

AtkinsRéalis



Flood Risk Assessment Stage 1 & 2

Castlethorn Old Conna ULC

17th September 2026

0126446DG010

OLD CONNAUGHT PHASE A1

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Contents

1.	Introduction	5
1.1	Relevant Guidance	5
1.2	Flood Risk	5
1.3	Causes of Flooding	6
1.4	Floodplains	6
1.5	Assessing Flood Risk	6
2.	Site Description.....	8
2.1	Site Location	8
2.2	Topography	9
2.3	Local Hydrology & Existing Drainage.....	10
3.	Flood Risk Identification for the Site	12
3.1	Flood Risk Investigation	13
3.1.1	Office of Public Works (OPW) Flood Maps	13
3.1.2	Historical Flood Records.....	14
3.1.3	Historic Flooding	16
3.1.4	Geological Survey of Ireland Mapping	17
3.1.5	Dun Laoghaire – Rathdown County Development Plan SFRA 2022-2028	18
3.1.6	Old Connaught Local Area Plan 2025	19
3.1.7	PUNCH Consulting Engineers Flood Risk Assessment	22
3.1.8	Stormwater Impact Assessment	22
3.1.9	Stage 2 Initial Flood Risk Assessment.....	25
3.1.10	Exceedance Flows	25
3.2	Stage 2 Assessment and Sequential Approach	27
4.	Conclusion and Recommendations	28
4.1	Conclusion of Flood Risk Assessment	28
4.2	Recommendation	29
Appendix A.	OPW Floodmaps.....	31
Appendix B.	DLR CDP SFRA Floodmap	32

Tables

Table 1-1 - Flood Zones	6
Table 3-1 - Possible Flooding Mechanisms.....	12
Table 3-2 - Blockage Analysis - Phase A1	25



Figures

Figure 2-1 - Site Location	8
Figure 2-2 - Proposed Site Location.....	9
Figure 2-3 - Hydrological Features	10
Figure 2-4 - Extract from Old Connaught LAP.....	11
Figure 3-1 - OPW Floodmaps.....	13
Figure 3-2 - Historic 6-inch Colour Map.....	14
Figure 3-3 - Historic 25-inch Map	15
Figure 3-4 - Historic Flood Events	16
Figure 3-5 - GSI Soil Map	17
Figure 3-6 - DLR CDP SFRA Flood map.....	18
Figure 3-7 - Revised Floodmap for LAP	19
Figure 3-8 - Extract from LAP - Mid-range Future Scenario and High-end Future Scenario in the 1% AEP Current Scenario.....	20
Figure 3-9 - Extract from LAP - Mid-range Future Scenario and High-end Future Scenario in the 0.1% AEP Current Scenario.....	21
Figure 3-10 - Pluvial Flood Risk Area Identified by Landowner	22
Figure 3-11 - Site Layout Overlain on the 0.1% AEP with Current, Mid-range and High-end Future Scenarios in LAP Floodmap.....	23
Figure 3-12 - Overland Flow Path	26



1. Introduction

The proposed development comprises 271 no. dwellings in a mix of houses and duplex/apartment units, including 103no. 2 to 3 storey houses (22no. 4-bedroom, 68no. 3-bedroom and 13no. 2-bedroom), 162no. apartments (113no. 2-bedroom and 49no. 1-bedroom) across 4no. blocks ranging from 1-5 storeys in building height and 6no. 3-bedroom duplex units; 1no. creche (c.574 sqm) at ground floor of Apartment Block 3; and all associated and ancillary site development and infrastructural works including on site attenuation, hard and soft landscaping and boundary treatment works , including : public open space; communal open space; components of the regional attenuation pond; public lighting ; surface car parking spaces ; bicycle parking spaces / stores for houses and duplex/ apartment units; 5no. ESB Substations; bin stores; Vehicular access via existing Old Connaught Avenue and a proposed new primary North-South Street into the eastern portion of the Central Character Area . The proposed development also includes the construction of a new pumping station , associated single storey building, twin rising mains extending circa 400m along Old Connaught Avenue under the M11 connecting to the existing gravity foul network on Old Connaught Avenue 125m east of the M11 bridge and associated storage, together with all ancillary site development and reinstatement works required to facilitate these elements.

This report presents the Flood Risk Assessment (FRA) for the proposed Phase A1 of the development. This FRA should be read in conjunction with AtkinsRéalis' Engineering Planning Report (0126446DG0013), Stormwater Impact Assessment Report (0126446DG0009) and the Foul Pump Station and Rising main Report (0126446DG0026) associated with this application.

1.1 Relevant Guidance

This FRA has been undertaken in consideration with 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' DOEHLG November 2009, which is the latest guidance document. The guidance has been issued to ensure that flood risk is a key consideration for developers, planning & regional authorities, and the public in preparing and submitting development proposals. The principles of the guidance are as follows:

- Avoid the risk, where possible
- Substitute less vulnerable uses, where avoidance is not possible, and
- Mitigate and manage the risk, where avoidance and substitution are not possible.

A staged approach is recommended within the guidance document in relation to identifying and assessing flood risk. The three stages of appraisal and assessment are as follows:

- Stage 1 Flood risk identification
- Stage 2 Initial flood risk assessment
- Stage 3 Detailed flood risk assessment

1.2 Flood Risk

Flood risk can be quantified by relating the probability of the flood event occurring to the consequence of the flood. Probability, in flood event terms, is gauged by potential annual occurrence/return period and flood consequence is



dependent on the nature of the flood hazard and the vulnerability of the inundated area. The source-pathway-receptor model considers the components of flood risk.



The source is the hazard with the potential to cause harm through flooding (e.g., rainfall, high sea levels). The pathway is the mechanism by which the source can affect the receptor (e.g., inadequate drainage, overtopping of coastal defences) and finally, the receptor is anything which is affected by the flood event (e.g., people, infrastructure, property).

1.3 Causes of Flooding

The Planning System and Flood Risk Management Guidelines require an FRA to consider all potential causes of flooding, including the following:

- Coastal flooding
- Inland flooding
 - Overland flow
 - River flooding
 - Flooding from artificial drainage systems
 - Groundwater flooding
 - Estuarial flooding
 - Failure of infrastructure

1.4 Floodplains

A river flood plain is a low-lying area which receives excess floodwater when the flow within the watercourse exceeds the capacity of the channel. A coastal flood plain is an area which, during high tide or increased sea levels, becomes inundated with seawater.

1.5 Assessing Flood Risk

In the context of the 'Planning System and Flood Risk Management Guidelines, DOEHLG, 2009', three flood zones are designated in consideration of flood risk to a particular site. The three flood zones are described in Table 1-1 below.

Table 1-1 - Flood Zones

Flood Zone	Description
Flood 'Zone A'	Where the probability of flooding from watercourses is the highest (greater than 1% or 1 in 100 year for watercourse flooding or 0.5% or 1 in 200 for coastal flooding).



Flood 'Zone B'	Where the probability of flooding from watercourses is moderate (between 0.1% or 1 in 1000 year and 1% or 1 in 100 year for watercourse flooding, and between 0.1% or 1 in 1000 year and 0.5% or 1 in 200 for coastal flooding).
Flood 'Zone C'	Where the probability of flooding from watercourses and the sea is low or negligible (less than 0.1% or 1 in 1000 year for both watercourse and coastal flooding). Flood Zone 'C' covers all areas which are not in Zones 'A' or 'B.'

The planning implications for each of the flood zones are:

Zone A - High probability of flooding. Most types of development would be considered inappropriate in this zone. Development in this zone should be avoided and/or only considered in exceptional circumstances, such as in city and town centres, or in the case of essential infrastructure that cannot be located elsewhere, and where the Justification Test has been applied. Only water-compatible development, such as docks and marinas, dockside activities that require a waterside location, amenity open space, outdoor sports, and recreation, would be considered appropriate in this zone

Zone B - Moderate probability of flooding. Highly vulnerable development, such as hospitals, residential care homes, Garda, fire and ambulance stations, dwelling houses and primary strategic transport and utilities infrastructure, would be considered inappropriate in this zone, unless the requirements of the Justification Test can be met. Less vulnerable development, such as retail, commercial and industrial uses, sites used for short-let for caravans and camping and secondary strategic transport and utilities infrastructure, and water-compatible development might be considered appropriate in this zone. In general, however, less vulnerable development should only be considered in this zone if adequate lands or sites are not available in Zone C and subject to a flood risk assessment to the appropriate level of detail to demonstrate that flood risk to and from the development can or will adequately be managed.

Zone C - Low probability of flooding. Development in this zone is appropriate from a flood risk perspective (subject to assessment of flood hazard from sources other than rivers and the coast) but would need to meet the normal range of other proper planning and sustainable development considerations.



2. Site Description

2.1 Site Location

The proposed site is located to the west of the M11 corridor, North of Old Connaught Avenue, and east of existing residential areas in Old Connaught. Figure 2-1 below indicates the area of the red line boundary for the proposed development, which covers a mix of open agricultural lands and existing developed plots. The site extends across the central and eastern fields of Old Connaught and includes frontage onto Old Connaught Avenue to the south.

The map highlights several features that help show the site's position within the surrounding area. Ferndale road is located to the west, while Ferndale Court Apartments are located near the north-western section of the site. The M11 forms a clear landmark to the east, and Old Connaught Avenue defines the southern edge of the surrounding area. The wider setting comprises a combination of suburban neighbourhoods, community facilities and open green spaces, reflecting the mixed residential and semi-rural character typical of Old Connaught.



Figure 2-1 - Site Location



2.2 Topography

The existing topographical levels within the proposed site range from approximately 24.23 mOD at the north-west boundary, which is the highest point, to around 18.89 mOD at the lowest point in the south-west. Overall, the ground levels fall gradually across the site, sloping from the north-west area towards the south-west.

