



2 Flood Risk

2.1 Existing Flood Risk

A preliminary flood risk assessment was undertaken to evaluate the flood risk to the subject site and determine if the development proposals are suitable in accordance with The Planning System and Flood Risk Guidelines.

The OPW Eastern Catchment Flood risk assessment and management (CFRAM) mapping indicates the majority of the subject site as located in flood zone C, refer to Figure 2-1 below. This indicates low flood risk and thus, is deemed acceptable in accordance with the Guidelines.

A portion of the proposed developments' infrastructure is located within close proximity to the River Shambles which poses flood risk as it is within a fluvial flood zone. The estimated fluvial flood levels for the Shambles River are 53.18m OD for the 1% AEP (1 in 100 year) flood event. The lowest level on the subject site is at 55.68m OD which is the finished road level (FRL) at chainage 73 along the proposed access road which is safely (approx 2.5m) above the predicted fluvial flood level, refer to Appendix D :for Flood mapping data.

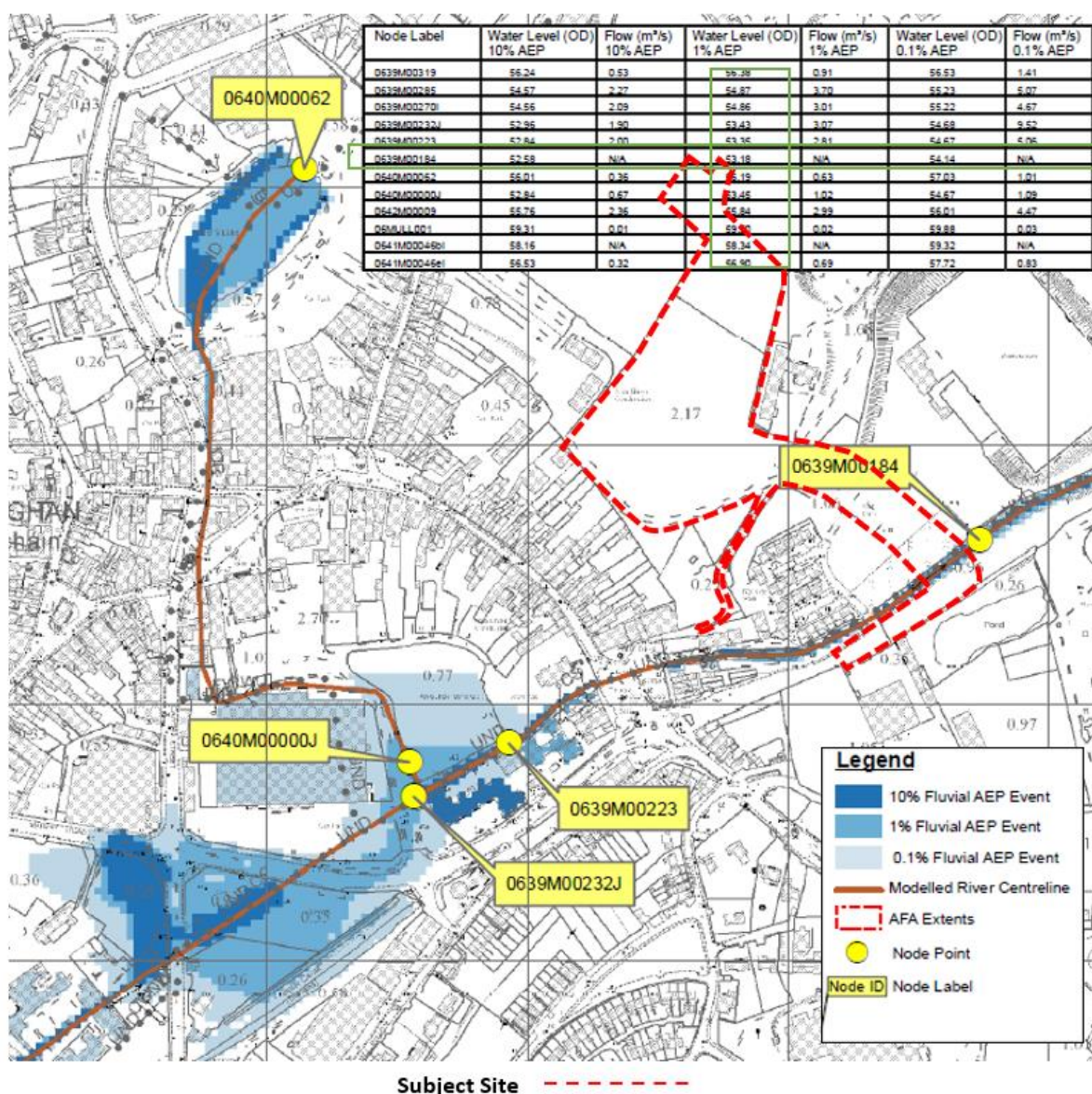


Figure 2-1: CFRAM Fluvial Flood extents records

Extracted from OPW Eastern Catchment Flooding Risk Assessment and Management (CFRAM) Mapping
[Source OPW]

There are no historical flood incidences recorded for the subject site or in the immediate vicinity of the site, refer to Appendix D :for OPW Historical records. The nearest recorded flood events were recorded along the Shambles River circa 1.2km upstream from the subject site. These were 2 single events recorded on the 5th December 2015 (Flood Summary (ID-13380) and on 24th October 2011 both occurring along the Shambles river. A recurring event, flood Summary (ID-3207) was recorded along the shambles river due to heavy rain causing the river to overflow its banks. These events occurred in the Monaghan Emyvale area and did not affect the site (refer to Figure 2-2).

