

STRATEGIC FLOOD RISK ASSESSMENT REPORT

FOR
VARIATION No. 3
TO THE
GALWAY CITY DEVELOPMENT PLAN
2023-2029
(AS VARIED)

THIS REPORT IS AN UPDATED VERSION OF THE ORIGINAL STRATEGIC FLOOD RISK ASSESSMENT REPORT THAT WAS PLACED ON PUBLIC DISPLAY ALONGSIDE THE PROPOSED VARIATION

ADDENDUM III
TO THE
STRATEGIC FLOOD RISK ASSESSMENT
FOR THE
GALWAY CITY DEVELOPMENT PLAN 2023-2029

for: Galway City Council



Comhairle Cathrach na Gaillimhe
Galway City Council

by: CAAS Ltd.



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Section 1 Introduction

1.1 Scope

This is the final, Consolidated Strategic Flood Risk Assessment (SFRA) Report for Variation No. 3 to the Galway County Development Plan 2023-2029. It provides the findings of the SFRA considerations undertaken with respect to Variation No. 3. It is an updated version of the SFRA Report that was placed on display alongside the Proposed Variation and has taken into account submissions received and changes to the original Proposed Variation that were made in response to submissions received.

It forms Addendum III to the Stage 2 SFRA prepared for the Galway City Development Plan 2023-2029.

The report follows the SFRA methodology detailed in, and should be read in conjunction with, the Galway City Development Plan 2023-2029 Stage 2 SFRA Report, which is available alongside the Development Plan¹.

1.2 The City Development Plan

The Galway City Development Plan 2023-2029, provides for sustainable development and proper planning within the administrative area of Galway City Council.

The Galway City Development Plan 2023-2029 was subject to Stage 2 SFRA that, inter alia, informed the land use zoning provided for by the Plan and facilitated the integration of various provisions into the Plan that contribute towards flood risk management and drainage in the city. A selection of measures contained in the Plan relating to flood risk management and drainage are provided below.

All projects under the Development Plan when varied will continue to need to demonstrate compliance with the provisions of the existing Development Plan relating to flood risk management and drainage.

City Development Plan measures relating to land use zoning and flood risk management and drainage include those reproduced below:

Table 1.1 Existing City Development Plan Flood Risk Management and Drainage Provisions

Reference	Existing City Development Plan Provision
Policy 2.2 Climate Action	7. Manage the climate risks associated with climate change through the development of climate adaptation measures and sustainable planning and development, including through the planning, design and implementation of the Corrib go Cósta Galway City Flood Relief Scheme in conjunction with the OPW.
Policy 5.3 Blue Spaces: Coast, Canals and Waterways	14. Facilitate sustainable flood defence and coastal protection works in order to prevent flooding and coastal erosion, subject to environmental and visual considerations as guided by the Corrib go Cósta, Galway City Flood Relief Scheme project. 17. Protect and maintain, where feasible, undeveloped riparian zones and natural floodplains along the River Corrib and its tributaries
9.2 Flood Risk Assessment	Climate change impacts which include more intense storms, storm surges, sea level rise and increased occurrences of long high-intensity rainfall events, contribute to an increased likelihood of flooding. The city is particularly vulnerable to flooding by virtue of its location on the Atlantic coast and River Corrib and this requires a comprehensive approach to flood management. The Development Plan can play an important role in flood management through policy and land use zoning and to date large sections of the natural flood plains of the coast and River Corrib have been protected from compromising development. Other policies in relation to control of drainage and surface water management also support flood management. In the preparation of the Plan, in accordance with <i>The Planning System and Flood Risk Management, Guidelines for Planning Authorities (2009)</i> , a Strategic Flood Risk Assessment (SFRA) has been carried out to assess the implications for planning policy of flood risk. The SFRA adopts a largely precautionary approach to land use zoning to avoid directing development towards areas at risk of flooding. Areas subject to development and identified as being at risk of flooding, are assessed through a justification test, to determine their suitability and requirements for site-specific flood risk assessment and detailed mitigation are considered on a site by site basis.

