



**PROPOSED PART 8 RESIDENTIAL DEVELOPMENT  
BALALLY, SANDYFORD, DUBLIN.**

# **DESKTOP FLOOD RISK ASSESSMENT**

**DUN LAOGHAIRE-RATHDOWN COUNTY COUNCIL**

Date: September 2023  
Job: 23006

## Contents Amendment Record

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**Title:** Proposed Part 8 Residential Development - Balally, Sandyford, Dublin / Desktop Flood Risk Assessment / Dun Laoghaire-Rathdown County Council

**Job Number:** 23006

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### Revision Record

Issue No.	Date	Description	Remark	Prepared	Checked	Approved
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1	06/11/2023	Information	P1	KA	PB	PB
0	09/04/2024	Information	P3	KA	PB	PB
1	30/07/2024	Planning	P3	MG	DW	FM

# CONTENTS

	Page No.
<b>1 INTRODUCTION.....</b>	<b>1</b>
<b>2 PROPOSED SITE DESCRIPTION.....</b>	<b>2</b>
2.1 Site Description	2
2.2 Surrounding Watercourse	2
2.3 Existing Topography Levels at Site	3
2.4 Land Use Zone	3
<b>3 FLUVIAL FLOOD RISK ASSESSMENT .....</b>	<b>6</b>
3.1 The National Preliminary Flood Risk Assessment	6
3.2 OPW Flood Records	8
3.3 Ordnance Survey Historic Mapping	9
3.4 Strategic Flood Risk Assessment, Dún Laoghaire-Rathdown County Council Development Plan 2022 – 2028	10
3.4.1 Composite Flood Zone Map.....	10
3.4.2 Justification Test.....	11
<b>4 TIDAL FLOODING RISK ASSESSMENT .....</b>	<b>12</b>
<b>5 SEQUENTIAL APPROACH TO PLANNING.....</b>	<b>13</b>
5.1 Flood Zones	13
5.2 Vulnerability Class of Proposed Development	14
<b>6 SUMMARY AND CONCLUSIONS .....</b>	<b>16</b>
<b>APPENDIX A – LAND USE ZONING MAP .....</b>	<b>1</b>
<b>APPENDIX B – CFRAM FLUVIAL FLOOD EXTENTS MAP .....</b>	<b>2</b>
<b>APPENDIX C – PAST FLOOD SUMMARY REPORT.....</b>	<b>3</b>
<b>APPENDIX D – DLRCC FLOOD ZONES MAP.....</b>	<b>4</b>
<b>APPENDIX E – JUSTIFICATION TEST .....</b>	<b>5</b>

## **1 INTRODUCTION**

Dún Laoghaire-Rathdown County Council proposes a residential development on a site located in the townland of Balally, Blackthorn Drive, Sandyford, Dublin 16. The site is bound by Cedar Road to the north, Balally Shopping Centre to the west, Blackthorn Drive to the south and open space to the east.

The proposed development includes:

- i. 62 no. apartment units in a 5-6 storey building over undercroft area, including 31 no. one bed units; 21 no. two bed units; and 10 no. three bed units;
- ii. 1 no. community facility of 249sqm;
- iii. Energy Centre at sixth floor level and an external plant area set back at fifth floor roof level.
- iv. Undercroft area at lower ground level comprising (a) 1 no. ESB substation (b) car and bicycle parking; (c) bin storage; (d) bulk storage area; and (e) supporting mechanical, electrical and water infrastructure.
- v. Landscaping works including provision of (a) communal open space; (b) new pedestrian and cycle connections linking Blackthorn Dive with Cedar Road; and (c) public realm area fronting onto Blackthorn Drive.
- vi. All associated site development works including (a) vehicular access off Cedar Road; (b) pedestrian and cycle access off Blackthorn Drive; (c) public lighting; (d) varied site boundary treatment comprising walls and fencing; and (e) temporary construction signage.

The purpose of this DFRA is to assess the potential flood risk to the proposed development site and to assess the impact that the development as proposed may or may not have on the hydrological regime of the area. Quoted ground levels or estimated floor levels relate to Ordnance Datum (Malin) unless stated otherwise.

The flood risk assessment has been carried out in accordance with the Government's 2009 Planning System and Flood Risk Management Guidelines (hereafter referred to as the 2009 Planning Guidelines). These guidelines adopt a staged approach to the assessment of flood risk.

This report describes a Stage 2 Initial Flood Risk Assessment which is defined within the 2009 Planning Guidelines as follows:

*“A qualitative or semi-quantitative study to confirm sources of flooding that may affect a plan area or proposed development site, to appraise the adequacy of existing information, to provide a qualitative appraisal of the risk of flooding to development, including the scope of possible mitigation measures, and the potential impact of development on flooding elsewhere, and to determine the need for further detailed assessment.”*

The study was principally focused on examining flooding risks to the proposed site from the Carrickmines Stream.

## 2 PROPOSED SITE DESCRIPTION

### 2.1 Site Description

The proposed site is currently a vacant field adjacent to the Balally retail area, at the intersection of Drummartin Link Road and Blackthorn Drive. The site is situated around commercial and residential developments.

The total area of the proposed development site is approximately 0.25 hectares.

The location of the proposed site is illustrated Figure 2-1.



Figure 2-1 – Site Location showing the indicative Site Boundary and Adjacent Developments

### 2.2 Surrounding Watercourse

There is no open watercourse in the vicinity of site; however, Carrickmines Stream flows 450m south-east of the site. The stream flows north-east when it is south of the site but after generally flows south-east until flowing into the River Shanganagh, which then empties into the Irish Sea.



Figure 2-2 – Surrounding Watercourse (Extract from the EPA Maps)

### 2.3 Existing Topography Levels at Site

The site has slope from +97.00m at its southern boundary to +94.00m at its northern boundary. There is also a slope from west to east. The eastern side of the site is typically 1m lower than the western side. This slope appears to be even throughout the site.

### 2.4 Land Use Zone

Land use zoning map is used in order to assess which types of developments, based on vulnerability to flood risk, are appropriate for each Flood Zones.

Where developments/land uses are proposed that are considered inappropriate to the Flood Zone that may be identified in the future at project level following adoption of the Plan, then a Development Management Justification Test and site-specific Flood Risk Assessment will be required in accordance with The Planning System and Flood Risk Management Guidelines 2009 (and as updated).

Table 2-1- Matrix of Vulnerability vs. Flood Zone (Extract from the Strategic Flood Risk Assessment of the Dún Laoghaire-Rathdown County Council Development Plan 2022-2028)

Vulnerability Class	Land Use and Types of Development which include
Highly vulnerable development (including essential infrastructure)	Garda, ambulance and fire stations and command centres required to be operational during flooding; Hospitals; Emergency access and egress points; Schools; Dwelling houses, student halls of residence and hostels; Residential institutions such as residential care homes, children’s homes and social services homes; Caravans and mobile home parks;

	Dwelling houses designed, constructed or adapted for the elderly or other people with impaired mobility; and Essential infrastructure, such as primary transport and utilities distribution, including electricity generating power stations and sub-stations, water and sewage treatment, and potential significant sources of pollution (SEVESO sites, IPPC sites, etc.) in the event of flooding.
Less vulnerable Development	Buildings used for: retail, leisure, warehousing, commercial, industrial and non-residential institutions; Land and buildings used for holiday or short-let caravans and camping, subject to specific warning and evacuation plans; Land and buildings used for agriculture and forestry; Waste treatment (except landfill and hazardous waste); Mineral working and processing; and Local transport infrastructure
Water compatible development	Flood control infrastructure; Docks, marinas and wharves; Navigation facilities; Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location; Water-based recreation and tourism (excluding sleeping accommodation); Lifeguard and coastguard stations;
Water compatible development Contd.	Amenity open space, outdoor sports and recreation and essential facilities such as changing rooms; and Essential ancillary sleeping or residential accommodation for staff required by uses in this category (subject to a specific warning and evacuation plan).

Refer to Flood Risk Management Guidelines 2009 and 'Strategic Flood Risk Assessment for the Dublin CDP 2022-2028' for additional detail:

- Highly vulnerable developments include houses, schools, hospitals, residential institutions, emergency services, essential infrastructure, etc.
- Less vulnerable developments include economic uses (retail, leisure, warehousing, commercial, industrial, non-residential institutions, etc.), land and buildings used for agriculture or forestry, local transport infrastructure, etc.

Land use zone map is provided in the SFRA of the Dún Laoghaire-Rathdown County CDP 2022-2028. The different land zone is illustrated in Figure 3 below and the full map is provided in Appendix A.

The proposed development is located within land zoned as *“Objective NC: to protect, provide for and-or improve mixed use neighbourhood centre facilities.”* and *“Objective A: to provide residential development and improve residential amenity while protecting the existing residential amenities.”*

The area to the north-east is zoned as *Objective A: to provide residential development and improve residential amenity while protecting the existing residential amenities.* Directly to the east the land is zoned as *“Objective NC: Mixed Use”* and *“Objective SNI: To protect, improve and encourage the provision of sustainable neighbourhood infrastructure.”* To the

west the land is zoned as “Objective LIW: To improve and provide for low density warehousing/light industrial warehousing uses” and “Objective F: To preserve and provide for open space with ancillary active recreational amenities.”

