Ireland 2040 Our Plan

NATIONAL PLANNING FRAMEWORK

Strategic Flood Risk Assessment Report

Ireland 2040 – Our Plan

Draft National Planning Framework

RPS

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1 INTRODUCTION

1.1 OBJECTIVE

The fundamental objective of this report is to undertake a Strategic Flood Risk Assessment of the National Policy Objectives (NPO) within the Ireland 2040 Our Plan – National Planning Framework. The aim is to ensure that flood risk is a key consideration in delivering the proposed strategic sustainable land-use planning decisions. This Strategic Flood Risk Assessment (SFRA) was prepared for the Department of Housing, Planning and Local Government [1] by considering the requirements of The Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014).[2]

1.2 SFRA INTEGRATION WITH THE DRAFT NPF

Increased flood risk as a result of land use planning has, above all else has been one of the most costly (environmental, social and economic) legacy issues of previous national, regional and local land use decisions. The policies being proposed in the Draft NPF to the 2040 epoch envisage significant population and economic growth. Subsequently, the SFRA provides a high level review of the known existing flood risk to the three regions of East & Midlands, Southern and Northern & Western as well as the five cities as identified in **Table 3.1,** and an assessment of the potential flood risk impacts associated with the key messages of the 10 Chapters of Ireland 2040 to ensure the Department makes informed strategic planning decisions in respect of the SFRA.

1.3 POLICY BACKGROUND

1.3.1 Irish Legislation

In 2004 an Inter-Departmental Review Group, led by the Minister of State at the Dept. of Finance with special responsibility for the Office Public Works (OPW), published a review of national flood policy. The scope of the review included a review of the roles and responsibilities of the different bodies with responsibilities for managing flood risk, and to set a new policy for flood risk management in Ireland into the future.

The adopted policy was accompanied by many specific recommendations, including:

- The Department will develop and implement policy and guidelines on the consideration of flood risk in planning and development control;
- The OPW should be the lead agency for implementing flood risk management policy in Ireland;
- Focus on managing flood risk, rather than relying only flood protection measures aimed at reducing flooding;
- Taking a catchment-based approach to assess and manage risks within the whole-catchment context; and

[1] The Department of Housing, Planning and Local Government and any variations of its name (due to transfer of responsibilities) hereafter will be referred to as 'the Department'.
[2] The Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014) hereafter will be referred to as 'the Guidelines'

- Being proactive in assessing and managing flood risks, including the preparation of flood maps and flood risk management plans.

To meet the requirements of these recommendations the OPW published The Planning System and Flood Risk Assessment Guidelines for Planning Authorities (The Guidelines) in 2009 and developed the National Catchment Flood Risk Assessment and Management (CFRAM) Programme. The Guidelines were developed with the purpose of integrating flood risk assessment and management into spatial planning development plans and policies at all governmental levels. The CFRAM programme was developed to deliver on other core components of the national flood policy as well as the requirements of the 2011 EU Floods Directive (2007/60/EC) which were transposed into Irish Law under Statutory Instrument 122 of 2010.

In compliance with the Directive and the Planning and Development (Strategic Environmental Assessment) Regulations 2004, as amended, a Strategic Environmental Assessment (SEA) of the NPF has been carried out in parallel to this SFRA. The SEA has prepared an Environmental Report of the likely significant effects on the environment of implementing the framework. An Natura Impact Statement has also been prepared as part of the Appropriate Assessment of the NPF, in compliance with the Birds and Natural Habitats Regulations 2011, as amended.

The Environmental Protection Agency (EPA) SEA Scoping Guidance Document outlines that the SEA should adopt policies to avoid and restrict the zoning of lands in flood prone areas. It should also adopt a policy that requires flood risk assessments, prepared in accordance with the Guidelines, to be undertaken for developments and zoning being proposed in flood prone areas. Additionally the SEA should promote the adaptation measures to account for the likely increased risk of flooding due to Climate Change and include measures to promote the implementation of appropriate Sustainable Urban Drainage Systems (SuDS).

1.3.2 European Legislation

Under the Floods Directive, the EU recognises the importance of land use management and spatial planning as a key tool in flood risk management. The Floods Directive requires Member States to prepare catchment-based Flood Risk Management Plans (FRMPs) that will set out flood risk management objectives, actions and measures. The OPW has developed six regional FRMPs which are in the final phase of approval and are expected to be published in Q4 2017.

The delivery of the Floods Directive is being coordinated with the requirements of the EU Water Framework Directive (WFD) (2000/60/EC). The WFD aims to improve the overall quality of the water environment including rivers, groundwater and coastal waters. This process is being delivered through the development of River Basin Management Plans (RBMPs) to enable all rivers and coastal waters to achieve good ecological status. The delivery of the RBMPS will ultimately bring a sustainable integrated catchment management to the rivers of Ireland and across the EU.

Similarly the integration of the SFRA within the SEA for the NPF is derived from the EU SEA Directive (2001/42/EC) legislation.

1.4 BEST AVAILABLE INFORMATION

There are a wide range of datasets and information available to consider the existing flood risk across Ireland including the OPW Preliminary Flood Risk Assessment Study, historical mapping and local level studies. One of the most comprehensive datasets was published under the CFRAM programme which was developed to comply with the requirements SI 122 of 2010 and the consequentially the EU Floods Directive. The datasets have not yet been formally approved by the Department but once final they will be the most comprehensive flood risk information available for the country. High level outputs from these datasets have been considered in the production of this SFRA. Draft versions of the maps are available at the OPW draft FRMP website (http://maps.opw.ie/floodplans/) but as they have yet formally approved they have not been replicated for this report. These datasets are subject to change and the information utilised to inform this report has been based on the best available information in August 2017.

1.5 REPORT STRUCTURE

A summary of the Planning System and Flood Risk Management Guidelines and the procedure for undertaking a SFRA on a national scale is presented in **Section 2**. The study area is identified and a high level flood risk appraisal is contained in **Section 3**. Flood risk and spatial planning issues are discussed in **Section 4**. **Section 5** details a discussion on the Draft NPF policy objectives which consider flood risk management.

2 THE GUIDELINES

2.1 PURPOSE OF THE GUIDELINES

In 2009 the Department in conjunction with the OPW published The Guidelines with the purpose of ensuring that flood risk is considered by all levels of government when preparing development plans and planning guidelines. The Guidelines are the key document in the integration of the flood risk management best practice and land use planning decisions. They are required to be used at all levels of the planning process from national level strategic assessments to individual planning applications being brought forward.

2.2 OBJECTIVES OF THE GUIDELINES

The core objectives of the Guidelines are to:

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

The Guidelines recommend that Flood Risk Assessments (FRA) be carried out to identify the risk of flooding to land, property and people. FRAs should be carried out at different scales by government organisations, local authorities and for proposed developments appropriate to the level of information required to implement the core objectives of the Guidelines. The FRA scales are:

- National Flood Risk Appraisal (NFRA) – There is no specific guidance in the Guidelines for a NFRA, however it must ensure the Guidelines are applied to policies, strategies and objectives and that flood risk is addressed in a national context
- Regional Flood Risk Appraisal (RFRA) – a broad overview of flood risk issues across a region to influence spatial allocations for growth in housing and employment as well as to identify where flood risk management measures may be required at a regional level to support the proposed growth. This should be based on readily derivable information (in particular the CFRAM Studies) and undertaken to inform the Regional Spatial and Economic Strategies.
- Strategic Flood Risk Assessment (SFRA) – an assessment of all types of flood risk informing land use planning decisions. This will enable the Planning Authority to allocate appropriate sites for development, whilst identifying opportunities for reducing flood risk. The SFRA will revisit and develop the flood risk identification undertaken in the RFRA, and give consideration to a range of potential sources of flooding. An initial flood risk assessment, based on the identification of Flood Zones, will also be carried out for those areas, which will be zoned for development. Where the initial flood risk assessment highlights the potential for a significant level of flood risk, or there is conflict with the proposed vulnerability of

development, then a site specific FRA will be recommended, which will necessitate a detailed flood risk assessment.

- Site Specific Flood Risk Assessment (FRA) – site or project specific flood risk assessment to consider all types of flood risk associated with the site and propose appropriate site management and mitigation measures to reduce flood risk to and from the site to an acceptable level. If the previous tiers of study have been undertaken to appropriate levels of detail, it is highly likely that the site specific FRA will require, detailed channel and site survey, and hydraulic modelling.

2.3 SFRA METHODOLOGY

The Guidelines outline how the interaction of flood risk management and land use planning should occur at all stages of the planning process. In order to ensure compliance with this approach this strategic flood risk assessment, which is being undertaken at a National Level and therefore cannot contain a detailed assessment of flood risk, must as a minimum ensure that the Guidelines are applied to the policies contained within the NPF. This shall include:

- Incorporate a high level flood risk appraisal as part of the existing SEA process for the preparation of Draft NPF, (**Chapter 3**);
- Identify high level flood risk and spatial planning issues for the area covered by the Draft NPF (**Chapter 4**);
- Set out a high level policy framework for development plans and local area plans of planning authorities to address the flood risk issues identified at a regional level **(Chapter 5);** and
- Outline, with due consideration of the national flood risk assessment and management planning programme, any further requirements for flood risk assessments and/or studies at local authority level (**Chapter 5**).

2.4 TYPES OF FLOODING

Flooding can occur from a range of sources, individually or in combination, as described below.

- Fluvial flooding occurs when rivers and streams break their banks and water flows out onto the adjacent low-lying areas (the natural floodplains). This can arise where the runoff from heavy rain exceeds the natural capacity of the river channel, and can be exacerbated where a channel is blocked or constrained or, in estuarine areas, where high tide levels impede the flow of the river out into the sea. While there is a lot of uncertainty on the impacts of climate change on rainfall patterns, there is a clear potential that fluvial flood risk could increase into the future.
- Pluvial flooding occurs when the amount of rainfall exceeds the capacity of urban storm water drainage systems or the infiltration capacity of the ground to absorb it. This excess water flows overland, ponding in natural or man-made hollows and low-lying areas or behind obstructions. This occurs as a rapid response to intense rainfall before the flood waters eventually enter a piped or natural drainage system. This type of flooding is driven in particular by short, intense rain storms.
- Groundwater flooding occurs when the level of water stored in the ground rises as a result of prolonged rainfall, to meet the ground surface and flows out over it, i.e. when the capacity of this underground reservoir is exceeded. Groundwater flooding results from the

interaction of site-specific factors such as local geology, rainfall infiltration routes and tidal variations. While the water level may rise slowly, it may cause flooding for extended periods of time. Hence, such flooding may often result in significant damage to property or disruption to transport. In Ireland, groundwater flooding is most commonly related to turloughs in the karstic limestone areas prevalent in particular in the west of Ireland

- Coastal flooding occurs when sea levels along the coast or in estuaries exceed neighbouring land levels, or overcome coastal defences where these exist, or when waves overtop the coastline or coastal defences.
- Failure of infrastructure can lead to flooding whether it is the catastrophic failure of a dam or flood defence, the blockage of culvert or a watermain burst.

