

Project

Residential Development, Cornelscourt, Dublin 18

Report Title

Site Specific Flood Risk Assessment

Client

Cornel Living Ltd.

INFRASTRUCTURE



DBFL CONSULTING ENGINEERS

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1. INTRODUCTION

1.1. Background

DBFL Consulting Engineers have been instructed to prepare a Site-Specific Flood Risk Assessment (SSFRA) to support a planning application for a proposed residential development located at Cornelscourt Village, Old Bray Road, Cornelscourt, Dublin 18.

The proposed development (“the site”) comprises of 452 apartments, 10 houses, 6 bungalows, a café / restaurant, office space, concierge and central residential amenity space on a 2.14 Ha site (approx.).

This SSFRA should be read in conjunction with DBFL’s Infrastructure Design Report (180208-rep-001).

1.2. Objectives

The objectives of this report are to inform the planning authority in relation to flood risk associated with the site.

The report will assess the site in accordance the requirements of “The Planning System and Flood Risk Management, Guidelines for Planning Authorities” and its Technical Appendices (Office of Public Works, November 2009).

This flood risk assessment will outline the following;

- Information to allow an informed decision by the planning authority in relation to flood risk
- The site’s flood zone category
- Appropriate flood risk mitigation and management measures for any residual flood risk

1.3. Flood Risk Assessment Scope

This SSFRA relates only to the proposed development lands at Cornelscourt Village, Old Bray Road, Dublin 18 and its immediate surroundings.

This SSFRA uses information obtained from various sources in order to carry out an assessment of flood risk for the existing land and proposed development.

1.4. Approach

Section 2.0 of this SSFRA considers “The Planning System and Flood Risk Management, Guidelines for Planning Authorities” and its Technical Appendices as they relate to the site.

Flood risk identification is presented in Section 3.0, an initial flood risk assessment is carried out in Section 4.0, while a more detailed flood risk assessment is presented in Section 5.0.

Conclusions and recommendations are outlined in Section 6.0.

1.5. Existing Site

The site which is currently greenfield (with the exception of a temporary carpark in its north-west corner) is located adjacent to Cornelscourt Village (refer to Figure 1.1).

The N11 road is located to the north-east of the site, existing residential development (Willow Grove) is located to the south-east of the site and the AIB (and associated carparking) is located to the north-west of the site. Old Bray Road is located to the south-west of the site.

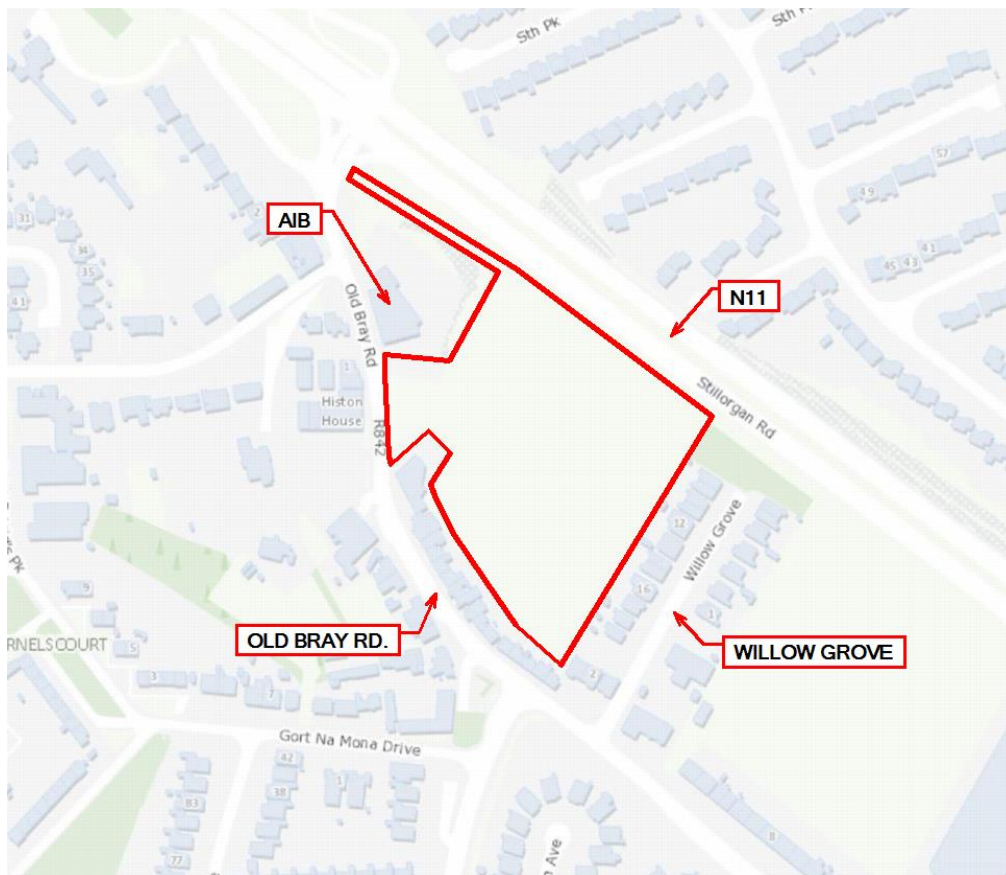


Figure 1.1 Site Location – Extract from myplan.ie viewer (Site Boundary Indicative Only).

The site generally falls from its western corner towards its eastern corner at a gradient of approximately 1/24.

Existing topographic survey information is shown in the background of the Proposed Roads Layout Plan (refer to DBFL Drawing No. 180208-XX-XX-DR-C-2001).