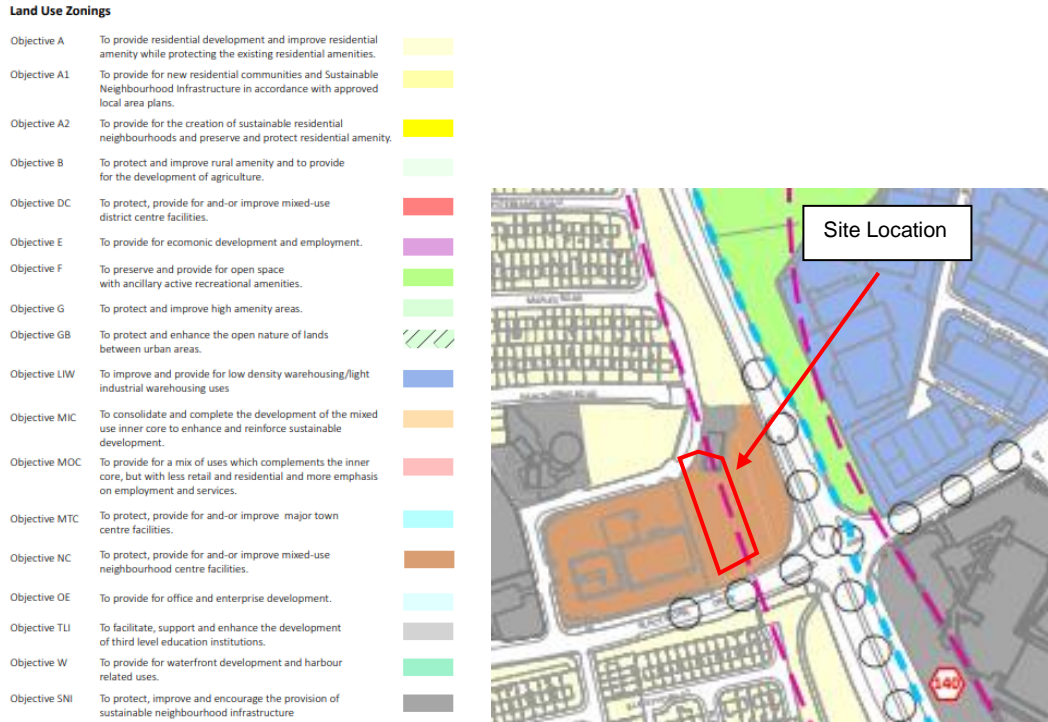


Figure 2-3 – Land Use Zoning Map (Extract from SFRA of the Dún Laoghaire-Rathdown County CDP 2022 – 2028)



### **3 FLUVIAL FLOOD RISK ASSESSMENT**

The following sources of information were reviewed in order to identify any flood risk to the proposed development site as a result of fluvial flooding:

- The National Preliminary Flood Risk Assessment (PFRA) – Overview Report & Indicative Flood Maps
- OPW Flood Records from [www.floodmaps.ie](http://www.floodmaps.ie)
- Ordnance Survey Historic Mapping
- Strategic Flood Risk Assessment, Dún Laoghaire-Rathdown County Council Development Plan 2022 – 2028

#### **3.1 The National Preliminary Flood Risk Assessment**

The National Preliminary Flood Risk Assessment (PFRA), which was carried out by the OPW in March 2012, identified Areas of Further Assessment (AFA) where further, more detailed assessment was required to determine the degree of flood risk. Flood Risk Assessment Maps were prepared by the Catchment Flood Risk Assessment and Management (CFRAM) Study which indicate the extent of flooding caused by fluvial flood events with an annual exceedance probability (AEP) of 10% (10yr event), 1% (100yr event) and 0.1% (1000yr event) in these areas. The final versions of the maps were published in May 2017.

The CFRAM maps indicating the extent of flooding caused by a fluvial flood event with an annual exceedance probability (AEP) of 10% (10yr event), 1% (100yr event) and 0.1% (1000yr event) are included in Appendix B.

The PFRA flood mapping indicates that the proposed development site does not fall within any current fluvial flood zones. There is 0.1% Fluvial AEP Flood Zones within the vicinity of the site. The flood zone does not reach the boundary of the site and is generally across a major road.

The CFRAMS flood map also provides information on predicted water levels for the 10% AEP (1 in 10 year), 1% AEP (1 in 100 year) and 0.1% AEP (1 in 1000 year) fluvial flood events at various node points along the Carrickmines Stream. The node points are listed in Table 2 below. The location of the node points is indicated in Figure 5 and on the drawings in Appendix B. Predictive extreme flood levels at the node point closest to the site are applicable to utilise in the assessment of potential fluvial flood risk to the proposed development site.

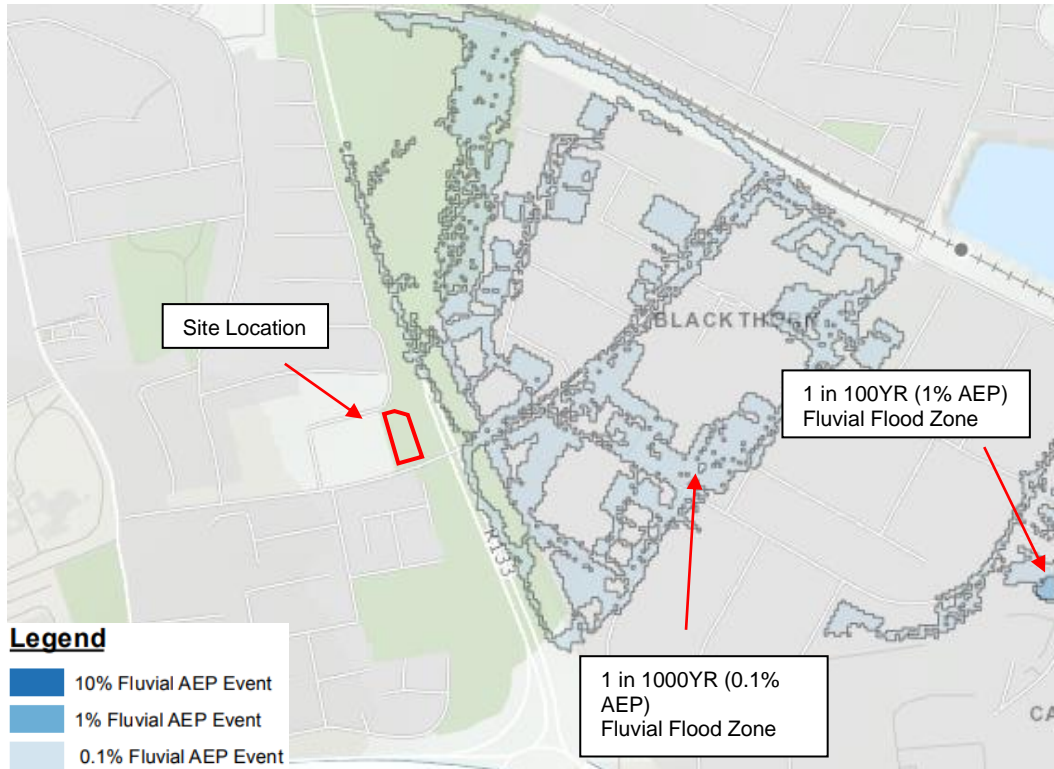


Figure 3-1 – CFRAM Fluvial Flood Extent Map (Extract from OPW)

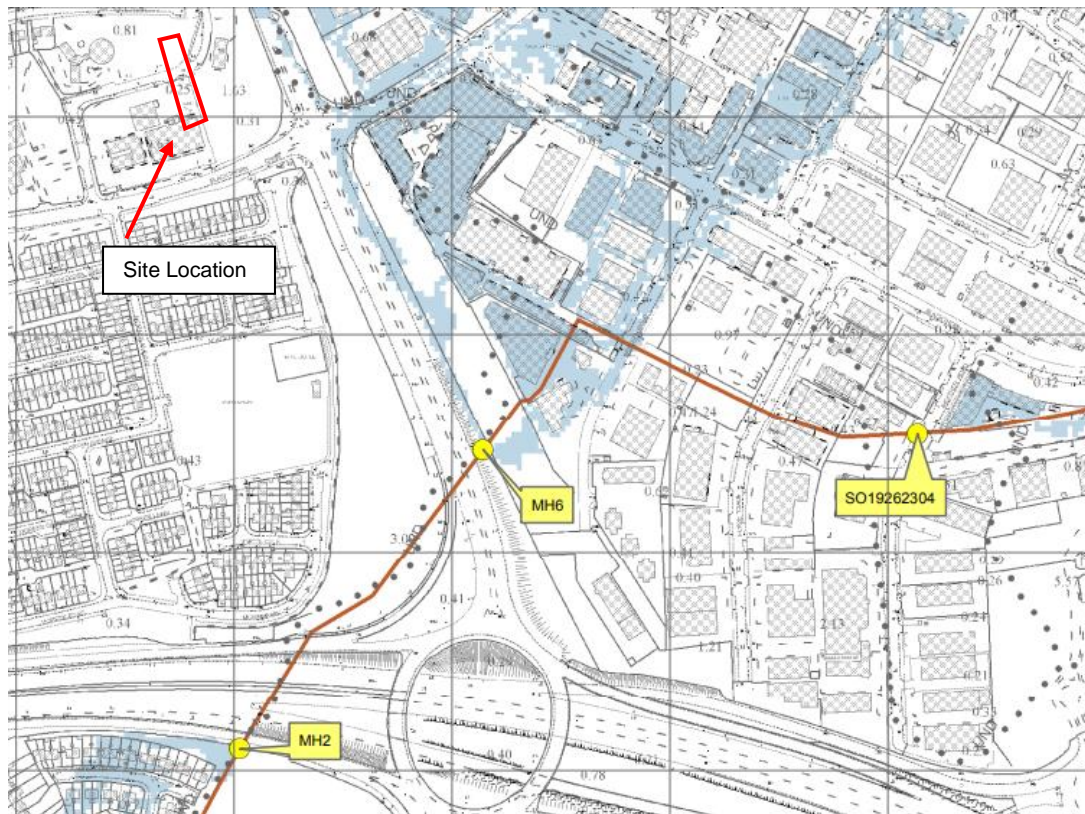


Figure 3-2 – Extract from PFRA Maps (Extract from OPW)

Table 3-1 - CFRAMS Predicted Water Levels

Node Label	Water Level 10% AEP	Water Level 1% AEP	Water Level 0.1% AEP
SO18252401	118.78	118.87	119.45
1061M00639J	115.67	115.68	115.69
MH2	98.19	98.3	99.6
<b>MH6</b>	<b>96.44</b>	<b>96.67</b>	<b>98.08</b>
SO19262304	90.36	90.71	91.55

According to the SFRA of the Dún Laoghaire-Rathdown County Council Development Plan 2022 – 2028 the recommended minimum finished floor level is to be:

Table 3-2 – Recommended Minimum Finished Floor Levels (Extract from the Strategic Flood Risk Assessment of the Dún Laoghaire-Rathdown County Council Development Plan 2022-2028)

Scenario	Finished floor level to be based on
<b>Fluvial, undefended</b>	1% AEP flood + climate change (20% allowance for highly vulnerable development) + 300mm freeboard

Using the information obtained from the predicted flood level, in order to permit a sustainable development of this site and to mitigate against potential residual flood risk to the development it is recommended that the finished floor level = 96.67m including 20% + 0.3m = 96.97m. The lowest finished floor level for the apartment residential development is at upper ground floor level of 97.95m OD with the creche at 97.35m OD.

