

# Proposed Residential Development in Stoney Hill Road, Rathcoole, Co. Dublin.

Strategic Flood Risk Assessment

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August 2022

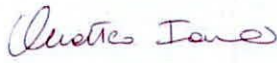
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**Prepared by**



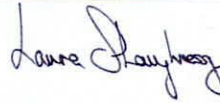
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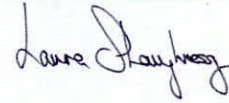
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### Revision History

Revision	Revision date	Details	Authorized	Name	Position
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# 1. Introduction

## 1.1 Background

AECOM have been appointed by Romeville Developments Limited to undertake a Flood Risk Assessment (FRA) for the proposed residential development in Rathcoole, Co. Dublin.

The FRA has been carried out in support of a planning application for the proposed development that will be submitted to An Bord Pleanála and in full compliance with the requirements of "The Planning System & Flood Risk Management Guidelines for Planning Authorities" published by the Department of the Environment in November 2009, and in particular the requirements of a site-specific Flood Risk Assessment as outlined in Appendix A of the Technical Appendices to those guidelines.

The following documents have been reviewed in order to prepare this report:

- The Planning System and Flood Risk Management Guidelines for Planning Authorities;
- Strategic Flood Risk Assessment South Dublin County Development Plan.

## 1.2 Introduction

AECOM Ireland have been appointed by to undertake the infrastructure design in support of a planning application to South Dublin County Council (SDCC) for a proposed residential development at Stoney Hill Road, Rathcoole, Co. Dublin.

The Phase 1 development will consist of constructing 42 residential dwellings with a red line boundary area of the site being 2.9 ha. The site area will be a residential development located to the east of Stoney Hill Road. The development red line boundary area also includes part of Stoney Hill Road and the roadway at the eastern side of Rathcoole Park. Refer to Figure 1.1 for location of proposed development.



Figure 1.1: Site Location (Screenshot taken from Google Maps)

### 1.3 Development Description

Romeville Developments Limited, intend to apply for planning permission at a site of circa 2.9 hectares at Stoney Hill Road, Rathcoole, County Dublin. The site is located to the east of Stoney Hill Road and includes part of Stoney Hill Road.

The proposed development comprises of the demolition of 1 no. residential property and 1 no. ancillary outbuilding and will consist of the construction of a residential development of 42 no. 3 bedroom dwellings in a mix of terraced and semi-detached units. The proposed dwellings will comprise of 2 no. typologies (Typology F and Typology L). Typology F will comprise of 21 no. dwellings and Typology L will comprise of 21 no. dwellings. Typology L are two storey and typology F are two storey, plus second floor loft accommodation with front dormer windows. The total proposed residential development gross floorspace is circa: 5,622 sqm.

The proposed development also includes 84 no. in curtilage surface car parking spaces, circa 3,281 sq.m public open spaces in an eastern park and a western park, (including proposed play equipment), an additional large parkland to the south of the site of circa 11,797 sq.m comprising the first phase of a linear park, private domestic gardens, a new vehicular, pedestrian and cycle entrance from Stoney Hill Road, an internal road network, including footpaths / cycleways, 3 no. refuse/bin stores, public lighting, landscaping, boundary treatments, drainage and engineering works and all other associated and ancillary development / works.

## 2. SDCC Initial Flood Risk Assessment

The Strategic Flood Risk Assessment (SFRA), which was prepared to accompany the South Dublin County Council (SDCC) Development 2016-2022, assess all the types of flood risk within the SDCC County jurisdiction area, identifying principal rivers and sources of flooding, producing flood maps, assessing potential impacts of climate change, and identifying the location of any flood risk management infrastructure.

As part of the SFRA, a Flood Zone Map has been prepared for the Rathcoole area. Figure 2.1 below is an extract of the Flood Map.

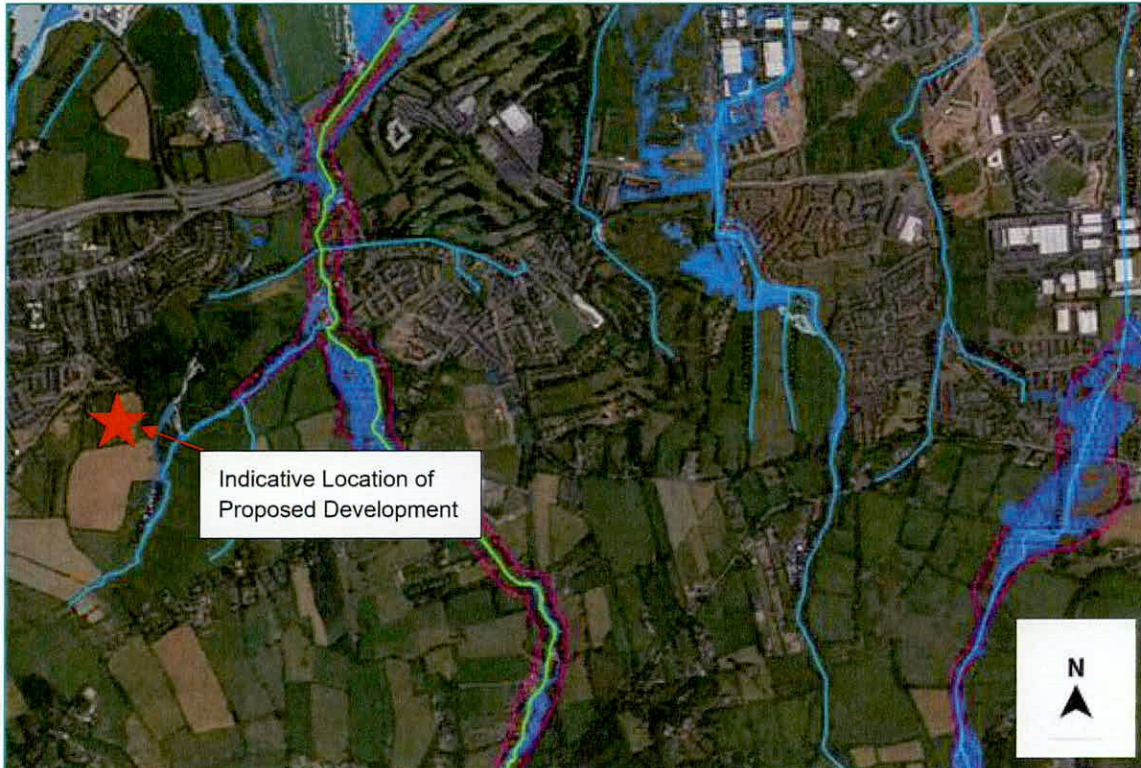


Figure 2.1: Extract of the Flood Map prepared for the Rathcoole Area

As shown in the image above, the location of the proposed development is outside the identified flood risk area.

### 3. The Planning System and Flood Risk Management Guidelines

In September 2008 "The Planning System and Flood Risk Management Guidelines for Planning Authorities" (Guidelines) were published by the Department of Environment, Heritage and Local Government in Draft format. In November 2009, the adopted version of the document was published.