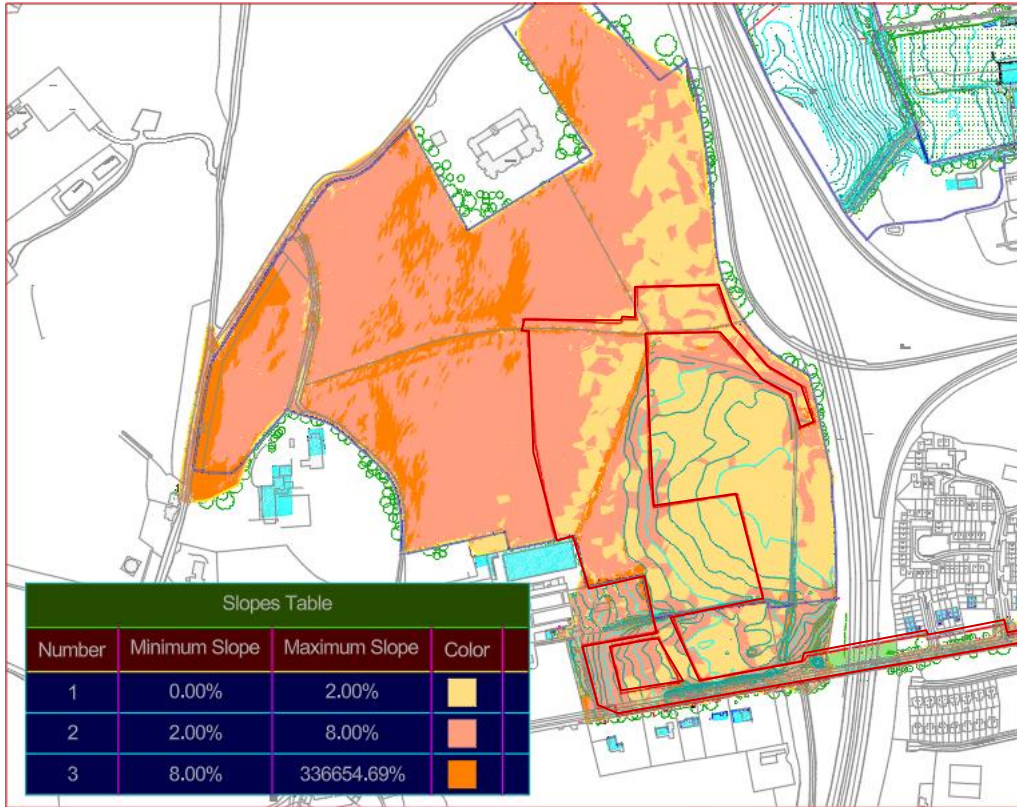


Figure 2-2 - Proposed Site Location



2.3 Local Hydrology & Existing Drainage

The Environmental Protection Agency (EPA) Geoportal (<https://gis.epa.ie/EPAMaps/https://gis.epa.ie/EPAMaps/>) was consulted in relation to the proposed site to identify nearby waterbodies. The water bodies close to the proposed site are: Crinken Stream (EPA Code: 10R18) c. 326m to the North-East of the proposed site, Dargle Stream (EPA Code: 10D01) c.780m South-East of the proposed site, and the Irish Sea c.1.5km East of the proposed site as shown in Figure 2-3.

The Dargle Stream flows in a South-Easterly direction and joins the Irish Sea. The Dargle Stream flows in a North-Easterly manner into the Dargle Estuary c. 1.3km East of the proposed site. The Old Connaught Local Area Plan 2025 identifies a primary watercourse relevant to the proposed site - a tributary of Crinken Stream known as the Old Connaught Stream (also known as Ballyman Tributary) as shown in Figure 2-4, which flows through the site. This tributary rises from Carrickgollogan hill on the eastern edge of the Dublin Mountains and flows down to Old Connaught where it enters a culvert upon converging with Ferndale Road. From here, the tributary runs in an Easterly direction in a series of culverts and open channels, diverted from its original route, before finally discharging to the Crinken Stream again on the eastern side of the M11.

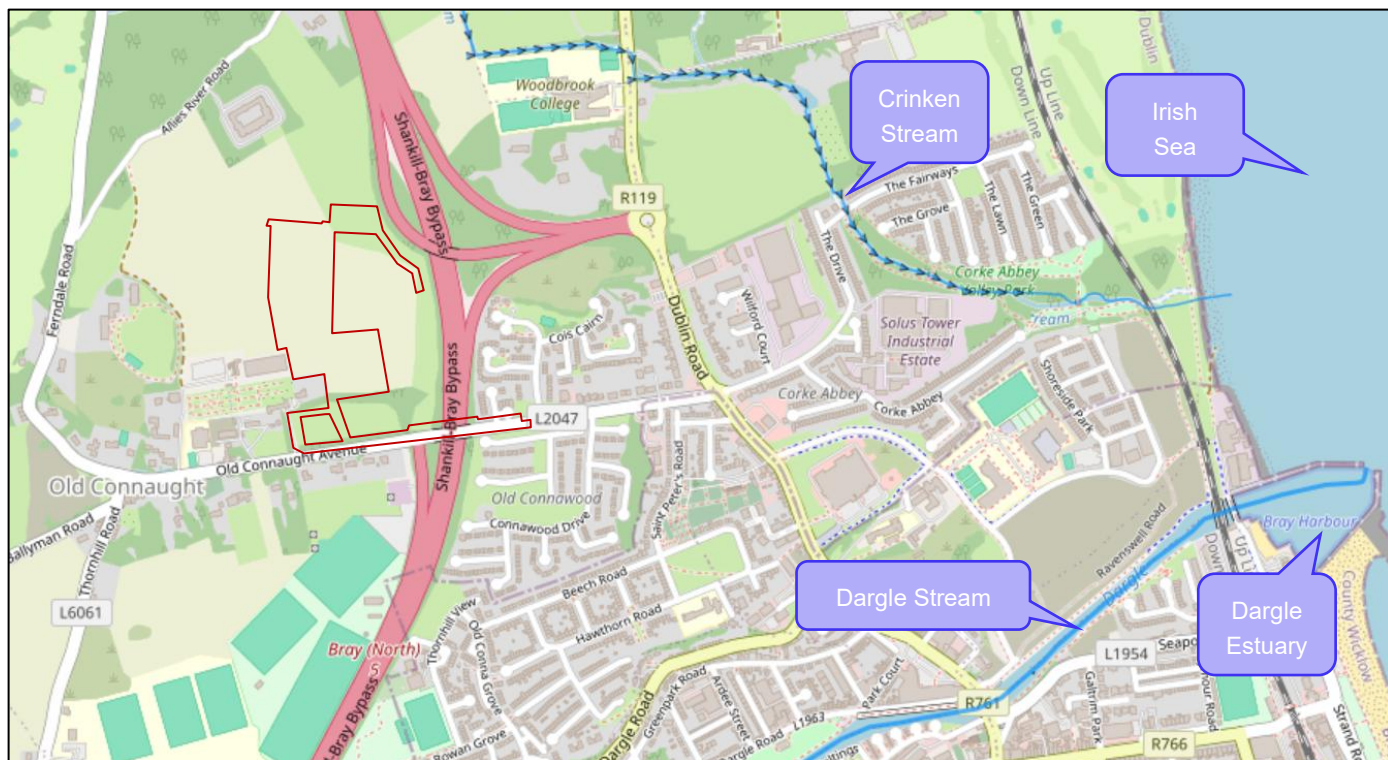


Figure 2-3 - Hydrological Features



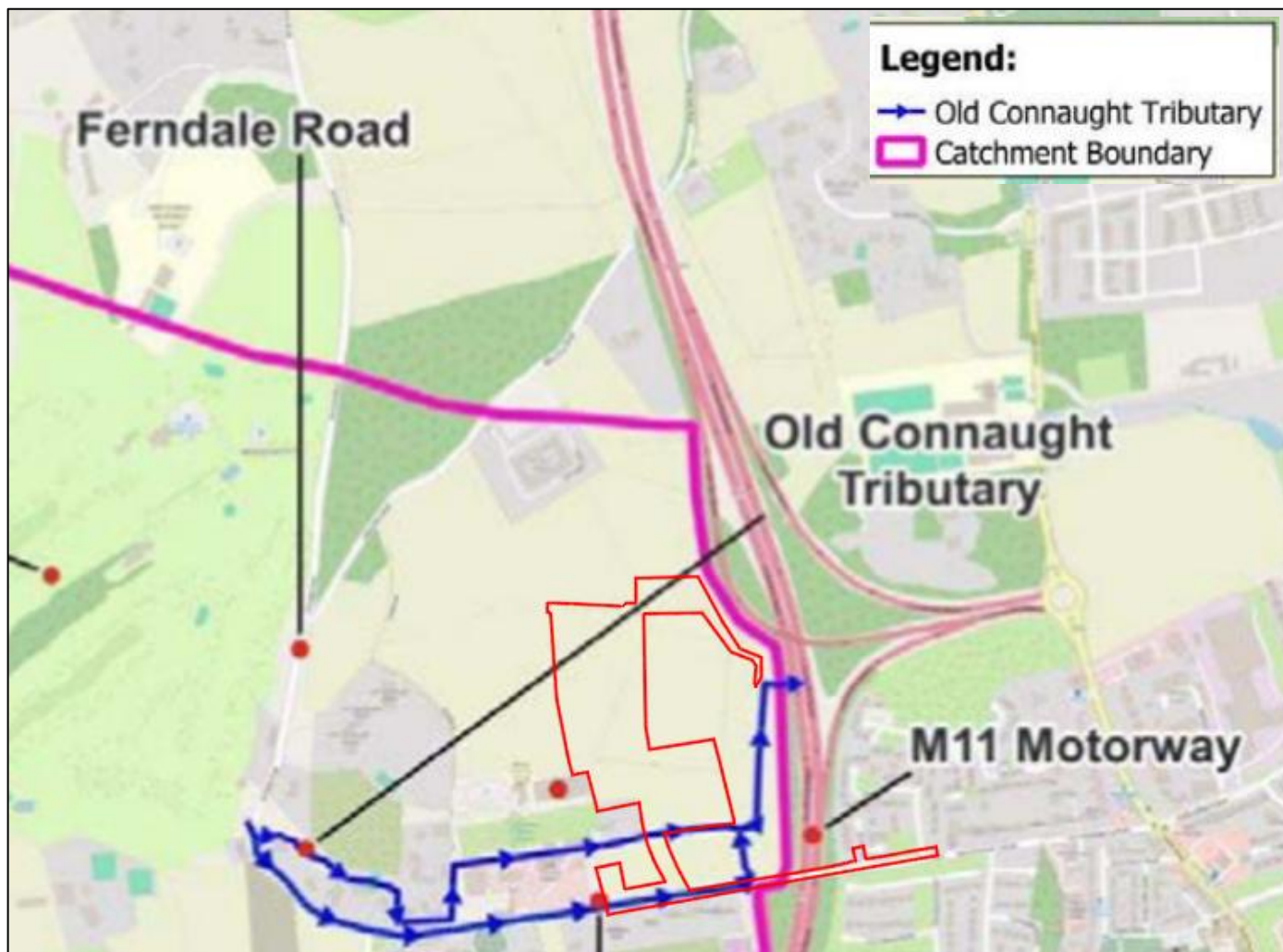


Figure 2-4 - Extract from Old Connaught LAP

3. Flood Risk Identification for the Site

In accordance with the planning guidelines, a *Stage 1 Flood risk identification* is required to be undertaken to identify if there are any flooding or surface water management issues related to the proposed site that may warrant further investigation. Initially, the following possible flood mechanisms for the proposed site have been identified:

Table 3-1 - Possible Flooding Mechanisms

Source/Pathway	Significant?	Comment/Reason
Coastal flooding	No	The proposed site is not close to a coastal location.
Overland flow	Yes	The surrounding topography is steep in areas.
River flooding	Yes	There is a watercourse (Old Connaught Tributary) crossing the proposed site.
Flooding from artificial drainage systems	Yes	There is a number of existing artificial drainage system towards the south of the proposed site.
Groundwater flooding	Yes	There are springs or groundwater discharges recorded near the proposed site. This will be reviewed further in the future stages once we receive the SI report.
Estuarial flooding	No	The proposed site is not at an estuarial location.
Failure of infrastructure	No	There are no known hydraulic structures in the direct vicinity of the proposed site.

