high-end value-added product development.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Cycle Network Scoping Study 2010</b>	<ul style="list-style-type: none"> <li>• Outlines objectives and actions aimed at developing a strong cycle network in Ireland</li> <li>• Sets out 19 specific objectives, and details the 109 actions, aimed at ensuring that a cycling culture is developed</li> </ul>	<ul style="list-style-type: none"> <li>• Sets a target where 10% of all journeys will be made by bike by 2020</li> <li>• Proposes the planning, infrastructure, communication, education and stakeholder participations measures required to implement the initiative</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Policy Framework for Alternative Fuels Infrastructure for Transport in Ireland 2017 to 2030</b>	<ul style="list-style-type: none"> <li>• This National Policy Framework on Alternative Fuels Infrastructure for Transport represents the first step in communicating our longer-term national vision for decarbonising transport by 2050, the cornerstone of which is our ambition that by 2030 all new cars and vans sold in Ireland will be zero-emissions capable.</li> <li>• By 2030 it is envisaged that the movement in Ireland to electrically-fuelled cars and commuter rail will be well underway, with natural gas and biofuels developing as major alternatives in the freight and bus sectors.</li> </ul>	<p>This policy set out to achieve five key goals in transport:</p> <ul style="list-style-type: none"> <li>• Reduce overall travel demand</li> <li>• Maximise the efficiency of the transport network</li> <li>• Reduce reliance on fossil fuels</li> <li>• Reduce transport emissions</li> <li>• Improve accessibility to transport</li> </ul> <p>These goals remain the cornerstone of transport policy and are fully aligned to the objectives of this National Policy Framework.</p>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Tourism Action Plan 2019-2021</b>	The Tourism Action Plan 2019-2021 sets out actions that the Tourism Leadership Group has identified as priorities to be progressed until 2021 in order to maintain sustainable growth in overseas tourism revenue and employment. Each action involves specific tourism stakeholders, both in the public and private sectors, all of whom we expect to proactively work towards the completion of actions within the specified timeframe.	<p>The Plan contains 27 actions focusing on the following areas:</p> <ul style="list-style-type: none"> <li>• Policy Context</li> <li>• Marketing Ireland as a Visitor Destination</li> <li>• Enhancing the Visitor Experience</li> <li>• Research in the Irish Tourism Sector</li> <li>• Supporting Local Communities in Tourism</li> <li>• Wider Government Policy</li> <li>• International Context</li> <li>• Co-ordination Structures</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

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Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
<b>Tourism Policy Statement: People, Place and Policy – Growing Tourism to 2025</b>	The main goal of this policy statement is to have a vibrant, attractive tourism sector that makes a significant contribution to employment across the country; is economically, socially and environmentally sustainable; helps promote a positive image of Ireland overseas, and is a sector in which people want to work.	The Tourism Policy Statement sets three headline targets to be achieved by 2025: <ul style="list-style-type: none"> <li>• Overseas tourism revenue of €5 billion per year</li> <li>• net of inflation excluding carrier receipts;</li> <li>• 250,000 people employed in tourism; and</li> <li>• 10 million overseas visitors to Ireland per year.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Draft Renewable Electricity Policy and Development Framework (DCCAE)</b>	Goal: To optimise the opportunities in Ireland for renewable electricity development on land at significant scale, to serve both the All Island Single Electricity Market and any future regional market within the European Union, in accordance with European and Irish law, including Directive 2009/28/EC: On the promotion of the use of energy from renewable resources.	Objective: To develop a Policy and Development Framework for renewable electricity generation on land to serve both the All Island Single Electricity Market and any future regional market within the European Union, with particular focus on large scale projects for indigenous renewable electricity generation. This will, inter alia, provide guidance for planning authorities and An Bord Pleanála.  Methodology: Development of the Policy and Development Framework is to be informed by the carrying out of an SEA, including widespread consultation with stakeholders and public, and with AA under the Habitats Directive.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Alternative Fuels Infrastructure for the Transport Sector (DTTAS) 2017- 2030</b>	This Framework sets targets to achieve an appropriate level of alternative fuels infrastructure for transport, which is relative to national policy and Irish market needs. Non-infrastructure-based incentives to support the use of the infrastructure and the uptake of alternative fuels are also included within the scope of the Framework.	Targets for alternative fuel infrastructure include the following: <ul style="list-style-type: none"> <li>• AFV forecasts</li> <li>• Electricity targets</li> <li>• Natural gas (CNG, LNG) targets</li> <li>• Hydrogen targets</li> <li>• Biofuels targets</li> <li>• LPG targets</li> </ul> Synthetic and paraffinic fuels targets	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>People Place and Policy - Growing Tourism to 2025, (DTTAS, 2014)</b>	Growing Tourism to 2025 is a policy framework for the development of tourism within the Country.	The framework establishes the overall tourism goal of Government; <ul style="list-style-type: none"> <li>• Employment in the tourism sector will be 250,000 by 2025, compared with around 200,000 at present.</li> <li>• There will be 10 million visits to Ireland annually by 2025.</li> </ul> The Government's ambition is that overseas tourism revenue will reach €5 billion in real terms by 2025.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Waterways Ireland Heritage Plan 2016-2020</b>	The overarching aim of the Plan is to: <i>"Identify and protect the unique waterways heritage and promote its sustainable use for the enjoyment of this and future generations"</i> .	Four objectives of the Plan include the following: <ul style="list-style-type: none"> <li>• Objective 1: Fostering partnerships to continue building waterway heritage knowledge through storing information, undertaking research and developing best practice.</li> <li>• Objective 2: Promoting awareness, appreciation and enjoyment of our waterway heritage with a focus on community engagement.</li> <li>• Objective 3: Promoting the integrated management, conservation, protection and sustainable use of the inland navigable waterway asset.</li> <li>• Objective 4: To develop Waterways Ireland as a heritage organisation committed to achieving the aim of this plan.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Tourism Development and Innovation – A strategy for Investment 2016-2022, (Fáilte Ireland, 2016)</b>	This strategy sets out the framework and mechanism for the delivery of investment to cities, towns, villages, communities and businesses across the country. It identifies priorities to support innovation in the sector to retain and grow the country's competitiveness in the marketplace. Its ultimate aim is to strengthen the appeal of Ireland for international visitors.	The objectives of the Tourism Development and Innovation Strategy are: <ul style="list-style-type: none"> <li>• To successfully and consistently deliver a world class visitor experience;</li> <li>• To support a tourism sector that is profitable and achieves sustainable levels of growth and delivers jobs;</li> <li>• To facilitate communities to play an enhanced role in developing tourism in their locality, thereby strengthening and enriching local communities; and</li> <li>• To recognise, value and enhance Ireland's natural environment as the cornerstone of Irish tourism.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.



### Appropriate Assessment of the Draft Kilkenny City and County Development Plan 2022-2028

Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
<b>Marine Planning Development Management Bill (General Scheme), 2019</b>	The Bill seeks to establish in law a completely new regime for the maritime area which will replace existing State and development consent regimes and streamline arrangements on the basis of a single consent principle.	One of the aims is to establish a legal basis for An Bord Pleanála and coastal local authorities to consent to development in the maritime area, while retaining existing foreshore and planning permission provisions for aquaculture and sea fisheries related development. It will also provide for a single environmental impact assessment (EIA) and a single appropriate assessment (AA), where applicable.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Aquaculture Acts 1997 to 2006 : (Sea-Fisheries and Maritime Jurisdiction Act 2006 (8/2006), s. 1(3)) Fisheries (Amendment) Act 1997 (23/1997) Fisheries and Foreshore (Amendment) Act 1998 (54/1998), ss. 2, 3 and 4 Fisheries (Amendment) Act 2001 (40/2001) Sea-Fisheries and Maritime Jurisdiction Act 2006 (8/2006)</b>	The Aquaculture and Foreshore Management Division ensures the efficient and effective management of Aquaculture licensing and Foreshore licensing in respect of Aquaculture and Sea Fishery related activities.	The Strategic Objectives of the Aquaculture and Foreshore Management Division are: <ul style="list-style-type: none"> <li>to develop and manage an efficient and effective regulatory framework in respect of Aquaculture licensing and Foreshore licensing of Aquaculture and Sea Fishery related activities;</li> <li>to secure a fair financial return from the State's foreshore estate in the context of Aquaculture licensing and Foreshore licensing in respect of Aquaculture and Sea Fishery related activities;</li> </ul> to progressively reduce arrears in the clearing of licence applications.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Foreshore Acts 1933 to 2011</b>	The Foreshore Acts require that a lease or licence must be obtained from the Minister for Housing, Planning and Local Government for the carrying out of works or placing structures or material on, or for the occupation of or removal of material from, State-owned foreshore, which represents the greater part of the foreshore. Construction of permanent structures on privately owned foreshore also required the prior permission of the Minister under the Foreshore Act.	<ul style="list-style-type: none"> <li>Developments on the foreshore require planning permission in addition to a Foreshore Lease/Licence/Permission. All Foreshore Leases, Licences</li> <li>Permissions are without prejudice to the powers of the local planning authority. Applicants should, therefore, consult initially with the local planning authority regarding their proposal.</li> <li>In the case of developments on foreshore for, by or on behalf of a Local Authority where an EIS is required, applications should be made to An Bord Pleanála under Part XV, Planning and Development Act 2000.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>National Seafood Operational Programme (2014-2020)</b>	The Operational Programme (OP) supported by the European Maritime and Fisheries Fund (EMFF) in Ireland aims at achieving key national development priorities along with the EU's "Europe 2020" objectives. The OP supports the general reform of the EU's Common Fisheries Policy (CFP) and the development of its Integrated Maritime Policy (IMP) in Ireland.  The OP strategy is designed around the Irish national priorities in the agri-food sector: 'Act Smart' by encouraging knowledge and innovation, 'Think Green' through a responsible and sustainable use of resources, 'Achieve Growth' in order to maintain and create jobs.	The Irish OP is organised around the following priorities <ul style="list-style-type: none"> <li>Union Priority 1 (UP1): €67 million (28% of the total allocation) aim at assuring the sustainable development of fishing activities, while protecting the marine environment.</li> <li>Union Priority 2 (UP2): €30 million (12% of the total allocation) will support the Irish National Strategic Plan for Aquaculture that aims at boosting the competitiveness of the aquaculture sector.</li> <li>Union Priority 3 (UP3): €84.8 million (35.4% of the total allocation) will go towards compliance with CFP rules regarding control and data collection.</li> <li>Union Priority 4 (UP4): €12 million (5% of the total allocation) will support local development initiatives — a substantial, eleven-fold increase compared to the 2007-2013 funding period.</li> <li>Union Priority 5 (UP5): €33 million (13.8% of the total allocation) will go towards creating scale in the Irish marketing and processing sectors, starting from the base of very small-scale businesses.</li> <li>Union Priority 6 (UP6): €10.6 million (4% of the total allocation) will be used on measures to improve the knowledge on the state of the marine environment and the level of protection of marine areas.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Harnessing Our Ocean Wealth: An Integrated Marine Plan for Ireland 2012</b>	Harnessing Our Ocean Wealth is an Integrated Marine Plan (IMP), setting out a roadmap for the Government's vision, high-level goals and integrated actions across policy, governance and business to enable our marine potential to be realised. Implementation of this Plan will see Ireland evolve an integrated system of policy and programme planning for our marine affairs.	<ul style="list-style-type: none"> <li>Sustainable economic growth of marine/ maritime sectors;</li> <li>Increase the contribution to the national GDP;</li> <li>Deliver a business friendly yet robust governance, policy and planning framework;</li> <li>Protect and conserve our rich marine biodiversity and ecosystems;</li> <li>Manage our living and non-living resources in harmony with the ecosystem;</li> <li>Implement and comply with environmental legislation;</li> <li>Building on our maritime heritage, strengthen our maritime identity;</li> <li>Increase our awareness of the value, opportunities and societal benefits; and</li> <li>Engagement and participation by all.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

Appropriate Assessment of the Draft Kilkenny City and County Development Plan 2022-2028

Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
<b>Regional/ County/Local Level</b>			
<b>Southern Regional Economic and Spatial Strategy 2019-2031</b>	The Regional Spatial and Economic Strategy provides a long-term strategic planning and economic framework for the Southern Region in order to support the implementation of the National Planning Framework.	The Southern Regional Economic and Spatial Strategy includes provisions for its nine counties, Cork, Clare, Kerry, Limerick, Tipperary, Waterford, Carlow, Kilkenny and Wexford. The Region's nine counties are administered by 10 local authorities; Cork includes Cork City Council and Cork County Council.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Integrated Implementation Plan 2019-2024</b>	The priorities in the Integrated Infrastructure Plan align with objectives and priorities focusing on improving public and sustainable transport.	The Implementation Plan identifies investment proposals for a number of areas including: <ul style="list-style-type: none"> <li>• Bus</li> <li>• Light Rail;</li> <li>• Heavy Rai;</li> <li>• Integration Measures and Sustainable Transport Investment;</li> <li>• Integrated Service Plan; and</li> <li>• Integration and Accessibility.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>NPWS Conservation Plans and/or Conservation Objectives for SACs and SPAs</b>	Management planning for nature conservation sites has a number of aims. These include: <ul style="list-style-type: none"> <li>• To identify and evaluate the features of interest for a site</li> <li>• To set clear objectives for the conservation of the features of interest</li> <li>• To describe the site and its management</li> <li>• To identify issues (both positive and negative) that might influence the site</li> <li>• To set out appropriate strategies/management actions to achieve the objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Conservation objectives for SACs and SPAs (i.e. sites within the Natura 2000 network) have to be set for the habitats and species for which the sites are selected.</li> <li>• These objectives are used when carrying out appropriate assessments for plans and projects that might impact on these sites.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Groundwater Protection Schemes</b>	A Groundwater Protection Scheme provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater.	<ul style="list-style-type: none"> <li>• A Groundwater Protection Scheme aims to maintain the quantity and quality of groundwater, and in some cases improve it, by applying a risk assessment-based approach to groundwater protection and sustainable development.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Local Economic and Community Plans (LECPs), including the Kilkenny LECP 2016-2021</b>	Vision Statement: Kilkenny is a great place to live, work and play; offering its citizens dignity, security and the capacity to participate to their maximum potential. The Local Economic and Community Plan will create the framework conditions to ensure that this continues to be the case by: <ul style="list-style-type: none"> <li>• supporting the enterprise economy,</li> <li>• facilitating innovation and entrepreneurship,</li> <li>• enhancing the visitor experience,</li> <li>• enhancing educational attainment and skills development,</li> <li>• developing the rural economy,</li> <li>• advancing access and communications infrastructure,</li> <li>• fostering leadership and capacity,</li> <li>• protecting and utilising the natural, cultural and built environment,</li> <li>• contributing to regional growth and international potential,</li> <li>• addressing area based poverty and disadvantage,</li> <li>• addressing poverty and social exclusion,</li> <li>• enhancing community facilities and participation, and</li> <li>• improving health and wellbeing.</li> </ul>	<p>High-Level Economic Goals and Objectives</p> <ul style="list-style-type: none"> <li>• Goal 1: Support the Enterprise Economy</li> <li>• Goal 2: Facilitate Innovation and Entrepreneurship</li> <li>• Goal 3: Enhance Visitor Experiences</li> <li>• Goal 4: Provide for enhanced levels of Educational Attainment and Skills Development</li> <li>• Goal 5: Develop the Rural Economy</li> <li>• Goal 6: Improve Access and Communications Infrastructures</li> <li>• Goal 7: Foster Leadership and Increase Local Capacity</li> <li>• Goal 8: Protect and Utilise the Natural, Cultural and Built Environment</li> <li>• Goal 9: Contribute to Regional Growth and International Potential</li> </ul> <p>High-Level Community Goals and Objectives</p> <ul style="list-style-type: none"> <li>• Goal 10: Address Area-based Poverty &amp; Disadvantage</li> <li>• Goal 11: Address Poverty and Social Exclusion (targeted approaches)</li> <li>• Goal 12: Enhance Community Facilities and Participation</li> <li>• Goal 13: Improve Health &amp; Wellbeing</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

Appropriate Assessment of the Draft Kilkenny City and County Development Plan 2022-2028

Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
<b>Land Use Plans in force within Kilkenny and in other adjoining planning authorities. This includes Development Plans and Local Area Plans</b>	<ul style="list-style-type: none"> <li>Outline planning objectives for land use development.</li> <li>Strategic framework for planning and sustainable development including those set out in National Planning Framework and Regional Economic and Spatial Strategies.</li> <li>Set out the policies and proposals to guide development in the specific Local Authority area.</li> </ul>	<ul style="list-style-type: none"> <li>Identify future infrastructure, development and zoning required.</li> <li>Protect and enhances amenities and environment.</li> <li>Guide planning authority in assessing proposals.</li> <li>Aim to guide development in the area and the amount of nature of the planned development.</li> <li>Aim to promote sustainable development.</li> <li>Provide for economic development and protect natural environmental, heritage.</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Kilkenny County Council Cultural Strategy 2018-2022</b>	The County Kilkenny Heritage Plan and the County Kilkenny Biodiversity Plan are incorporated in the Kilkenny County Council Cultural Strategy 2018-2022	Plan's objectives include those relating to the protection and management of archaeological and architectural heritage and biodiversity.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Kilkenny's Statement of Tourism Strategy and work programme 2017-2022</b>	Underpin the Councils' support for the tourism industry in Kilkenny over the next five years.	Sets out a vision, goals, objectives, and aligns with national tourism policy, national initiatives, regional objectives and the objectives of the Council's adopted Local Economic Community Plan. It is intended that the Strategy and Work Programme will support the delivery of the objectives of the LECP, support Kilkenny Tourism, and support local community tourism initiatives.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Kilkenny County Council's Climate Change Adaptation Strategy 2019-2024</b>	In accordance with the provisions of the Climate Action and Low Carbon Development Act 2015, Kilkenny County Council published its Climate Change Adaptation Strategy in 2019.	Recommends actions for adaptation and mitigation options. The Strategy includes a number of policy recommendations to ensure County remains resilient to climate change and those recommendations have been included in this Development Plan.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Southern Regional Waste Management Plan 2015-2021</b>	Gives effect to national and EU waste policy, and address waste prevention and management (including generation, collection and treatment) over the period 2015-2021.	Strategic Objectives for: <ul style="list-style-type: none"> <li>Prevention</li> <li>Resource Efficiency</li> <li>Coordination</li> <li>Infrastructure Planning</li> <li>Enforcement and Regulations</li> <li>Protection</li> <li>Other Wastes</li> </ul>	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Kilkenny Noise Action Plan 2019-2023</b>	<p>The Noise Action Plan is designed with the twin aims of:</p> <ul style="list-style-type: none"> <li>Avoiding significant adverse health impacts from noise, and</li> <li>Preserving environmental noise quality where it is good</li> </ul>	Under the Regulations, Kilkenny County Council is the action planning authority responsible for the creation and implementation of the Noise Action Plan for County Kilkenny. The Noise Action Plan for County Kilkenny is based on strategic noise mapping carried out for County Kilkenny and is based solely on road traffic noise.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

Appropriate Assessment of the Draft Kilkenny City and County Development Plan 2022-2028

Legislation, Plan, etc.	Summary of high-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.	Relevance to the Plan
<b>Fáilte Ireland Tourism plans and strategies, including those relating to the Ireland's Ancient East brands</b>	Fáilte Ireland's work includes preparing various plans and strategies for Ireland's Ancient East and other brands and initiatives. These plans are subject to their own environmental assessment processes and any project arising is required to be consistent with and conform with the provisions of all adopted/approved Statutory Policies, Strategies, Plans and Programmes, including provisions for the protection and management of the environment.	Some of Fáilte Ireland's plans and strategies include various projects relating to land use and infrastructural development, including those relating to development of land or on land and the carrying out of land use activities. Many of these projects exist already while some are not currently in existence.  The Statutory Policies, Strategies, Plans and Programmes that provide for different projects undergo a variety of environmental assessments. These assessments ensure that environmental effects are considered, including: those arising from new and intensified uses and activities; and those arising from various sectors such as tourism.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.
<b>Various existing, planned and emerging projects provided for by the above plans and programmes</b>	These projects have been provided for by higher-level plans and programmes.	These projects will contribute towards the development of the area to which the Plan relates and/or wider area and will contribute towards environmental protection and management.	Where new land use developments or activities occur as a result of this legislation, plan, programme, etc., individually or in combination with others, potential in-combination effects (see Section 3.4 and 4.3.1) may arise. Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.



# 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](#)<sup>1</sup>
- 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

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<sup>1</sup> 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"> <li>• To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species.</li> <li>• Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function.</li> <li>• Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species.</li> <li>• Enhance biodiversity in line with the National Biodiversity Strategy and its targets.</li> <li>• To protect, maintain and conserve the County's Natural Capital</li> </ul>
Agenda 21 (1992) <a href="#">Our Sustainable Future: A framework for sustainable development for Ireland</a> (2012) National Planning Framework <a href="#">Smarter Travel, A sustainable Transport Future, A new transport policy for Ireland 2009-2020</a> (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"> <li>• To create an environment where every individual and sector of society can play their part in achieving a more healthy Ireland.</li> <li>• Consolidate growth and limit urban sprawl.</li> <li>• Enhance human health and promote healthy living through access to active travel opportunities, especially walking and cycling.</li> <li>• Promote economic growth to encourage retention of working age population.</li> <li>• Ensure that existing population and planned growth is matched with the required public infrastructure and the required services.</li> <li>• Safeguard the county's citizens from environment-related pressures and risks to health and</li> </ul>

			well-being.
<p>EU Water Framework Directive (2000/60/EC)  <a href="#">EU Directive on the assessment and management of flood risks</a> [2007/60/EC],  <a href="#">The Planning System and Flood Risk Management Guidelines for Planning Authorities</a> (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"> <li>• Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the WFD and MSFD.</li> <li>• Ensure that economic growth of the marine resource and its ecosystems are managed sustainably.</li> <li>• 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.</li> <li>• Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion.</li> <li>• Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals.</li> </ul>
<p>Waste Management Act, 1996 as amended.  <a href="#">A Resource Opportunity, Waste Management Policy in Ireland</a><sup>2</sup>.  <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"> <li>• Protect soils against pollution, and prevent degradation of the soil resource.</li> <li>• Promote the sustainable use of infill and brownfield sites over the use of greenfield.</li> <li>• Safeguard areas of prime agricultural land and designated geological sites.</li> </ul>
<p><a href="#">Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive</a> (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"> <li>• 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.</li> <li>• Maintain and promote continuing</li> </ul>

<sup>2</sup> 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"> <li>• Promote continuing improvement in air quality.</li> <li>• 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</li> <li>• Meet Air Quality Directive standards for the protection of human health — Air Quality Directive</li> <li>• Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels</li> </ul>
<a href="#">National Climate Change Adaptation Framework</a> (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"> <li>• To minimise emissions of greenhouse gasses.</li> <li>• Integrate sustainable design solutions into infrastructure (e.g. energy efficient buildings; green infrastructure).</li> <li>• Contribute towards the reduction of greenhouse gas emissions in line with national targets.</li> <li>• Promote development resilient to the effects of climate change.</li> <li>• Promote the use of renewable energy, energy efficient development and increased use of public transport.</li> </ul>
<a href="#">Our Sustainable Future: A framework for sustainable development for Ireland</a> (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"> <li>• Optimise existing infrastructure and provide new infrastructure to match population distribution proposals.</li> <li>• 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.</li> <li>• Promote the circular economy, reduce waste, and increase energy</li> </ul>

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

## 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 Graigueanamanagh 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 amended<sup>3</sup>, 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 99,232<sup>4</sup> 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](#)<sup>5</sup>.

### 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

<sup>3</sup> 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

<sup>4</sup> CSO, Census 2016 Population Classified by Area

<sup>5</sup> [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 <sup>6</sup> 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](#)<sup>7</sup>. 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.

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

<sup>7</sup> 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 amended<sup>8</sup>, the Environmental and Planning Authorities were given notice on the 27<sup>th</sup> 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 25<sup>th</sup> July 2018 in relation to underwater archaeological heritage and to nature conservation.

A response was also received from the EPA (on the 7<sup>th</sup> 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 15<sup>th</sup> of June for public submissions and 22<sup>nd</sup> 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 20<sup>th</sup> April and 15<sup>th</sup> 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

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<sup>8</sup> 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 (RSEs) and lower tier Development Plans and Local Area Plans (see Section 2.3). For Kilkenny, the [Southern Regional Spatial and Economic Strategy](#)<sup>9</sup> (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

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<sup>9</sup> 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](#)<sup>10</sup> (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.

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<sup>10</sup> 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 Centre<sup>11</sup>. 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*<sup>12</sup> 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.

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

<sup>12</sup> 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 Mountain<sup>13</sup>.

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).

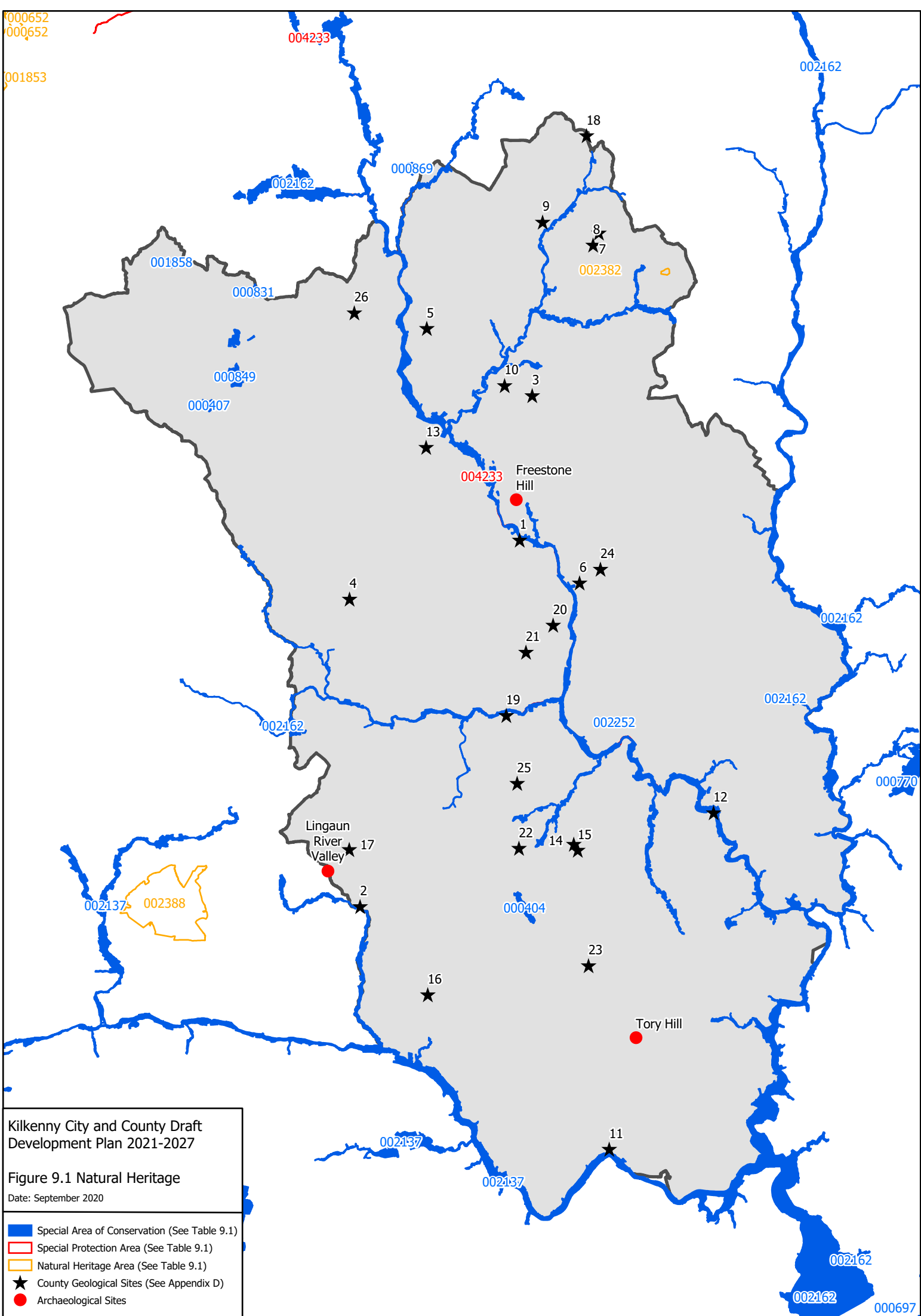
Every six years, the NPWS publish a report on the conservation status of habitats and species protected under the Habitats Directive. Report have been published in 2008<sup>14</sup>, 2013<sup>15</sup> and 2019<sup>16</sup>. Volume 2 (Habitats) and Volume 3 (Species) contain the detailed reports and relevant scientific information, including the conservation status of each SAC and the SPA by habitats and species.

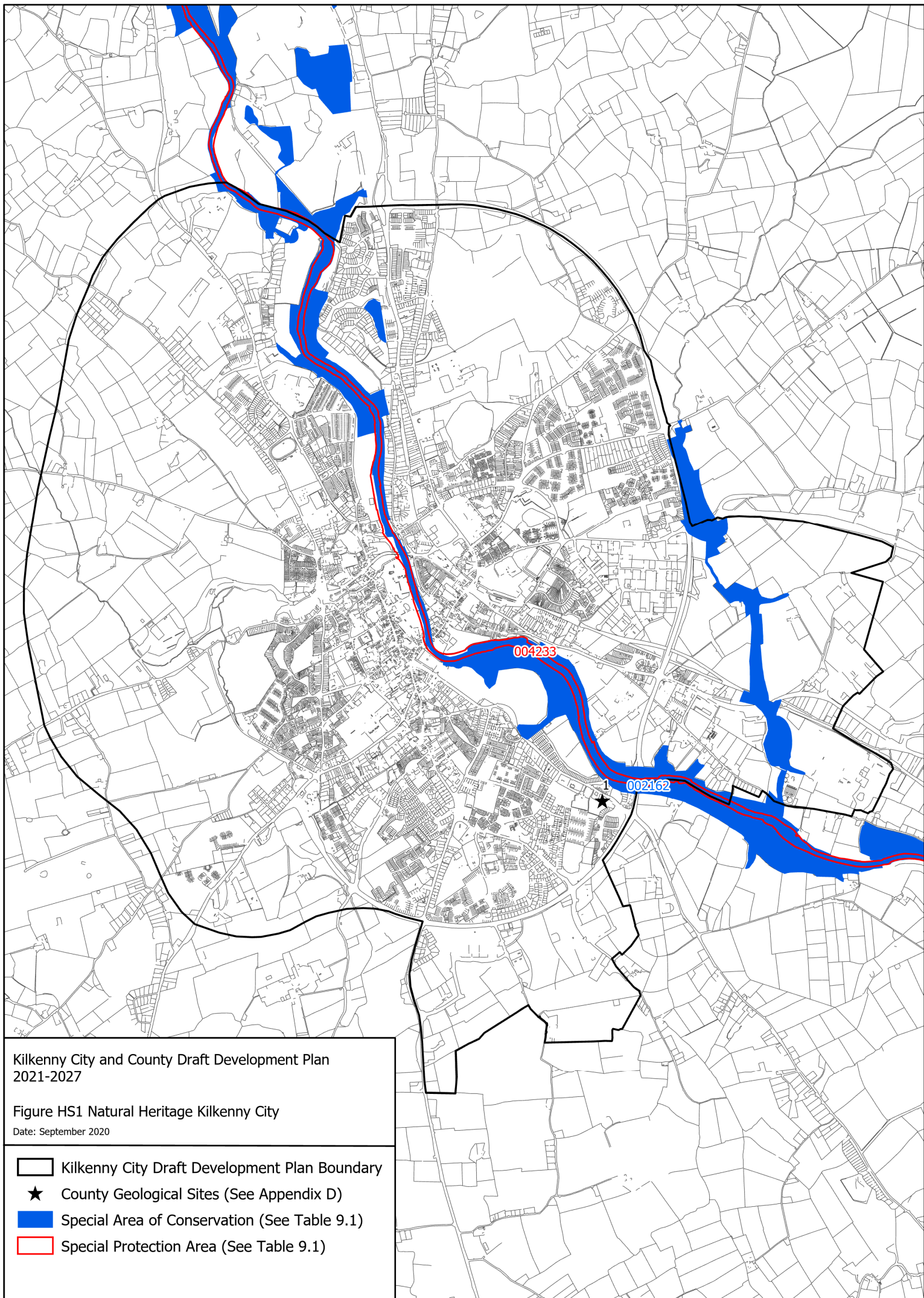
<sup>13</sup> NPWS, [Conservation Plan for 2005-2010, Cullahill Mountain cSAC, Site Code 831](#), 2005

<sup>14</sup> NPWS, *The Status of EU Protected Habitats and Species in Ireland*, 2008

<sup>15</sup> NPWS, *The Status of EU Protected Habitats and Species in Ireland*, 2013

<sup>16</sup> 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 maritima</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 <sup>17</sup>	
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

<sup>17</sup> 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.