The wide range of flooding types described indicates that, not only our urban areas, but also our rural and coastal environments are also susceptible to flood risk. The Guidelines acknowledge this fully, recognising the potential detrimental impacts on people, communities, the economy and the environment should consideration of the recommendations for land use and infrastructure planning in the Guidelines not be incorporated into national, regional, and local development plans.

2.5 SEQUENTIAL APPROACH

A key aspect of ensuring the Guidelines are applied to all levels of the planning process is the Sequential Approach. As outlined in **Figure 2.1**, the approach recommends the principle of "Avoid" areas of flood risk as a first consideration but if not possible then "Substitute" a different land use that is less vulnerable to the effects of flooding. When both avoidance or substitution are not a practical approach then a robust Justification Test should be undertaken to quantify and mitigate any potential increase in risk and facilitate the development of the area. The Sequential Approach is required to be applied at all levels of the planning process including the development of the NPF.

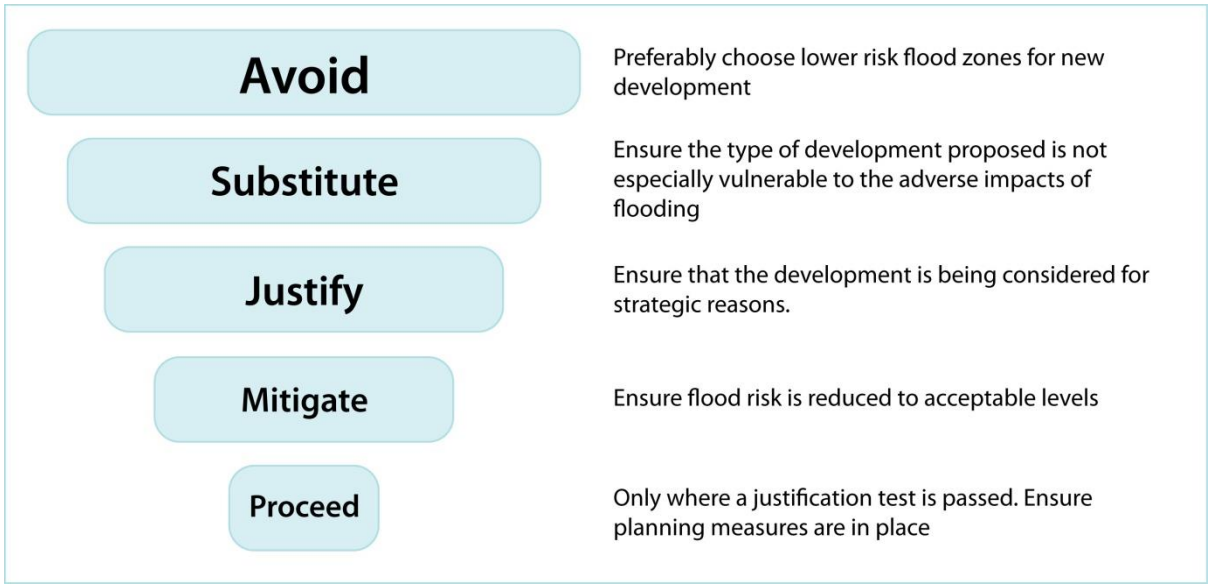

Figure 2.1 - Sequential approach principles in flood risk management

The Development Plan Justification Test (also known as Plan–making Justification Tests) should be carried out as part, where appropriate, of the FRAs for National, Regional, and Local Development Plans using mapped flood zones. It applies where land zonings have been reviewed with respect to the need for development of areas at a high or moderate risk of flooding for uses which are vulnerable to flooding and which would generally be inappropriate and where avoidance or substitution is not appropriate. To be deemed justifiable development and land use zoning objectives must satisfy all of the criteria as per **Table 2.1.**

Table 2.1 – Justification Test for Development Plans

Justification Test for Development Plans
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 planning and sustainable development of the urban settlement and, in particular: i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement; ii. Comprises significant previously developed and/or under-utilised lands; iii. Is within or adjoining the core3 of an established or designated urban settlement; iv. Will be essential in achieving compact and sustainable urban growth; and v. There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.
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.

2.6 CLIMATE CHANGE

Climate Change is expected to increase flood risk. It could lead to more frequent flooding and increase the depth and extent of flooding. Due to the uncertainty surrounding the potential effects of climate change a precautionary approach is recommended in the Guidelines:

- Recognise that significant changes in the flood extent may result from an increase in rainfall or tide events and accordingly adopt a cautious approach to zoning land in these potential transitional areas.
- Ensure that the levels of structures designed to protect against flooding, such as flood defences, land-raising or raised floor levels are sufficient to cope with the effects of climate change over the lifetime of the development they are designed to protect.
- Ensure that structures to protect against flooding and the development protected are capable of adaptation to the effects of climate change when there is more certainty about the effects and still time for such adaptation to be effective.

The Ireland 2040: The National Planning Framework sets a new strategic planning and development framework up to the year 2040 when the initial predicted effects of climate change may have to be realised. It is imperative therefore that the predicted effects of climate change on flooding are considered in this process.

3 HIGH LEVEL FLOOD RISK APPRAISAL

3.1 THE NPF

The principal of the SFRA is to ensure the correct and appropriate application of The Guidelines to the Draft NPF in accordance with the Sequential Approach. The Draft NPF is divided into 10 chapters with a number of key messages on the predicted population and economic growth over the period to the year 2040. It sets out how this will be co-ordinated via a range of national, regional and local authority policies and activities, planning and investment.

The NPF provides a description of the anticipated growth across Irelands three regions. Table 3.1 indicates the areas specifically referred to in the NPF broken down by region.

Table 3.1 – Settlements and regions considered in the SFRA

Region	Cities
Eastern & Midland Region	Dublin
Southern Region	Cork
	Waterford
	Limerick
Northern and Western Region	Galway

A brief overview of the existing flood risk within each of the Regions is provided below to establish a baseline assessment.

3.1.1 Eastern & Midland Region

This region is affected by fluvial, coastal and pluvial flooding. In both urban and rural areas there is a significant fluvial risk along the main river catchments and their tributaries including the Liffey, Boyne, Broadmeadow, Barrow and Shannon. The expansion of the greater Dublin area over the last two decades has left drainage infrastructure under pressure and the integrated nature of flooding emanating from the hydraulic connectivity between rivers, storm drainage and the coastal interface is a known issue in many parts of the city. Agricultural land along the main rivers has also been impacted by flooding most notably along the banks of the Shannon where due to the flat terrain flooding can propagate inland up to 1km in some locations. Coastal settlements along the Irish Sea have also been impacted by tidal flooding and wave overtopping.

3.1.2 Southern Region

The fluvial flood risk in the Southern Region is characterised by the substantial river catchments including the Shannon, Nore, Barrow, Slaney, Blackwater, Suir and Lee as well as smaller steeper

catchments draining to various points of the coastline. Historically these have caused widespread fluvial flooding to urban and agricultural areas in this region. The southern region coastline has also been impacted by coastal flooding including Cork City and Waterford City and coastal erosion is also an issue particularly along the Wexford coast. Combined fluvial, pluvial and coastal flooding is an issue in Cork City and other coastal communities.

3.1.3 Northern and Western Region

The main river catchment in this region is the Shannon and its tributaries which cause significant flooding to urban areas along its length and the surrounding rural landscape. The remaining river catchments drain from upland rural areas to the Northern and Western coasts affecting urban areas and agricultural lands. Coastal flooding and erosion affects a number of coastal communities along the Atlantic Coastline. Pluvial flooding is a risk in urban areas but to a lesser extent than other regions. Groundwater flooding is also most prevalent in the west of Ireland in karst limestone areas with rural and urban communities in South Galway, Mayo and Roscommon most affected.

4 SPATIAL PLANNING ISSUES

This chapter examines further the existing flood risk specifically within the context of the five cities and regions identified in **Table 3.1**. To comply with the Guidelines, the overriding policy should be to avoid development in flood risk areas, however, due to spatial, economic and environmental and physical constraints this is not always possible. Where avoidance cannot be achieved, the sequential approach as set out in the Guidelines must be applied. This will facilitate the integration of flood risk and land risk planning at all tiers of the planning hierarchy from national level through regional, city/county and local plans, masterplans and individual planning applications.

4.1 EASTERN AND MIDLAND REGION

CFRAM mapping is available for most, but not all, main towns and settlements in the Eastern and Midland Region and, in conjunction with historical mapping and other relevant and appropriate flooding information, should be examined when carrying out regional and strategic FRAs for regional, city/county and local development plans. Flood mapping for four CFRAM Studies (Eastern, Shannon, South-Eastern, North West-Neagh Bann) is available to be utilised for spatial analysis. The principle of avoidance should be mostly achievable for all large settlements in the region. Some settlements have geographical constraints which can hinder avoidance such as proximity to the sea and mountainous areas.

Well established coastal settlements along the Irish Sea are susceptible to tidal flooding and wave overtopping where avoidance is not always possible. Therefore development in these areas may have to consider substituting land uses to accommodate less vulnerable or water compatible types of development or following the sequential approach and applying the Justification Test at both plan and development level if necessary.

4.1.1 Dublin

Dublin City has, like other settlements in the Eastern Region, geographical constraints which limit its spatial growth. Growth of the capital is dictated to go West and North due the Dublin / Wicklow Mountains and the Irish Sea to the south and east respectively. The river Liffey and its tributaries already influence the development patterns in the City Centre and South Dublin. As the city progresses west it will further encounter flood risk issues associated with the River Liffey. Lucan and towns in Kildare such as Leixlip and Celbridge are already influenced by flooding along the banks of the river. The development of the larger Blanchardstown area is influenced by the River Tolka and its extents with less vulnerable and flood compatible zonings prevalent along the river's route.

In North Dublin the Broadmeadow River is influencing the spatial growth of Swords with coastal communities such as Skerries, Rush and Malahide influenced by both fluvial and tidal extents. Dublin City itself is constrained by the fact that is has largely already full developed. The urban rivers (Poddle, Dodder, Santry, Camac, Tolka) traversing the city have caused significant flooding as the city has grown radially from the banks of the Liffey. The principle of avoidance is difficult adjacent to these rivers as there is not always alternative flood free land to develop on, therefore the local authorities have built or are exploring flood risk management measures along these urban rivers to reduce the flood risk to surrounding areas and allow infill and regeneration projects adjacent to these rivers. The Eastern CFRAM FRMP has produced flood mapping for the vast majority of the

Dublin area which should be used in the County Development Plan SFRAs for local authorities in the Greater Dublin Area.

