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PRPOSED RESIDENTIAL DEVELOPMENT AT LONG MILE ROAD, DUBLIN 12, CO. DUBLIN

Flood Risk Assessment

March 2025

Proposed Residential Development at Long Mile Road, Dublin 12

Flood Risk Assessment Report – For Planning

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Proposed Residential Development at Long Mile Road, Dublin 12

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1. INTRODUCTION

As part of the preliminary design process, Roughan & O'Donovan Consulting Engineers has carried out a Flood Risk Assessment for a Residential Development at the Longmile Road, Dublin 12. This report has been prepared to assess the flood risk to the site and adjacent lands as a result of the proposed development.

2. METHODOLOGY

2.1 Introduction

This report has been prepared in accordance with 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' herein referred to as 'The Guidelines' as published by the Office of Public Works (OPW) and Department of Environment, Heritage and Local Government (DoHLG) in 2009.

2.2 Definition of Flood Risk

Flood risk is a combination of the likelihood of a flood event occurring and the potential consequences arising from that flood event and is then normally expressed in terms of the following relationship:

Flood risk = Likelihood of flooding x Consequences of flooding.

To fully assess flood risk an understanding of where the water comes from (i.e. the source), how and where it flows (i.e. the pathways) and the people and assets affected by it (i.e. the receptors) is required. Figure 2.1 below shows a source-pathway-receptor model reproduced from 'The Guidelines'.

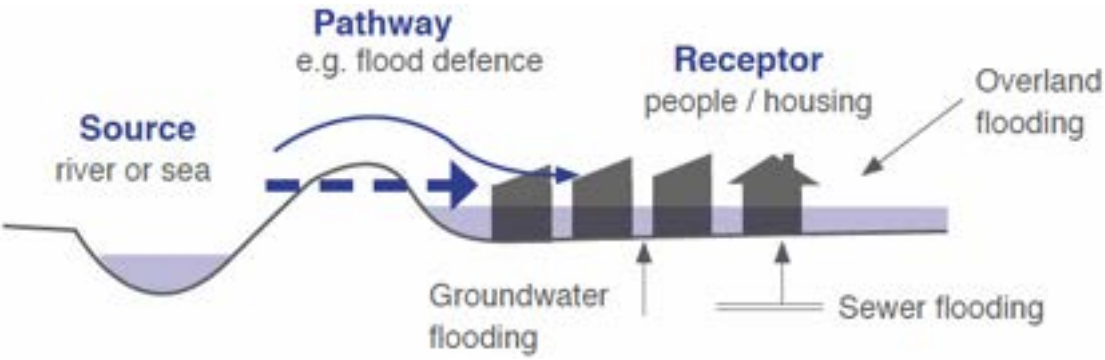

Figure 2.1 Source-Pathway-Receptor Model

The principal sources of flooding are rainfall or higher than normal sea levels. The principal pathways are rivers, drains, sewers, overland flow and river and coastal floodplains. The receptors can include people, their property and the environment. All three elements as well as the vulnerability and exposure of receptors must be examined to determine the potential consequences.

The guidelines set out a staged approach to the assessment of flood risk with each stage carried out only as needed. The stages are listed below:

- Stage I Flood Risk Identification – to identify whether there may be any flooding or surface water management issues.
- Stage II Initial Flood Risk Assessment – to confirm sources of flooding that may affect an area or proposed development, to appraise the adequacy of existing

information and to scope the extent of the risk of flooding which may involve preparing indicative flood zone maps.

- Stage III Detailed Flood Risk Assessment – to assess flood risk issues in sufficient detail and to provide a quantitative appraisal of potential flood risk to a proposed or existing development or land to be zoned, of its potential impact on flood risk elsewhere and of the effectiveness of any proposed mitigation measures.

2.3 Likelihood of Flooding

The Guidelines define the likelihood of flooding as the percentage probability of a flood of a given magnitude or severity occurring or being exceeded in any given year. It is generally expressed as a return period or annual exceedance probability (AEP). A 1% AEP flood indicates a flood event that will be equalled or exceeded on average once every hundred years and has a return period of 1 in 100 years. Annual Exceedance Probability is the inverse of return period as shown in Table 2.1 below.

Table 2.1 Correlation between return period and AEP

Return Period (years)	Annual Exceedance Probability (%)
1	100
10	10
50	2
100	1
200	0.5
1000	0.1

2.4 Definition of Flood Zones

Flood zones are geographical areas within which the likelihood of flooding is in a particular range and are split into three categories in The Guidelines:

Flood Zone A

Flood Zone A where the probability of flooding from rivers and the sea is highest (greater than 1% or 1 in 100 for river flooding or 0.5% or 1 in 200 for coastal flooding);

Flood Zone B

Flood Zone B where the probability of flooding from rivers and the sea is moderate (between 0.1% or 1 in 1000 and 1% or 1 in 100 for river flooding and between 0.1% or 1 in 1000 or 0.5% or 1 in 200 for coastal flooding);

Flood Zone C

Flood Zone C where the probability of flooding from rivers and the sea is low (less than 0.1% or 1 in 1000 for both river and coastal flooding. Flood Zone C covers all plan areas which are not in zones A or B.

It is important to note that when determining flood zones the presence of flood protection structures should be ignored. This is because areas protected by flood defences still carry a residual risk from overtopping or breach of defences and the fact that there is no guarantee that the defences will be maintained in perpetuity.

2.5 Objectives and Principles of the Planning Guidelines

The principle actions when considering flood risk are set out in the planning guidelines and are summarised below:

- *"Flood hazard and potential risk should be determined at the earliest stage of the planning process..."*
- *"Development should preferentially be located in areas with little or no flood hazard thereby avoiding or minimising the risk...."*
- *"Development should only be permitted in areas at risk of flooding when there are no alternative, reasonable sites available..."*
- *"Where development is necessary in areas at risk of flooding an appropriate land use should be selected"*
- *A precautionary approach should be applied, where necessary, to reflect uncertainties in flooding datasets and risk assessment techniques..."*
- *"Land required for current and future flood management... should be pro-actively identified..."*
- *"Flood risk to, and arising from, new development should be managed through location, layout and design incorporating Sustainable Drainage Systems (SuDS) and compensation for any loss of floodplain..."*
- *Strategic environmental assessment (SEA) of regional planning guidelines, development plans and local area plans should include flood risk as one of the key environmental criteria..."*

2.6 The Sequential Approach and Justification Test

The Guidelines outline the sequential approach that is to be applied to all levels of the planning process. This approach should also be used in the design and layout of a development and the broad philosophy is shown in Figure 2.2 below. In general, development in areas with a high risk of flooding should be avoided as per the sequential approach. However, this is not always possible as many town and city centres are within flood zones and are targeted for development.

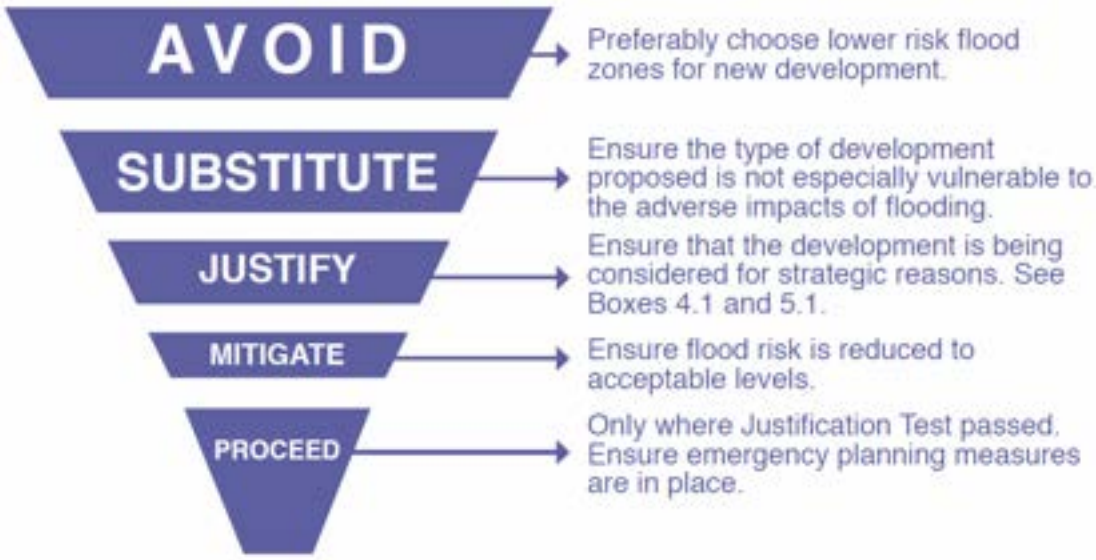

Figure 2.2 Sequential Approach (Source: The Planning System and Flood Risk Management)

The Justification Test has been designed to rigorously assess the appropriateness, or otherwise, of developments that are being considered in areas of moderate or high flood risk. The test comprises the following two processes.

- The first is the Plan-making Justification Test and is used at the plan preparation and adoption stage where it is intended to zone or otherwise designate land which is at moderate or high risk of flooding.
- The second is the Development Management Justification Test and is used at the planning application stage where it is intended to develop land at moderate or high risk of flooding for uses or development vulnerable to flooding that would generally be inappropriate for that land.

Table 2.2 below illustrates the types of development that would be required to meet the Justification Test.

Table 2.2 Matrix of Vulnerability Versus Flood Zone to Illustrate Appropriate Development and that Required to Meet the Justification Test (Source: The Planning System and Flood Risk Management)

	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

3. PROJECT SCOPE

The development will comprise a Large-Scale Residential Development (LRD) on a site at Parkmore Industrial Estate, Long Mile Rd, Robinhood, Dublin, 12. The proposed development will comprise the demolition of existing industrial units, and construction of a mixed use, residential-led development within 4 no. blocks ranging in height from 06 to 10 storeys over semi-basement. The development will comprise the following: 436 no. apartments (studios; 1 beds; 2 beds and 3 beds) with commercial/employment units, creche, café and library. Provision of car, cycle and motorbike parking. Vehicular accesses from Parkmore Estate Road and additional pedestrian/cyclist accesses from the Long Mile Road and Robinhood Road. Upgrade works to the estate road and surrounding road network. All associated site development works and services provision, open spaces, ESB substations, plant areas, waste management areas, landscaping and boundary treatments.

The proposed development has a gross site area of approximately 1.9 hectares.

The *OPW Planning and Flood Risk Management Guidelines for Planning Authorities* determines that developments such as this are classified as highly vulnerable to flooding.

The site is located at Parkmore Industrial Estate, Long Mile Road, Dublin 12. The site is currently purposed for commercial use, with warehouses, offices and car parking containing limited green space. The site boundary is shown in Figure 3.1.

Figure 3.1 Site Boundary

The site is currently drained by the existing drainage infrastructure within the site. A minimum setback of 14.5m will be provided from the proposed buildings to the top of the bank of the Robinhood Stream, south of the site as outlined in Figure 3.2 below.