Table 3-1 The above demonstrates that the proposed site is at risk of fluvial flooding and groundwater flooding; however, the report will continue to confirm the initial assumptions detailed above.



3.1 Flood Risk Investigation

3.1.1 Office of Public Works (OPW) Flood Maps

The Office of Public Works (OPW) has an interactive map viewer (<http://www.floodinfo.ie/map/floodmaps/>) which displays the predicted flood extents for both rivers and coastal areas over various return periods. The viewer was consulted in relation to the proposed site.

Detailed flood maps area available for the site area and the map specific to this site (E10OLD_EXFCD_F0_03) has been included in Appendix A of this report. From a review of the detailed map it is evident that the flood plain of the Old Connaught tributary extends within the site boundary in the South for a 1 in 100 and 1 in 1000 year fluvial event as shown in Figure 3-1 below.

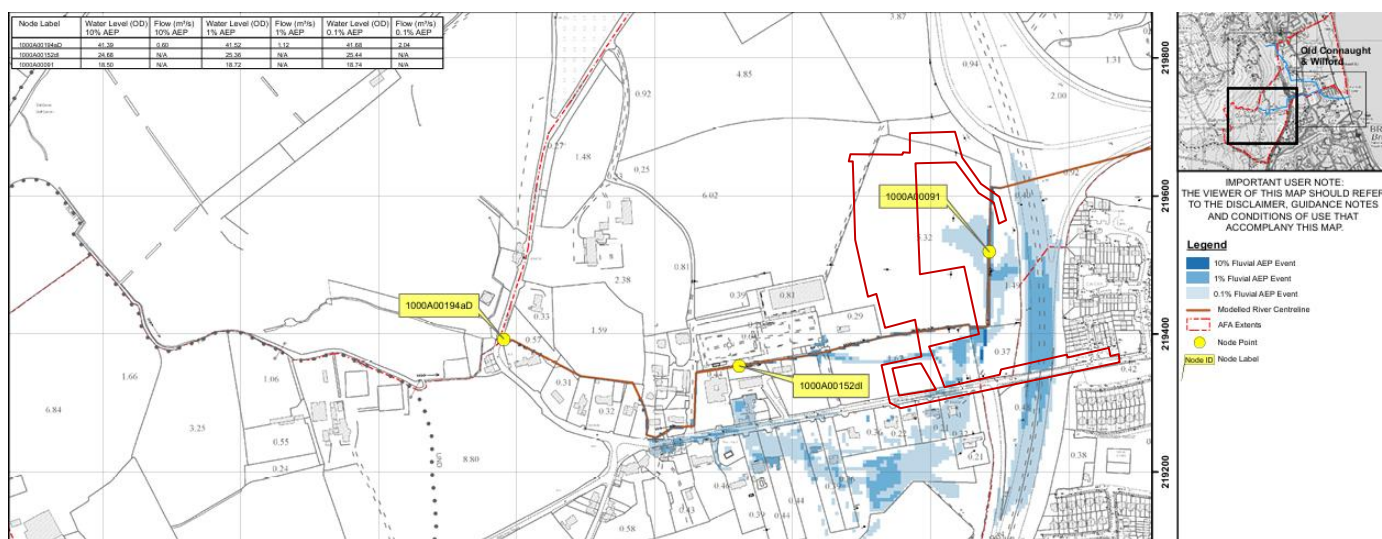


Figure 3-1 - OPW Floodmaps



3.1.2 Historical Flood Records

The GeoHive map viewer (<http://map.geohive.ie/mapviewer.html>) was consulted to review available historic mapping for the proposed site which can contain evidence of historical flooding incidences or occurrences. The maps consulted were the pre-1900's historic 6-inch colour and 25-inch maps. Figure 3-2 and Figure 3-3 below illustrates the historic maps for the proposed site environs.

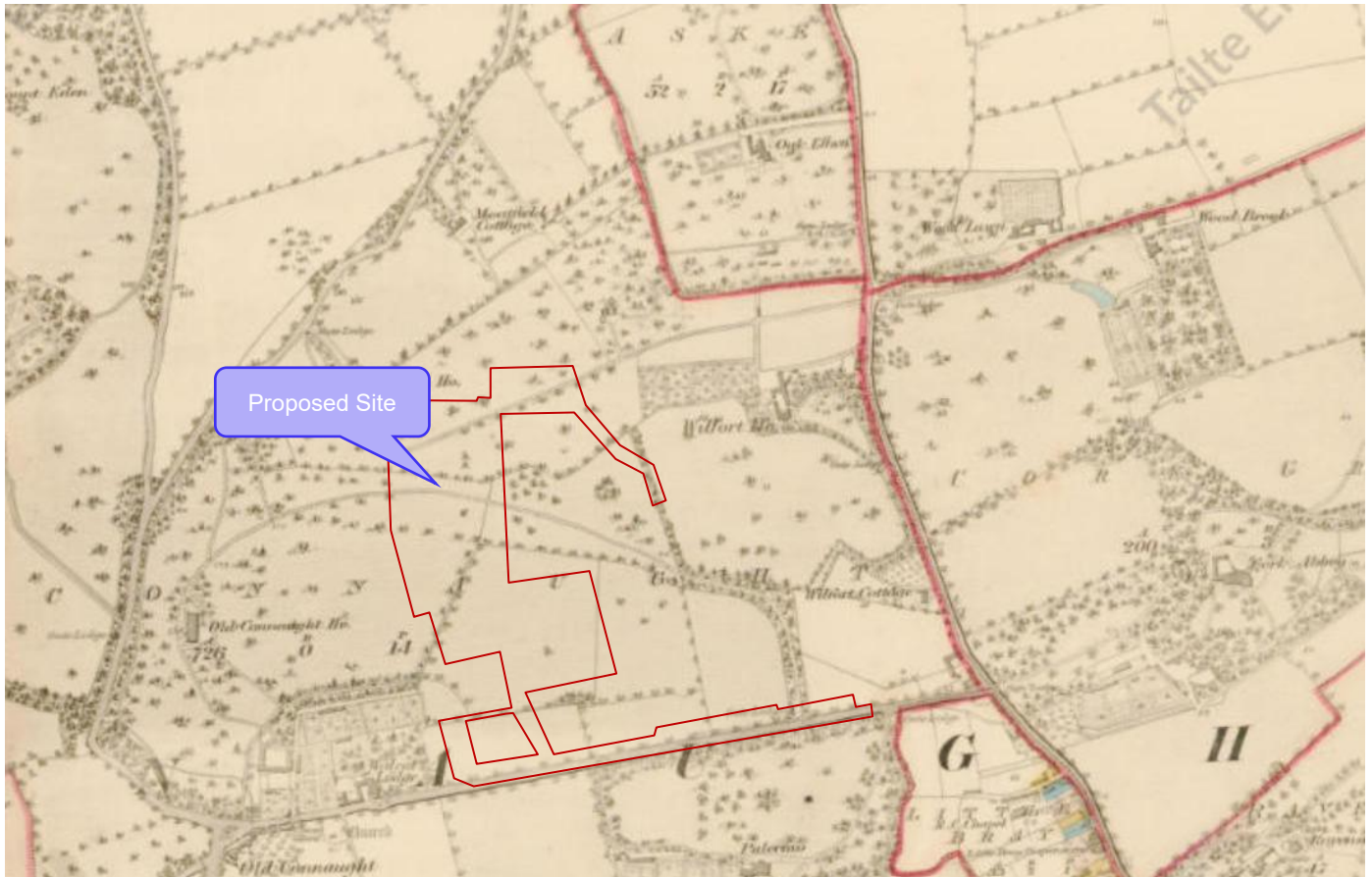


Figure 3-2 - Historic 6-inch Colour Map

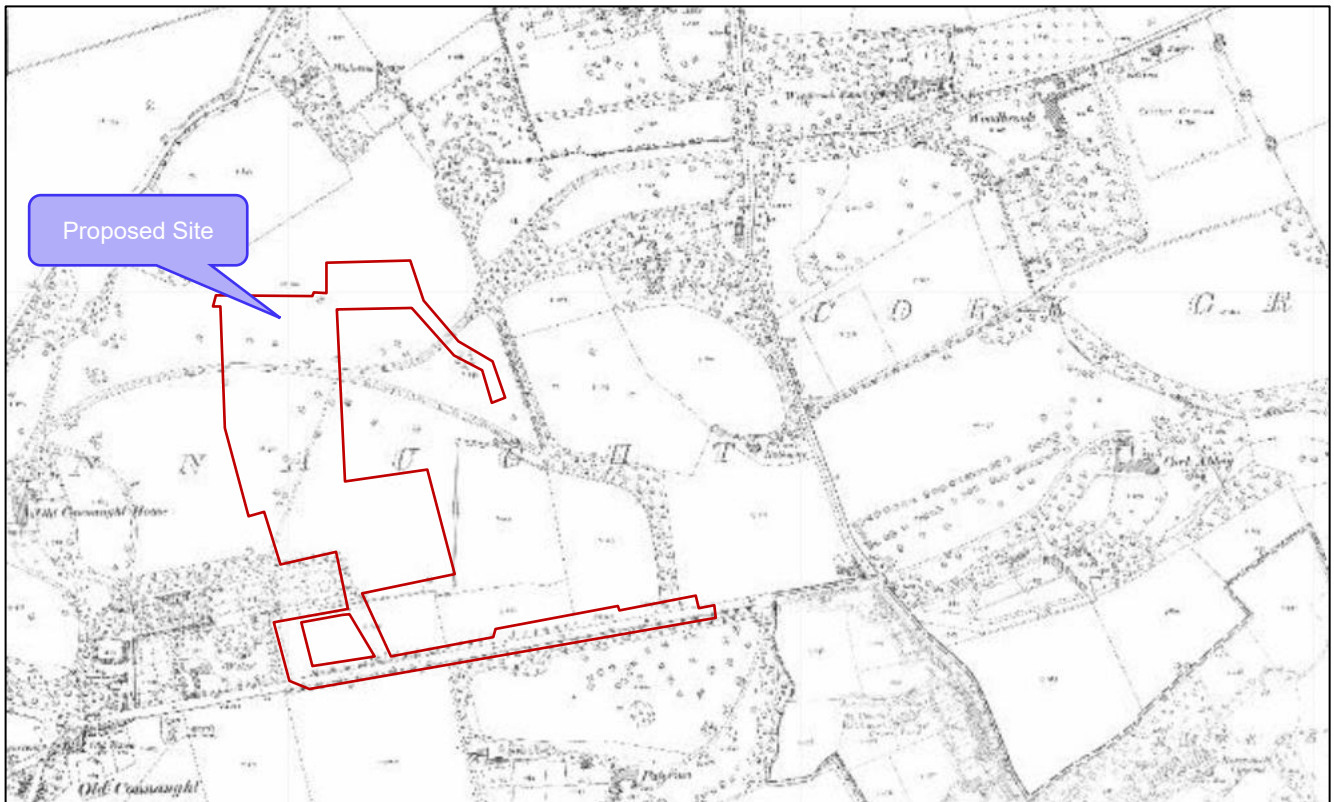


Figure 3-3 - Historic 25-inch Map

With reference to the pre-1900's historic maps displayed above, no indication of historical or anecdotal instances of flooding were observed within the environs of the proposed site.