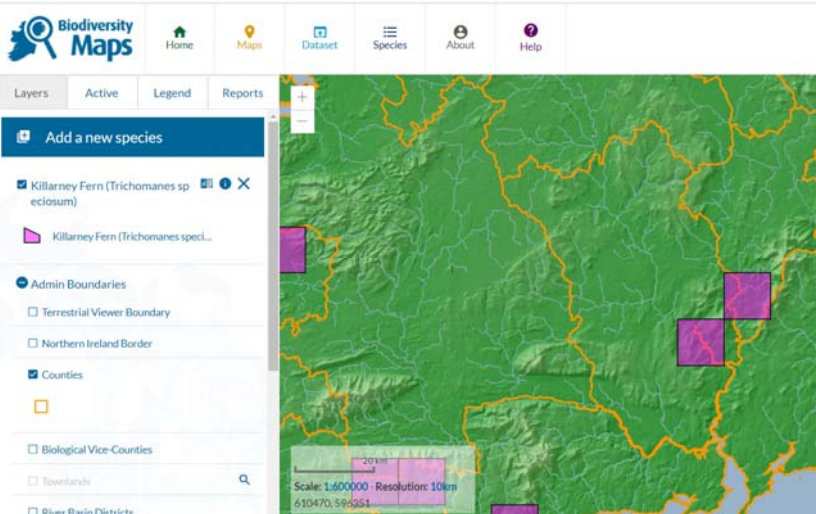
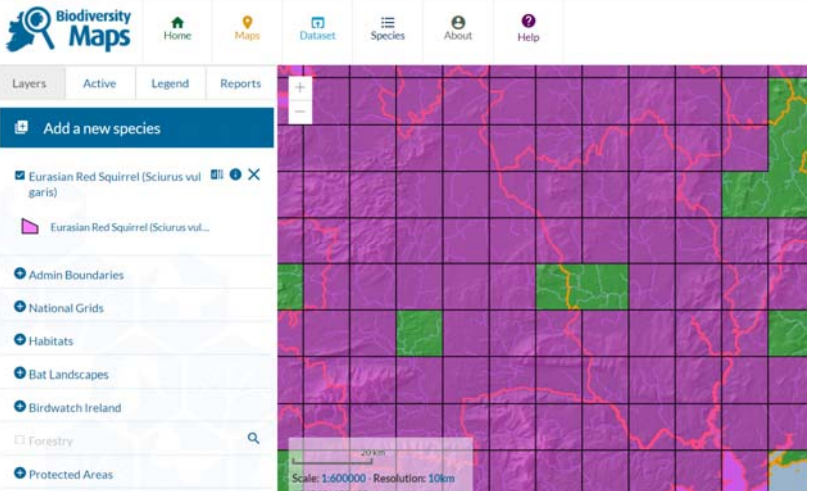
Table 3.3 Protected Natural Heritage sites in Co. Kilkenny						
Site Name	Site Code/Ref	cSAC	SPA	pNHA	SNR	WF
Cullahill Mountain	000831	✓				
Hugginstown Fen	000404	✓		✓		
Galmoy Fen	001858	✓		✓		
Lower River Suir	002137	✓				
River Barrow & River Nore/ Barrow Estuary/ Abbeyleix Wood Complex	002162	✓		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

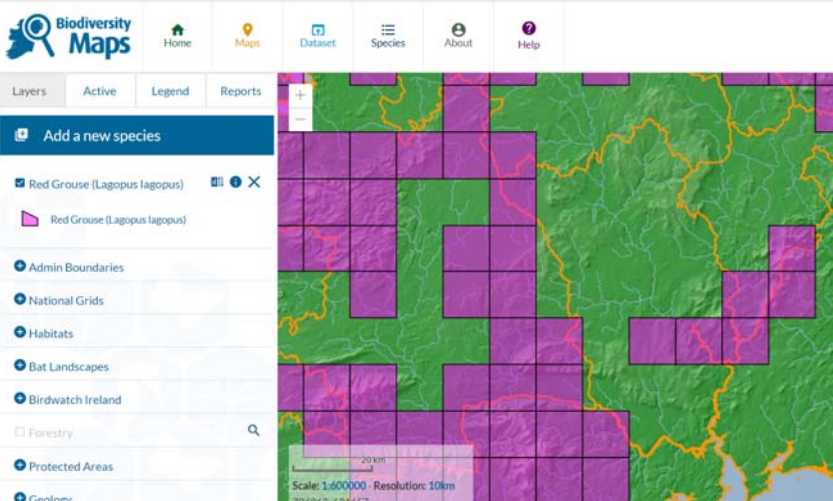
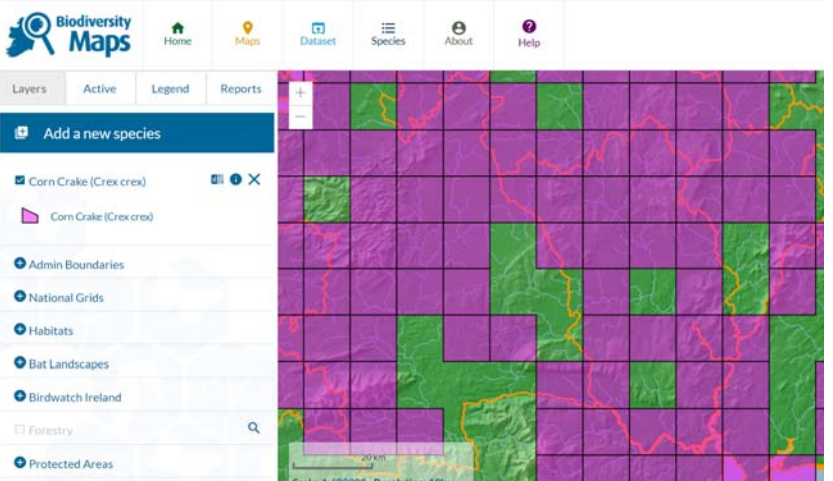
A number of species are protected under European and national law, under Annex IV of the Habitats Directive and the Wildlife Acts. Data is available from the National Biodiversity Data Centre on the

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;

<b>Table 3.4: Distribution of species of conservation concern in Kilkenny</b>	
<b>Species Action Plan</b>	<b>Distribution in Kilkenny<sup>18</sup></b>
Species Action Plan Bats 2008	Widely found
Species Action Plan Killarney Fern 2008	
Species Action Plan Red Squirrel 2008	

<sup>18</sup> [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

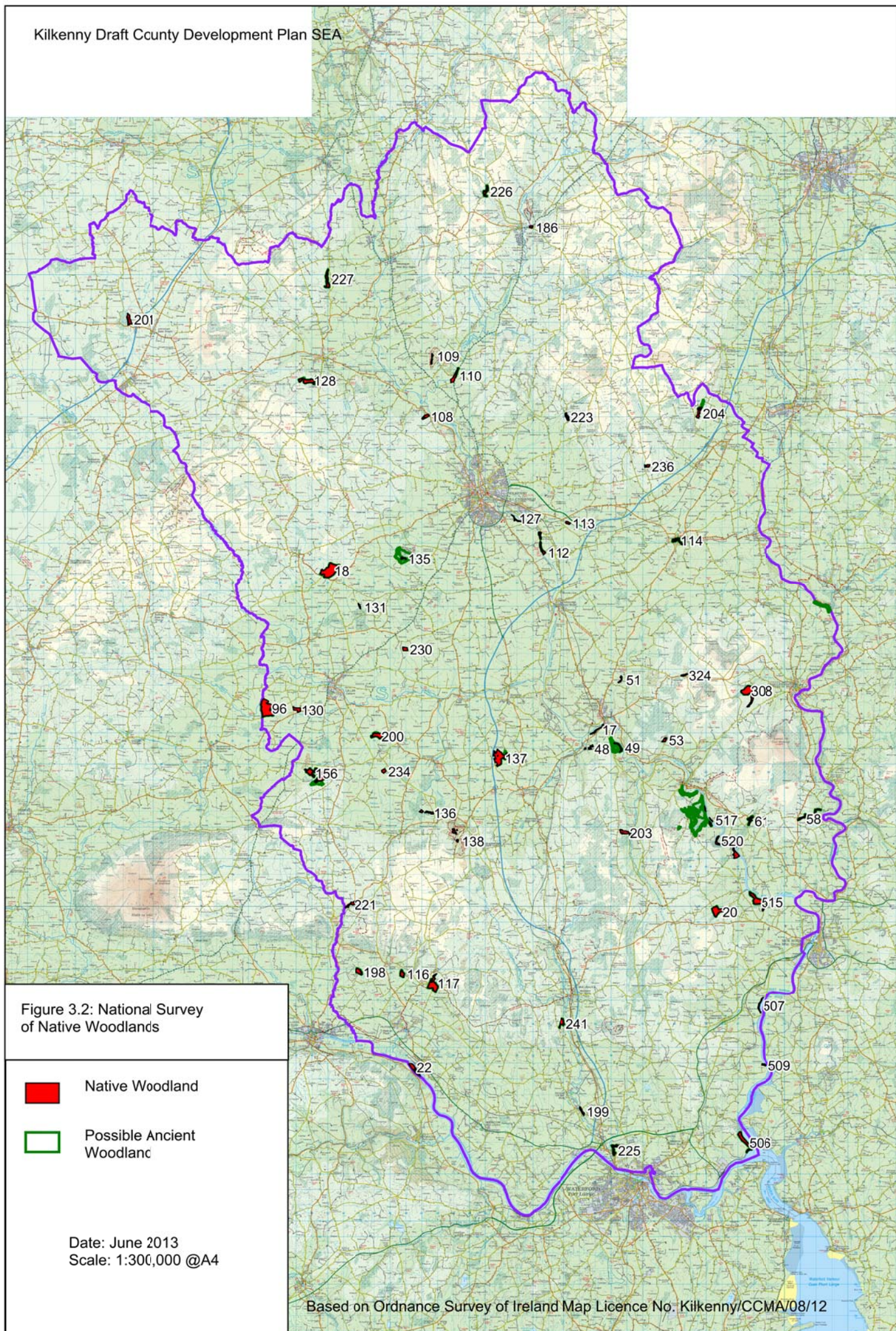
A threat score was also produced to give an indication of the threats posed to woodlands from primarily internal sources, such as invasive species infestation. These threat scores should be regarded as the minimum threat potential to Irish woodlands as, for example, sites at which invasive species are 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 2010<sup>19</sup>.

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 Fossitt<sup>20</sup> 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 Centre<sup>21</sup>. 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 Report<sup>22</sup>, 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

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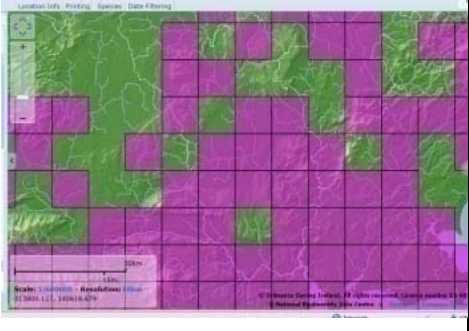
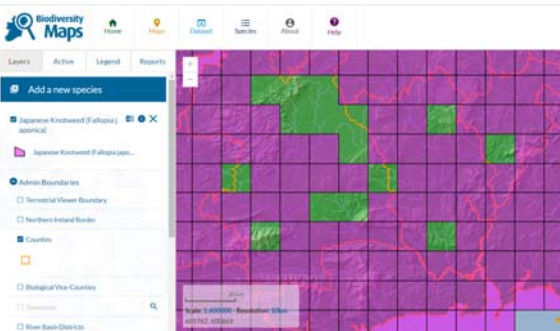
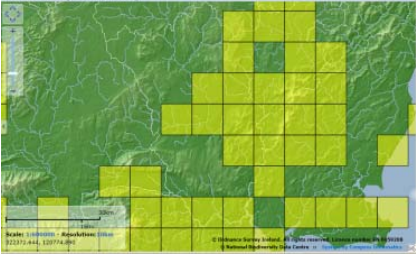
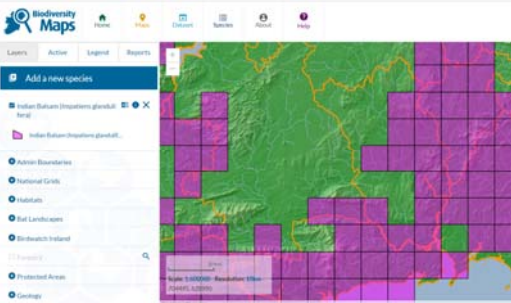
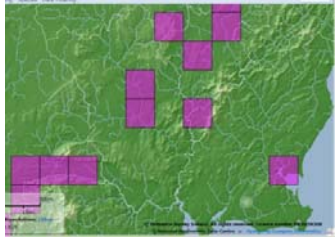
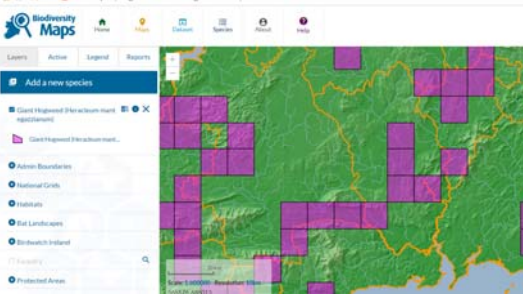
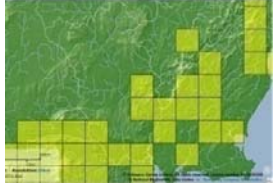
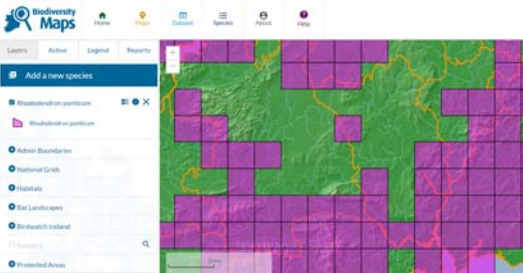
<sup>19</sup> Kilkenny Local Authorities, [Habitat Survey and Mapping of Kilkenny City Habitat Survey Report](#), 2010

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

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


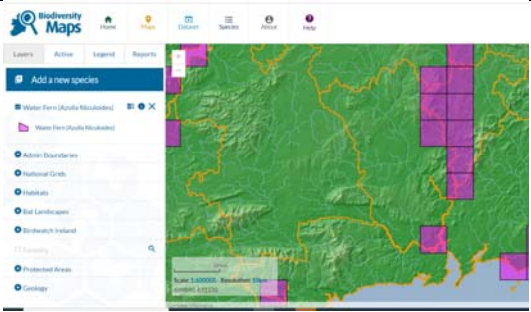

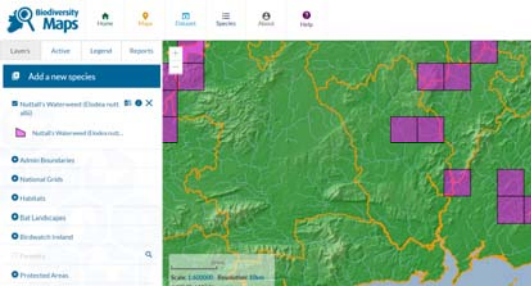

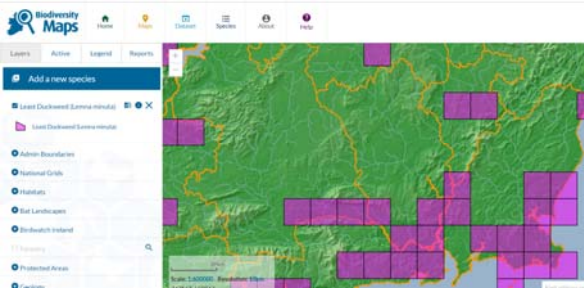

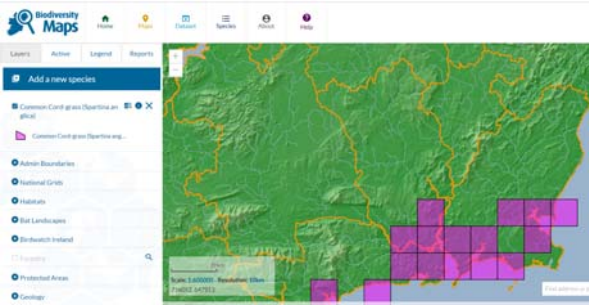

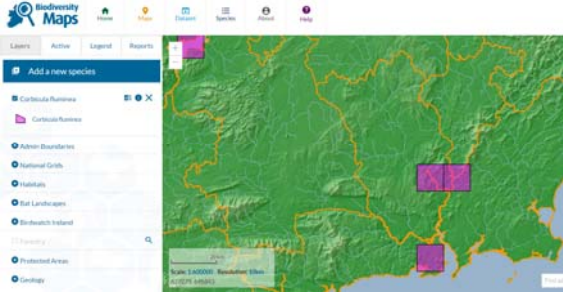
<sup>22</sup> <http://invasives.biodiversityireland.ie/wp-content/uploads/Dirty-Dozen-invasive-species-Kilkenny-Co-Co-2010.pdf>


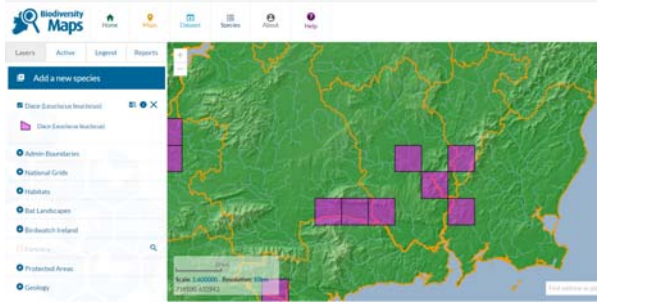

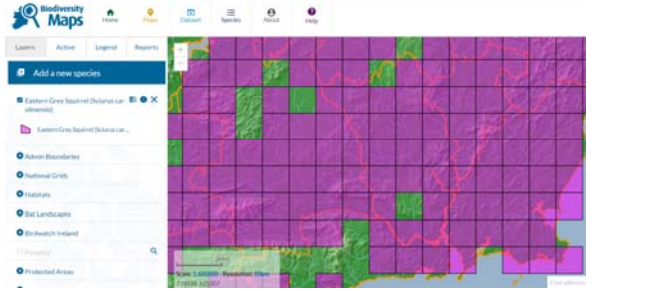

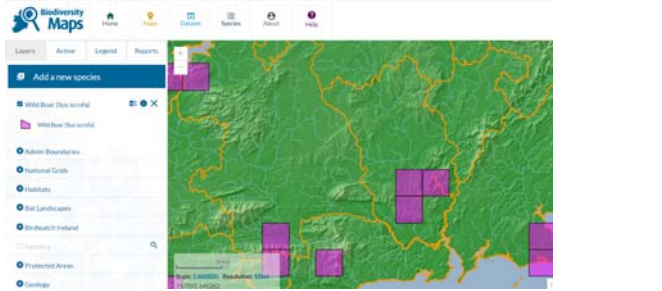
the region. The distribution of those twelve species within the county in 2013 and 2020 are compared below<sup>23</sup>.

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> )		

<sup>23</sup> 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)		

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

### 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.

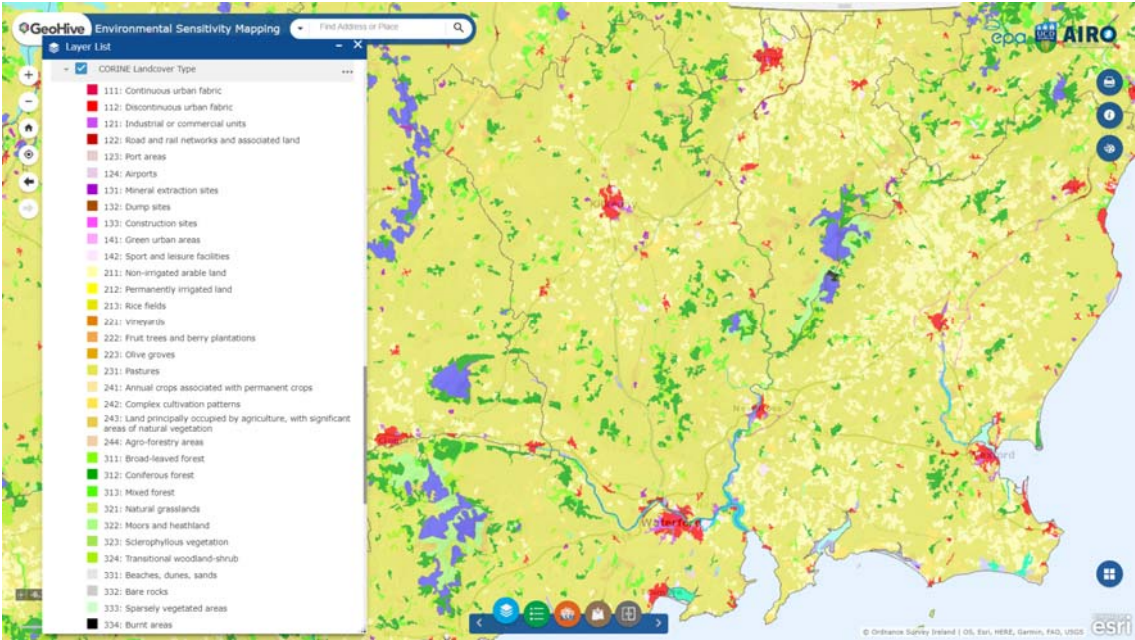
### 3.3.8 Wetlands

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.

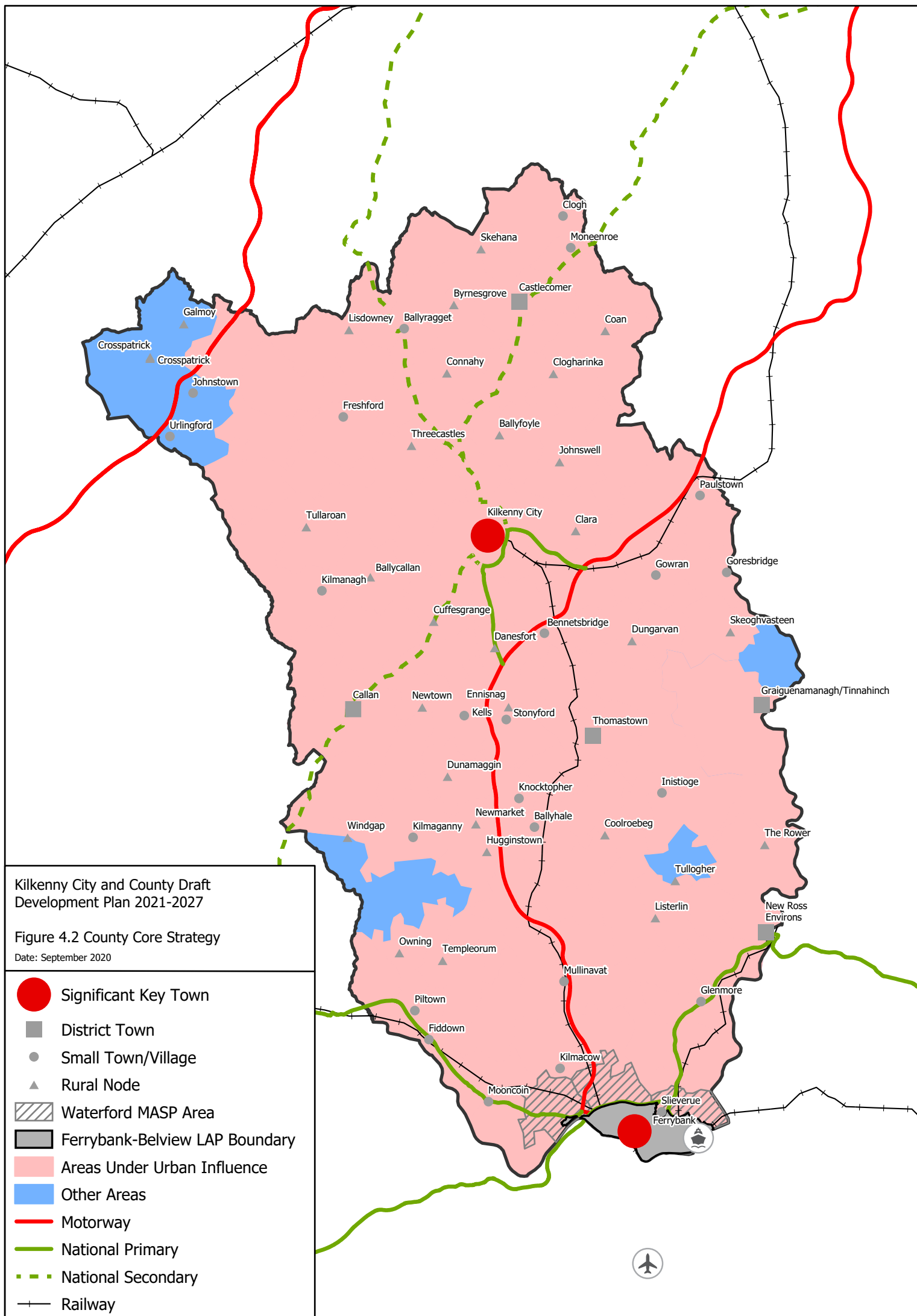
<b>Table 3.9: Core Strategy Population Allocation</b>		
<b>Settlement</b>	<b>Core</b>	<b>strategy</b>
	<b>population</b>	<b>allocation</b>
County Kilkenny	11,842	
Kilkenny City (Key Town)	3,641	
Ferrybank/Belview (Part of Waterford Metropolitan Area)	1,452	
<b>District Towns</b>		
Callan	441	
Castlecomer	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	
<b>Total</b>	<b>11,842</b>	

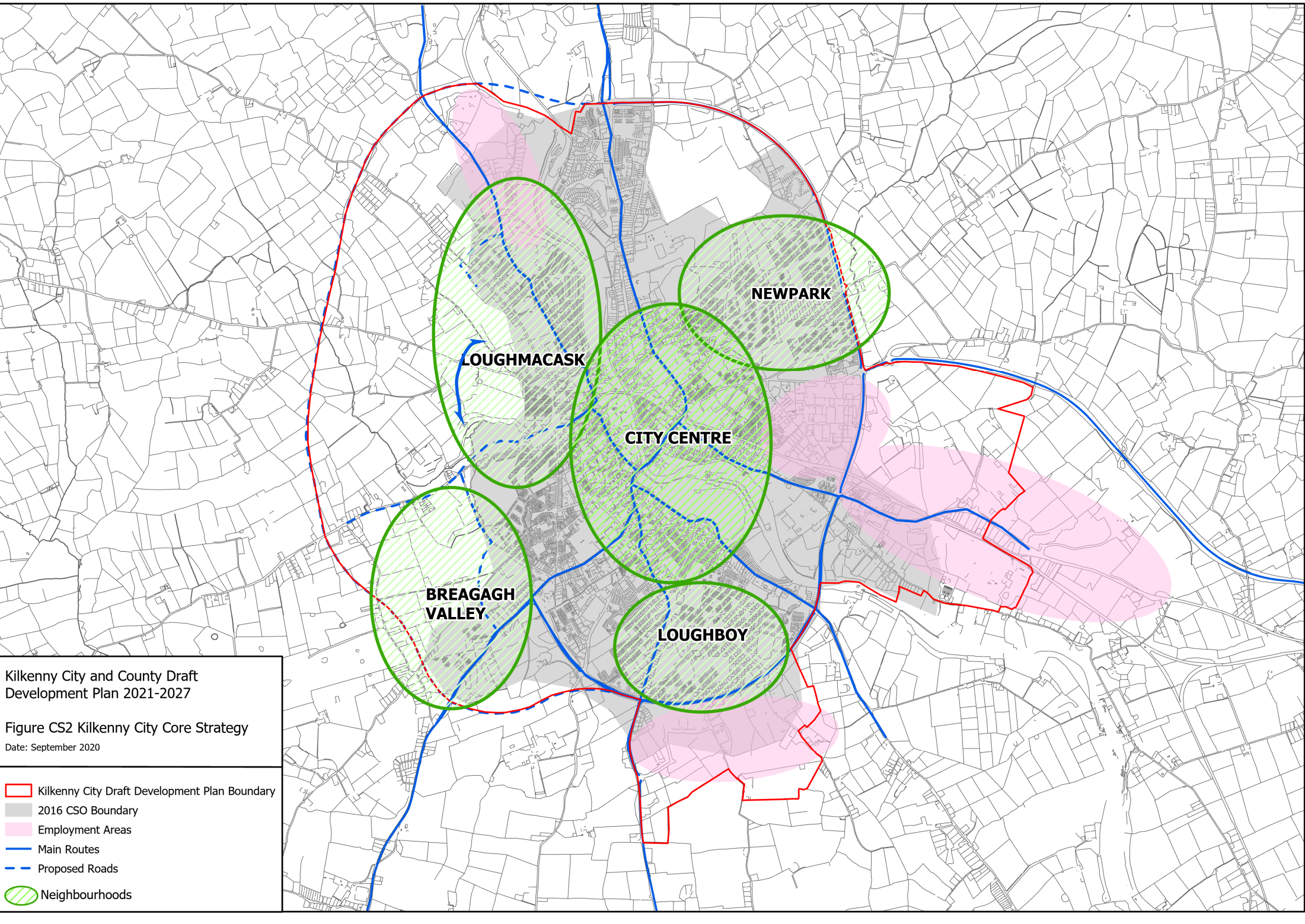
#### 3.4.2 City Population Distribution

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.

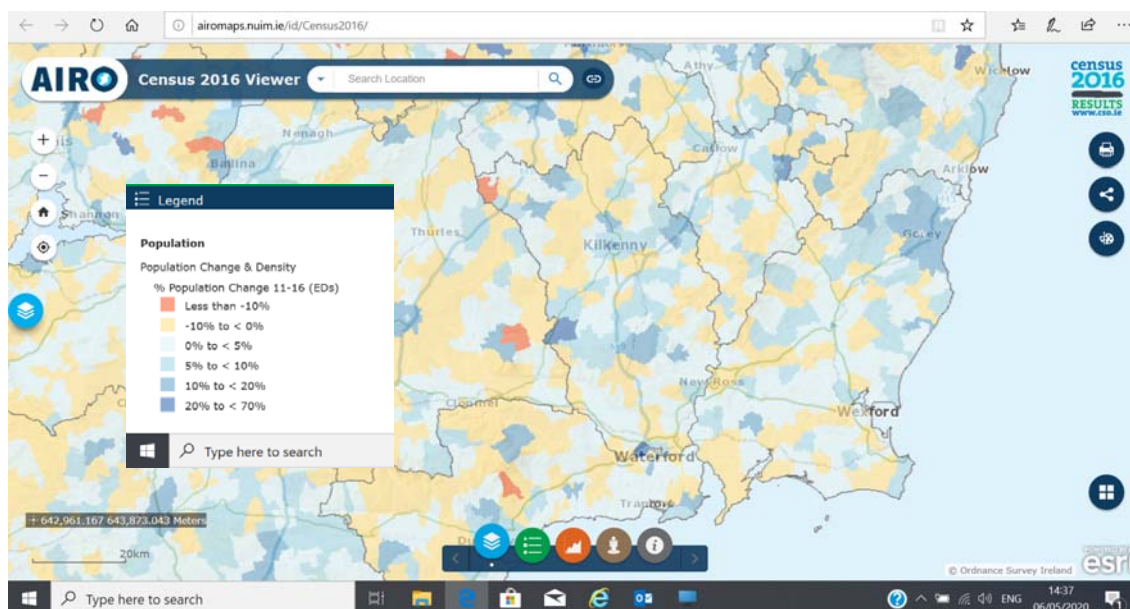


Figure 3.5 Population Change 2011-2016 by ED

#### 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 Kilkenny<sup>24</sup> (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).

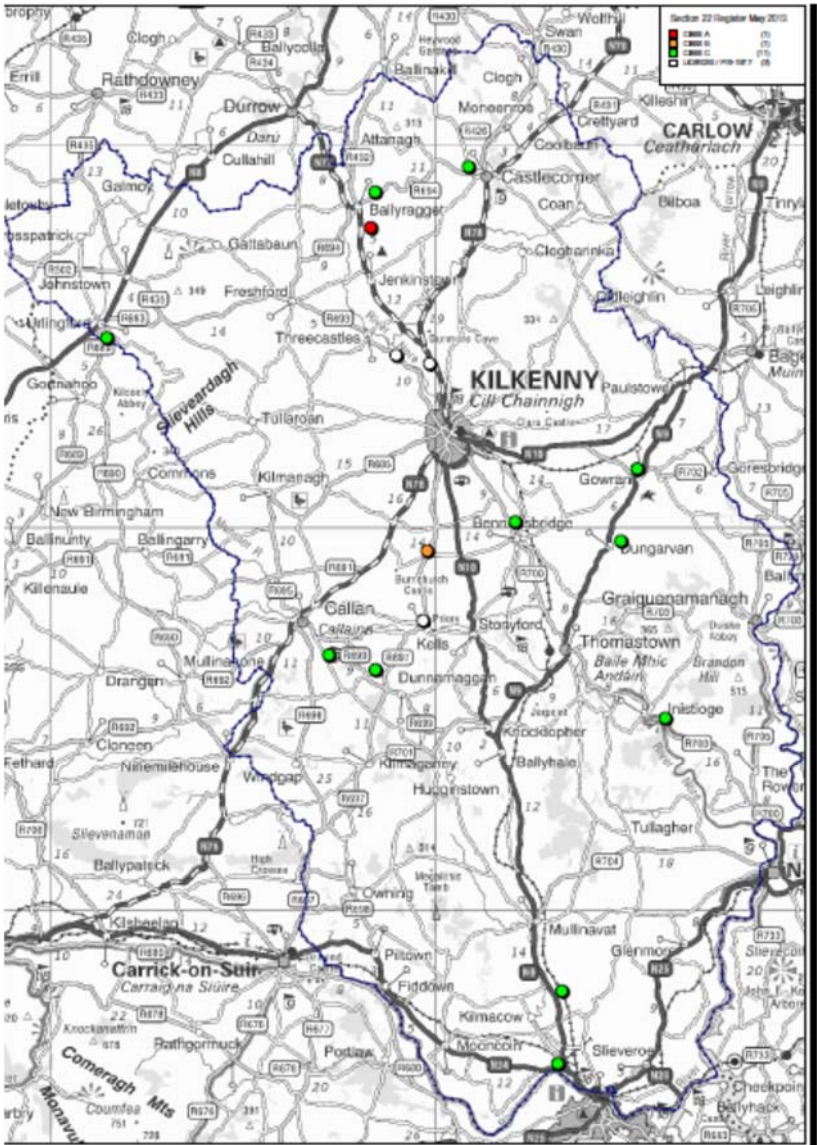
### 3.4.5 Existing Problems

- 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

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<sup>24</sup> 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	

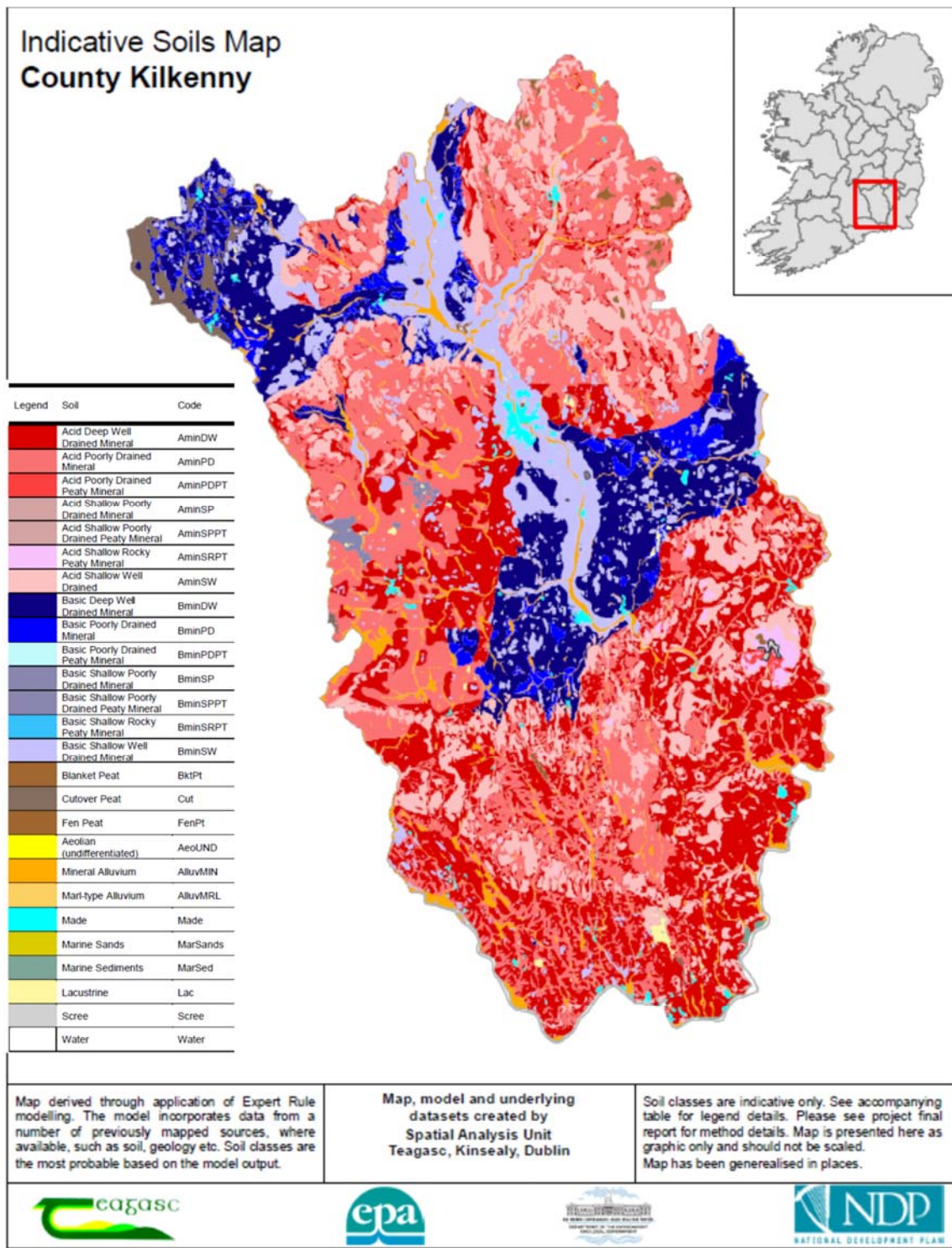
materials		Ground water Gleys	waterlogging, impervious with poor physical structure, unsuitable for cultivation or intensive grazing
Derived from mainly calcareous parent materials	BminPD	Surface water Gleys Ground water Gleys	Developed under the influence of permanent or intermittent waterlogging, impervious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