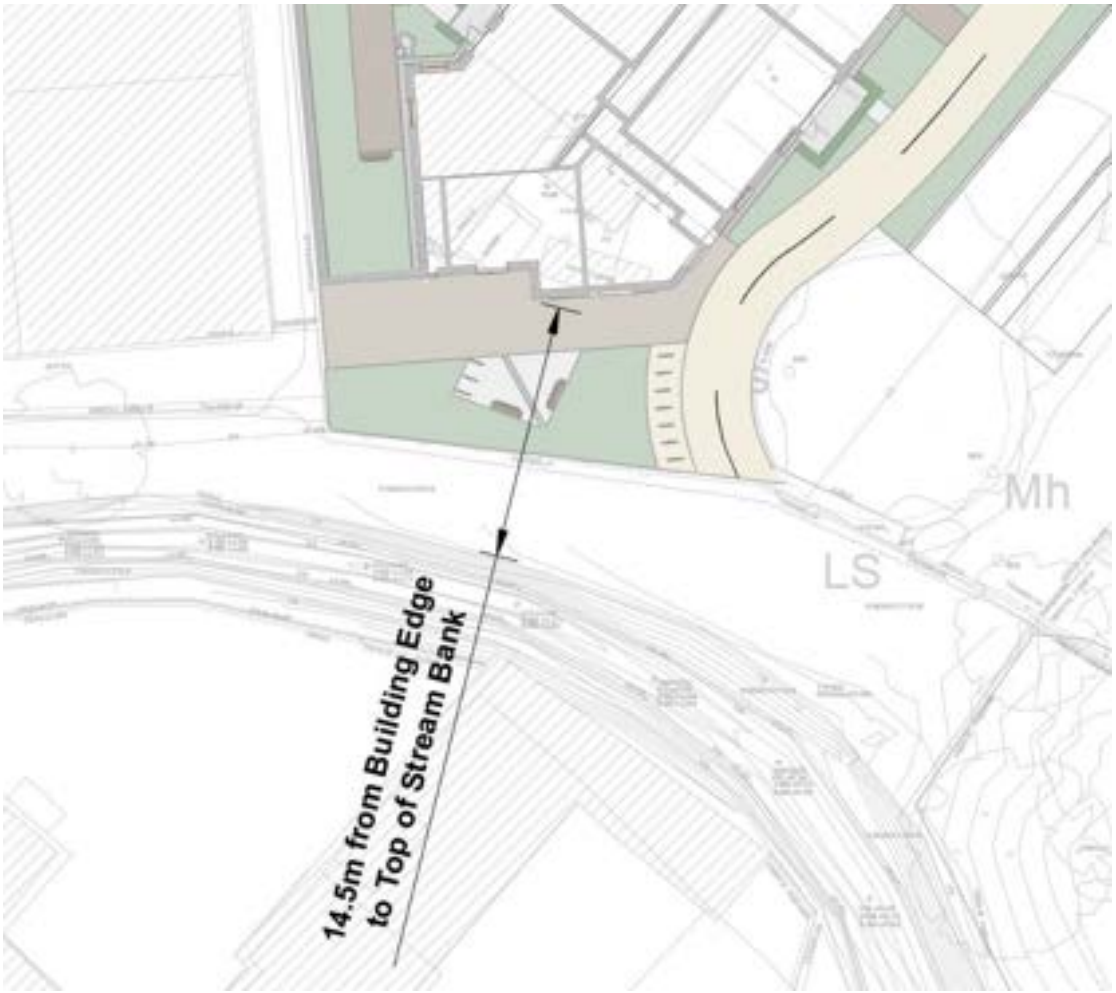

Figure 3.2 Set Back from Top of Watercourse Bank

4. FLOOD RISK IDENTIFICATION

4.1 General

This Flood Risk Identification includes a review of the existing information and the identification of any flooding or surface water management issues in the vicinity of the proposed site that may warrant further investigation.

4.2 Information Sources Consulted

The following information sources were consulted as part of the Stage I Flood Risk Identification:

Table 4.1 Information Sources Consulted

Source	Comments
Catchment Flood Risk Assessment and Management Study (CFRAM)	Fluvial, Pluvial, Coastal and Groundwater flooding examined; www.floodinfo.ie
National Indicative Fluvial Maps	www.floodinfo.ie
South Dublin County Council Development Plan 2022 - 2028	Strategic Flood Risk Assessment

Source	Comments
OPW flood records	www.floodmaps.ie
OPW drainage districts	http://maps.opw.ie/drainage/map/
Geological Survey of Ireland (GSI) Maps	GSI Teagasc subsoils map consulted to identify if alluvium is present at development site that may indicate the presence of a watercourse and floodplain. Groundwater Flood Data maps consulted to identify if historic groundwater flooding has been recorded within the vicinity of the site.
City Edge Project	Strategic Flood Risk Assessment
Historical Maps	OSI Geo Hive 25" and 6'' Historic Mapping
Historical Flooding Events	www.independent.ie www.irishtimes.com

4.2.1 Previous Flood Risk Assessments and Predictive Flood Maps

(i) Catchment Flood Risk Assessment and Management Study

The Project area is covered within the Eastern CFRAM study areas. The CFRAM programme led by the OPW, provides a detailed assessment of flooding in areas. Catchment wide Flood Risk Management Plans were also developed as part of the programme.

The CFRAM mapping consulted indicates that the development site is within Flood Zone C. The 0.1% fluvial AEP flood extents are approximately 9m from the nearest building proposed as part of the development as outlined in Figure 4.1 below.

Figure 4.1 Proposed Building Locations Relative to CFRAM Flood Extents

The nearest upstream 0.1% AEP Water Level to the development site is recorded as 46.91mOD while the nearest downstream 0.1% AEP Flood Level to the development site is recorded as 45.15mOD. The proposed minimum floor level for the development will be at 44.675mOD (Block A) but this will be located in Flood Zone C. The nearest building to the CFRAM flood extents will be Block D. Block D will have a proposed minimum floor level of 47.50mOD.

The CFRAM flood map is shown in Appendix A.

(ii) National Indicative Fluvial Maps

The indicative fluvial flood maps were finalised in December 2020. The mapping presents flood extents for river reaches that were not previously modelled as part of the CFRAMS and have catchments larger than 5km². As per the OPW the use of these maps is to '*provide an indication of areas that maybe prone to flooding. These are not necessarily locally accurate and should not be used as the sole basis for defining the Flood Zones nor for making decisions on planning applications.* The maps identify the site as being outside any fluvial flood extents.

The National Indicative Fluvial Map associated with the site is shown in Appendix B.

(iii) South Dublin County Council Development Plan 2022-2028

The purpose of this SFRA is to provide sufficient information to allow proper planning decisions to be made on sites at risk of flooding over the lifetime of the County Development Plan 2022-2028. The County Development Plan has now been adopted by all elected members with the adopted plan coming into on 22nd June 2022.

Fluvial Flood zone maps supporting the SFRA identify the site as being located outside Flood Zone A and Flood Zone B as outlined on Figure 4.2 below. The Pluvial Flood maps do not show any indication of pluvial flooding on the site.

Figure 4.2 Proposed Building Locations Relative to SDCC Flood Extents

The SDCC SFRA flood zone maps are shown in Appendix C.

(iv) OPW Flood Records

The OPW National Flood Hazard Mapping Web Site, www.floodmaps.ie, was examined to identify any recorded flood events within the vicinity of the proposed development site. Recurring flooding is noted to occur at the adjacent Robinhood

Industrial Estate (south of the development site) due to the Robinhood Stream (a tributary of the Walkinstown Stream).

The OPW Past Flood Event Local Area Summary Report is shown in Appendix D.

(v) OPW Drainage Districts

Drainage Districts are areas where drainage schemes to improve land for agricultural purposes were constructed. Under the Arterial Drainage Act, 1945 the OPW undertook a number of arterial drainage schemes to improve land for agricultural production. The OPW has a statutory duty to maintain these schemes, which is delivered through their arterial drainage maintenance programme. The OPW does not have powers to undertake river or channel maintenance other than where these rivers form part of an arterial drainage scheme or flood relief schemes.

The River Camac is not identified as being part of an OPW Arterial Drainage Scheme. No section of the subject site falls within benefited land.

(vi) GSI Maps

GSI Teagasc subsoil map was sourced from the GSI Groundwater Data Viewer. The mapping shows the subsoil characteristics of the site of interest.

The proposed site is indicated to be underlain by "Made Ground" and "Gravels derived from Limestones", which may be attributed to the Lucan Formation limestone bedrock of the area. No fluvial derived subsoils are shown to be present on the proposed development site. Groundwater vulnerability is categorised as 'high' and subsoil permeability as being 'low' according to GSI data mapping. The GSI Groundwater Flood Data maps shown no indication of historic groundwater flooding within the vicinity of the site.

Refer to Appendix E for GSI maps.

(vii) City Edge Project

The City Edge Project represents the most significant housing and economic opportunity undertaken in the Dublin Region and has potential to be one of the largest and most transformational regeneration projects in Europe. The project involves re-imagining the Naas Road, Ballymount and Park West areas at the western edge of Dublin City. Creating an urban quarter, it has the potential for 40,000 new homes and 75,000 jobs. The subject area of this report falls within the City Edge Project boundary extents.

The mapping presented within the SFRA outlines present day and future scenarios fluvial flood mapping (30% uplift for climate change), present day pluvial flood mapping and present day and future scenarios coastal flood mapping (20% and 30% uplift for climate change). The fluvial and coastal flood mapping for present day and future scenarios indicates that the development site is within Flood Zone C. Figure 4.3 outlines the location of the development relative to the 0.1% AEP Fluvial Flood Extents (with 30% uplift for climate change).

Figure 4.3 Proposed Building Locations Relative to City Edge Fluvial Flood Extents (0.1% AEP with 30% uplift for Climate Change)

The pluvial mapping indicates pluvial flooding within the vicinity of the site however these maps represent overland flow as a result of extreme rainfall events only and do not take into account the surface water drainage network for the area.

Refer to Appendix F for the relevant City Edge Project SFRA flood maps.

(viii) Historical Maps

Historical maps are consulted to indicate areas of flooding documented previously to records being kept by the current responsible authorities. The enclosed historical map has been prepared using GeoHive, web-based access to authoritative Irish spatial data from multiple providers, including Ordnance Survey Ireland (OSi). No areas of flooding were indicated on the 6" Cassini or 25" maps.

Refer to Appendix G for Historical Maps.

(ix) Historic Flood Events

Historic flood events in the study area include;

A flood event of November 2000, affected the catchment of the Camac as well as the Griffeen and Dodder Rivers. This affected a nearby location to the development, Robinhood Industrial Estate with, as previously described, recurring flooding known to occur from the Robinhood Stream (a tributary of the Walkinstown Stream).

Pluvial flooding was reported in the Irish Independent on 25th July 2009. The effect of a torrential downpour led to the temporary closure of the Long Mile Road. As a result, there was major traffic disruption, while drainage works were carried out.

A flood event is reported by the Irish Examiner, on 17th October 2012, to have occurred on the Long Mile Road at the junction of the N7. It is noted that the effect of the prolonged heavy rainfall left the road completely flooded and unsuitable for traffic.

Refer to Appendix H for historic news reports.

5. CONCLUSIONS

In accordance with Stage 1 of the approach outlined in the Guidelines, the possible sources of flooding associated with this development have been identified. These are summarised in Table 5.1 (taken from Appendix A of the Guidelines).