### 3.2 OPW Flood Records

The OPW Flood Maps Website ([www.floodinfo.ie](http://www.floodinfo.ie)) was consulted in relation to available historical or anecdotal information on any flooding incidences or occurrences in the vicinity of the proposed development site. These records, which are summarised in Appendix C of this report, indicate 27 recorded flood events within a 2.5km radius of the proposed site.

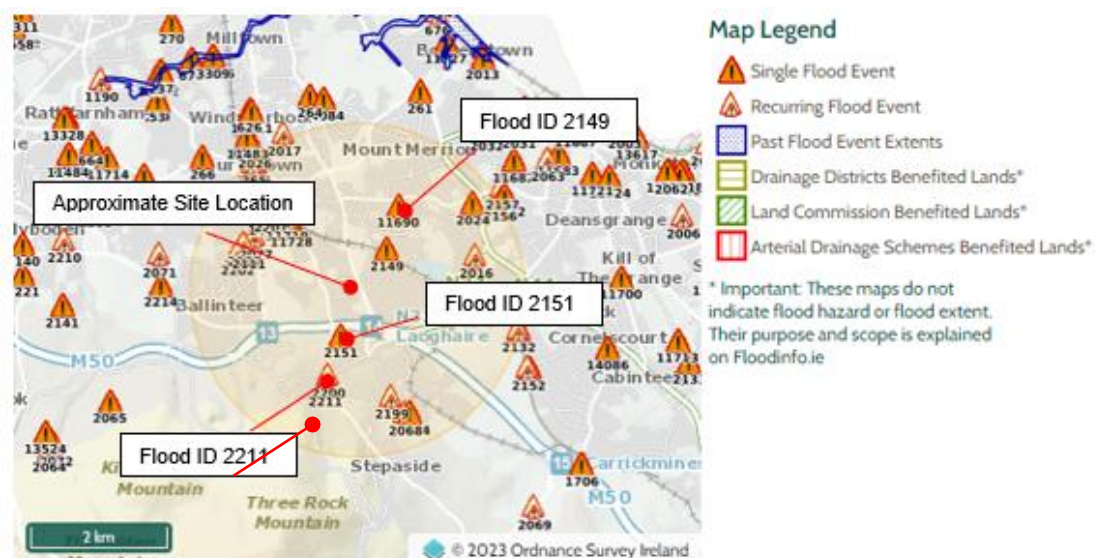


Figure 3-3 – OPW Flood Event Summary

Figure 3-3 indicates various historical flooding events within Dún Laoghaire-Rathdown County Council Area. The three closest flood events to the site occurred during the 1980s. The floods, ID 2211, ID 21489, and ID 2151 occurred due to issues with sewers and drains in the area. These issues have since been resolved and the area has not flooded due to rainfall since. The other floods within the radius, largely occurred at the edge of the radius and should not affect the site.

Based on available and recorded information as outlined above, the development site is considered not to have been subject to flooding in recent history.

### 3.3 Ordnance Survey Historic Mapping

Historic Groundwater Flood Maps were produced by Geological Survey Ireland. The historic groundwater flood map is a national-scale flood map presenting the maximum historic observed extent of karst groundwater flooding. The map is primarily based on the winter 2015/2016 flood event, which in most areas represented the largest groundwater flood event on record. The map was produced based on the SAR imagery of the 2015/2016 event as well as any available supplementary evidence. The floods were classified by flood type differentiating between floods dominated by groundwater (GW) and floods with significant contribution of groundwater and surface water (GWSW).

The map that was viewed was the historical 6-inch map (pre-1900). Figure 3-4 illustrates the historic mapping for the area of the proposed development site.

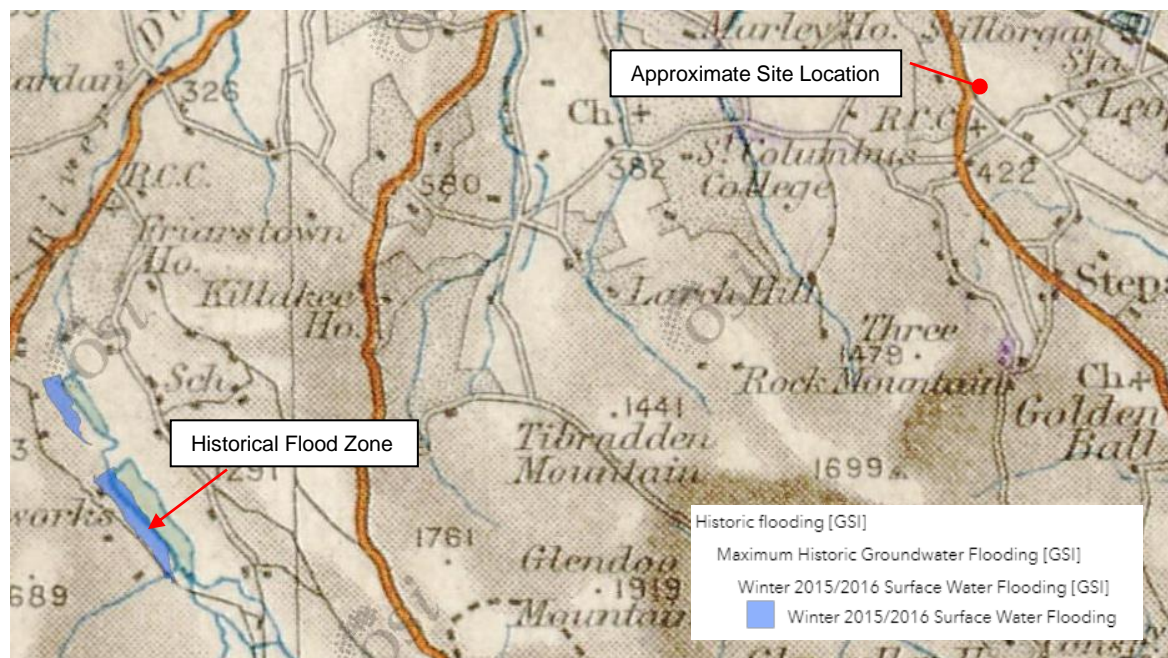


Figure 3-4– Historic 6 Inch Mapping

Figure 3-4 illustrates that the historic 6-inch mapping does not indicate any historical or anecdotal instances of flooding within or adjacent to the boundary of the proposed development site. The nearest historical flood zone is 10km away and should have no impact on the site.

### 3.4 Strategic Flood Risk Assessment, Dún Laoghaire-Rathdown County Council Development Plan 2022 – 2028

A Strategic Flood Risk Assessment (SFRA), as required by 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG and OPW, 2009), has been undertaken as part of the preparation of the Dún Laoghaire-Rathdown County Council Development Plan 2022-2028.

#### 3.4.1 Composite Flood Zone Map

The SFRA contains a Composite Flood Zone Map, the map is included in Appendix D and an extract is shown in Figure 3-5.



Figure 3-5– Composite Flood Map – Zoomed In

Figure 3-6 indicates that the proposed development falls within a predictive Flood Zone C. There is Zone A and B near the site where fluvial flooding occurs. These areas are within the fluvial flood zones analysed in the CFRAM maps.

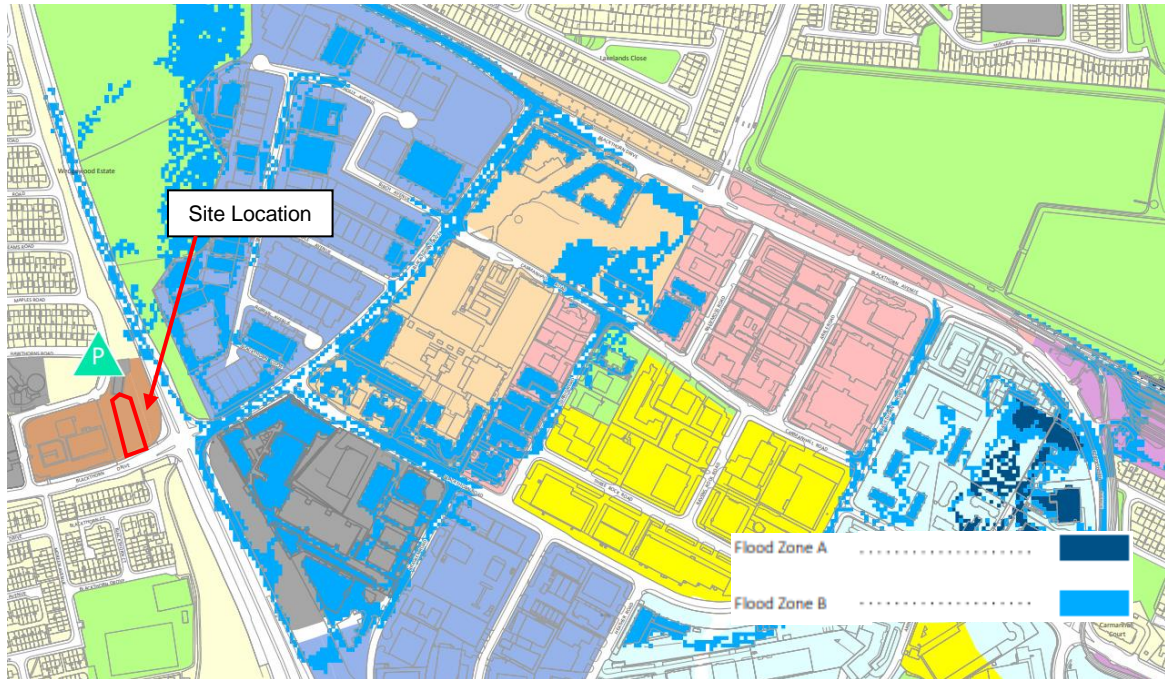


Figure 3-6 – Composite Flood Map (Extract from the SFRA of the Dún Laoghaire-Rathdown County Council Development Plan 2022 – 2028)

### 3.4.2 Justification Test

The Guidelines direct new development primarily towards areas at low risk of flooding. The site is within Flood Zone C and thus a justification test is not required, refer to Appendix E.