¹ Including at <https://www.galwaycity.ie/services/planning/development-plan-2023-2029>

Reference	Existing City Development Plan Provision
	The Office of Public Works (OPW) is the lead agency for flood risk management. In 2011 the OPW completed a national Preliminary Flood Risk Assessment (PFRA), carried out under the EU Floods Directive, which identified areas of potentially significant flood risk. Subsequent to this, the OPW undertook the Catchment Flood Risk Assessment and Management study (CFRAMs) which established a long term strategy and measures for the management of flood risk in the city and wider Corrib catchment. It concluded that a flood relief scheme would be a viable and effective option to protect the city against fluvial and tidal flood risk, to provide for future resilience, and to enable the city to develop in a sustainable way. The Corrib go C��sta Galway City Flood Relief Scheme commenced in November 2020. The objective of the scheme is to assess, design and deliver a viable, cost-effective and environmentally sustainable flood relief scheme for Galway City. Corrib go C��sta, while primarily focused on addressing the sustainable and effective management of flood risk, will ensure that the design of any measures, in particular structural measures, takes cognisance of the sensitivity of the distinctive context of the city. Where development is required it must complement the character, sensitive environment, cultural legacy and built form of the city in any design. The design of the flood relief measures will be required to include for creative landscape architectural solutions, which can, in addition to addressing flood risk management, bring value to the urban context and public realm and integrate with other advancing projects. The project will facilitate public consultation at key stages of the process. Subject to planning consent, construction is programmed to start in 2025 with an estimated 36 month build timescale. Coastal erosion is also a risk for certain areas of the city. Where necessary, the Council will collaborate with relevant stakeholders to facilitate environmentally and economically sustainable coastal protection works in order to address coastal erosion and flooding in the most vulnerable areas of the city. Any future defence works within the shoreline will take account of the long-term interrelationships between defences and coastal processes in the wider area, the need to protect the environment and natural habitats and include opportunities for maintaining and enhancing the natural coastal environment, where deemed appropriate. Specifically where coastal erosion measures are being progressed for Sailin to Silverstrand these shall be examined for the capacity to incorporate amenity measures including a link of the walkway from Blackrock to Silverstrand.
Policy 9.1 Flood Risk	1. Support, in co-operation with the OPW, the implementation of EU Flood Risk Directive (2007/60/EC), the Flood Risk Regulations (SI No. 122 of 2010) and the DECLG and OPW Guidelines for Planning Authorities, the Planning System and Flood Risk Assessment Management (2009), updated/superseding legislation or departmental guidelines and have regard to the findings and relevant identified actions of the Corrib Catchment Flood Risk Management (CFRAM) Study. 2. Support and facilitate the implementation of the Corrib go C��sta Galway City Flood Relief Scheme in conjunction with the OPW to support a climate resilient city, protect against flooding and minimise the impact of future climate events. Support in general the associated mitigation and adaptation measures in order to prevent flooding and coastal erosion, subject to appropriate environmental, visual, built heritage and other relevant considerations. 3. Ensure the recommendations of the Strategic Flood Risk Assessment (SFRA) for the Galway City Development Plan 2023-2029 are taken into consideration in the assessment of developments in identified areas of flood risk and require site specific Flood Risk Assessment (FRA) and associated design and construction measures appropriate to the scale and nature of the development and the risks arising, in all areas of identified flood risk including on sites where a only small proportion of the site is at risk of flooding and adopt a sequential approach in accordance with the Planning System and Flood Risk Management Guidelines for Planning Authorities (2009). 4. Protect and promote sustainable management and uses of water bodies and watercourses from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. 5. Ensure flood risk is incorporated into the preparation of any future local area plans, framework plans and masterplans in the city. 6. Ensure any proposed measure designed to alleviate flooding/coastal erosion is subject to Appropriate Assessment in accordance with Article 6 of the EU Habitats Directive, where appropriate. 7. Continue to protect the coastal area and the foreshore and avoid inappropriate development in areas at risk of coastal erosion and/or would cause and escalate coastal erosion in adjoining areas. 8. Protect and maintain, where feasible, undeveloped riparian zones and natural floodplains along the River Corrib and its tributaries.
9.5 Sustainable Urban Drainage Systems (SuDS)	The urban environment with its associated impermeable surfaces, such as roofs, roads and car parks, prevents the natural percolation of rainfall into the ground which can result in excessive volumes and flows of surface water runoff. Sustainable Urban Drainage Systems (SuDS) aims to minimise surface water run-off associated with development, using a series of water management measures designed to drain surface water in a more sustainable manner, reflecting natural drainage processes. The use of SuDS reduces the amount and rate of surface water flow by a combination of measures including infiltration into the ground and attenuation of surface water in storage areas to slow down the movement of water. While to date there has been a heavy reliance on underground storage tanks to provide attenuation, there is a move towards nature based SuDS such as ponds and basins, wetlands, planted filter strips and swales, permeable surfaces, green facades and green roofs. Nature based SuDS are designed to deal with rainfall in urban areas in a manner as close as possible to that pertaining in the natural environment. The benefits are wide ranging, including a reduction in pollution from urban run-off, reduced flooding and reduced loading of combined sewer systems. They can be positive landscape features within the urban environment, providing amenity benefits and contributing to biodiversity. LAWPRO in conjunction with the DHLGH are developing an implementation strategy for the development of Water Sensitive Urban Design, which includes nature based SuDS and when completed will provide useful guidance in an urban context. The draft River Basin Management Plan also recognises the benefits of using