3.1.3 Historic Flooding

The Office of Public Works (OPW) interactive map viewer (<http://www.floodinfo.ie/map/floodmaps>) was consulted to view any historic flood events identified within the proposed site.

The closest flood event identified is the recurring event in Old Connaught Avenue (ID-2030) c. 200m West of the proposed site as shown in Figure 3-4 below. DLRCC noted this to be “*Occasional flooding due to hydraulic inadequacy. Some properties may have been flooded.*” in a Data Collection Meeting for OPW Flood Hazard Mapping Project in April 2005.

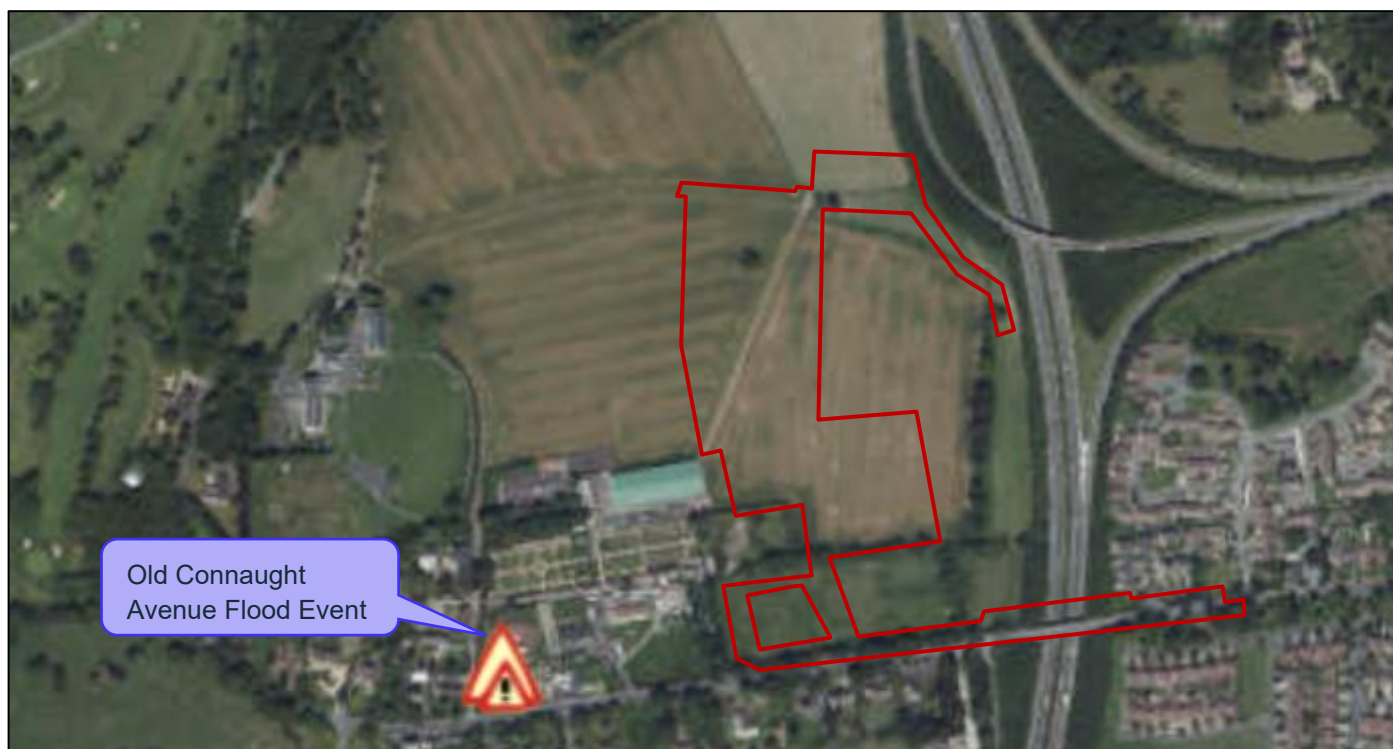


Figure 3-4 - Historic Flood Events



3.1.4 Geological Survey of Ireland Mapping

The soil maps of Geological Survey of Ireland (GSI) were consulted to determine the presence of alluvium deposits in the vicinity of the proposed site. Deposition of Alluvium deposits can be an indicator of areas which have flooded in the recent geological past.

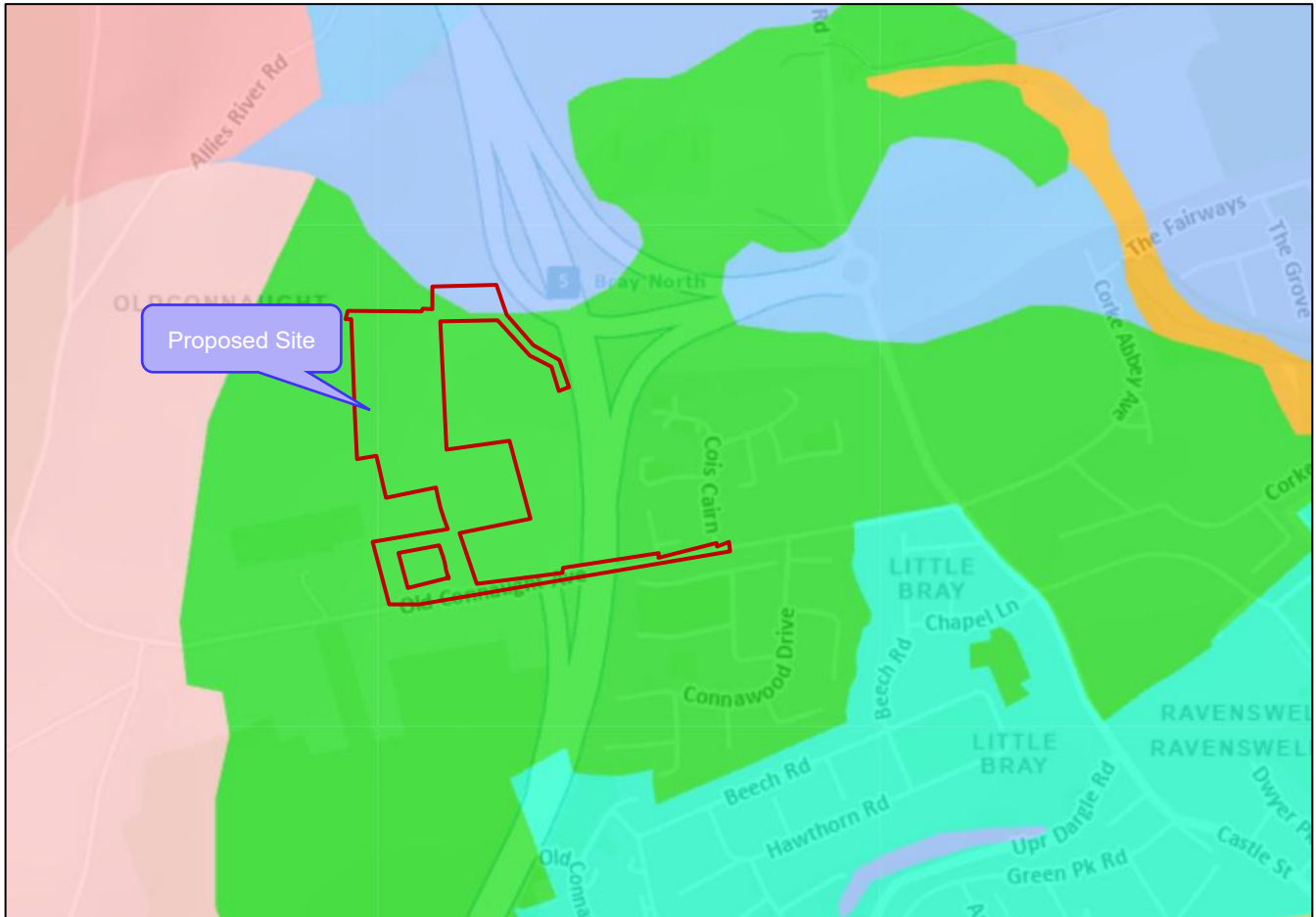


Figure 3-5 - GSI Soil Map

The GSI soil maps classify the quaternary sediments within the proposed site as Irish Sea Till derived from Limestones and Gravels derived from Limestones. Alluvium deposits are indicated to be isolated within the reaches of the Crinken Stream and Dargle Stream (indicated by orange hatch).



3.1.5 Dun Laoghaire – Rathdown County Development Plan SFRA 2022-2028

The Dun Laoghaire Rathdown (DLR) County Development Plan (CDP) 2022–2028 Strategic Flood Risk Assessment (SFRA) was consulted in relation to the proposed route. The includes Flood Zone maps for the Old Connaught area. Figure 3-6 presents an extract from Flood Zone Map 14, which identifies the extents of Flood Zone A (1% AEP fluvial) and Flood Zone B (0.1% AEP fluvial) associated with the Old Connaught Tributary, the watercourse that crosses the proposed site.

As shown in the map, a section of the proposed site is located in Flood Zone A and Flood Zone B, primarily along the Southern portion of the lands where the watercourse passes through the site and a minor area in the Eastern corner. The remainder of the site lies within Flood Zone C, where the probability of fluvial flooding is low.