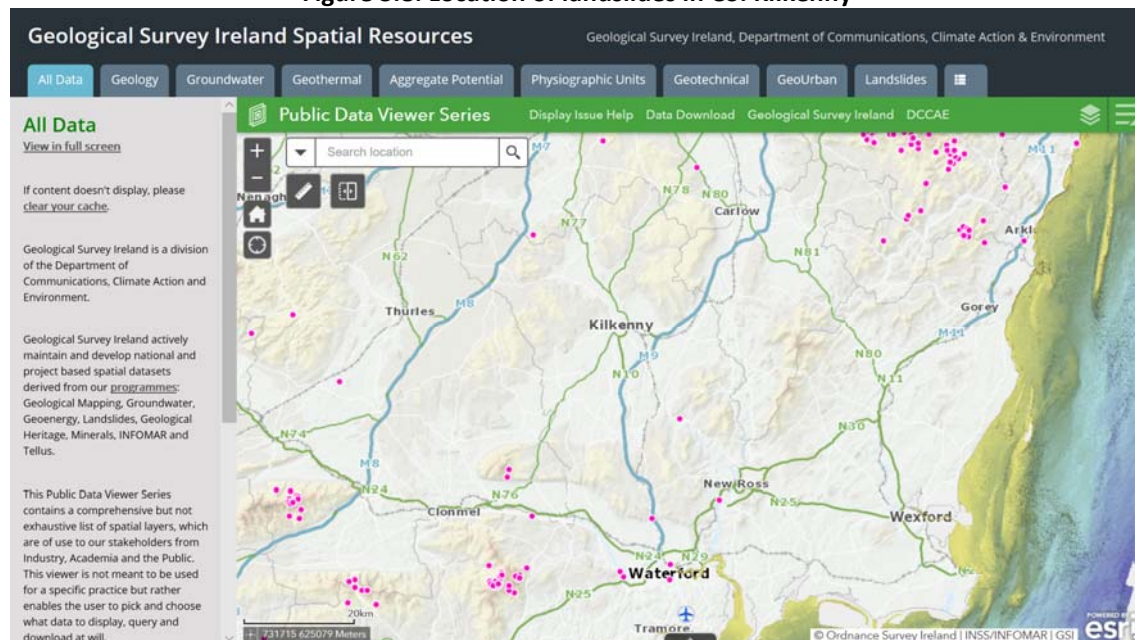
There is no national soil protection strategy. The EU Commission set up the Thematic Group for Soil Strategy in 2004 to identify the potential threats to soil function. Its analysis identified six soil degradation processes that impact on soils; soil sealing, erosion, organic matter decline, compaction, 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**





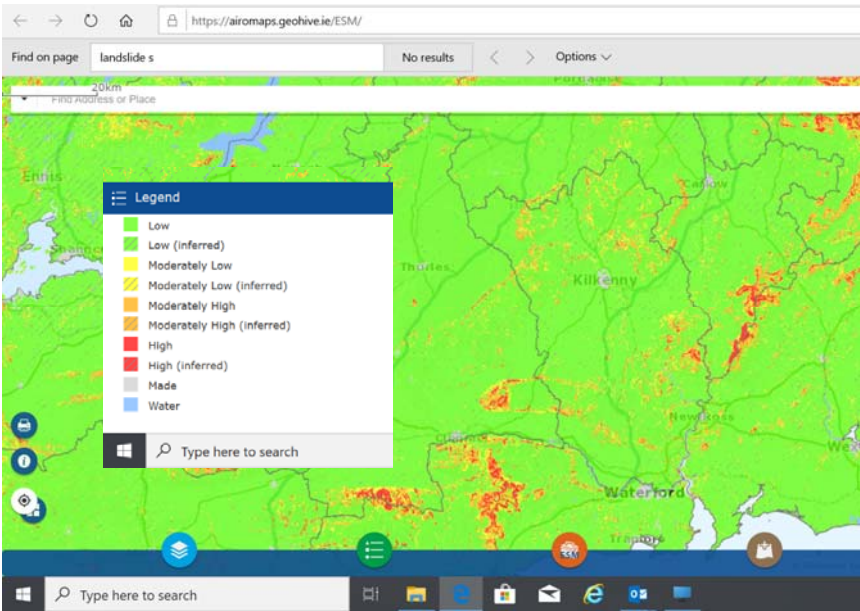
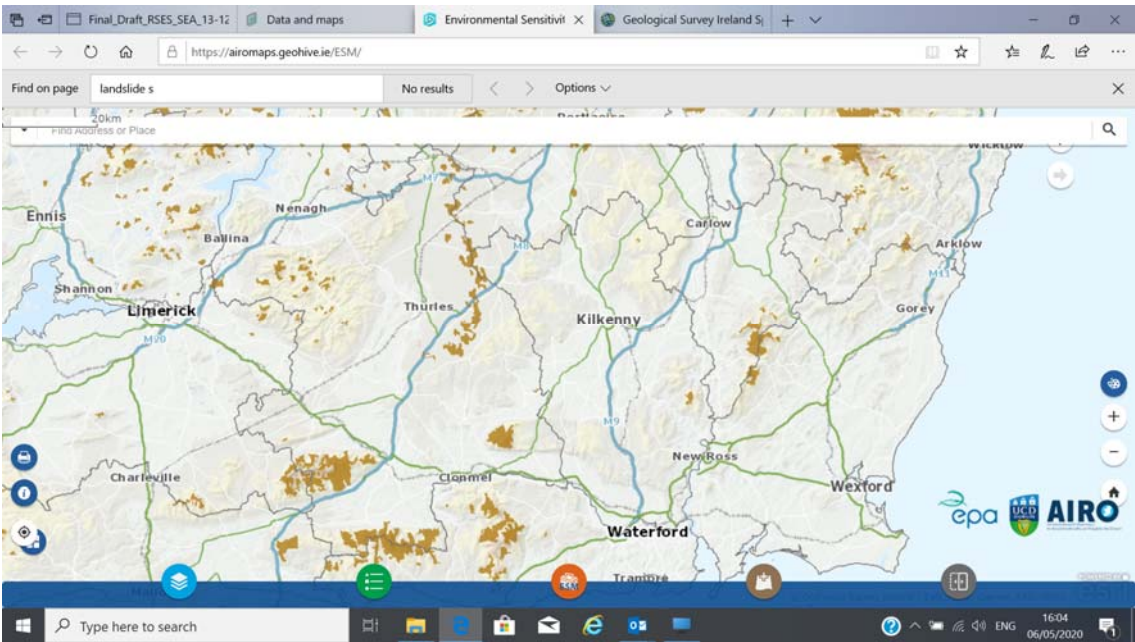


Figure 3.9: Landslide susceptibility in Co. Kilkenny

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 characteristics<sup>25</sup>.

#### 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 Kilkenny<sup>26</sup>. 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.

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

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

Figure 3.11: Granular Aggregate Potential (GAP)

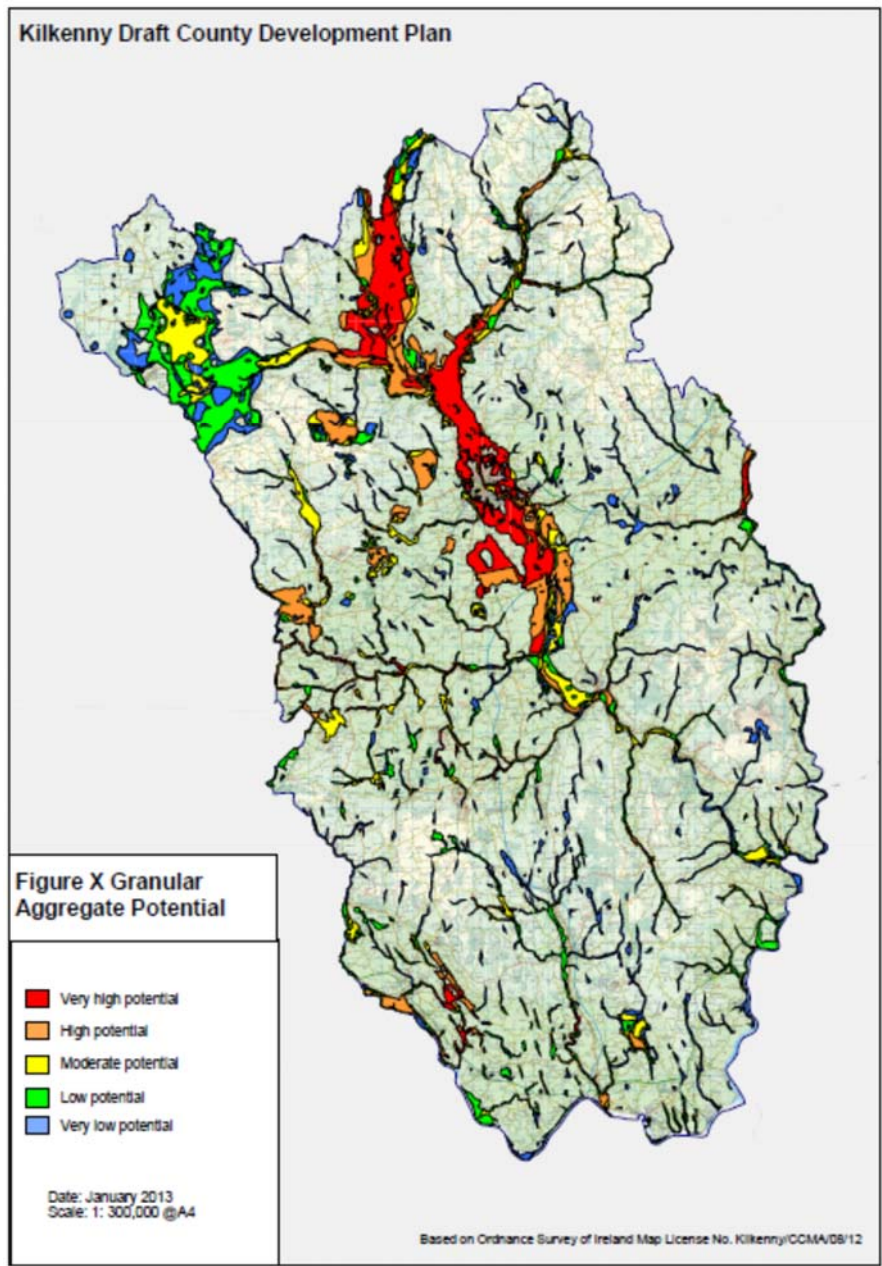
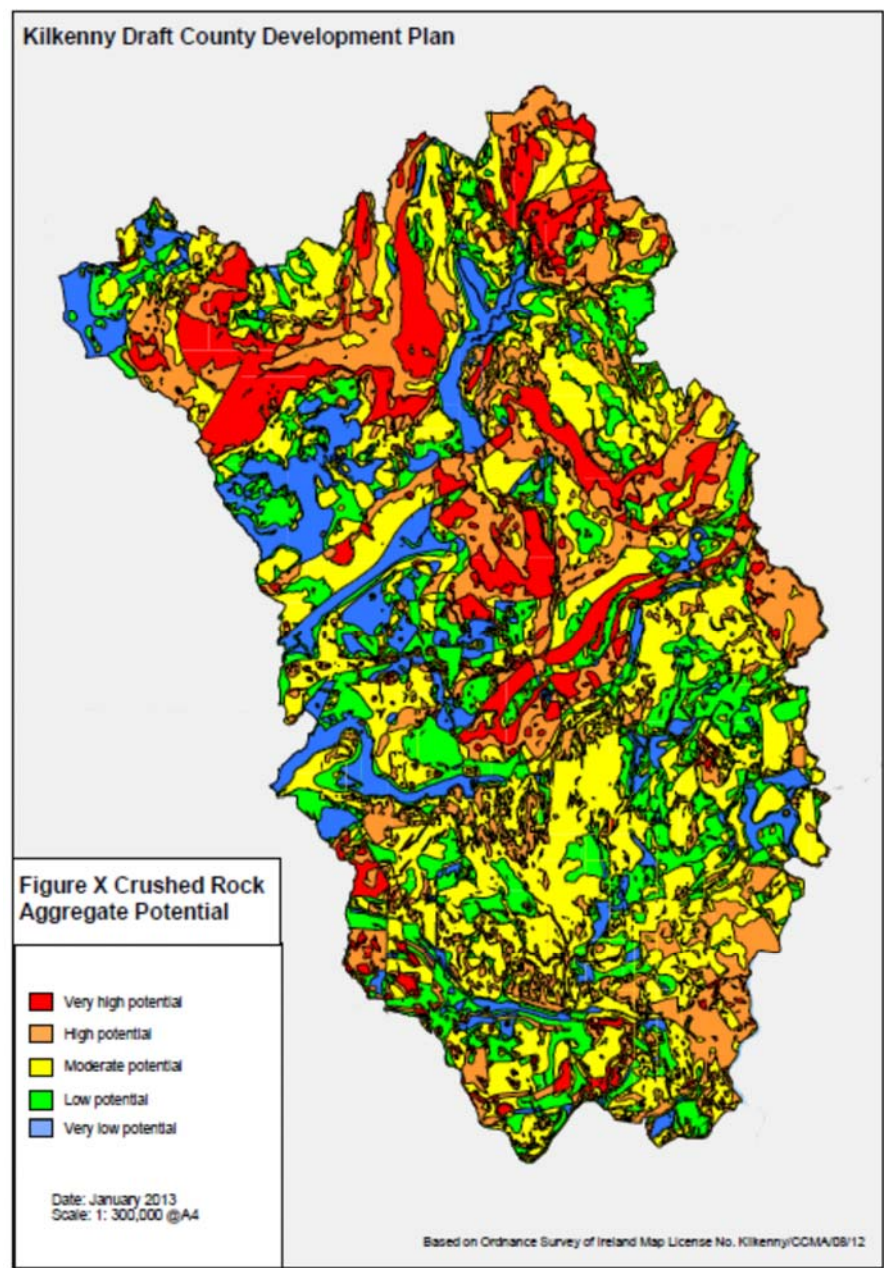




Figure 3.12: Crushed Rock Aggregate Potential (CRP)

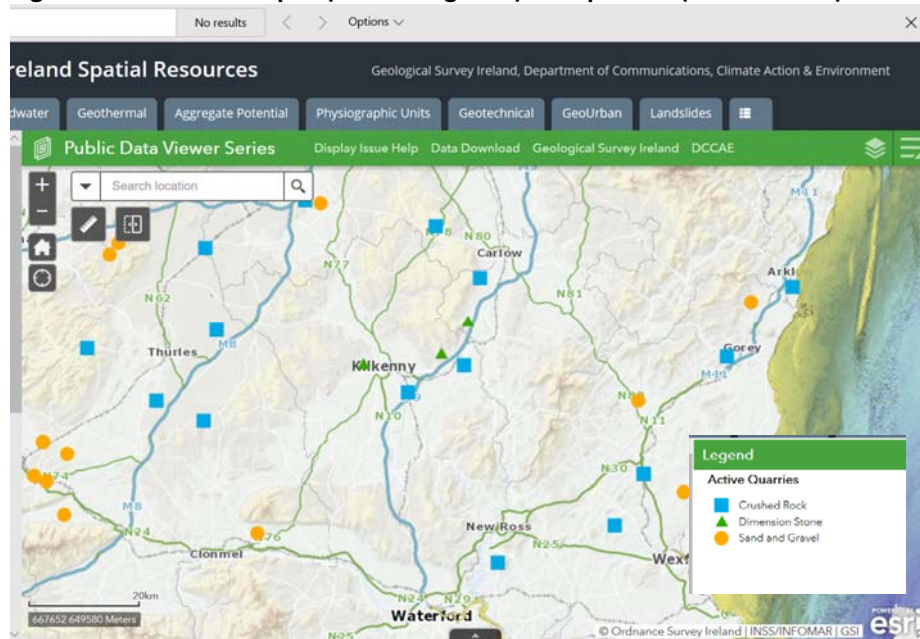


### 3.5.3.3 Extractive Industries

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](#)<sup>27</sup> 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.

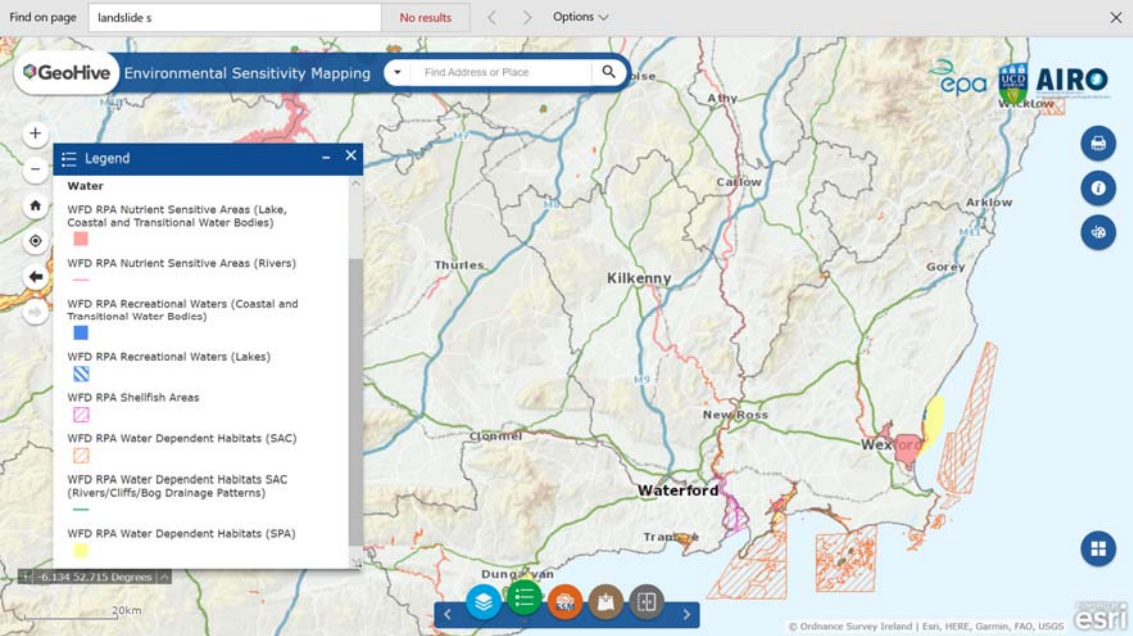
In Ireland, waters intended for human consumption are protected under the Drinking Water Regulations (S.I. No. 122 of 2014). The actual protected areas for drinking water are not outlined within these regulations, so the protected area for drinking waters is represented by the water body from which the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

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<sup>27</sup>[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.

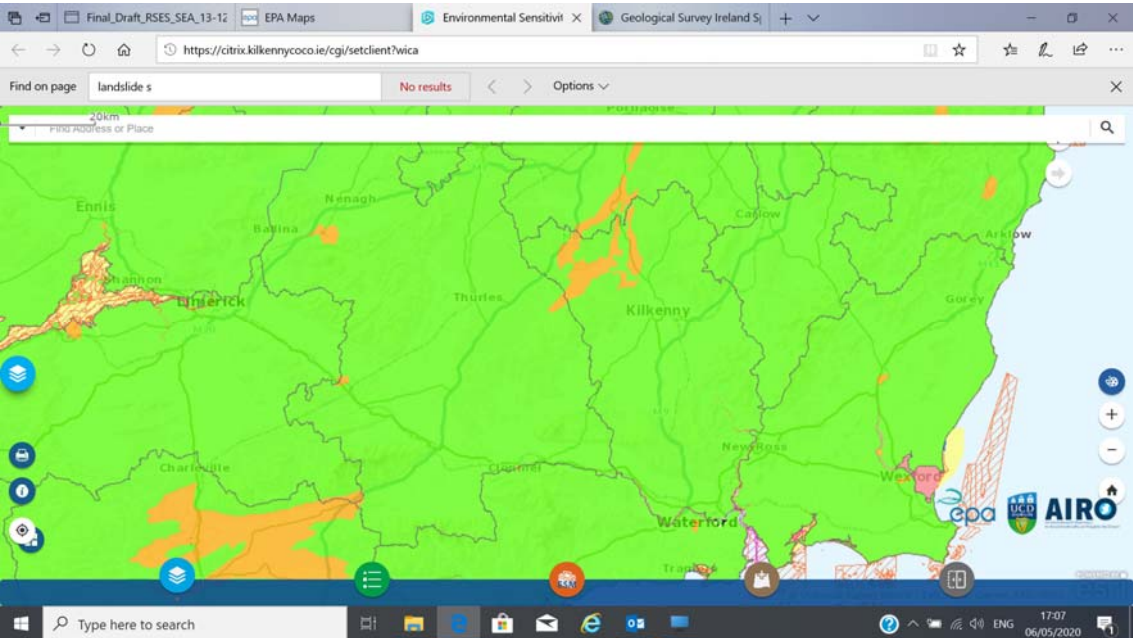
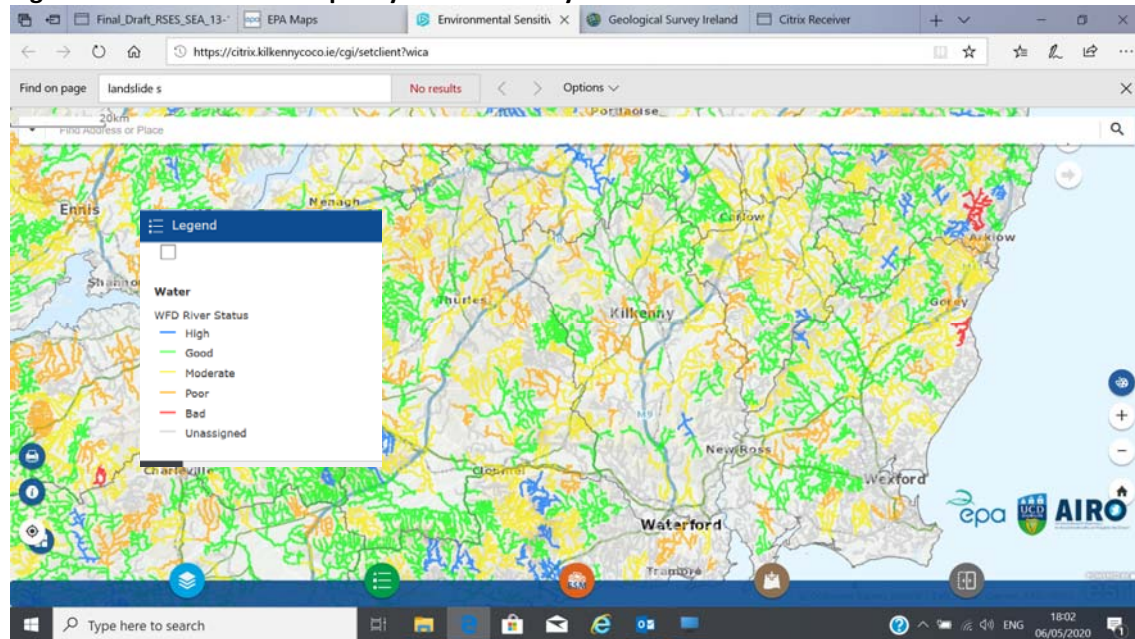


Figure 3.15: Groundwater Quality

### 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.

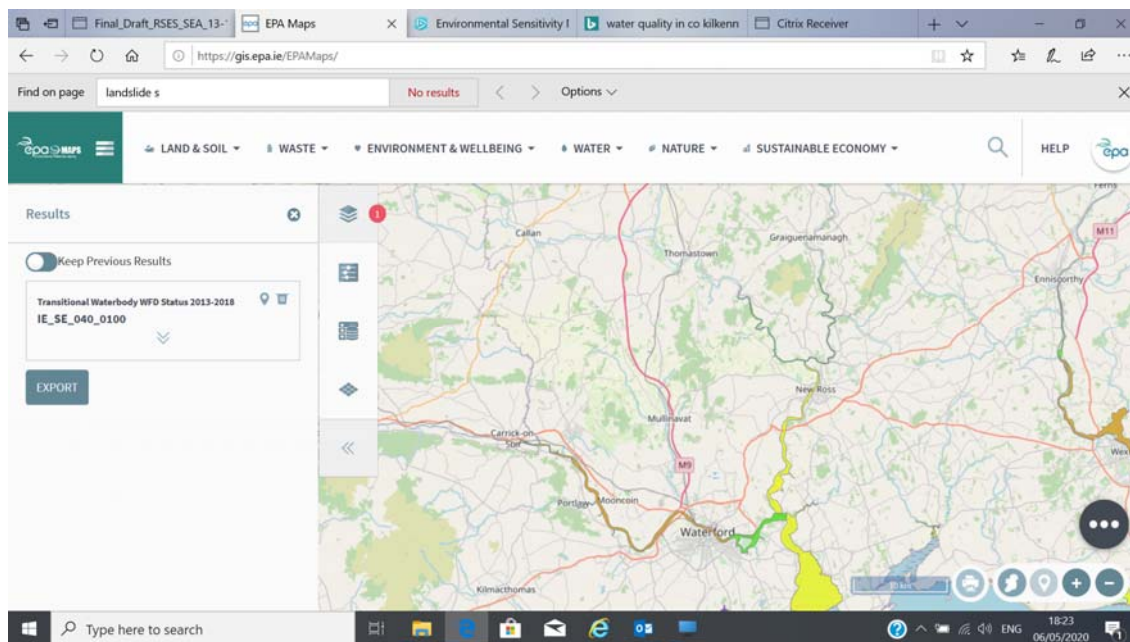
**Figure 3.16: Surface Water quality in Co. Kilkenny in 2018**



### 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 Report<sup>28</sup>. 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.

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



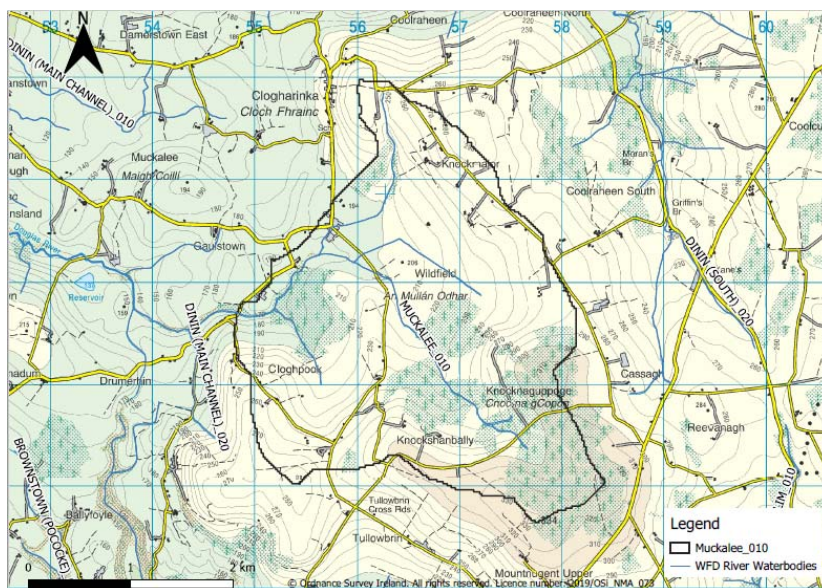


Figure 3.18 Kilkenny's High-Water Quality (Blue Dot) Catchment area (Muckalee)

### 3.6.2 Maritime Planning and Protection

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.

### 3.6.3 Waste Water Treatment

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

The EPA publishes reports on the status of waste water treatment in Ireland. The latest of these is [Urban Waste Water Treatment in 2018](#)<sup>29</sup>. This sets out which plants have treatment that is not appropriate based on the effluent results and/or have taken less than the recommended numbers of samples.

*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

<sup>29</sup> 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*<sup>30</sup>. 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

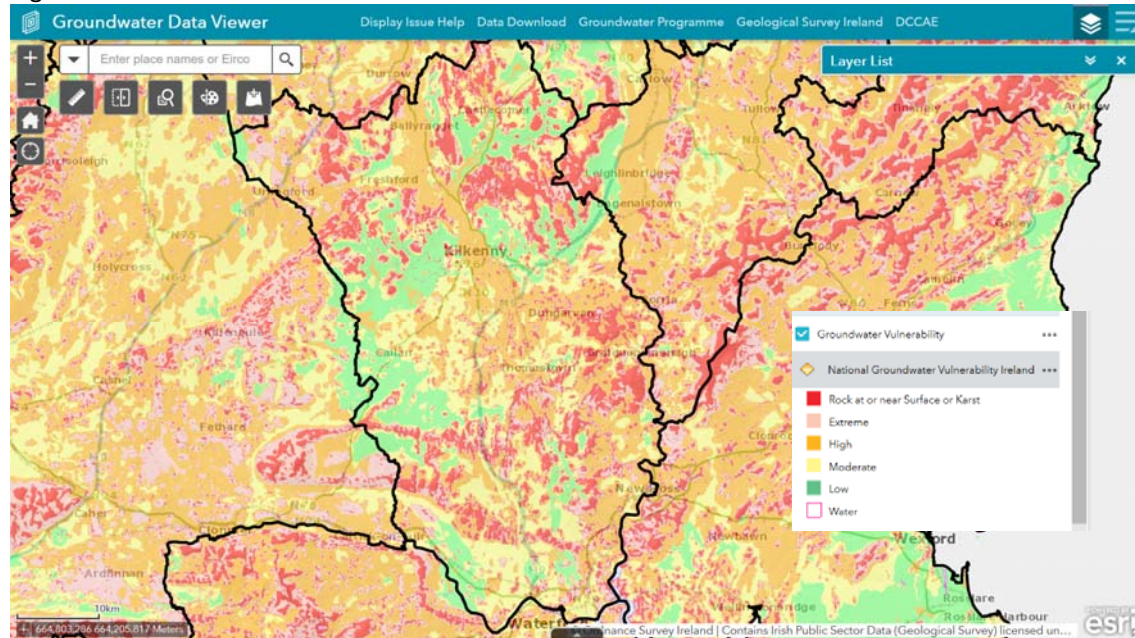
The Geological Survey of Ireland has completed a Groundwater Protection Scheme for County Kilkenny. The overall aim of a Groundwater Protection Scheme is to preserve the quality of groundwater, for drinking water, surface water ecosystems and terrestrial ecosystems, for the benefit of present and future 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.

<sup>30</sup> 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

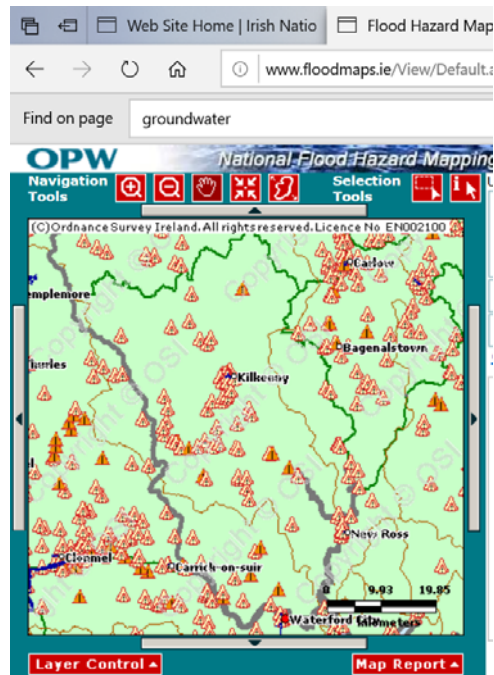


### 3.6.7 Flooding

The OPW record flood events throughout the country<sup>31</sup>. 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

<sup>31</sup> <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](#)<sup>32</sup>, 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 Good<sup>33</sup>. 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 2005<sup>34</sup>, 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 (SO<sub>2</sub>), oxides of nitrogen (NO<sub>x</sub>), volatile organic compounds (VOC) and ammonia (NH<sub>3</sub>). These pollutants can contribute to acidification, eutrophication and ozone formation. Strategies implemented in Ireland in recent years have substantially reduced emissions of SO<sub>2</sub>, VOC and NH<sub>3</sub>, but levels of NO<sub>x</sub> are expected to remain high in the short term. Large increases in road transport are responsible for high NO<sub>x</sub> 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.

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

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

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

### 3.8 Climatic Factors

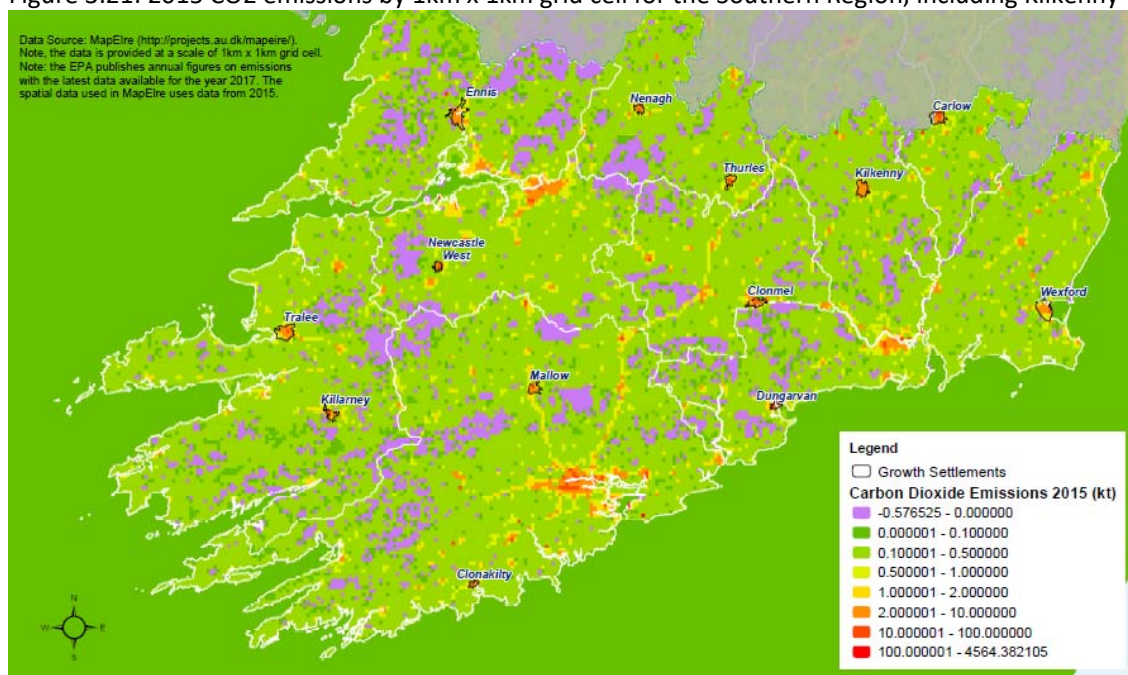
The causes and consequences of climate change pose an immense global challenge. The *National Climate Action Plan 2019* is an all of Government plan to tackle climate change and bring about a step change in Ireland's climate ambition over the coming years. The plan sets out an ambitious course of action 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 (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), 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, CO<sub>2</sub> forms the majority of Ireland's total GHG emissions. Figure 3.21 illustrates the 2015 CO<sub>2</sub> 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 CO<sub>2</sub> emissions – these areas represent carbon sinks, or areas which can remove CO<sub>2</sub> from the atmosphere, such as bogs and large areas of forestry.

Figure 3.21: 2015 CO<sub>2</sub> 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.