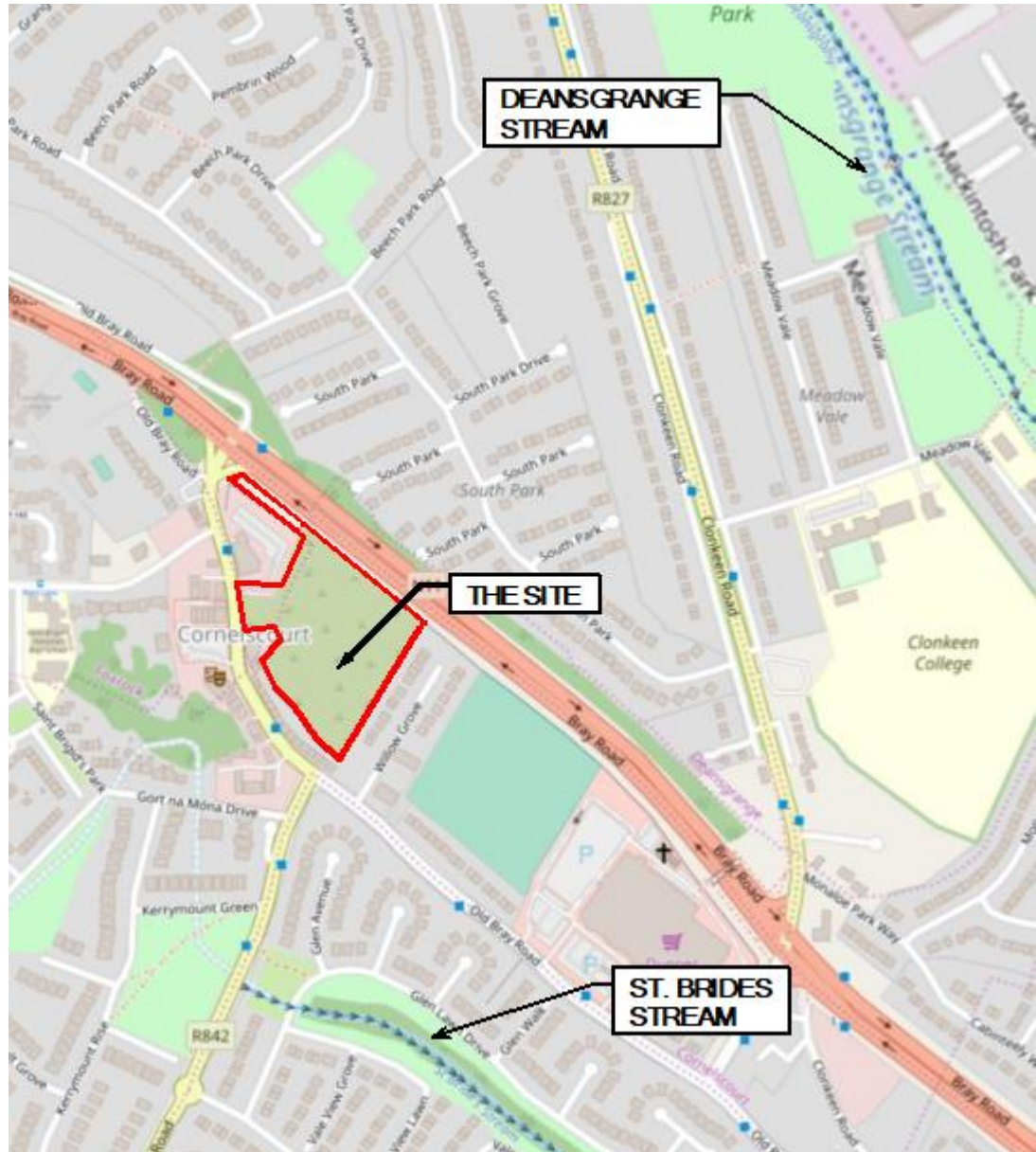


Figure 1.2 Extract from EPA Online Mapping Service.

1.6. Proposed Development

The proposed development (“the site”) comprises of 452 apartments, 10 houses, 6 bungalows, residential amenity space, office space, a café and other Build to Rent facilities as well as other engineering infrastructure such as site access, surface water drainage, foul drainage and water supply infrastructure.

2. Planning System & Flood Risk Management Guidelines

2.1. General

“The Planning System and Flood Risk Management, Guidelines for Planning Authorities” and its Technical Appendices outline the requirements for a Site-Specific Flood Risk Assessment.

Table 3.1 of the guidelines classify “dwelling houses” as “highly vulnerable development”.

Table 3.2 of the guidelines indicates that “highly vulnerable development“ is classified as “appropriate” once located in Flood Zone C i.e. where probability of flooding from rivers is low (less than 0.1% AEP).

If a “highly vulnerable development“ is to be located in Flood Zone A or Flood Zone B a Justification Test is required.

2.2. Sequential Approach

This SSFRA will initially use existing flood risk information to determine the flood zone category of the site i.e. to determine whether the development is considered appropriate or whether a justification test is required (see Figure 2.1 below).