Reference	Existing City Development Plan Provision
	nature based surface water management and the need to move away from engineering solutions. In this regard, Nature Based Solutions to the Management of Rainwater and Surface Water Runoff in Urban Areas, Water Sensitive Urban Design Best Practice Interim Guidance Document' (DHLG) (November 2021), has been prepared in order to provide guidance on measures to be implemented to support the delivery of a greater focus on nature based solutions. The council will have regard to this interim guidance in advance of a national implementation strategy.
Policy 9.4 Sustainable Urban Drainage Systems (SuDS)	1. Ensure the use of Sustainable Urban Drainage Systems (SuDS) and sustainable surface water drainage management, wherever practical in the design of development to enable surface water run-off to be managed as near to its source as possible and achieve wider benefits such as sustainable development, water quality, biodiversity local amenity and climate adaptation. 2. Promote the use of green infrastructure e.g. green roofs, green walls, bioswales, planting and green spaces for surface water retention purposes as an integrated part of SUDS and to deliver all the ancillary benefits.
Development Standard 11.28 Flood Risk Management & Assessment	• Where development is proposed in identified flood risk areas, the type or nature of the development needs to be carefully considered and the potential risks mitigated and managed through on-site location, layout and design of the development to reduce flood risk to an acceptable level. • Development shall have regard to the flood resilient design guidance and flood mitigation measures in the City Council's Strategic Flood Risk Assessment for Galway City Development Plan 2023-2029, the recommendations and best practice guidelines of Appendix B – addressing flood risk management in design of development of The Planning System and Flood Risk Management Guidelines for Planning Authorities (2009) (or any superseding document) and the Strategic Flood Risk Assessment for Three Local Area Plan Areas 2012. • Dependant on the type and nature of development proposed within identified flood risk areas, Flood Zone A or B, it will be necessary to carry out a Site Specific Flood Risk Assessment (FRA), appropriate to the scale and nature of the development and the risks arising. Proposals shall demonstrate appropriate mitigation and management measures in the layout and design of development. • All proposed development must consider the impact of surface water flood risk in drainage design. Consideration should be given in the design of new development to the incorporation of SuDS. The drainage design should ensure no increase flood risk to the site or downstream catchment. • Development proposals in identified flood risk areas shall consider and incorporate the potential impacts of climate change and residual risk into development layout and design. • In areas of identified flood risk all developments including minor works and changes of use should include an appropriate level of FRA. This assessment must demonstrate that the development would not increase flood risk in the context of use, emergency access and infrastructure. Development should demonstrate principles of flood resilient design. • Proposed developments shall have regard to the the Corrib go C��sta Galway City Flood Relief Scheme.
11.31 Climate – Scheme Sustainability Statements	The built environment will play a key role in addressing climate change mitigation and adaptation and all development proposals will be encouraged to explore and incorporate climate action measures. Large scale development proposals will be expected to demonstrate how this has been taken forward through the evolution of the scheme by submitting a Scheme Sustainability Statement in support of the planning application(s) to outline the proposal's context and addresses how it responds to plan objectives and surroundings, should be submitted for: All planning applications involving developments of 25 or more homes or over 500sqm of gross retail, commercial/office development in urban areas; or enterprise and employment developments over 1,000m2 and other projects, as deemed appropriate gross should be accompanied by a Scheme Sustainability Statement. The Scheme Sustainability Statement should, as a minimum, demonstrate how the following climate change mitigation and adaptation considerations inform the proposal: 1. How the location, siting, layout, design and drainage proposals maximise climate adaptation opportunities. 2. How the SuDS strategy integrates the four pillars of SuDS Design – water quantity, water quality, amenity and biodiversity. 3. The use of green roofs other green infrastructure as a means of contributing towards sustainable urban drainage, improving biodiversity and influencing heat loss/gain from the building. 4. Energy efficiency through thermal insulation, passive ventilation and cooling, passive solar design and any technologies used to help occupants better manage energy usage. 5. The use of district, renewable and/or low-carbon energy supply opportunities. 6. How the proposals at all stages embrace the Circular Economy approach in relation to waste management from construction through to the operation of the building(s). 7. How noise and air pollution will be managed across all stages of development from construction through to operation of the building(s).