The Guidelines provide guidance on flood risk and development. A precautionary approach is recommended when considering flood risk management in the planning system. The core principle of the guidelines is to adopt a risk based sequential approach to managing flood risk and to avoid development in areas that are at risk. The sequential approach is based on the identification of flood zones for river and coastal flooding.

The objective of a site-specific Flood Risk Assessment (FRA) is to assess all types of flood risk to a development. The assessment should investigate potential sources of flood risk and include for the effects of climate change. The assessment is required to examine the impact of the development and the effectiveness of flood mitigation and management procedures proposed. It should also present the residual risks that remain after those measures are put in place.

This approach is based on the identification of flood zones for river and coastal flooding. "Flood Zones" are geographical areas used to identify areas at various levels of flood risk. It should be noted that these do not consider the presence of flood defences, as the risks remain of overtopping and breach of the defences. There are three flood zones defined (refer to Figure 3.1):

**Flood Zone A** (high probability of flooding) is for lands where the probability of flooding is greatest (greater than 1% or 1 in 100 for river flooding and 0.5% or 1 in 200 for coastal flooding).

**Flood Zone B** (moderate probability of flooding) refers to lands where the probability of flooding is moderate (between 0.1% or 1 in 1,000 and 1% or 1 in 100 for river flooding and between 0.1% or 1 in 1000 and 0.5% or 1 in 200 for coastal flooding).

**Flood Zone C** (low probability of flooding) refers to lands where the probability of flooding is low (less than 0.1% or 1 in 1000 for both river and coastal flooding).



Figure 3.1: Indicative Flood Zone Map (Extract from the 2009 Guidelines, Figure 2.3)

Once a flood zone has been identified, the guidelines set out the different types of development appropriate to each zone. Exceptions to the restriction of development due to potential flood risks are provided for through the use of the Justification Test, where the planning need and the sustainable management of flood risk to an acceptable level must be demonstrated. This recognises that there will be a need for future development in existing towns and urban centres that lie within flood risk zones, and that the avoidance of all future development in these areas would be unsustainable.



The Guidelines set out a stage approach to assessment. The stages of assessment are:

**Flood Risk Identification (Stage 1)** – Identification of any issues relating to the site that will require further investigation through a Flood Risk Assessment.

**Initial Flood Risk Assessment (Stage 2)** – Involves establishment of the sources of flooding, the extent of the flood risk, potential impacts of the development and possible mitigation measures.

**Detailed Flood Risk Assessment (Stage 3)** – Assess flood risk issues in sufficient detail to provide quantitative appraisal of potential flood risk to the development, impacts on flooding elsewhere and the effectiveness of any proposed mitigation measures.

This report addresses the requirements of a Stage 1 and 2 Site Specific Flood Risk Assessment.

The potential risk to the proposed development associated with each of the following sources of flooding is investigated in this report are as follows:

- Coastal
- Fluvial
- Pluvial
- Groundwater

## 4. Flood Risk Identification

The proposed development is located approximately 17.3km west of the Irish Sea near Ringsend, Co. Dublin. The Coolmine Stream flows in a north easterly direction and is located approximately 332m east of the proposed site.

### 4.1 History of Flood

As part of the overall exercise to establish the potential flood risk to the development site, AECOM carried out a review of available and recorded information on flooding in the area. The following sources were consulted as part of the review:

- Historic Flood Records (OPW and OSi)
- Wicklow Development Plan
- Geological Ground Conditions (GSI)
- Eastern CFRAM Study
- All relevant available information on existing soil conditions and topography.

#### 4.1.1 OPW Past Flood Events

The Office of Public Works (OPW) collates available reports of flooding from all sources (e.g., fluvial, pluvial, coastal, etc.) on a nationwide basis. The OPW's website ([www.floodmaps.ie](http://www.floodmaps.ie)) was consulted to obtain reports of recorded flooding within and surrounding the site. Figure 4.1 is an extract from the mapping available on the OPW database website, which indicates there are historic records of flooding in the vicinity of the site.



Figure 4.1: Recorded Historical Flood Events in Proximity of Subject Site (Source: OPW Flood Maps)

The first single-event (approximately 775m from the proposed site) occurred due to 'Overland flows passed through Mill Race Development lands and built up behind a masonry wall. The wall collapsed and flows dispersed through properties across Mill Road'.

The single-event (approximately 1.33km from the proposed site) occurred due to 'source of the flood waters was the River Camac. The culvert under Mill Road was overwhelmed due to a blockage in the channel. Water flowed through private property and collected at the Avoca roundabout'.

The recurring event (approximately 762m northwest from the proposed site) occurred due to 'heavy rainfall and high winds caused much local flooding. Block gullies caused by falling leaves required emergency action by the Council. Roads worst affected by surface water flooding included College Lane, Greenogue Industrial Estate, Aylmer Road and further on towards Castlebaggot'.

## 4.2 Eastern CFRAM Predictive Flood Risk Mapping

The Eastern Catchment Flood Risk Assessment and Management (CFRAM) study commenced in the eastern district in June 2011 through to the end of 2016. The study is focusing in the areas known to have experienced flooding in the past and areas that may be subject to flooding in the future, either due to development pressures or climate change.

### 4.2.1 Coastal Flood Risk

Coastal flooding results from sea levels which are higher than normal and result in sea water overflowing onto the land. Coastal flooding is influenced by the following three factors which often work in combination: high tide level, storm surges and wave action.

AECOM have reviewed the CFRAM Flood Maps available and noted that no detailed Coastal Flooding maps were developed as part of the Areas for Further Assessment for the area that would comprise the subject site. The proposed development is located approximately 17.3km west of the Dublin Coast.