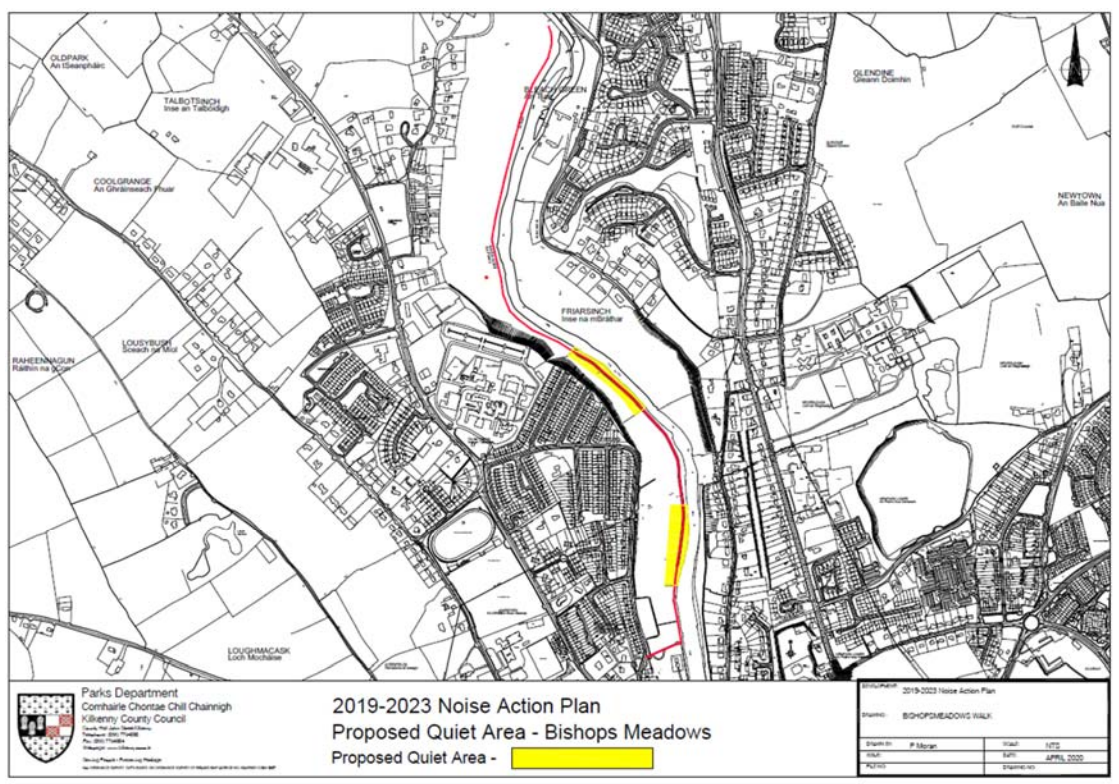


Figure 3.22a Proposed quiet Areas: Bishops Meadows Walk, Kilkenny

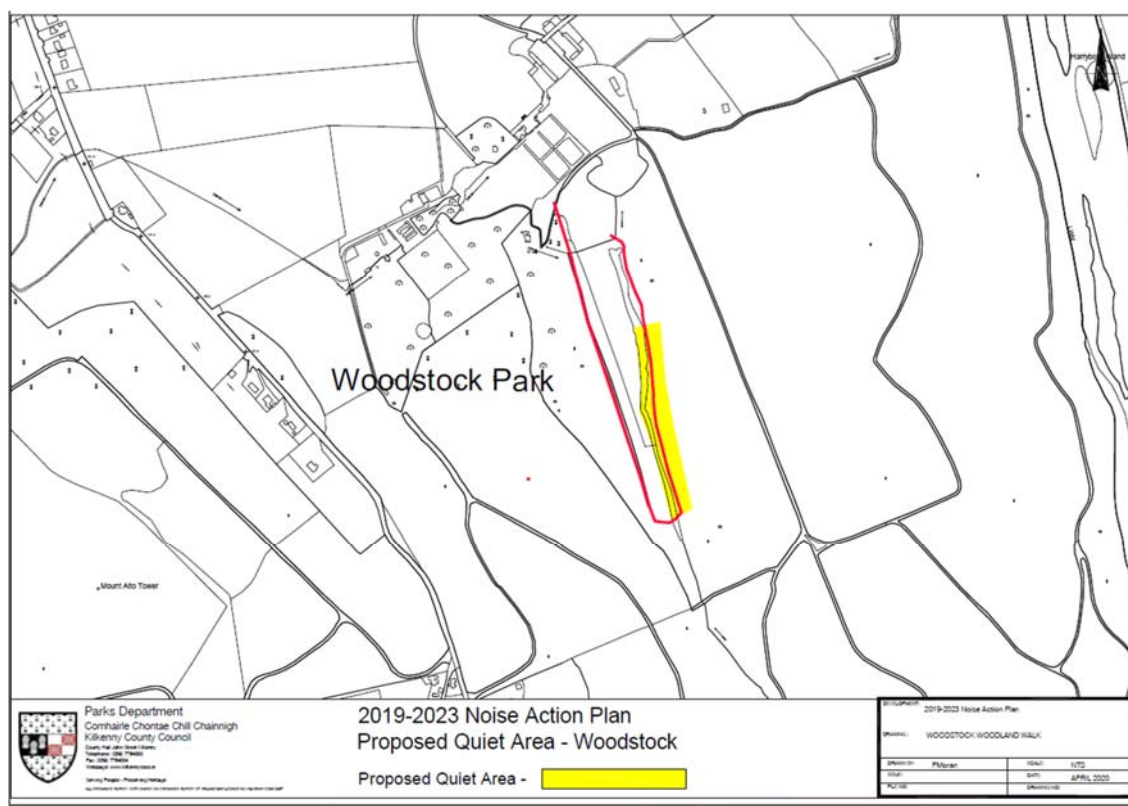


Figure 3.22b: Proposed Quiet Area: Woodstock Gardens and Arboretum, Inistioge, Co. Kilkenny

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.

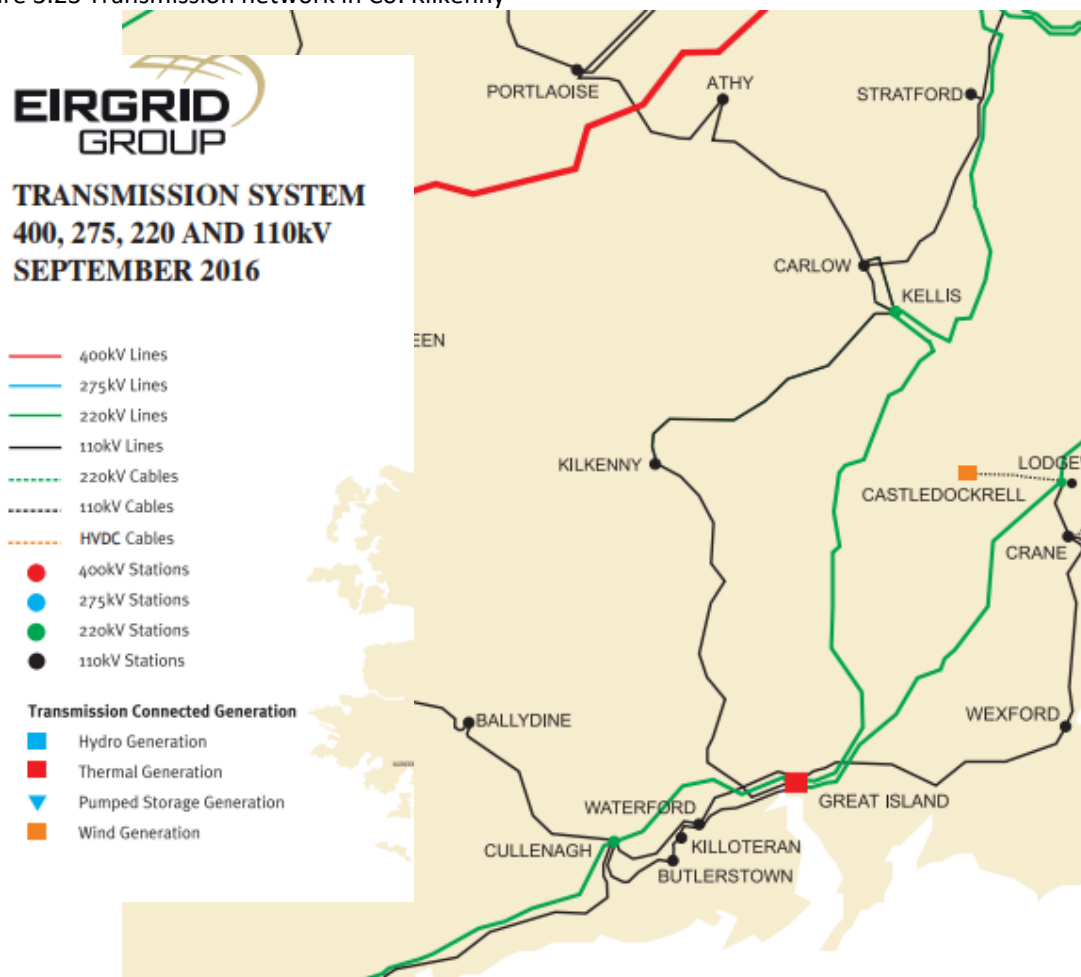
#### 3.9.1 Transportation

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 2017<sup>35</sup>. This has decreased slightly from 9.98% in 2011<sup>36</sup>, 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%

<sup>35</sup> Forest Service, National Forest Inventory, 2017

<sup>36</sup> 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 2008<sup>37</sup> 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%)

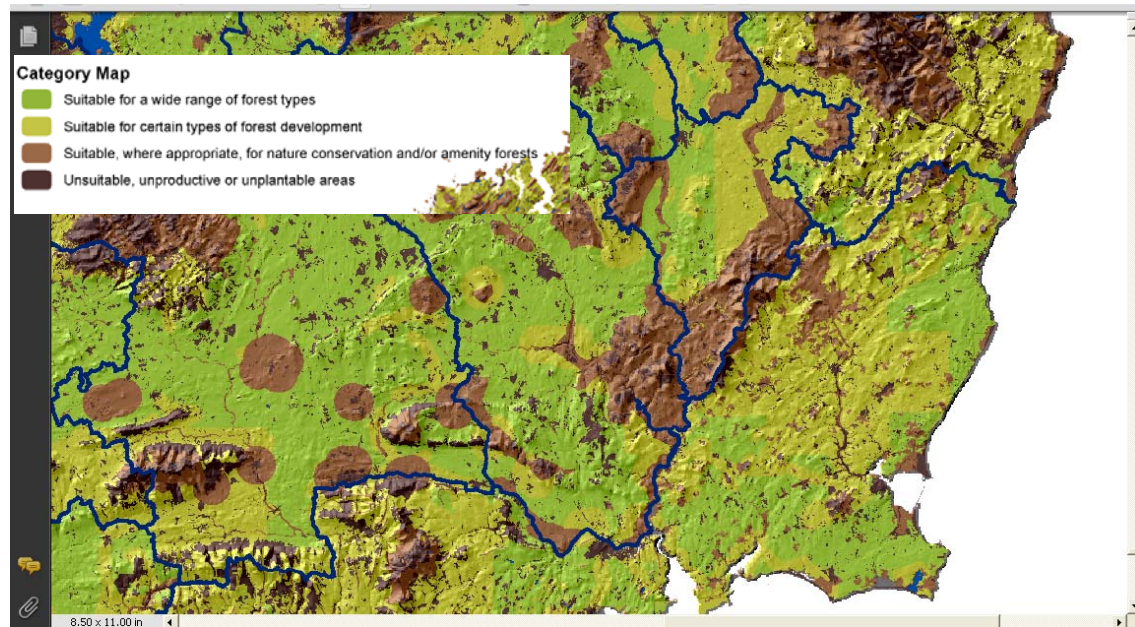
The IFS map is primarily related to the consultation system for the processing of Forest Service grants. All areas are categorised by reference to the level of consultation required, their varying silvicultural suitability or whether or not the areas are plantable or there is existing forest cover. County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

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<sup>37</sup> 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 2014<sup>38</sup>. (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.

<sup>38</sup> 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](http://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*

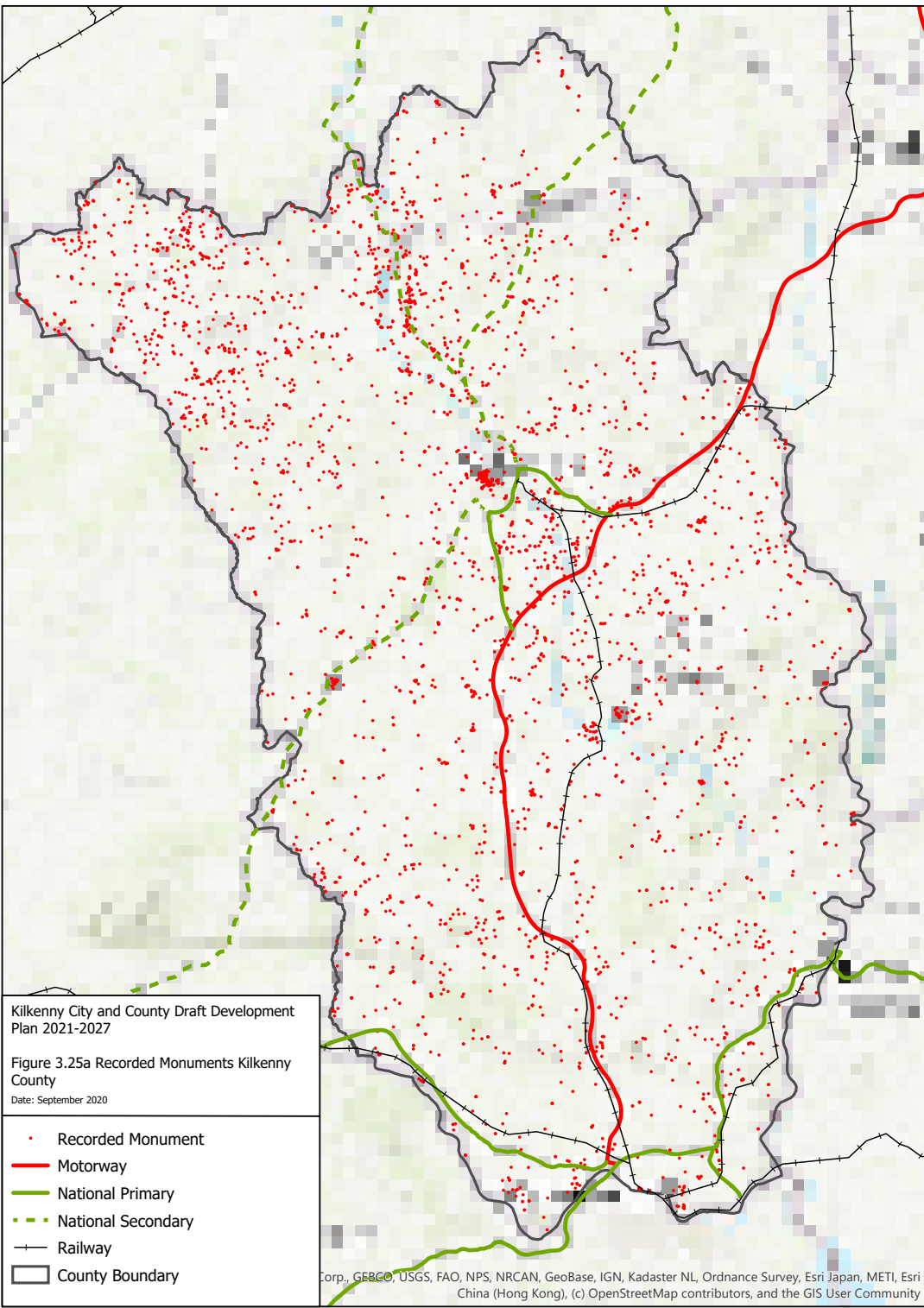
A Protected Structure, unless otherwise stated in the RPS, includes the interior of the structure, the land lying within its curtilage, any other structures lying within that curtilage and their interiors, plus all fixtures and features which form part of the interior or exterior of any of these structures. 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](http://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:

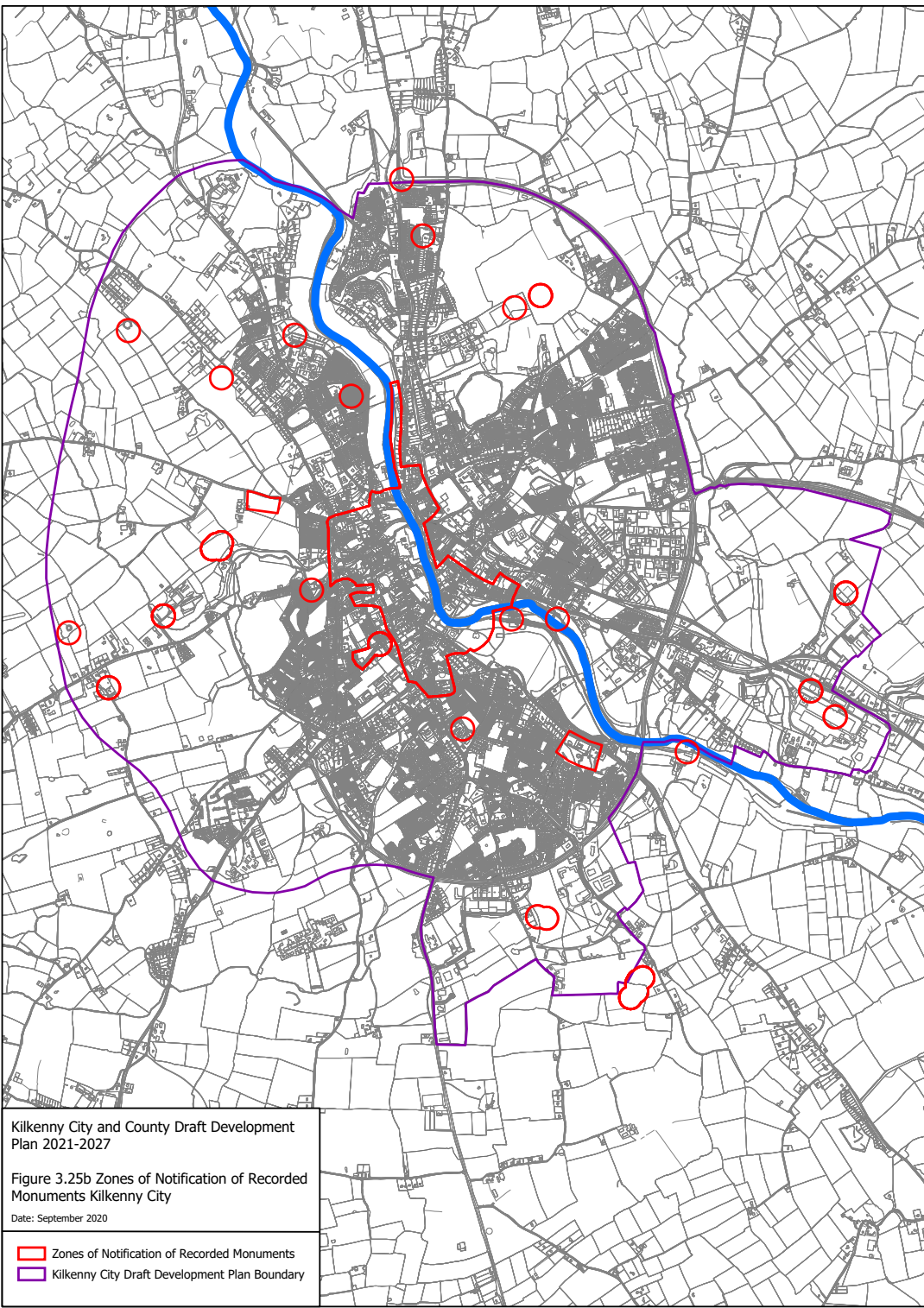


Kilkenny City and County Draft Development Plan 2021-2027

Figure 3.25a Recorded Monuments Kilkenny County

Date: September 2020

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

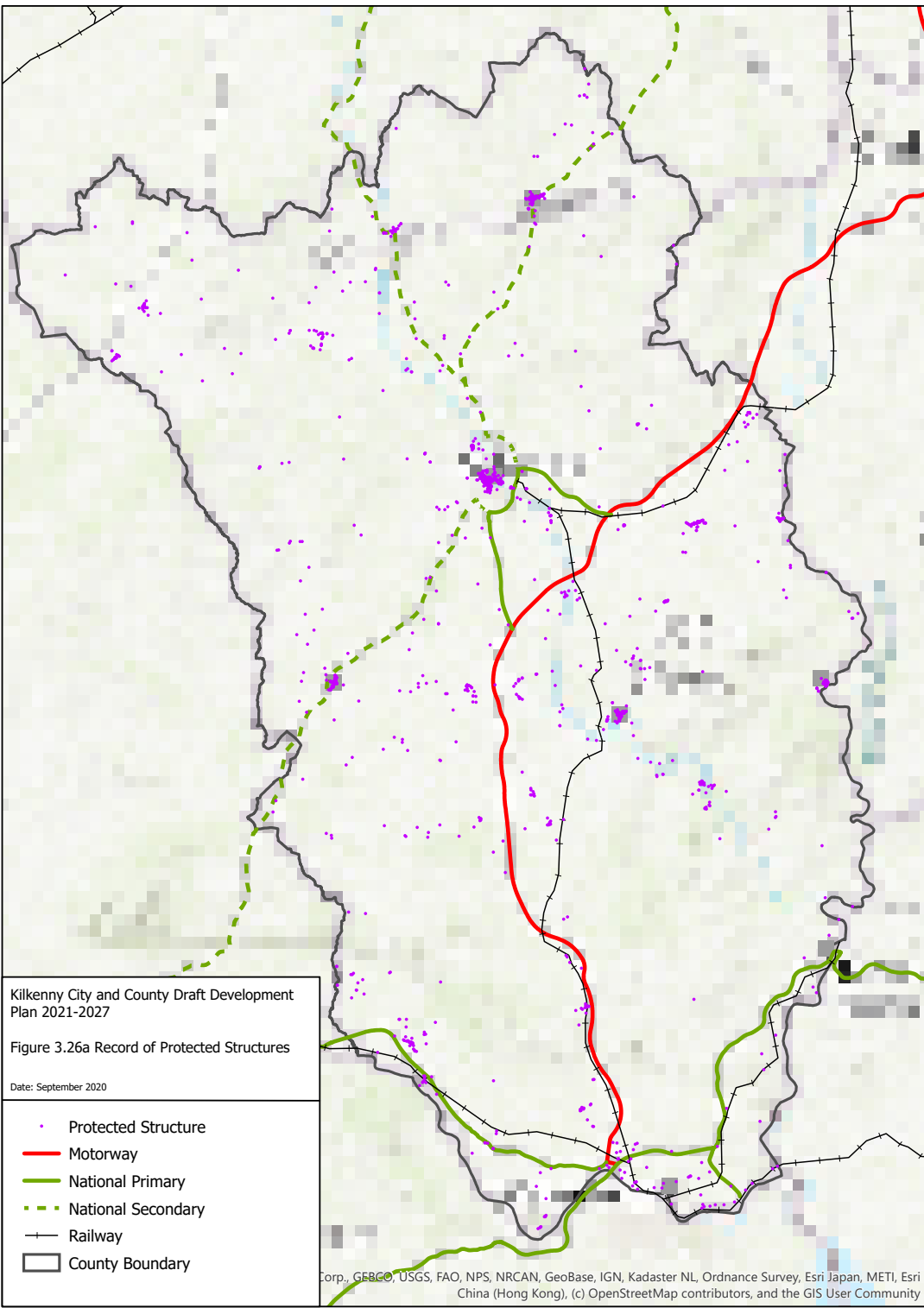


Kilkenny City and County Draft Development Plan 2021-2027

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

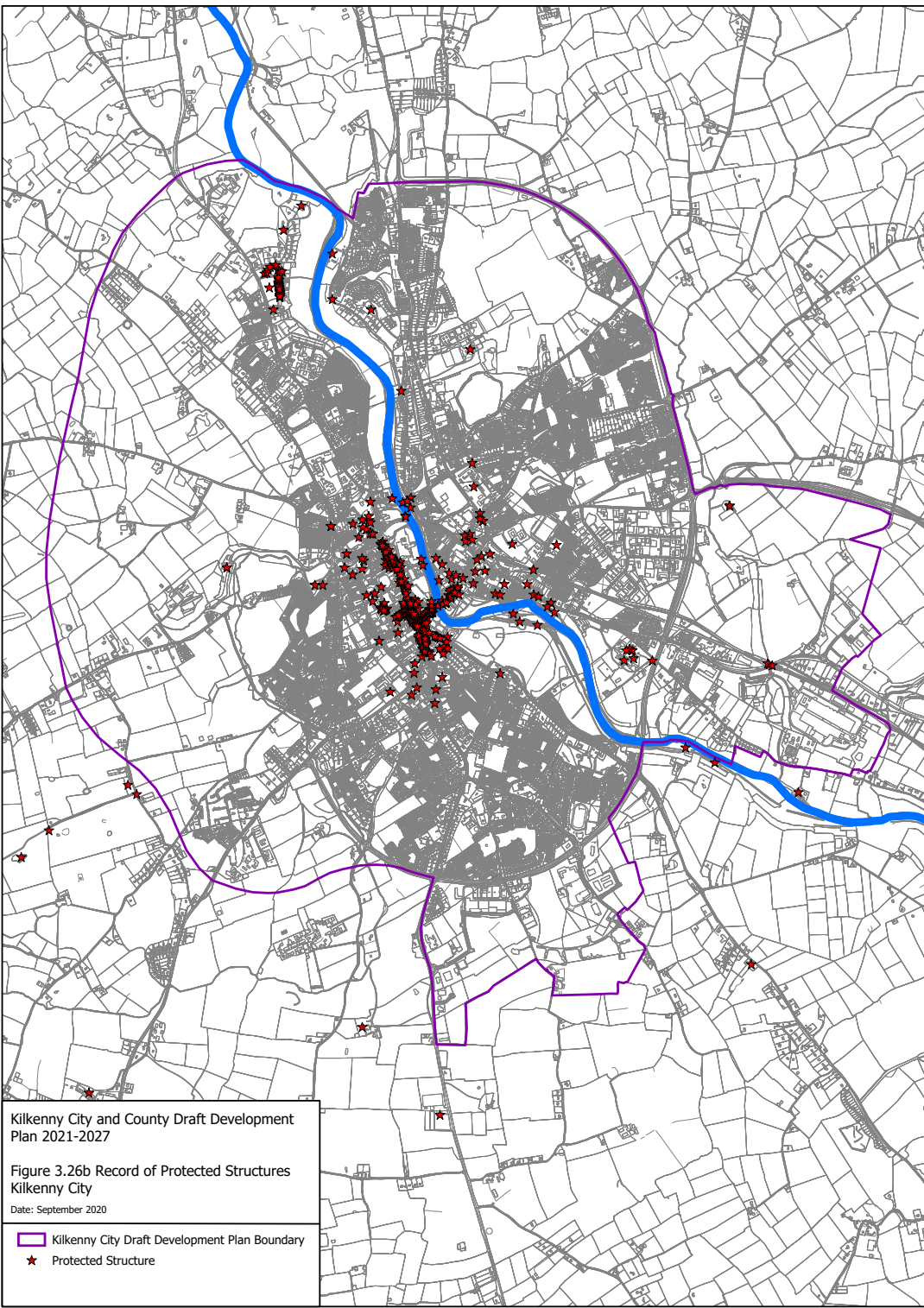


Kilkenny City and County Draft Development  
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Figure 3.26a Record of Protected Structures

Date: September 2020



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



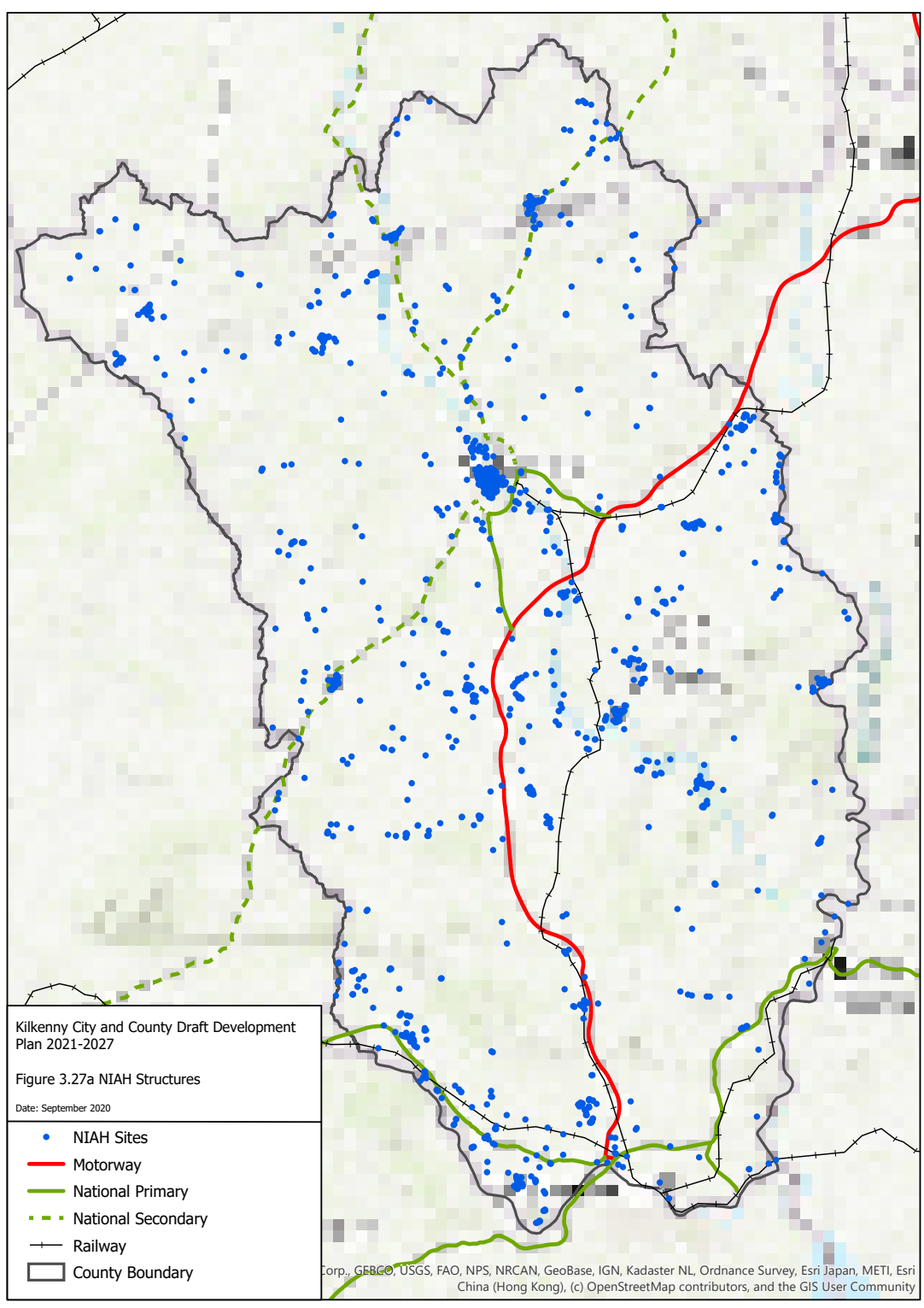
Kilkenny City and County Draft Development  
Plan 2021-2027

Figure 3.26b Record of Protected Structures  
Kilkenny City

Date: September 2020

-  Kilkenny City Draft Development Plan Boundary
-  Protected Structure



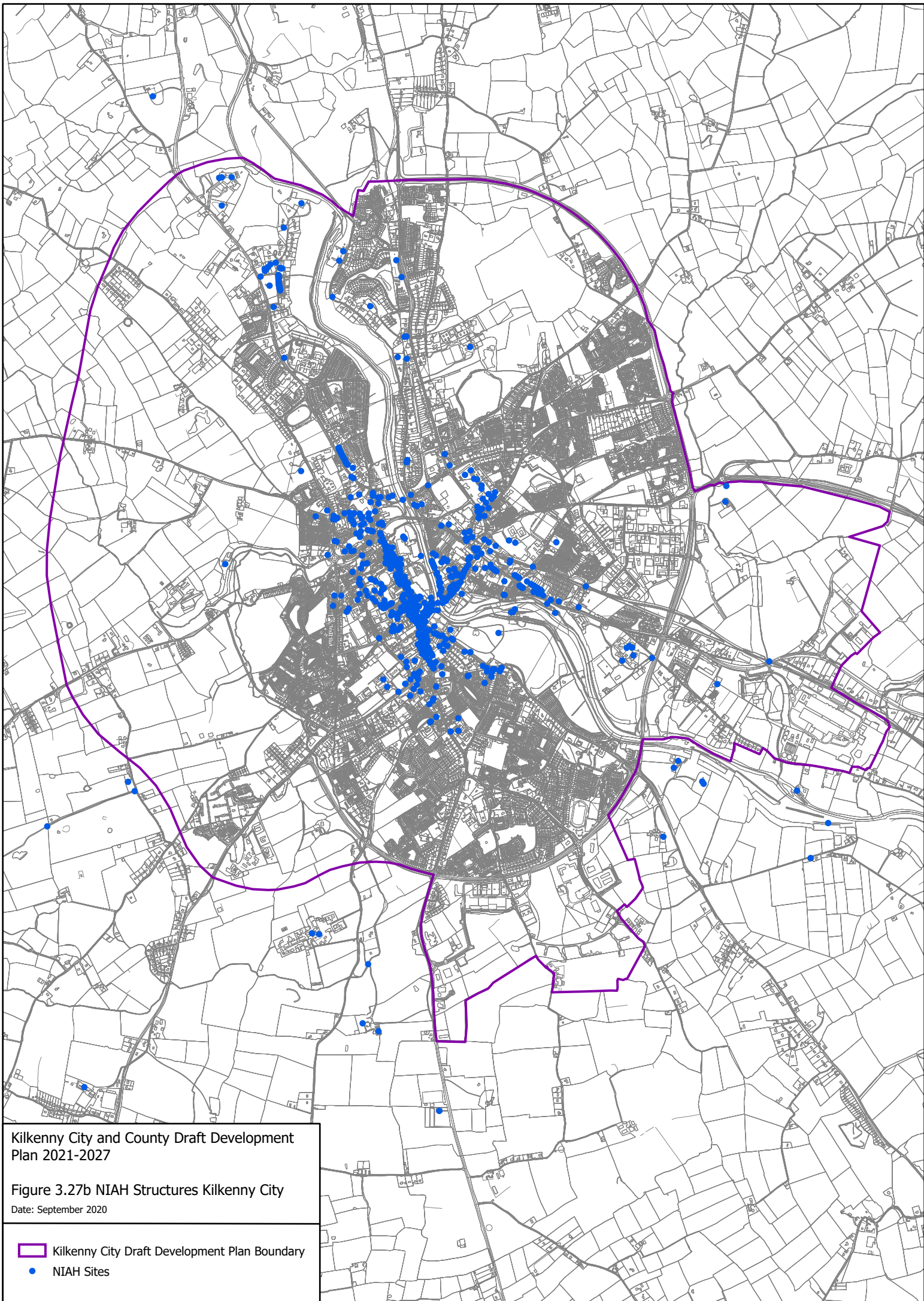


Kilkenny City and County Draft Development Plan 2021-2027

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

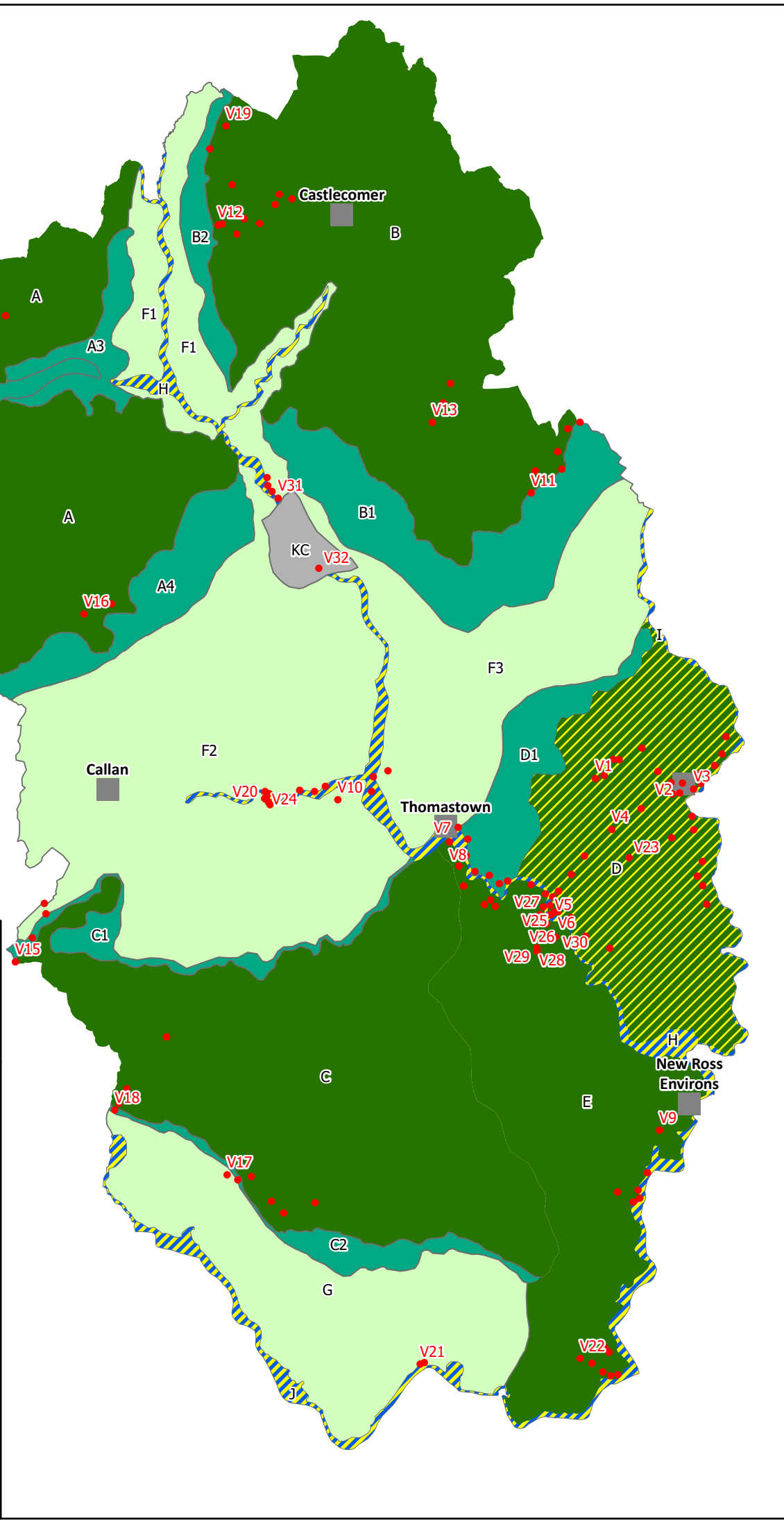
A review of the policies in adjoining Development Plans is necessary in order to establish any possible effects on adjoining authorities' landscape designations. This is set out in the table below. Sensitivities identified in adjoining counties will be taken into account, particularly as part of the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