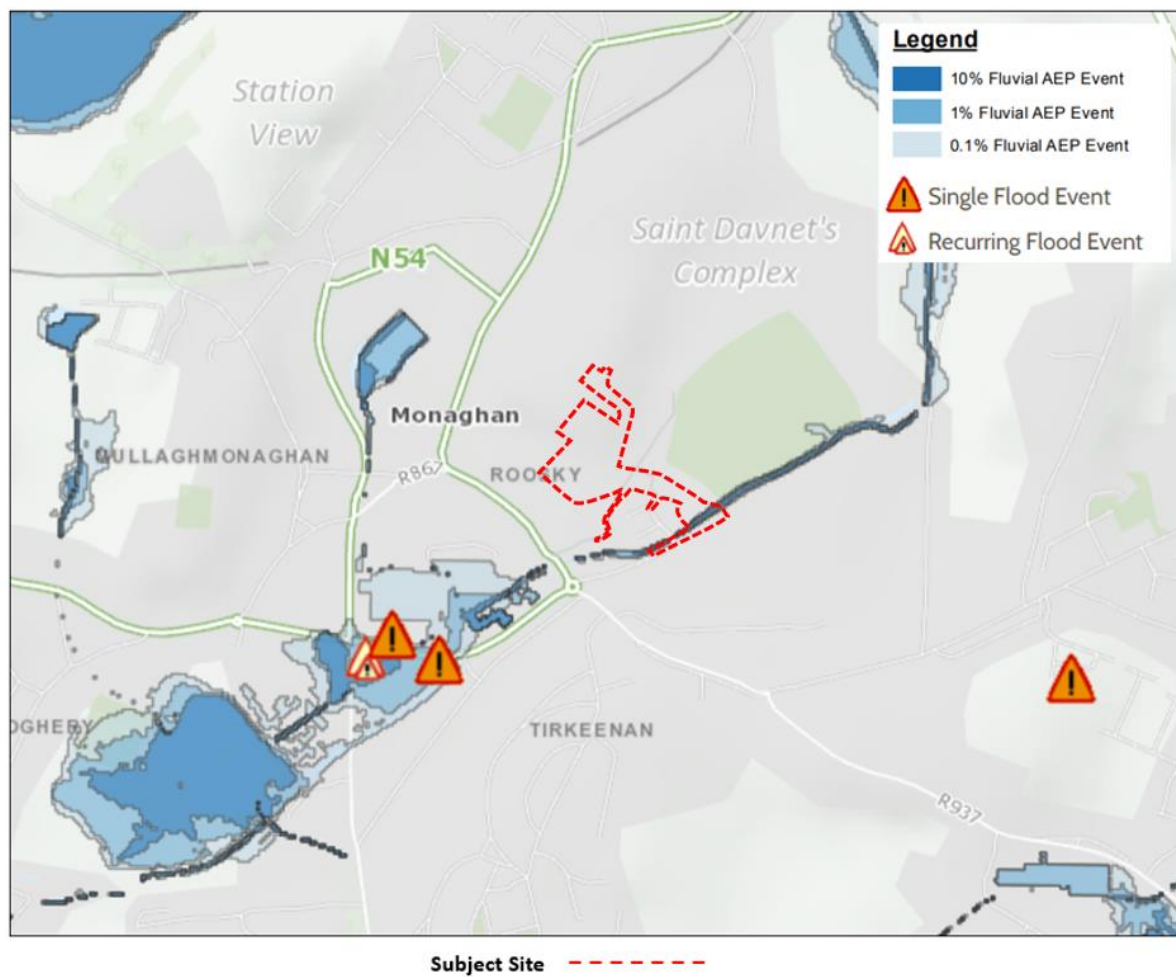


Figure 2-2: Flood extents and historical flood records extracted from OPW (CFRAM)
[Source OPW]



2.2 Flood Risk Management Guidelines

The OPW document “The Planning System and Flood Risk Management Guidelines (November 2009)” requires that the proposed type of development be located with an appropriate existing flood risk zone.

The proposed development is classified as “Less vulnerable development” (Table 3.1 of the Guidelines) and are appropriate if located within Flood Zone ‘C’ (Table 3.2 of the Guidelines) i.e., majority of the site is outside the 0.1% AEP flood extents.