1.3 Variation No. 3

Variation No. 3 arises from the National Planning Framework Implementation: Housing Growth Requirements Guidelines for Planning Authorities issued under Section 28 of the Planning and Development Act 2000 (as amended) which place a statutory obligation on planning authorities to ensure that the necessary planning framework is in place including sufficient residential zoned land to facilitate the achievement of housing growth requirements over the plan period.

Galway City Council has reviewed its City Development Plan with regard to the new housing growth requirements. The existing Development Plan Core Strategy (which was prepared having regard to the requirements of the previous 'Housing Supply Target Methodology Guidelines, 2020) provided sufficient residential zoned land to meet the original, adopted housing supply target. However, the Revised National Planning Framework and the National Planning Framework Implementation Guidelines have set a new, higher housing target. In addition, there is a facility to include up to 50% "additional provision" of zoned lands as headroom. In considering this review, the City Council must identify serviced and serviceable lands and enabling infrastructure.

The housing growth targets are based on ESRI modelling of population growth, structural housing demand, and unmet need, and must be integrated into the City Development Plan. For Galway City Council, this means revising the Development Plan to ensure additional capacity for the delivery of housing. This includes revised housing targets, ensuring adequate zoning and infrastructure to support compact growth and meet projected demand in line with national objectives.

The new annual housing growth requirement for Galway City is 790 units per annum up to 2034, which is an increase of 51 units per annum. The Guidelines also request Local Authorities consider additional provision (up to 50%) beyond the baseline housing growth requirement and unmet demand, which amounts to an additional 395 units per annum. Therefore, the combined additional housing growth requirement for Galway City for 2025-2034 inclusive is 4,460 additional residential units.

Galway City Council's approach to meeting the Government's revised housing growth requirements is a targeted, plan-led strategy to deliver additional housing in the short, medium and long term in line with Ministerial Guidelines. The emerging strategy focuses on four key areas:

1. Regeneration lands (including City Hall environs and adjustments to the Sandy Quarter to improve viability and connectivity),
2. Infill densification in inner suburban and public transport adjacent locations (with clearer development management standards),
3. Targeted greenfield zoning—including a first phase review at Ardaun and a new transport orientated coastal community at Murrough (capacity up to 2,500 homes, sequenced with rail crossing, wastewater and flood resilience works), additional lands to be zoned at Merlin, Roshill and Letteragh, and
4. Priority Area Plans for Castlegar and Doughiska to provide ten-year guidance on land use, density and enabling infrastructure.

This integrated approach ensures sustainable growth, compact development, and strategic regeneration while aligning with guidelines on flexibility, phasing, and infrastructure planning.

To align with the Government's revised housing growth requirements, Galway City Council proposes amendments to the Written Statement of the Galway City Development Plan 2023-2029 and revisions to the land use zoning designations shown on the Development Plan Maps.

Section 2 Consideration of Flood Risk and Variation No. 3

The land use zoning and objectives provided for by the Variation have taken into account environmental considerations, including those relating to flood risk.

In order to confirm Flood Zones at the sites where Variation No. 3 identifies changes to the existing Plan's land use zoning, the methodology followed by the existing SFRA was followed. Available historical and predictive (present day and future scenario) indicators, including those identified within the main SFRA, and emerging Corrib go Cósta Galway City Flood Relief Scheme Study data were reviewed and were taken into account by the Council. The mapping below is provided for illustrative purposes:

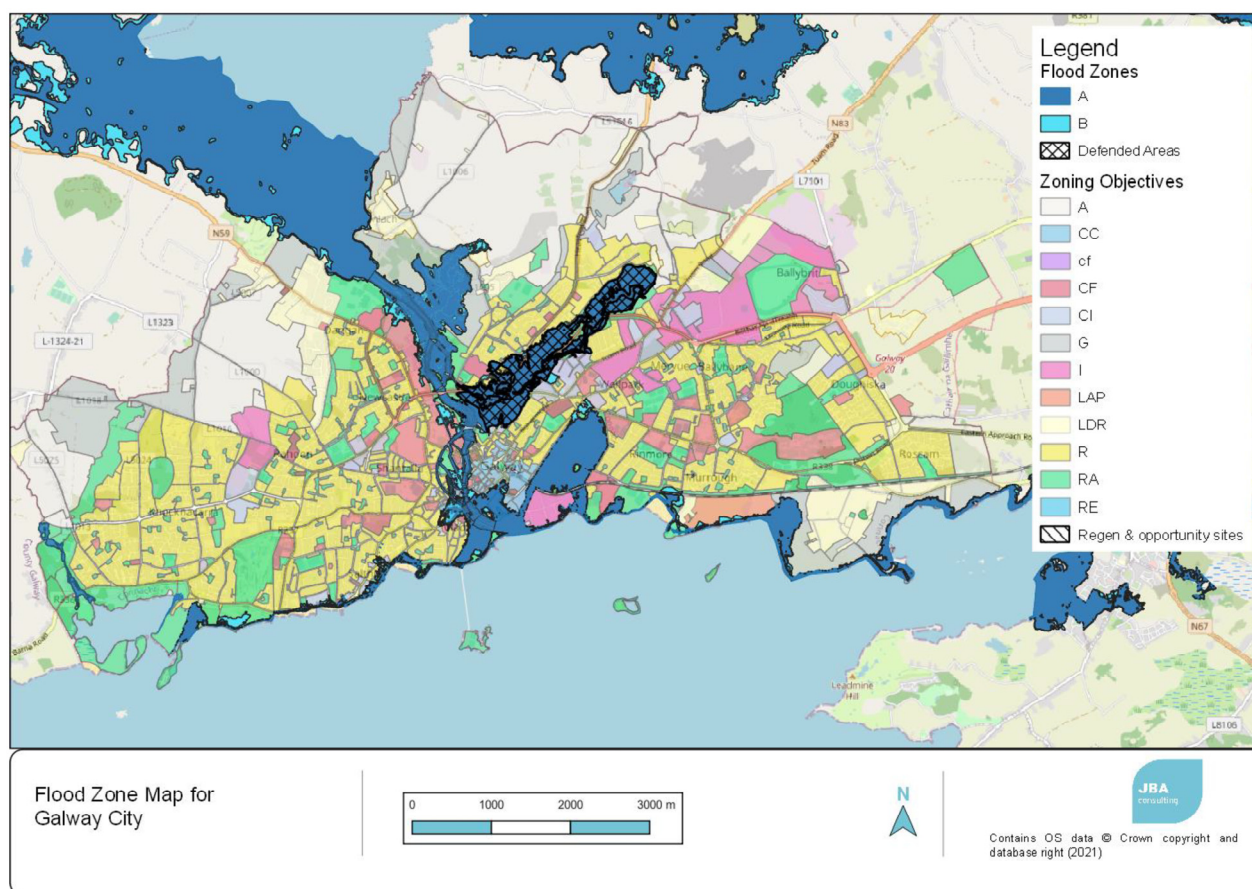


Figure 2.1 Flood Zones from the SFRA undertaken for the City Development Plan along with the existing land use zoning objectives

All sites, apart from the Murrough site (Variation A. 55 Murrough) are situated within Flood Zone C. This is the Flood Zone with the lowest flood risk. The uses permissible / open for consideration under the Land use Zoning Objectives being proposed for these sites are considered to be appropriate to this Flood Zone. All projects under the Development Plan when varied will continue to need to demonstrate compliance with the provisions of the existing Development Plan relating to flood risk management and drainage.

With respect to the Murrough site, the delineation of Flood Zones, Flood Zones were delineated taking into account, inter alia, the Corrib go Cósta Galway City Flood Relief Scheme Study data. Flood Zones A and B have been zoned "Recreation and Amenity" and uses in future climate scenario risk areas (Mid-Range as well as High-End) have been limited to water compatible uses for the Plan period.

