



## **Flood Risk Assessment**

Proposed Residential Development at Beaumont Road /  
Beaumont Grove / Grace Park Court / Ellenfield Road, Beaumont,  
Dublin 9

September 2026

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## Quality Assurance – Approval Status

This document has been prepared and checked in accordance with  
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015)

| Issue | Date    | Prepared by | Checked by   | Approved by                                                                         |
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## Comments

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# **1. Introduction**

## **1.1 Introduction**

This Flood Risk Assessment Report (FRA) has been prepared by Waterman Moylan on behalf Urban Life (BMD) Ltd, as part of the planning application for a large-scale residential development on a site comprising 100 no. units located at Beaumont Road / Beaumont Grove / Grace Park Court / Ellenfield Road, Beaumont, Dublin 9.

This Flood Risk Assessment has been carried out in accordance with the DEHLG/OPW Guidelines on the Planning Process and Flood Risk Management published in November 2009. This Assessment identifies and sets out possible mitigation measures against potential risks of flooding from various sources. Sources of possible flooding include coastal, fluvial, pluvial (direct heavy rain) and groundwater.

This report provides an assessment of the subject site for flood risk purposes only.

## **1.2 Site Description and Proposed Development**

The proposed Large Scale Residential Development (LRD) will comprise 100 no. apartments/duplexes (17 no. studios, 45 no. 1-beds, 27 no. 2-beds and 11 no. 3 beds) within 4 no. blocks ranging in height from 3 to 6 storeys. All residential units will be provided with associated private balconies/terraces to the north/ south/ east/ west elevations. Provision of internal amenity space and lobby/reception area at ground floor of the apartment block. Vehicular/pedestrian/cyclist access from Grace Park Court and pedestrian/cyclist and emergency access via Ellenfield Road. All associated site development works including import, export and reuse of material to achieve appropriate site levels, infrastructure and enabling works including water services provision and upgrades, public utilities, open spaces (including play areas), surface car parking, set down areas, cycle parking areas/buildings, landscaping and boundary treatment works, plant areas (at ground and roof level), green roofs, roof mounted photovoltaic (PV) panels, ESB substation, and waste storage.

The subject site is located at Beaumont Road, Beaumont, Dublin 9. The subject site is approximately 0.58 hectares. The subject site is bounded by the Beaumont Grove Road to the northeast, by the Grace Park Court and Beaumont Road to the southeast and by Grace Park Court to the southwest and existing neighbouring houses to the north and west.

The location of the site is shown in Figure 1. Please refer to Waterman Moylan Drawing No. 20-048-P2010-Site Location Map for the exact site location and surrounding lands.

Figure 1: Site Location Map



The overall site area is approximately 0.58 Ha. The site is currently brownfield area with car parking area and existing former properties to the west of the overall site. The site is bounded in the north by large, scaled trees.

It falls from southeast to northwest gently with the high point of c. 42.09m OD observed to the southwest and the low point of c. 39.24m OD to the northeast.

The roads located within the subject site will range between 41.15m and 40.20m OD Malin.

### 1.3 Receiving environment

The overall site area is approximately 0.58 Ha. The site is currently brownfield area with a mix of derelict built structures, disused hardstanding, and overgrown open space. The site is bounded in the north and east by vegetation, featuring mature trees and unmanaged grassland.

A previous planning application was submitted to Dublin City Council under Planning Application Reference No. 3881/22, and planning permission was granted with conditions on 11 January 2022. The proposed development comprised the construction of two apartment blocks with a semi-basement parking area, a No. of 99 apartments, car parking spaces, and open space.

## 1.4 Background to the Report

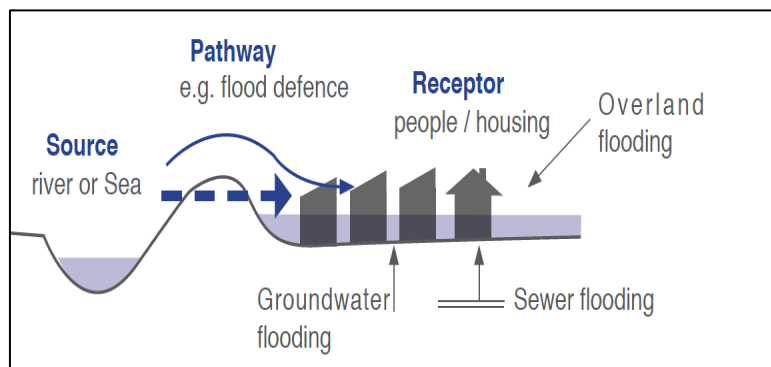
The components to be considered in the identification and assessment of flood risk is as per Table 1 of the DEHLG/OPW guidelines:

- Tidal – flooding from high sea levels
- Fluvial – flooding from watercourses
- Pluvial – flooding from rainfall/surface water
- Ground Water – flooding from springs / raised groundwater
- Human/mechanical error – flooding due to human or mechanical error

Each component will be investigated from a Source, Pathway and Receptor perspective, followed by an assessment of the likelihood of a flood occurring, and the possible consequences.

The likelihood of flooding falls into three categories of low, moderate and high, which are described in the OPW Guidelines as follows:

Figure 2: Source-Pathway-Receptor S-P-R Model



The ultimate aim of a flood risk assessment is to combine these components and map or describe the risks on a spatial scale so that the consequences can then be analyzed.

The likelihood of flooding falls into three categories of low, moderate and high, which are described in the OPW Guidelines as follows:

Table 1: Table A1 of *DEHLG/OPW Guidelines on the Planning Process and Flood Management*

| Likelihood     | Low                                                     | Moderate                                                                                                                  | High                                                    |
|----------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>Tidal</b>   | Where probability < 0.1 % chance of occurring in a year | 0.5 % chance of occurring in a year > probability > 0.1 % chance of occurring in a year                                   | Where probability > 0.5 % chance of occurring in a year |
| <b>Fluvial</b> | Where probability < 0.1 % chance of occurring in a year | 1 % chance of occurring in a year > probability > 0.1 % chance of occurring in a year                                     | Where probability > 1 % chance of occurring in a year   |
| <b>Pluvial</b> | Where probability < 0.1 % chance of occurring in a year | 1 % chance of occurring in a year > probability > 0.1 % chance of occurring in a year 0.1 % chance of occurring in a year | Where probability > 1 % chance of occurring in a year   |

For groundwater and human/mechanical error, the limits of probability are not defined and, therefore, professional judgment is used. However, the likelihood of flooding is still categorized as low, moderate and high for these components. From a consideration of the likelihoods and the possible consequences, the risk is evaluated. Should such a risk exist, mitigation measures will be explored, and the residual risks assessed.

#### 1.4.1 Assessing Consequence

There is not a defined method used to quantify a value for the consequences of a flooding event. Therefore, in order to determine a value for the consequences of a flooding event, the elements likely to be adversely affected by such flooding will be assessed, with the likely damage being stated, and professional judgement will be used to determine a value for consequences. Consequences will also be categorized as low, moderate, and high.

#### 1.4.2 Assessing Risk

Based on the determined 'likelihood' and 'consequences' values of a flood event, the following 3x3 Risk Matrix will then be referenced to determine the overall risk of a flood event.

Table 2: 3x3 Risk Matrix

|            |          | CONSEQUENCES       |               |                     |
|------------|----------|--------------------|---------------|---------------------|
| LIKELIHOOD |          | LOW                | MODERATE      | HIGH                |
|            | LOW      | Extremely Low Risk | Low Risk      | Moderate Risk       |
|            | MODERATE | Low Risk           | Moderate Risk | High Risk           |
|            | HIGH     | Moderate Risk      | High Risk     | Extremely High Risk |

## **2. Tidal – Irish Sea**

The Irish Sea is approximately c. 3.0 kilometres southeast of the subject site and the natural ground levels vary between 42.08 m and 39.16 OD Malin. Given the position and elevation of the proposed site in relation to the Irish Sea, there is no risk of tidal flooding.

The roads located within the subject site will range between 41.15m and 40.20m OD Malin. The Dublin Coastal Protection Project indicated that the 2002 high tide event reached 2.95m OD Malin. The subject site lowest road level is therefore 37.25m above the highest tide recorded in the Dublin Coastal area.