Table 5.1 Possible Sources of Flooding Associated with the Long Mile Road Site

Source	Pathway	Receptor	Likelihood	Consequence	Risk
Tidal	Overland flow, out of bank	Development Site	Low Possibility	Low (distance from tidal waterbody and site elevations limit possible flood extents)	Low (due to relative distance from, and elevation of site above nearest tidal waterbody)
Fluvial	Overland flow, out of bank	Development Site	Low Possibility	Low (site elevations limit possible flood extents – Development site is within Flood Zone C)	Low (due to relative elevation of site above nearest watercourse)
Surface Water	Overland flow	Development Site	Low Possibility	Low (The City Edge Project pluvial mapping indicates pluvial flooding within the vicinity of the site however these maps represent overland flow as a result of extreme rainfall events only and do not take into account the surface water drainage	Low (if appropriate drainage system is incorporated in development and maintained appropriately)

Source	Pathway	Receptor	Likelihood	Consequence	Risk
				network for the area. No other sources consulted reported surface water flooding on site)	
Ground Water	Rising levels	Development Site	Low Possibility	Low (no indication of previous groundwater flooding at the site)	Low (due to low permeability of soil cover, no indication of previous groundwater flooding at the site)

The consulted sources indicate that no area of the subject site is liable to flood from fluvial, coastal or groundwater sources. The susceptibility of Long Mile Road to pluvial flooding is noted but through the use of appropriate drainage measures the risk is considered low. All sources indicate that there is a low risk of flooding on site and that the site is within Flood Zone C, ensuring it is appropriate for residential and commercial developments.

APPENDIX A
CFRAM FLOOD MAPS

Node Label	Water Level (OD) 10% AEP	Flow (m^3/s) 10% AEP	Water Level (OD) 1% AEP	Flow (m^3/s) 1% AEP	Water Level (OD) 0.1% AEP	Flow (m^3/s) 0.1% AEP
09WALK00068	46.4	0.03	46.77	0.06	46.96	0.11
09KING00063	44.52	N/A	44.97	N/A	45.15	N/A
09WALK00038	46.34	2.10	46.73	4.02	46.91	6.70
09KILN00051J	51.2	N/A	51.48	N/A	51.74	N/A
09KING00092	47.17	N/A	47.31	N/A	47.52	N/A
SO09303604	59.11	N/A	59.2	N/A	59.43	N/A
SO10302403	55.47	N/A	55.63	N/A	55.9	N/A

09KING00063

<10% AEP

09WALK00038

09KING00092

09WALK00068

09KILN00051J

SO09303604

SO10302403

ROBINHOOD
Robinhood
FOX-and-GEESE
An Sionnachaigh na Géanna
BALLYI
Baile ar
(Part of)
Baile Bh

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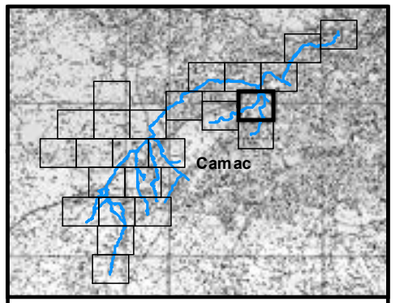
231400 231200 231000 230800 230600 230400

0 50 100 200 300 400 500 Metres



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)
- Node Point
- Node ID Node Label

FINAL

REV:	NOTE:	DATE:
01	SOP label updated (Pg 21) Removal of Def. Area (Pg 21)	13/11/2017

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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_21
Map Series :	Page 21 of 24
Drawing Scale :	1:5,000 @A3

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09CAMM00404	29.3	26.6	29.8	40.510	30.18	55.72
09CRUM00035J	34.55	1.34	34.73	2.48	34.95	4.38
SO10312826	39.63	22.21	40.44	33.18	41.7	46.05
SO10327209	34.02	N/A	34.53	N/A	36.16	N/A

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232800 232600 232400 232200 232000 231800 231600

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RIMNAGH
oimeanach

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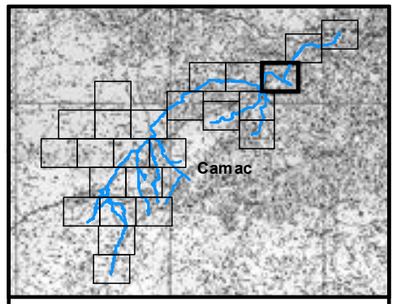

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Map Area:	HPW
Scenario:	CURRENT
Drawn By :	C.McG. Date : 13 November 2017
Checked By :	A.S. Date : 13 November 2017
Approved By :	S.P. Date : 13 November 2017
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Map Series :	Page 22 of 24
Drawing Scale :	1:5,000 @A3

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09CAMM00698D	48.1	N/A	48.82	N/A	49.15	N/A
09KING00042I	41.37	5.60	42.76	10.10	43.46	18.00
SO09316801	42.4	N/A	43.84	N/A	44.85	N/A
SO09319801	41.34	16.96	42.96	24.07	43.57	32.59

308600 308800 309000 309200 309400 309600 309800 310000

232800 232600 232400 232200 232000 231800 231600

09CAMM00698D
1% AEP
1% AEP
1% AEP
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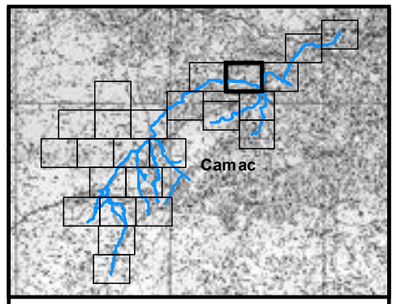
FOX-and-GEESE COI
Coimin an tSionnaigh

0 50 100 200 300 400 500 Metres



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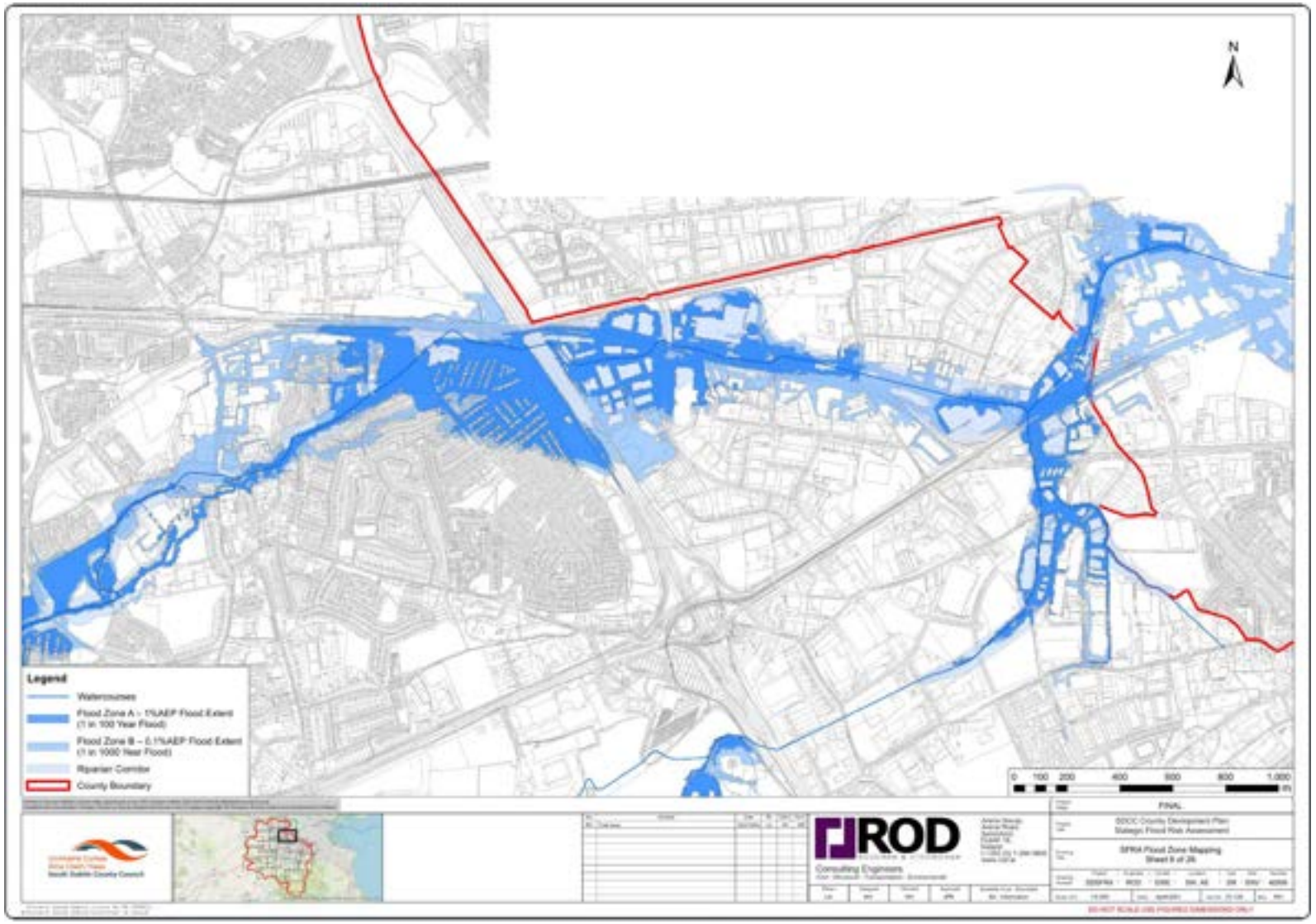
Drawing No. :	E09CAM_EXFCD_F1_18
Map Series :	Page 18 of 24
Drawing Scale :	1:5,000 @A3

APPENDIX B
NATIONAL INDICATIVE FLUVIAL MAP

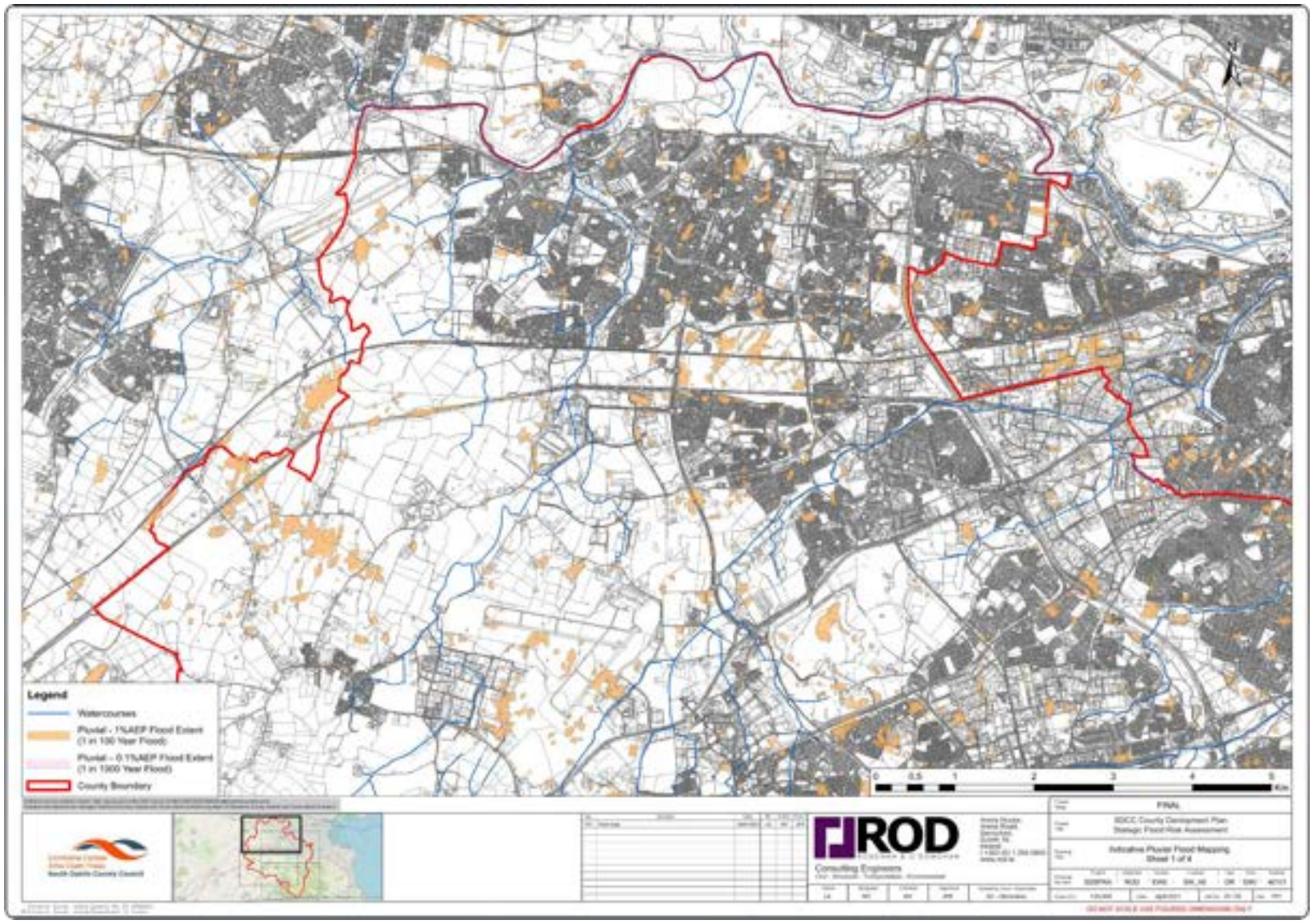
National Indicative Fluvial Maps Present Day - River - Medium Probability