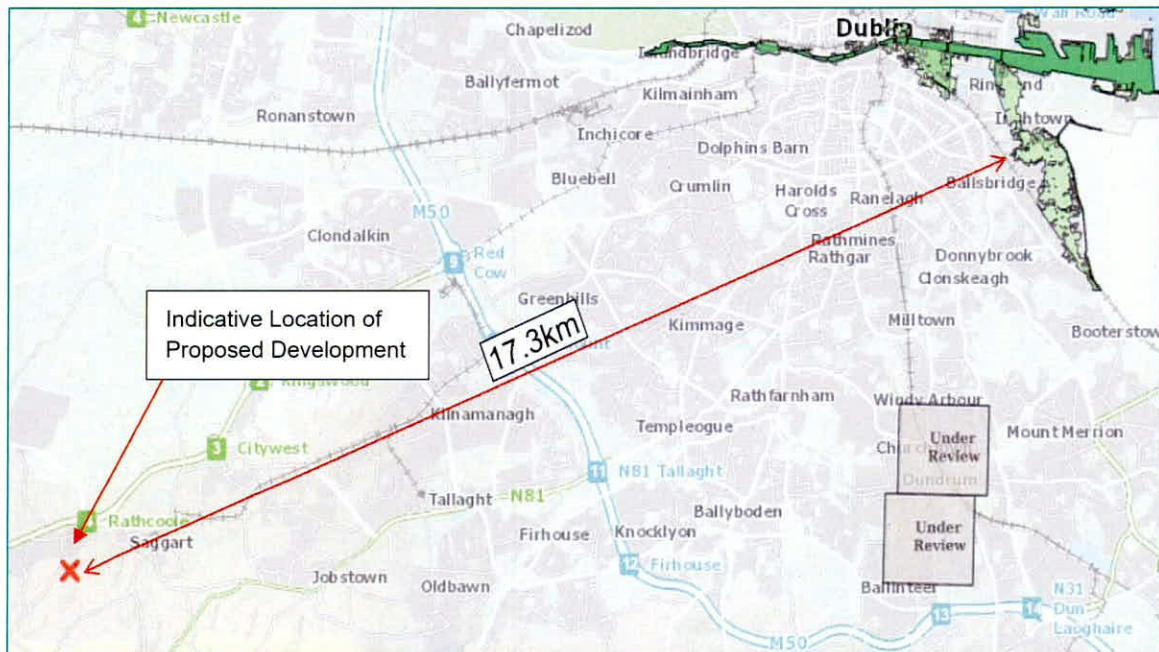


Figure 4.2: Extent of Coastal Flood Risk for the Estimated Future Scenarios

Based on the Mid-Range Future Scenario and the High-End Future Scenario, there is no significant risk of coastal flooding to the site of the proposed development.

### 4.2.2 Fluvial Flood Risk

Fluvial flooding is the result of a river exceeding its capacity and excess of water spilling out onto the adjacent floodplain.

The CFRAM mapping, available on floodinfo.ie, (refer to displays the flood extent of the Coolmine Stream for different fluvial events. The Coolmine Stream is located approximately 332m east of the proposed site, refer to Figure 4.3 below. The site is within Flood Zone C.

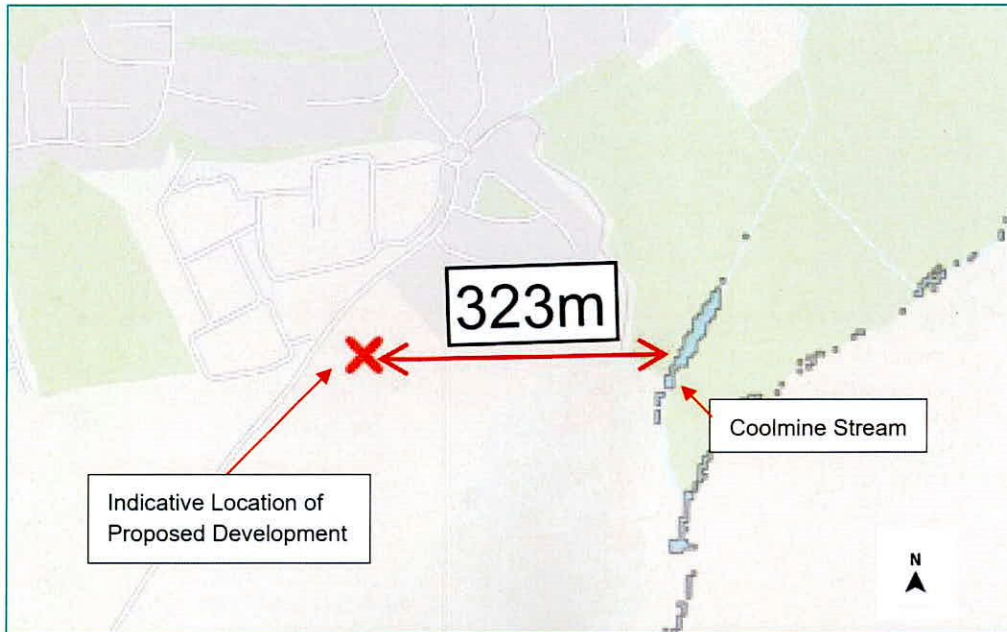


Figure 4.3: Distance of Coolmine Stream to the Proposed Site

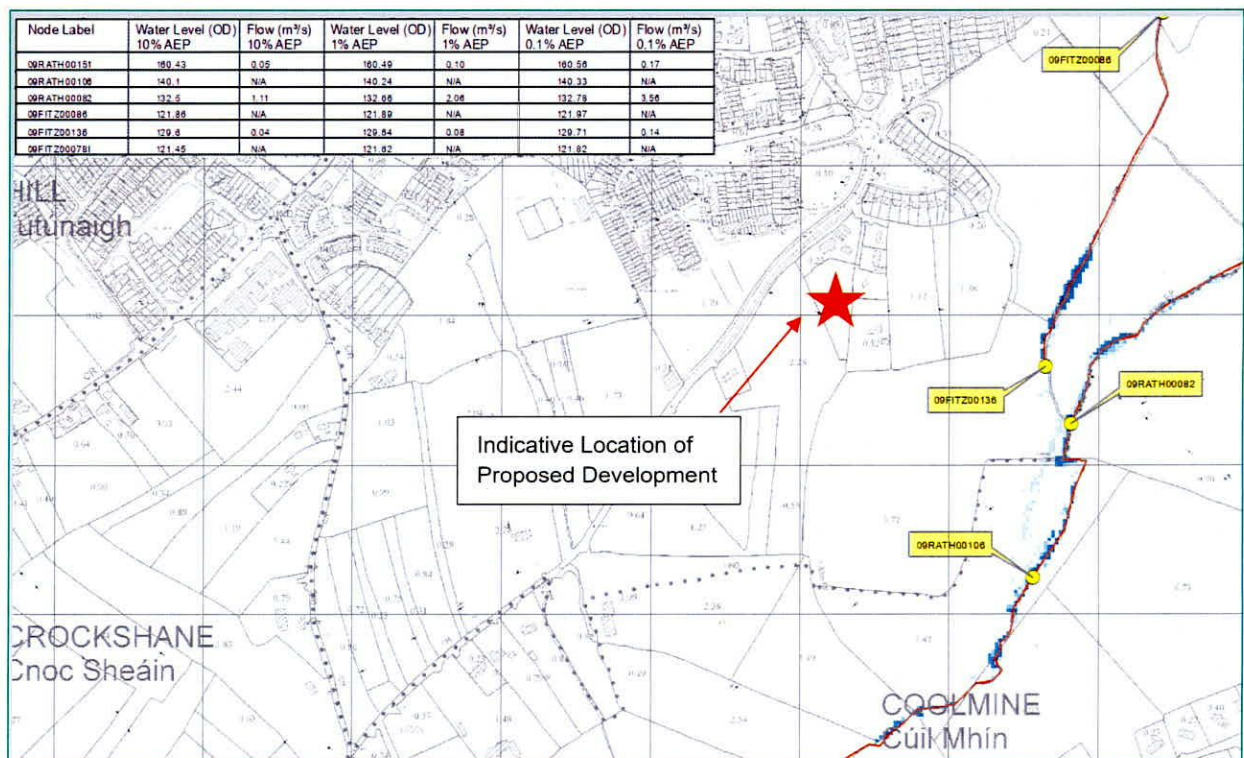


Figure 4.4: Extract of CFRAM Fluvial Map for the Subject Area (Tile 4)

The highest predicted 1 in 1000 year (0.1% AEP) return period water level is 129.71m for Node 09FITZ00136; the lowest proposed level on site in this location is 130.00m, which is higher than the predicted water level.