Figure 2.1 shows Flood Zones A and B at Murrough. Figure 2.1 shows Flood Zones A and B as well as the Corrib go Cósta High-End and Mid-Range Future Climate Scenario Risk Areas at Murrough. Figure 2.3 shows the land use zoning integrated into the Variation for Murrough.

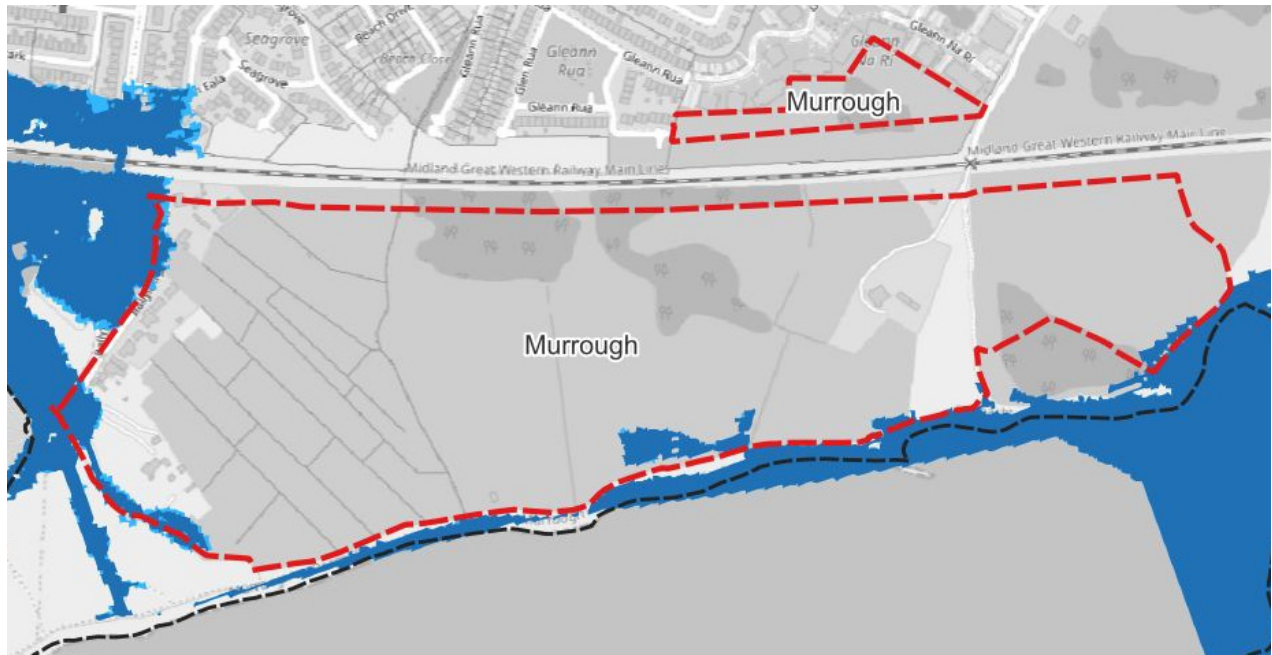


Figure 2.1 Flood Zones A and B at Murrough

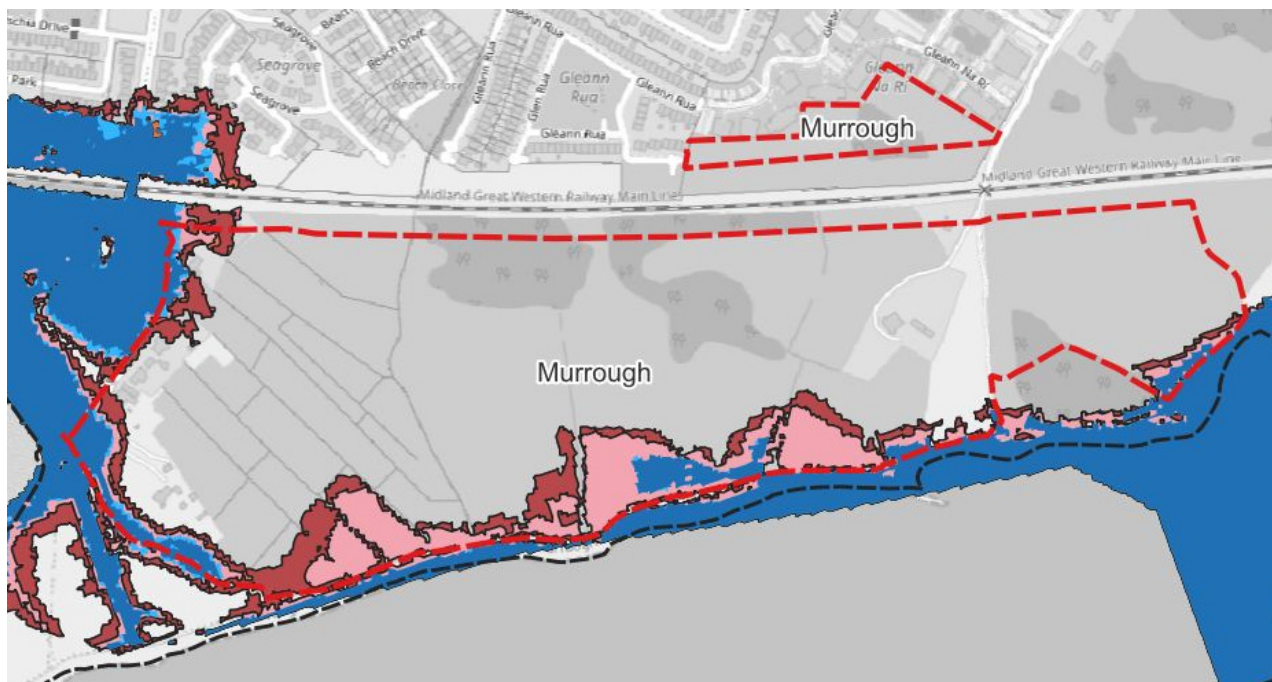


Figure 2.2 Flood Zones A and B and Corrib go Cósta High-End and Mid-Range Future Climate Scenario Risk Areas at Murrough