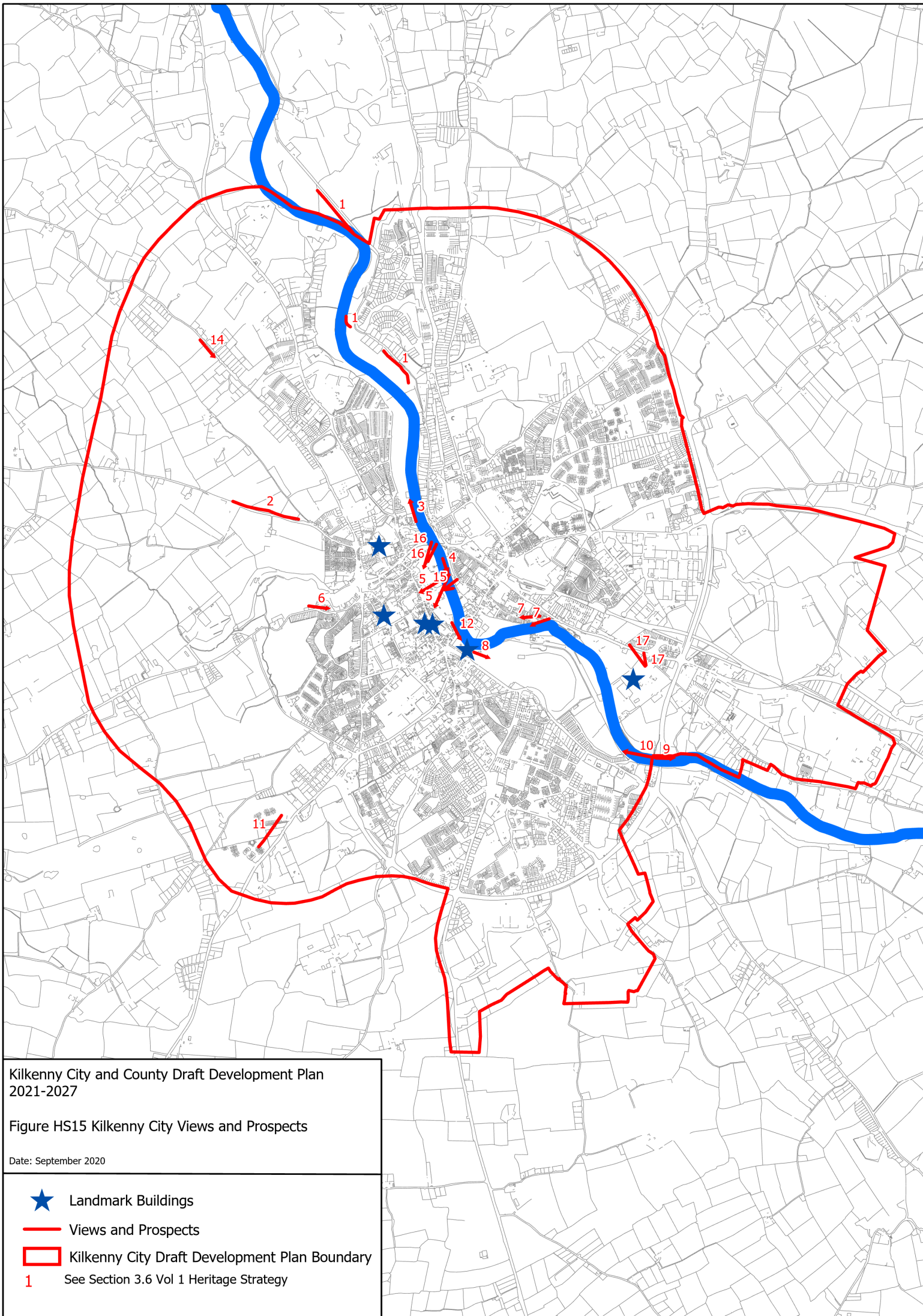


Table 3.15: Review of adjoining Development Plans in relation to landscape sensitivity

Plan	Views/scenic routes	Special sensitivity
<b>Carlow County Development Plan 2015 -2021</b> <b>Appendix 6 – LCA and Protected Views</b>	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.
<b>Laois County Development Plan 2017-2023</b> <b>Figure 29 and Table 27: Designated Views</b> <b>Appendix 6: LCA</b>	Two views into Kilkenny south of Cullahill and Durrow.	No area of sensitivity adjoining Co. Kilkenny boundary
<b>Waterford County Development Plan 2011-2017 – term has been extended.</b>	No scenic routes adjoining Co. Kilkenny boundary	No area of sensitivity adjoining Co. Kilkenny boundary
<b>Waterford City Development Plan 2013-2019 – term has been extended.</b>	No protected views adjoining Co. Kilkenny boundary.	
<b>Wexford Draft County Development Plan 2021</b> <b>Chapter 11: Landscape</b> <b>SEA Figure 5.17: Landscape Character Types</b>	Scenic routes not designated.	No landscapes of greater sensitivity adjoining Co. Kilkenny boundary
<b>South Tipperary County Development Plan 2009 – term has been extended</b>	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 CO<sup>2</sup> 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"> <li>To preserve, protect, maintain and, where appropriate, enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species.</li> </ul>
	B2	<ul style="list-style-type: none"> <li>Ensure no adverse effects on the integrity of any European site, with regard to its qualifying interests, associated conservation status, structure and function.</li> </ul>
	B3	<ul style="list-style-type: none"> <li>Safeguard national, regional and local designated sites and supporting features which function as stepping stones for migration, dispersal and genetic exchange of wild species.</li> </ul>
	B4	<ul style="list-style-type: none"> <li>Enhance biodiversity in line with the National Biodiversity Strategy and its targets.</li> </ul>
	B5	<ul style="list-style-type: none"> <li>To protect, maintain and conserve the County's Natural Capital</li> </ul>
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"> <li>To create an environment where every individual and sector of society can play their part in achieving a more healthy Ireland.</li> </ul>
	P2	<ul style="list-style-type: none"> <li>Consolidate growth and limit urban sprawl.</li> </ul>
	P3	<ul style="list-style-type: none"> <li>Enhance human health and promote healthy living through access to active travel opportunities, especially walking and cycling.</li> </ul>
	P4	<ul style="list-style-type: none"> <li>Promote economic growth to encourage retention of working age population.</li> </ul>
	P5	<ul style="list-style-type: none"> <li>Ensure that existing population and planned growth is matched with the required public infrastructure and the required services.</li> </ul>
	P6	<ul style="list-style-type: none"> <li>Safeguard the county's citizens from environment-related</li> </ul>

		pressures and risks to health and well-being.
<p><b>WATER</b></p> <p>Guiding Principle: Protection, improvement and sustainable management of the water resource</p>	<p>W1</p> <p>W2</p> <p>W3</p> <p>W4</p> <p>W5</p>	<ul style="list-style-type: none"> <li>• Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the WFD and MSFD.</li> <li>• Ensure that economic growth of the marine resource and its ecosystems are managed sustainably.</li> <li>• 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.</li> <li>• Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion.</li> <li>• Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals.</li> </ul>
<p><b>LAND AND SOILS</b></p> <p>Guiding Principle: Ensure the long-term sustainable management of land</p>	<p>S1</p> <p>S2</p> <p>S3</p>	<ul style="list-style-type: none"> <li>• Protect soils against pollution, and prevent degradation of the soil resource.</li> <li>• Promote the sustainable use of infill and brownfield sites over the use of greenfield.</li> <li>• Safeguard areas of prime agricultural land and designated geological sites.</li> </ul>
<p><b>AIR</b></p> <p>Guiding Principle: Support clean air policies that reduce the impact of air pollution on the environment and public health</p>	<p>A1</p> <p>A2</p> <p>A3</p> <p>A4</p> <p>A5</p> <p>A6</p>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency.</li> <li>• Promote continuing improvement in air quality.</li> <li>• 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</li> <li>• Meet Air Quality Directive standards for the protection of human health — Air Quality Directive</li> <li>• Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels</li> </ul>
<p><b>CLIMATE</b></p> <p>Guiding Principle: Achieving transition to a competitive, low carbon, climate-resilient economy that is cognisant of environmental impacts.</p>	<p>C1</p> <p>C2</p> <p>C3</p> <p>C4</p> <p>C5</p>	<ul style="list-style-type: none"> <li>• To minimise emissions of greenhouse gasses.</li> <li>• Integrate sustainable design solutions into infrastructure (e.g. energy efficient buildings; green infrastructure).</li> <li>• Contribute towards the reduction of greenhouse gas emissions in line with national targets.</li> <li>• Promote development resilient to the effects of climate change.</li> <li>• Promote the use of renewable energy, energy efficient development and increased use of public transport.</li> </ul>

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

## 5 Assessment of Alternatives

### 5.1 Introduction

The [SEA Directive](#)<sup>39</sup> 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.

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<sup>39</sup> 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 unserviced or in insufficiently serviced 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 Graiguenamanagh'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 Graiguenamanagh.

**Table 5.1: Population of urban centres (2016)**

<b>Town</b>	<b>2016 Population</b>
Callan	2,475
Thomastown	2,445
Castlecomer	1,502
Graiguenamanagh	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 Graiguenamanagh were subject to a Flood Risk Assessment as part of their Local Area Plans<sup>40</sup>. 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. Graiguenamanagh 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 Graiguenamanagh 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	

<sup>40</sup> [http://www.kilkennycoco.ie/eng/Services/Planning/Local%20Area%20Plans/Adopted\\_Local\\_Area\\_Plans/](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 Graigueenamanagh 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
<b>Biodiversity, fauna and flora</b>			
• 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			
<b>Population and Human Health</b>			
• 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"> <li>Promote economic growth to encourage retention of working age population.</li> </ul>			
<ul style="list-style-type: none"> <li>Ensure that existing population and planned growth is matched with the required public infrastructure and the required services.</li> </ul>			
<ul style="list-style-type: none"> <li>Safeguard the county's citizens from environment-related pressures and risks to health and well-being.</li> </ul>			
<b>Water</b>			
<ul style="list-style-type: none"> <li>Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the WFD and MSFD.</li> </ul>			
<ul style="list-style-type: none"> <li>Ensure that economic growth of the marine resource and its ecosystems are managed sustainably.</li> </ul>			
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"> <li>Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion.</li> </ul>			
<ul style="list-style-type: none"> <li>Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals.</li> </ul>			
<b>Land and Soils</b>			
<ul style="list-style-type: none"> <li>Protect soils against pollution, and prevent degradation of the soil resource.</li> </ul>			
<ul style="list-style-type: none"> <li>Promote the sustainable use of infill and brownfield sites over the use of greenfield.</li> </ul>			
<ul style="list-style-type: none"> <li>Safeguard areas of prime agricultural land and designated geological sites.</li> </ul>			
<b>Air</b>			
<ul style="list-style-type: none"> <li>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.</li> </ul>			
<ul style="list-style-type: none"> <li>Maintain and promote continuing improvement in air quality through the reduction of emissions and promotion of renewable energy and energy efficiency.</li> </ul>			
<ul style="list-style-type: none"> <li>Promote continuing improvement in air quality.</li> </ul>			
<ul style="list-style-type: none"> <li>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</li> </ul>			
<ul style="list-style-type: none"> <li>Meet Air Quality Directive standards for the protection of human health — Air Quality Directive</li> </ul>			
<ul style="list-style-type: none"> <li>Significantly decrease noise pollution by 2020 and move closer to WHO recommended levels</li> </ul>			
<b>Climate</b>			
<ul style="list-style-type: none"> <li>To minimise emissions of greenhouse gasses.</li> </ul>			
<ul style="list-style-type: none"> <li>Integrate sustainable design solutions into infrastructure (e.g. energy efficient buildings; green infrastructure).</li> </ul>			
<ul style="list-style-type: none"> <li>Contribute towards the reduction of greenhouse gas emissions in line</li> </ul>			

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.			
<b>Material Assets</b>			
• 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.			
<b>Cultural Heritage</b>			
• Protect places, features, buildings and landscapes of cultural, archaeological or architectural heritage			
<b>Landscape</b>			
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.



<b>Table 5.4: Core Strategy Population Allocation</b>	
<b>Settlement</b>	<b>Core strategy population allocation</b>
County Kilkenny	11,842
Kilkenny City (Key Town)	3,641
Ferrybank/Belview (Part of Waterford Metropolitan Area)	1,452
<b>District Towns</b>	
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
<b>Total</b>	<b>11,842</b>

## 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 <sub>2</sub> 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
<b>Volume 1 Chapter 4 Core Strategy</b>					
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 <sup>41</sup> 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

<sup>41</sup> 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
<b>Volume 1 Chapter 5 Economic Development</b>					
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
<b>6</b>	<b>Housing and Community</b>				
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
<b>Volume 1 Chapter 7 Rural Development</b>					
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
<b>Volume 1 Chapter 8 Open Space and Recreation</b>					
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
<b>Volume 1 Chapter 9 Heritage and Culture</b>					
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
<b>Volume 1 Chapter 10 Infrastructure and Environment</b>					
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— <ul style="list-style-type: none"> <li>• The siting of Major Accident Hazard sites</li> <li>• The modification of an existing Major Accident Hazard site</li> <li>• Development in the vicinity of a Major Accident Hazard site</li> </ul>	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
<b>Volume 1 Chapter 11 Renewable Energy</b>					
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
<b>Volume 1 Chapter 12 Movement and Mobility</b>					
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 Breaghagh 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
<b>Volume 1 Chapter 13 Requirements for Developments</b>					
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
<b>Volume 2 Chapter C3 Economic and Retail Strategy</b>					
	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
<b>Volume 2 Chapter C4 Heritage Strategy</b>					
	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
<b>Volume 2 Chapter C5 Movement and Mobility Strategy</b>					
	<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"> <li>o Walking,</li> <li>o Cycling,</li> <li>o Public transport</li> <li>o Motorised transport</li> <li>o Carparking strategy/Car parking demand management</li> </ul>	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
<b>Volume 2 Chapter C6 Kilkenny City Place-making</b>					
	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

<b>Volume 1 Chapter 2: Climate Change</b>	
<b>Objective</b>	<b>Uncertain effects on SEA objective</b>
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
<b>Mitigation included in Plan: See Volume 1 Chapter 10</b> 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 <a href="#">Guidelines</a> . 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
<b>Mitigation included in Plan: See Volume 1 Chapter 5 Economic Development and Tourism and Vol. 2 Chapter 3 Economic and Retail Strategy</b> 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
<b>Mitigation included in Plan: See Volume 1 Chapter 5 Economic Development and Tourism and Vol. 2 Chapter 3 Economic and Retail Strategy</b> 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.	
<b>Mitigation included in Plan: See Volume 1 Chapter 5 Economic Development and Tourism and Vol. 2 Chapter 3 Economic and Retail Strategy</b> As set out above.	
<b>Chapter 4: Core Strategy</b>	
<b>Development Objective</b>	<b>Uncertain effects on SEA objectives</b>
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
<b>Mitigation included in Plan: See Volume 1 Chapter 10</b> 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 <a href="#">Guidelines</a> . 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 <sup>42</sup> 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
<b>Mitigation included in Plan: See Volume 1 Chapter 10</b> 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 <a href="#">Guidelines</a> . 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
<b>Mitigation included in Plan: See Volume 1 Chapter 10</b> Prioritising compact growth may lead to conflicts with environmental considerations, in particular	

<sup>42</sup> 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 <a href="#">Guidelines</a>. 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><b>Mitigation included in Plan: See Volume 1 Chapter 10</b></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 <a href="#">Guidelines</a>. 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><b>Mitigation included in Plan:</b></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 <a href="#">Guidelines</a>. 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><b>Mitigation included in Plan:</b></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 <a href="#">Guidelines</a>. 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><b>Mitigation included in Plan:</b></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 <a href="#">Guidelines</a> . 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
<b>Mitigation included in Plan: See Chapters 1, 9 &amp; 10</b> 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
<b>Mitigation included in Plan:</b> 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).	
<b>Chapter 5 Development Objective</b>	<b>Uncertain effects on SEA objectives</b>
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
<b>Mitigation included in Plan:</b> 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
<b>Mitigation included in Plan:</b> 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
<b>Mitigation included in Plan:</b> 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
<b>Mitigation included in Plan:</b> 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
<b>Mitigation included in Plan:</b> 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
<b>Mitigation included in Plan:</b> 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
<b>Mitigation included in Plan:</b> 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.	
<b>Mitigation included in Plan:</b> 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
<b>Mitigation included in Plan:</b> 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).	
<b>Chapter 6 Housing and Community Development Objective</b>	<b>Uncertain effects on SEA objectives</b>
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
<b>Mitigation included in Plan:</b> 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 <a href="#">Guidelines</a> . 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.	
<b>Chapter 8 Open Space and Recreation</b>	
<b>Development Objective</b>	<b>Uncertain effects on SEA objectives</b>
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
<b>Mitigation:</b> The provision of a pedestrian bridge may lead to conflicts with environmental considerations.	

<p>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.</p>	
<p>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.</p>	<p>B1 B2 B3 B4 B5 W1 H1</p>
<p><b>Mitigation:</b> 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>	
<p>8D To undertake a feasibility study to determine the optimal location for, and to develop, a water sports hub on the River Nore.</p>	<p>B1 B2 B3 B4 B5 H1</p>
<p><b>Mitigation:</b> 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.</p>	
<p>8E To provide a pedestrian crossing along the northern side of Greens Bridge.</p>	<p>B1 B2 B3 B4 B5 W1 H1</p>
<p><b>Mitigation:</b> 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.</p>	
<p>8F To continue the development of new trails and walkways such as the Castlecomer, Knockdrinna Wood and Ballyhale Looped Walks and the upgrade</p>	<p>B1 B2 B3 B4 B5</p>



of others such as the Freshford, Gathabawn and Kilmacoliver Looped Walks and the Nore Valley Walk.	
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation included in Plan:</b> 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
<b>Mitigation included in Plan:</b> 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).	
<b>Volume 1 Chapter 11 Renewable Energy</b>	
<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
<b>Mitigation included in Plan: See Chapter 9</b> 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
<b>Mitigation included in Plan: See Chapter 9</b> 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

<b>Mitigation included in Plan: See Chapter 9</b> 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.	
<b>Volume 1 Chapter 12 Movement and Mobility</b>	
<b>Development Objective</b>	<b>Uncertain effects on SEA objectives</b>
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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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.	
<b>Volume 1 Chapter 13 Requirements for Developments</b>	
<b>Development Objective</b>	<b>Uncertain effects on SEA objectives</b>
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
<b>Mitigation included in Plan:</b> 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 <a href="#">Guidelines</a> . 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

<b>Volume 2 Chapter C2 Core Strategy</b>	
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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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 <a href="#">Guidelines</a> . 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.	
<b>Volume 2 Chapter C3 Economic and Retail Strategy</b>	
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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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 <a href="#">Guidelines</a> . 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
<b>Mitigation:</b> 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 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.	
C3F To provide high quality office accommodation in the Abbey Quarter appropriate to the needs of Kilkenny.	B1 B2 B3 B4 B5 W4 H1
<b>Mitigation:</b> 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 <a href="#">Guidelines</a> . 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
<b>Mitigation:</b> 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.	
<b>Volume 2 Chapter C5 Movement and Mobility Strategy</b>	
C5I To develop a cycle route between the Eastern Environs and the Breaghagh Valley.	B1 B2 B3 B4 B5
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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>	
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.	B1 B2 B3 B4 B5 W1 H1
<p><b>Mitigation:</b></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>	
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.	B1 B2 B3 B4 B5 W1 H1
<p><b>Mitigation:</b></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>	
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.	B1 B2 B3 B4 B5
<p><b>Mitigation:</b></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>	
C5U To Implement to the following Roads Objectives: (See Figure MS6 Road Objectives)	B1 B2 B3 B4 B5 H1
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.	
<p><b>Mitigation:</b></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><b>Mitigation:</b></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><b>Mitigation:</b></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><b>Mitigation:</b></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><b>Mitigation:</b></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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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.		
<b>Volume 2 Chapter C6 Kilkenny City Place-making</b>		
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"> <li>i. adverse effects on existing amenities in such areas, in particular as a result of the ruinous or neglected condition of any land,</li> <li>ii. urban blight and decay</li> <li>iii. anti-social behaviour, or</li> <li>iv. a shortage of habitable houses or of land suitable for residential use or a mixture of residential and other uses.</li> </ul>	B1 W4 H1
<b>Mitigation included in Plan:</b> 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 <a href="#">Guidelines</a> . 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
<b>Mitigation included in Plan:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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
<b>Mitigation:</b> 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><b>Mitigation:</b></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><b>Mitigation:</b></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**

<b>Environmental Category</b>	<b>Targets</b>	<b>Selected indicators</b>	<b>Data Sources</b>	<b>Monitoring frequency</b>
<b>Biodiversity -Flora and Fauna</b>	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
<b>Population and Human health</b>	No further loss of population within Graiguenamanagh; total not to decrease on 2016 level.	Total population within Graiguenamanagh.	Census	Next Census
<b>Soil</b>	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 <sup>43</sup> .	Total area of peatland	Corine mapping resurvey	Unknown
<b>Water</b>	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

<sup>43</sup> CORINE 2012 shows this at 0.5%.

<b>Air</b>	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
<b>Climatic factors</b>	Improved Climate Change Adaptation measures.	Implementation of Climate Change Adaptation Strategy Actions.	Kilkenny County Council.	At monitoring evaluation
<b>Material Assets</b>	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
<b>Cultural Heritage (architectural and archaeological)</b>	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
<b>Landscape</b>	No decrease in sensitive land cover; proportion of county comprising sensitive land cover should not decrease from 2012 level <sup>44</sup> .	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

<sup>44</sup> 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\*](#)<sup>1</sup> 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.

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<sup>1</sup> 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.

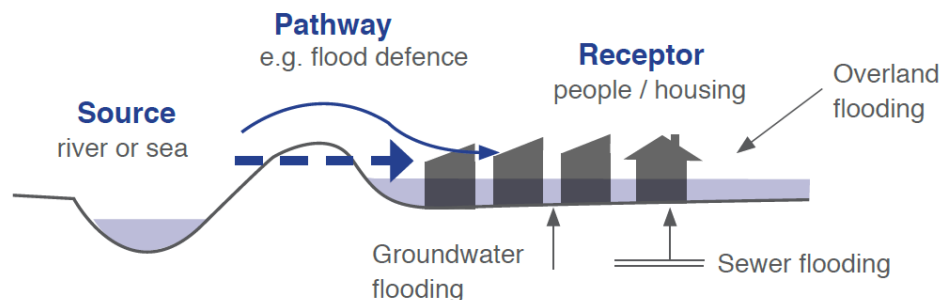
### 2.2 Definition of Flood Risk

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;

<b>essential infrastructure)</b>	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.
<b>Less vulnerable development</b>	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.
<b>Water-compatible development</b>	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).
<b>Zone C</b>	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*<sup>2</sup>. 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.

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<sup>2</sup> Southern Regional Authority, Southern Regional Spatial and Economic Strategy, 2020

### 3.1.2 OPW Publications

To comply with the 'Floods' Directive<sup>3</sup>, 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](#)<sup>4</sup> 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 Consultation<sup>5</sup> 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.

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

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

<sup>5</sup> <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 13,000km<sup>2</sup>.

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](http://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**

<b>Dataset</b>	<b>Description / coverage</b>	<b>Robustness</b>	<b>Comment on usefulness</b>
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 <sup>6</sup> 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

<sup>6</sup> 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 <a href="http://www.floodmaps.ie">www.floodmaps.ie</a>	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 Urlingford<sup>7</sup>.

#### 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.

<sup>7</sup> 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	<a href="http://www.floodmaps.ie">www.floodmaps.ie</a>	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	<a href="http://www.floodmaps.ie">www.floodmaps.ie</a>	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 <sup>th</sup> 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	<a href="http://www.floodmaps.ie">www.floodmaps.ie</a>	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	<a href="http://www.floodmaps.ie">www.floodmaps.ie</a>	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	<a href="http://www.floodmaps.ie">www.floodmaps.ie</a>	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	<a href="http://www.floodmaps.ie">www.floodmaps.ie</a>	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	<a href="http://www.floodmaps.ie">www.floodmaps.ie</a>	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	<a href="http://www.floodmaps.ie">www.floodmaps.ie</a>	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 <sup>8</sup> 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

<sup>8</sup> River Breaghagh currently under review.

Settlement /Town/ village	Available Data by source					
	CFRAM (HPW or MPW)	PFRAM	<a href="http://www.floodmaps.ie">www.floodmaps.ie</a>	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 3<sup>rd</sup> 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.



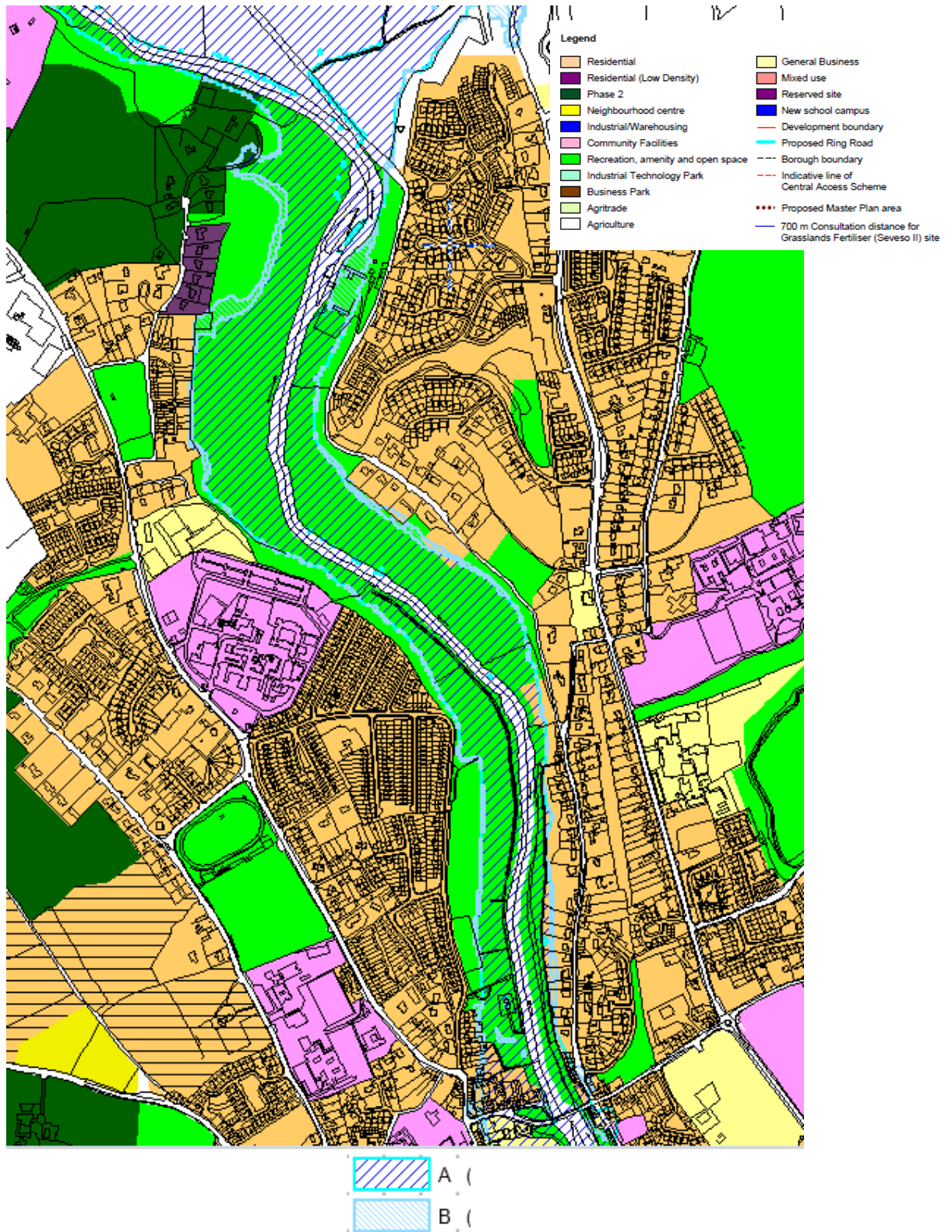
### **Minor developments**

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 2020<sup>9</sup> 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 ....

<sup>9</sup> Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2020

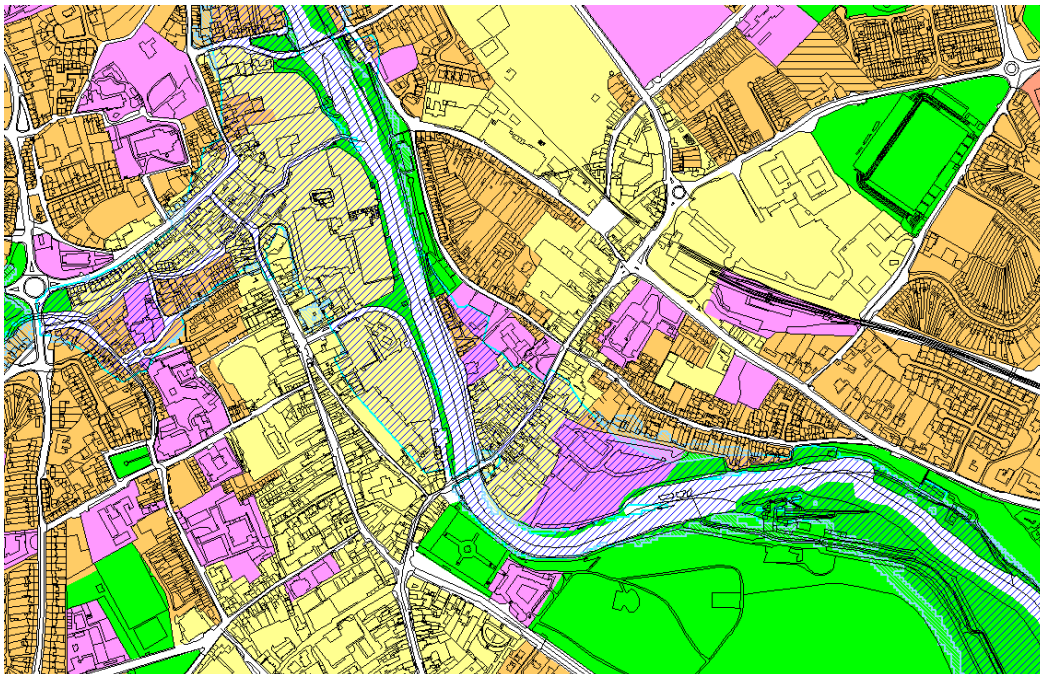


- i. The zoning of this area for residential use is intended mainly to reflect the existing uses in operation. The continued zoning of the land will facilitate the regeneration and/or expansion of the centre.
- ii. All of the land is currently in use.
- iii. All of the land adjoins the core of Kilkenny (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 2020<sup>10</sup> 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....

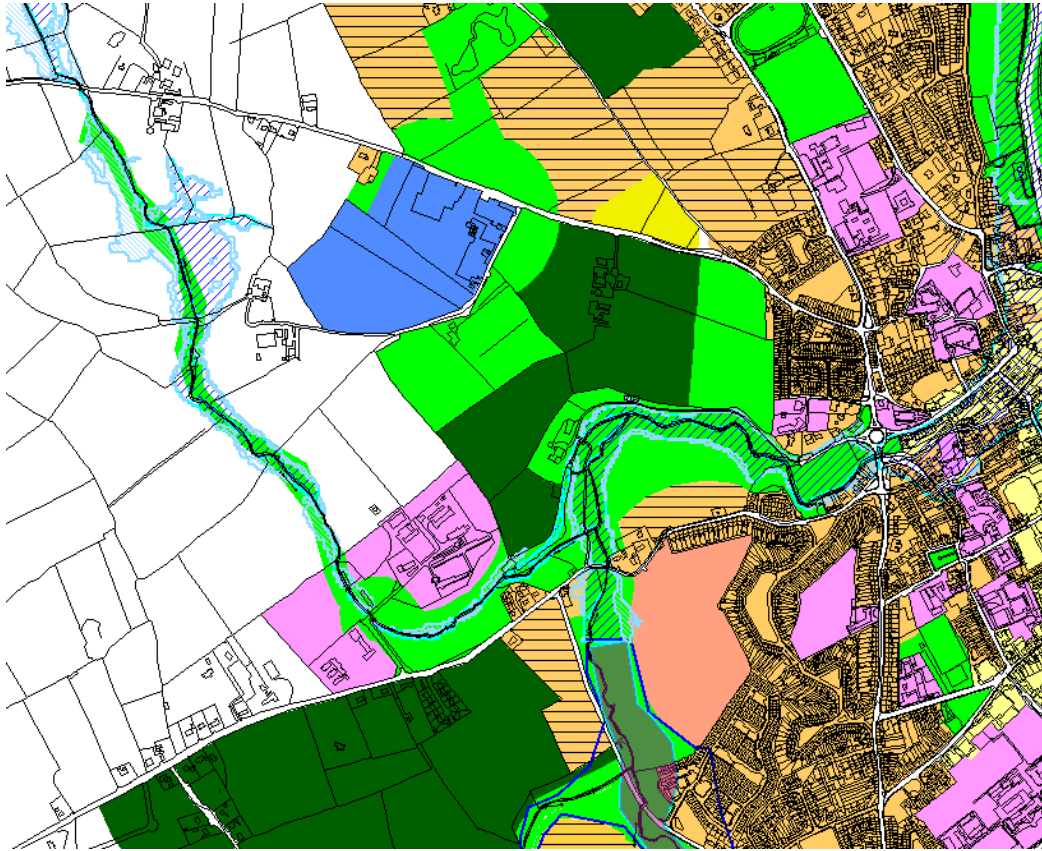
In the main, apart from the Abbey Quarter, this land is built out and the opportunities for future development are limited. In this context, this SFRA contains sufficient information appropriate to the scale and nature of the development potential. The Abbey Quarter has significant development potential. A Flood Risk Assessment was prepared as part of the preparation of the Abbey Quarter Masterplan<sup>11</sup>. 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.**

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<sup>10</sup> Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2020

<sup>11</sup> <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 2020<sup>12</sup> 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....