4.2 SOUTHERN REGION

Flood mapping is available for three CFRAM Studies (South-Western, Shannon, South-Eastern) to be used for spatial analysis of flood risk to some of the main towns and settlements in the Southern Region. This mapping, in conjunction with historical mapping and other relevant and appropriate flooding information should be examined when carrying out regional and strategic FRAs for regional, city/county and local development plans. The principle of avoidance should be mostly achievable for all large settlements in the region. Some settlements have geographical constraints which can hinder avoidance such as proximity to the sea and mountainous areas.

4.2.1 Cork City

Cork City and has suffered from coastal, fluvial and pluvial flooding historically, predominantly along the River Lee its tributaries. Geographically, Cork City is contained within the valley of the River Lee and restricted by growth to the west given its proximity to Lough Mahon. The principle of avoidance is difficult to achieve adjacent to the River Lee as this is an established urban area but should be possible on the fringes of the urban area. The progression of two flood protection schemes in the city is ongoing for the Lower Lee (Cork City) and River Bride (Blackpool). An additional scheme is also being progressed for the Cork City suburb of Middleton.

4.2.2 Waterford City

Waterford sits on the banks of the river Suir and recently has had a flood relief scheme completed. The risk of flooding has been considerably reduced and development in the city adjacent to river has significant potential however land use planning and development proposals still need to be cognisant of the residual flood risk and implementation of the Guidelines is still a requirement. Development of the city beyond the existing urban area should follow the sequential approach with the principle of avoidance being paramount.

4.2.3 Limerick City

Limerick City sits on the banks of the River Shannon where it opens into the Shannon Estuary. It has a risk of fluvial and tidal flooding. The city partially benefits from flood defences but these only defend against lower return period events. The principle of avoidance in these defended areas, and other flood risk areas adjacent to the river, is difficult as there is not always alternative flood free land to develop on. The application of the sequential approach and Justification Test at all stages of the planning process will be required to ensure the sustainable development of these areas. The flooding of Kings Island in 2014 resulted in a flood relief scheme being implemented for the area which is currently under construction.

4.3 NORTHERN AND WESTERN REGION

Flood mapping is available for three CFRAM Studies (Shannon, Western and North West-Neagh Bann) to be used for spatial analysis of flood risk to some of the main towns and settlements in the

Region. This mapping in conjunction with historical mapping and other relevant and appropriate flooding information should be examined when carrying out regional and strategic FRAs for regional, city/county and local development plans. The principle of avoidance should be mostly achievable for all large settlements in the region. Some settlements have geographical constraints which can hinder avoidance such as proximity to the sea and mountainous areas.

Well established coastal settlements along the Atlantic coastline are susceptible to tidal flooding and wave overtopping where avoidance is not always possible. Therefore development in these areas may have to consider substituting land uses to accommodate less vulnerable or water compatible types of development or following the sequential approach and applying the Justification Test at both plan and development level if necessary.

4.3.1 Galway City

Galway City is located immediately south of Lough Corrib and sits on the banks of the River Corrib as well as bordering Galway Bay. The Guidelines sequential approach and principal of avoidance will therefore limit the growth of the town to the east or west. Galway City has a risk of fluvial and tidal flooding. There are some flood defences that protect certain parts of the city from flooding but parts of the city remain at risk of fluvial flooding. The principle of avoidance is difficult adjacent to the river as there is not always alternative flood free land to develop on. The docklands and areas adjacent to Wolfe Tone Bridge are the most susceptible area to tidal flooding. Development in this area should be considerate of this risk and land use zoning should implement the Guidelines recommendations.

5 NPF POLICY OBJECTIVES

5.1 INTRODUCTION

The NPF sets out the national planning policies for all regional, city/county and local development plans to adhere too. The integration of land use planning and flood risk in that process is required by the Planning System and Flood Risk Management Guidelines and this document will be applied at all levels of the planning process. This SFRA has reviewed the policies contained within the NPF in the context of the Guidelines and has considered the potential impact both nationally and to the regions and five main cities. A review of the Policies and their impact on within the NPF is contained within **Appendix A.**

A summary of the main impacts is presented below

- To accommodate the predicted population and targeted economic growth, many policies will require the expansion of existing urban areas and construction of key infrastructure. This will put pressure on flood zone areas, could increase the rates of storm water run-off and cause capacity issues with existing drainage infrastructure. The application of the Guidelines and the sequential approach will ensure sustainable development by principally avoiding areas of high flood risk or in exception fully justifying why development must proceed and ensuring adequate mitigation measures are incorporated.
- The expansion of urban areas and development of greenfield sites, even beyond floodplain areas, should be implemented using the Guidelines and best practice for storm water runoff to achieve sustainable development and reduce flood risk. This will avoid increasing pressure on existing drainage systems.
- Sustainable land management policies shall ensure that development is managed by implementing the sequential approach of the Guidelines and best practice for sustainable storm water runoff.
- Policies of regeneration of previously developed sites must consider the Guidelines and specifically Circular PL02/2014 (August 2014). The circular specifically addresses regeneration areas and flood risk management of their development.
- Policies which encourage re-development in the city centres and docklands needs to be managed in a sustainable manner in areas of flood risk. The sequential approach and application of the Justification Test will be required at all levels of the planning process and adequate mitigation measures introduced to manage residual risk.
- Sustainable development policies on border counties shall ensure that development on shared catchments is appropriate and follows the principles of the Guidelines and the Northern Ireland Department of Environment Planning Policy Statement, PPS 15 ‘Planning and Flood Risk’. This cross border co-operation will ensure that flood risk on shared catchments is reduced and managed.
- Policies which encourage adoption of climate change factors for hydrology and hydraulic calculations in FRAs will allow for consideration of climate change effects on flood extents. Therefore avoiding development in areas which may be prone to flood risk in the future as our climate changes.

5.2 MITIGATION MEASURES

The following provides an overview of the suggested mitigation measures for incorporation within the NPF.

5.2.1 Realising Our Sustainable Future

Policy objective 58 of the NPF controls the sustainable development of the country in terms of flood risk. It was recommended that this policy was updated to include reference to the Guidelines which would copper fasten that FRAs should be carried out to provide an assessment of all types of flood risk to assist planning authorities to make informed strategic land-use planning decisions.

Suggested wording included: *Ensure flood risk management informs place making by avoiding inappropriate development in areas at risk of flooding and integrate sustainable water management solutions (such as SUDS, non-porous surfacing and green roofs) to create safe places.* ***Development plans should assess flood risk by implementing the recommendations of The Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014).***

The Department addressed this mitigation measure by updated Policy 58 with the following: *Ensure flood risk management informs place making by avoiding inappropriate development in areas at risk of flooding and integrate sustainable water management solutions (such as SUDS, non-porous surfacing and green roofs) to create safe places* ***in accordance with the Planning System and Flood Risk Assessment Guidelines for Local Authorities.***

5.2.2 National Strategic Outcome: Sustainable Management of Water and Other Environmental Resources

One of the National Strategic Outcomes (NSO) outlines the Sustainable Management of Water and Other Environmental Resources. There was no specific reference to implementing the EU Floods Directive, implementing the flood risk management proposals of the CFRAM programme or storm water management. Therefore it is recommended that this policy was updated to include the following bullet points:

- ***Coordinate the core objectives of the EU Flood Directive and statutory plans across the planning hierarchy, including national guidance on the relationship between the planning system and flood risk management. (DHPLG, OPW, LAs);***
- ***Local authorities, DHPLG, OPW and other relevant Departments and agencies will work together to implement the recommendation of the CFRAM programme to ensure that flood risk management policies and infrastructure are progressively implemented. (DHPLG, OPW, LA's); and***
- ***Prioritising investment to improve storm water infrastructure to improve sustainable drainage and reduce the risk of flooding in the urban environment.***

The Department addressed this mitigation measure by updating the NSO with the following:

- *Coordinate the **core objectives of the EU Flood Directive** and Water Framework Directive implementation and statutory plans across the planning hierarchy, including national guidance on the relationship between the planning system and river basin management;*

  Local authorities, DHPLG, OPW and other relevant Departments and agencies will work together to implement the recommendations of the CFRAM programme to ensure that flood risk management policies and infrastructure are progressively implemented.
- *Eliminate untreated discharges from settlements in the short term, while planning strategically for long term growth in tandem with Ireland 2040;*
- *Development of a new rural settlement investment approach coordinating Irish Water, local authority, developer and community led solutions to ensuring that sustainable water services solutions are progressively implemented;*
- *A new long term water supply source for the Eastern and Midland Region, which includes the Dublin Water Supply Area (DWSA), is needed by the mid-2020s, to provide for projected growth up to 2050 and contribute to resilience and security of supply for the region. This requires infrastructure provision to be guided and prioritised in a manner that can benefit the greatest number of areas within the country possible;*
- *Implement the Greater Dublin Strategic Drainage Study, through enlarging capacity in existing wastewater treatment plants (Ringsend) and providing a new treatment plant in North County Dublin - known as the Greater Dublin Drainage Project (GDD) Project;*
- ***Improve storm water infrastructure to improve sustainable drainage and reduce the risk of flooding in the urban environment***
- *Increase compliance with the requirements of the Urban WW Directive from 39% today to 90% by the end of 2021, to 99% by 2027 and to 100% by 2040;*
- *Reduce leakage, minimising demand for capital investment.*

APPENDIX A

Assessment of NPF Policies

Assessment

- Plus (+) indicates a potential positive impact;
- Minus (-) indicates a potential negative impact;
- Plus/minus (+/-) indicates that both positive and negative impacts are likely or that in the absence of further detail the impact is unclear; and
- Zero (0) indicates neutral or no impact.