#### 4 TIDAL FLOODING RISK ASSESSMENT

The proposed development site is located approximately 1.8km north-east of the nearest potential source of tidal flooding. A review of the OPW Tidal Flood Extents Mapping was carried out and indicates that the proposed development site does not fall within a the predicted extreme 0.1% (1 in 1000-year current scenario) tidal flood event.

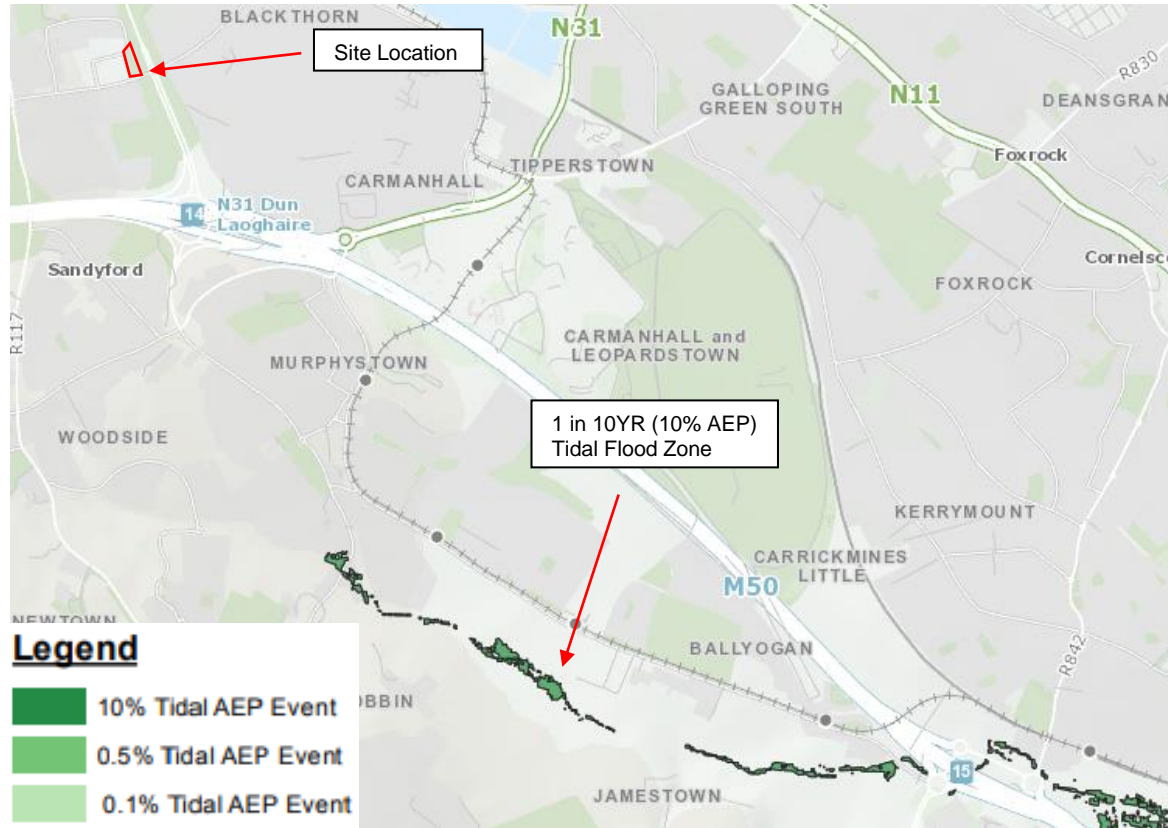


Figure 4-1 – CFRAM Tidal Flood Extent Map (Extract from OPW)

## 5 SEQUENTIAL APPROACH TO PLANNING

The document “Planning Systems and Flood Risk Management: Guidelines for Planning Authorities November 2009” requires the adoption of a sequential approach to flood risk management when assessing the location for new developments. This approach is a risk-based method to guide development away from areas that have been identified through flood risk assessment as being at risk from flooding. The philosophy used in this approach is outlined in Figure 12 below.

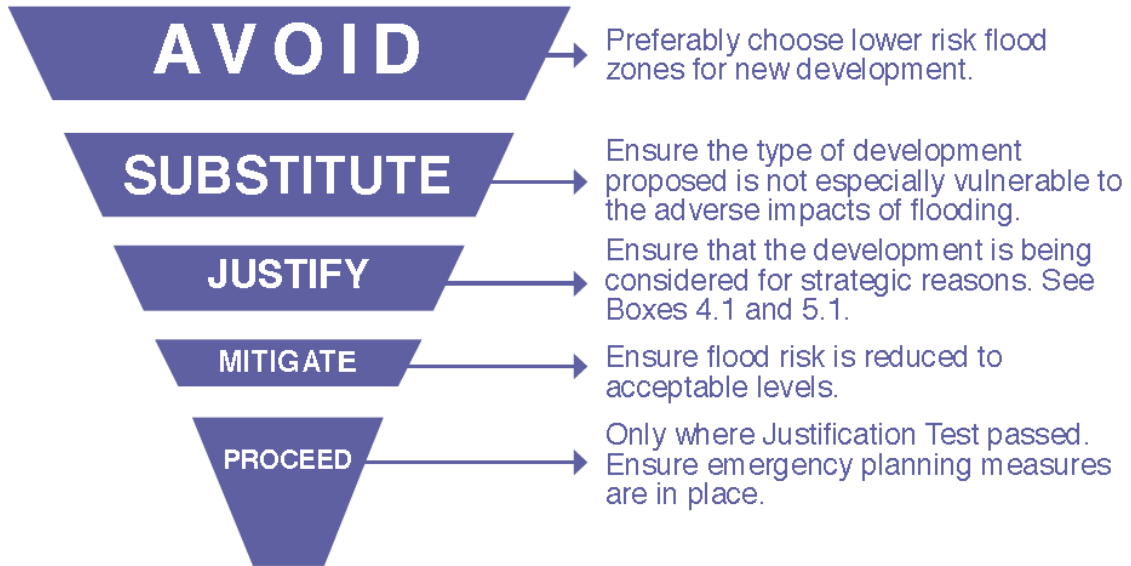


Figure 5-1 - Source: *The Planning Systems and Flood Risk Management: Guidelines for Planning Authorities November 2009*

The sequential approach uses mapped flood zones alongside considerations of the vulnerability of different types of development to give priority to development in zones of low flood probability.

### 5.1 Flood Zones

The flood zones are defined on the basis of flooding from rivers and the sea. The different flood zones recommended in the 2009 Planning Guidelines are:

**Flood Zone A** – Highest risk area where there is a 1% chance of flooding in any one year from rivers and a 0.5% chance of coastal flooding.

**Flood Zone B** – Moderate risk area where the chance of flooding in any one year is 0.1-1% for rivers and 0.1-0.5% for coastal flooding.

**Flood Zone C** – Low risk area with less than 0.1% chance of flooding from rivers or the sea in any given year.

As described in Section 3 and Section 4, the proposed development is outside of the area predicted to flood during a 0.1% AEP (1 in 1000year) fluvial flood event. The development is therefore located within Flood Zone C in accordance with the 2009 Planning Guidelines.



## 5.2 Vulnerability Class of Proposed Development

The vulnerability class of the development is dependent on the land use and type of development proposed. See Table 5 for the vulnerability classes.

Table 5-1 - Classification of Vulnerability to Flooding for Various Development Types (Source – Table 3.1 Planning System and Flood Risk Management – Guidelines for Planning Authorities DEHLG, OPW, November 2009)

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

The 2009 Planning Guidelines presents a matrix of vulnerability versus flood zone to illustrate appropriate development and the requirement of justification tests. That matrix can be seen in Table 6. Based on the land uses listed in Table 5, the proposed residential development is classified as a highly vulnerable development. However, the development will be located in Flood Zone C and is therefore considered to be appropriate and a Justification Test is not therefore required.

*Table 5-2 - Matrix of Vulnerability vs. Flood Zone (Source – Table 3.1 Planning System and Flood Risk Management – Guidelines for Planning Authorities DEHLG, OPW, November 2009)*

	Flood Zone A	Flood Zone B	Flood Zone C
Highly vulnerable development (including essential infrastructure)	Justification Test	Justification Test	Appropriate
Less vulnerable development	Justification Test	Appropriate	Appropriate
Water-compatible development	Appropriate	Appropriate	Appropriate

## **6 SUMMARY AND CONCLUSIONS**

The analysis and flood zone delineation undertaken as part of this DFRA indicates that the proposed site is not expected to be impacted during the occurrence of a 0.1% AEP (1 in 1000 year) fluvial flood event.

The PFRA flood mapping indicates that the proposed development site does not fall within the predicted extreme 0.1% (1 in 1000 year) current scenario fluvial flood zone. The site is adjacent to 0.1% AEP flood zones but passes the Justification Test outlined by Dún Laoghaire-Rathdown County Council, as the site is within Flood Zone C. Per the Justification Test, flood mitigation measures should be taken on the site as an extra level of caution.

The node point closest to the northern boundary of the site is referenced as node point *MH6*. The 1% AEP (1 in 100 year) and 0.1% AEP (1 in 1000 year) flood levels at this point are predicted as 96.67m and 98.08m respectively.

According to the SFRA of the Dún Laoghaire-Rathdown County Council Development Plan 2022 – 2028, it is recommended that for a scenario of fluvial event-undefended, the minimum finished floor level is to be based on 1% AEP flood + climate change (20% allowance for highly vulnerable development) + 300mm freeboard i.e., 96.67m with 20% + 0.3m = 96.97m OD. The lowest finished floor level for the apartment residential development is at upper ground floor level of 97.95m OD with the creche at 97.35m OD.

In consideration of the above assessment, analysis and recommendations, overall development of the site is not expected to result in an adverse impact to the existing hydrological regime of the area or to result in an increased flood risk elsewhere.