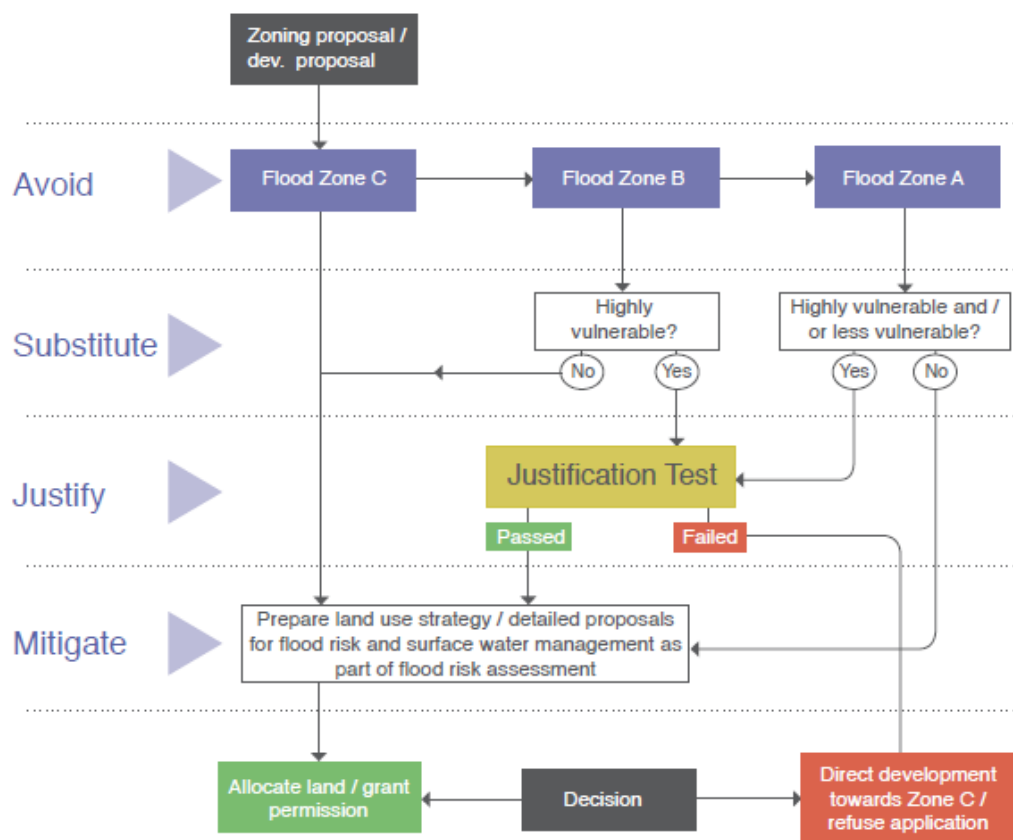


Figure 2.1 – Extract from The Planning System and Flood Risk Management Guidelines (Fig. 3.2 Sequential Approach Mechanism in the Planning Process)

2.3. Flood Risk Assessment Stages

The stages of a Flood Risk Assessment are as follows:

- Stage 1 – Flood Risk Identification
- Stage 2 – Initial Flood Risk Assessment
- Stage 3 – Detailed Flood Risk Assessment

The following sections of this SSFRA follows this approach.

3. Stage 1 – Flood Risk Identification

3.1. General

The flood risk identification stage uses existing information to identify whether there may be any flooding or surface water management issues related to the site that may require further investigation.

3.2. Information Sources

Information sources consulted for the identification exercise are outlined in Table 3.1 below.

Information Source	Comments
Predictive and historic flood maps, and Benefiting Lands Maps, such as those at http://www.floodmaps.ie	Information obtained (and reviewed) from www.floodmaps.ie (OPW website).
Expert advice from OPW who may be able to provide reports containing the results of detailed modelling and flood-mapping studies, including critical drainage areas, and information on historic flood events, including flooding from all sources;	Information obtained (and reviewed) from www.floodmaps.ie (OPW website).
Predictive flood maps produced under CFRAM Studies;	Information obtained (and reviewed) from www.cfram.ie (Deansgrange CFRAMS), fluvial flood depth, fluvial flood extents etc.
Previous Strategic Flood Risk Assessments;	Eastern CFRAM Study consulted.
Topographical maps, in particular digital elevation models produced by aerial survey or ground survey techniques;	Site topographic survey undertaken (refer to Appendix A).
Information on flood defence condition and performance;	No flood defences in the vicinity of the site
Alluvial deposit maps of the Geological Survey of Ireland (which would allow the potential for the implementation of source control and infiltration techniques, groundwater and overland flood risk to be assessed). These maps, while not providing full coverage, can indicate areas that have flooded in the past (the source of the alluvium) and may be particularly useful at the early stages of the FRA process where no other information is available;	GSI maps consulted.
Walkover survey to assess potential sources of flooding, likely routes for flood waters and the site's key features, including flood defences, and their condition;	Walkover survey carried out.
'Liable to flood' markings on the old '6 Inch' maps;	Historic OSI maps consulted.

Table 3.1 - Information Sources Consulted

3.2.1. OPW National Flood Hazard and Benefiting Lands Mapping

OPW's Summary Local Area Report is included in Appendix B (Flood Hazard Information). This report is sourced from the OPW website (www.floodmaps.ie) and summarises all flood events within 2.5 km of the site.

No flood events are noted in the immediate vicinity of the site.

No benefitting lands are identified in the vicinity of the site.

3.2.2. Eastern CFRAMS Study

Extracts from the Eastern CFRAM Study (Fluvial Flood Extent and Fluvial Flood Depth Plans) are included in Appendix B (Flood Hazard Information) which indicates the extent of fluvial flooding in the areas.

No fluvial flooding is indicated in the vicinity of the site.

3.2.3. Other Sources

Other information sources were consulted to determine if there was any additional flood risk to the site including:

- Topographical surveys of the area – the site is significantly elevated above the predicated 0.1% AEP fluvial flood event as shown in the CFRAMS Flood Extent Mapping.
- Soils data from the GSI – no alluvium deposits within the site boundary.
- Groundwater information from GSI – no groundwater wells or springs located within the site, underlying aquifer classified as locally important, groundwater vulnerability noted as Low.
- Site Investigations – Adjacent to the site's western boundary (the high side of the site), groundwater was observed at approx. 1.0m below existing ground level. Adjacent to the site's eastern boundary (the low side of the site), groundwater was observed at approx. 2.3m below existing ground level.
- Walkover survey – there are no open drain within the site's boundary (refer to the Topographical Survey Plan included in Appendix A).
- 6 inch OSI Map – no evidence of flooding or marsh areas shown within the site.