APPENDIX C
SDCC SFRA FLOOD ZONE MAPS 2022-2028

SDCC Fluvial Flood Zone Map 2022-2028



SDCC Pluvial Flood Zone Map 2022-2028



APPENDIX D

OPW FLOOD RECORDS

Past Flood Event Local Area Summary Report

OPW

Report Produced: 9/8/2024 14:55

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 (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

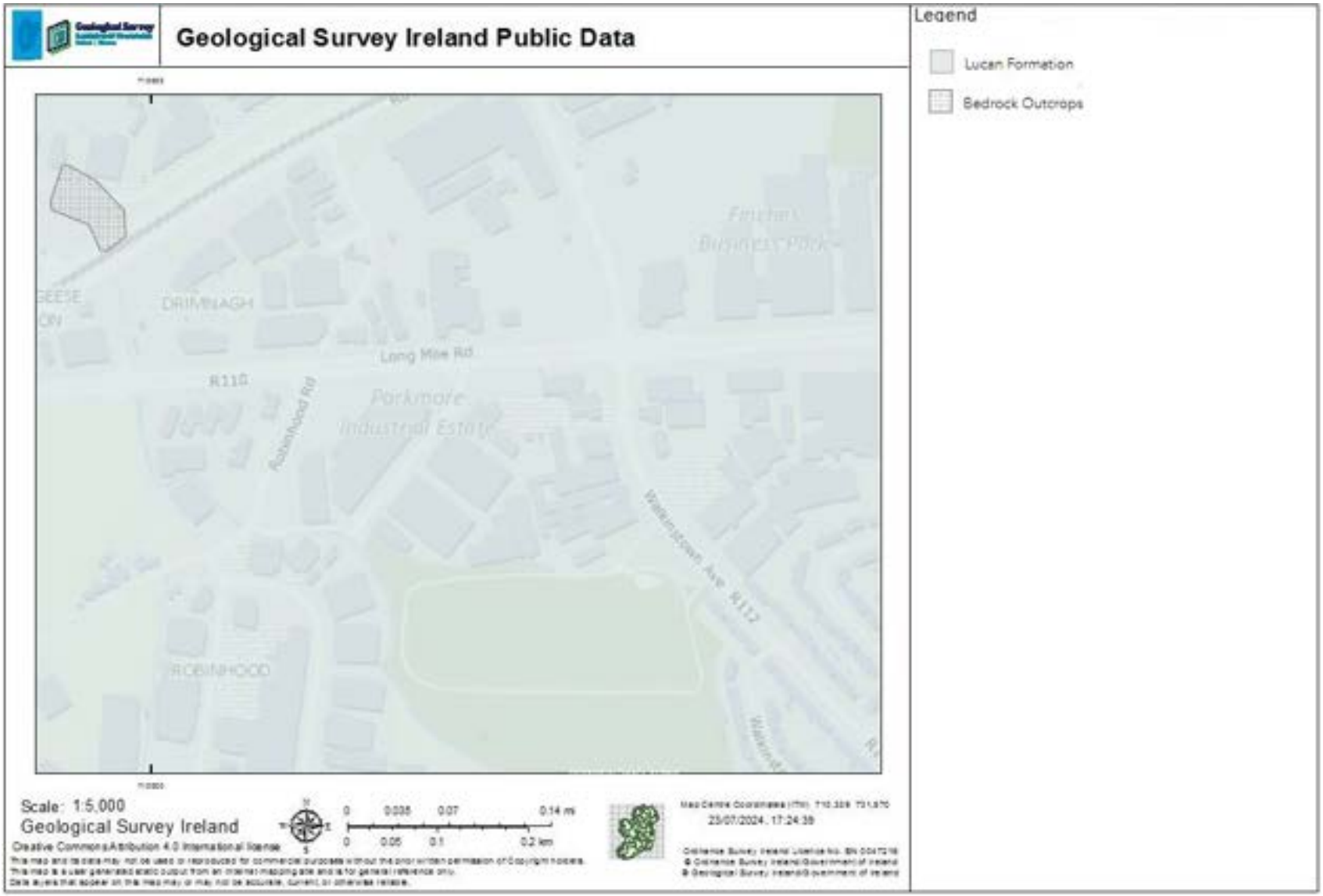
15 Results

	Name (Flood_ID)	Start Date	Event Location
1.	Poddle River Whitehall Road June 1993 (ID-2112)	10/06/1993	Approximate Point
	Additional Information: Reports (1) Press Archive (0)		
2.	Camac August 1986 (ID-125)	24/08/1986	Area
	Additional Information: Reports (3) Press Archive (0)		
3.	Osprey Estate Nov 1982 (ID-2135)	05/11/1982	Exact Point
	Additional Information: Reports (1) Press Archive (0)		
4.	Camac November 2000 (ID-679)	05/11/2000	Approximate Point
	Additional Information: Reports (1) Press Archive (0)		
5.	Camac Goldenbridge Recurring (ID-668)	n/a	Approximate Point
	Additional Information: Reports (1) Press Archive (0)		
6.	Camac Culvert Old Naas Road recurring (ID-1185)	n/a	Approximate Point
	Additional Information: Reports (2) Press Archive (0)		

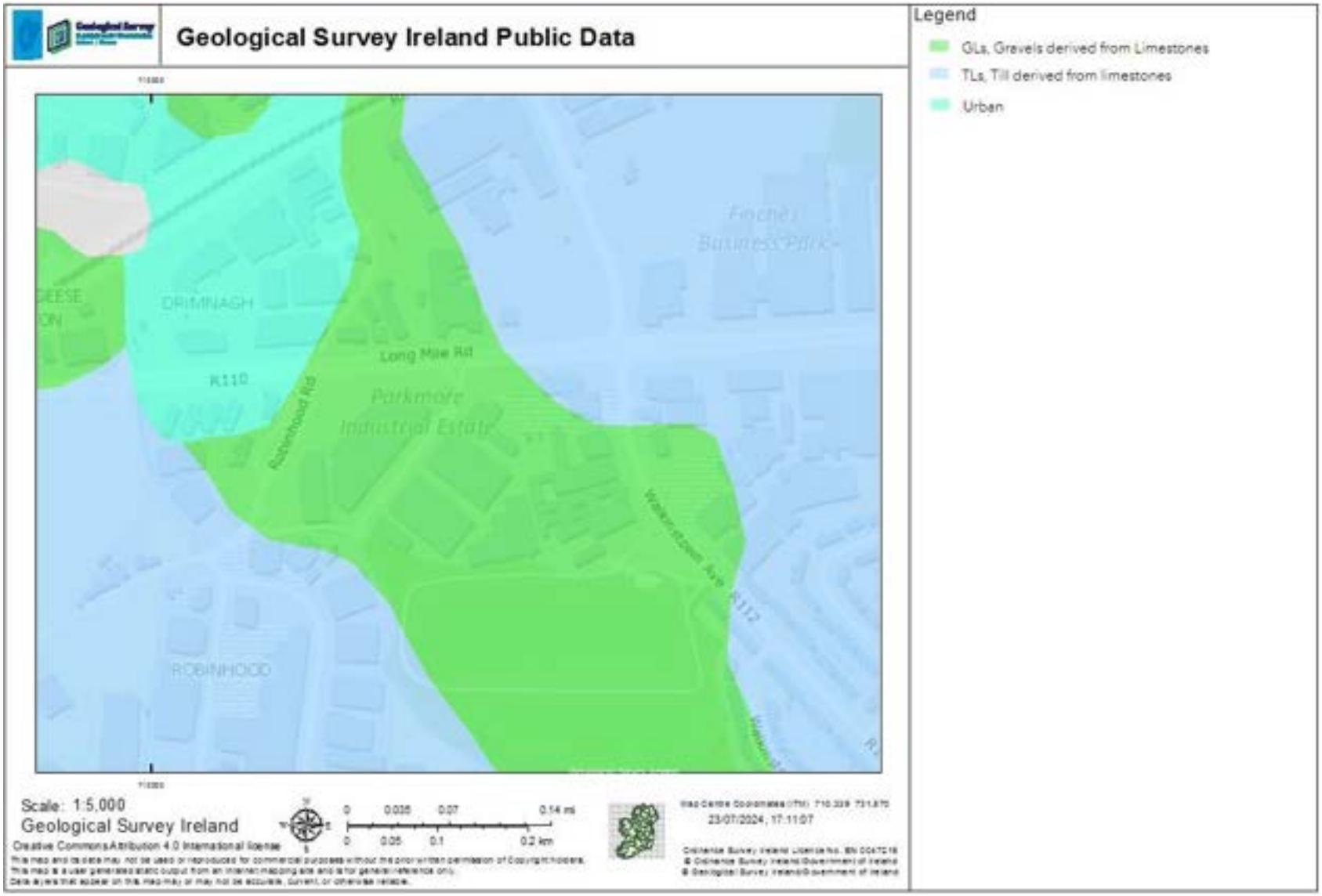
	Name (Flood_ID)	Start Date	Event Location
7.	Robinhood Stream Walkinstown Recurring (ID-1187) **Additional Information:** Reports (3) Press Archive (0)	n/a	Approximate Point
8.	Whitehall Road Kimmage Recurring (ID-1188) **Additional Information:** Reports (2) Press Archive (0)	n/a	Approximate Point
9.	Flooding at Diageo, Nangor Road, Dublin 12 on 24th Oct 2011 (ID-11568) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Approximate Point
10.	Flooding at Riverview Business Centre, New Nangor Road, Dublin 12 on 24th Oct 2011 (ID-11647) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
11.	Flooding at Limekiln Road, Ballyboden Rd, Co. Dublin on 24th Oct 2011 (ID-11623) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Approximate Point
12.	Flooding at Robinhood Industrial Estate, Clondalkin, Dublin 12 on 24th Oct 2011 (ID-11654) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
13.	Flooding at Walkinstown Crescent, Walkinstown, Dublin 12 on 24th Oct 2011 (ID-11659) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
14.	Flooding at Wellington Lane, Dublin 24 on 24th Oct 2011 (ID-11664) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
15.	Flooding at Whitehall Road, Templeogue, Dublin 6W on 24th Oct 2011 (ID-11666) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point