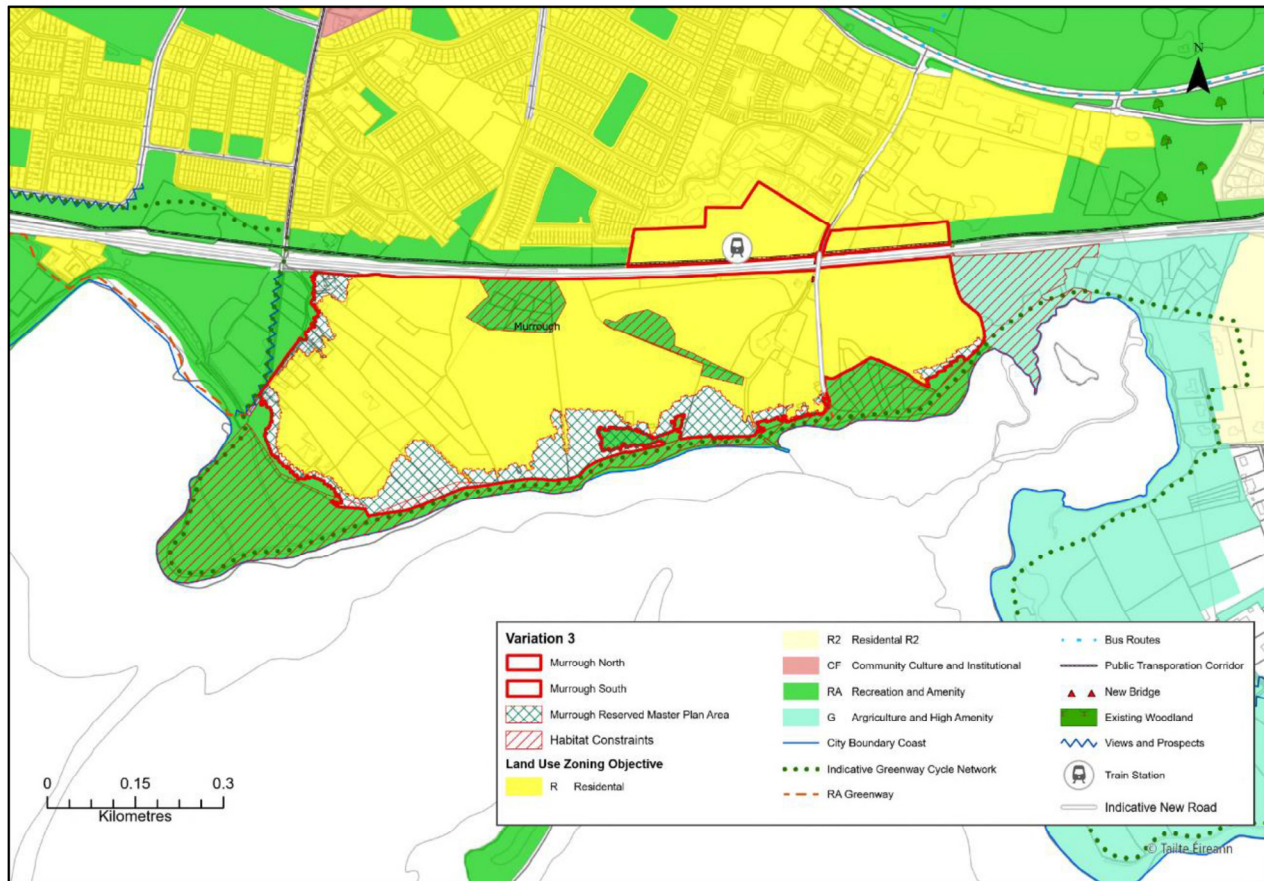


Figure 2.3 Variation Land Use Zoning at Murrough

Table 2.1 provides written provisions that have been integrated into the Variation that relate to flood risk management at Murrough.

Table 1.1 Flood Risk Management provisions from the Variation relating to Murrough

Reference	Variation Provision
A.41 Amend Section 10.25 Murrough	 The Plan will address land use mix, phasing, transport integration, flood risk, coastal resilience and ecological safeguardingAs part of the masterplan, provision shall be made for an over rail bridge connection to the southern portion of the lands, new coastal amenity and flood defence, a dual track rail line and commuter rail stop, and active travel links....
A.43 Amend Policy 10.6 Murrough	Policy 10.6 Murrough - Develop the Murrough area in accordance with a Masterplan which addresses land use mix including provision for local retail, community and education facilities, phasing, transport integration, built heritage, biodiversity, flood risk, and coastal resilience. This Masterplan shall be the subject of an agreed stakeholder engagement and public consultation process. - Provision shall be made for the following infrastructure: - An over rail bridge connection to lands to the southern portion of the masterplan, this bridge shall be the principal vehicular connection serving the lands south of the railway line, - A new linear coastal amenity and flood defence, - A dual track rail line and commuter rail stop north of the railway line, - Active Travel links to Gleann na Rí and Gleann Rua estate to the north and connections west towards Ballyloughane, facilitating options for the proposed Greenway which will traverse east-west through the site, - Access for bus and associated bus infrastructure through the area, and - Associated water/wastewater and surface water. - Uses on Murrough lands within Flood Zones A and B shall be limited shall be limited to water compatible uses. This limitation shall take primacy