Review of the 'other sources' of information noted above do not indicate evidence of flood risk to the site.

3.3. Source-Pathway-Receptor Model

A Source-Pathway-Receptor model was produced to summarize the possible sources of floodwater, the pathways by which flood water could reach receptors and the receptors that could be affected by potential flooding, see Table 3.2 below.

It outlines effects of various potential sources, the performance and response of pathways and the consequences to the receptors in the context of the proposed development.

These sources, pathways and receptors will be assessed further by the initial flood risk assessment stage.

Source	Pathway	Receptor	Likelihood	Consequence	Risk
Fluvial	Overbank from Deansgrange Stream 650m north-east of the site (refer to Figure 1.2)	People and Property (the proposed development).	Remote	Medium	Low
Surface Water (Pluvial)	Blockage and / or surcharging of the surface water drainage network	People and Property (the proposed development).	Possible	Medium	Medium
Human / Mechanical Error (Pluvial)	Failure of SuDS measures (e.g. Hydrobrake failure)	People and Property (the proposed development).	Possible	Medium	Medium
Groundwater	Rising groundwater levels within the site	People and Property (the proposed development).	Remote	Low	Low

Table 3.2 - Source-Pathway-Receptor Analysis

4. Stage 2 – Initial Flood Risk Assessment

Flood risks identified during Stage 1 – Flood Risk Identification, are outlined in Table 3.2 (Source Pathway Receptor Analysis) and noted below. These risks are assessed further in this section of the SSFRA.

- Low risk of fluvial flooding
- Medium risk of pluvial flooding (surface water and human / mechanical error)
- Low risk of groundwater flooding

The information sources identified in Section 3.2 are considered adequate for the purpose of an Initial Flood Risk Assessment for the site and no further technical studies are proposed.

4.1. Initial Fluvial Flood Risk Assessment

The Source-Pathway-Receptor model identified a low risk of fluvial flooding.

CFRAM Flood Extent Map

The CFRAM flood extents maps identify the location of the predicated 0.1% AEP fluvial flood events associated with watercourses in the areas (refer to Appendix B).

No fluvial flooding is indicated in the vicinity of the site.

The closest modelled node to the site is located on the Deansgrange stream (Node 1050M00444), approximately 650m north-east of the site.

The location of the Deansgrange stream in relation to the site is shown in Figure 1.2.

The location of this node is shown on CFRAM Drawing E10LOU_EXFCD_F1_08 (refer to Appendix B).

- | | |
|--|---------|
| • Node OS_1727, 10% AEP fluvial flood level | +31.35m |
| • Node OS_1727, 1% AEP fluvial flood level | +31.74m |
| • Node OS_1727, 0.1% AEP fluvial flood level | +32.21m |
| • Basement Level | +48.15m |

The lowest proposed FFL (+48.15m) is 15.94m above the predicted 0.1% AEP fluvial flood event associated with Node 1050M00444 (+32.21m).

4.2. Initial Pluvial Flood Risk Assessment

The Source-Pathway-Receptor model identified a medium risk of pluvial flooding relating to the proposed surface water drainage network and human / mechanical error. This risk can be mitigated by designing the surface water network in accordance with the Greater Dublin Strategic Drainage Study (GSDSDS) including attenuation of the 1:100year storm event and implementation of SuDS methodologies.

Proper operation and maintenance of the drainage system should also be implemented to reduce the risk of human or mechanical error causing pluvial flood risk from blockages, fuel / oil interceptor operation problems etc.

4.3. Initial Groundwater Flood Risk Assessment

No groundwater wells, springs or marsh areas are located within the site (based on review of information available on the GSI and OSI websites and a walkover survey of the site).

Due to relatively high level of groundwater encountered in the boreholes during site investigations there may be a need to dewater excavations during construction. In general, the designed basement level, ground floor levels and external pavement levels have been designed to follow the natural topography of the site, therefore minimising the need for excavation to enable development.

Therefore, the risk of groundwater flooding occurring at the site is considered negligible.

4.4. Flood Zone Category

On completion of Stage 2 – Initial Flood Risk Assessment, the site is considered to be located in Flood Zone C as defined by the requirements of “The Planning System and Flood Risk Management, Guidelines for Planning Authorities” and its Technical Appendices. The proposed development (“dwelling houses”) is therefore considered appropriate as it is located in a Flood Zone C area.

5. Stage 3 – Detailed Flood Risk Assessment

5.1. General

As the Initial Flood Risk Assessment considers the site to be located in Flood Zone C and the proposed development is considered appropriate, the Detailed Flood Risk Assessment Stage will only consider pluvial flood risk in relation to the following;

- Proposed Surface Water Management Measures and SuDS.
- Flood Exceedance.
- Impact on Adjacent Areas.
- Climate Change.
- Access and Egress During Flood Events.
- Residual Risks.
- Effectiveness of Flood Mitigation Measures.

5.2. Surface Water Management Measures and SuDS

An existing 225mm diameter surface water drain is located adjacent to the site's eastern corner (at the northern end of Willow Grove). This pipe is expected to provide a suitable surface water outfall for the proposed development (also refer to DBFL Infrastructure Design Report, 180208-rep-001, Section 3.0 Surface Water Drainage).