The full DLR CDP SFRA Flood Zone Map is as appendix B of this report.

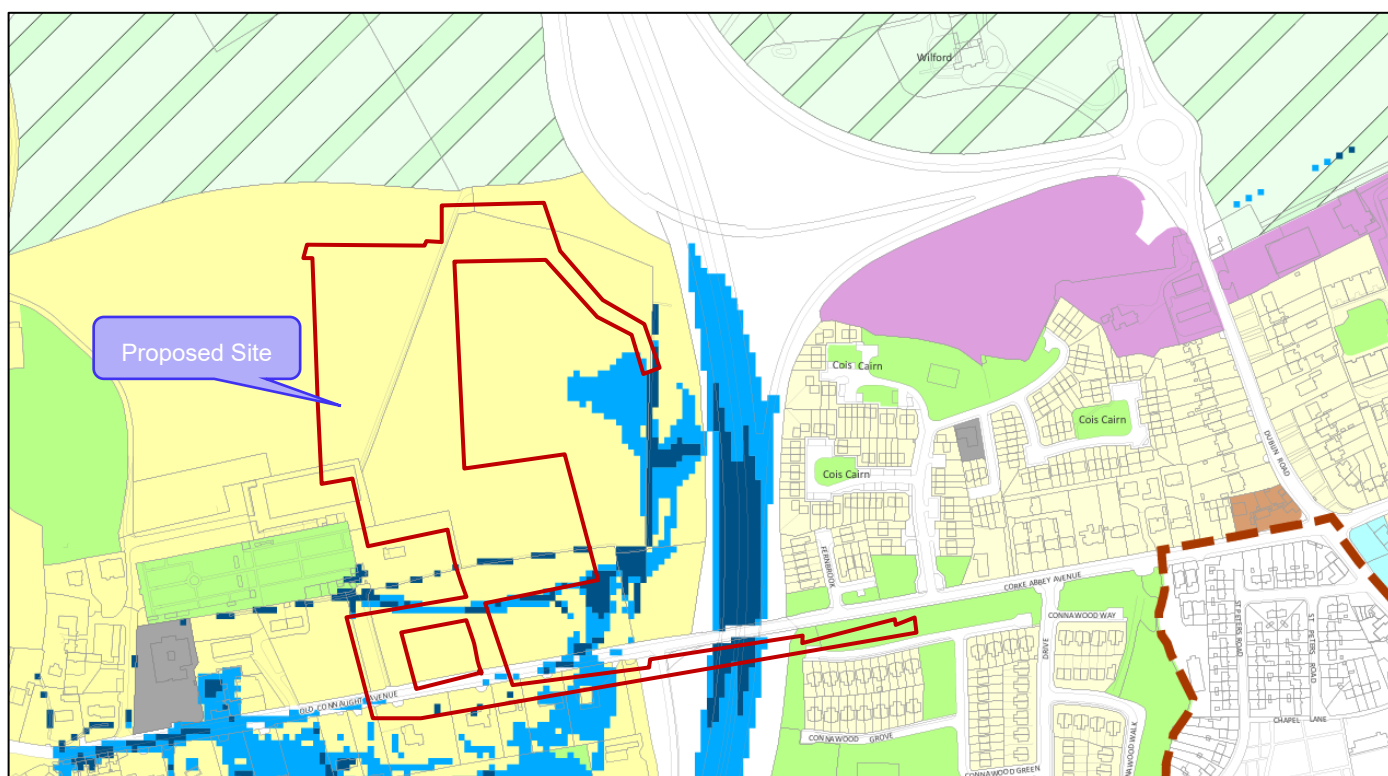


Figure 3-6 - DLR CDP SFRA Flood map



3.1.6 Old Connaught Local Area Plan 2025

The Old Connaught Local Area Plan (LAP) 2025 was adopted by Dún Laoghaire-Rathdown County Council on 28th October 2025 and came into effect on 9th December 2025. The LAP is supported by a Strategic Flood Risk Assessment (SFRA), which notes that the Old Connaught LAP area is included in Flood Zone Map No. 14 of DLR CDP 2022-2028 SFRA Floodmap, according to which the LAP area is primarily located within Flood Zone C (low probability), but with some areas located within Flood Zone A (high probability) and Flood Zone B (medium probability).

The LAP also notes that in 2024, a Flood Risk Assessment (FRA) was carried out by PUNCH Consulting Engineers on the Old Connaught Tributary which found significant differences in the flood extents around the Old Connaught Avenue area in both the 1% AEP and the 0.1% AEP when compared to the CDP SFRA flood extents. As shown in the revised floodmap in Figure 3-7 below, the majority of the Old Connaught LAP area still lies within Floodzone C with a far lesser extent of Flood Zone A and Flood Zone B now predicted. DLRCC proposed that the revised mapping is to be taken forward as the Flood Zone Maps for the area. DLRCC also notes that the results of the Flood Risk Assessment have been presented to the OPW with a request for a Flood Map Review for the area.

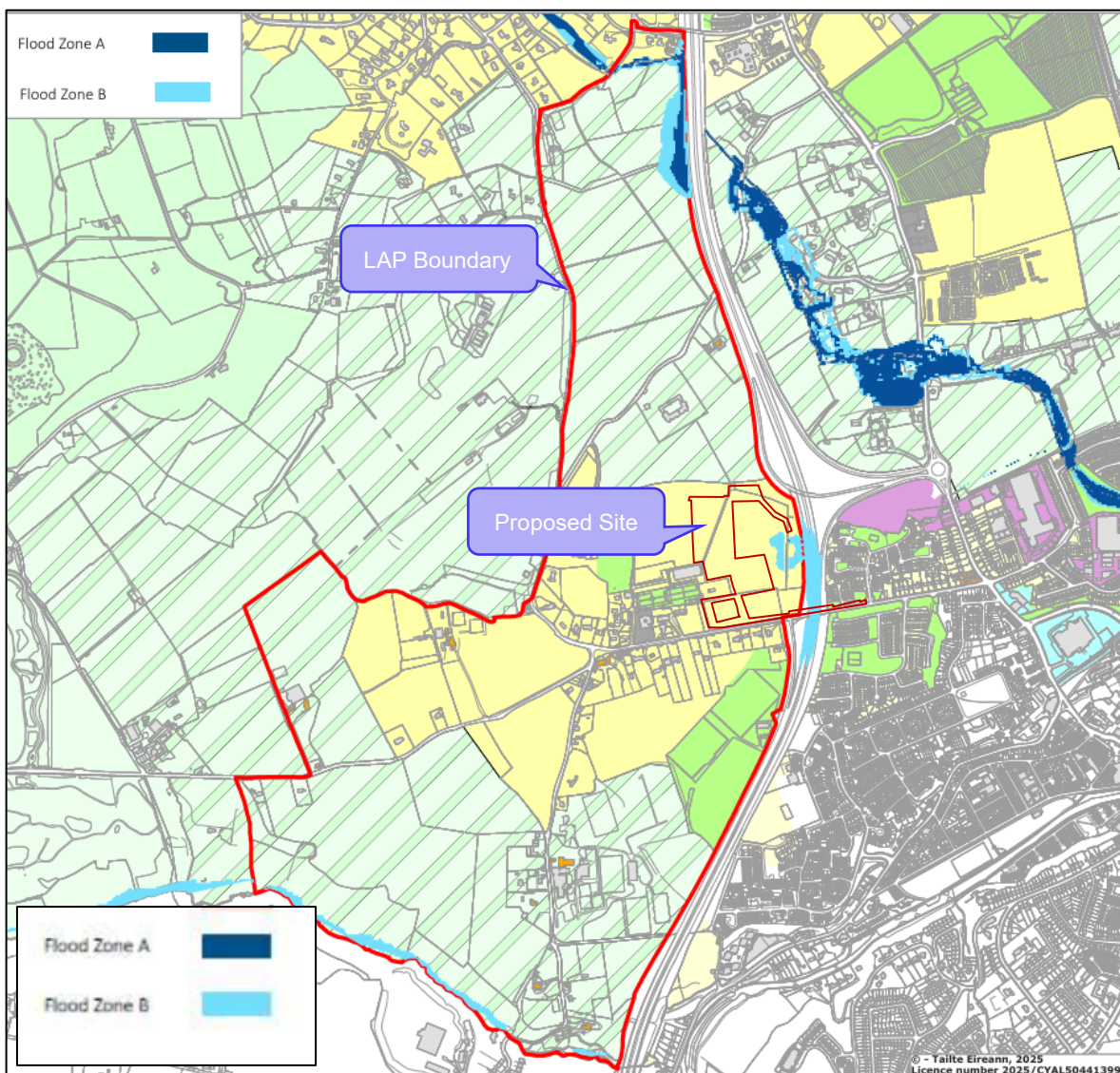


Figure 3-7 - Revised Floodmap for LAP



The LAP therefore included updated hydraulic modelling for the Old Connaught Tributary and its associated flood extents. Figure 3-8 and Figure 3-9 present the LAP SFRA flood mapping showing the updated 1% AEP (Flood Zone A) and 0.1% AEP (Flood Zone B) fluvial flood extents respectively, as well as the MRFS (+20%) and HEFS (+30%) climate-change scenarios. These flood extents follow the low-lying corridor of the Old Connaught tributary to the east of the LAP area.

When the LAP SFRA flooding extents are overlaid with the proposed development's redline boundary (shown in red), it is evident that part of the proposed site lies within the 1% and 0.1% AEP floodplains, primarily in the southern part of the proposed site, and a minor area in the East where ground levels are lowest and directly influenced by the tributary. The remainder of the development lands lie within Flood Zone C, where the probability of fluvial flooding is low.