**APPENDIX A – LAND USE ZONING MAP**

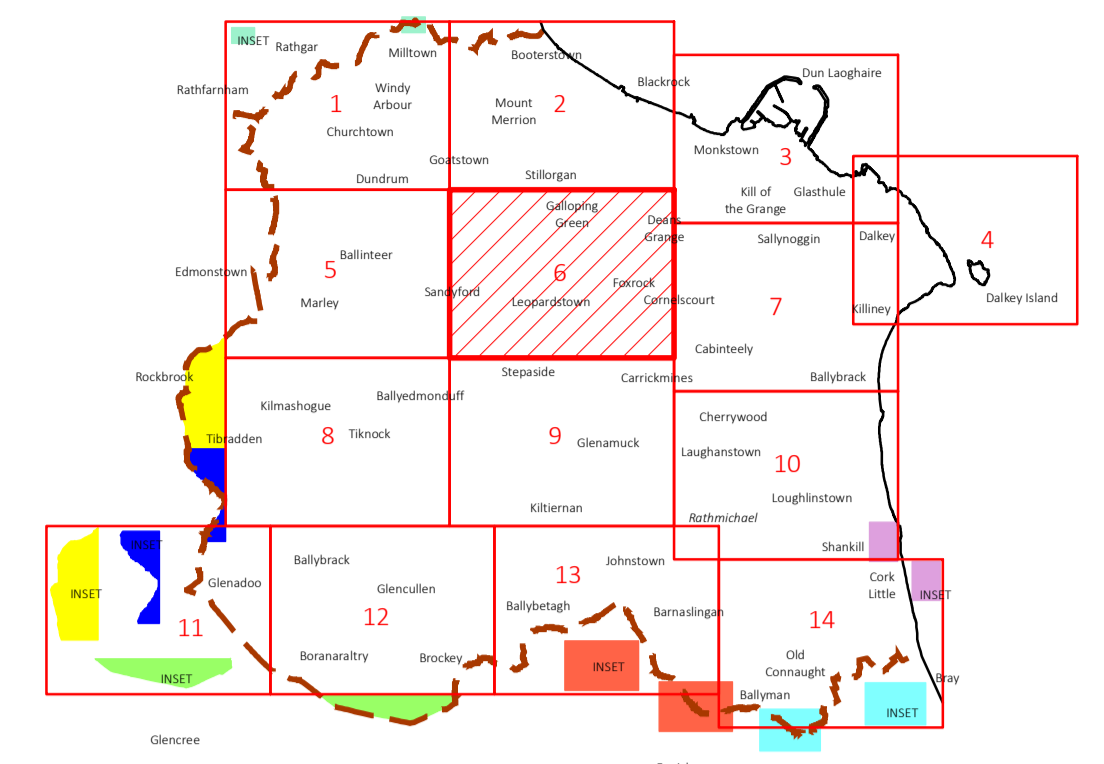
- Mapping Notes
- The lines of the Road Proposals shown are diagrammatic only and may be subject to change.
  - The provisional alignment of the S25/National East Coast Trail Cycle Route is diagrammatic only and may be subject to change.
  - The boundaries of any proposed Local Area Plans are indicative only and may be subject to change. Refer to adopted LAP document for definitive boundaries.
  - The Core Bus Corridors may be subject to change. It should be noted that the core bus corridors incorporate the existing quality bus corridors on the N11 and Rock Road
  - The tree symbols may represent one tree or a group of trees which make a contribution to the area.
  - The Proposed Luas Line Extension is a provisional alignment.
  - When printing this map, colours may vary depending on type of printer used. Please refer to dlr website for definitive colours.
  - The route of a proposed indicative Luas Spur from Old Connaught Avenue to Fassaroo, Bray as shown on Map 14 shall be further considered and informed by and in the context of the next Transport Strategy for the Greater Dublin Area