Policy Area – A New Way Forward (Chapter 2)

NPO	A New Way Forward
1a	The projected level of population and jobs growth in the Eastern and Midland Regional Assembly area would be at least matched by that of Northern and Western and Southern Regional Assembly areas combined.
1b	▪ Eastern and Midland Region: a targeted 475,000 - 500,000 (0.475-0.5m) additional people, i.e. a population of around 2.8 million; ▪ Northern and Western Region: a targeted 150,000 - 175,000 (0.15-0.175m) additional people, i.e. a population of around 1 million; ▪ Southern Region: a targeted 350,000 - 375,000 (0.35-375m) additional people, i.e. a population of almost 2 million.
1c	▪ Eastern and Midlands Region: around 330,000 (0.33m) additional jobs, i.e. at least 1.33 million in total; ▪ The Northern and Western Region: around 110,000 (0.11m) additional jobs, i.e. at least 450,000 (0.45m) in total; ▪ The Southern Region: around 220,000 (0.22m) additional jobs, i.e. at least 880,000 (0.88m) in total.
2a	That population and jobs growth would generally be aligned to occur within the same functional area, whether a city of town catchment or all or part of one or more adjoining local authority area(s), on a coordinated basis through the Regional Spatial and Economic Strategy (RSES) and City and County Development processes.
2b	That at least half (50%) of future population and jobs growth would be focused in the five Cities and their immediately adjoining suburbs and that around two-thirds (66%) would be focused in the cities and their suburbs together with a number of large regionally distributed towns and their environs to be identified through the Regional Spatial and Economic Strategy (RSES) process
2c	That accessibility to the north-west of Ireland and between centres of scale separate from Dublin would be improved, focused on cities and larger, regionally distributed centres and on key east-west and north-south routes.
3a	Deliver at least 40% of all new homes nationally within the built-up envelope of existing urban settlements[3];
3b	At least half (50%) of all new homes in the five Cities and immediately adjoining suburban areas of Dublin, Cork, Limerick, Galway and Waterford would be delivered within the built-up envelope of existing urban settlements[4];
3c	In areas other than the five City and suburban areas of Dublin, Cork, Limerick, Galway and Waterford, at least 30% of all new homes would be delivered within the built-up envelope of existing urban settlements[5].

[3] This means within the existing built-up envelope of all sizes of urban settlement, 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.).
[4] On the basis of National Policy Objective 2b, this effectively targets 25% of all new homes nationally.

Objective	1a	1b	1c	2a	2b	2c	3a	3b	3c
Impact	-	-	-	-	-	0	-	-	-

Discussion

All policies in this section may require new development / infrastructure which could put pressure on flood zone areas if the sequential approach of the Guidelines is not followed.

Policies 3a, 3b and 3c could increase storm water runoff causing flooding issues if existing storm water networks are under capacity or runoff from the developments is not managed sustainably.

Proposed Mitigation Measures:

Policy 58 shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas

Policy 58 shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.

Policy Area – Making Stronger Urban Places (Chapter 3)

NPO	Making Stronger Urban Places
4	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.
5	To develop cities of sufficient scale and quality to compete internationally and to be drivers of national and regional growth and investment.
6	That cities, towns and villages of all types and scale are supported as environmental assets to be regenerated in order to accommodate changing roles and functions and enhanced levels of amenity and design in order to exert a positive influence on their surrounding area.
7	Strengthen all levels of Ireland's urban structure, with a particular focus on: ▪ Our Capital, Dublin ▪ the four Cities of Cork, Limerick, Galway and Waterford ▪ large towns (>10,000 population) located outside the five city regions[6] and particularly in the northern and western region ▪ small towns (<10,000 population) located outside the five city regions in conjunction with their surrounding rural areas[7]
7a	To achieve sustainable national growth in urban and rural areas, a National Smart Growth initiative will be put in place to support development and to leverage both public and private investment, as part of a ten year capital investment plan.
8	To ensure that the targeted pattern of population growth of Ireland's cities and large towns to 2040 is proportionate, in accordance with the targets set out in Table 3.1.
9a	Regional and Local Authorities to identify and quantify locations for strategic employment growth in the cities identified on Table 3.1.
9b	Regional and Local Authorities to identify and quantify locations for employment growth, where suitable, in urban areas generally.
10	That there is a presumption in favour of development that encourages more people, jobs and activity within existing urban areas, subject to development meeting appropriate planning standards and achieving targeted growth.

[5] On the basis of National Policy Objective 2b, this effectively targets 15% of all new homes nationally. Individual or scheme homes delivered outside the CSO defined urban settlement boundary are classed as greenfield.

[6] The standardized EU/OECD definition of a city region is the commuter catchment from which at least 15% of the relevant city area workforce is drawn. This will vary from Census to Census, but has been expanding in recent years.

[7] See chapter 4 of the NPF

NPO	Making Stronger Urban Places
11	In urban areas, planning and related standards, including in particular building height and car parking will be based on performance criteria that seek to achieve well-designed high quality outcomes in order to achieve targeted growth. These standards will be subject to a range of tolerance that enables alternative solutions to be proposed to achieve stated outcomes, provided public safety is not compromised and the environment is suitably protected.
12	In urban areas, active land management will be applied to identify a range of opportunities to achieve targeted growth, up to and including the establishment of special purpose vehicles such as a national land development agency and seeking to broaden the applicability of compulsory purchase legislation to enable urban development in certain circumstances, to ensure the development infill and brownfield and infill lands in the most sustainable economic and environmental manner possible.

Objective	4	5	6	7	7a	8	9a	9b	10	11	12
Impact	0	-	+	-	0	0	-	-	+	0	+
Discussion											
Policy 5, 7, 9a and 9b may require new development / infrastructure which could put pressure on flood zone areas if the sequential approach of the Guidelines is not followed. **Policy 6 -** Development could be managed sustainably around flood zones to maintain flood plain areas or integrate flood risk management and SuDs infrastructure into urban environment green spaces**.** **Policies 10 and 12 -** Land management and appropriate standards shall ensure that development is managed sustainably by implementing the sequential approach of the Guidelines and best practice for sustainable storm water runoff.										
Proposed Mitigation Measures: **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas. **Policy 58** shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.											

In addition to policies 4 to 12, a number of key enablers for the five cities are identified in the following sections.

Key enablers for **Dublin** include:-

- D1: Identifying a number of ambitious large-scale regeneration areas for the provision of new housing and employment throughout the city and metropolitan area and the measures required to facilitate them as integrated, sustainable development projects;
- D2: Progressing the sustainable development of new greenfield areas for housing, especially those on public transport corridors, such as Adamstown, Cherrywood, Clonburris and Clongriffin;
- D3: Determining a limited number of accessible locations for significant people-intensive employment to complement the city-centre and docklands areas;
- D4: Enabling enhanced opportunities for existing communities as development and diversification occurs, particularly through employment, learning and education support;

- D5: Relocating less intensive uses outside the M50 ring in particular and from the existing built-up area generally;
- D6: Delivering the key rail projects set out in the Transport Strategy for the Greater Dublin Area including Metro North, DART expansion and the Luas green line link to Metro North;
- D7: The development of an improved bus-based system, with better orbital connectivity and integration with other transport networks;
- D8: Ensuring that water supply and waste-water needs are met by new national projects to enhance Dublin's water supply and increase waste water treatment capacity;
- D9: Improving sustainability in terms of energy, waste and water, to include district heating and water conservation;
- D10: Public realm and urban amenity projects, focused on streets and public spaces, especially in the area between the canals and where linked to social regeneration projects;
- D11: Measures to enhance and better link the existing network of green spaces, including the Phoenix Park and other parks, Dublin Bay and the canals, subject to the carrying out of routing study and necessary environmental assessments;
- D12: Delivery of the metropolitan cycle network set out in the Greater Dublin Area Cycle Network Plan inclusive of key commuter routes and urban greenways on the canal, river and coastal corridors;
- D13: Improving access to Dublin Airport, to include improved public transport access and road connectivity from the road network from the west and north and in the longer term, consideration of heavy rail access to facilitate direct services from the national rail network in the context of potential future electrification;
- D14: Facilitating the growth of Dublin Port through greater efficiency, limited expansion into Dublin Harbour and improved road access, particularly to/from the southern port area.

Enabler	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14
Impact	+	+	+ / -	0	+ / -	0	0	0	0	+	0	0	0	0

Discussion

Enabler D1 - Regeneration should also consider the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014). The circular specifically addresses regeneration areas and flood risk management of their development.

Enabler D2 - Implementation of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and best practice for storm water runoff is vital for new greenfield sites to achieve sustainable development and reduce flood risk to these areas. A SFRA should also be carried out (if not done so already) for development in each of these areas to assess all types of flooding.

The CFRAM mapping has identified some fluvial flood extents in some of these areas:

- Adamstown – 0.1% AEP Flooding along upstream of the railway line along the Griffeen River
- Cherrywood – 1% and 0.1% flooding along the banks of the Carrickmines River
- Clonburris – The CFRAM mapping did not assess flooding on the Clonburris site
- Clongriffin – Development in this area should be cognisant of flooding along the Mayne River

Policy 3 - Development in the city centre and docklands needs to be managed in a sustainable manner as some of these areas are flood risk areas. Flood resilient construction methods should be implemented where appropriate in the urban environment where development space is restricted (as identified in the Dublin City SFRA for construction adjacent to the Liffey and along the quays).

Policy 5 - Moving development out of the city will reduce pressure on the storm water drainage network as well as reduce pressure on land management from a flood risk point of view. **Policy 5** - However implementation of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and best practice for storm water runoff is vital for new greenfield sites to achieve sustainable development and reduce flood risk to these areas. A SFRA should be carried out (if not done so already) for development in these areas. **Policy 10** - Development would be managed sustainably around flood zones to maintain flood plain areas or integrate flood risk management and SuDs infrastructure into urban environment green spaces similar.
Proposed Mitigation Measures: **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas. **Policy 58** shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.

Key enablers for **Cork** include:-

- C1: Delivering ambitious large-scale regeneration projects for the provision of new and employment, housing and supporting infrastructure in Cork Docklands (City Docks and Tivoli) as integrated, sustainable developments, including relocation of two 'Seveso' sites from the City Docks;
- C2: Progressing the sustainable development of new greenfield areas for housing, especially those on public transport corridors, such as Monard;
- C3: Identifying infill and regeneration opportunities to intensify housing development in inner city and inner suburban areas, supported by public realm and urban amenity projects;
- C4: Enabling enhanced opportunities for existing communities as development and diversification occurs, particularly through employment, learning and education support;
- C5: Development of a new science and innovation park to the west of the City, accessible by public transport;
- C6: The continued expansion of and integration with the City's third level institutions;
- C7: The development of a much enhanced Citywide public transport system to incorporate subject to further analysis, proposals for an east-west corridor from Mahon, through the City Centre to Ballincollig, a north-south corridor with a link to the Airport;
- C8: M8/N25/N40 Dunkettle Junction upgrade (approved) and improved Ringaskiddy Port access;
- C9: Enhanced regional connectivity through improved average journey times by road;
- C10: Improved traffic flow around the City, which subject to assessment could include upgrade of the N40, and/ or alternatives which may include enhanced public transport;
- C11: Improved rail journey times to Dublin and improved onward direct network connections.
- C12: Ensuring that water supply and waste-water needs are met by new national projects to enhance Corks water supply and increase waste water treatment capacity;
- C13: Improving sustainability in terms of energy, waste and water to include district heating and water conservation.

