

Project:	Dalguise Development, Monkstown, Co Dublin						
Client	GEDV Monkstown Owner Limited						
Subject	Climate Change Impact Assessment						
Orig. by	DR	Appr. by	DR	Date	29.04.22	Doc. Ref:	

1 Introduction

The clear evidence of Climate Change is witnessed with the increased frequency and severity of extreme weather events. Sustainable planning needs to acknowledge this risk and mitigate as much as possible, The planning and development guidelines recommend that a precautionary approach is adopted due to the uncertainty on potential effects.

2 Statutory Guidance

The Office of Public Works (OPW) developed a document titled “*Assessment of Potential Future Scenarios, Flood Risk Management Draft Guideline*” in 2009 and this document addressed two climate change scenarios; Mid-Range Future Scenario and High-End Future Scenario.

Recent guidance from the Dun Laoghaire Rathdown County Strategic Flood Risk Assessment (SFRA) now adopts a revised suite of recommendations for accounting for climate change within development proposals. In all cases, the allowances should be applied to the 1% AEP fluvial or 0.5% AEP tidal levels. Where a development is critical or extremely vulnerable the impact of climate change on 0.1% AEP flows should also be tested.

3 Development Proposals

The OPW Guidelines and the SFRA require the Site Specific Flood Risk Assessments for this site to consider increased flood risk to the proposed development due to climate change. OPW guidance suggests using a Mid-Range Future Scenario (MRFS), which represents a 20% increase in flood flows and / or 0.5 m increase in mean sea level.

An estimation of the effect of climate change on the proposed development has been derived through modelling and increase of current design flows by 20%.

The Site Specific Flood Risk Assessment which accompanies this document anticipated climate change flood levels at the site, representing a maximum increase

of up to 0.03 m compared to the present day proposed scenario. The climate change flood level causes a slight increase in flood levels and extent across the site. Mitigation of the predicted effect of climate change (through selection of an appropriate freeboard) is discussed in the Site Specific Flood Risk Assessment.

Modelled Flood Levels - Climate Change Scenario

Location	1% AEP + CC Water Level (m OD)	0.1% AEP + CC Water Level (m OD)
Upstream extent of Site (location point 1)	15.84	15.87
Middle of Site (location point 3)	15.72	15.78
Downstream extent of Site (location point 8)	15.40	15.49

4 Conclusion

A comprehensive Site Specific Flood Risk Assessment has been carried out as part of this planning submission which included detailed hydraulic modelling. The analysis also include Climate Change factors as par Statutory guidelines.

It has been demonstrated through the hydraulic modelling that proposed development is outside the present day and climate change 1% AEP and 0.1% AEP fluvial floodplain of the Stradbrook Stream. Hydraulic modelling has also shown that the proposed development will not have any off-site effect / increase in flood risk elsewhere.