
DOCUMENT TITLE
FLOOD RISK
ASSESSMENT
FOR
NEW HOUSES
AT
WHITECHURCH ROAD,
RATHFARNHAM

CLIENT
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PROJECT NO. 5558

REVISION	DATE
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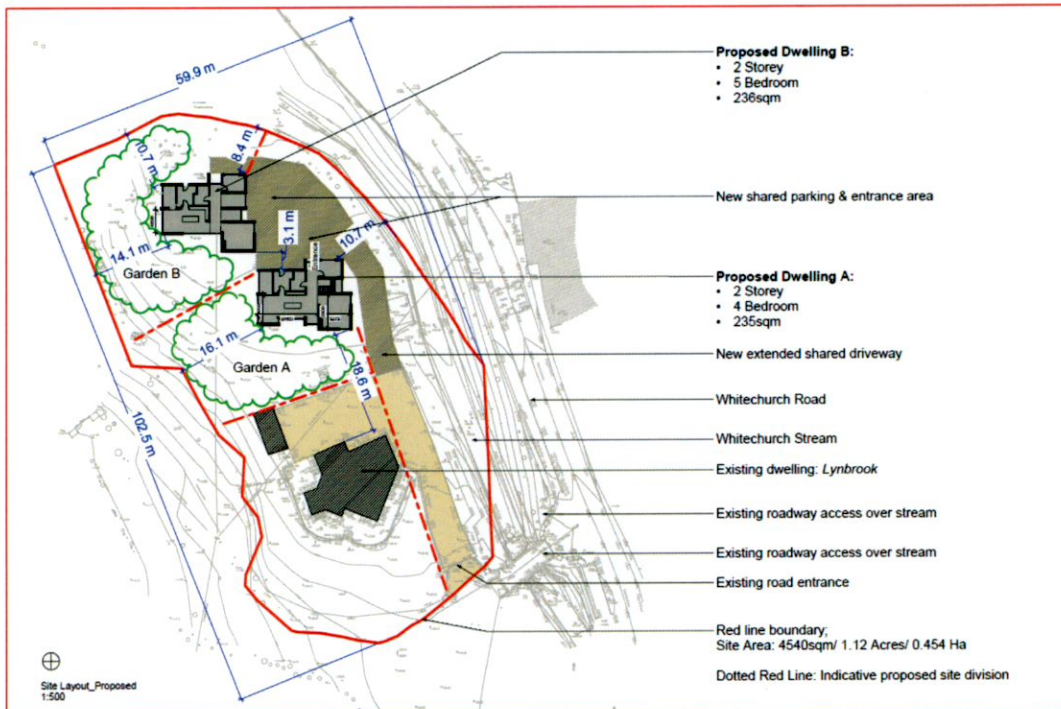


Fig 1.1 showing proposed site layout with curtilage denoted in red.

2. FLOOD RISK MANAGEMENT GUIDELINES

The Planning System and Flood Risk Management Guidelines (hereafter referred to as FRM Guidelines) was published in November 2009. The objective of the guidelines is to implement a risk-based sequential approach to managing flood risk and to avoid new development in areas that are at risk. The sequential approach is based on the identification of flood zones for river and coastal flooding as follows:

Flood Zone A

- Lands with a high probability of flooding;
- Subject to flooding in the 1 in 100 year return period storm event - rivers,
- subject to flooding in the 1 in 200 year return period event - coastal/ tidal areas.

Flood Zone B

- Lands with a moderate probability of flooding;
- Subject to flooding in the 1 in 100 year return period storm event - rivers,
- subject to flooding in the 1 in 1000 year return period event– coastal/ tidal areas.

Flood Zone C

- Lands with a low probability of flooding;
- Subject to flooding in the 1 in 100 year return period storm event - rivers,
- subject to flooding events greater than the 1 in 1000 year return period.

	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.

Exceptions to the restriction of development are provided for using the Justification Test, where the planning need and the sustainable management of flood risk to an acceptable level must be demonstrated. This test recognises the need for development in existing towns that lie within flood risk zones and that a blanket ban on any future development within those areas is impractical.