Enabler	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13
Impact	+ / -	+	+ / -	0	+ / -	0	0	0	0	0	0	0	0

Discussion

Enabler C1 - Development in the Cork City docklands needs to be managed in a sustainable manner as some of these areas are flood risk areas. The CFRAM maps show the area is affected by fluvial and coastal flooding. Any development in this area should be cognisant of the proposals for the Lower Lee Flood Relief Scheme. Flood resilient construction methods should be implemented where appropriate in the urban environment where development space is restricted. Appropriate land management should be employed to ensure in particular that residential areas are not placed in flood risk areas. Justification tests may be required for development dependent on their vulnerability.

Enabler C2 - Implementation of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and best practice for storm water runoff is vital for new greenfield sites to achieve sustainable development and reduce flood risk to these areas. A SFRA should also be carried out (if not done so already) for development in each of these areas to assess all types of flooding. The CFRAM mapping did not assess the fluvial risk in the Monard area.

Enabler C3 – Regeneration needs to be sustainable and should consider the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014). The circular specifically addresses regeneration areas and flood risk management of their development.

Enabler C5 - Moving development out of the city will reduce pressure on the storm water drainage network as well as reduce pressure on land management from a flood risk point of view.

Enabler C5 - However implementation of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and best practice for storm water runoff is vital for new greenfield sites to achieve sustainable development and reduce flood risk to these areas. A SFRA should be carried out (if not done so already) for development in this areas.

Proposed Mitigation Measures:

Policy 58 shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas.

Policy 58 shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.

Key enablers for **Limerick** include:-

- L1: Implementation of the Limerick 2030 economic strategy to create modern, city centre office accommodation and a series of transformational city centre public realm projects;
- L2: Complementary further development of the Limerick 2030 plan to include measures to encourage significant inner urban residential regeneration and development, to include the City's Georgian Quarter;
- L3: Extending the ambition of the Limerick 2030 plan to include extension of the City Centre towards Limerick Docks;
- L4: Identifying infill and regeneration opportunities to intensify housing and employment development throughout inner suburban areas;
- L5: Enabling enhanced opportunities for existing communities as development and diversification occurs, particularly through employment, learning and education support;

- L6: Progressing the sustainable development of new greenfield areas for housing and the development of supporting public transport and infrastructure, such as at Mungret;
- L7: The continued expansion of the City's third level institutions and integration with the wider City and region;
- L8: Provision of a Citywide public transport network, with enhanced accessibility from the City Centre to the National Technical Park, UL and Shannon Airport;
- L9: Development of a strategic cycleway network with a number of high capacity flagship routes;
- L10: Enhanced road connectivity to Shannon-Foynes Port, including local by-passes;
- L11: A northern environs access road, including new access to UL;
- L12: Enhanced regional connectivity through improved average journey times by road to Cork and Waterford.
- L13: Ensuring that water supply and waste-water needs are met by new national projects to enhance Limericks water supply and increase waste water treatment capacity;
- L14: Improving sustainability in terms of energy, waste and water to include district heating and water conservation.

Enabler	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
Impact	+	+	+ / -	+ / -	0	+	0	0	0	0	0	0	0	0
Enablers L1 and L2 may require new development / infrastructure which could put pressure on flood zone areas if the sequential approach of the Guidelines is not followed. **Enabler L3** – Development in Limerick City docklands needs to be managed in a sustainable manner as some of these areas are flood risk areas. CFRAM mapping identifies Some of the area as affected by the 0.5% AEP coastal flooding event. Flood resilient construction methods should be implemented where appropriate in the urban environment where development space is restricted. Appropriate land management should be employed to ensure in particular that residential areas are not placed in flood risk areas. Justification tests may be required for development dependent on their vulnerability. **Enabler L4** – Regeneration needs to be sustainable and should consider the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014). The circular specifically addresses regeneration areas and flood risk management of their development. **Enabler L6** - Implementation of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and best practice for storm water runoff is vital for new greenfield sites to achieve sustainable development and reduce flood risk to these areas.														
Proposed Mitigation Measures: **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas. **Policy 58** shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.														

Key enablers for **Galway** include:-

- G1: Delivering a number of regeneration projects for the provision of new development to extend and intensify the City Centre, including the Station, Docks and Headford Road areas;
- G2: Identifying infill and regeneration opportunities to intensify housing and employment development throughout inner suburban areas;
- G3: Progressing the sustainable development of new greenfield areas for housing and the development of supporting public transport and infrastructure, such as at Ardaun;
- G4: Improving access and sustainable transport links to and integration with the existing employment areas to the east of the City at Parkmore, Ballybrit and Mervue;
- G5: The continued expansion of the city's third level institutions and integration with the city and region;
- G6: Determining the sustainable future development of the Galway Airport site for employment and/or residential use together with supporting facilities and infrastructure;

  G7: Provision of a Citywide public transport network, with enhanced accessibility between existing and proposed residential areas and the City Centre, third level institutions and the employment areas to the east of the city;
- G8: Public realm and urban amenity projects, focused on streets and public spaces, particularly in support of an extended city centre area and where residential and employment areas can be linked to pedestrian routes;
- G9: Development of a strategic cycleway network with a number of high capacity flagship routes;
- G10: Delivery of the Galway City Ring Road;
- G11: Delivery of the Galway East Main Drainage Waste Water Treatment Plant.
- G12: Ensuring that water supply and waste-water needs are met by new national projects to enhance Galway's water supply and increase waste water treatment capacity;
- G13: Improving sustainability in terms of energy, waste and water to include district heating and water conservation.

Enabler	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13
Impact	+ / -	+	+	0	0	+	0	0	0	0	0	0	0
Discussion													
Enablers G1 and G2 - The CFRAM mapping shows that some areas in Galway City Centre along the Headford are at risk from fluvial flooding. The CFRAM mapping also show the Docklands are at risk from coastal flooding. Regeneration needs to be sustainable and should consider the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014). The circular specifically addresses regeneration areas and flood risk management of their development. **Enabler G3** - Implementation of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and best practice for storm water runoff is vital for new greenfield sites to achieve sustainable development and reduce flood risk to these areas. A SFRA should be carried out (if not done so already) for development in each of these areas for all types of flood risk. The CFRAM mapping does not show any significant risk for either fluvial or coastal flooding for the Ardauan area. **Enabler G6** - A SFRA should be carried out (if not done so already) for development in each of this area to establish if there is any flood risk to the site.													
Proposed Mitigation Measures: **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the													

sequential approach to avoid non appropriate development in flood prone areas.

Policy 58 shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.

Key enablers for **Waterford** include:-

- W1: Delivering the North Quays SDZ regeneration project for integrated, sustainable development together with supporting infrastructure, including a new pedestrian bridge or a pedestrian/public transport bridge over the River Suir;
- W2: Identifying infill and regeneration opportunities to intensify housing and employment development throughout city centre and inner suburban areas;
- W3: Enabling enhanced opportunities for existing communities as development and diversification occurs, particularly through employment, learning and education support;
- W4: Progressing the sustainable development of new greenfield areas for housing and the development of supporting public transport and infrastructure;
- W5: Public realm and urban amenity projects, focused on streets and public spaces, particularly in the city centre and inner urban area in support of urban intensification;
- W6: The development and expansion of the City's third level institution and integration with the City and region;
- W7: Provision of Citywide public transport and strategic cycleway networks;
- W8: Extension of the Deise greenway to link WIT to the City Centre;
- W9: Enhanced regional connectivity through improved average journey times by road to Cork, Limerick and ports within the region.
- W10: Ensuring that water supply and waste-water needs are met by new national projects to enhance Waterford's water supply and increase waste water treatment capacity;
- W11: Improving sustainability in terms of energy, waste and water to include district heating and water conservation.

Enabler	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11
Impact	+ / -	+ / -	0	+	0	0	0	0	0	0	0
Discussion											

Enablers W1 and W2 - The CFRAM mapping shows that some areas by the North Quays Centre are at risk from fluvial and tidal flooding. Regeneration needs to be sustainable and should consider the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014). The circular specifically addresses regeneration areas and flood risk management of their development.

Enabler W4 - Implementation of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and best practice for storm water runoff is vital for new greenfield sites to achieve sustainable development and reduce flood risk to these areas. A SFRA should be carried out (if not done so already) for development in each of these areas for all types of flood risk.

Proposed Mitigation Measures:

Policy 58 shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas.

Policy 58 shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.

Policy Area – Planning for Diverse Rural Places (Chapter 4)

NPO	Planning for Diverse Rural Places
13	To protect and promote the quality, character and distinctiveness of the Irish landscape, the sense of place and culture that makes Ireland's rural areas authentic and attractive as places to live, work and visit. The Action Plan for Rural Development up to and including 2021 supports this objective and thereafter a review of the Action Plan for Rural Development is to be undertaken to ensure alignment and consistency with the National Policy Objectives of this Framework.
14	To ensure that the targeted population growth of Ireland's small towns and rural areas to 2040 is proportionate, at a targeted average rate of 15% in each Regional Assembly area, to be applied regionally through the Regional Spatial and Economic Strategy process and locally through the County Development Plans.
15	To target the reversal of rural decline in the core of small towns and villages through sustainable targeted measures that addresses vacancy and deliver sustainable reuse and regeneration outcomes.
16	To enhance, integrate and protect the special physical, social, economic and cultural value of built heritage assets through appropriate and sensitive use now and for future generations.
17a	To support the proportionate growth of and appropriately designed development in rural towns that will contribute to their regeneration and renewal, including interventions in the public realm, the provision of amenities, the acquisition of sites and the provision of services.
17b	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.
18a	To ensure, in providing for the development of rural housing that a distinction is made between areas under urban influence i.e. areas within the five city regions and the hinterland of towns, and elsewhere and that the standardized EU/OECD definition of a city region shall be applied to identify the urban influence of cities and large towns (>10,000), with influence of smaller (<10,000) towns determined locally.
18b	In rural areas under urban influence, to facilitate the provision of single housing in the countryside based on the core consideration of demonstrable economic need to live in a rural area, and relevant siting criteria for rural housing in statutory guidelines and plans.
19	To project need for single housing in the countryside through the local Housing Need Demand Assessment (HNDA) tool and county development plan core strategy processes.
20	To enhance the competitiveness of rural areas by supporting innovation in rural economic development and enterprise through the sustainable diversification of the rural economy into new sectors and in particular those with a low or zero carbon output.
21	To facilitate the development of the rural economy through supporting a sustainable and economically efficient agricultural and food sector, together with forestry, fishing and aquaculture and diversification into alternative on-farm and off-farm activities, whilst at the same time noting the importance of maintaining and protecting the natural landscape and built heritage which are vital to rural tourism.
22	To support and facilitate delivery of the National Broadband Plan as a means of developing further opportunities for enterprise, employment, education, innovation and skills development for those who live and work in rural areas.
23	Facilitate the development of a National Greenways/ Blueways Strategy which prioritises projects on the basis of achieving maximum impact and connectivity at national and regional

NPO	Planning for Diverse Rural Places
	level.
24	Working together with the Department of Rural and Community Development and the Department of Agriculture. Food and the Marine, establish a mechanism to co-ordinate structures for funding rural development that can align with Ireland 2040 and other national strategies.