Figure 3-8 - Extract from LAP - Mid-range Future Scenario and High-end Future Scenario in the 1% AEP Current Scenario



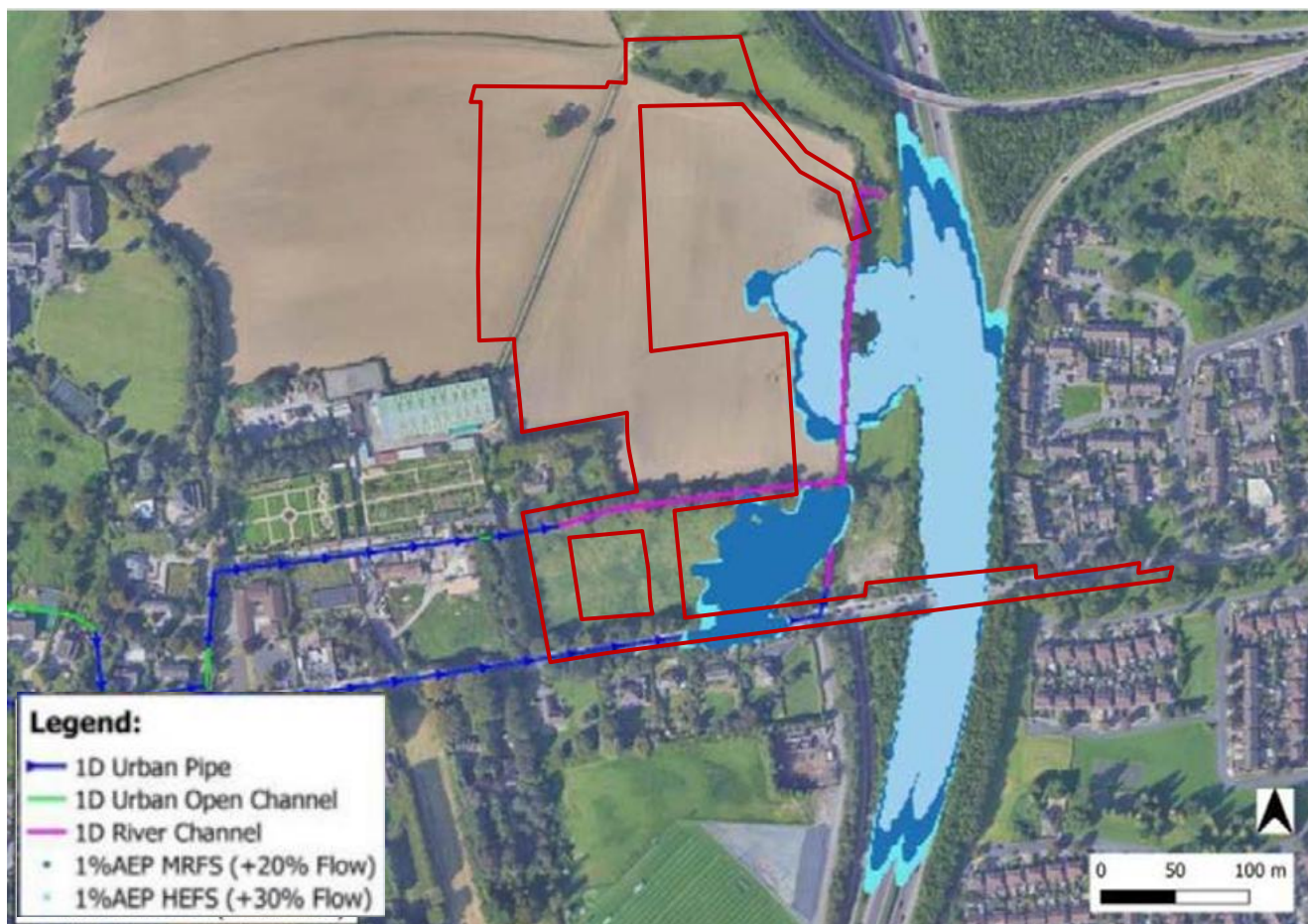


Figure 3-9 - Extract from LAP - Mid-range Future Scenario and High-end Future Scenario in the 0.1% AEP Current Scenario

3.1.7 PUNCH Consulting Engineers Flood Risk Assessment

As noted in Section 3.1.6, PUNCH Consulting Engineers completed a detailed Flood Risk Assessment (FRA) for the Old Connaught Tributary in 2024, as part of the Old Connaught LAP 2025. Revised flood maps were produced as part of the Old Connaught Tributary FRA. The FRA included desktop study, hydrological assessments, hydraulic model development and flood mapping. The revised floodmap is shown in Figure 3-7 above. DLRCC proposed that the revised mapping is to be taken forward as the Flood Zone Maps for the area. DLRCC also notes that the results of the Flood Risk Assessment have been presented to the OPW with a request for a Flood Map Review for the area.

In relation to the proposed Old Connaught development, based on the revised floodmaps (Figure 3-7 to Figure 3-9) for Old Connaught LAP area, the proposed site is located in Flood Zone C except for a small portion in the South-East as noted above.

Additionally, Punch Consulting notes that, a local landowner indicated that the area marked in Figure 3-10 below is subject to flooding after high intensity rainfall. The landowner attributes this flooding to recent damage to subsurface drainage infrastructure preventing runoff entering the Old Connaught Tributary. As part of the proposed Phase A1 development and then further phases, positive drainage will be installed to direct surface water flows to the new regional attenuation pond as outlined in the LAP.



Figure 3-10 - Pluvial Flood Risk Area Identified by Landowner

This indicates that an area in the Eastern portion of the proposed site is at risk of pluvial flooding.

3.1.8 Stormwater Impact Assessment



A Stormwater Impact Assessment was undertaken for the development site and has been submitted as part of the planning application along with the storm water audit completed by Punch Consulting Engineers

In summary, the hydraulic model developed for the site identified localised areas along the eastern boundary to be within Flood Zone A/B. To mitigate this, the proposed development has incorporated Finished Floor Levels (FFLs) ranging from **19.350mOD to 24.675mOD**, set above the 0.5% AEP Climate Change flood level with a minimum freeboard of 1.37m. These levels account for climate change, residual risk, and modelling uncertainty.

The remaining areas of the proposed development are considered to be located in Flood Zone C, and therefore do not require specific mitigation measures to manage fluvial flood risk.

Although parts of the proposed site fall within Flood Zone A and Flood Zone B, the site layout has been designed such that all residential units are located entirely within Flood Zone C, as illustrated in Figure 3-11 below.



Figure 3-11 - Site Layout Overlain on the 0.1% AEP with Current, Mid-range and High-end Future Scenarios in LAP Floodmap

Surface water drainage / attenuation systems have been incorporated into the development to manage surface water flows on site. It is recommended to set a minimum Finished Floor Level of 150mm above any external hardstanding areas to mitigate against potential failure of the surface water systems. It is also recommended to include a minimum



climate change allowance of 30% into the design of the surface water systems to mitigate against the effects of climate change. The following measures have been incorporated in the design to manage surface water flows on site.

Source Control Measures:

Source control focusses on managing runoff as close to the point of origin as possible, reducing peak runoff rate and attenuating flows, thus reducing stress on downstream facilities. Several source control measures have been proposed within the development site including:

- **Filter Drains:** Perforated pipes surrounded by granular material, installed along road edges, capturing and conveying runoff and intercepting pollutants
- **Green Roof:** Green roofs reduce run-off volumes and peak flow rates by retaining water through storage and evapotranspiration, while also improving water quality by filtering pollutants in line with the CIRIA SuDS Manual.
- **Tree Pits/Rain Gardens:** Integrated within landscaped areas and car parks to intercept and infiltrate runoff, reduce peak flows and enhance evapotranspiration.
- **Permeable Paving:** Applied to parking bays to allow rainfall to infiltrate through the surface into a sub-base material, reducing surface runoff, trapping pollutants in the sub-layers, while also promoting temporary storage.

Site Control Measures:

Site control manages runoff from larger areas and provides intermediate treatment and attenuation. Measures included in the design are as follows:

- **Planting Strips:** Landscaped areas provided along the internal road network, open spaces and buffer strips that can absorb water and release it back into the atmosphere
- **Attenuation Pond:** Strategically located within the development footprint, designed to store runoff during storm events and release it at controlled rates

Regional Control Measures:

Regional control addresses runoff at the catchment scale and ensures safe discharge to receiving water bodies. Measures included in the design are as follows:

- **Controlled Outfall to existing open drain:** Surface water will be stored in an attenuation pond before being discharged at a maximum discharge rate of 24.8l/s via a 600 pipe to the existing culvert. The precast concrete headwall will be fitted with a non-return flap valve to prevent backflow during high tides or flood events.
- **Flow Control Devices:** Such as hydrobrakes, will regulate discharge to greenfield runoff rates, ensuring compliance with Dun Laoghaire – Rathdown County Council's (DLRCC) discharge criteria.

The proposed development is deemed appropriate for the development plan zoning. For development within Flood Zones A and B, mitigation measures have been proposed to manage the ongoing risk of inundation from fluvial sources.

For more information, refer to AtkinsRéalis' Engineering Planning Report(0126446DG0013) and Stormwater Impact Assessment Report (0126446DG0009) associated with this application



3.1.9 Stage 2 Initial Flood Risk Assessment

A Flood risk assessment (FRA) has been undertaken for the site to satisfy the requirements of the Planning System and Flood Risk Management Guidelines. The report Aimed at scoping source of flooding, assessing whether any significant flood risk issues exist and proposing appropriate flood risk management measures as required, The Stage 1 Flood Risk Identification identified areas potentially affected by fluvial flood risk. A Stage 2 Initial Flood Risk Assessment was undertaken using the available flood mapping and the proposed development layout. In relation to the proposed Old Connaught development, the findings are :

- The eastern boundary of the proposed site is located within Flood Zone A and B and is at a high risk of flooding (i.e. greater than 1 in 100 year / 1% AEP). A historic flood event (ID2030 – Old Connaught Avenue) has been identified C.200M West of the proposed site.
- The old Connaught LAP SFRA hydraulic model clearly shows part of the proposed site boundary is located in the 1% AEP (Flood Zone A) and 0.1% AEP (Flood Zone B) predicted flood extents.
- The DLR county development Plan 2022-2028 Flood Zone Map similarly shows Flood Zone A and B extending into the eastern and southern lower – lying portion of the site, with the remainder of the proposed site located in Flood Zone C.
- Site levels range broadly from C.24.9 mOD (high ground) to C. 16.3 mOD (low ground). The areas of lowest elevation correspond to those overlapping the mapped flood extents and therefore align with the identified risk.

Based on these findings, a Stage 2 Initial Flood Risk Assessment has been completed using available flood mapping and development layout information. The assessment confirms that the proposed residential development is located within Flood Zone C and that flood risk has been appropriately managed through the site design.

3.1.10 Exceedance Flows

Surface water exceedance flows from the site have been considered as part of the drainage design. A modelling exercise was carried out with a 50% blockage within the vortex Flow control units at all 3 attenuation locations.

The table below outlines the Catchments and vortex flow control that had restriction applied. There was no flooding in the 1 in 100 year 360 minute event. However there was flooding in the 1 in 30 year 1440 minute event.