APPENDIX E
GSI MAPS

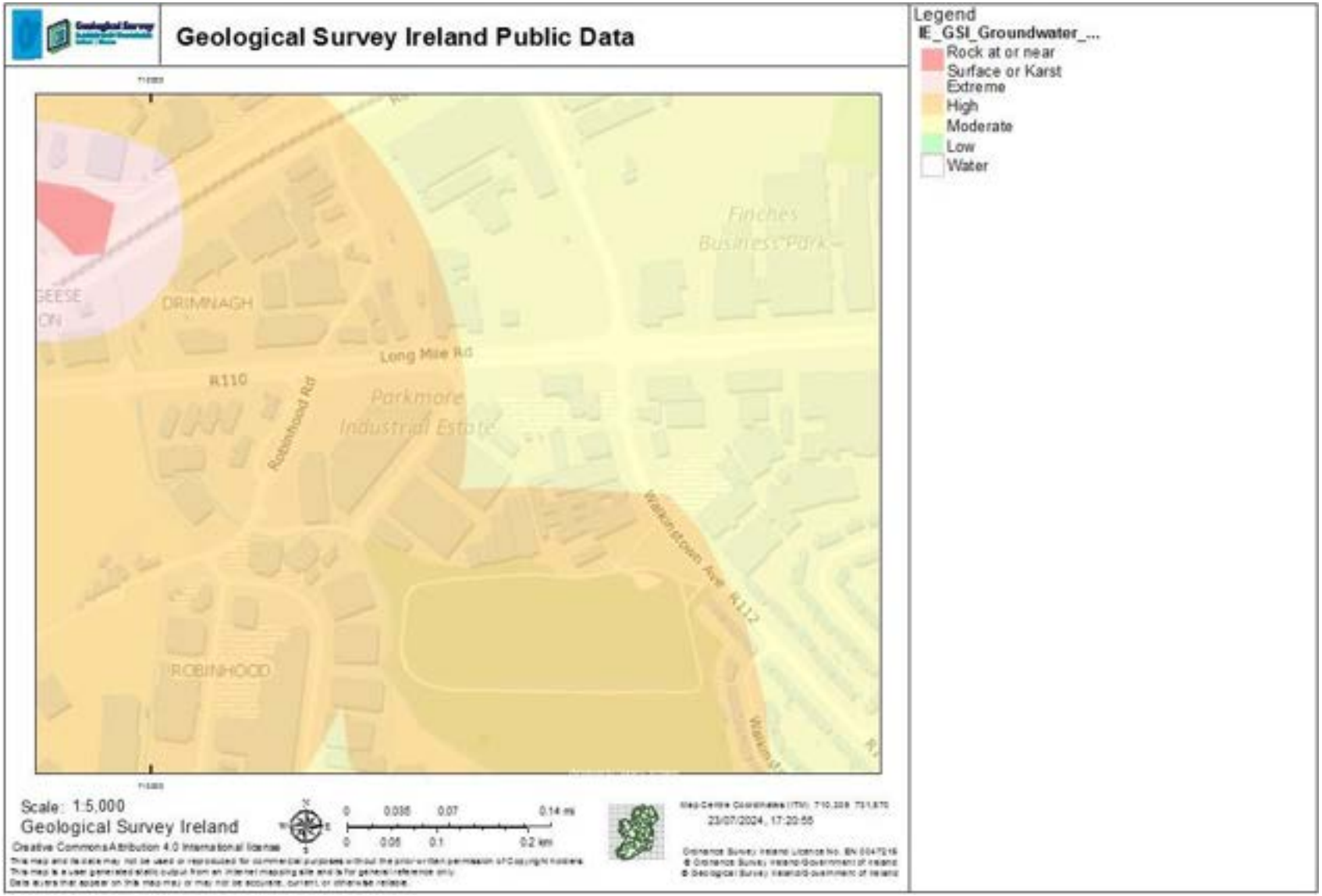
Bedrock Geology at 100k Scale



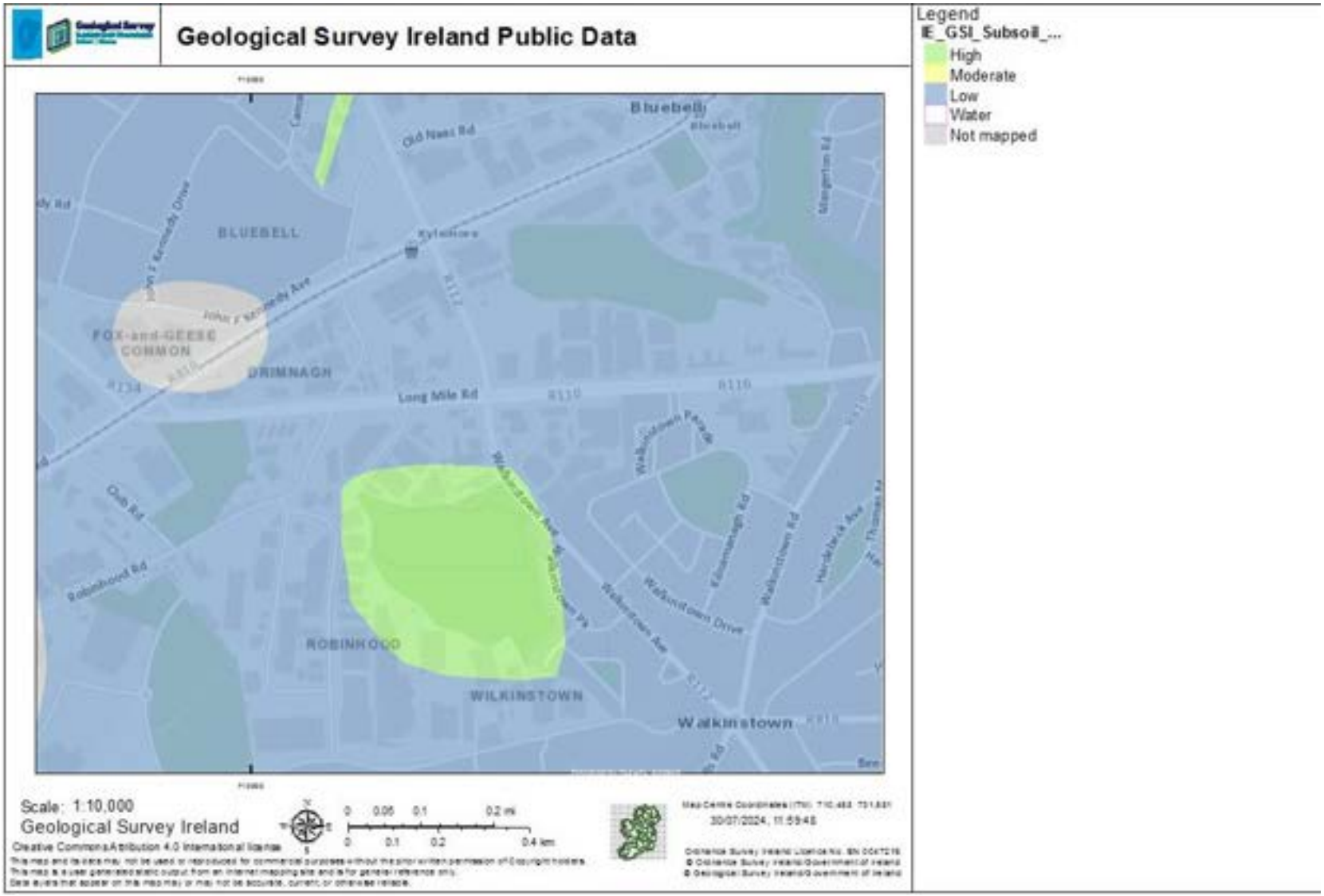
Subsoil - Quaternary Sediments



Groundwater Vulnerability



Groundwater Subsoil Permeability



APPENDIX F
CITY EDGE PROJECT SFRA FLOOD MAPS

Project_Boundary

10% AEP Fluvial Flood Extent - Present

Buildings

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

Comhairle Contae Átha Cliath Theas
South Dublin County Council

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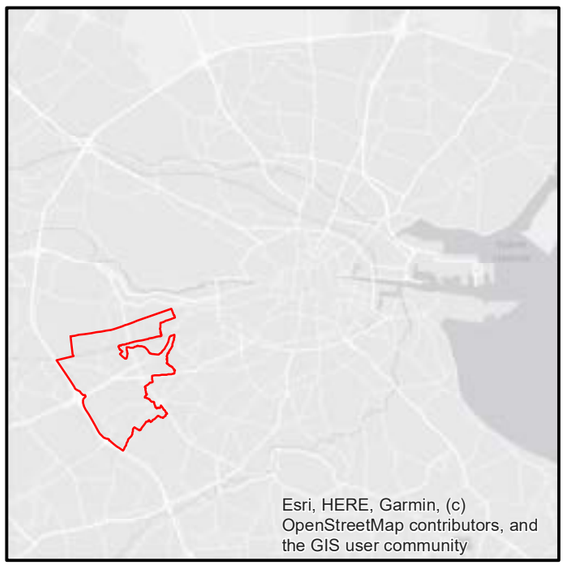
PROJECT No.	STAGE
20849	STRATEGIC FRA