Objective	13	14	15	16	17a	17b	18a	18b	19	20	21	22	23	24
Impact	0	+ / -	+	0	+ / -	+ / -	0	+ / -	+	0	0	0	0	0

Discussion

Policy 14 - Population growth may require new development / infrastructure which could put pressure on flood zone areas if the sequential approach of the Guidelines is not followed.

Policy 15 - Reusing vacant properties and reuse of existing buildings reduces the need for further development but regeneration projects should consider the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014). The circular specifically addresses regeneration areas and flood risk management of their development. Some of these buildings may already be developed in inappropriate areas.

Policies 17a and 17b – Development of rural areas also needs to be developed in accordance with the Guidelines. FRAs should be carried out to an appropriate detail to ensure development is sustainable and avoided in flood risk areas. Smaller rural areas may not be covered by the scope of the CFRAM mapping but this does not mean they are free of flood risk. Serviced development sites should also include management of storm water runoff, an integrated catchment approach should be followed.

Policies 18b and 19 – While understanding the need for Single housing, FRAs to an appropriate level detail should also be carried out for these types of development. Single housing in flood risk areas can be isolated with limited accessibility endangering the lives of residents during extreme flood events.

Proposed Mitigation Measures:

Policy 58 shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas.

Policy 58 shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.

Policy Area – People, Homes and Communities (Chapter 5)

NPO	People, Homes and Communities
25	To facilitate the promotion and creation of sustainable community development and support community organisations in their work to provide for a more sustainable future.
26	To support the objectives of public health policy including Healthy Ireland and the National Physical Activity Plan, though integrating such policies, where appropriate and at the applicable scale, with planning policy.
27	To manage the efficient use of water and wastewater resources in a sustainable way that delivers an adequate supply of safe public drinking water to citizens, supports economic growth and preserves our environment.
28	To ensure the integration of safe and convenient alternatives to the car into the design of our

NPO	People, Homes and Communities
	communities, by integrating physical activity facilities for all ages, particularly prioritising walking and cycling accessibility to both existing and proposed future development, in all settlements.
29	That local planning, housing, transport/ accessibility and leisure policies will be developed with a focus on meeting the needs and opportunities of an ageing population and that a specific projection and statement supported by clear proposals in respect of ageing communities will form part of the core strategy of city and county development plans.
30	To plan for a more diverse and socially inclusive society that targets equality of opportunity and a better quality of life to all citizens, through improved integration and greater accessibility in the delivery of sustainable communities and the provision of associated services.
31	To facilitate fostering and protecting the Irish language, particularly within Gaeltacht regions.
32	To prioritise the alignment of targeted and planned population and employment growth with investment in:- ▪ The provision of early childhood care and education (ECCE) facilities and new and refurbished schools and early years care and education facilities (ECCCE) facilities on well located sites within or close to existing built-up areas, that meet the diverse needs of local populations; ▪ The expansion and consolidation of third level facilities at locations where this will contribute to regional development, and ▪ Programmes for life-long learning, especially in areas of higher education and further education and training where skills gaps are identified.
33	To target the delivery of 550,000 additional households up to 2040 in accordance with the policy objectives of Ireland 2040.
34	To prioritise the provision of new homes at sustainable locations and at an appropriate scale relative to location.
35	To implement the short term measures to reduce vacancy and to progressively target the reduction of the national housing vacancy rate to 5% by 2040 (currently 9.15%).
36	To support the provision of lifetime adaptable homes that can accommodate the changing needs of a household over time.
37	To increase residential density in settlements, through a range of measures including reductions in vacancy, re-use of existing buildings, infill development schemes, area or site-based regeneration and increased building heights.
38	New statutory guidelines, supported by wider methodologies and data sources, will be put in place under Section 28 of the Planning Act to improve the evidence base, effectiveness and consistency of the planning process for housing provision at regional, metropolitan and local authority levels. This will be supported by the provision of standardized requirements by regulation for the recording of planning and housing data by the local authorities in order to provide a consistent and robust evidence base for housing policy formulation.
39	A 'Housing Need Demand Assessment' (HNDA) is to be undertaken for each Local Authority Area in order to correlate and accurately align future housing requirements. The HNDA is: ▪ to be undertaken by Local Authorities with coordination assistance to be provided by the Regional Assemblies, particularly where inter-county and inter-regional settlement interactions are to be planned for and managed. ▪ to primarily inform housing policies, housing strategies and associated land use zoning policies as well as assisting in determining where new policy areas or investment programmes are to be developed. ▪ to be supported, through the establishment of a coordination and monitoring unit to assist Local Authorities and Regional Assemblies in the development of the HDNA

NPO	People, Homes and Communities
	(DHPLG, Regional Assemblies and the Local Authorities). This will involve developing and coordinating a centralised spatial database for Local Authority Housing data that supports the HNDA being undertaken by Local Authorities.

Objective	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Impact	+	0	0	0	0	0	0	+	+ /-	+	+ / -	+	+	0	0
Discussion															
Policy 25, 32 and 34 – Implementation of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and best practice for storm water runoff is vital to achieve sustainable development and reduce flood risk. **Policy 33 -** Housing targets will require new development / infrastructure which could put pressure on flood zone areas if the sequential approach of the Guidelines is not followed. **Policy 35** - Reusing vacant properties and reuse of existing buildings reduces the need for further development but regeneration projects should consider the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014). The circular specifically addresses regeneration areas and flood risk management of their development. Some of these buildings may already be developed in inappropriate areas. **Policy 36 and 37** – Will reduce the demand for new green field development. Regeneration needs to be sustainable and should consider the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014). The circular specifically addresses regeneration areas and flood risk management of their development.														
Proposed Mitigation Measures: **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas. **Policy 58** shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.															

Policy Area – Realising our Island and Marine Potential (Chapter 6)

NPO	Realising our Island and Marine Potential
40	Regional and local development plans will take account of and integrate relevant maritime spatial planning issues.
41	To support the growth and development of the maritime economy, particularly in remote coastal communities and islands.
42	To ensure that the strategic development requirements of Tier 1 and Tier 2 Ports are considered and addressed as part of the Regional Spatial and Economic Strategy (RSES) and that any concurrent or subsequent metropolitan area or city/ county development plans and strategic plans for the Tier 1 and Tier 2 ports are aligned to ensure the effective growth and sustainable development of the city regions.
43a	To ensure that Ireland's coastal resource is managed to sustain its physical character and environmental quality.
43b	In line with the collective aims of national policy regarding climate adaptation, to address the effects of sea level changes and coastal flooding and erosion and to support the

NPO	Realising our Island and Marine Potential
	implementation of adaptation responses in vulnerable areas.
44	To support, within the context of the Offshore Renewable Energy Development Plan (OREDP) and its successors, the progressive development of Ireland's offshore renewable energy potential, including domestic and international grid connectivity enhancements.

Objective	40	41	42	43a	43b	44
Impact	+	+	+	+	+	0
Discussion						
Policies 40, 41, 42, 43a and 43b – The plans and strategic development should ensure development in maritime areas follows the principles, recommendations and sequential approach of the Guidelines.						
Proposed Mitigation Measures: **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas. **Policy 58** shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.						

Policy Area – Working with Our Neighbours (Chapter 7)

NPO	Working with Our Neighbours
45	To work with the relevant Departments in Northern Ireland for mutual advantage in areas such as spatial planning, economic development and promotion, co-ordination of social and physical infrastructure provision and environmental protection and management.
46	In co-operation with relevant Departments in Northern Ireland, to further support and promote the sustainable economic potential of the Dublin- Belfast Corridor and enhance its international visibility.
47	To promote the development of Derry and Letterkenny as interlinked areas of strategic importance and a key growth centre in the North-West of Ireland, through collaborative structures and a joined-up approach to spatial planning.
48	To support enhanced public transport connectivity between large urban areas in Ireland and Northern Ireland.
49	Strengthen all-island energy infrastructure and interconnection capacity to enhance the security of electricity supply.
50	Develop a stable, innovative and secure digital communications and services infrastructure on an island basis.
51	To support the coordination and promotion of all-island tourism initiatives through continued cooperation between the relevant tourism agencies and Tourism Ireland.
52	Ensuring effective management of shared landscapes, heritage, water catchments, habitats, species and trans-boundary issues in relation to environmental policy.
53	In co-operation with the United Kingdom Government and devolved Governments of Northern Ireland, Scotland and Wales, Ireland will support mutually beneficial development in the areas of spatial planning and infrastructure planning and other related areas.

Objective	45	46	47	47	48	49	50	51	52	53
Impact	+	0	0	0	0	0	0	0	+	+
Discussion										
Policies 45, 52 and 53 – will ensure that development on shared catchments is appropriate and follows the principles of the Guidelines and the Northern Ireland Department of Environment Planning Policy Statement, PPS 15 'Planning and Flood Risk'. This cross border co-operation will ensure that flood risk on shared catchments is reduced and managed.										
Proposed Mitigation Measures: : **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas. **Policy 58** shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.										

Policy Area – Realising Our Sustainable Future (Chapter 8)

NPO	Realising Our Sustainable Future
54	That the planning system is responsive to our national environmental challenges and ensures that development occurs within environmental limits having regard to the requirements of all relevant environmental legislation and promotes the sustainable management of our natural capital.
55	To support the circular and bio economy, through greater efficiency in renewable resources and land management and by reducing the rate of land use change from urban sprawl and new development.
56	Reduce our carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaptation objectives as well as targets for greenhouse gas emissions reductions.
57	To promote renewable energy generation at appropriate locations within the built and natural environment to meet objectives towards a low carbon economy by 2050.
58	Ensure flood risk management informs place making by avoiding inappropriate development in areas at risk of flooding and integrate sustainable water management solutions (such as SUDS, non-porous surfacing and green roofs) to create safe places in accordance with the Planning System and Flood Risk Assessment Guidelines for Local Authorities.
59	To promote the integration of Green Infrastructure (GI) and ecosystem services including landscape, heritage and biodiversity in the preparation of statutory land use plans.
60	Sustainably manage the quality of our water resources to support and deliver the growth strategy for Ireland 2040 and a healthy society.
61	Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, green infrastructure planning and innovative design solutions.
62	Promote the pro-active management of noise where it would have significant adverse impacts on health and quality of life and support the aims of the Environmental Noise Regulations through national planning guidance and Noise Action Plans.