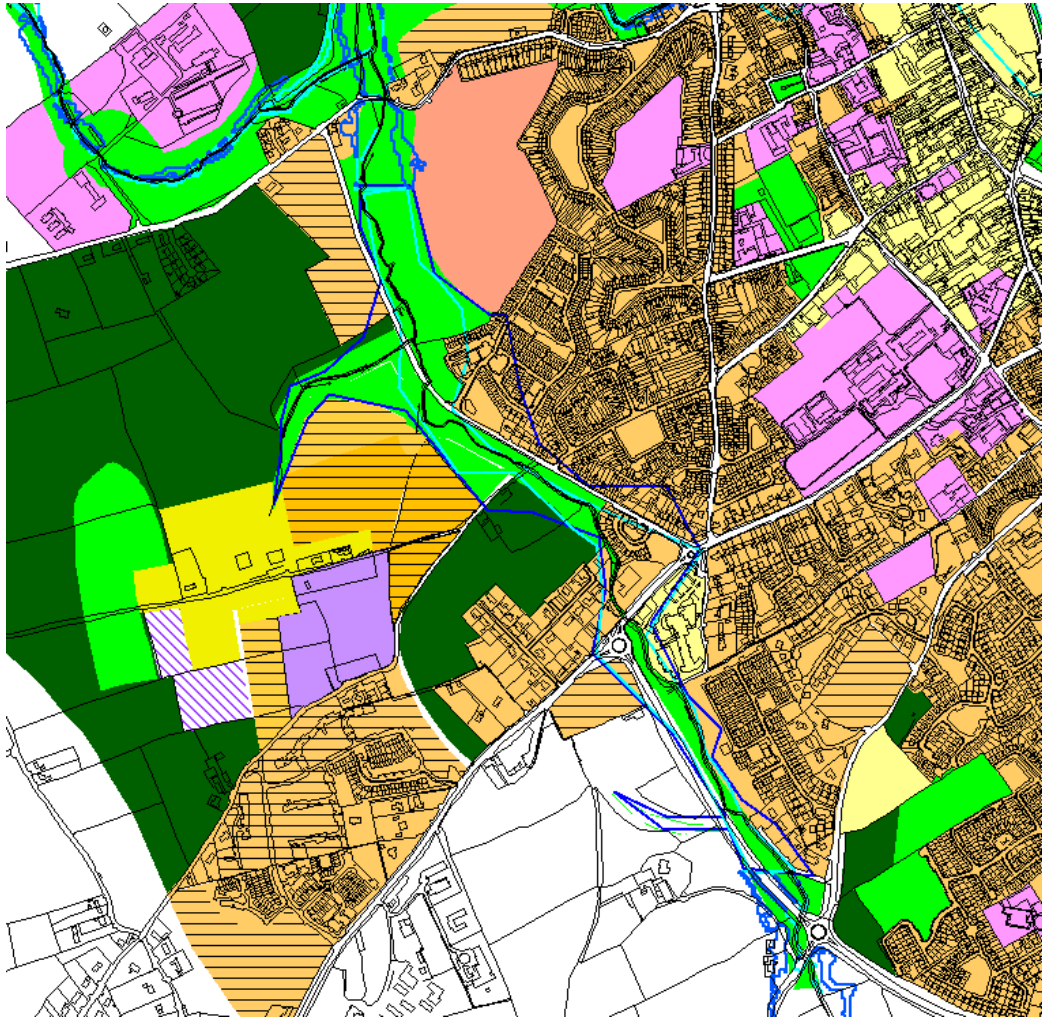
In the main, this land is built out and the opportunities for future development are limited. In this context, this FRA contains sufficient information appropriate to the scale and nature of the development potential. Mitigation measures are included in the DCCDP and an objective will state that any 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

<sup>12</sup> 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 2020<sup>13</sup> 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....

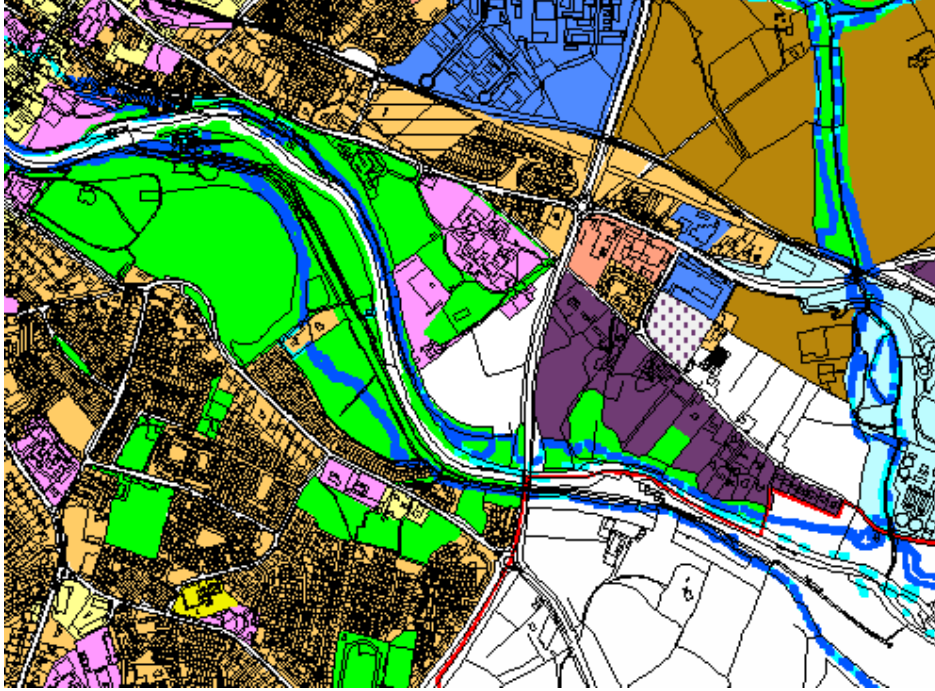
In the main, the zoning of this land for water compatible uses in the area covered by the indicative PFRA is appropriate. A site specific FRA was carried out for the only site with significant development potential.

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.

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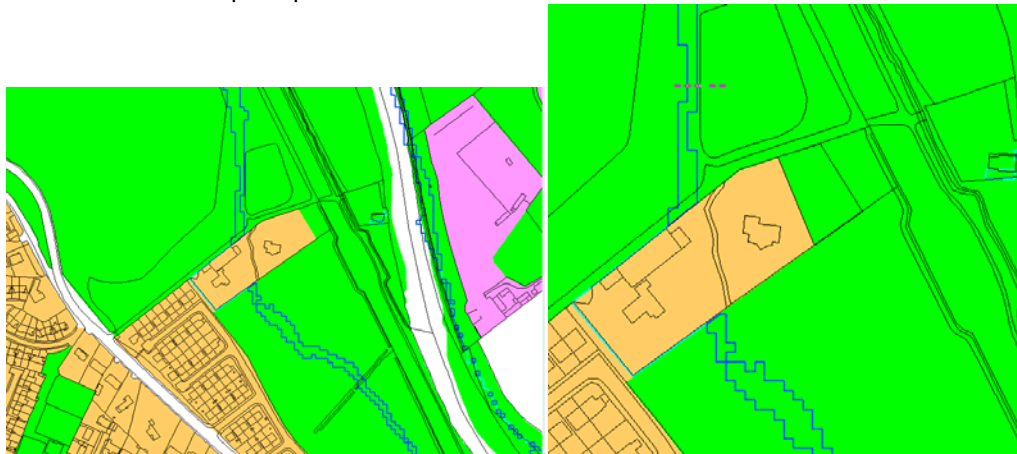
<sup>13</sup> Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2020

**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 2020<sup>14</sup> 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....

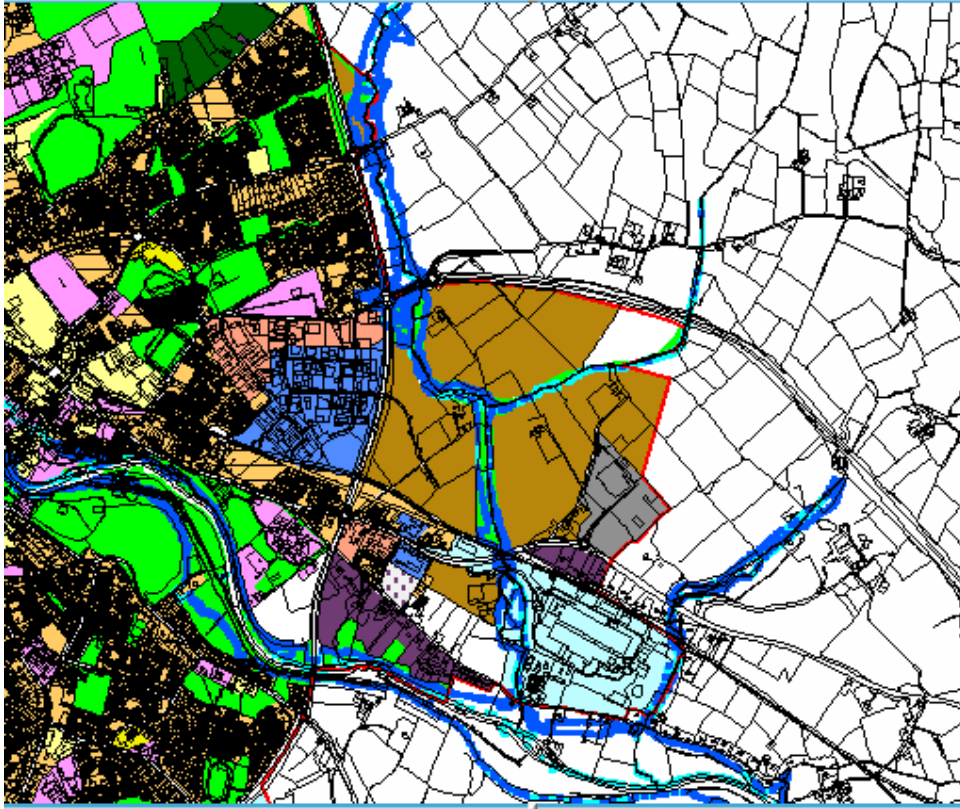
In the main, this land is built out and the opportunities for future development are limited. In this context, this FRA contains sufficient information appropriate to the scale and nature of the development potential. Mitigation measures are included in the DCCDP and an objective will state that any 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 Pococke River to east of city**

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<sup>14</sup> Southern Regional Assembly, *Regional Spatial and Economic Strategy*, 2020





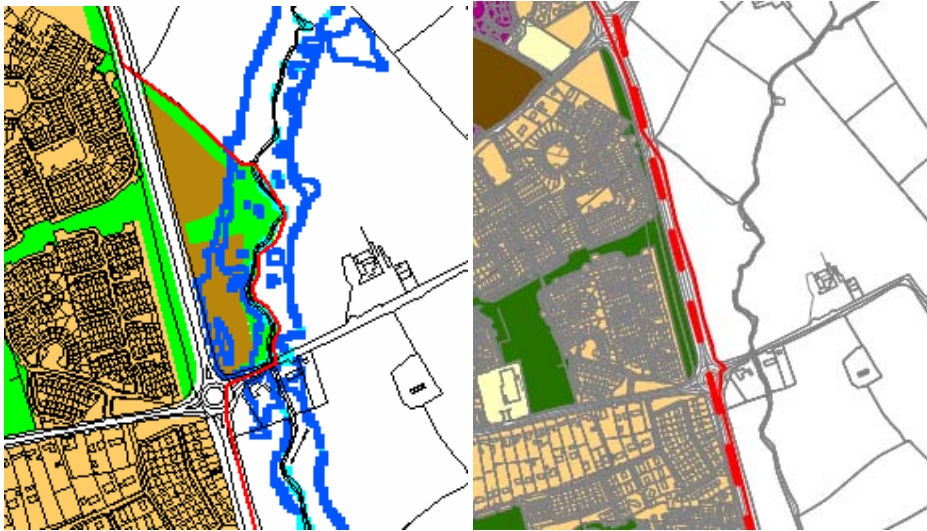
This area lies to the east of the city centre and is zoned for numerous uses, namely Industrial/Technology park, Residential, Open Space, Business park and Residential. For the most part, the area is undeveloped.

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 2020<sup>15</sup> 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

<sup>15</sup> 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

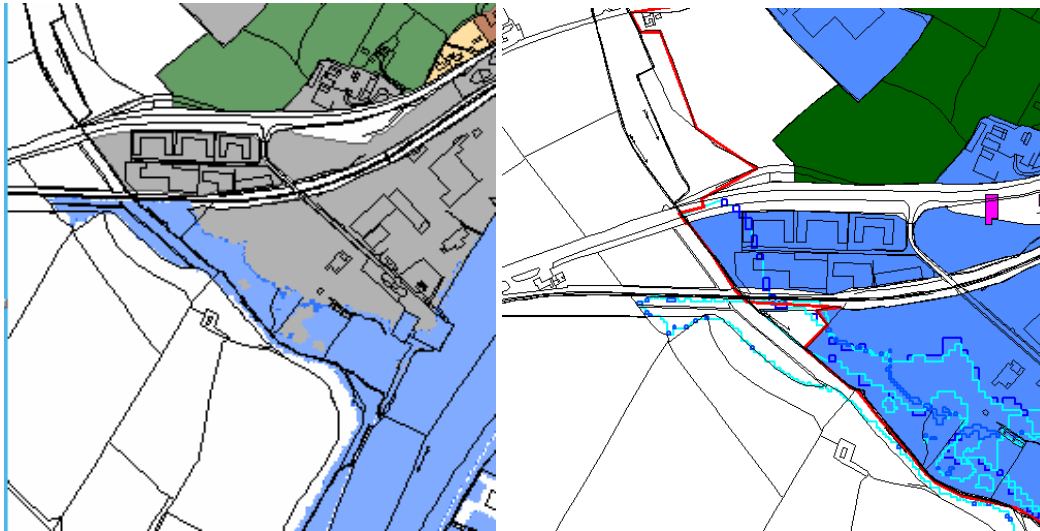
The Flood Zones in the Environs of New Ross were overlain on the Zoning Map, taken from the County Development Plan, 2014.

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 (GDSDS) and this will be considered in the planning process. This may be in the form of a section within the flood risk assessment (for sites in Flood Zone A or B) or part of a surface water management plan.

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

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

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

### **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

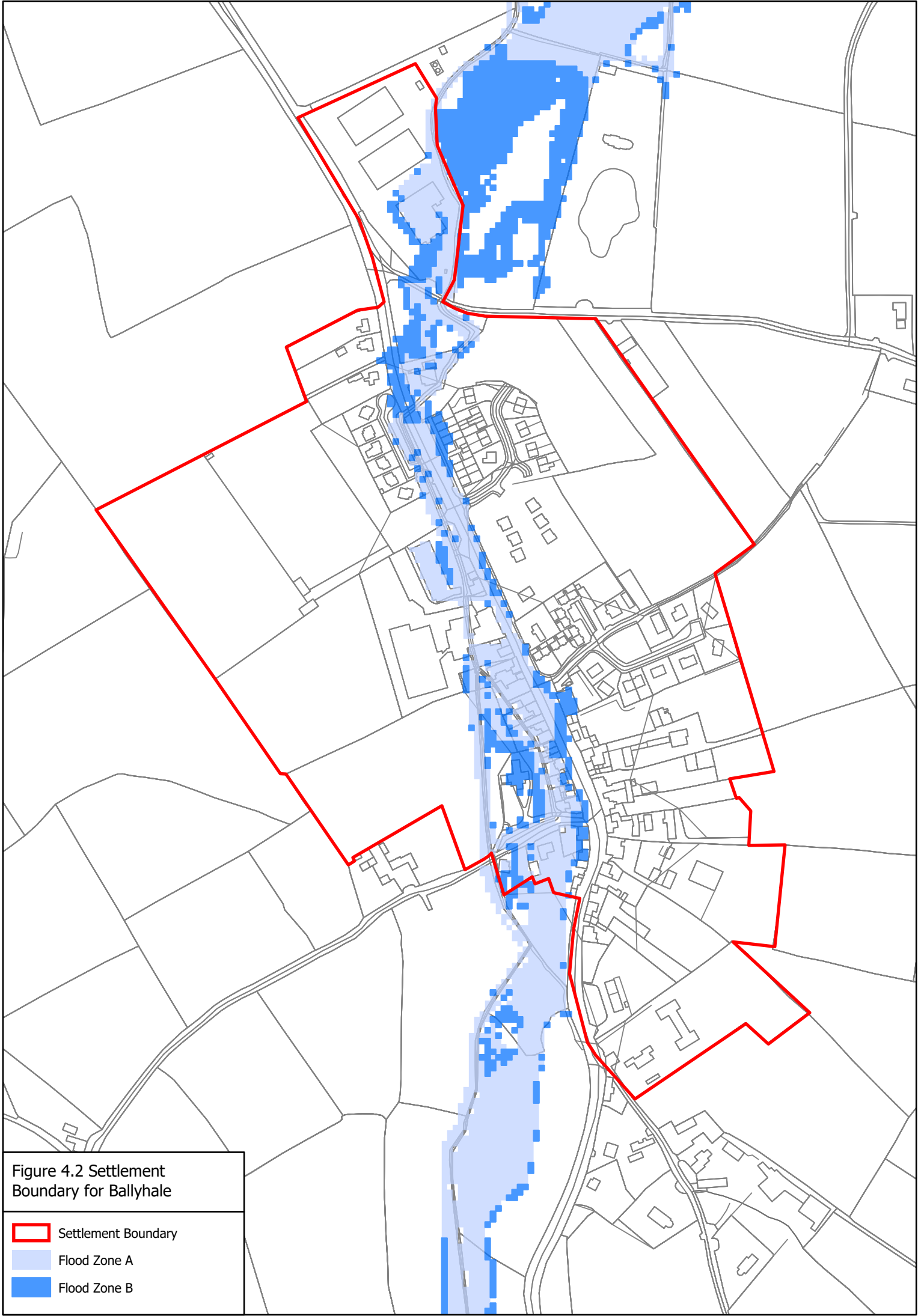


Figure 4.2 Settlement Boundary for Ballyhale

- Settlement Boundary
- Flood Zone A
- Flood Zone B

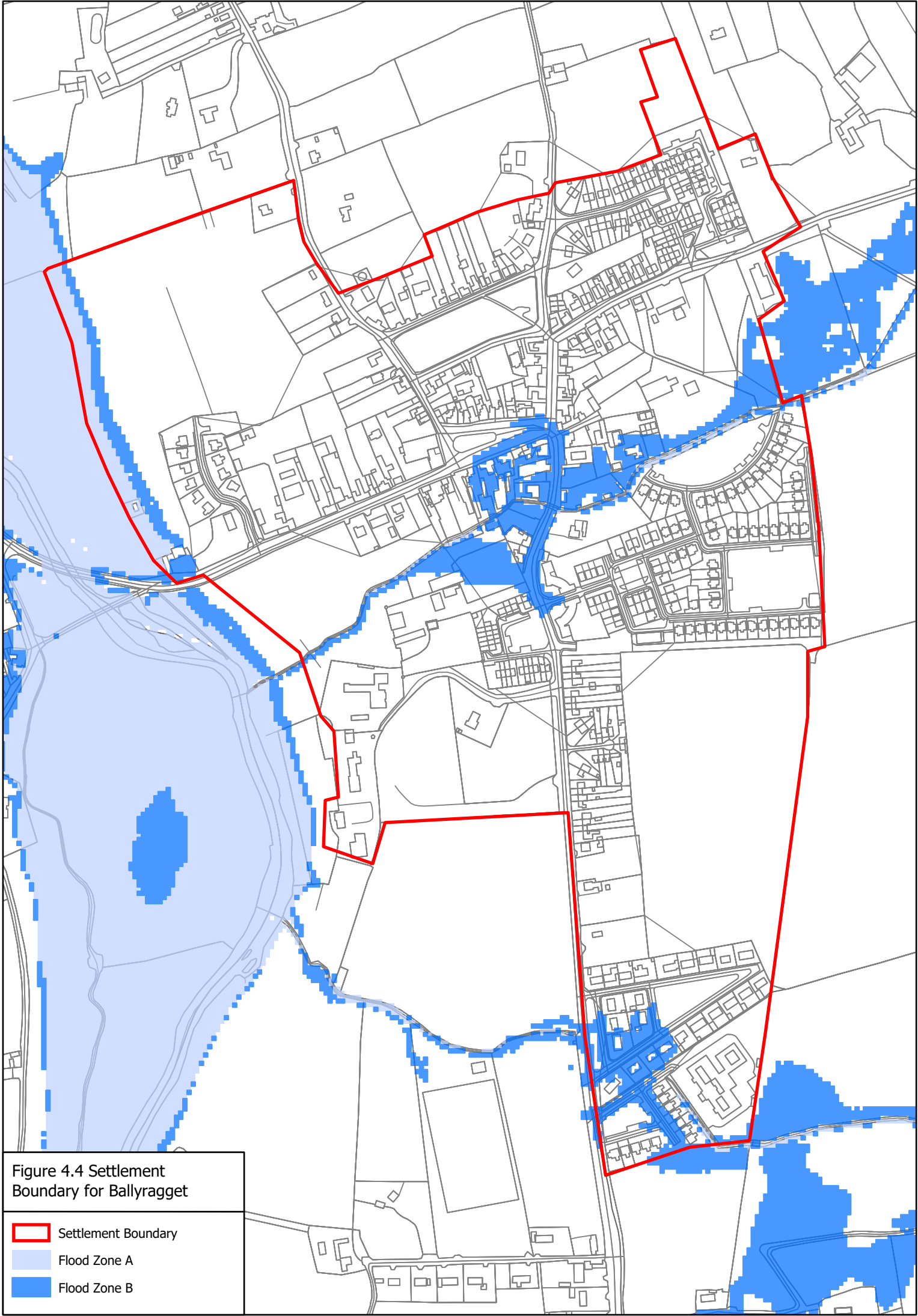



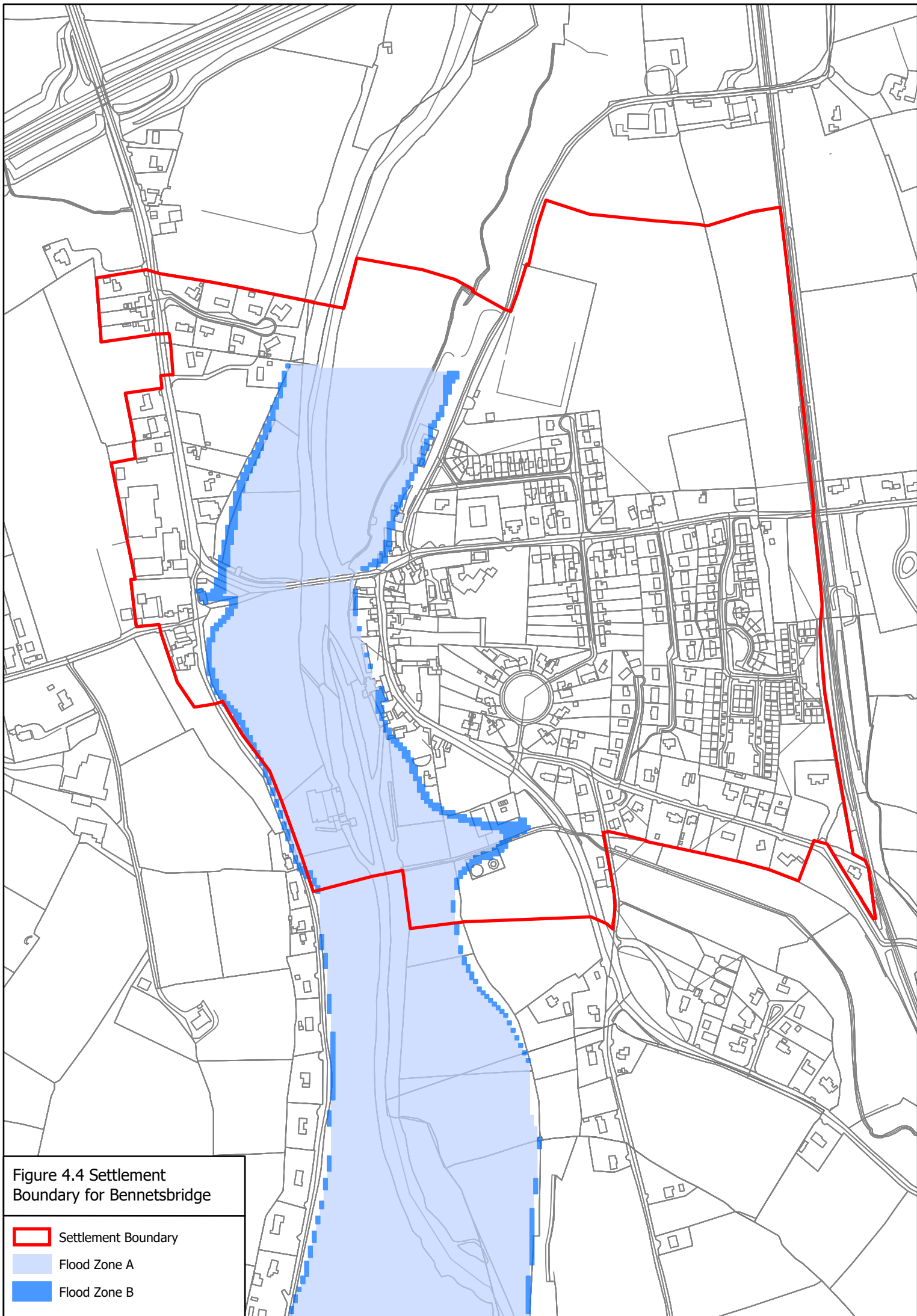


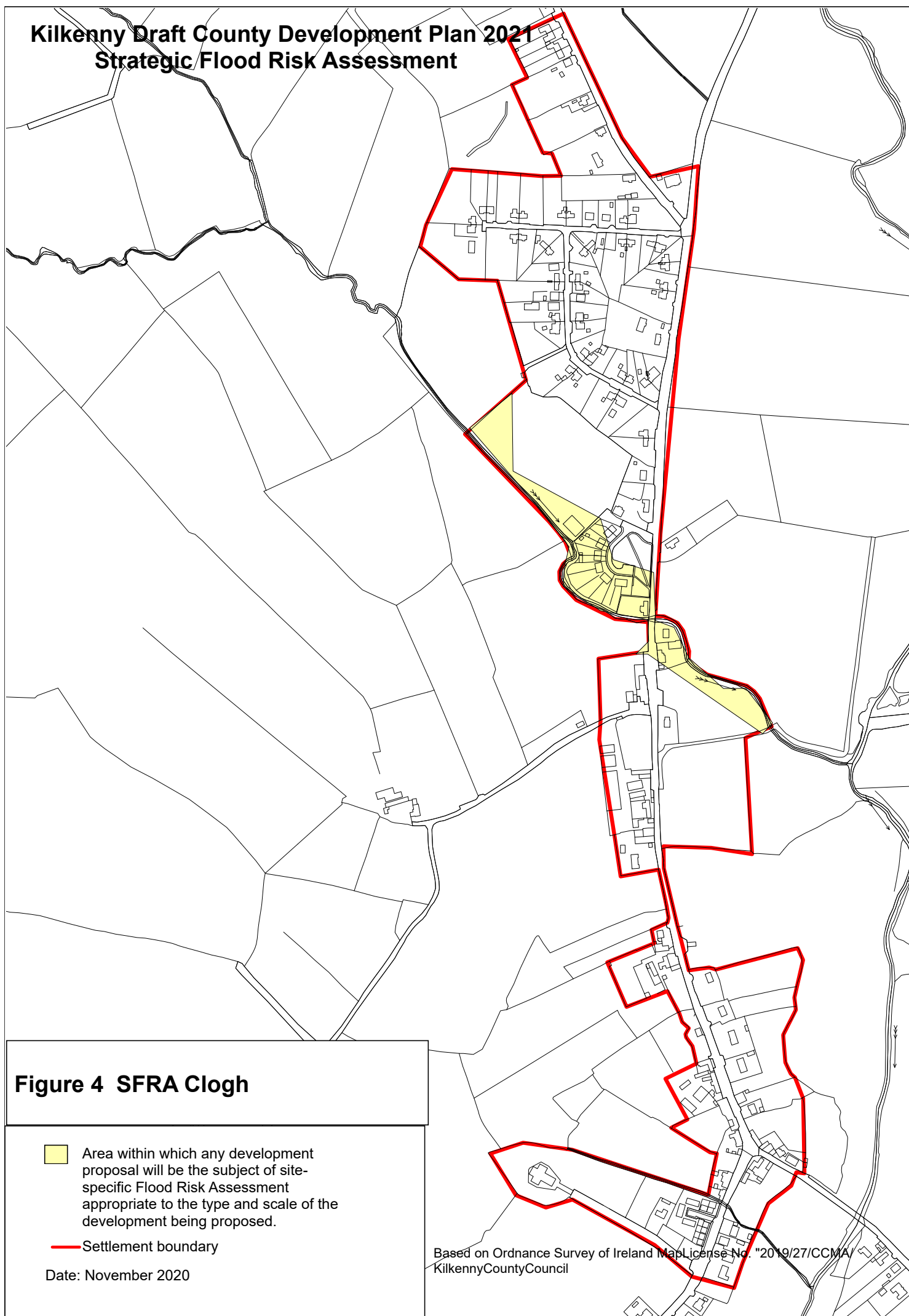
Figure 4.4 Settlement  
Boundary for Ballyragget

-  Settlement Boundary
-  Flood Zone A
-  Flood Zone B






# Kilkenny Draft County Development Plan 2021 Strategic Flood Risk Assessment



**Figure 4 SFRA Clogh**

 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.

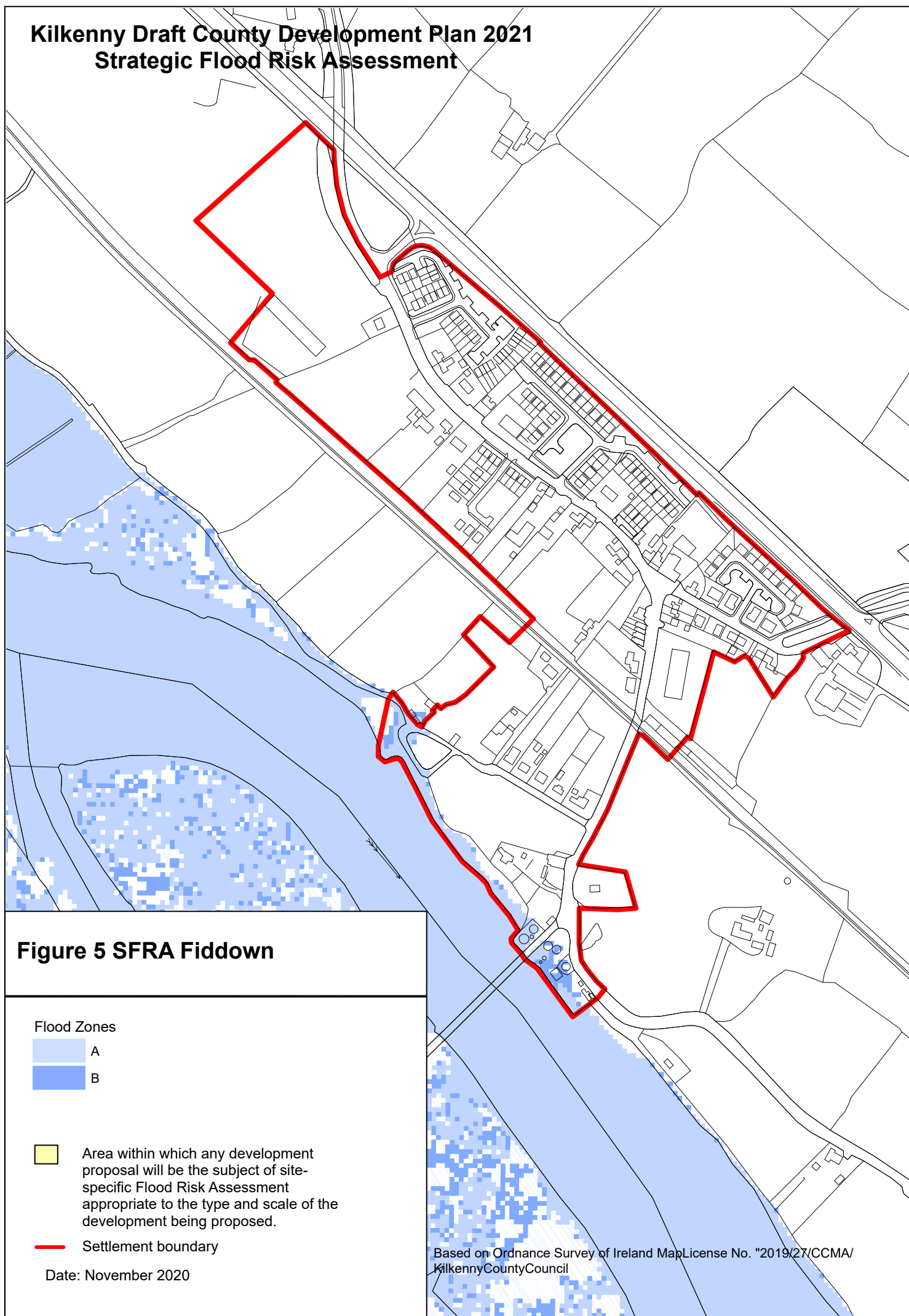
 Settlement boundary

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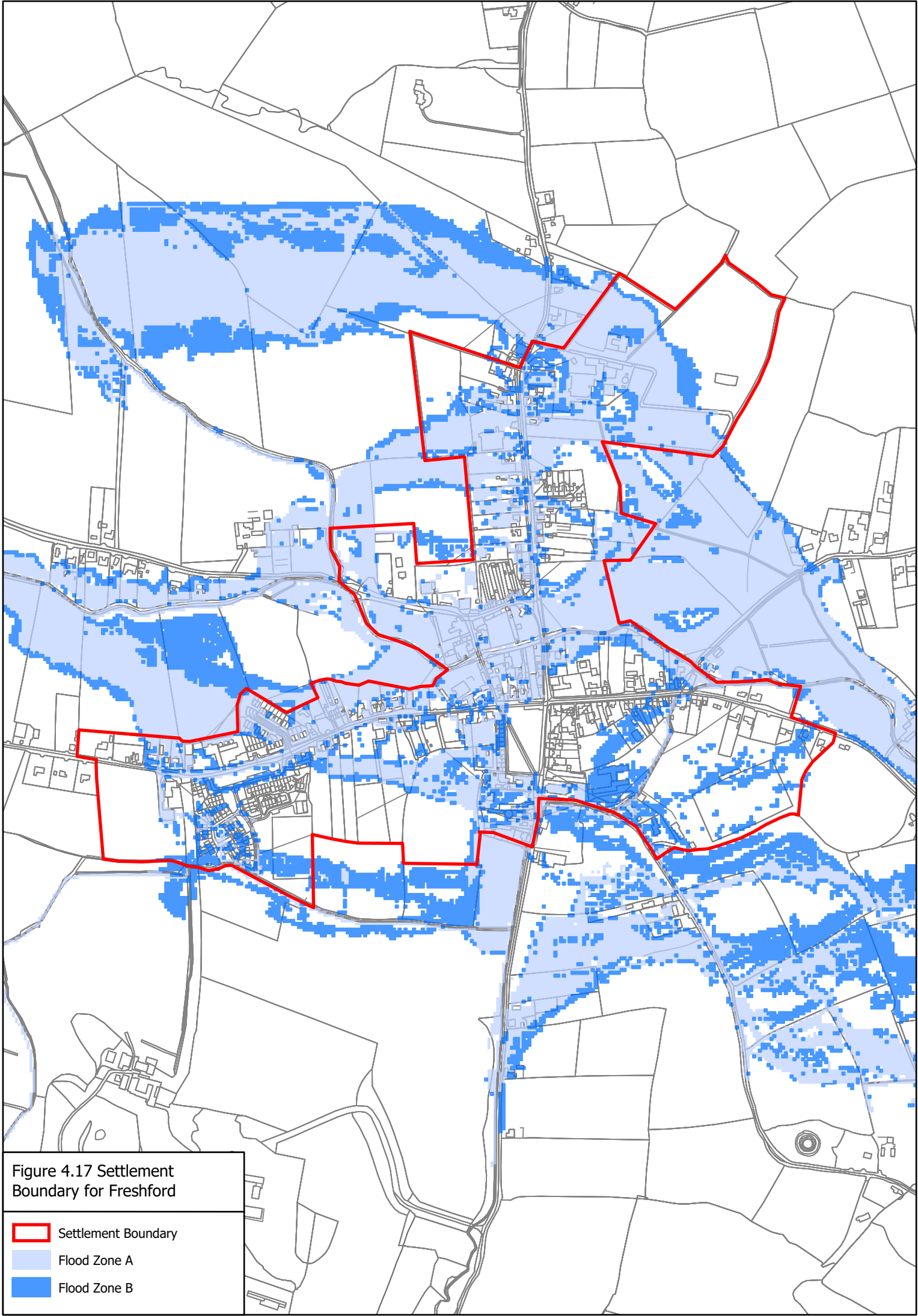