Based on the CFRAM Fluvial Flood Maps, there is no significant risk of fluvial flooding to the site of the proposed development. Please refer to Appendix C for the full map.

### 4.2.3 Pluvial Flood Risk

Pluvial Flooding is the result of rainfall-generated overland flows which arise before run-off can enter any watercourse or sewer. It is usually associated with high intensity rainfall and typically occurs in the summer months.

The CFRAM maps did not develop a study for the subject area, showing only the Dublin City area (refer to Figure 4.5 below). However, in accordance with the Planning System and Flood Risk Management Guidelines for Planning Authorities, the drainage network has been designed in order to carefully manage the surface water runoff from significant rainfall events.

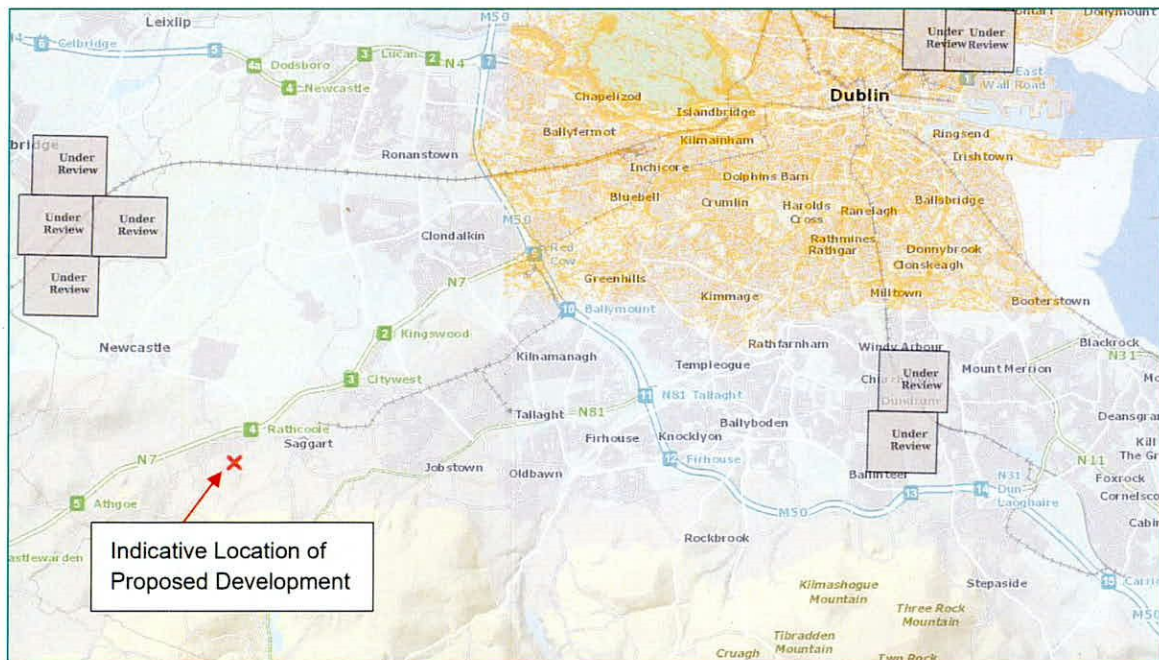


Figure 4.5: CFRAM Pluvial Risk Map (extract from floodinfo.ie, Site marked by red 'x')

The proposed surface water drainage network has been designed to cater for storm water runoff from impermeable areas, within the proposed development, in accordance with the Greater Dublin Strategic Drainage Study (GSDSDS) and will provide attenuation for the 1 in 100-year event plus 20% climate change allowance. A series of SuDS systems (i.e., permeable paving, filter drains, porous asphalt, tree pits, petrol interceptor, pond, grasscrete and rainwater butts) will provide a “Management Train” (Interception and Treatment) on site.

### 4.3 Vulnerability

Table 3.1 of The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009, provides a classification of vulnerability of different types of development. Figure 3.5 is taken from the 2009 Guidelines (Table 3.1) and sets out the Vulnerability Classifications of different types of land uses. Figure 3.6 (Table 3.2 of the 2009 Guidelines) describes the vulnerability of developments relative to the identified Flood Zone and when the requirements of the Justification Test must be satisfied.

The proposed development is a residential development. The houses and road infrastructure would fall under the “Highly vulnerable development” class due to the development being “Dwelling houses”. However, the site layout has been developed in a way that all houses and road infrastructure fall outside the flood zone.

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>

Figure 4.6: Description of Highly Vulnerable Development Types (Table 3.1 taken from the 2009 Guidelines)

	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

Table 3.2: Matrix of vulnerability versus flood zone to illustrate appropriate development and that required to meet the Justification Test.

Figure 4.7: Matrix of Vulnerability (Table 3.2 taken from the 2009 Guidelines)

### 4.3.1 Groundwater Vulnerability

The Groundwater Vulnerability map ([Groundwater Data Viewer](#)) shows land areas where groundwater can be easily contaminated. It also shows areas where it is very well protected by the natural subsoil layers.

If geologists find features in the landscape like sinkholes or sinking streams ('karst' features), these are specially outlined as being extremely vulnerable. Where the water table is close to the surface in sand and gravel aquifers, groundwater vulnerability is also extremely vulnerable. Four groundwater vulnerability categories are defined by the DELG/EPA/GSI (1999):

- Extreme (E)
- High (H)
- Moderate (M)
- Low (L)

The vulnerability follows the Vulnerability Mapping Criteria:

Depth to rock	Hydrogeological Requirements for Vulnerability Categories				
	Diffuse recharge			Point Recharge	Unsaturated Zone
	high permeability (sand/gravel)	Moderate permeability (sandy subsoil)	low permeability (clayey subsoil, clay, peat)	(swallow holes, losing streams)	(sand & gravel aquifers only)
0-3 m	Extreme	Extreme	Extreme	Extreme (30 m radius)	Extreme
3-5 m	High	High	High	N/A	High
5-10 m	High	High	Moderate	N/A	High
>10 m	High	Moderate	Low	N/A	High

i N/A = not applicable  
 ii Release point of contaminants is assumed to be 1-2 m below ground surface  
 iii Permeability classifications relate to the engineering behaviour as described by BS5930.  
 iv Outcrop and shallow subsoil (i.e. generally <1.0 m) areas are shown as a sub-category of extreme vulnerability.  
 (amended from Deakin and Daly (1999) and DELG/EPA/GSI (1999))

Figure 4.8: Vulnerability Mapping Criteria (DELG/EPA/GSI 1999)

In relation to the subject site (shown in Figure 4.9), it is deemed that the site is classified as class 'High', therefore the risk of groundwater vulnerability is considered 'High'.