Given that the site is located 3.0 kilometres inland from the Irish Sea and outside the tidal flood plan, it is evident that a pathway does not exist between the source and the receptor and therefore a likelihood from tidal flooding is remote, and no tidal flood mitigation measures need to be implemented.

This is as per the previously approved planning application at the subject site, Planning Register Reference No. 3881/22.

### 3. Fluvial

The subject site is located c. 1.85 m south of the Santry River, and c. 2.25 km north of the Tolka River.

There are no existing flood studies that have been conducted in the Beaumont area, and there is also no indication of any risk of flooding during any flood event in the proximity of the subject site.

We note that the existing levels of the subject site vary between 42.08 m and 39.16 OD Malin, and the roads located within the subject site will range between 41.15m and 40.20m OD Malin. The lowest FFL proposed for the development is 40.25 OD Malin.

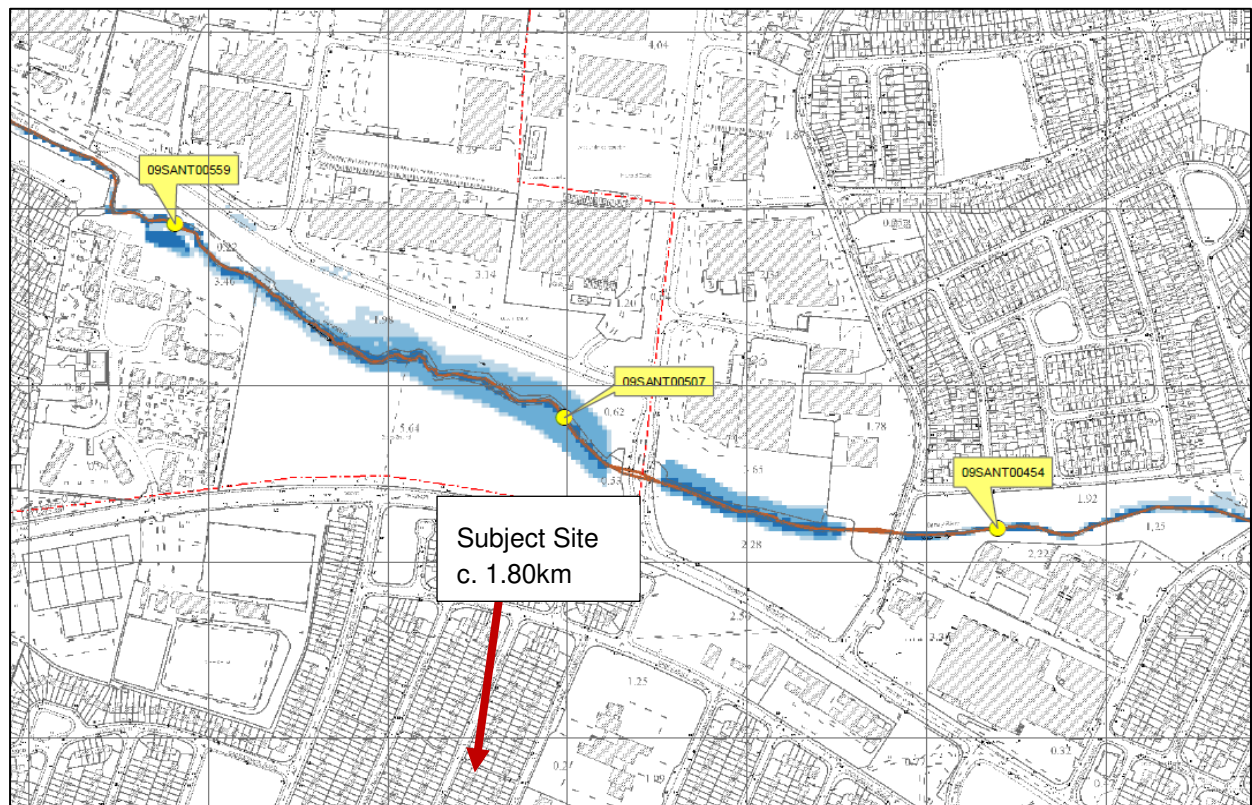
The risk of the subject site being flooded is considered very low as it is not in the proximity of danger zones, therefore no further mitigation is necessary.