Table 3-2 - Blockage Analysis - Phase A1

Catchment	Vortex Flow Control Restriction	Storm Event	Maximum Flood Volume
Catchment 1A	50%	1 in 30-year 1440-minute event + (30% CC)	No Flooding
Catchment 1B	50%	1 in 30-year 1440-minute event + (30% CC)	No Flooding

Catchment 1A

A review of the hydraulic model outputs confirms that **no flooding occurs during either the 1 in 30-year or the 1 in 100-year storm events**, demonstrating that the proposed drainage system has sufficient capacity to manage the design storm events. An assessment of the site levels indicates that, in the unlikely event of a blockage occurring within the vortex flow control, any exceedance flows would follow natural overland flow routes towards the **north, west and east** of the site. To further manage exceedance flows, **dropped kerbs are provided at regular intervals**



along the road network, allowing surface water to discharge safely into adjacent green spaces and reducing the risk of flooding to developed areas. The indicative exceedance flow routes are shown in **Image 8.1** below..

Catchment 1B

A review of the hydraulic model outputs indicates that **no flooding occurs during either the 1 in 30-year or the 1 in 100-year storm events**. An assessment of the site levels further demonstrates that, in the unlikely event of flooding arising from factors outside the design assumptions, such as a blockage of the vortex flow control caused by inadequate maintenance or pipework clogging, any exceedance flows would be directed along a defined overland flow route towards the eastern side of the site. The indicative exceedance flow path is shown in **Image 8.1** below.

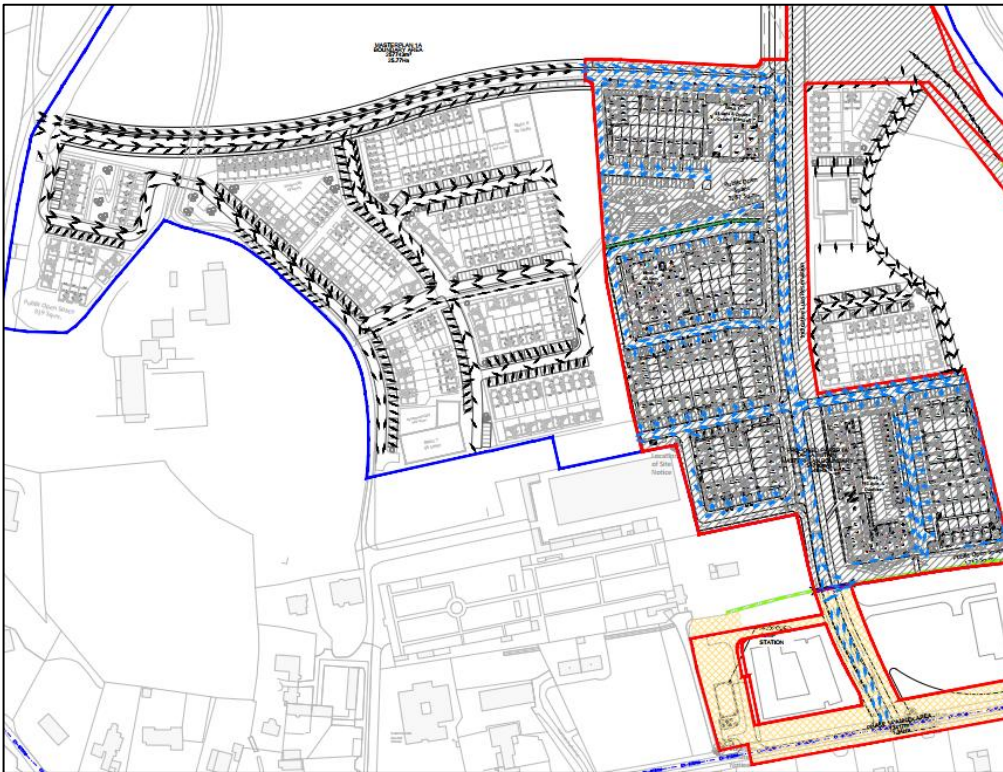


Figure 3-12 - Overland Flow Path

3.2 Stage 2 Assessment and Sequential Approach

The findings of the Stage 1 Flood Risk Identification confirmed the presence of fluvial flood risk associated with the Old Connaught Tributary within limited areas of the site. Consequently, a Stage 2 Initial Flood Risk Assessment has been undertaken using available OPW flood mapping, the DLR County Development Plan SFRA, and the Old Connaught LAP SFRA.

The assessment confirms that while limited portions of the development lands are located within Flood Zones A and B, the proposed residential units, creche facility and all vulnerable land uses have been located within Flood Zone C.

The site layout has been developed in accordance with the Sequential Approach outlined in The Planning System and Flood Risk Management Guidelines for Planning Authorities (2009), whereby the highest vulnerability uses have been directed towards areas of lowest flood risk.

- Areas located within Flood Zones A and B are generally restricted to open space, drainage infrastructure, road infrastructure and utility crossings.
- Finished Floor Levels have been established above the flood extents.
- The assessment demonstrates that the proposed development will not increase flood risk elsewhere, will not obstruct flood flows, and can be developed and operated safely for its intended lifetime.



4. Conclusion and Recommendations

4.1 Conclusion of Flood Risk Assessment

The purpose of the Stage 1 Flood risk identification process is to establish whether a flood risk issue currently exists or may exist in the future. If a potential flood risk issue is identified the risk will be investigated in further detail by undertaking a Stage 2 – Initial flood risk assessment. However, if no potential flood risk is identified then the overall assessment can conclude at this point.

For this report a Stage 1 Flood Risk Identification and Stage 2 Initial Flood Risk Assessment have been undertaken in accordance with The Planning System and Flood Risk Management Guidelines for Planning Authorities. The assessment identified fluvial flood risk associated with the Old Connaught Tributary affecting limited portions of the site, principally along the southern and eastern boundaries.

A review of the OPW Flood Maps, DLR County Development Plan SFRA and Old Connaught LAP SFRA indicates that the majority of the site is located within Flood Zone C, with only limited encroachment of Flood Zones A and B into peripheral areas of the development lands.

Application of the Sequential Approach has informed the site layout and all residential dwellings, apartment buildings and other highly vulnerable development have been located within Flood Zone C. Limited infrastructure elements including sections of road and buried utilities occur within Flood Zones A and B; however, these elements will not impede flood flows or increase flood risk elsewhere.

The development incorporates surface water management measures, exceedance flow routing, climate change allowances and finish floor levels outside the extents of flood zones. The proposed development can therefore be developed safely without giving rise to unacceptable flood risk to people, property or the surrounding environment.

The Stage 2 Initial Flood Risk Assessment has demonstrated that the proposed development is compatible with the identified flood risk constraints and that vulnerable development has been directed towards Flood Zone C in accordance with the Planning System and Flood Risk Management Guidelines. No further flood risk assessment is considered necessary to support this planning application.



4.2 Recommendation

The following recommendations should be considered.

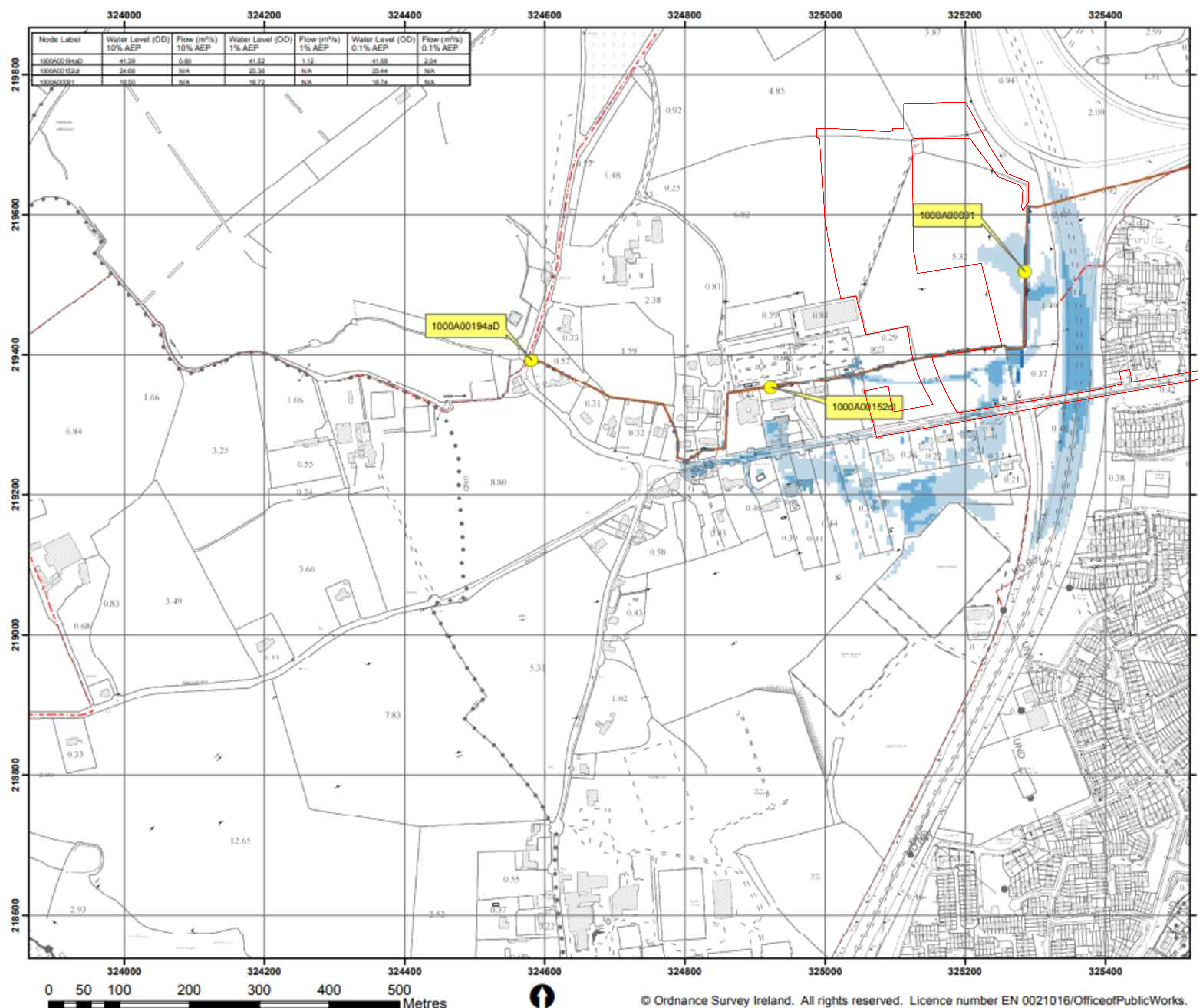
- The proposed discharge for the storm-water outfall to the existing storm ditch should be set at a maximum discharge rate of QBAR or 2 l/s/ha, whichever is the greater as per the 'Greater Dublin Strategic Drainage Study Volume 2 - New Developments' guidelines and to be agreed with DLRCC prior to planning.
- Suitable Sustainable Urban Drainage systems (SuDS) are to be used within the proposed development to reduce surface water runoff from the site where feasible and designed in accordance with CIRIA report C753 'The SuDS Manual V-6'. Refer to AtkinsRealis Stormwater Impact Assessment Report (0126446DG0009) for Storm Water drainage design including integrated SuDS and Regional Pond.
- A Storm Water Impact Assessment Audit is to be carried out prior to the final planning submission in accordance with DLRCC Development plan requirements. It is noted that this was completed in July 2026 prior to the planning submission.
- Road infrastructure within Flood Zone A and B to be designed to match existing ground level with mitigations measures in place to ensure flood flows are not impeded. Drop kerbs to be provided at locations of flood zoning or flow paths.
- Implement temporary silt-control, sediment-management and phased SuDS installation during construction to protect local watercourses. All measures should follow best practice as set out in the CIRIA SuDS Manual.
- The proposed road infrastructure ties into the existing Old Connaught Avenue in the South, which is located in Flood Zone A and Flood Zone B is to be designed to match existing ground level with mitigations measures in place to ensure flood flows are not impeded. It is recommended that dropped kerbs along Old Connaught Avenue in the existing road to route any flood away from the proposed development.
- Contractor to be made aware of potential areas of flooding at construction stage to allow for inclusion / planning within the construction management plan.