The proposed road development is therefore suitable for the site’s low fluvial flood risk / Flood Zone C and the Planning Guidelines Sequential Approach is passed, refer to Figure 2-3 below.

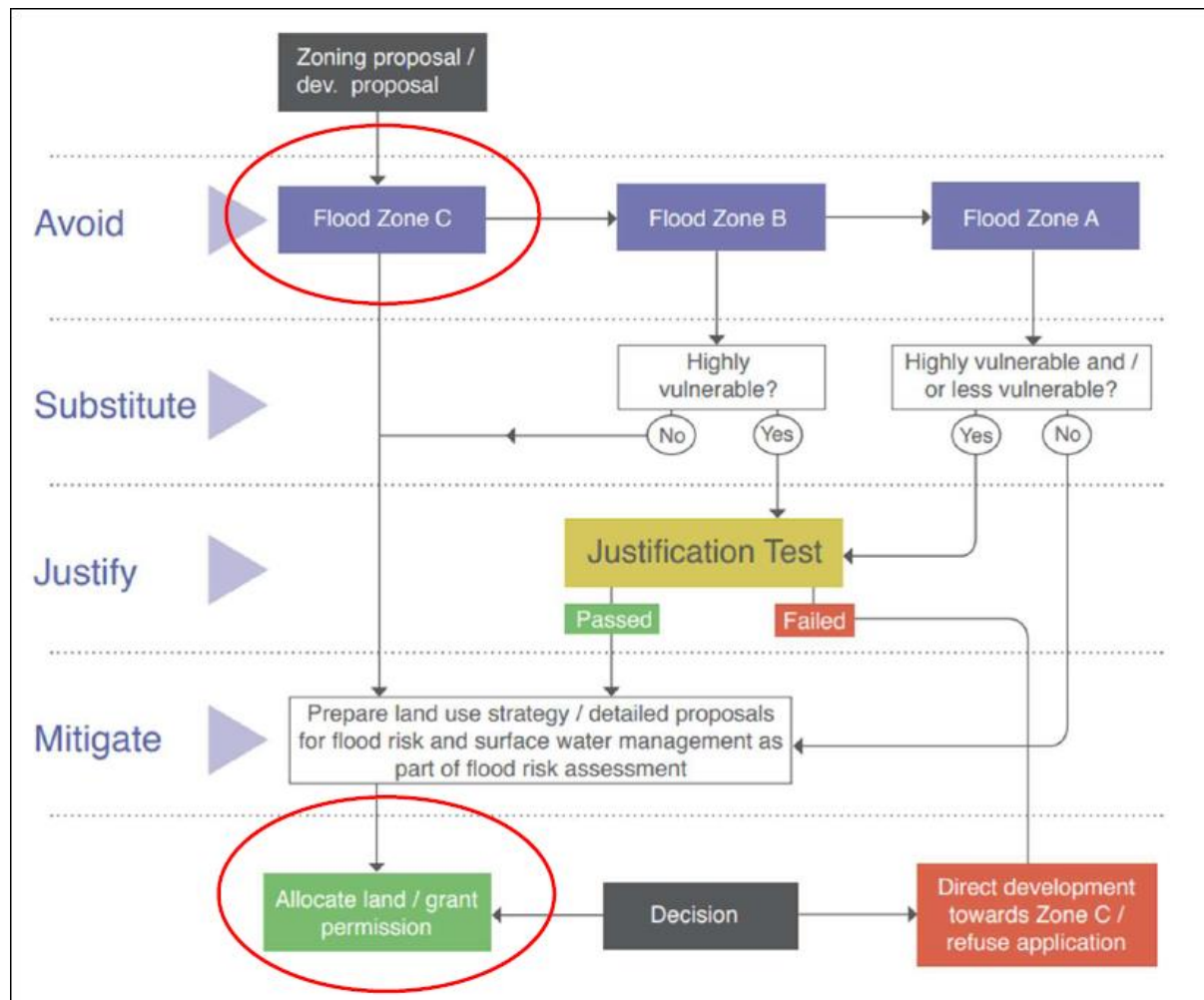


Figure 2-3: Sequential Approach mechanism in the Planning process



The proposed development's surface water drainage network, detailed in section 5 is designed to comply with the guidelines and addresses pluvial flood risk within the scheme. Stormwater drainage is designed to facilitate a 1 in 100-year event with climate change allowance of 20%. Furthermore, the lowest FRL along the access road (55.68m) is sufficiently higher than Top Water Level (TWL) of the attenuation basin (53.18m).

It is concluded that.

- The development proposed is appropriate for the Site's flood zone C category.
- The Planning System and Flood Risk Management Guidelines Sequential Approach is considered to have been met and the 'Avoid' principal achieved and a justification test is not required.
- Finished road levels (FRL) have been designed to provide sufficient freeboard to the predicted flood levels for the Shambles River and the top water level (TWL) of the attenuation storage structures.