The nearest node to the subject site is located in the Santry river approximately 1.8km north of the subject site. Node "09SANT00507" indicates a 1:10-year flood level of 38.52m OD Malin, a 1:100-year flood level of 40.26m OD Malin and a 1:1000-year flood level of 40.87m OD Malin.

The proposed lowest finished floor levels are thus higher than both the 1:10 and 10mm below the 1:100-year flood events, although there does not exist a flood route between the source and the subject site due to the topography of the existing infrastructure between these two.

This is as per the previously approved planning application at the subject site, Planning Register Reference No. 3881/22.

Figure 3: Santry Area Fluvial Floodmap\_E09SAY\_EXFCD\_F1\_04



## 4. Pluvial

Pluvial flooding is from heavy rainfall and is often referred to as flooding from surface water. Surface water flooding can occur as a result of overland flow or ponding during periods of extreme prolonged rainfall. Flooding may occur through any of the pathways summarized in Table 3 and the risk associated with each pathway is outlined below.

Table 3: Pathway - Receptor

|   | Pathway                                                                                                                                  | Receptor                                 |
|---|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| 1 | Surcharging of the proposed internal drainage systems during heavy rain events leading to internal flooding                              | Proposed residential buildings and roads |
| 2 | Surcharging from the existing surrounding drainage system leading to flooding within the subject site by surcharging surface water pipes | Proposed residential buildings and roads |
| 3 | Surface water discharging from the subject site to the existing drainage network leading to downstream flooding                          | Downstream properties and roads          |
| 4 | Overland flooding from surrounding areas flowing onto the subject site                                                                   | Proposed residential buildings and roads |
| 5 | Overland flooding from the subject site flowing onto surrounding areas                                                                   | Downstream properties and roads          |

### 4.1.1 On-site drainage system surcharging

The proposed on-site surface water drainage sewers have been designed to accommodate flows from a 5-year return event which indicates that the site-wide drainage system may surcharge during rainfall events with a return period in excess of five years. Therefore, the likelihood of surcharging of the on-site drainage system is considered high over the lifetime of the development. The risk of flooding is mitigated by providing SUDS for the development which can store water for the 1:100-year storm event plus a 20% allowance for climate change. In addition, the designed levels fall away from the dwellings to route any surcharged surface water away from buildings, therefore, the residual risk is low.

### 4.1.2 Flooding from the existing surrounding drainage system surcharging

There are no recorded instances of flooding on the site. The onsite surface water drainage will be piped and will outfall at a restricted rate to the existing surface water network in Beaumont Road. There will, therefore, be a low impact on the surrounding drainage system from the development.

#### 4.1.3 Surface water discharge from the subject site causing downstream flooding

The proposed development site consists of 4 No. residential blocks, carparking areas that are all permeable paved and unsurfaced natural greenfield areas.

The development, as designed, will increase the impermeable area on site. As a result, the volume of run-off from the site will increase. However, in order to mitigate against this, a green podium/roof and a below-ground storage tank will be used to reduce the volume of run-off from the site during low storm events. Surface water discharge from the development will be limited by a hydrobreak with a peak discharge equal to 3.16 l/s (minimum recommended discharge). This will reduce the effects on developments downstream of the site. The likelihood of the proposed development resulting in pluvial flooding downstream of the site is therefore considered extremely low.

#### 4.1.4 Overland flooding from surrounding areas

A map showing all flood events within proximity of the subject site is provided below in Figure 4. There are no recorded flood events within a c. 1.0 km radius of the subject site. It is considered that there is a low likelihood of flooding from surrounding areas.

Figure 4: Overland Flooding from the Subject Site



#### 4.1.5 Overland flooding from the subject site

Appropriate drainage will be provided to collect rainwater and discharge to the SUDS system before finally discharging into the existing 225mm diameter surface water line on Beaumont Road, running along with the diverted existing 225mm surface water line. The levels on site have been designed to ensure any overland flooding which occurs as a result of poor maintenance will be directed along the roads and will not enter the properties, therefore, the risk to the development of overland flooding is considered low.

#### 4.2 Residual Risk:

As a result of the design measures detailed above in Section 4.1, there is a low residual risk of flooding from each of the surface water risks. The flood risk management measures set out in above will minimise the risk, ensuring that any overland flooding from surface water will result in the flooding of the internal roads only.