# COMHAIRLE CHONTAE DHÚN LAOGHAIRE-RÁTH AN DÚIN

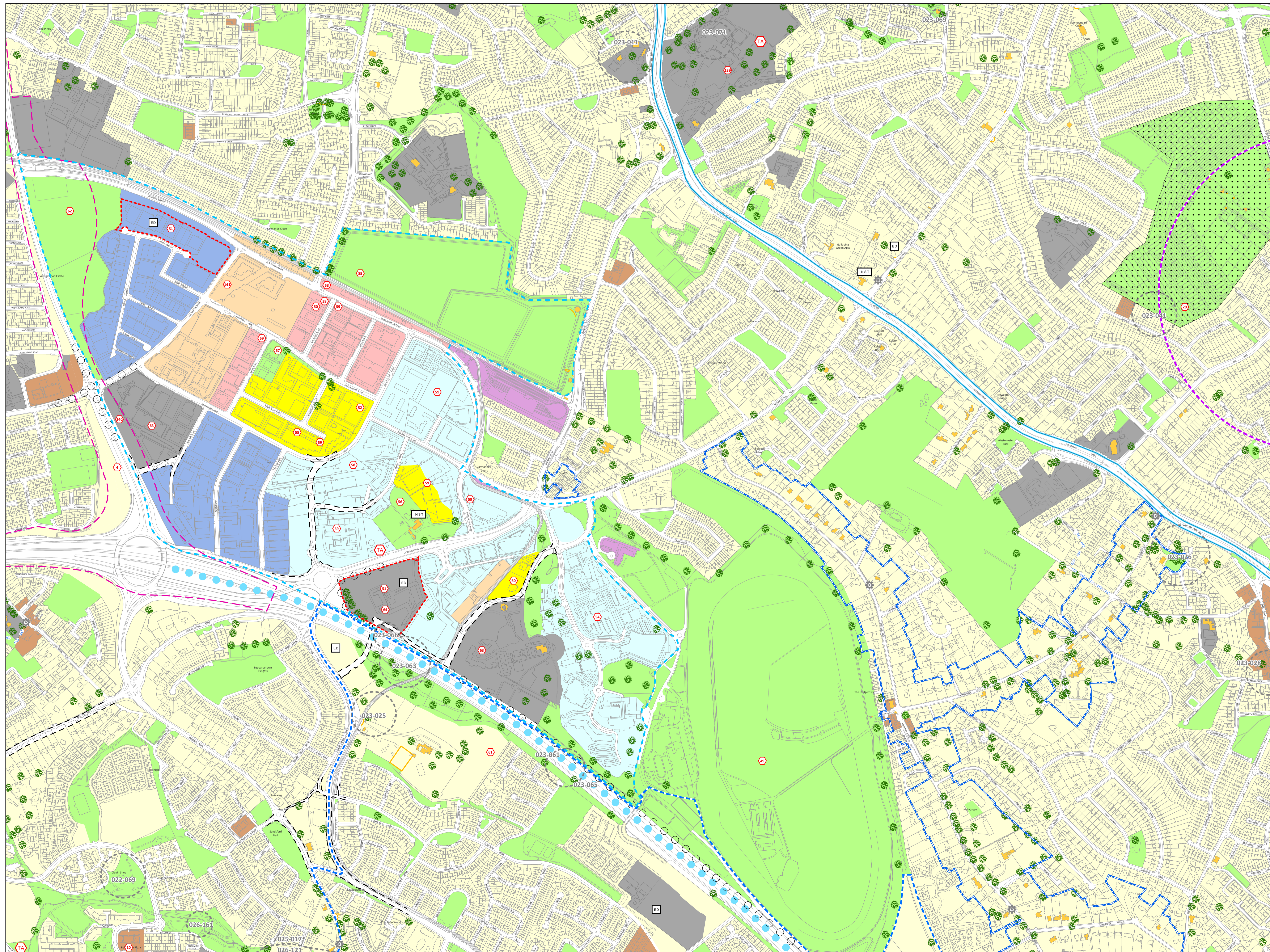
# DÚN LAOGHAIRE-RATHDOWN COUNTY COUNCIL

## COUNTY DEVELOPMENT PLAN 2022-2028

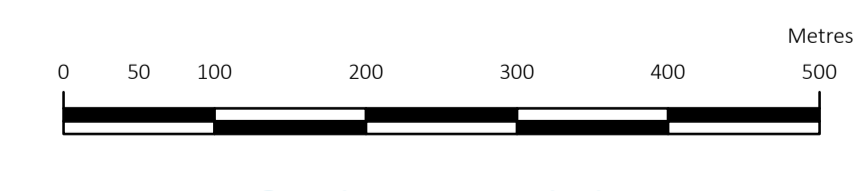
Adopted March 2022



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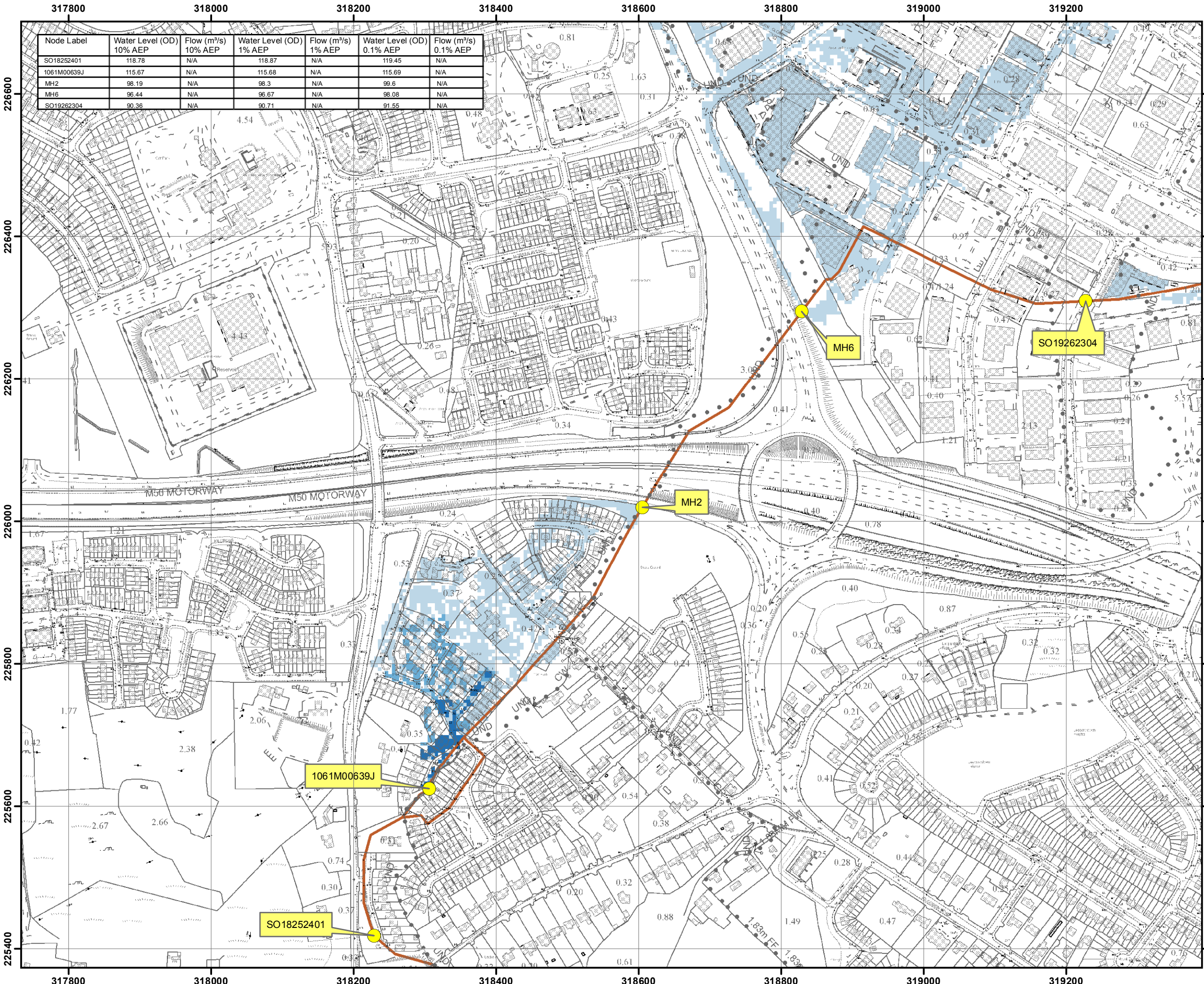
- Land Use Zonings**
- Objective A To provide residential development and improve residential amenity while protecting the existing residential amenities.
  - Objective A1 To provide for new residential communities and Sustainable Neighbourhood Infrastructure in accordance with approved local area plans.
  - Objective A2 To provide for the creation of sustainable residential neighbourhoods and preserve and protect residential amenity.
  - Objective B To protect and improve rural amenity and to provide for the development of agriculture.
  - Objective DC To protect, provide for and/or improve mixed-use district centre facilities.
  - Objective E To provide for economic development and employment.
  - Objective F To preserve and provide for open space with ancillary active recreational amenities.
  - Objective G To protect and improve high amenity areas.
  - Objective GB To protect and enhance the open nature of lands between urban areas.
  - Objective LIW To improve and provide for low density warehousing/light industrial warehousing uses
  - Objective MIC To consolidate and complete the development of the mixed use inner core to enhance and reinforce sustainable development.
  - Objective MOC To provide for a mix of uses which complements the inner core, but with less retail and residential and more emphasis on employment and services.
  - Objective MTC To protect, provide for and/or improve major town centre facilities.
  - Objective NC To protect, provide for and/or improve mixed-use neighbourhood centre facilities.
  - Objective OE To provide for office and enterprise development.
  - Objective TLI To facilitate, support and enhance the development of third level education institutions.
  - Objective W To provide for waterfront development and harbour related uses.
  - Objective SNI To protect, improve and encourage the provision of sustainable neighbourhood infrastructure
- Other Objectives**
- 6 Year Road Objectives/Traffic Management/Active Travel Upgrades
  - 6 Year Motorway Proposal
  - Strategic Road Reservation
  - Long Term Road Objectives/Traffic Management/Active Travel Upgrades
  - Long Term Motorway Proposal
  - Proposed Luas Line Extension
  - Core Bus Corridor
  - Public Right-of-Way
  - Recreation Access Route
  - Wicklow Way
  - Proposed Sutton to Sandycove Walkway/Cycleway as a component part of the National East Coast Trail Cycle Route
  - Protected Structures
  - Record of Industrial Heritage
  - Record of Monuments and Places (For Areas of Archaeological Potential)
  - Strategic Land Reserve
  - Architectural Conservation Area
  - Candidate Architectural Conservation Area
  - European Sites (SPA and SAC Areas)
  - Proposed Natural Heritage Areas (pNHA)
  - To preserve Views
  - To protect and preserve Trees and Woodlands
  - Tree Preservation Orders Location
  - To preserve Prospects
  - To protect and/or provide for a Burial Ground
  - Boundary of Adopted Cherrywood Planning Scheme
  - Boundary of Urban Framework Plan
  - Boundary of lands for which a Local Area Plan will be prepared
  - Boundary of Local Area Plan
  - Boundary of Objective Area
  - Specific Local Objective
  - To provide accommodation for the Travelling Community
  - Proposed Education Site
  - To protect and/or provide for Institutional Use in open lands
  - Mews Development Acceptable in Principle
  - County Boundary



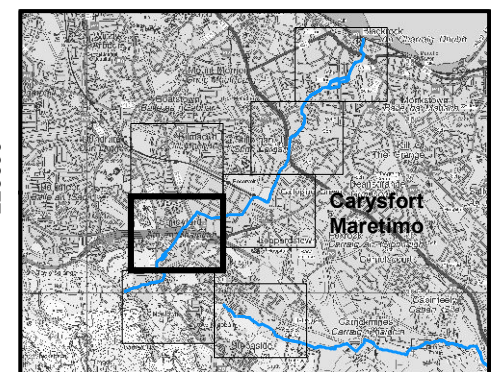
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Director of Planning: M Henchy  
Senior Planner: L McGauran

**APPENDIX B – CFRAM FLUVIAL FLOOD EXTENTS MAP**



Node Label	Water Level (OD)		Flow (m³/s)		Water Level (OD)		Flow (m³/s)	
	10% AEP	1% AEP	10% AEP	1% AEP	0.1% AEP	1% AEP	0.1% AEP	0.1% AEP
SO18252401	118.78	N/A	118.87	N/A	119.45	N/A	N/A	N/A
1061M00639J	115.67	N/A	115.68	N/A	115.69	N/A	N/A	N/A
MH2	98.19	N/A	98.3	N/A	99.6	N/A	N/A	N/A
MH6	96.44	N/A	96.67	N/A	98.08	N/A	N/A	N/A
SO19262304	90.36	N/A	90.71	N/A	91.55	N/A	N/A	N/A



**IMPORTANT USER NOTE:**  
THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP.

- Legend**
- 10% Fluvial AEP Event
  - 1% Fluvial AEP Event
  - 0.1% Fluvial AEP Event
  - Modelled River Centreline
  - AFA Extents
  - Embankment
  - Wall
  - Defended Area
  - 1% AEP Standard of Protection of Flood Defence (Walls / Embankments)
  - 1% AEP Standard of Protection of Flood Defence (Walls / Embankments)
  - Node Point
  - Node ID Node Label

FINAL

REV:	NOTE:	DATE:
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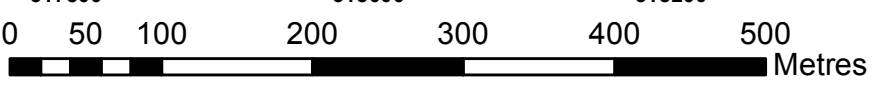


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<b>Map:</b>	
Carysfort Maretime Fluvial Flood Extents	
<b>Map Type:</b> EXTENT	
<b>Source:</b> FLUVIAL	
<b>Map Area:</b> HPW	
<b>Scenario:</b> CURRENT	
<b>Drawn By:</b> C.C.	<b>Date:</b> 27 October 2017
<b>Checked By:</b> A.S.	<b>Date:</b> 27 October 2017
<b>Approved By:</b> S.P.	<b>Date:</b> 27 October 2017
<b>Drawing No.:</b>	
E09CAR_EXFCD_F2_04	
<b>Map Series:</b> Page 4 of 7	
<b>Drawing Scale:</b> 1:5,000 @ A3	



**APPENDIX C – PAST FLOOD SUMMARY REPORT**

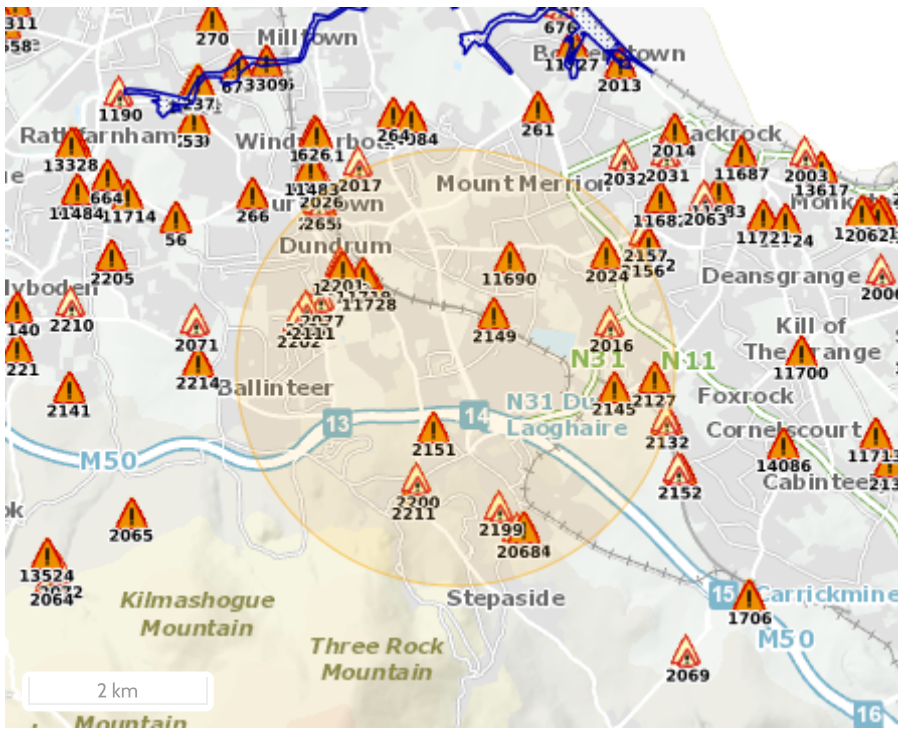




Report Produced: 31/5/2023 10:05

This Past Flood Event Summary Report summarises all past flood events within 2.5 kilometres of the map centre.