Proposed surface water drains have been designed in accordance with the Greater Dublin Strategic Drainage Study (GDSDS). Surface water discharge rates from the proposed surface water drainage network will be controlled by a Hydrobrake type flow control device and associated underground attenuation tanks (Stormtech Chambers). Surface water discharge will also pass via a full retention fuel / oil separator (sized in accordance with permitted discharge from the site).

The proposed surface water drainage network will collect surface water runoff from the site via a piped network prior to discharging off site via the attenuation tank, flow control device and separator arrangement as noted above.

5.2.1. SuDS Methodologies

The following methodologies are being implemented as part of a SuDS treatment train approach:

- Green Roof – The proposed build-up will be an extensive type with 100mm minimum construction depth and sedum planting.
- Green Areas Over Podium – Soft landscaped podium areas will have typical soil depths of up to 300mm to facilitate grassed areas, plants, shrubs and trees i.e. similar to a deep intensive green roof build up.
- Permeable Paving Over Podium – Free draining material within the build-up and will reduce the flow rate from these areas.
- Roof Areas Draining Via SuDS – Houses located along the site's south-eastern boundary (adjacent to Willow Grove) and the bungalows located along the site's south-western boundary drain via filter drains and a bioretention area respectively.
- Permeable Paved Areas Draining via SUDS – Aggregate / filter material used in the permeable paving and tree pits slow run-off at source.
- Soft Landscaped / Grassed Areas – Slows run-off at source.
- Attenuation of the 30 and 100 year return period storms within Stormtech Attenuation Chambers.
- Installation of a vortex flow control devices (Hydrobrake or equivalent), limiting surface water discharge from the site to 8.36 l/sec/ha
- Surface water discharge will also pass via a Class 1 full retention fuel / oil separator (sized in accordance with permitted discharge from the site)

5.2.2. Surface Water Attenuation and Storage

Attenuation volumes have been calculated based on a greenfield runoff rate of 4.0l/sec/ha (also refer to DBFL Infrastructure Design Report 180208-rep-001 Section 3.2.4).

5.3. Flood Exceedance

For storms greater than the 1%AEP pluvial event, the development's drainage network design will be exceeded and areas with low ground levels may begin to flood.

Proposed site levels fall towards the site's eastern corner. Overland flow is therefore directed towards the open space areas located at the northern end of Willow Grove (refer to Figure 5.1).

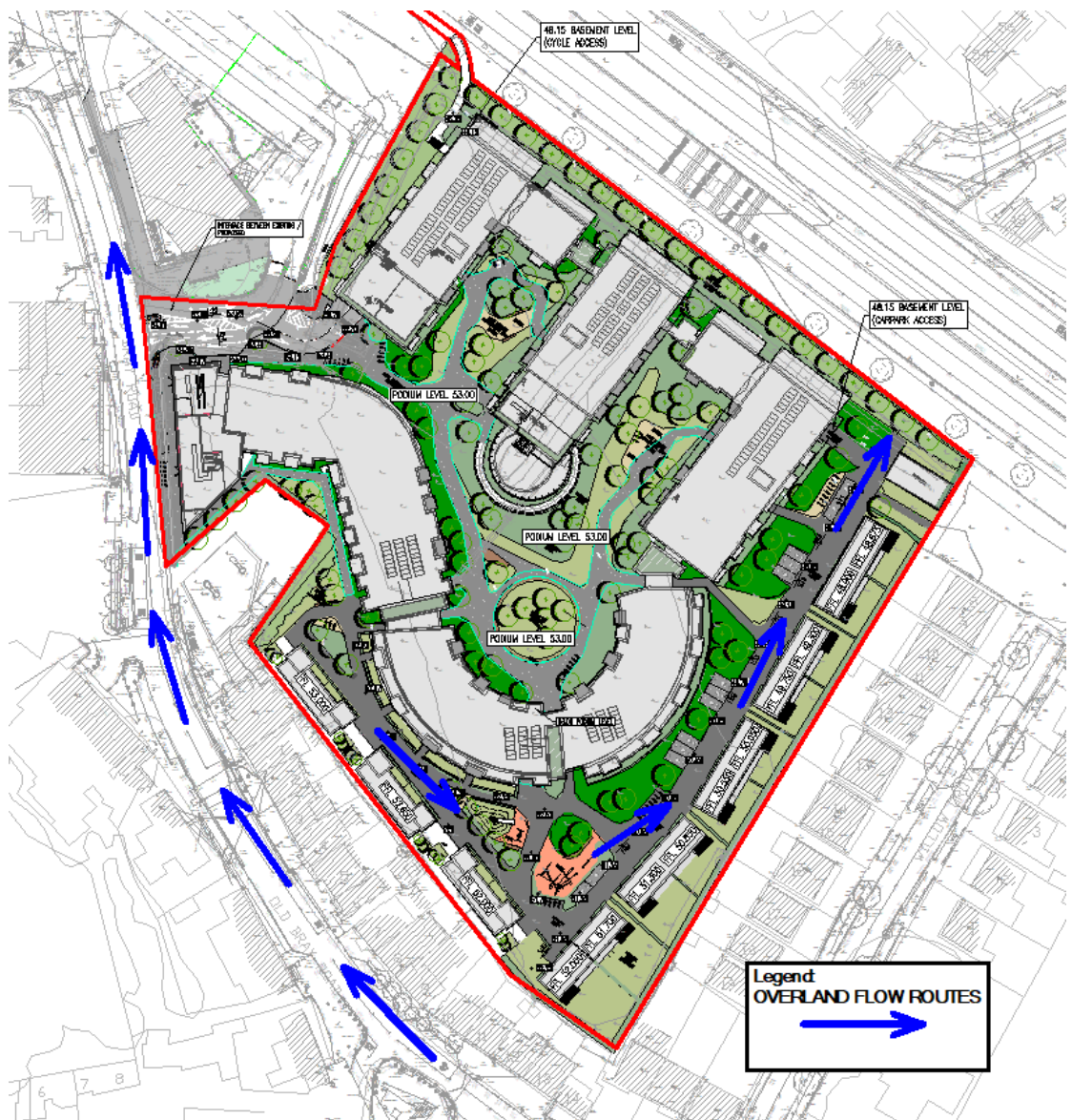


Figure 5.1 – Flood Exceedance (>1%AEP) Overland Flow Routes

5.4. Impact on Adjacent Areas

Adjacent areas will not be impacted by the development up to the 1% AEP flood event. Storms greater than the 1% AEP (exceeding the design capacity of the site's drainage system) may result in overland flow being directed towards the open space area located to the north of Willow Grove.