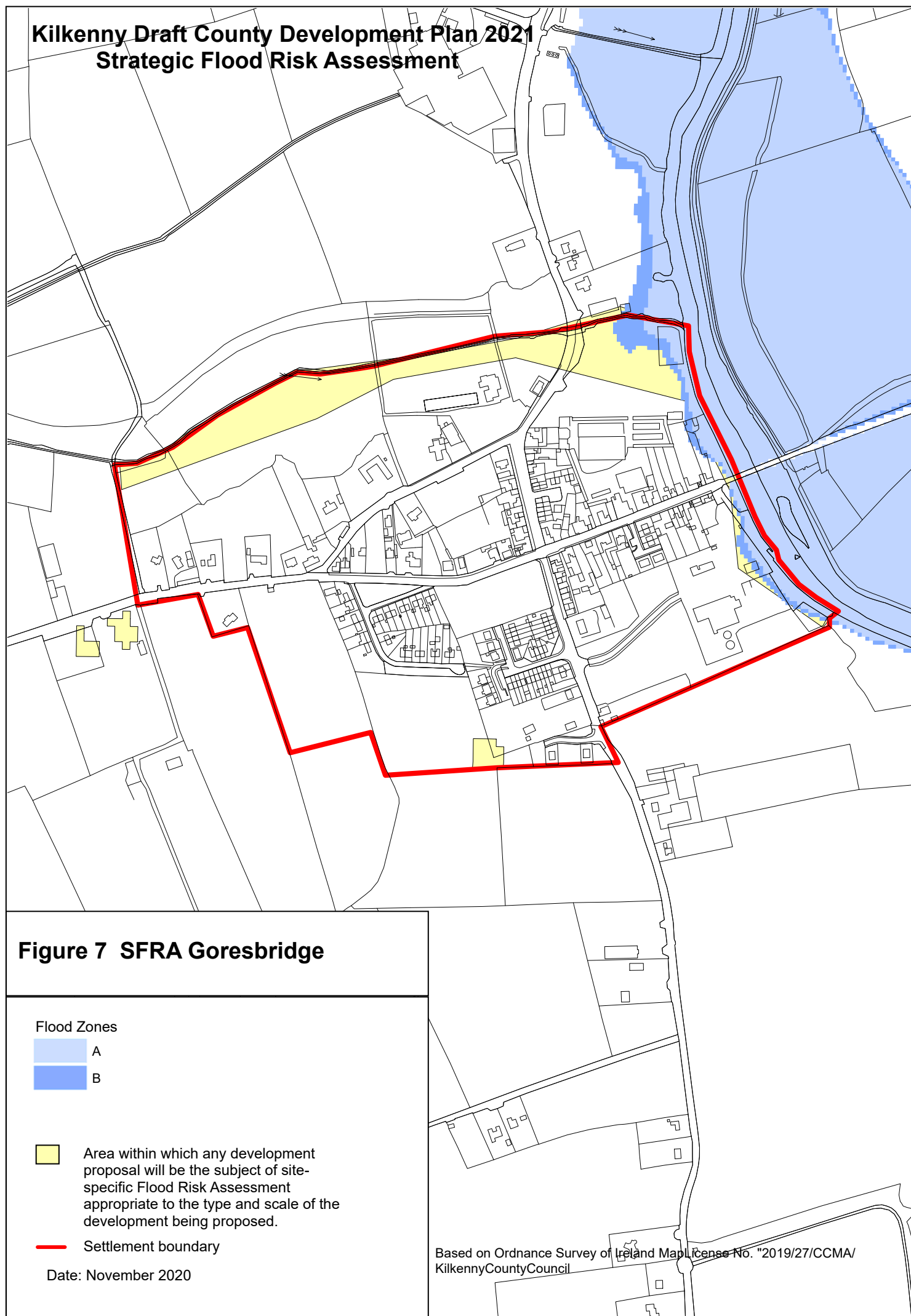


Figure 4.17 Settlement Boundary for Freshford

-  Settlement Boundary
-  Flood Zone A
-  Flood Zone B

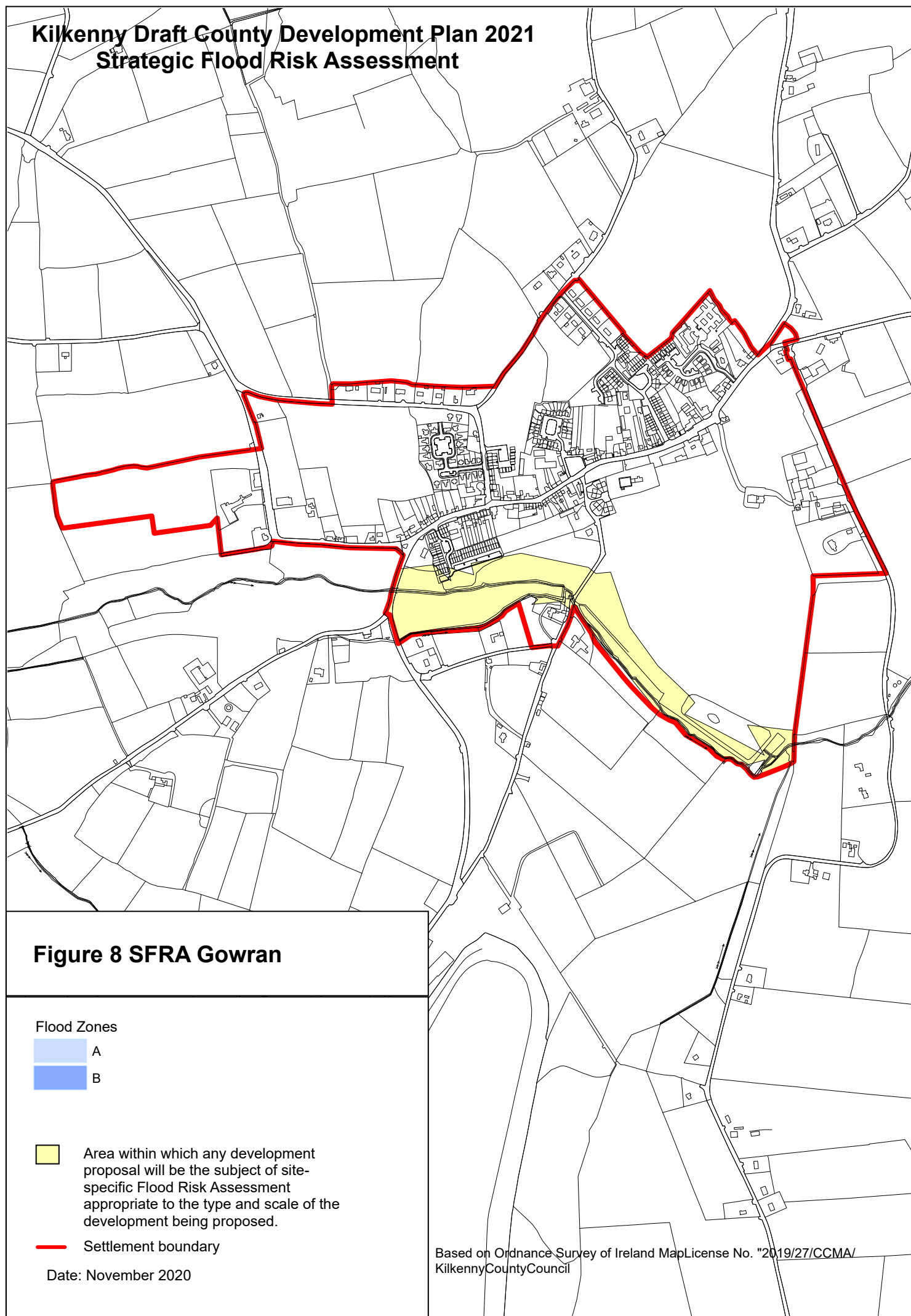
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**Figure 8 SFRA Gowran**

### 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.

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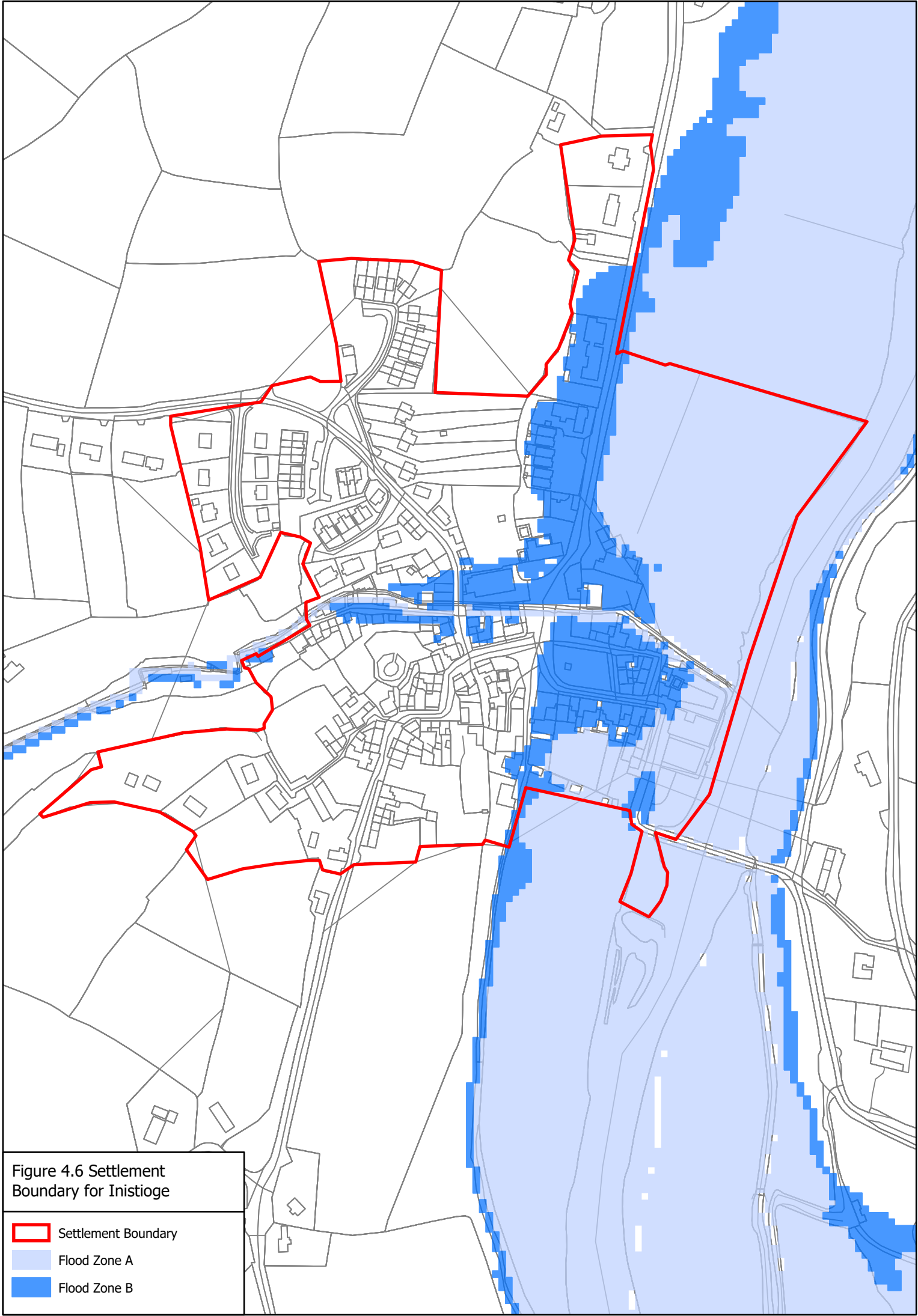





Figure 4.6 Settlement Boundary for Inistioge

-  Settlement Boundary
-  Flood Zone A
-  Flood Zone B

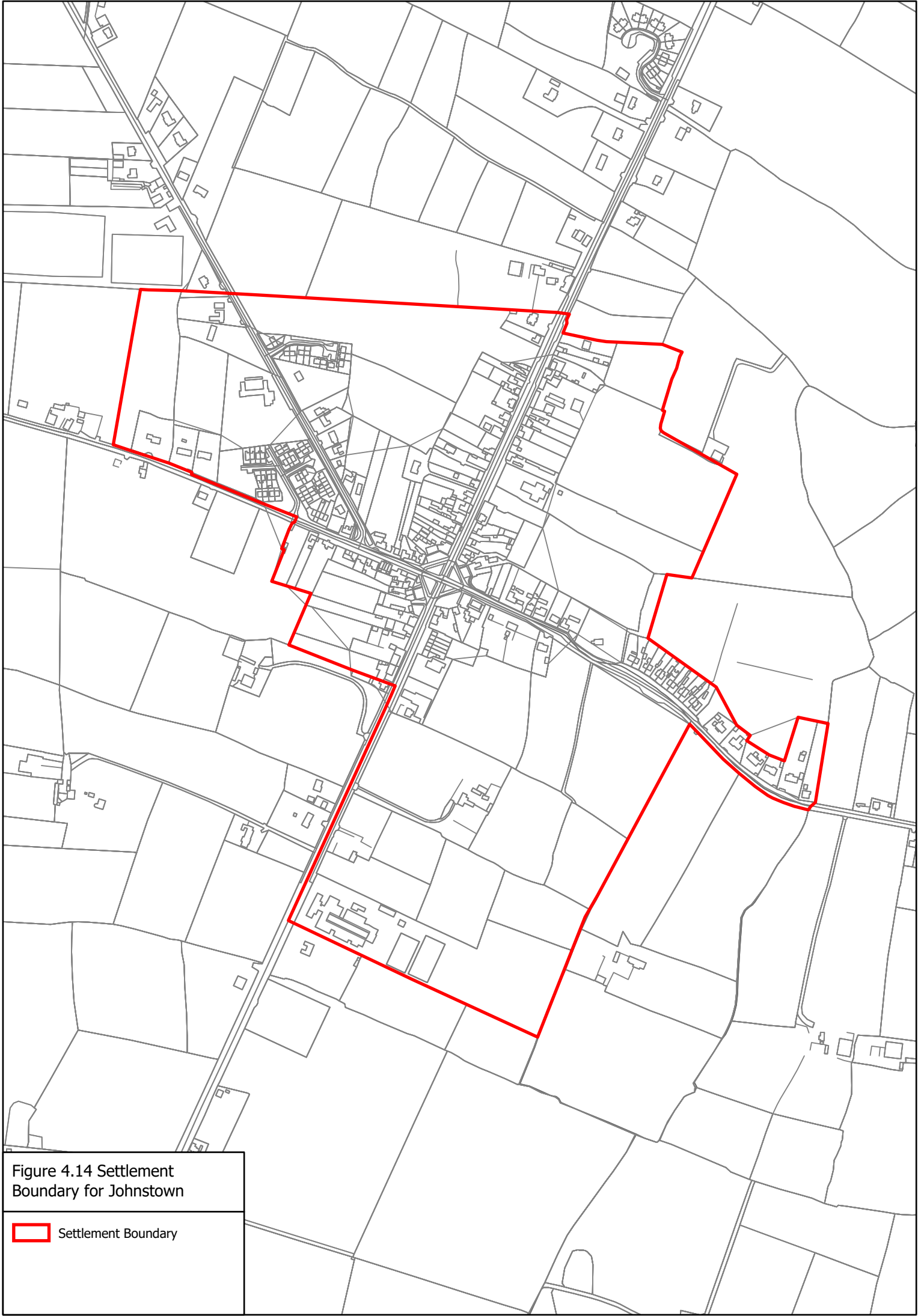


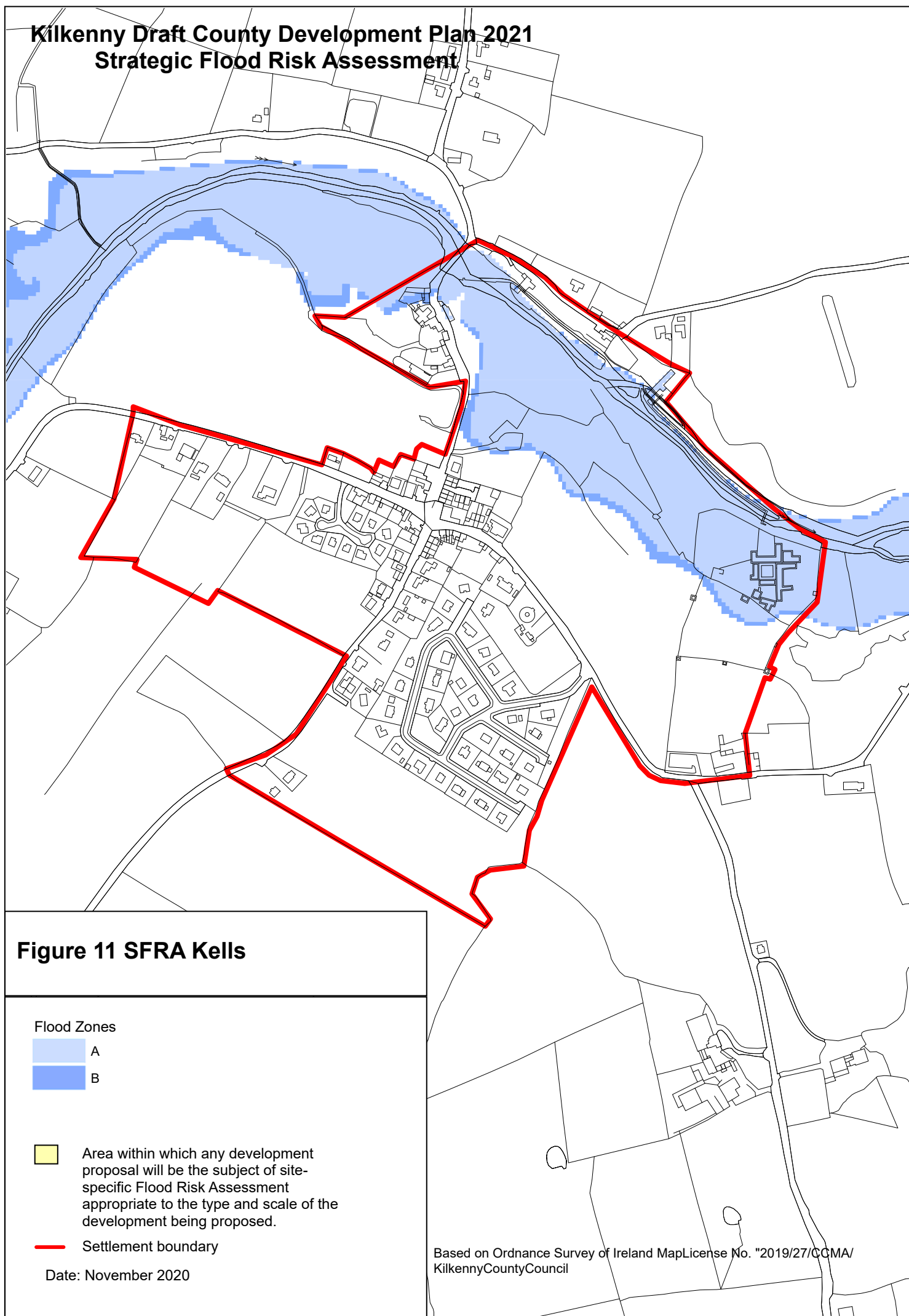
Figure 4.14 Settlement Boundary for Johnstown

 Settlement Boundary



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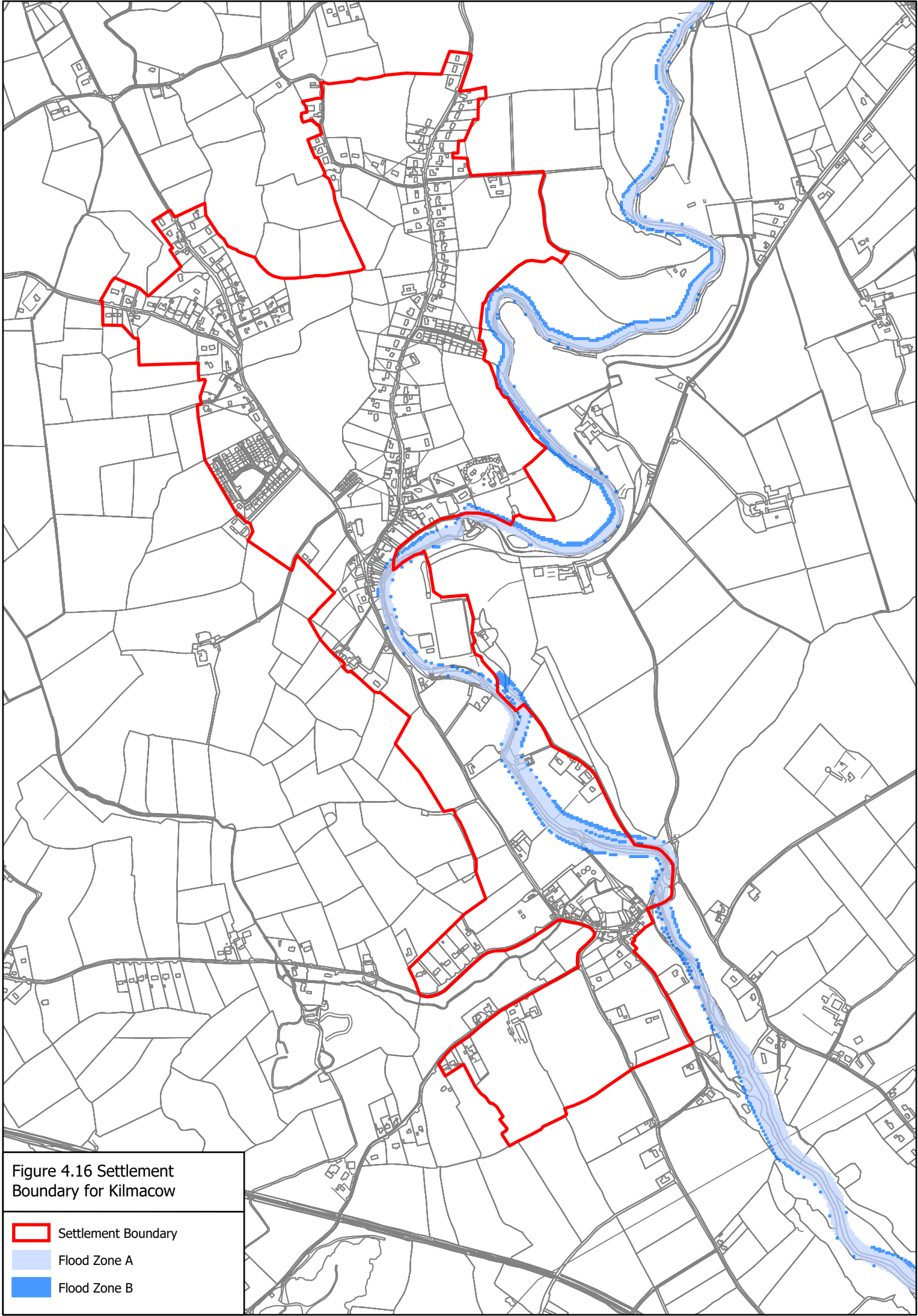



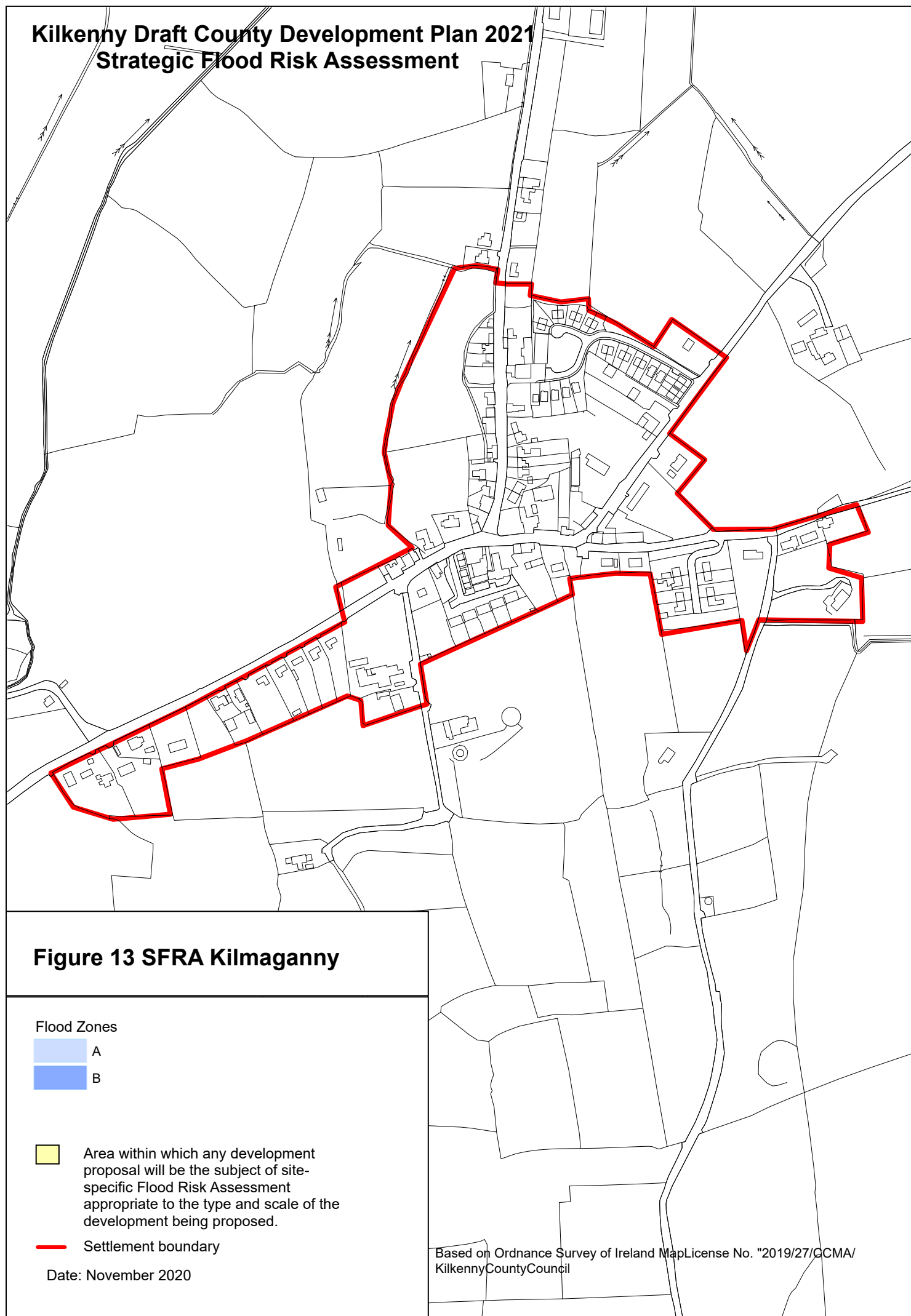


Figure 4.16 Settlement Boundary for Kilmacow

-  Settlement Boundary
-  Flood Zone A
-  Flood Zone B

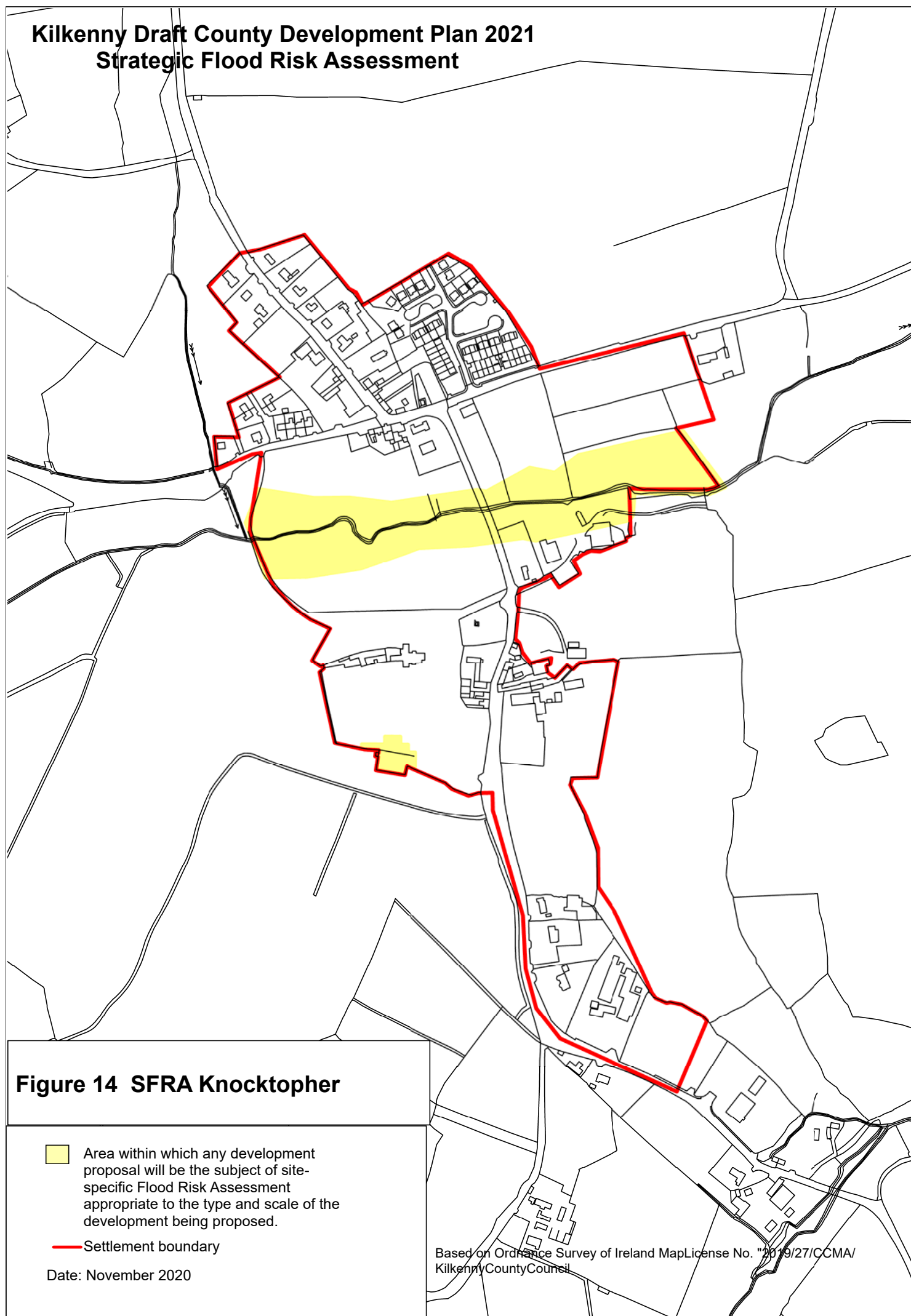
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## Strategic Flood Risk Assessment




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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.