Objective	54	55	56	57	58	59	60	61	62
Impact	+	+	+	0	+	+	0	0	0

Discussion

Policies 53 and 54 – Implementation of the Guidelines will help achieve these policies by maintaining green spaces and reducing urban sprawl thus avoiding new development in potential flood risk areas.

Policy 55 – Adopting climate change factors for hydrology and hydraulic calculations in FRAs will allow for consideration of climate change effects on flood extents. Therefore avoiding development in areas which may be prone to flood risk in the future as our climate changes.

Policy 58 – Implementation of the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and best practice for storm water runoff is vital to achieve sustainable development and reduce flood risk to these areas.

Policy 59 – Integration and development of green infrastructure will reduce runoff rates therefore reducing flood risk.

Proposed Mitigation Measures:

It was recommended that that policy 58 was updated to include reference to the Guidelines which would copper fasten that FRAs should be carried out to provide an assessment of all types of flood risk to assist planning authorities to make informed strategic land-use planning decisions.

Suggested wording:

Ensure flood risk management informs place making by avoiding inappropriate development in areas at risk of flooding and integrate sustainable water management solutions (such as SUDS, non-porous surfacing and green roofs) to create safe places. Development plans should assess flood risk by implementing the recommendations of The Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014) .

Policy Area – Implementation and Investment (Chapter 9)

NPO	Governance
63	**Metropolitan Areas: Building Centres of Scale** Provision will be made for metropolitan area strategic plans to be prepared for the Dublin, Cork, Limerick, Galway and Waterford Metropolitan areas and in the case of Dublin and Cork, to also address the wider city region, by the appropriate authorities in tandem with and as part of the relevant RSES.
64	**Better Strategic Planning for Other Urban Areas** Provision will be made for urban area plans for larger towns and their environs with a population of more than 15,000 people. Provision will also be made for joint urban area plans and joint local area plans where a town and environs lies within the combined functional area of more than one local authority.
65	**Strengthening Local Authority Planning: Plan Making and Core Strategies** City/ county development plan core strategies shall comprehensively identify, co-ordinate and balance targeted population and housing growth in cities, large and small towns, rural settlements and in the open countryside for the relevant planning authority area and this will be supported by a standardised methodology for the preparation of core strategies.
66	**Integrating Spatial and Transport Planning** Statutory arrangements between spatial and transport planning in the Greater Dublin Area will be extended to other cities
67	**Coordinating Land Use Zoning, Infrastructure and Services**

NPO	Governance
	Planning authorities will be required to apply a standardised, tiered approach to differentiate between i) zoned land that is available for development, ii) zoned land that requires further specified investment in basic infrastructural services for development to be realised and iii) zoned land unlikely to be serviced within the life of the relevant plan; When considering zoning land for development purposes that requires further investment in basic infrastructural services, planning authority will make a reasonable estimate of the full cost of delivery of the specified services and identify the responsible delivery agency(ies); When considering zoning land for development purposes that is unlikely to be serviced within the life of the relevant plan, planning authority will review the status of such lands.
68	**Prioritising Development Lands** When zoning land for development, planning authorities will apply a specified standardised approach in establishing an order of priority for development of land taking account of proper planning and sustainable development, and in the case of adjoining interdependent landholdings evidence of landholder commitment to necessary co-operation to release lands for development. Planning authorities will use compulsory purchase powers to facilitate the delivery of enabling development services to prioritised zoned lands, to accommodate planned growth and development. Infrastructure delivery agencies will focus on the delivery of enabling development services to prioritised zoned lands that deliver planned growth and development.
69	**State-led Strategic Land Development** A more effective strategic and centrally managed approach will be taken to realise the development potential of the overall portfolio of state owned and/or influenced lands in the five main cities and potentially other major urban areas as a priority.
	Integrating Environmental Considerations into the Planning System
70	Ensure that all plans, projects and activities requiring consent arising from the National Planning Framework are subject to the relevant environmental assessment requirements including SEA, EIA and AA as appropriate

Objective	63	64	65	66	67	68	69	70
Impact	+	+	+	0	+	+	0	+

Discussion

Policies 63 and 64 – These plans should implement the Guidelines and a FRA to an appropriate level of detail should be carried out for each of these plans to ensure development is avoided in flood risk areas.

Policy 65 – The standard methodology should include carrying out a FRA to an appropriate level of detail for each plan. These plans should be carrying out in accordance with the Guidelines.

Policies 67 - These plans should implement the Guidelines and a FRA to an appropriate level of detail should be carried out for each of these plans to ensure development is avoided in flood risk areas. The plans should also ensure that storm water management infrastructure (SuDS) should be included the development.

Policies 68 – These plans should implement the Guidelines and a FRA to an appropriate level of detail should be carried out for each of these plans to ensure development is avoided in flood risk areas. If flood risk management or SuDs infrastructure is required this should be developed before to the development.

Policy 70 – Any finding from FRAs carried out should be integrating into these assessments
Proposed Mitigation Measures: **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas. **Policy 58** shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.

National Strategic Outcome: Compact, Smart Growth

NSO1.1	Smart Growth Urban
1)	Enable urban infill development that would not otherwise occur;
2)	Improve 'liveability' and quality enabling greater densities of development to be achieved;
3)	Encourage economic development and job creation, by creating conditions to attract internationally mobile investment and opportunities for indigenous enterprise growth;
4)	Building on existing assets and capacity to create critical mass and scale as growth drivers;
5)	Improve accessibility to and between centres of mass and scale and better integration with their surrounding areas;
6)	Ensure transition to more sustainable modes of travel (walking, cycling, public transport) and energy consumption (efficiency, renewables) within an urban context;
7)	Encourage labour mobility to support employment led growth, including affordable housing, education/ skills development and improved community and family services including childcare.
NSO1.2	**Smart Growth Rural**
1)	Enhance the attractiveness, viability and vibrancy of smaller towns and villages in rural areas as a means of achieving more sustainable patterns and forms of development.
2)	Ensure transition to more sustainable modes of travel (walking, cycling, public transport) and energy consumption (efficiency, renewables) within smaller towns and villages.
3)	Encourage and attract entrepreneurship and innovation in the context of the rural economy and its continuing sustainable diversification, particularly where low carbon outputs can be achieved.
4)	Cater for a niche or specialised development that is intrinsically required to be located in a rural setting and has wider benefits for the local rural and regional economy.
5)	Cross boundary collaboration at county and regional level to achieve more sustainable outcomes for rural communities e.g. applicable to shared settlements, landscapes and amenities as well as lands in state ownership.
6)	Enhance co-ordination of various funding streams for rural development that supports the place making policies of Ireland 2040.

NSO	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7	1.2.1	1.2.2	1.2.3	1.2.4	1.2.5	1.2.6
Impact	+/-	0	+/-	+/-	0	0	0	0	0	0	0	0	0

Discussion

NSO 1.1.1 & 1.1.4 – Will reduce the demand for new green field development. Infill and regeneration needs to be sustainable and should consider the Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014).

NSO 1.1.3 - may require new development / infrastructure which could put pressure on flood zone areas if the sequential approach of the Guidelines is not followed.

Proposed Mitigation Measures:

Policy 58 shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas.

Policy 58 shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.

National Strategic Outcome: Enhanced Regional Accessibility

NSO2.1	Inter-Urban Roads
1)	Maintaining the strategic capacity and safety of the national roads network including planning for future capacity enhancements;
2)	Improving average journey times targeting an average inter-urban speed of 90kph:
3)	Enabling more effective traffic management within cities and re-allocation of inner city road-space in favour of bus-based public transport services and walking / cycling facilities
4)	Advancing orbital traffic management solution examples including the Galway Ring Road, Limerick Northern Distributor Road (LNDR) and M8/ N25/ N40 Dunkettle Junction upgrade (approved) in Cork.
NSO2.2	**Accessibility to the Northwest**
1)	Upgraded access to the Letterkenny-Derry City Area utilising existing routes (N2/N14/ A5);
2)	Upgrade northern sections of the N4 route and sections of the N3/M3 national primary route;
3)	Progressive development of the Atlantic Economic Corridor from Galway northwards by completion of the M17/M18, upgrading sections of the N17 northwards, where required and upgrading the N15/N13 link.

NSO	2.1.1	2.1.2	2.1.3	2.1.4	2.2.1	2.2.2	2.2.3
Impact	0	0	0	+/-	+/-	+/-	+/-

Discussion

NSO 2.1.4, 2.2.1, 2.2.2 & 2.2.3 – These proposals should implement the Guidelines and a FRA to an appropriate level of detail should be carried out for each of these proposals to ensure infrastructure is avoided in flood risk areas insofar as possible.

Proposed Mitigation Measures:

Policy 58 shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas.

Policy 58 shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.

National Strategic Outcome: High Quality International Connectivity

NSO3.1	Airports
1)	The development of additional runway and terminal facilities such as the second runway for Dublin Airport for which planning permission has been approved;
2)	Enhancing land-side access and particularly in public transport terms such as the Metro-North project in Dublin; and
3)	Careful land-use management of land side areas to focus on the current and future needs of the airports.
NSO3.2	**Ports**
1)	Improve land transport connections to the major ports
2)	Facilitating the growth of Dublin Port through greater efficiency, limited expansion into Dublin Harbour and improved road access, particularly to/from the southern port area.
3)	Enhancing road connectivity to Shannon-Foynes Port, including by-passes;
4)	Improving access to Ringaskiddy Port

NSO	3.1.1	3.1.2	3.1.3	3.2.1	3.2.2	3.3.3	3.3.4
Impact	+/-	0	0	0	+/-	0	0
Discussion							
NSO 3.1.1, 3.3.3 & 3.2.2 – – Development of major infrastructural projects such as airports and ports should include an FRA to ensure development is appropriate if they lie in a flood risk area.							
Proposed Mitigation Measures: **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas. **Policy 58** shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.							

National Strategic Outcome: Sustainable Mobility

NSO4	Public Transport
1)	Expand attractive public transport alternatives to car transport to reduce congestion and emissions and enable the transport sector to cater for the demands associated with longer term population and employment growth in a sustainable manner through the following measures:
2)	To strengthen public transport connectivity between cities and large growth towns in Ireland and Northern Ireland with improved services and reliable journey times
3)	Deliver the key public transport objectives of the Transport Strategy for the Greater Dublin Area 2016-2035 by investing in projects such as New Metro North, DART Expansion Programme, BusConnects in Dublin and key bus based projects in the other cities and towns;
4)	Provide public transport infrastructure and services to meet the needs of smaller towns, villages and rural areas;

5)	Develop a comprehensive network of safe cycling routes in metropolitan areas to address travel needs and to provide similar facilities in towns and villages where appropriate.