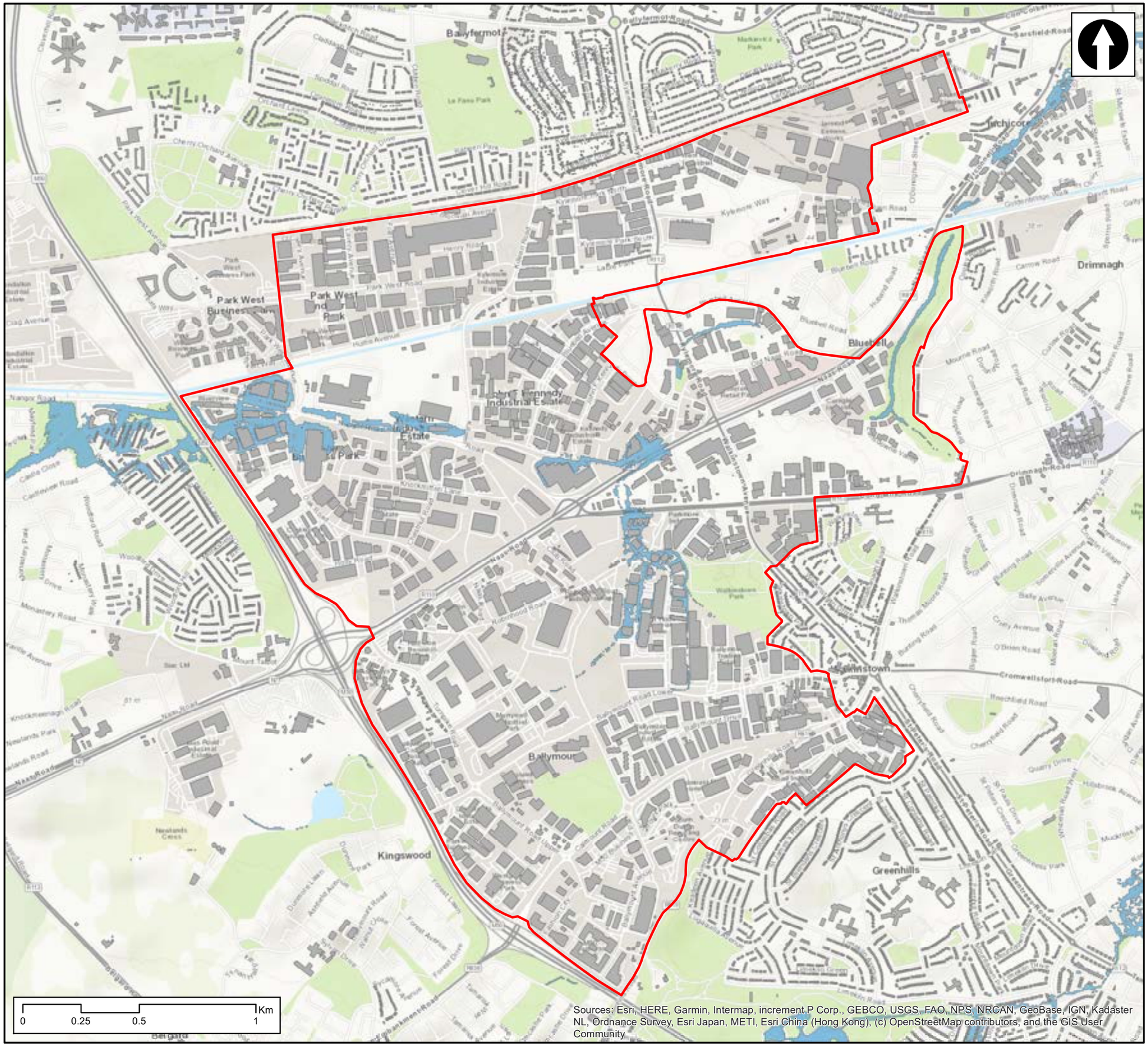
DRAWING No.	REVISION
20849-SFRA001	-



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

0 0.25 0.5 1 Km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



Project_Boundary
1% AEP Fluvial Flood Extent - Present
Buildings

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

Comhairle Contae Átha Cliath Theas
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PROJECT No.	STAGE
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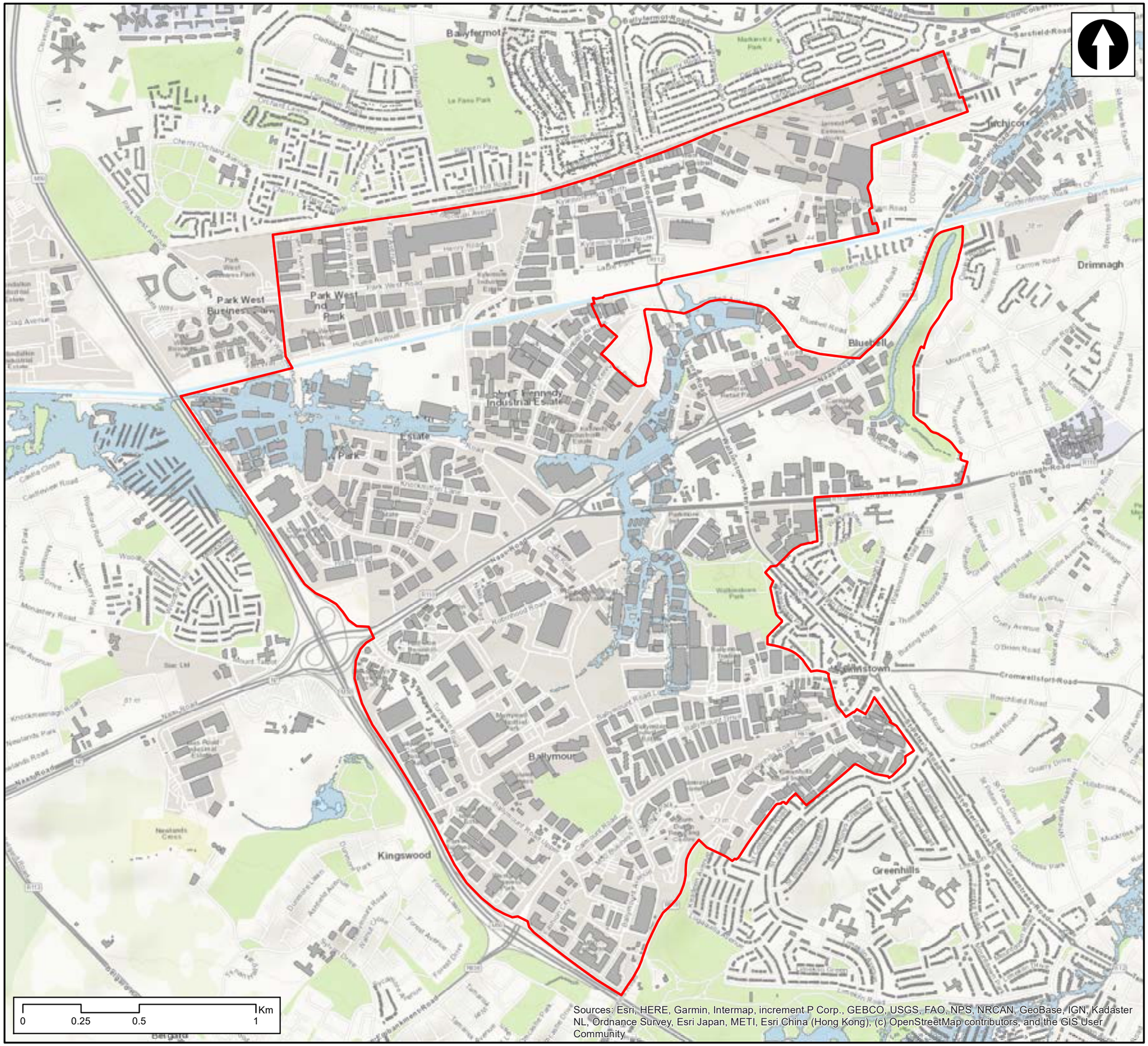
DRAWING No.	REVISION
20849-SFRA002	-



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

- Project_Boundary
- 0.1% AEP Fluvial Flood Extent - Present
- Buildings

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Dublin City Council

Comhairle Contae Átha Cliath Theas
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PROJECT No.	STAGE
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DRAWING No.	REVISION
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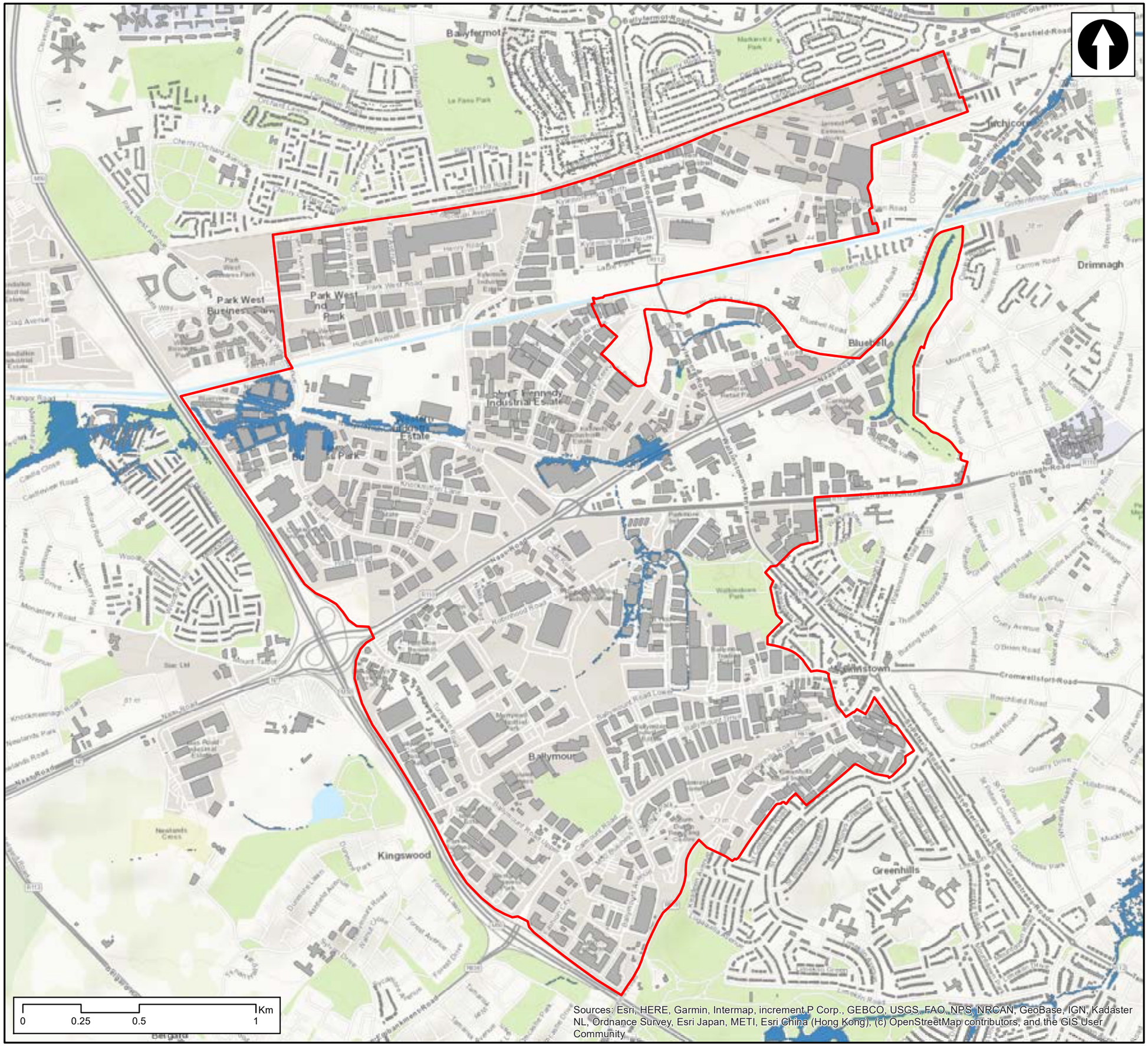

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- Project_Boundary
- 10% AEP Fluvial Flood Extent (30% Uplift)
- Buildings