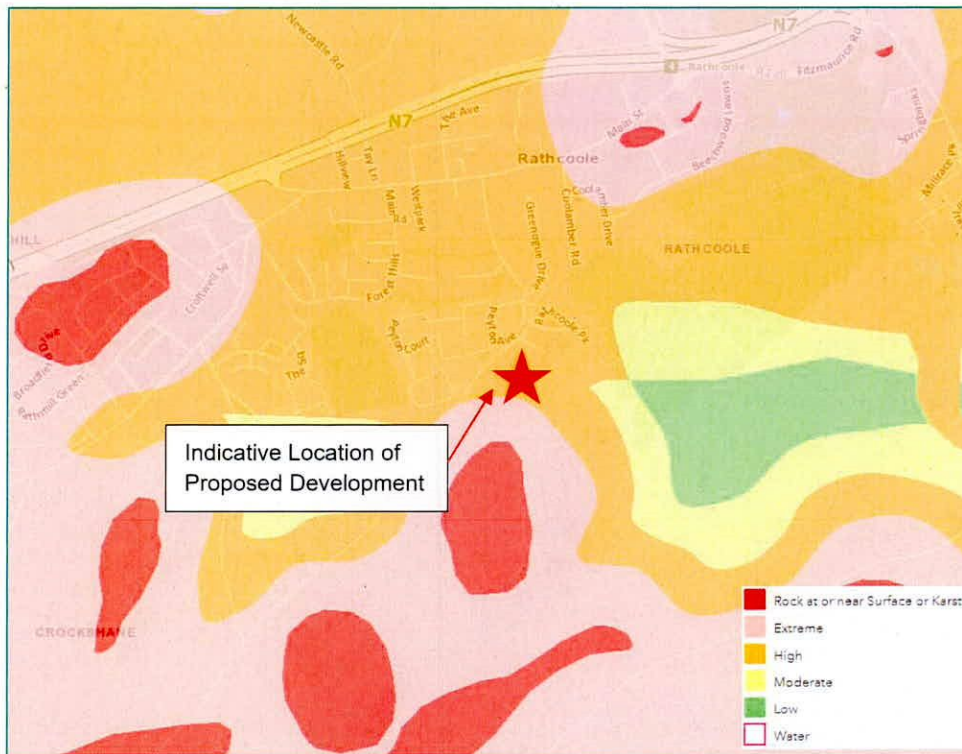


Figure 4.9: Groundwater Vulnerability within the Vicinity of the Site (GSI Online Mapping).

AECOM have also reviewed the mapping for the subsoil permeability within the site and Figure 4.10 is an extract from the GSI mapping for the proposed development. The subject site presents 'Moderate' class for subsoil permeability.



Figure 4.10: Subsoil Permeability within the Vicinity of the Site (GSI Online Mapping)



## 5. Flood Risk Assessment

### 5.1 Potential Sources of Flooding

Based on the review of the historical data and existing flood studies, the potential sources of flooding at the proposed development site are the following:

- Coastal Flood Risk
- Fluvial Flood Risk
- Pluvial Flood Risk
- Groundwater Flood Risk

### 5.2 Coastal Flood Risk

Coastal flooding occurs when sea levels along the coast or in estuaries exceed neighbouring land levels, or overcome coastal defences where these exist, or when waves overtop over the coast.

Online mapping published as part of the OPW CFRAM Study is used to evaluate the coastal flood risk to the proposed development. The site is approximately 17.3km from the Dublin coast. From a review of this mapping, it is concluded that the site is located within Flood Zone C.

### 5.3 Fluvial Flooding Risk

Fluvial flooding is the result of a river exceeding its capacity and excess water spilling out on to the adjacent floodplain. Mapping published as part of the OPW CFRAM Study is used to evaluate the fluvial flood risk to the proposed development. From a review of this mapping, it is concluded that the site is located within Flood Zone C. The site is located approximately 332m from the Coolmine Stream.

### 5.4 Pluvial Flood Risk

Pluvial flooding is the result of rainfall generated overland flows which arise before runoff can enter any watercourse or sewer. However, as mentioned previously only a single event has been recorded

The CFRAM maps suggest that there has been no study conducted for pluvial flooding for the subject site; however, the pluvial flood risk will be mitigated through an effective surface water network and SuDS strategy.

### 5.5 Groundwater Flood Risk

Groundwater flooding can occur during lengthy periods of heavy rainfall, typically during later winter/early spring when the groundwater table is already high. If the groundwater level rises above surface level, it can pond at local points and cause periods of flooding.

The Groundwater Data Viewer (GSI) online maps were reviewed and noted the following:

- The subject site presents 'Moderate' class for subsoil permeability.
- The subject site is classified as class 'High' for groundwater vulnerability.

### 5.6 Flood Zone

With reference to Section 3 above, it is concluded that the subject site is located in Flood Zone C. Flood Zone C is defined in the Planning System and Flood Risk Management where the probability of flooding is low and is deemed appropriate for this type of development.

### 5.7 Vulnerability

As discussed in Section 4.3, Table 3.1 of the Planning System and Flood Risk Management for Planning Authorities gives a detailed classification of vulnerability of different types of development. Buildings with a residential element are classed as highly vulnerable developments and these are considered a suitable land use for Flood Zone C; all residential elements are located within Flood Zone C, thereby negating the requirement for a Justification Test.

## 6. Conclusions

This flood risk assessment was prepared for the purposes of assessing the flood risk to the proposed residential development in Rathcoole, Co. Dublin.

AECOM have reviewed the CFRAM Flood Maps available and noted that no maps were developed for the Coastal Flood Risk that would comprise the subject site. It is also noted that as part of the CFRAM Map Study predicted future scenarios are available for the Rathcoole area, showing that the proposed development is not subject to risk of coastal flooding.