The guidelines recommend a three-stage approach to undertaking an FRA as per the following:

- **Flood Risk Identification (Stage 1)** - Identification of any potential flooding or surface water issues which may impact the proposed development site.
- **Initial Flood Risk Assessment (Stage 2)** - Establishment of the sources of flooding, the extent of the flood risk, potential impacts and identification of possible mitigation measures.
- **Detailed Flood Risk Assessment (Stage 3)** - Assess flood risk issues in sufficient detail to provide quantitative appraisal of potential flood risk of the development, impacts elsewhere of the flooding and the effectiveness of any proposed mitigation measures.

3.2 CFRAM Flood Risk Mapping

The National Catchment Flood Risk Assessment and Management Program (CFRAM) was developed to meet the requirements of the EU Floods Directive (2007/60/EC) and falls under the auspices of the OPW, the lead agency for flood risk management in Ireland. As part of the CFRAMS program, detailed hydraulic models have been constructed over the past decade for those areas identified as AFAs. This resulted in the production of a series of maps indicating areas of possible flooding under a set of specified scenarios. These three models correspond to 0.1% (1:1000 year return period), 1% (1:100 year return period) and 10% (1:10 year return period) fluvial extent event probabilities respectively.

No flood map has been developed which specifically includes the area of the proposed site. Figure 3.2 below indicates the location of the proposed site with respect to neighbouring areas where modelling maps have been developed. The adjacent model map (i.e. to right hand side of the red arrow below) was referenced as part of this assessment and a copy is included in the appendices. This model map, which is part of the nearby river Dodder catchment area study, does not anticipate much increase in area flooding in any of the three return periods considered, and none in the area of the proposed site. We can conclude that there is no discernable risk of fluvial flooding associated with the proposed site.

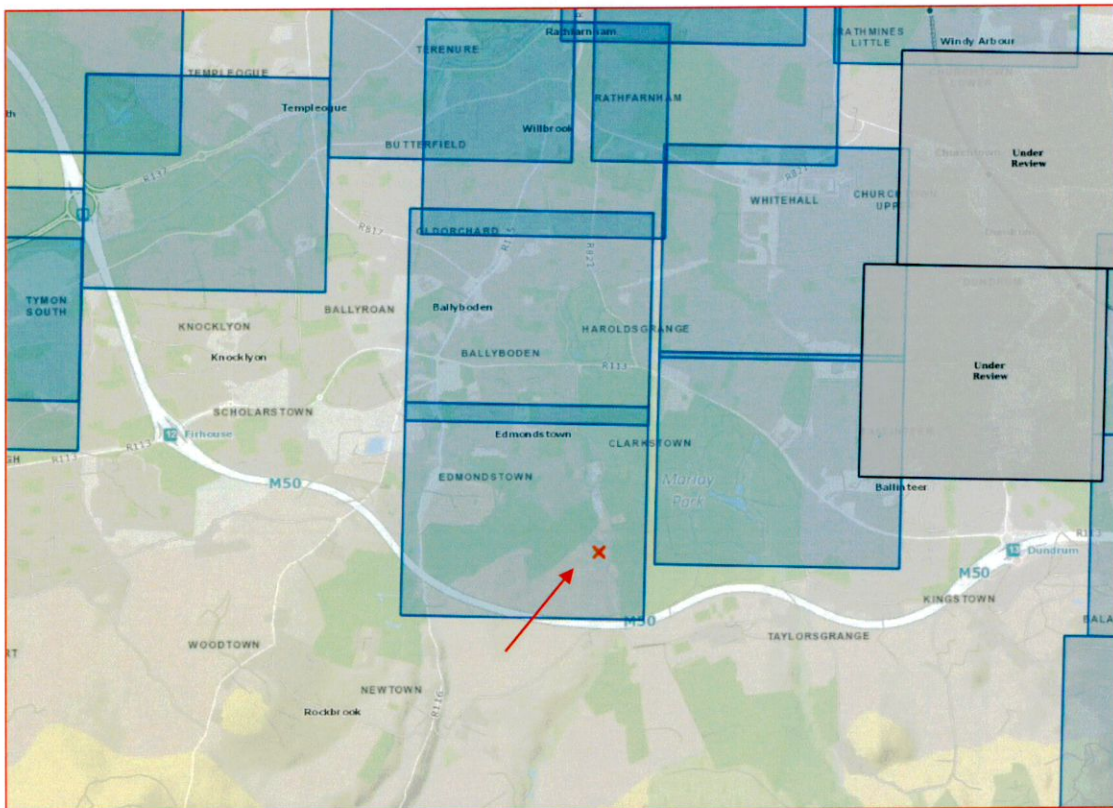


Fig 3.2 Extract of FLOODINFO website (site highlighted in red) with published neighbouring CFRAM maps. Proposed site is covered by the Dublin 09 map