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PROJECT No.	STAGE
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DRAWING No.	REVISION
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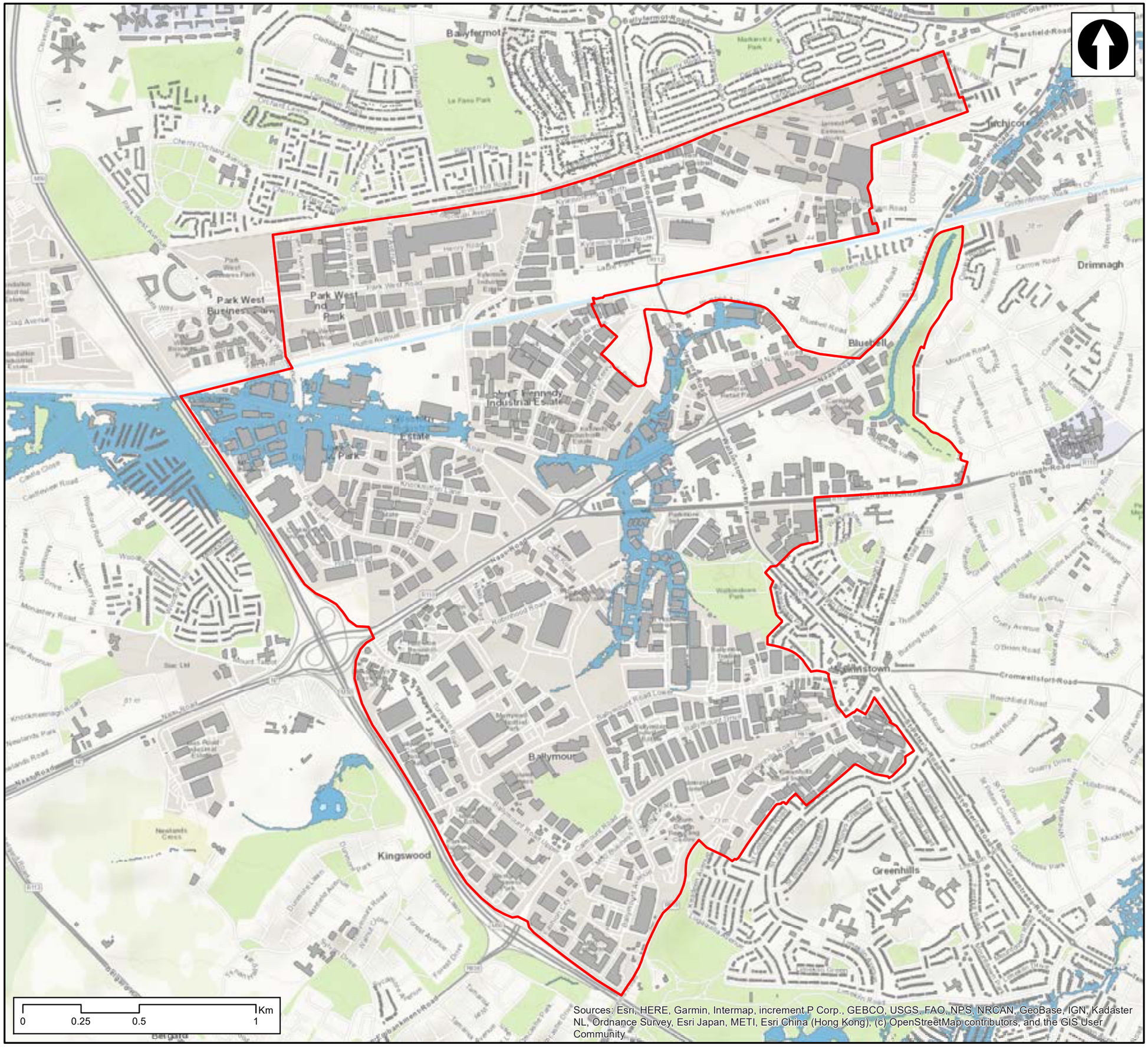

Project_Boundary

1% AEP Fluvial Flood Extent (30% Uplift)

Buildings

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PROJECT No.	STAGE
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DRAWING No.	REVISION
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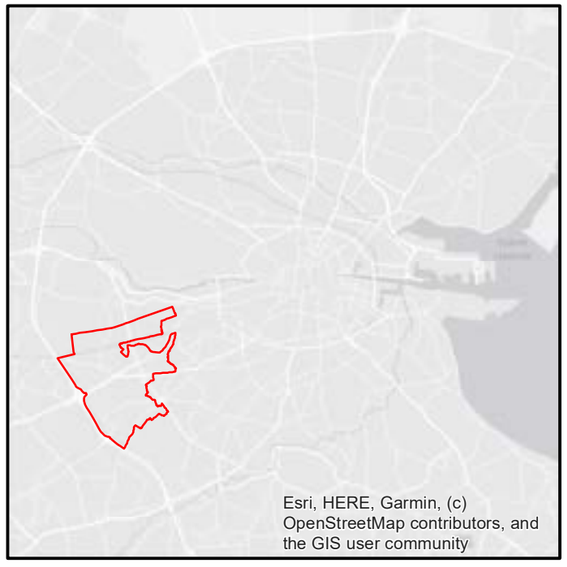

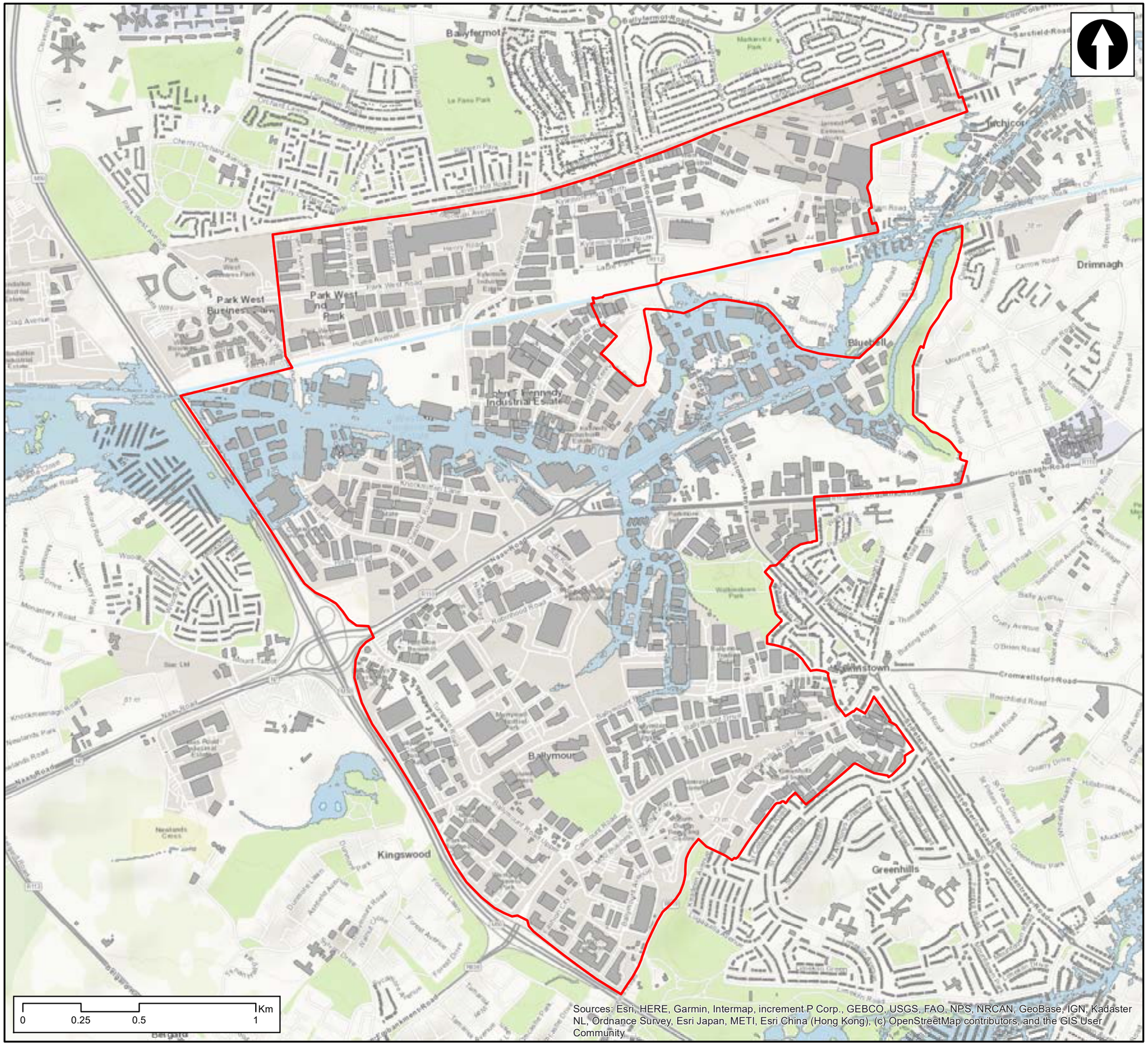

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- Project_Boundary
- 0.1% AEP Fluvial Flood Extent (30% Uplift)
- Buildings

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PROJECT No.	STAGE
20849	STRATEGIC FRA

DRAWING No.	REVISION
20849-SFRA006	-

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Project_Boundary

1% AEP Pluvial Flood Extent - Present

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

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PROJECT No.	STAGE
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DRAWING No.	REVISION
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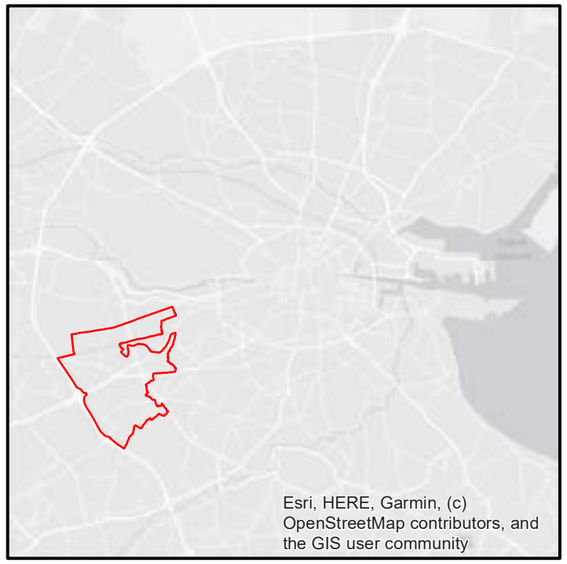