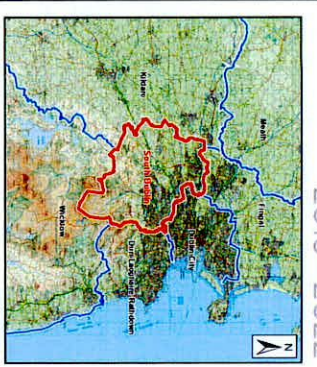
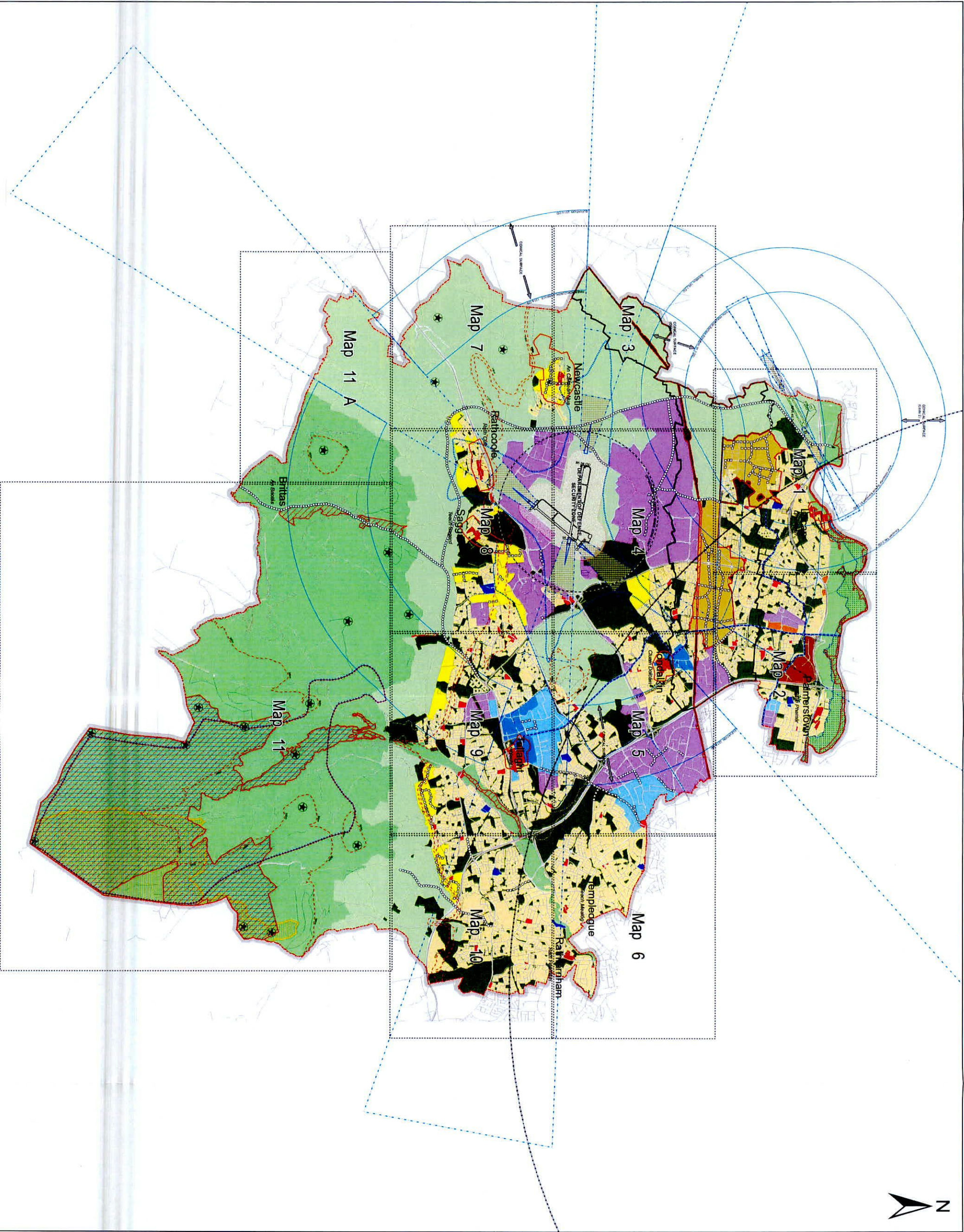
With regard to Fluvial Flooding, the CFRAM maps show the presence of a stream within the site, providing the estimated flood water levels for the 0.1% AEP Flood Event. Given the predicted water level (for the 0.1% AEP) of 129.71mm and the lowest proposed level on site is 130.00m, which is higher than the predicted water levels, it is concluded that the subject site is not at risk from fluvial flooding.

The CFRAM maps did not develop a study for the subject area for pluvial flooding for the Rathcoole area. However, the pluvial flood risk will be mitigated through an effective surface water network and SuDS strategy.

In relation to groundwater vulnerability, the site is classified in class 'High' showing possibility that the site's groundwater can be contaminated. The subject site presents a mix of 'Low' with some of the site not mapped for subsoil permeability.

It is concluded that the subject site is located with Flood Zone C, negating the requirement of a Justification Test.

## Appendix A – SDCC Development Plan 2016 - 2022



**Use Zoning Objectives**

- Objective R10:** To protect and/or respond to residential amenity
- Objective R11:** To provide for new residential communities
- Objective R12:** To accommodate well-serviced and parks
- Objective R13:** To provide for strategic development schemes
- Objective R14:** To facilitate strategic and/or residential-led regeneration
- Objective T1:** To protect, improve and provide for the future development of Town Centres
- Objective T2:** To protect, improve and provide for the future development of a Major Retail Centre
- Objective T3:** To protect, improve and provide for the future development of District Centres
- Objective T4:** To protect, improve and provide for the future development of Village Centres
- Objective T5:** To protect, improve and provide for the future development of Local Centres
- Objective W1:** To provide for and consolidate retail/leisure/working related uses
- Objective E1:** To preserve and provide for open space and recreational amenities
- Objective O1:** To protect and enhance the outstanding natural character and amenity of the Liffey Valley, Dodder Valley and Dublin Mountains Parks
- Objective N1:** To protect and improve rural amenity and to provide for the development of agriculture

**Legend**

- To Preserve Prospects
- Combat Lines
- County Boundary
- SQZ Planning Scheme Boundaries
- Areas of Archaeological Potential
- Geological Sites for Protection
- Balinacorney Reservoir Catchment
- Proposed Natural Heritage Area (PNA)
- Special Protection Area (SPA)
- Liffey Valley Special Area (Order 1986) (SAAO)
- Special Area of Conservation (SAC)

**Transport**

- Junction Proposals
- Road Proposals - Long Term
- Road Proposals - 5 Year
- Long Term Higher Capacity/Link Transport Route
- Kildare Route Project (Section 49)

**Aviation Safeguarding Requirements**

- Inner Approach Area: No Development Permissible
- Critical Surface
- Department of Defence Security Zone
- Department of Defence Inner Zone
- Dublin Airport Outer Safeguarding Boundary

**SCALE 1:30,000**

0 0.5 1 2 3 Kilometers

Land Use Planning and Transportation Department

**Laura Leonard**  
 Senior Planner

**Brian Kearney**  
 Senior Planner

Note: The lines of the Transport Proposals shown on this map are diagrammatic only and are subject to change during the detailed design process. Objective R10, R11, R12, R13, R14, T1, T2, T3, T4, T5, W1, E1, O1, N1, and the Department of Defence Security Zone and Inner Zone are not shown on this map.