5.5. Climate Change

The potential impact of climate change has been allowed for as follows;

- Pluvial flood risk - attenuation storage design allows for a 10% increase in rainfall intensities, as recommended by the GSDS.
- Pluvial flood risk – surface water network design allows for a 10% increase in flows, as recommended by the GSDS.

5.6. Access and Egress During Flood Events

Access and egress to the site is provided via a site entrance off Old Bray Road.

It is anticipated that for storm events up to the 1% AEP the site can be safely accessed from Old Bray Road (as the site is located in Flood Zone C).

5.7. Residual Risks

Remaining residual flood risks, following the detailed assessment include the following;

1. Pluvial flooding from the private drainage system related to a pipe blockage, flood exceedance or mechanical failure.
2. Pluvial flooding from the development's drainage system for storms in excess of the 1% AEP storm event.

5.8. Mitigation Measures

Proposed mitigation measures to address residual flood risks are summarized below;

M1. Proposed drainage system to be maintained on a regular basis to reduce the risk of a blockage.

M2. In the event of storms exceeding the 1% AEP design capacity of the attenuation system, possible overland flow routing towards open space areas located to the north of Willow Grove should not be blocked. At this location the site's boundaries should be permeable to facilitate flood routing onto adjacent public spaces.

5.8.1. Effectiveness of Mitigation Measures

It is considered that the flood risk mitigation measures if implemented are sufficient to provide a suitable level of protection to the proposed development. A regularly maintained drainage system will ensure that it remains effective and in good working order should a large pluvial storm occur.

Should extreme pluvial flooding occur that is in excess of the development's attenuation capacity (i.e. greater than 1%AEP), then overland flow routes directed towards open space areas and adjacent public roads are provided in order to protect the residence which are proposed at lower floor levels.

6. Conclusions

The Site-Specific Flood Risk Assessment for proposed development at Cornelscourt Village, Old Bray Road, Dublin 18 was undertaken in accordance with the requirements of “The Planning System and Flood Risk Management, Guidelines for Planning Authorities” and its Technical Appendices.

Following the Flood Risk Assessment, it has been determined that the site is located in Flood Zone C as defined by the Guidelines.

It is concluded that the;

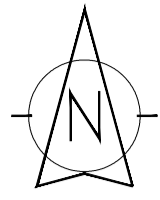
- Proposed residential development is appropriate for the site’s flood zone category.
- The sequential approach outlined in Planning System and Flood Risk Management Guidelines has been adhered to and that the ‘Avoid’ principal has been achieved.

In conclusion the proposed development is considered to have the required level of flood protection up to and including the 100 year return event.

Overland flow paths have been identified for pluvial flooding exceeding the capacity of the proposed surface water drainage network.

Appendix A

TOPOGRAPHIC SURVEY PLANS



1

2

3



LEGEND
Street furniture & Services

5.12 Over Head Wires (LUAS) - Pylon ESB	5.12 Road Sign	5.12 Phone Box
5.12 Flowerbed	5.12 Bench Seat	5.12 Duct
5.12 Pipe	5.12 Bollard	5.12 Kiosk
5.12 Lt	5.12 Beacon	5.12 Gully
5.12 Barrier	5.12 Coalhole Cover	5.12 UG Vent
5.12 Pump	5.12 Bore Hole	5.12 Waste Bin
5.12 Trial Pit	5.12 Electricity Pole	5.12 Hydrant
5.12 Bus/Tram Shelter	5.12 Telegraph pole	5.12 Fire Hydrant
5.12 Postbox	5.12 CCTV Camera Pole	5.12 ESB Box
5.12 Valve - General	5.12 CCTV Camera Pole	5.12 ESB Inspection Cover
5.12 Water Valve	5.12 Lamp Post	5.12 Traffic Control Box
5.12 Gas Valve	5.12 Foul Manhole	5.12 LUAS Technical Cabinet
5.12 Sluice Valve	5.12 Surface Water MH	5.12 Ticket Vending Machine
5.12 Air Valve	5.12 Manholes	5.12 Water Meter Cover
5.12 Stop Cock	5.12 Air Conditioning Vents	5.12 Telecom Inspection Cover
5.12 C/P Post	5.12 Services Inspection Cover	5.12 Monument / Toilets
5.12 Marker Post	5.12 Traffic Inspection Cover	5.12 Tank Storage
5.12 Traffic light	5.12 Cable TV Inspection Cover	5.12 Basement, MH, Cover & Pipe
5.12 Parking Meter	5.12 Inspection Cover	5.12 Disposed Animal Mark
5.12 Floor Area Mark	5.12 NTL Inspection Cover	5.12 Stop for pole
5.12 Small Canal / Validation	5.12 Erosion Inspection Cover	5.12 Pipe Protection
5.12 Unknown Valve	5.12 Rodding Eye	5.12 Washout