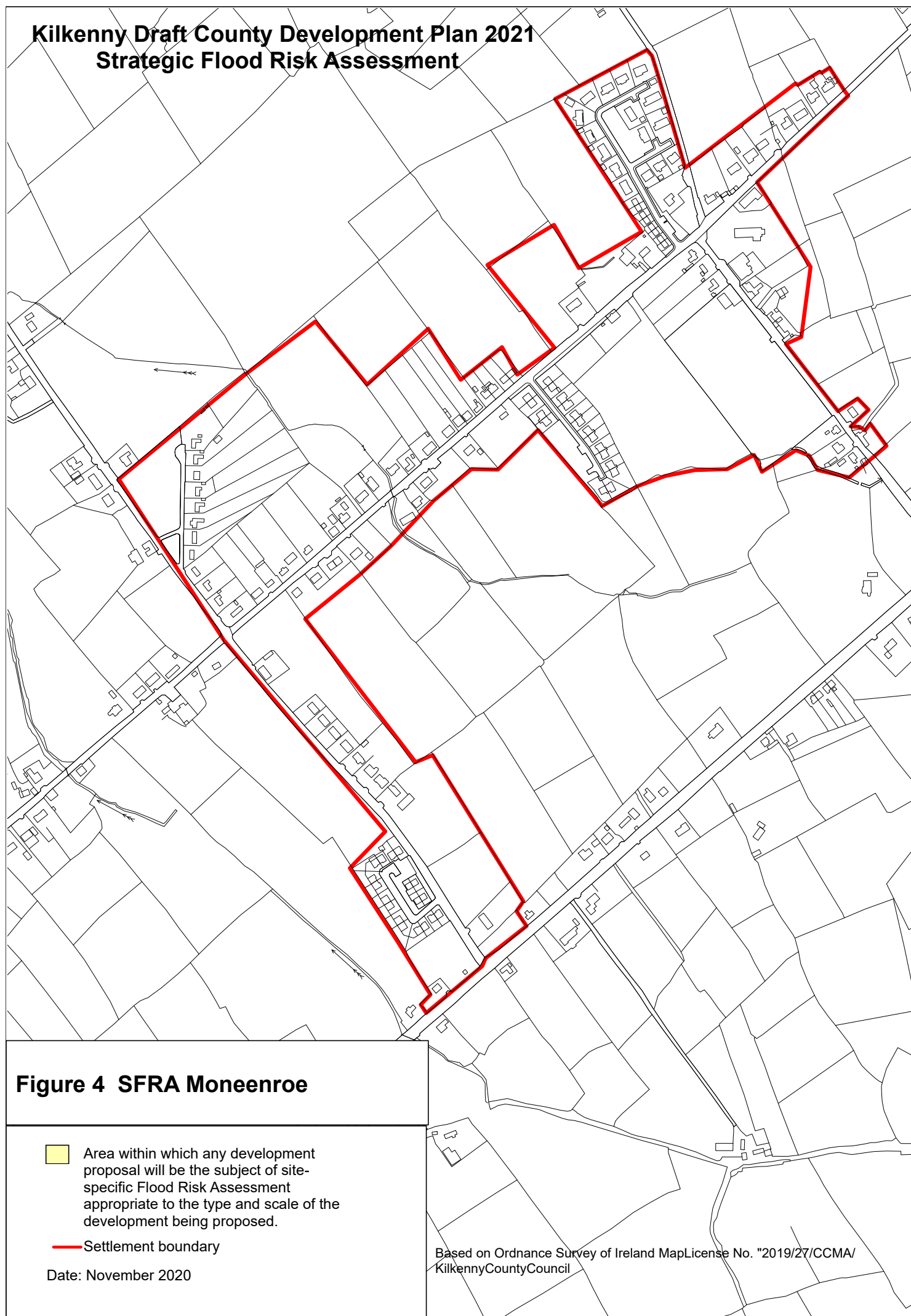
 Settlement boundary

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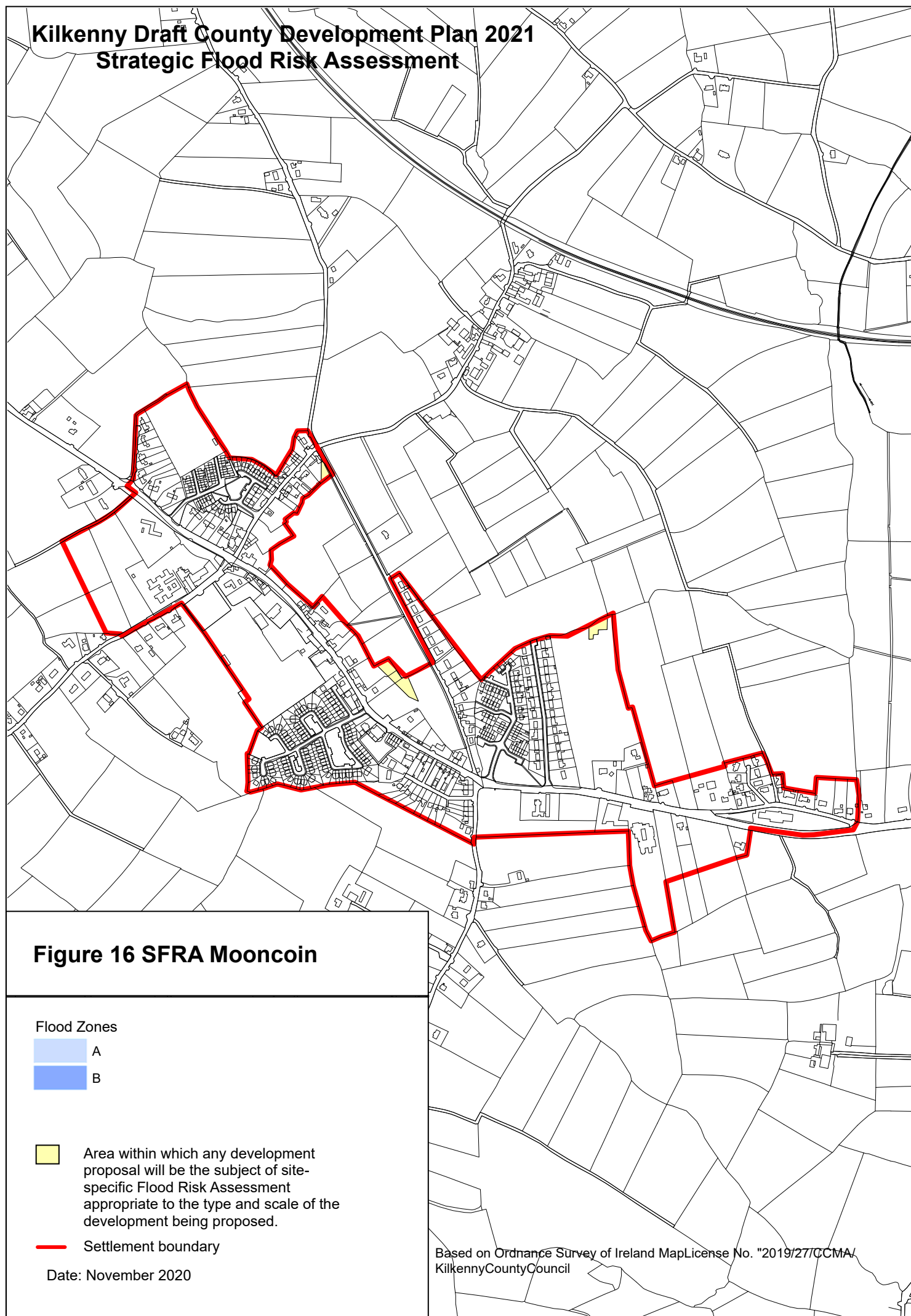


# Kilkenny Draft County Development Plan 2021 Strategic Flood Risk Assessment



# Kilkenny Draft County Development Plan 2021

## Strategic Flood Risk Assessment



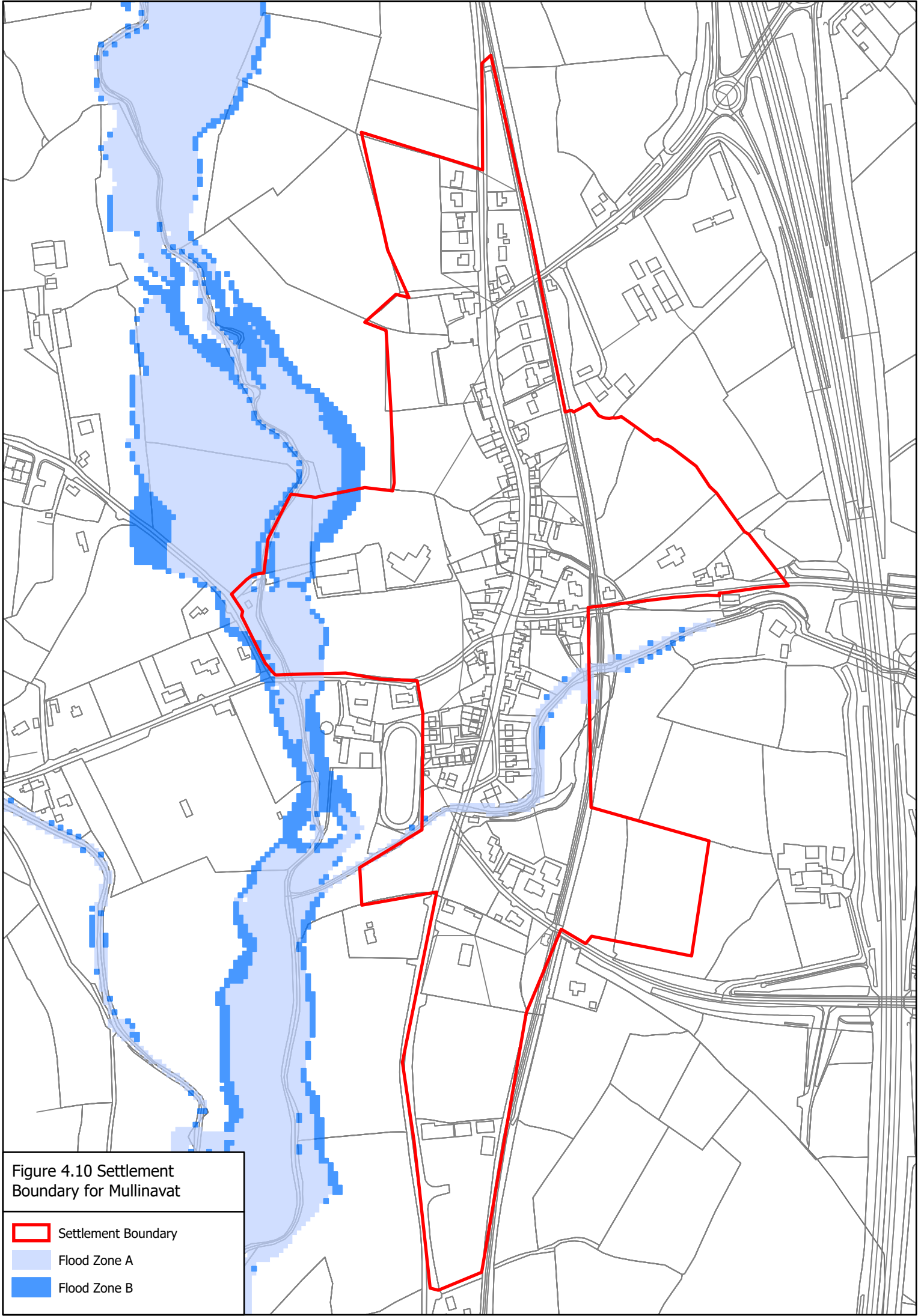





Figure 4.10 Settlement Boundary for Mullinavat

	Settlement Boundary
	Flood Zone A
	Flood Zone B



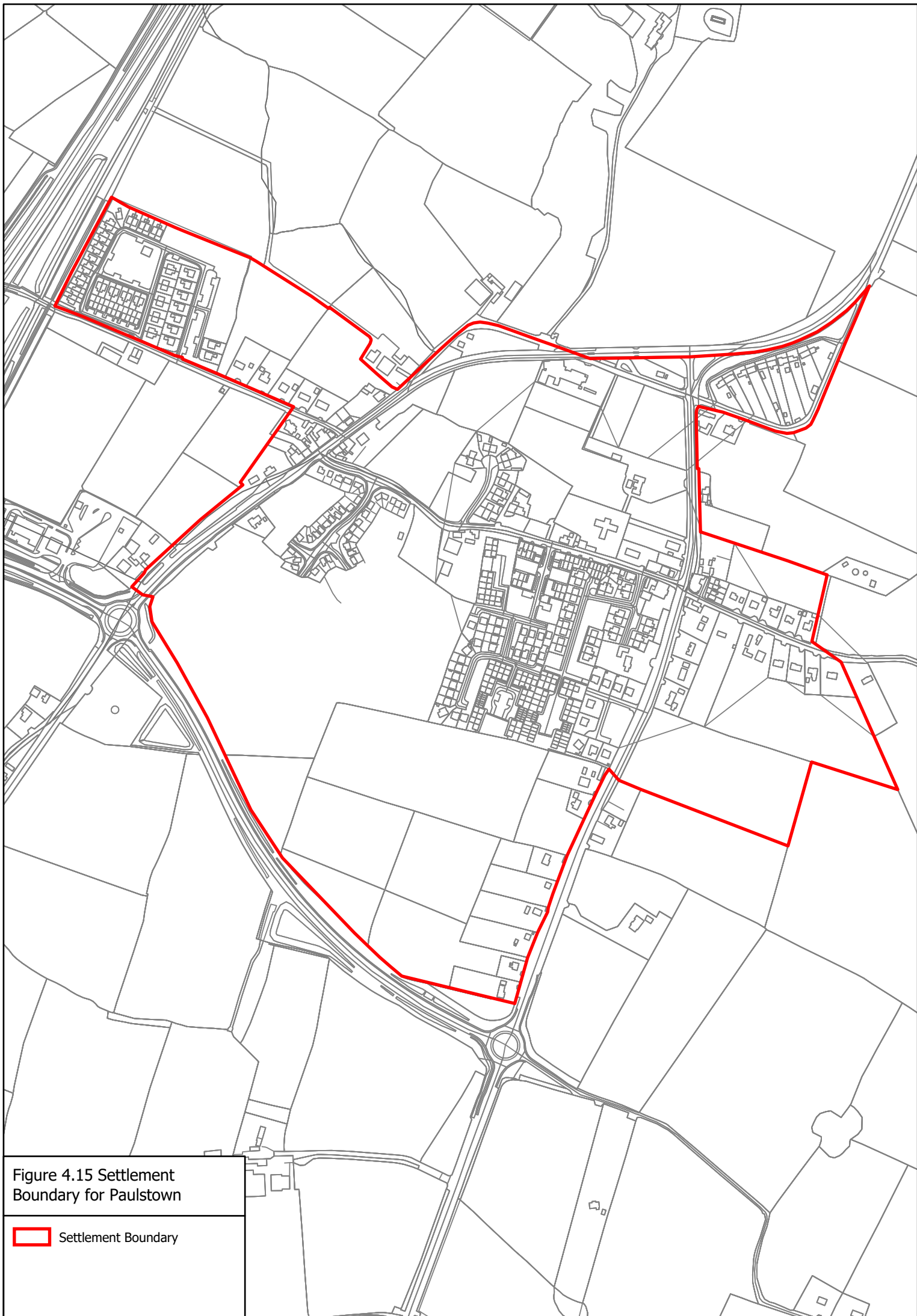


Figure 4.15 Settlement  
Boundary for Paulstown


 Settlement Boundary


# Kilkenny Draft County Development Plan 2021 Strategic Flood Risk Assessment

**Figure 19 SFRA Piltown**

## 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.

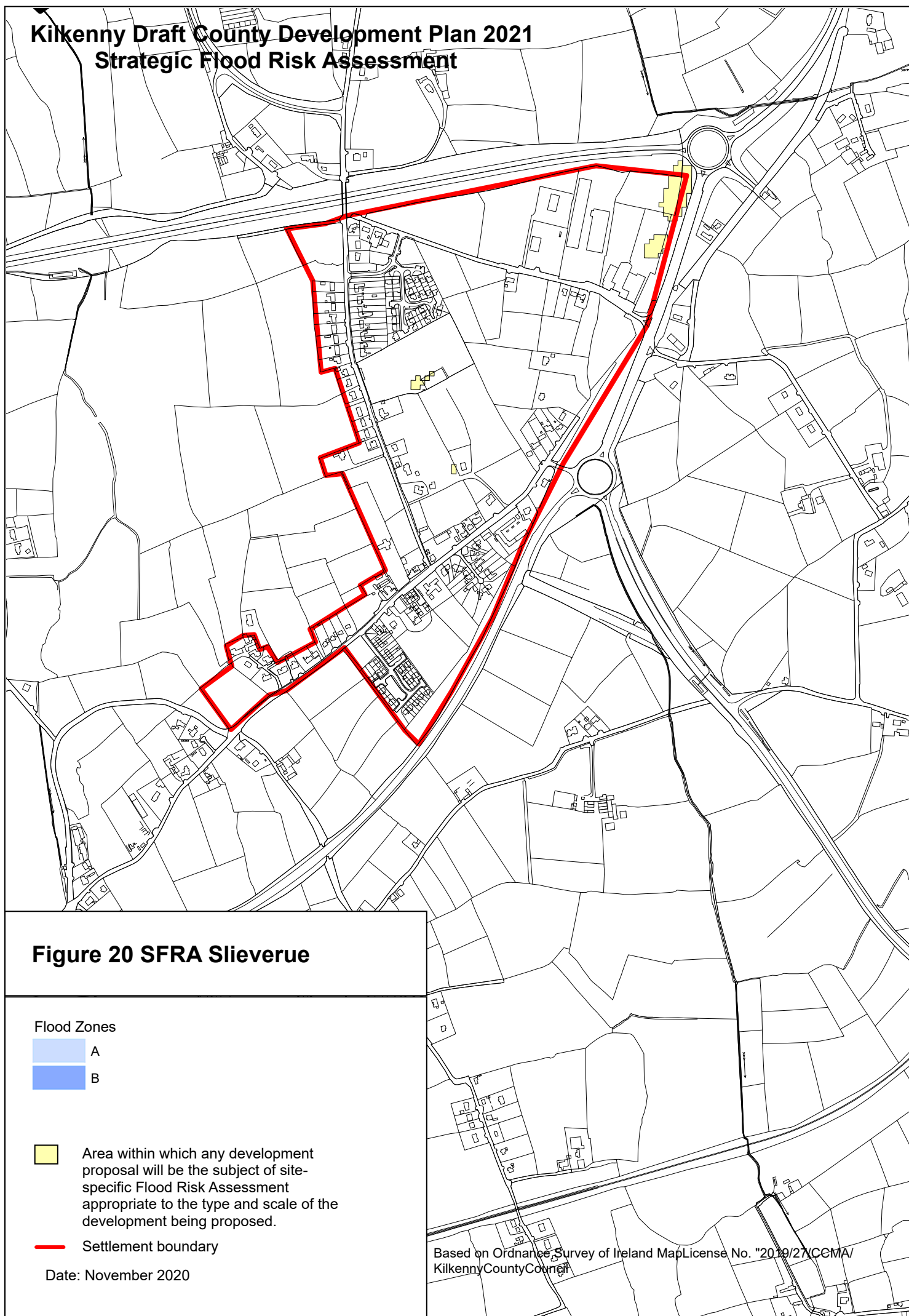
 Settlement boundary

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# Kilkenny Draft County Development Plan 2021

## Strategic Flood Risk Assessment



**Figure 20 SFRA Slieverue**

### Flood Zones



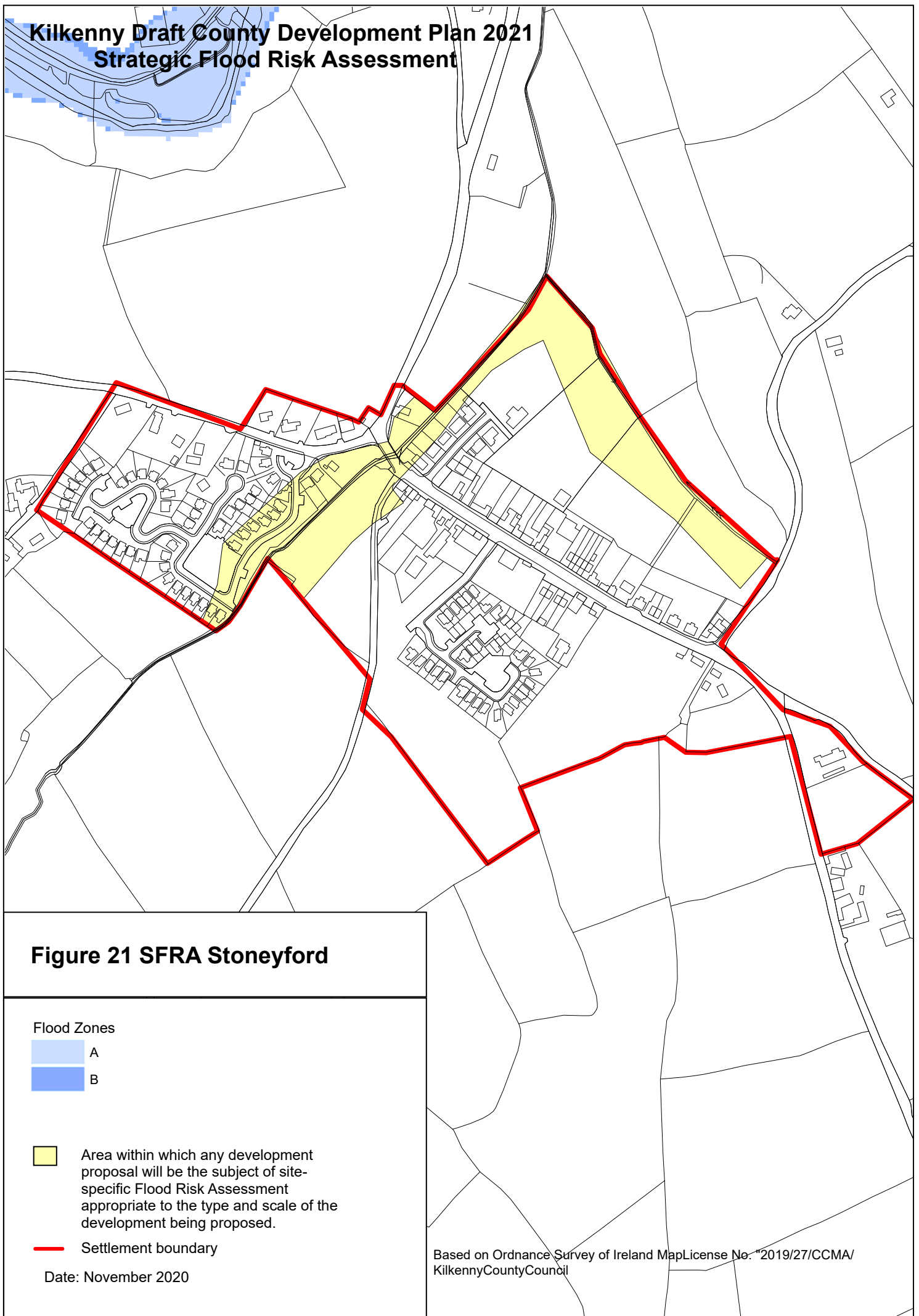
Area within which any development proposal will be the subject of site-specific Flood Risk Assessment appropriate to the type and scale of the development being proposed.

— Settlement boundary

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# Kilkenny Draft County Development Plan 2021 Strategic Flood Risk Assessment





# Kilkenny Draft County Development Plan 2021 Strategic Flood Risk Assessment

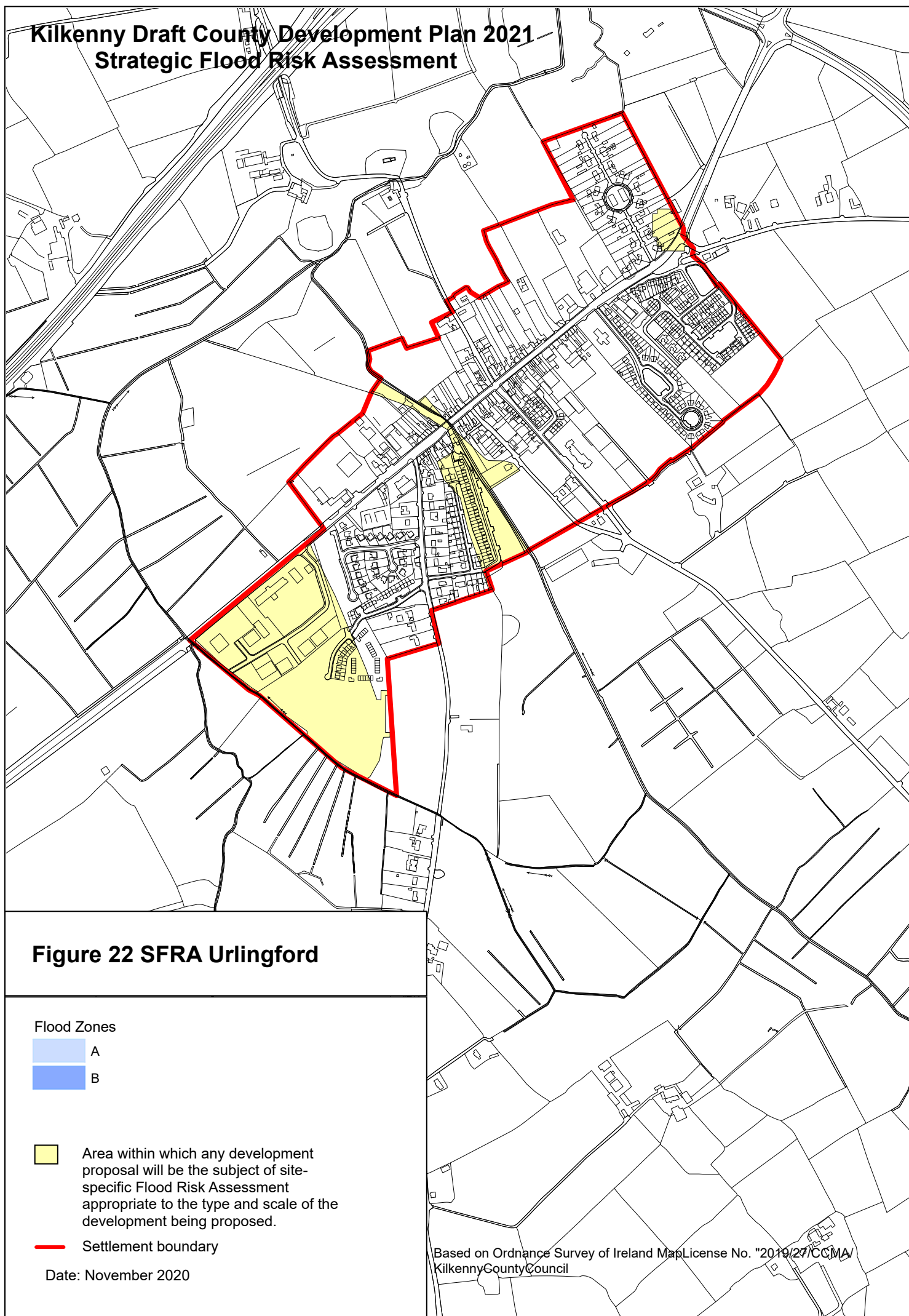




Figure 23a) Kilkenny – Areas of flood risk on Variation 6 Zoning Map

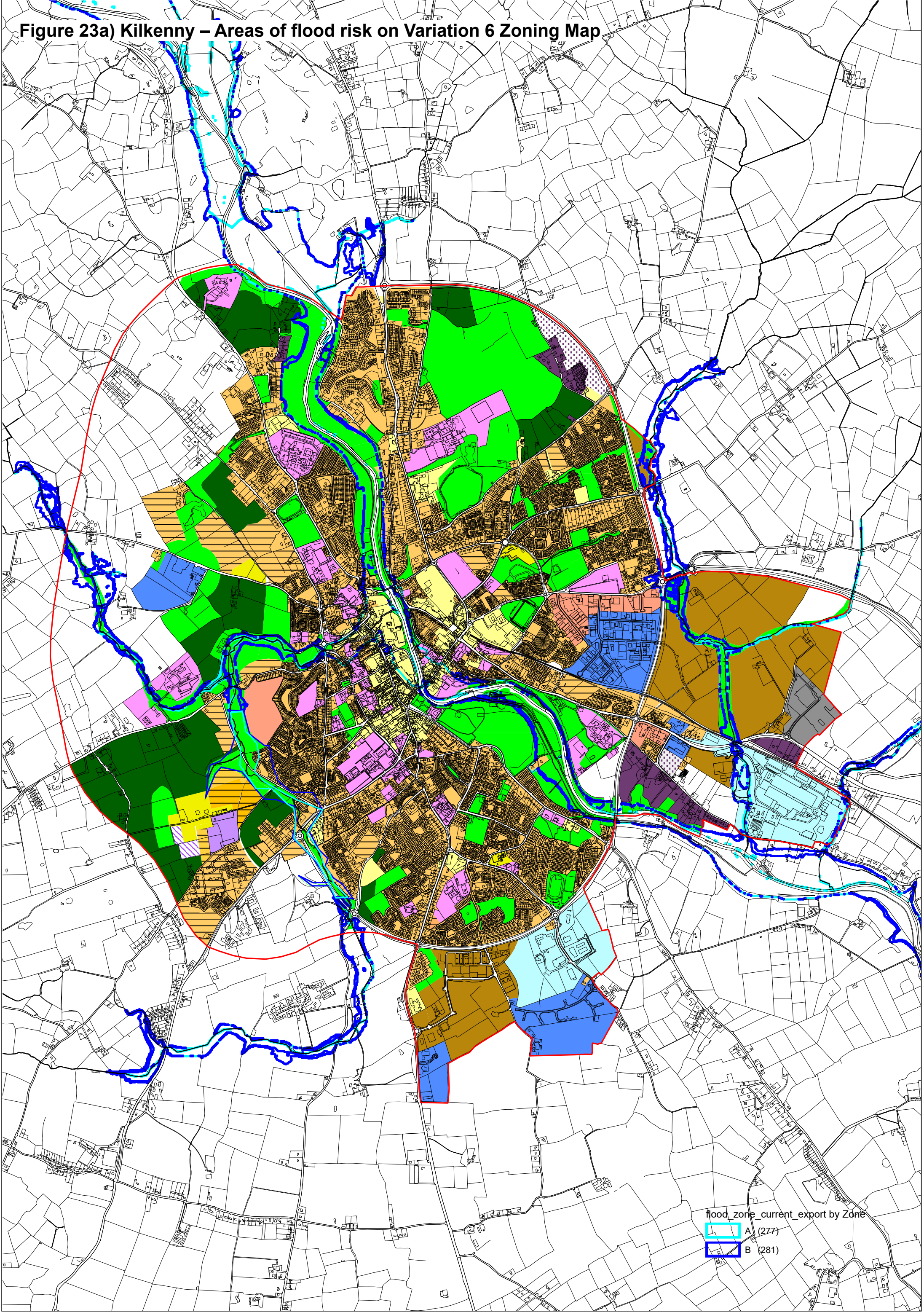
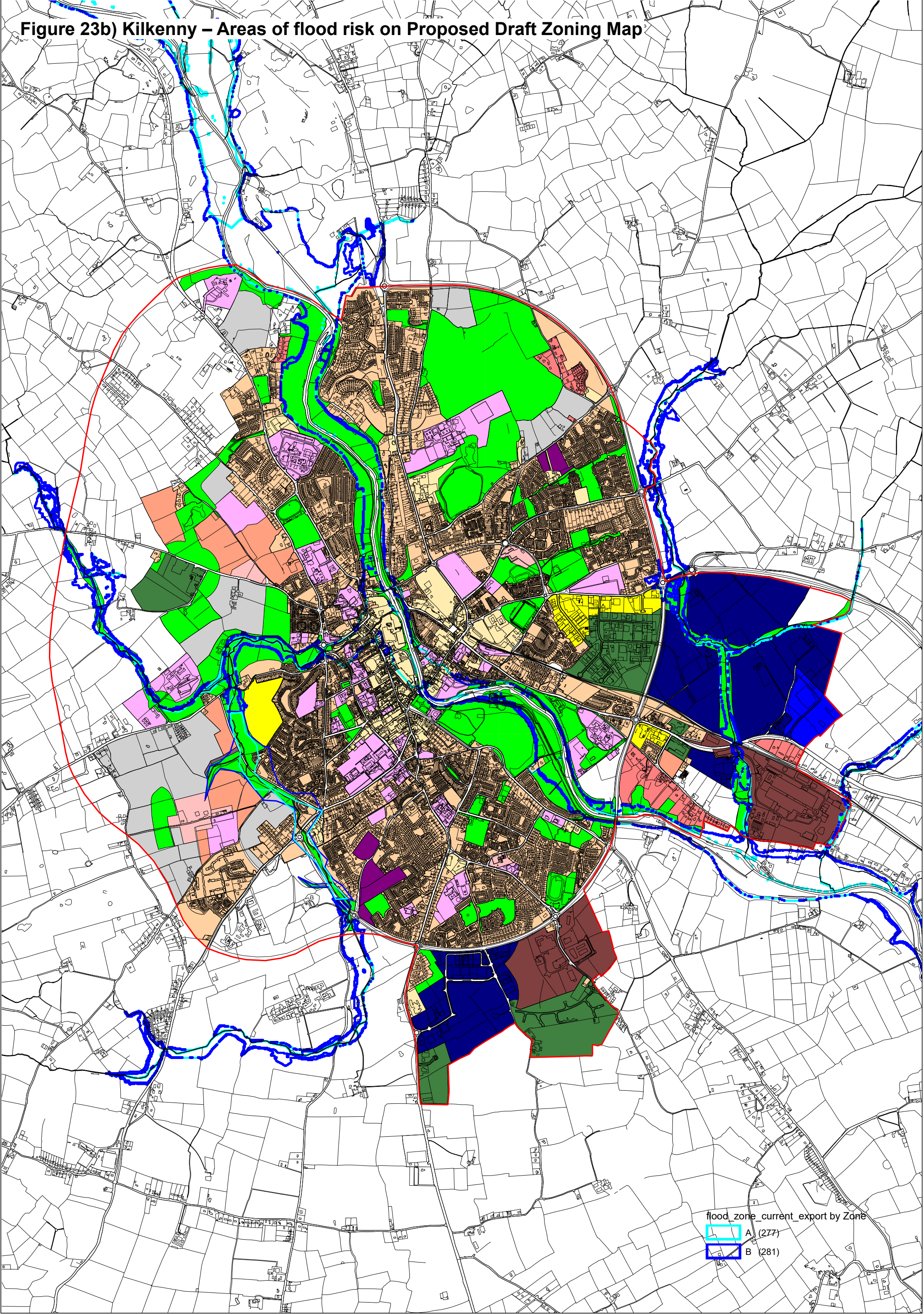


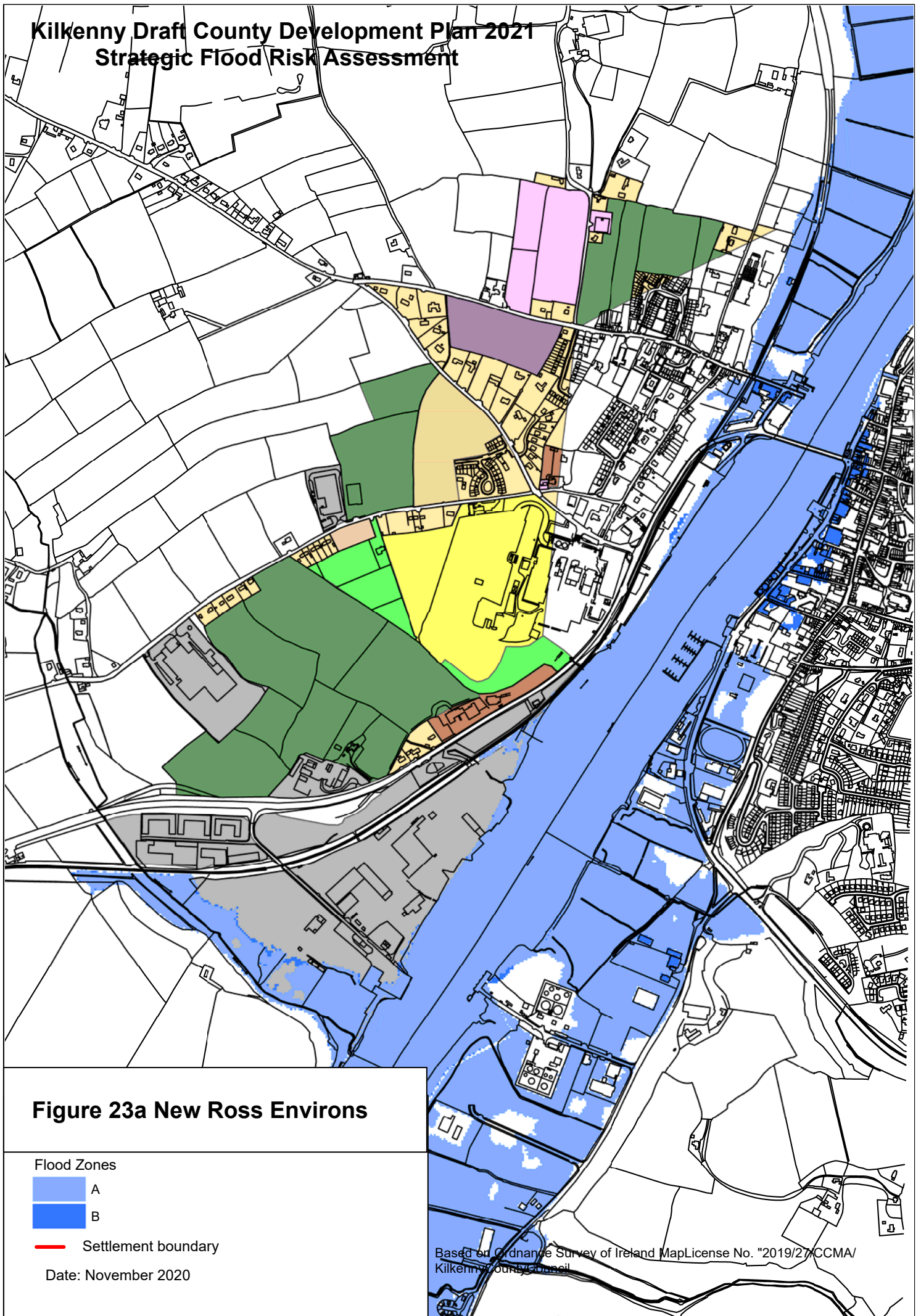


Figure 23b) Kilkenny – Areas of flood risk on Proposed Draft Zoning Map





# Kilkenny Draft County Development Plan 2021 Strategic Flood Risk Assessment



**Figure 23a New Ross Environs**

Flood Zones



— Settlement boundary

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