## Appendix B – OPW Past Flood Events Local Area Summary Report

# Past Flood Event Local Area Summary Report

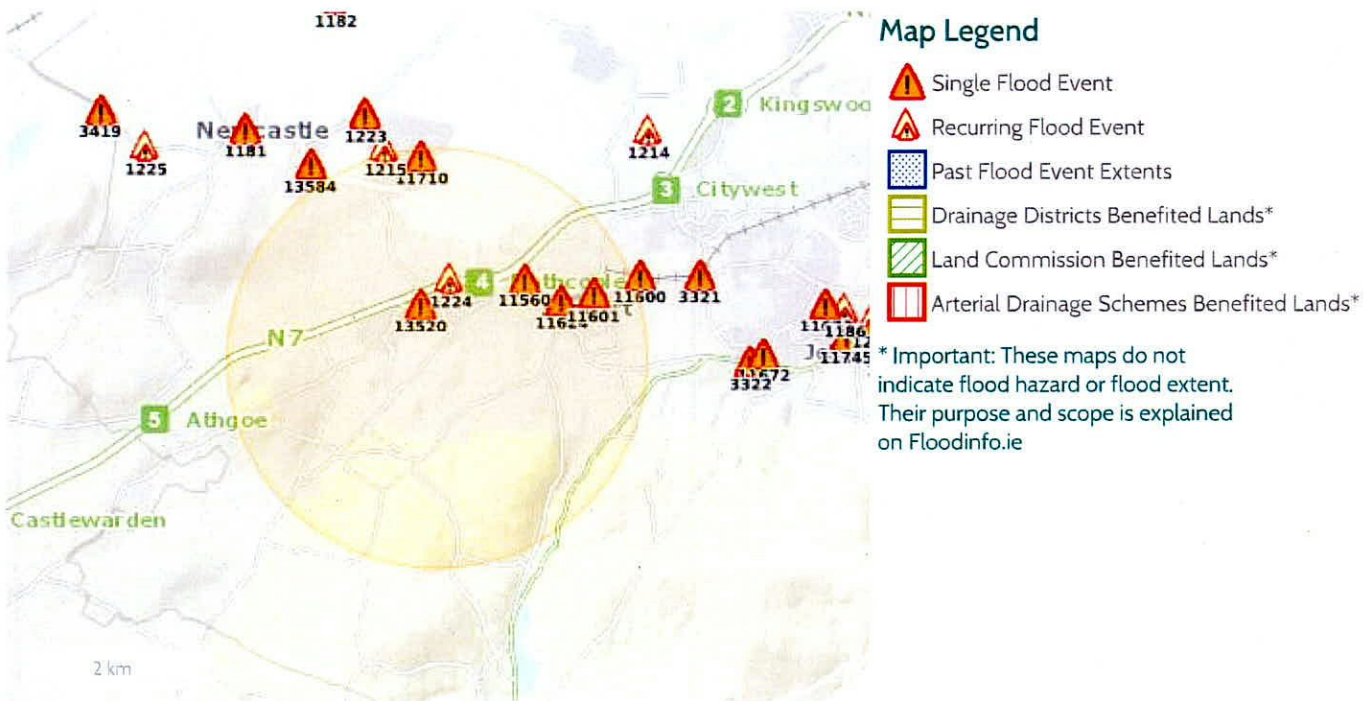


**OPW** Oifig na nOibreacha Poiblí  
Office of Public Works

Report Produced: 27/7/2022 11:37


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.



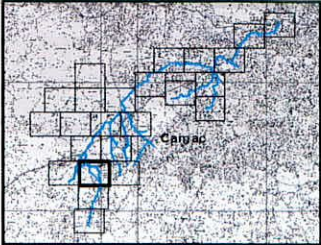
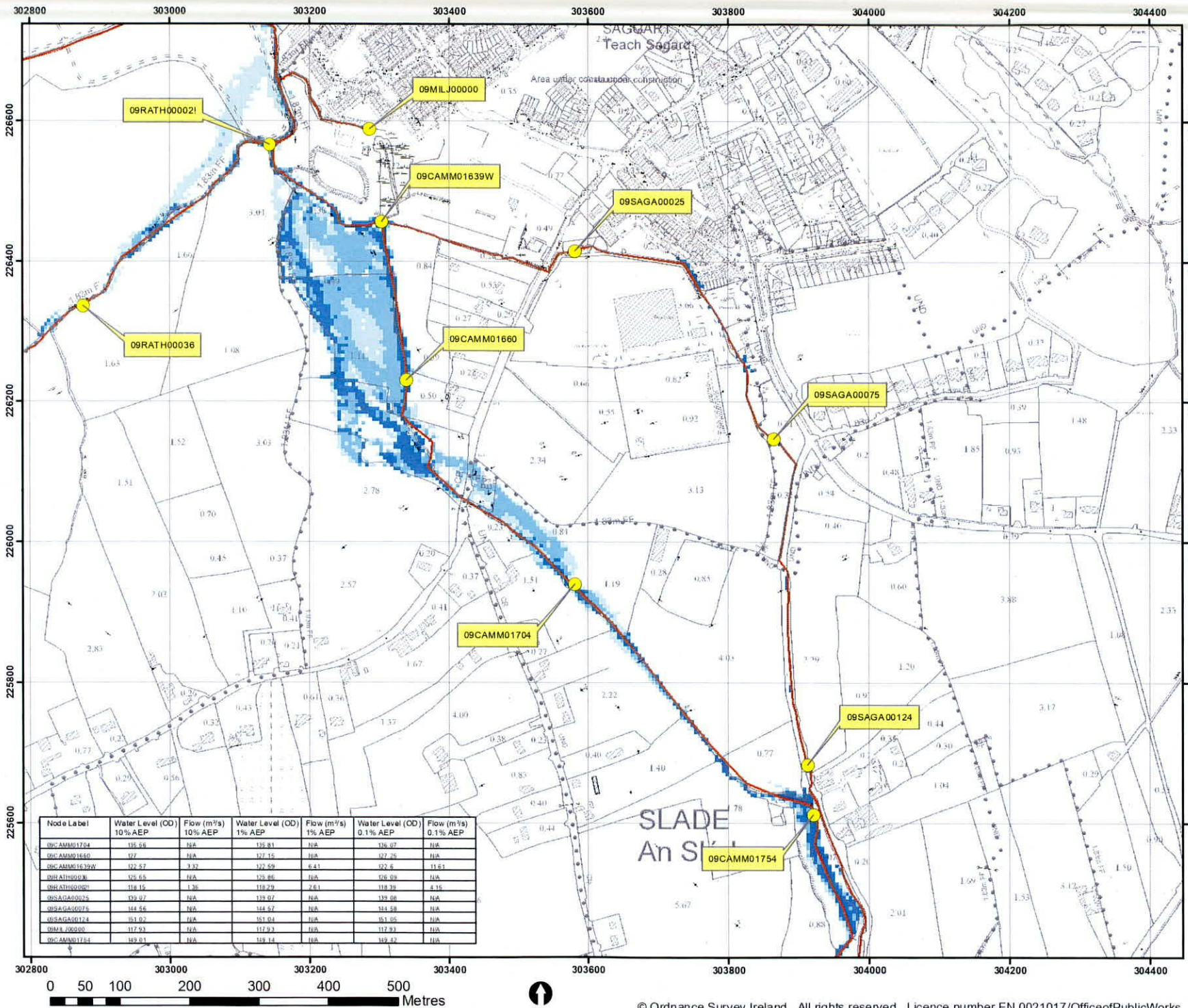
## 7 Results

Name (Flood_ID)	Start Date	Event Location
1.  Rathcoole Bridge recurring (ID-1224) Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (4)</a>	n/a	Approximate Point
2.  Flooding at Avoca Road, Saggart on 24th Oct 2011 (ID-11560) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	23/10/2011	Exact Point
3.  Flooding at Garter Lane, Saggart, Co. Dublin on 24th Oct 2011 (ID-11601) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	23/10/2011	Approximate Point
4.  Flooding at Mill Road, Saggart, Co. Dublin on 24th Oct 2011 (ID-11624) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	23/10/2011	Approximate Point
5.  Flooding at Greenogue Business Park, Rathcoole, Co. Dublin on 24th Oct 2011 (ID-11710) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	23/10/2011	Exact Point
6.  Flooding at Rathcoole on 07/03/2016 (ID-13520) Additional Information: <a href="#">Reports (0)</a> <a href="#">Press Archive (0)</a>	07/03/2016	Approximate Point