This report has been downloaded from [www.floodinfo.ie](http://www.floodinfo.ie) (the "Website"). The users should take account of the restrictions and limitations relating to the content and use of the Website that are explained in the Terms and Conditions. It is a condition of use of the Website that you agree to be bound by the disclaimer and other terms and conditions set out on the Website and to the privacy policy on the Website.




## Map Legend

- Single Flood Event
- Recurring Flood Event
- Past Flood Event Extents
- Drainage Districts Benefited Lands\*
- Land Commission Benefited Lands\*
- Arterial Drainage Schemes Benefited Lands\*

\* Important: These maps do not indicate flood hazard or flood extent. Their purpose and scope is explained on Floodinfo.ie

## 27 Results

Name (Flood_ID)	Start Date	Event Location
1.  Stillorgan Hill Nov 2002 (ID-2024) Additional Information: <a href="#">Reports (4)</a> <a href="#">Press Archive (0)</a>	10/11/2002	Exact Point
2.  Ashlawn Ballinteer Road June 1993 (ID-2111) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	10/06/1993	Approximate Point
3.  Ramore Leopardstown Road May and June 1993 (ID-2127) Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (0)</a>	30/04/1993	Approximate Point
4.  Torquay Road Foxrock Nov 1982 (ID-2132) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	05/11/1982	Approximate Point
5.  Leopardstown Road Dec 1979 (ID-2145) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	14/12/1979	Exact Point
6.  Lakelands Close Stillorgan Jan 1980 (ID-2149) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	21/01/1980	Approximate Point

	Name (Flood_ID)	Start Date	Event Location
7.	 Sandyford Church Jan 1980 (ID-2151) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	21/01/1980	Exact Point
8.	 School House Lane Sandyford Nov 1982 (ID-2211) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	26/11/1982	Approximate Point
9.	 Flooding at Willow Bank Apartments, Sandyford Rd, Dublin 14 on 24th Oct 2011 (ID-11728) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	23/10/2011	Exact Point
10.	 Flooding at Riverdale, Dundrum, Dublin 14 on 24th Oct 2011 (ID-11719) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	23/10/2011	Exact Point
11.	 Pine Copse Road Ballinteer Nov 1982 (ID-2137) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	05/11/1982	Exact Point
12.	 Dundrum June 1963 (ID-265) Additional Information: <a href="#">Reports (4)</a> <a href="#">Press Archive (8)</a>	10/06/1963	Exact Point
13.	 Brewery Road Recurring (ID-2016) Additional Information: <a href="#">Reports (3)</a> <a href="#">Press Archive (0)</a>	n/a	Exact Point
14.	 Slang Old Ballinteer Road Recurring (ID-2077) Additional Information: <a href="#">Reports (4)</a> <a href="#">Press Archive (0)</a>	n/a	Exact Point
15.	 Old Railway line Dundrum recurring (ID-2025) Additional Information: <a href="#">Reports (5)</a> <a href="#">Press Archive (0)</a>	n/a	Exact Point
16.	 Kilgobbin Road Recurring (ID-2068) Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (0)</a>	n/a	Exact Point
17.	 Pine Copse Willow Road Recurring (ID-2075) Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (0)</a>	n/a	Exact Point
18.	 Torquay Road Recurring (ID-2195) Additional Information: <a href="#">Reports (4)</a> <a href="#">Press Archive (0)</a>	n/a	Exact Point
19.	 Carrickmines River Sandyford Hall Recurring (ID-2199) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	n/a	Exact Point
20.	 Ballyogan Stream Lambs Cross Recurring (ID-2200) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	n/a	Exact Point
21.	 Slang Pyelands Dundrum recurring1 (ID-2201) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	n/a	Approximate Point
22.	 Ludford Area Ballinteer Recurring (ID-2202) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	n/a	Approximate Point
23.	 Flooding at Dundrum Town Centre on 21/08/2021 (ID-14085) Additional Information: <a href="#">Reports (0)</a> <a href="#">Press Archive (0)</a>	21/08/2021	Approximate Point
24.	 Flooding at Dundrum Shopping Centre and Taney Cross, Co. Dublin on 24th Oct 2011 (ID-11720) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	23/10/2011	Exact Point

	Name (Flood_ID)	Start Date	Event Location
25.	 Flooding at Dale Drive, Stillorgan, Co. Dublin on 24th Oct 2011 (ID-11690)	23/10/2011	Exact Point
Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (0)</a>			
26.	 Flooding at Clonskeagh Road, Dublin 6 on 24th Oct 2011 (ID-11704)	23/10/2011	Exact Point
Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>			
27.	 Flooding at Kilgobbin Road, Stepside, Co. Dublin on 24th Oct 2011 (ID-11712)	23/10/2011	Exact Point
Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>			

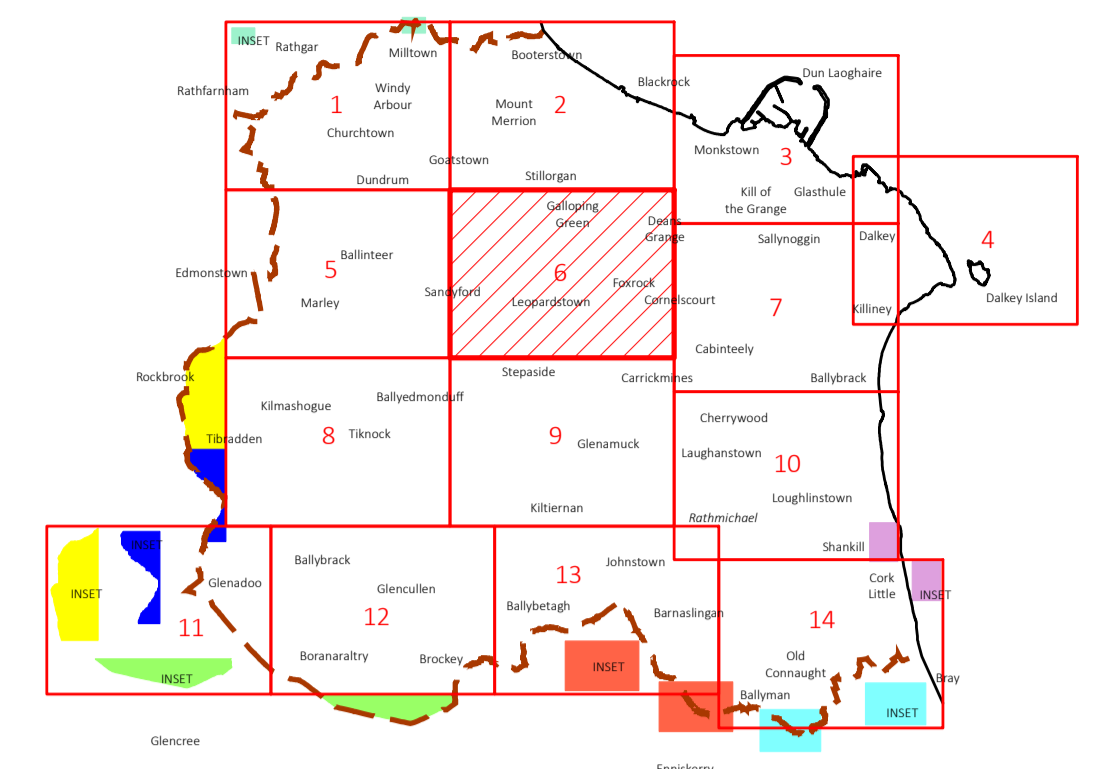
**APPENDIX D – DLRCC FLOOD ZONES MAP**

- Mapping Notes**
- The lines of the Road Proposals shown are diagrammatic only and may be subject to change.
  - Wave Overtopping layer is relevant to the following maps only: Map No's. 2, 3, 4, 7, 10 & 14 unless noted otherwise.
  - These flood maps contain Land Use Zonings & Flooding information only. Please refer to the Land Use Zoning maps for more detailed land use objectives.