This is as per the previously approved planning application at the subject site, Planning Register Reference No. 3881/22.

## **5. Ground Water**

### **5.1 Source**

During periods with prolonged rainfall, the groundwater can seep to above ground level.

### **5.2 Pathway**

During periods with prolonged rainfall, there is a possibility that the groundwater level would rise. This could result in groundwater seeping to the ground surface.

### **5.3 Receptor**

The receptors would be the buildings and roads of the proposed development.

### **5.4 Likelihood**

There is no known history of groundwater/springs seeping through the ground in this area. However, it is possible for groundwater to rise and cause potential flooding on the site during prolonged wet periods. The buildings are constructed above the existing ground level with no significant cut proposed on the site. As the subject site is not located in close proximity to rivers or watercourses, there would be a low risk of groundwater rising above the level of the finished floor levels.

### **5.5 Consequence**

The consequence of ground water flooding would be some minor temporary seepage of ground water through the ground around the proposed buildings and landscaped areas.

### **5.6 Risk**

There is a low risk of groundwater flooding as the consequence is minor.

### **5.7 Flood Risk Management**

Finished floor levels have been set above levels to ensure any seepage of groundwater onto the development does not flood into the apartment/residential buildings. In the event of groundwater flooding on the site, this water can escape from the site via the overland flood routes.

### **5.8 Residual Risk**

There is an extremely low residual risk of flooding from groundwater.

This is as per the previously approved planning application at the subject site, Planning Register Reference No. 3881/22.

## **6. Human / Mechanical Errors**

### **6.1 Source**

The subject lands will be drained by an internal private stormwater drainage system which discharges into existing stormwater drainage networks along with the diverted service line. This internal surface water network is the source of possible flooding from the system if it was to block.

### **6.2 Pathway**

If the proposed private drainage system blocks this could lead to possible flooding within the private areas.

### **6.3 Receptor**

The receptors are the proposed buildings and roads.

### **6.4 Likelihood**

There is a moderate possibility of flooding on the subject site if the surface water network was to block.

### **6.5 Consequence**

The surface water network would surcharge and overflow through gullies and manhole lids.

### **6.6 Risk**

There is a medium risk of surface water overflowing onto the surrounding road network, should the surface water network block.

### **6.7 Flood Risk Management**

As described in Section 4, levels on site have been designed such that in the event of the surface water system surcharging, surface water can still escape from the site by overland flood routing without damaging properties. The surface water network would need to be unblocked and maintained should a blockage occur.

### **6.8 Residual Risk**

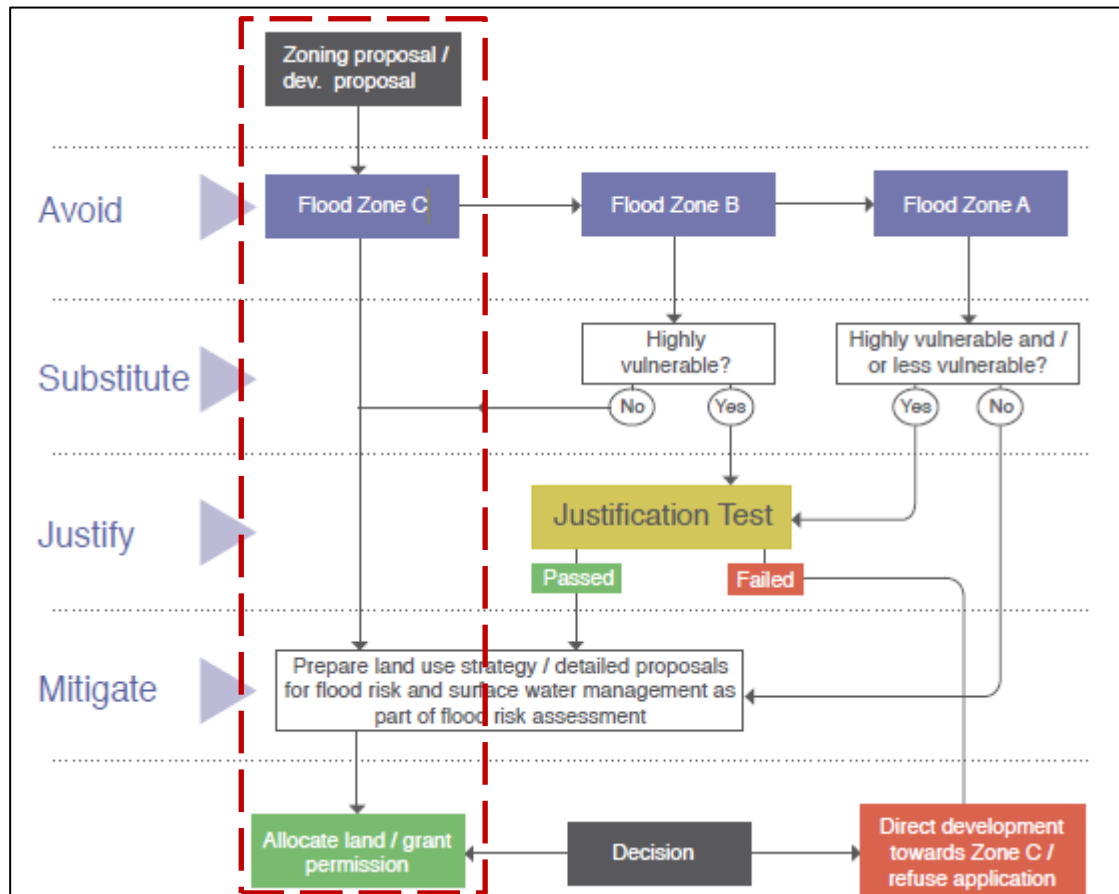
As a result of the flood risk management outlined above, there is a low residual risk of overland flooding from human/mechanical error.