NSO	4.1	4.2	4.3	4.4	4.5
Impact	0	0	0	0	0
Discussion					
NSO 4.3 – These proposals should implement the Guidelines and a FRA to an appropriate level of detail should be carried out for each of these proposals to ensure infrastructure and development is avoided in flood risk areas.					
Proposed Mitigation Measures: **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas. **Policy 58** shall also ensure that development should include SuDS to ensure runoff is controlled to at least the greenfield runoff rate.					

National Strategic Outcome: A Strong Digital Economy

NSO5	Communications
1)	Implementation of the National Broadband Plan.
2)	Enhancing international fibre communications links including full interconnections between the fibre networks in Northern Ireland and the Republic of Ireland;
3)	Promotion of Ireland as a sustainable international destination for ICT infrastructure such as data storage and associated economic activities;
4)	Promoting our cities as demonstrators of 5G information and communications technology.

NSO	5.1	5.2	5.3	5.4
Impact	0	0	0	0
Discussion				
N/A				
Proposed Mitigation Measures: **N/A**				

National Strategic Outcome: Empowered Rural Communities

NSO6	Rural Development
1)	Implementation of actions outlined in the Action Plan for Rural Development;
2)	Progressive development of rural broadband under the National Broadband Plan;
3)	Implementation of a targeted smart growth initiative to enable opportunities to secure the regeneration and re-purposing of rural towns and villages weakened by the structural changes in rural economies and settlement patterns;

4)	Investment in maintaining regional and local roads and strategic road improvement projects in rural areas to ensure access to critical services such as education, healthcare and employment;
5)	Continued investment in greenways and blue ways as part of a nationally coordinated strategy.
6)	Ongoing support through a well-funded Common Agricultural Policy for the Agri-Food sector.

NSO	6.1	6.2	6.3	6.4	6.5	6.6
Impact	0	0	0	0	0	0
Discussion						
N/A						
Proposed Mitigation Measures: **N/A**						

National Strategic Outcome: Enhanced Urban Amenity

NSO7	Green Networks and Infrastructure
1)	Metropolitan Area Strategic Plans will be required to include a metropolitan parks and amenity strategy;
2)	Implementation of planning and transport Strategies for the five cities and other urban areas will be progressed with a major focus on improving walking and cycling routes including continuous urban greenway networks and targeted measures to enhance permeability and connectivity.
3)	Smart Growth initiatives will seek to encourage transformational public realm initiatives to give city and town centre areas back to citizens, encouraging greater city and town centre living, enhanced recreational spaces and attractiveness from a cultural, tourism and promotional perspective;
4)	Strategies to further support urban active travel will be developed and implemented.

NSO	7.1	7.2	7.3	7.4
Impact	+	0	0	0
Discussion				
NSO 7.1 – These plans should implement the Guidelines and a FRA to an appropriate level of detail should be carried out for each of these plans to ensure development is avoided in flood risk areas.				
Proposed Mitigation Measures: **Policy 58** shall ensure implementation of the Guidelines to ensure that development follows the sequential approach to avoid non appropriate development in flood prone areas.				

National Strategic Outcome: Transition to Sustainable Energy

NSO8	Green Energy
1)	Deliver 40% of our electricity needs from renewable sources by 2020 with a strategic aim of in excess of 50% by 2030 and more by 2040 and beyond using wind, wave, solar, biomass and hydro sources.
2)	Reinforce the existing transmission network in the west to facilitate planned growth and the transfer of renewable energy generated to the major demand centres in the east.
3)	Strengthen energy security and resilience to support an island population of 8 million people through effective north-south electricity grid interconnection as well exploring other interconnection options in the longer term to 2040 such the 'Celtic Interconnector' with France.
4)	Consideration of carbon neutral electricity generation that would be facilitated through harnessing carbon capture and storage (CCS), using the Kinsale Head Gas Field.
5)	National Interconnector (Subsea Ring around Ireland (provides connection to EU via the proposed Celtic Interconnector) or other solutions offer the potential to connect Ireland to the EU electricity grid System.
6)	Roll out of the National Smart Grid Plan enabling new connections, grid balancing, energy management and micro grid development.

NSO	8.1	8.2	8.3	8.4	8.5	8.6
Impact	0	0	0	0	+/-	0
Discussion						
N/A						
Proposed Mitigation Measures: **N/A**						

National Strategic Outcome: Sustainable Management of Water and Other Environmental Resources

NSO9.1	Water
1)	Coordinate the core objectives of the EU Flood Directive and Water Framework Directive implementation and statutory plans across the planning hierarchy, including national guidance on the relationship between the planning system and river basin; Local authorities, DHPLG, OPW and other relevant Departments and agencies will work together to implement the recommendations of the CFRAM programme to ensure that flood risk management policies and infrastructure are progressively implemented.
2)	Eliminate untreated discharges from settlements in the short term, while planning strategically for long term growth in tandem with Ireland 2040;
3)	Development of a new rural settlement approach coordinating Irish Water, local authority, developer and community led solutions to ensuring that sustainable water services solutions are progressively implemented.
4)	A new long term water supply source for the Eastern and Midland Region, which includes the Dublin Water Supply Area (DWSA), is needed by the mid-2020s, to provide for projected growth up to 2050 and contribute to resilience and security of supply for the

	region. This requires infrastructure provision to be guided and prioritised in a manner that can benefit the greatest number of areas within the country possible;
5)	Implement the Greater Dublin Strategic Drainage Study, through enlarging capacity in existing wastewater treatment plants (Ringsend) and providing a new treatment plant in North County Dublin - known as the Greater Dublin Drainage Project (GDD) Project;
6)	Improve storm water infrastructure to improve sustainable drainage and reduce the risk of flooding in the urban environment;
7)	Increase compliance with the requirements of the Urban WW Directive from 39% today to 90% by the end of 2021, to 99% by 2027 and to 100% by 2040.
8)	Reduce leakage, minimising demand for capital investment.
NSO9.2	Waste
1)	RSESs and the core strategies of MASP's and city and county plans will support national and regional waste policy and efficient use of resources;
2)	District heating networks will be developed where technically feasible to assist in meeting renewable heat targets and reduce Ireland's GHG emissions;
3)	Development of necessary and appropriate hazardous waste management facilities to avoid the need for treatment elsewhere.

NSO	9.1.1	9.1.2	9.1.3	9.1.4	9.1.5	9.1.6	9.1.7	9.1.8	9.2.1	9.2.2	9.2.3
Impact	+	+	0	0	0	+	0	0	0	0	0

Discussion

NSO 9.1.1 – Will ensure the requirements of the flood directive are implemented and flood risk is considered within strategic plans at levels of government. It will also ensure that recommendations from the CFRAMs shall be considered in an effort to reduce flood risk nationally.

NSO 9.1.2 – Will reduce health hazards during flooding

NSO 9.1.6 – Will reduce the impact of storm water runoff and the risk of flooding in urban environments

Proposed Mitigation Measures:

NS0 9.1 had no specific reference to implementing the EU Floods Directive, implementing the flood risk management proposals of the CFRAM programme or storm water management. Therefore it was recommended that this policy was updated to include the following bullet points:

- Coordinate the core objectives of the EU Flood Directive and statutory plans across the planning hierarchy, including national guidance on the relationship between the planning system and flood risk management.
- Local authorities, DHPCLG, OPW and other relevant Departments and agencies will work together to implement the recommendation of the CFRAM programme to ensure that flood risk management policies and infrastructure are progressively implemented.
- Improve storm water infrastructure to improve sustainable drainage and reduce the risk of flooding in the urban environment.

National Strategic Outcome: Access to Quality Health, Education and Community Services

NSO10.1	Education
1)	The provision of additional investment in the schools sector is required to keep pace with demographic demand and to manage increasing building and site costs. Provision of new and refurbished schools on well-located sites within or close to existing built-up areas, to meet demographic growth and the diverse needs of local populations;
2)	The expansion and consolidation of third level facilities at locations where this will further strengthen the capacity of those institutions to deliver the talent necessary to drive economic and social development in the regions. The consolidation of the DIT campus at Grangegorman is a critical flagship infrastructural project for the higher education sector;
3)	Investment in higher and further education and training will be a key driver of Ireland's competitiveness. The development of programmes for life-long learning, especially in areas of education and training where skills gaps are identified by employers and the further and higher education and training system working together through Regional Skills Fora in responding to the skills needs of their regions.
NSO10.2	**Health**
1)	**Acute Hospital Services:** Delivering improved acute hospital services through the implementation of strategies and policies such as the National Maternity Strategy and the National Cancer Control Programme, and a wide range of programmes and projects including: ▪ Paediatric strategy to provide a national paediatric healthcare service through the construction of the new National Children's Hospital and associated satellite care units ▪ Maternity strategy including co-location of the National Maternity Hospital and other standalone maternity hospitals to acute hospital campuses ▪ Building additional capacity in line with identified service needs ▪ Reconfiguration of acute services within hospital groups ▪ Expansion of the Ambulance fleet and expanded ambulance bases ▪ National Cancer Control Programme – provision of oncology day units on a national basis
2)	**Healthcare Services in the Community:** Facilitating the transformation of healthcare delivery by increasing the capacity of primary care, including: ▪ Provision of primary care centres on a national basis to match population changes including new builds and refurbishments of existing buildings ▪ Expansion of community diagnostics and minor surgery
3)	**Integrated Health and Social Care Services:** Facilitate the transition of people across services, providing multi-disciplinary care at the lowest level of complexity close to where people live. Focus on improving access to primary and community care services, including: ***Mental Health – A Vision for Change*** ▪ Development of the National Forensic Mental Health Services Hospital ▪ Replacement and provision of additional Mental Health Units, Residential accommodation on a national basis ***Disability services*** ▪ Redevelopment of the National Rehabilitation Hospital and establishment of Disability Rehabilitation Centres across the country ▪ Provision of Day Hospitals/Day care centres as part of Neuro strategy ▪ Reconfiguration of existing residential care facilities and support people with disabilities to live more independently away from congregated settings

	Services for Older People ▪ Replacement and upgrade of 90 Community Nursing Units and provision of additional step-down and long-stay accommodation

NSO	10.1.1	10.1.2	10.1.3	10.2.1	10.2.2	10.2.3
Impact	0	0	0	0	0	0
Discussion						
N/A						
Proposed Mitigation Measures: **N/A**						