Natural Features

5.12 Surface Change	5.12 Water Level	5.12 Golf
5.12 Land Drain	5.12 Crown Level	5.12 Fair Way
5.12 Bottom of Slope	5.12 Invert level	5.12 Green
5.12 Top of Slope	5.12 Bed Level	5.12 Tee Box
5.12 Ditch	5.12 Spotheight	5.12 Other
5.12 Water Edge / Lake / Pond	5.12 Survey Station	5.12 Photo point
5.12 Hedge / Trees Drip Line / Vegetation	5.12 Tree Deciduous	5.12 Top of Tree

Built Features
Roads & Road Markings

5.12 Building	5.12 Fence	5.12 Floor Level
5.12 Edge of Road	5.12 Gate	5.12 Apex Height
5.12 Kerb Bottom	5.12 Road Centreline	5.12 Eaves Height
5.12 Kerb Top	5.12 Top of Wall	5.12 Parapet Height
5.12 Bridge Abutment	5.12 Hoarding	5.12 Soft Elevation
5.12 Bridge Deck	5.12 Property Line	5.12 Step Level
5.12 Bridge Pier/Support	5.12 Road Scar	5.12 Concrete Pad
5.12 Building Footings	5.12 Top of Fence	5.12 Track
5.12 Footpath / Platform Train & Tram	5.12 Wall / Retaining Wall	
5.12 Damp Proof Course / Veige	5.12 Railway / Tram Rail / Gating / Ramp	
5.12 Bridge Pier / Wall & Gate Piler / LUAS Trackbed	5.12 Building Canopy / Roof / Overhang	
5.12 Cycleway / Private Landing Area		

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Map Sheet Layout:

Drawn by: JMF/PC	Date: 14.07.2018	Datum: Main Head
Checked by: LR	Date: 24.07.2018	Grid System: Irish National Grid (ITM1800)

No	Date	Description	Revisions
1	24.07.2018	First Drawing	

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Client : Dunnes Stores

Project : Topo Survey Greenfield Site In South Co Dublin

Date : 24.07.2018 **Scale :** NTS@A1

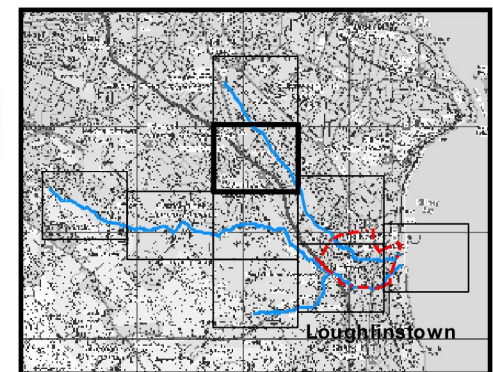
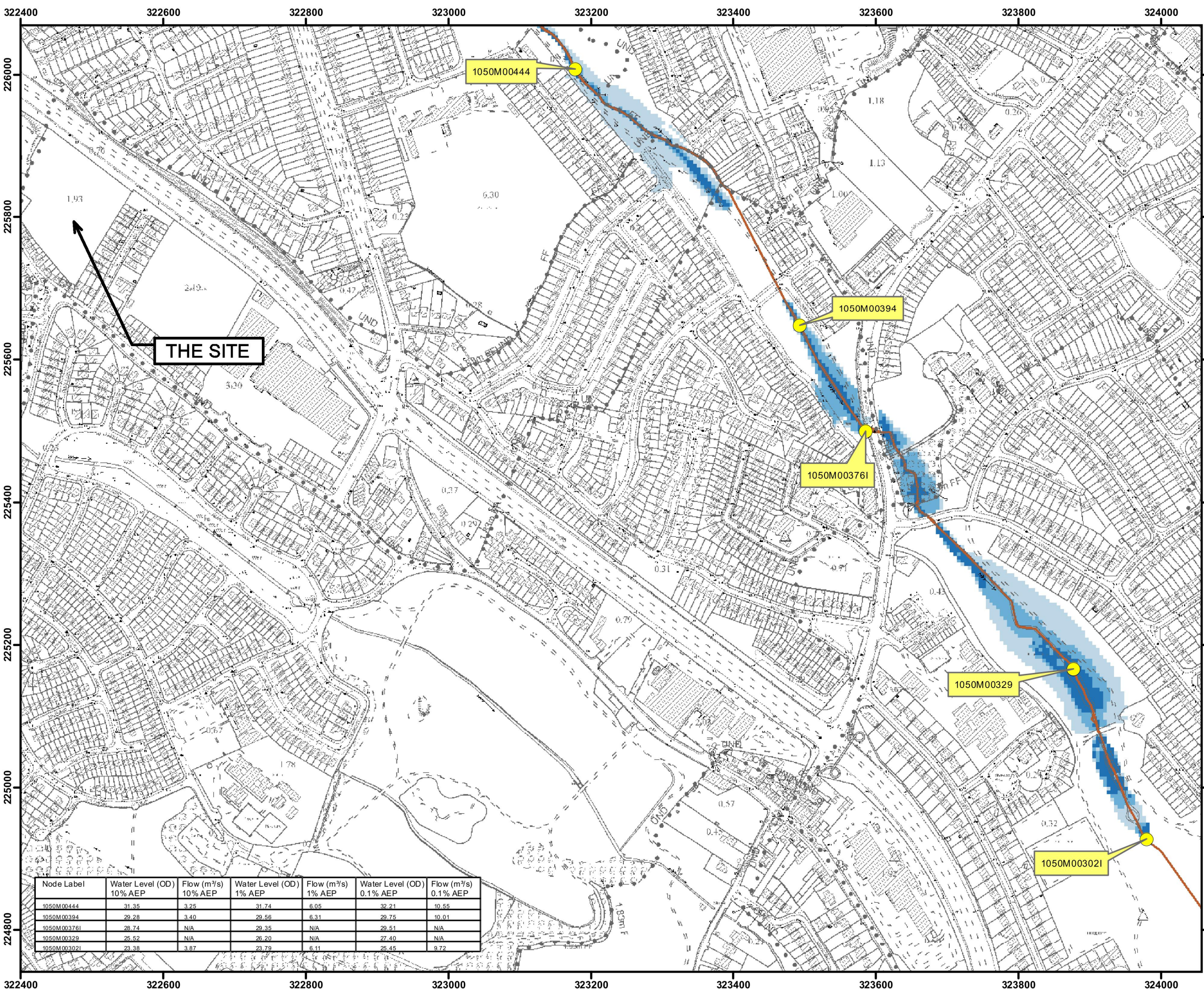
Description : Topographical Survey