APPENDICES

Appendix A. OPW Floodmaps





Node Label	Water Level (OD) 10% AEP	Flow (m³/s) 10% AEP	Water Level (OD) 1% AEP	Flow (m³/s) 1% AEP	Water Level (OD) 0.1% AEP	Flow (m³/s) 0.1% AEP
1000A00194aD	41.20	0.90	41.52	1.12	41.66	2.04
1000A00152aJ	24.66	N/A	25.36	N/A	25.44	N/A
1000A00091	18.50	N/A	18.72	N/A	18.74	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
 - Node Point
 - Node ID
 - Node Label

FINAL

REV.	NOTE	DATE
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The Office of Public Works
Jonathan Swift Street
Tins
Co. Meath

Elmwood House
14 Boucher Road
Belfast
BT12 6PZ

T +44(0) 28 95 667914
F +44(0) 28 95 668286
W www.rpsgroup.com
E ireland@rpsgroup.com

Map: Old Connaught & Wilford Fluvial Flood Extents	
Map Type:	EXTENT
Source:	FLUVIAL
Map Area:	HPW
Scenario:	CURRENT
Drawn By:	F.M.C. Date: 27 July 2016
Checked By:	J.C. Date: 27 July 2016
Approved By:	G.G. Date: 27 July 2016
Drawing No.:	E10OLD_EXFCD_F0_03
Map Series:	Page 3 of 3
Drawing Scale:	1:5,000 @ A3

Appendix B. DLR CDP SFRA Floodmap



Mapping Notes

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

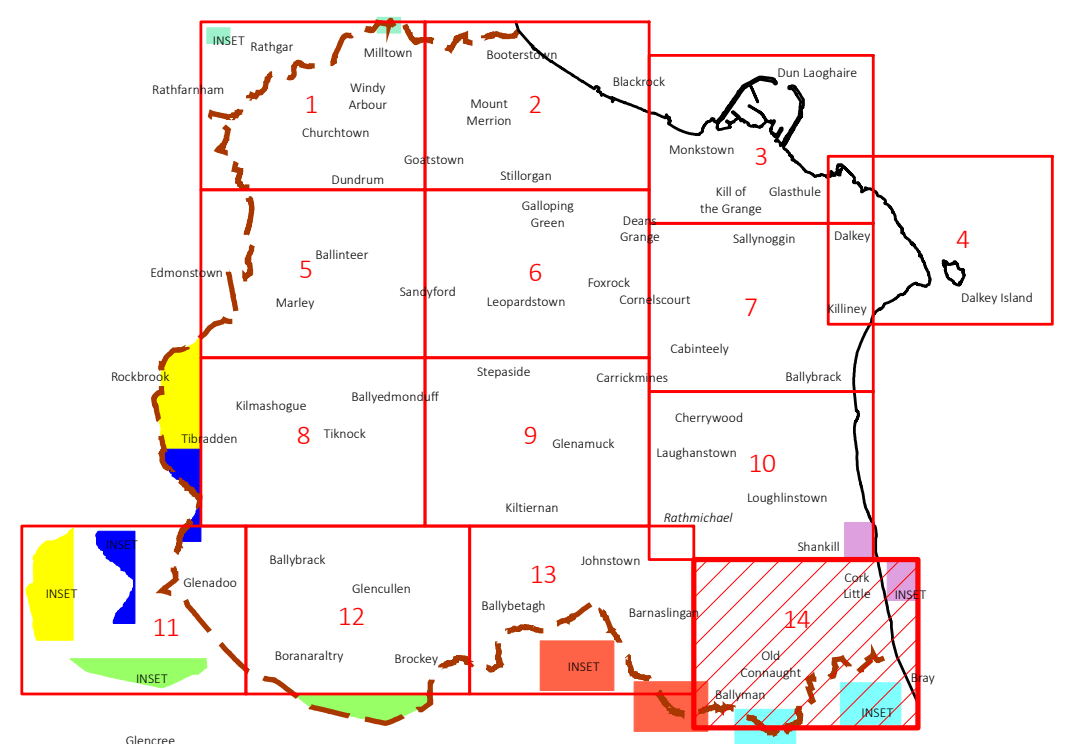
Flood Zone Map

COMHAIRLE CHONTAE DHÚN LAOGHAIRE-RÁTH AN DÚIN

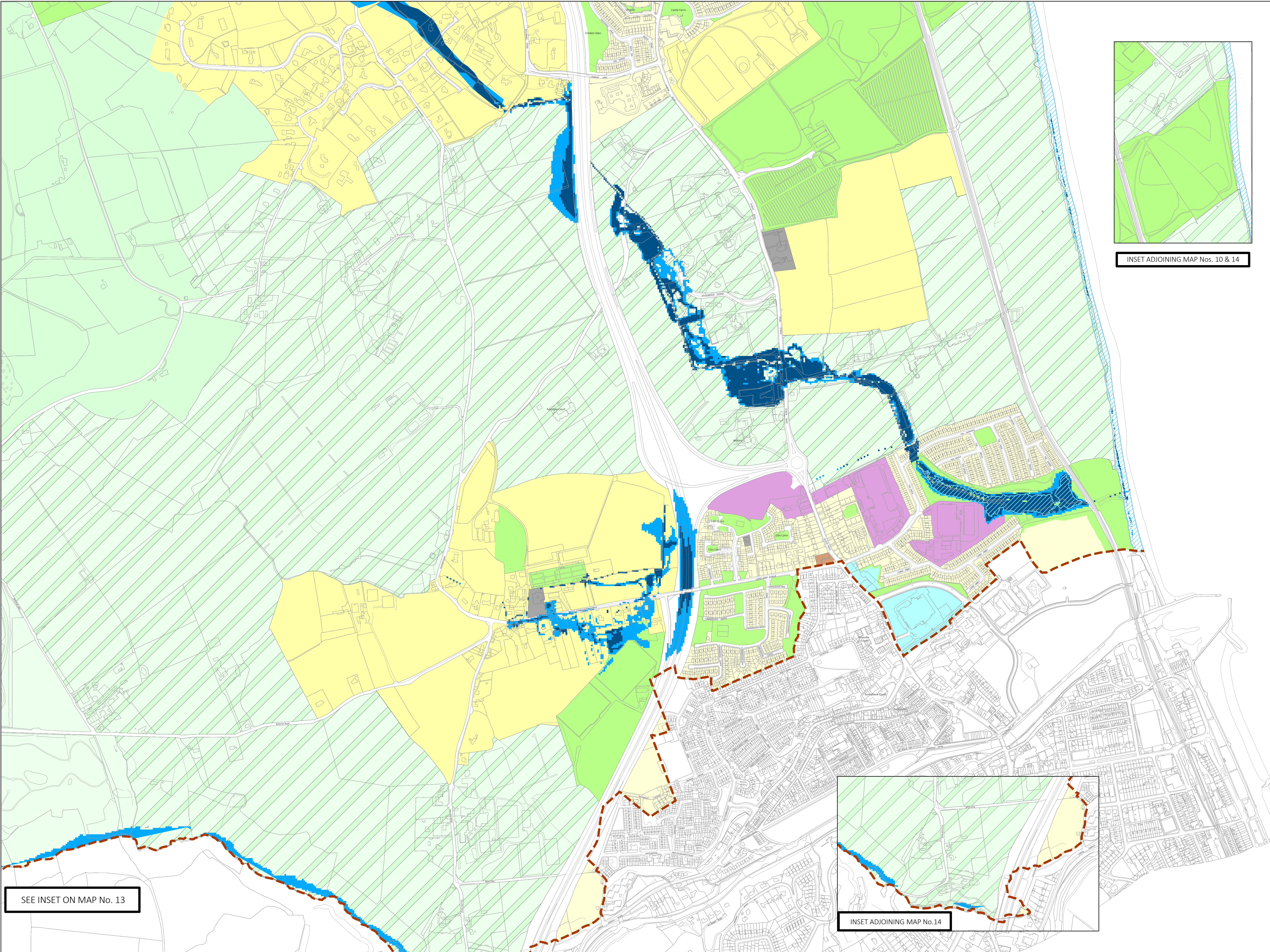
DÚN LAOGHAIRE-RATHDOWN COUNTY COUNCIL

COUNTY DEVELOPMENT PLAN 2022-2028

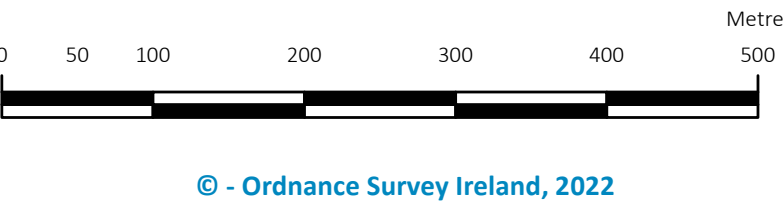
Adopted March 2022



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 TLJ	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	F
Pluvial - Surface Water	P
Pluvial - Foul	P
Flood Zone A	A
Flood Zone B	B
Wave Overtopping	W
County Boundary	C



Director of Planning: M Henchy
Senior Planner: L McGauran

AtkinsRéalis



Indhu Priya Rajavadivelu
AtkinsRéalis Ireland Limited
150-155 Airside Business Park
Swords
Co. Dublin
K67 K5W4

Tel: +353 1 810 8000

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