Name (Flood_ID)	Start Date	Event Location
7.  Flooding at Saggart on 07/03/2016 (ID-13521)	07/03/2016	Approximate Point
Additional Information: <a href="#">Reports (0)</a> <a href="#">Press Archive (0)</a>		

## Appendix C – CFRAM Maps





**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
  - Standard of Protection of Flood Defence (Walls / Embankments)
  - 1% AEP
  - Node Point
  - Node ID
  - Node Label

**FINAL**

REV: 01    NO IEGOP label updated (Pg 21)    DATE: 13/11/2017  
 Removal of Del. Area (Pg 21)



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**Map:**  
 Camac Fluvial Flood Extents

**Map Type:** EXTENT

**Source:** FLUVIAL

**Map Area:** HPW

**Scenario:** CURRENT

**Drawn By:** C.McG.    **Date:** 13 November 2017

**Checked By:** A.S.    **Date:** 13 November 2017

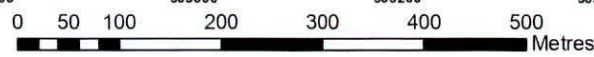
**Approved By:** S.P.    **Date:** 13 November 2017

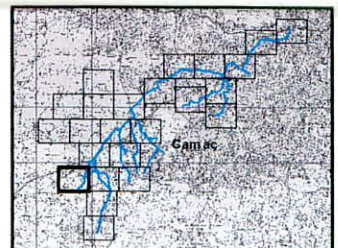
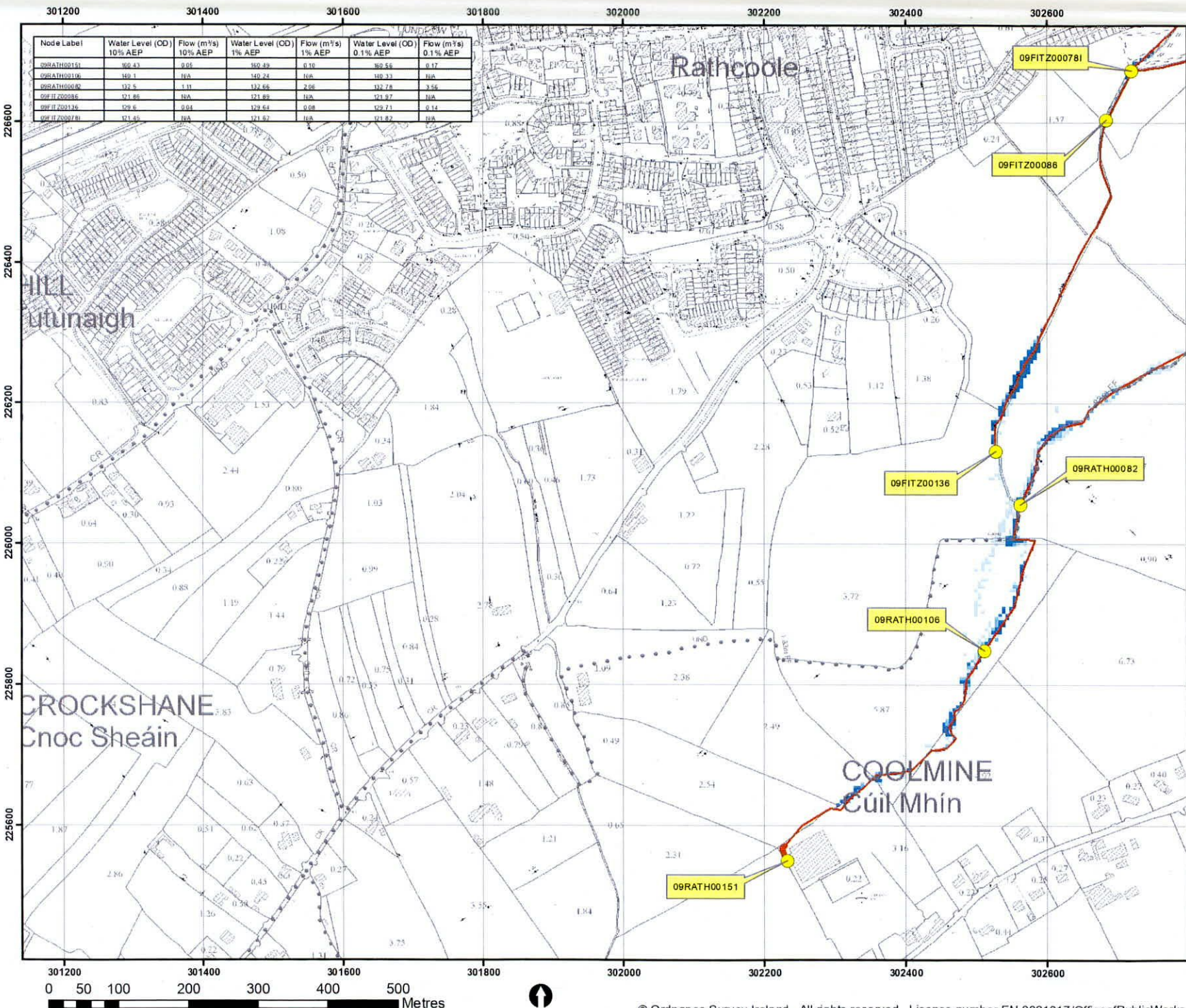
**Drawing No.:**  
 E09CAM\_EXFCD\_F1\_03

**Map Series:** Page 3 of 24

**Drawing Scale:** 1:5,000 @A3

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
09CMM01704	135.86	N/A	135.81	N/A	136.07	N/A
09CMM01660	127	N/A	127.15	N/A	127.25	N/A
09CMM01639W	122.57	3.32	122.59	6.41	122.6	11.63
09RATH00036	125.65	N/A	125.86	N/A	126.09	N/A
09RATH00002!	118.15	1.36	118.29	2.61	118.38	4.15
09SAGA00025	132.97	N/A	133.07	N/A	133.08	N/A
09SAGA00075	144.56	N/A	144.57	N/A	144.58	N/A
09SAGA00124	151.07	N/A	151.04	N/A	151.05	N/A
09MILJ00000	117.93	N/A	117.93	N/A	117.93	N/A
09CMM01754	149.01	N/A	149.14	N/A	149.12	N/A





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

**FINAL**

REV:	NOTES: (tab) updated (Pg 21)	DATE:	
01	Removal of Def. Area (Pg 21)	13/11/2017	





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BT12 6RZ E ireland@rpsgroup.com

**Map:**  
Camac Fluvial Flood Extents

Map Type:	EXTENT
Source:	FLUVIAL
Map Area:	HPW
Scenario:	CURRENT
Drawn By:	C.McG. Date: 13 November 2017
Checked By:	A.S. Date: 13 November 2017
Approved By:	S.P. Date: 13 November 2017
Drawing No.:	E09CAM_EXFCD_F1_04
Map Series:	Page 4 of 24
Drawing Scale:	1:5,000 @A3