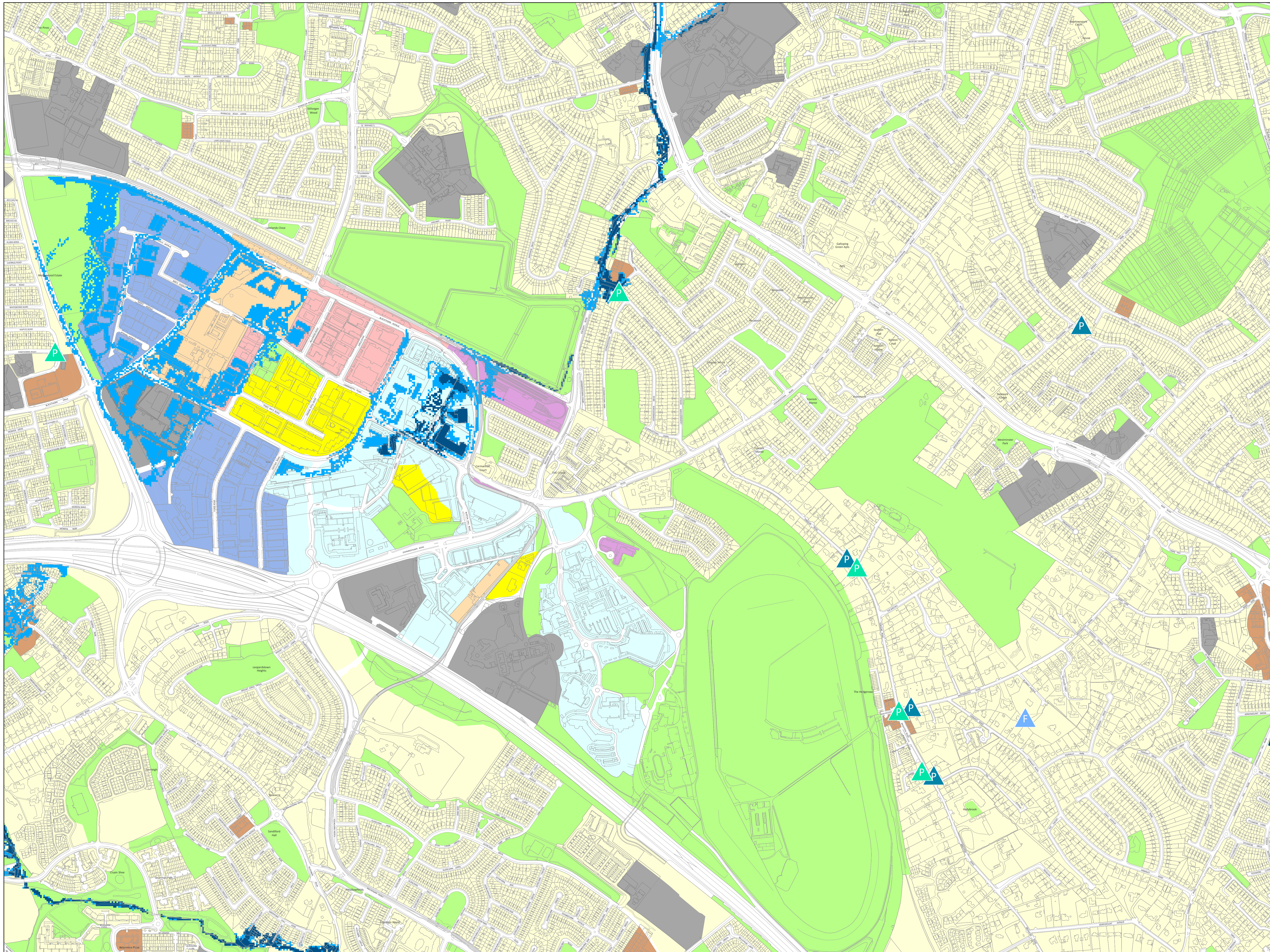
# Flood Zone Map

# COMHAIRLE CHONTAE DHÚN LAOGHAIRE-RÁTH AN DÚIN DÚN LAOGHAIRE-RATHDOWN COUNTY COUNCIL COUNTY DEVELOPMENT PLAN 2022-2028

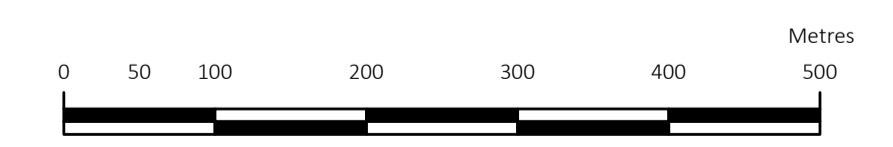
Adopted March 2022



INDEX



- Land Use Zonings**
- Objective A To provide residential development and improve residential amenity while protecting the existing residential amenities.
  - Objective A1 To provide for new residential communities and Sustainable Neighbourhood Infrastructure in accordance with approved local area plans.
  - Objective A2 To provide for the creation of sustainable residential neighbourhoods and preserve and protect residential amenity.
  - Objective B To protect and improve rural amenity and to provide for the development of agriculture.
  - Objective DC To protect, provide for and/or improve mixed-use district centre facilities.
  - Objective E To provide for economic development and employment.
  - Objective F To preserve and provide for open space with ancillary active recreational amenities.
  - Objective G To protect and improve high amenity areas.
  - Objective GB To protect and enhance the open nature of lands between urban areas.
  - Objective LIW To improve and provide for low density warehousing/light industrial warehousing uses.
  - Objective MIC To consolidate and complete the development of the mixed use inner core to enhance and reinforce sustainable development.
  - Objective MOC To provide for a mix of uses which complements the inner core, but with less retail and residential and more emphasis on employment and services.
  - Objective MTC To protect, provide for and/or improve major town centre facilities.
  - Objective NC To protect, provide for and/or improve mixed-use neighbourhood centre facilities.
  - Objective OE To provide for office and enterprise development.
  - Objective TLI To facilitate, support and enhance the development of third level education institutions.
  - Objective W To provide for waterfront development and harbour related uses.
  - Objective SNI To protect, improve and encourage the provision of sustainable neighbourhood infrastructure.
- Areas of Flood Risk Concern**
- Fluvial - Surface Water (Blue triangle with 'F')
  - Pluvial - Surface Water (Blue triangle with 'P')
  - Pluvial - Foul (Green triangle with 'P')
  - Flood Zone A (Dark blue)
  - Flood Zone B (Light blue)
  - Wave Overtopping (Blue hatched pattern)
  - County Boundary (Red dashed line)

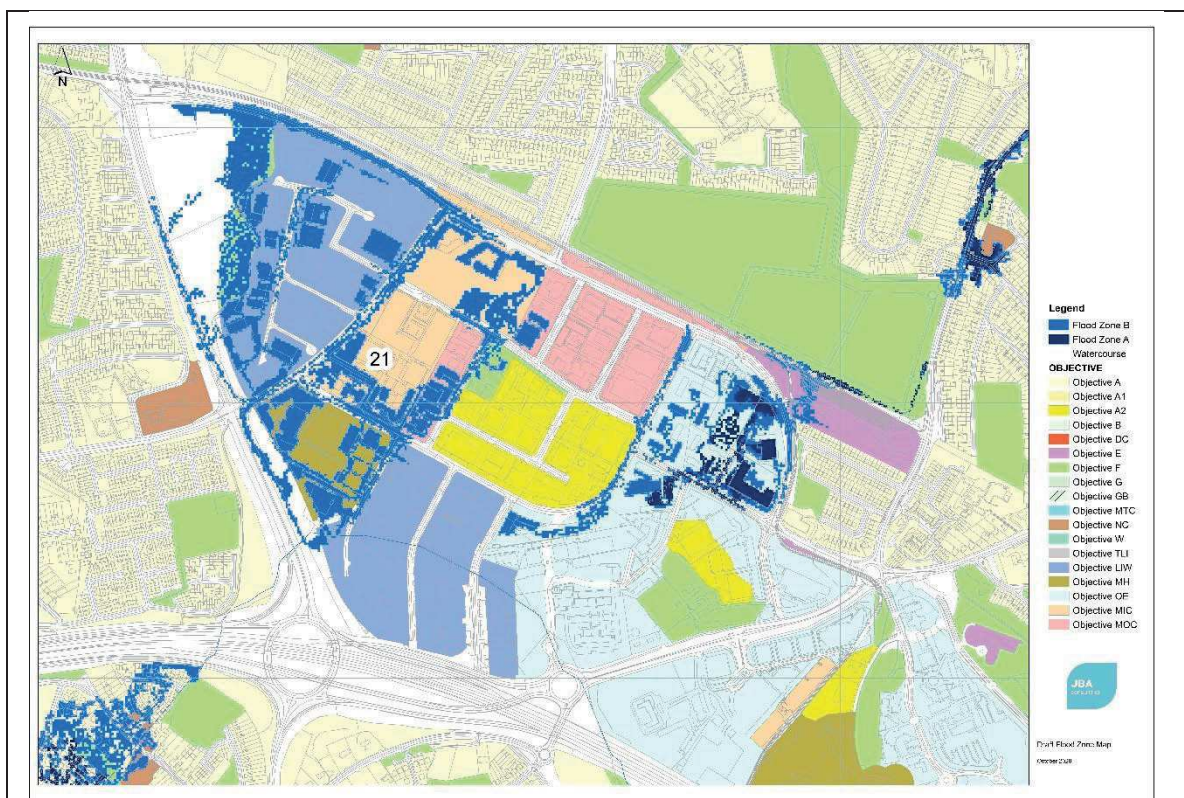


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Director of Planning: M Henchy  
Senior Planner: L McGauran

**APPENDIX E - JUSTIFICATION TEST**

6.2.5 Sandyford Business District (County Development Plan 2022-2028 Flood Zone Map 6)



Justification Test Criteria		Response
1	The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.	The National Planning Framework states that Dublin needs to accommodate a greater proportion of the growth it generates within its Metropolitan boundary. The Regional Spatial and Economic Strategy 2019-2031 (RSES) for the Eastern and Midlands Region incorporates a Dublin Metropolitan Area Strategic Plan and the entire built up area of DLR is located within this Metropolitan boundary (see Figure 1.3 of the County Development Plan). The RSES identifies Sandyford as a strategic employment location in the Dublin Metropolitan Area while the Dublin MASP supports the continued development of Sandyford as a high-density business district on the Metrolink / LUAS Greenline Corridor.
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:	
2(i)	Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement:	Increasing land efficiency through intensification of existing brownfield / under-utilised sites is essential to support the regeneration and expansion of Sandyford as a strategic mixed-use district in the County.
2(ii)	Comprises significant previously developed and/or under-utilised lands:	Sandyford comprises a developed mixed-use district with significant opportunity for the redevelopment and intensification of brownfield / under-utilised lands.
2(iii)	Is within or adjoining the core of an established or designated urban settlement:	The RSES identifies Sandyford as a strategic employment location in the Dublin Metropolitan Area while the Dublin MASP supports the continued development of Sandyford as a high-density business district on the Metrolink / LUAS Greenline Corridor. The County Development Plan identifies Sandyford as a mixed-use district



		and a strategic employment location.
2(iv)	Will be essential in achieving compact and sustainable urban growth; and,	Sandyford is a strategically located mixed-use district within the existing built up area of the County and has an important role in supporting compact and sustainable urban growth.
2(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.	There are no suitable alternative lands identified.
3	<p><b>Flood Risk Considerations</b></p> <p>The majority of flood risk highlighted in the Sandyford Business District is Flood Zone B, with small pockets indicated to be Flood Zone A. Where development is proposed within or near Flood Zone B a site specific flood risk assessment should be undertaken with the aim of a) refining the delineation of flood risk based on local topography and surface water systems; b) demonstrating that the proposed development will not increase flood risk to neighbouring lands; and c) developing flood management measures appropriate to the development proposed.</p> <p>Development in and adjacent to Flood Zone A and B will have to include for the management of flooding on site, and within the scope of the site specific FRA. Use of the sequential approach, with highly vulnerable uses on first floor and above, subject to safe access and egress, and appropriate setting of ground floor finished floor levels should be presented in a masterplan. It is important that there is no loss of floodplain storage for the 1% AEP event. The impact of any changes to ground levels and storage areas should be assessed for the 0.1% AEP flood. Conveyance routes through the site also need to be maintained. The SSFRA will need to demonstrate there is no impact in flood risk outside the site boundary.</p>	
Conclusion	Justification Test Passed for Sandyford Business District	