Drawing Number : MSL26651_T_3D_Rev0_00

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Appendix B

FLOOD HAZARD INFORMATION



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

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

FINAL

REV: 01	NOTE: Removal of Embankments (Pg 5)	DATE: 03/11/17
---------	-------------------------------------	----------------



The Office of Public Works
Jonathan Swift Street
Trim
Co Meath

Elmwood House
74 Boucher Road
Belfast
BT12 6RZ
E ireland@rpsgroup.com

Node Label	Water Level (OD)		Flow (m³/s)		Water Level (OD)		Flow (m³/s)	
	10% AEP	10% AEP	1% AEP	1% AEP	0.1% AEP	0.1% AEP	0.1% AEP	0.1% AEP
1050M00444	31.35	3.25	31.74	6.05	32.21	10.55		
1050M00394	29.28	3.40	29.56	6.31	29.75	10.01		
1050M003761	28.74	N/A	29.35	N/A	29.51	N/A		
1050M00329	25.52	N/A	26.20	N/A	27.40	N/A		
1050M003021	23.38	3.87	23.79	6.11	25.45	9.72		



Map:	Deansgrange Stream Fluvial Flood Extents
Map Type:	EXTENT
Source:	FLUVIAL
Map Area:	HPW
Scenario:	CURRENT
Drawn By:	C.C. Date : 3 November 2017
Checked By:	A.S. Date : 3 November 2017
Approved By:	G.G. Date : 3 November 2017
Drawing No.:	E10LOU_EXFCD_F1_08
Map Series:	Page 8 of 9
Drawing Scale:	1:5,000 @A3

Summary Local Area Report

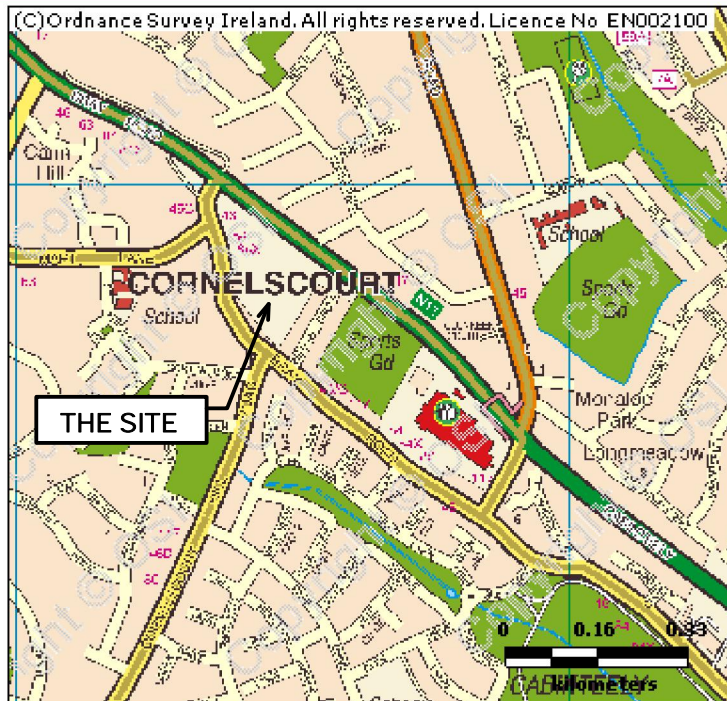
This Flood Report summarises all flood events within 2.5 kilometres of the map centre.

The map centre is in:

County: Dublin

NGR: O 226 256

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Map Scale 1:13,657

Map Legend	
	Flood Points
	Multiple / Recurring Flood Points
	Areas Flooded
	Hydrometric Stations
	Rivers
	Lakes
	River Catchment Areas
	Land Commission *
	Drainage Districts *
	Benefiting Lands *

* Important: These maps do not indicate flood hazard or flood extent. Their purpose and scope is explained in the Glossary.

18 Results

	1. Shanganagh Carrickmines Nov 2002 County: Dublin Additional Information: Reports (1) More Mapped Information	Start Date: 26/Nov/2002 Flood Quality Code:3
	2. Shanganagh Carrickmines Dec 1997 County: Dublin Additional Information: Reports (1) More Mapped Information	Start Date: 18/Dec/1997 Flood Quality Code:3
	3. Shanganagh Carrickmines May 1993 County: Dublin Additional Information: Photos (3) Reports (4) More Mapped Information	Start Date: 26/May/1993 Flood Quality Code:1
	4. Shanganagh Carrickmines Nov 1982 County: Dublin Additional Information: Reports (3) More Mapped Information	Start Date: 06/Nov/1982 Flood Quality Code:3
	5. Flooding at Little Meadow, Pottery Road, Cabinteely, Dublin 18 on 24th Oct 2011 County: Dublin	Start Date: 24/Oct/2011 Flood Quality Code:2