This is as per the previously approved planning application at the subject site, Planning Register Reference No. 3881/22.

## 7. Sequential Test

A sequential approach to planning is a key tool in ensuring that development, particularly new development, is first and foremost directed towards the land that is at low risk of flooding. The sequential approach is set out in *“The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009”* and shown in Figure 6 below.

Figure 5: Sequential Test



The proposed development is in Flood Zone C – which has a low risk of flooding, therefore there is no need to perform the sequential justification test.

This is as per the previously approved planning application at the subject site, Planning Register Reference No. 3881/22.

## 8. Conclusions and Recommendations

The subject lands have been analysed for risks from flooding from the Irish Sea, fluvial flooding, pluvial flooding, groundwater and failures of mechanical systems. Through careful design and appropriate mitigation measures, the risks and consequences of flooding have been mitigated across the development.

Surface water runoff from the site is limited to Greenfield runoff and does not impact developments upstream or downstream of the subject site.

Table 4: Summary of the Flood Risks from the Various Components

| Source                          | Pathway                             | Receptor             | Likelihood | Consequence                                                                                   | Risk                                                        | Mitigation Measure                                                              | Residual Risk   |
|---------------------------------|-------------------------------------|----------------------|------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------|
| <b>Tidal</b>                    | None                                | Proposed Development | Very Low   | None                                                                                          | Very Low                                                    | None                                                                            | <b>Very Low</b> |
| <b>Fluvial</b>                  | None                                | Proposed Development | Low        | Water Ingress in Buildings                                                                    | Low                                                         | Design levels high enough to account for flooding.                              | <b>Low</b>      |
| <b>Pluvial</b>                  | Private and Public Drainage Network | Proposed Development | High       | Medium to severe. Flooding of the proposed buildings and roads                                | High risk of minor to severe damage to dwellings            | Appropriate drainage design, overland flood routing and setting of floor levels | <b>Low</b>      |
| <b>Ground Water</b>             | Ground                              | Proposed Development | Low        | Medium. Saturation of the surrounding grounds during long rainfall periods                    | Low risk of minor saturation of area around the development | Appropriate drainage design, overland flood routing and setting of floor levels | <b>Low</b>      |
| <b>Human / Mechanical Error</b> | Drainage network                    | Proposed Development | Moderate   | Medium to Severe Surcharging of surface water network resulting in flooding of the properties | Moderate risk of minor damage to properties                 | Appropriate drainage design, overland flood routing and setting of floor levels | <b>Low</b>      |

This is as per the previously approved planning application at the subject site, Planning Register Reference No. 3881/22.

# UK and Ireland Office Locations