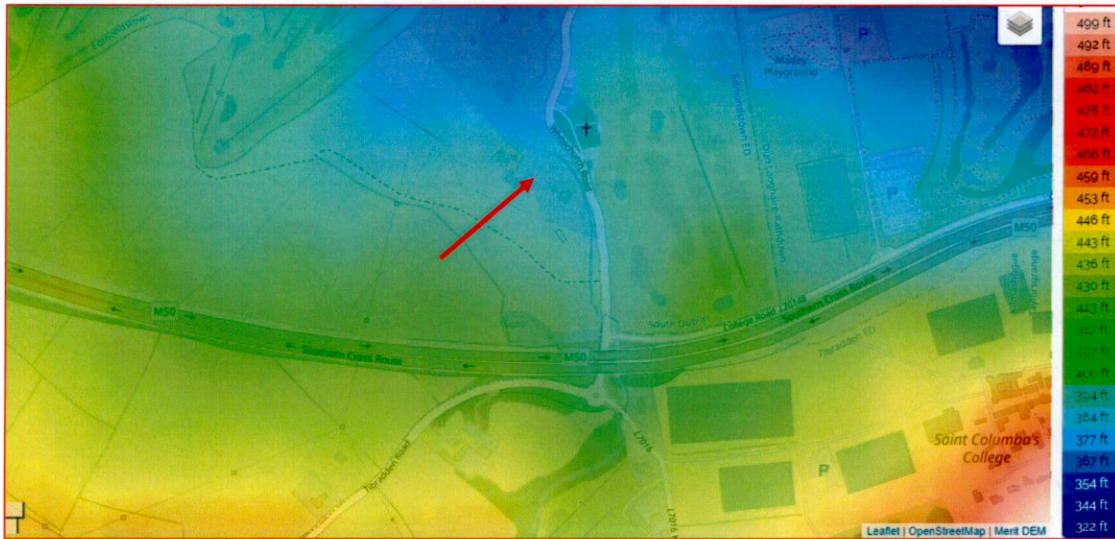


Fig 4.1 Local area topography. Site indicated by RED arrow.

The area around the proposed site is largely level and the Whitechurch stream is the primary conduit for natural drainage in the area. We therefore conclude that pluvial flooding will not pose a risk to the development.

Groundwater Flood Risk

Groundwater flooding occurs as a result of water rising up from the underlying rocks or from groundwater flowing from abnormal springs. This type of flooding is usually associated with extended periods of heavy rainfall and is associated with the formation or re-occurrence of turloughs/winter lakes mostly in the karstic limestone areas as found primarily in the West of Ireland.

A review of the Geological Survey of Ireland's Groundwater Vulnerability viewer indicated that the site is not potentially exposed to groundwater flooding (see fig 4.1 below).

golf course in 1994. A copy of the area incident map and extracts from the nearest events are included in the appendices.