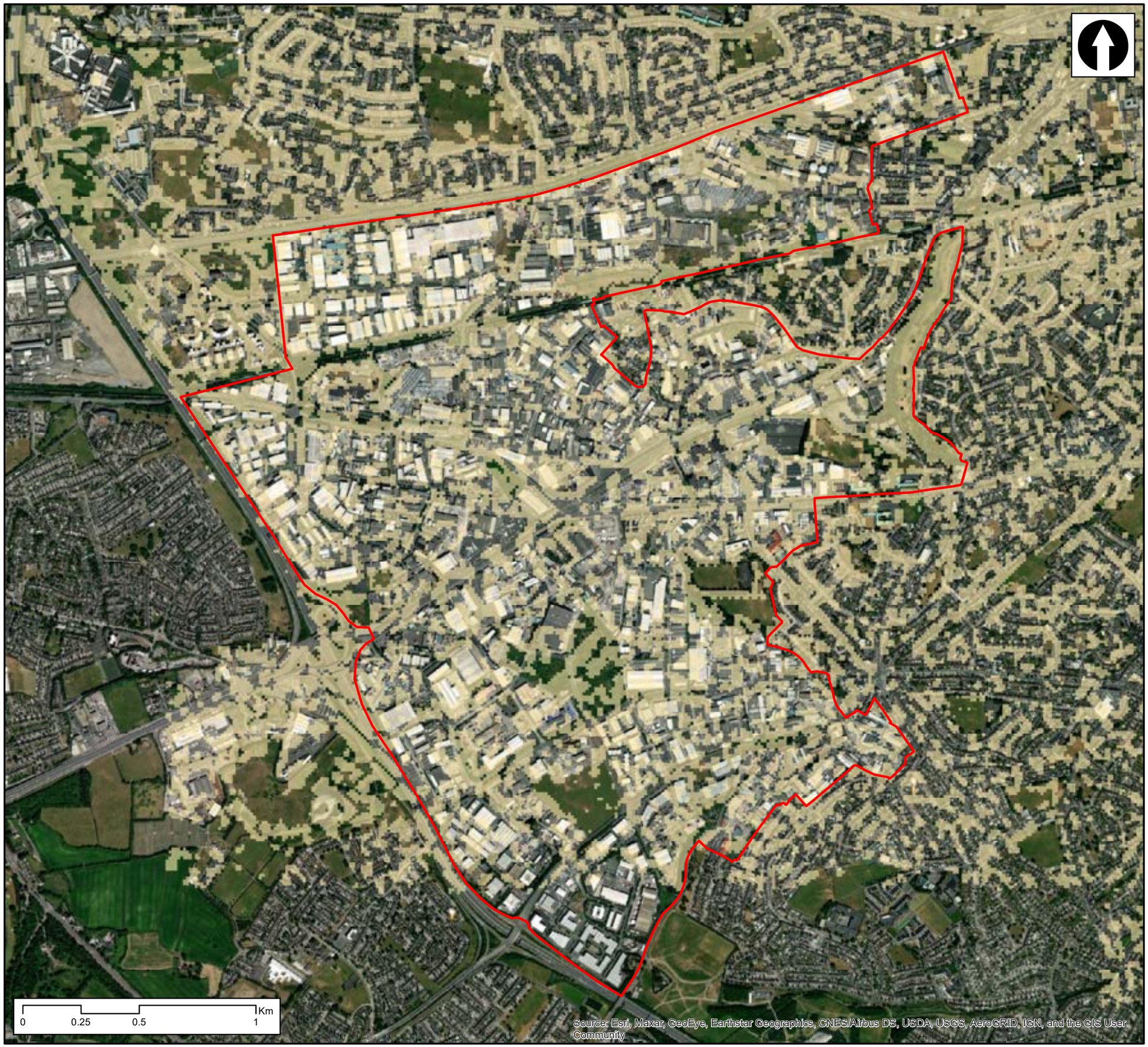

Project_Boundary

0.5% AEP Pluvial Flood Extent - Present

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

Comhairle Contae Átha Cliath Theas
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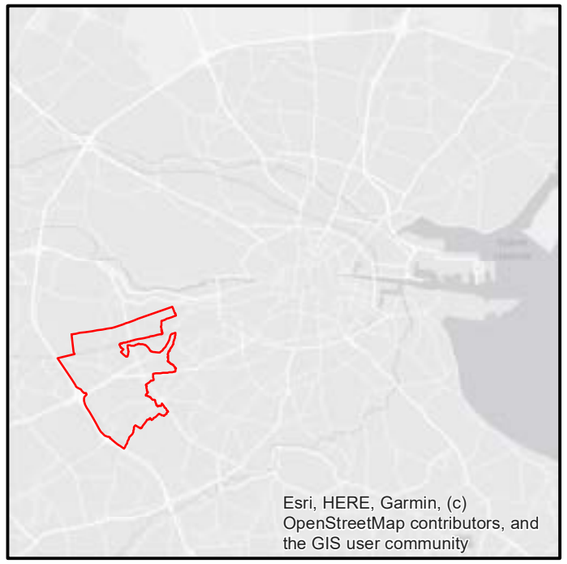
PROJECT No.	STAGE
20849	STRATEGIC FRA

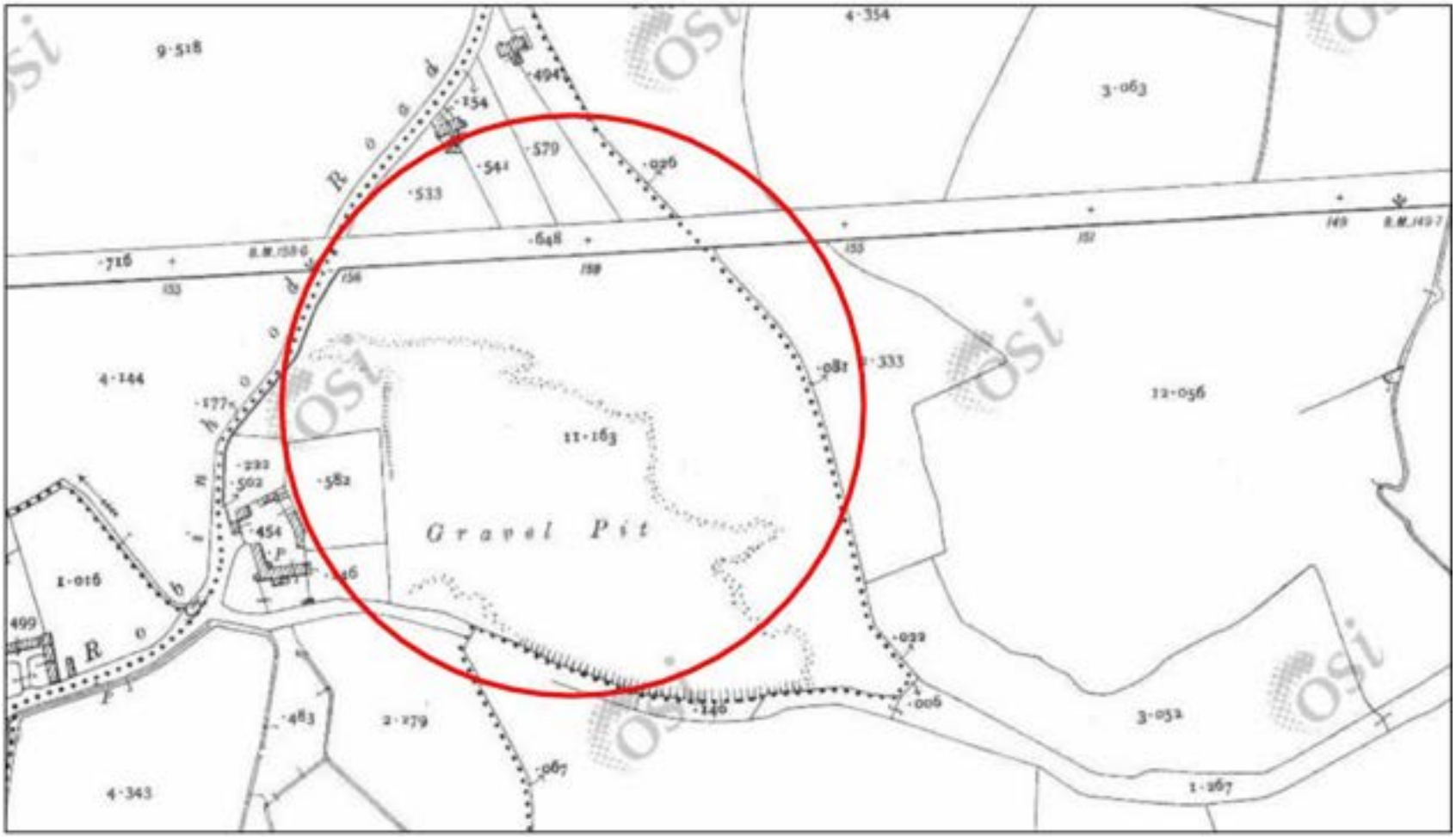
DRAWING No.	REVISION
20849-SFRA012	-



APPENDIX G
HISTORICAL MAPS

6" Historic Map

25" Historic Map



APPENDIX H
HISTORIC NEWS ARTICLES

Irish Independent News Opinion Business Sport Life Style Entertainment

Home / Irish News

Rain brings chaos and flash floods

Denise Clarke
Sat 25 Jul 2009 at 00:00

Thunder storms and torrential rain caused major traffic disruption yesterday as some roads were closed due to flooding.

Flash-flooding in the Crumlin/Drimnagh area of Dublin resulted in the closure of the Long Mile Road for a number of hours. The Naas Road and Walkinstown roundabout were also flooded, causing havoc for commuters.

A spokesman for Dublin City Council said the flash-flooding in the Crumlin/Drimnagh area was "due to the sheer intensity of rainfall".

"The Long Mile Road, which was closed for a duration, and the Walkinstown roundabout were of the most concern. Ordinary and on-call crews of the Dublin City Council drainage section were in the area, along with the Dublin Fire Brigade units so it was all hands to the pump," he said.

In Co Wicklow, rehearsals for this weekend's Bray Air Show had to be cancelled due to the awful weather.

The Army Black Knights parachute team had a cancel a rehearsal jump for tomorrow's show in Bray as a sudden thunder storm hit the town. Newlyweds Michael Fletcher from Cork and Aoife O'Toole from Bray were posing for photographs when the storm hit, forcing the couple and their bridal party to seek shelter in the bandstand for up to an hour.

Met Eireann's Evelyn Cusack said there were thunder storms yesterday across Dublin city and county and "throughout a good few parts of the country".

She added: "Today will be the drier day of the weekend. People should make the most of it as there is more heavy rain sweeping in from the Atlantic."

Cork hit hardest as calls grow for flood defences

There have been renewed calls for flood defences in Cork after the city and county were hit by flooding for the second night in a row.

THU, 18 OCT, 2012 - 01:00

EOIN ENGLISH

In the city, home and business owners escaped major property damage, though water did enter some premises. There were, however, fears that there could be a greater flooding risk when the River Lee reaches high tide at 8am today. Bands of prolonged heavy rainfall have swept along the south and south-west of the country over the last 48 hours.

But Cork was also hit by a combination of low atmospheric pressure and a tidal surge which resulted in extensive localised flooding on the South Mall, Morrison's Island, Union Quay, South Terrace, George's Quay, Lavitt's Quay, and other low-lying areas.

Several roads were impassable causing some delays during the morning rush hour.

Council workers closed many of the same roads before high tide at 7.30pm last night. They flooded again but the water receded within a few hours.
There were reports of up to two feet of water in a number of areas of the city including Oliver Plunkett Street and Proby's Quay.
Cork Chamber said the Lee CFRAMS study on flood risk and management in Cork must be completed urgently. Work began on the study in 2006.

Chamber chief executive Conor Healy said repeated flooding of the city centre is not acceptable.

"The Lee CFRAMS study is just the first part of this project," he said.

"Then we get recommendations, then we'll have to go through the process of applying for funding to implement whatever flood defences are recommended.

"It's too long to wait. Anything that can be done in the short-term to mitigate flooding incidents should be done."

The Cork Business Association said members in flood risk zones got advance warning thanks to the council's new early warning flood alert system.

The system was activated for the first time after Met Éireann issued a severe weather alert on Tuesday afternoon.

In the county areas, Belvelly Bridge in Cobh was flooded, and water poured over the Quay Wall in Youghal.

Main St in Carrigaline and roads around Bantry, Clonakilty, and Timoleague were flooded, as was a section of the N25 Corkto Waterford Rd at Carroll's Cross.

Rail services between Waterford and Kilkenny were suspended after the tracks at Plunkett RailStation were flooded. Passengers were bussed to and from Kilkenny.

In Dublin, the Long Mile Rd at the junction of the N7 was totally flooded, and there were reports of severe flooding on the Pembroke Rd, Northumberland Rd, Blessington Rd in Tallaght, and in Jobstown.

Flooding was also reported on Foster's Avenue, the Chapelizod Rd outbound at Palmerstown, as well as at the Walkinstown Rd roundabout.

Several cars were abandoned after becoming stuck in floodwaters on the M1 at Lusk.

Some early Dart services from Sandycove were delayed by flooding.

Gardaí last night again urged road users to exercise extreme caution.

While a weather and gale warning remained in effect, Met Éireann said the worst of the weather has passed.

The forecast today is for bright or sunny spells with scattered showers, some of which will be heavy and possibly thundery, generally affecting the midlands, west and North, with much of Leinster and east Munster staying dry.

Tomorrow will be dry with sunny intervals, with similar conditions on Saturday.