over any other provision relating to land use zoning at these lands. - Future applications for development in this location shall follow a precautionary approach, that seeks to avoid inappropriate locating of development, taking into account coastal change, any Coastal Erosion Risk Management Study undertaken, and any existing/proposed coastal defence infrastructure. - Certain lands in the Murrough are identified by the OPW (refer to floodmaps.ie) as Coastal Areas Potentially Vulnerable to Wave Overtopping (CAPOs). Future applications for development in this location shall

Reference	Variation Provision
	demonstrate that this vulnerability has been taken into account. 9. To safeguard the long-term development (beyond the Plan period 2023-2029) of the Murrough area, land within Corrib go Costa future scenario areas have been reserved for potential future Masterplan expansion. Uses in these areas shall be limited to water compatible uses for the Plan period 2023-2029. This limitation shall take primacy over any other provision relating to land use zoning at these parts of the lands. 10. All appropriate uses will be considered for these lands during future reviews of and/or variations to the City Development Plan and associated Strategic Flood Risk Assessment processes, however these lands will be reserved for the current Plan period in order to enable future expansion where this is deemed appropriate. 11. Detailed, site specific Flood Risk Assessment will be required for any proposal for development within Flood Zones A or B or within the Corrib go Costa future scenario areas.

Section 3 Conclusion

Taking into account the provisions integrated into the existing Galway City Development Plan 2023-2029, the SFRA undertaken to inform the City Plan, the changes included within Variation No. 3 and currently available information on flood risk, this SFRA Addendum demonstrates that the Plan, as varied, will continue to be consistent with the Flood Risk Management Ministerial Guidelines.