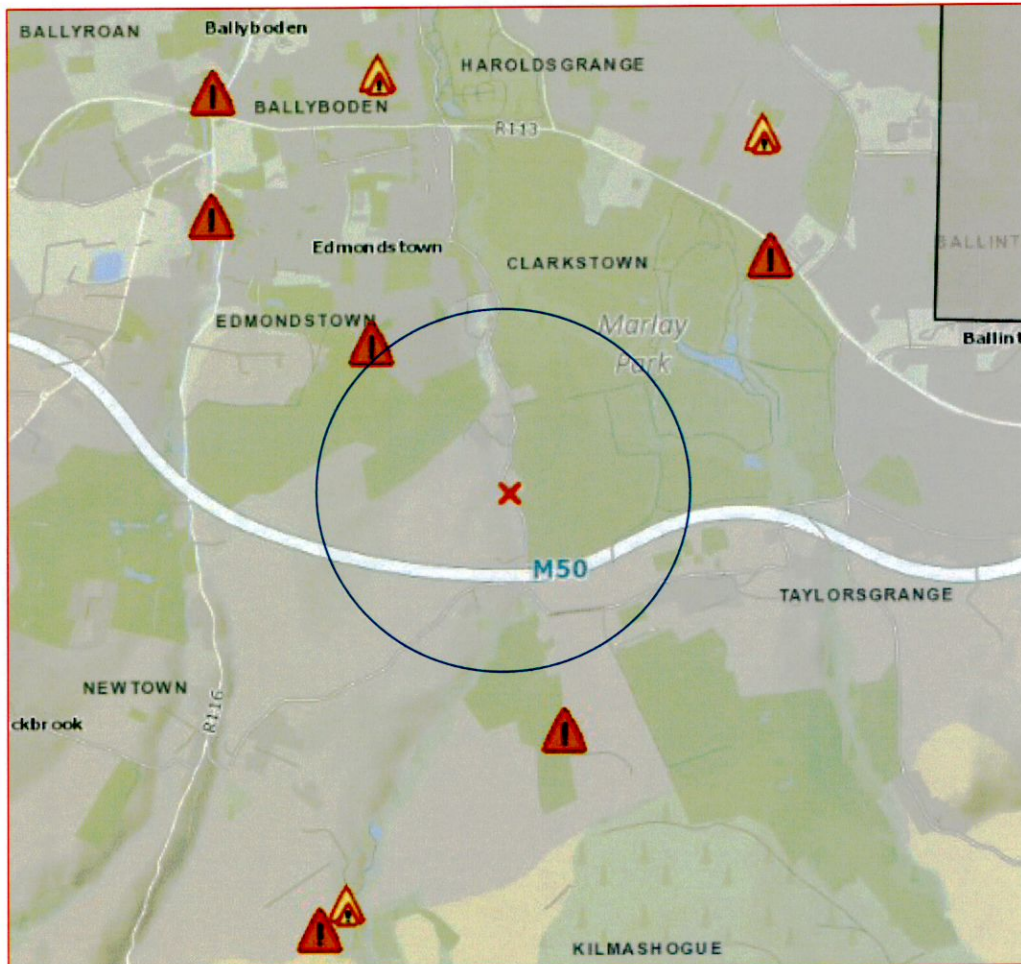


Fig 4.2 Extract from floodmaps.ie indicating neighbouring recorded flood events. The blue circle indicates 0.5km radius.

4.3. Existing Flood Risk Management Measures

There is no OPW Flood Risk Management Plan applicable to the site or the neighbouring hinterland. The plan governing the river Dodder has involved upgrading the flood wall protection at the lower reaches of the river. These works have no bearing or impact on the neighbourhood surrounding the proposed site.



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APPENDIX 1: OPW Past Flooding Event Records

Summary Sheet

Extracts from files on nearest events

APPENDIX 2: OPW CFRAMS Maps

CFRAMs all risks fluvial flooding model map

Extract from all risks fluvial map



WHITEHALL GDS 6-8-10-12	FS GARDEN FLOODING . SURCHARGING BACK FROM FS MAIN.
DALETREE RD 353	SW GARDEN FLOODING . DUE TO DEVELOPMENT WORKS AT BALLYCULLEN RD.
BERWICK HOUSE WHITEHALL RD	SW HOUSE FLOODING . ?
GORTH MHUIRE	ROAD FLOODING . PARTIALLY COLLAPSED CULVERT.
PINE VALLEY EST	ROAD FLOODING . BLOCKED SW MAINS.
BIGGER RD.	FS GARDEN FLOODING.
BODEN VILLAS .	REAR GARDEN FLOODING DUE TO STREAM OVERFLOW .

NO 10 WHITECHURCH COURT .	
COURSE .	REAR GARDEN FLOODING DUE TO RUN OFF FROM GOLF

Meadow Pt F/S min chake.
Llewlyn ? S/W
Ballinkeen Ave. S/W
107 - 109 Whitehall Rd. S/W.
87 Carrigwan. ?
Ca Doolan Rd. S/W.

Extract from OPW CFRAMS Map Dublin City Tile 09

