



Cllr Alastair McKinstry  
Áras an Chontae, Prospect Hill, Galway

## PRE-DRAFT SUBMISSION ON THE GAWAY COUNTY DEVELOPMENT PLAN

I wish to make the following submission on issues in the Development plan:

### Preparation for increased rainfall, flooding with climate change

Our climate change science is clear: we expect wetter winters, drier summers, with longer more persistent weather patterns. We also expect more intense rainfall within these wet periods. This is becoming apparent already, with the flooding seen in the county in February 2020, and the recent flooding of the Owenglin valley and Clifden.

Currently projected water flows are based on CFRAM guidance. Updated modelling done for the EPA however needs to be taken into account. While projected annual precipitation for the region shows little change in the period 2040-2060, an 8% increase in seasonal rainfall in winter for high emission scenarios is seen; moreover a 20 % increase in wet days (> 20 mm/day) and very wet days (> 30 mm/day) are calculated as being as “likely” (projected by most models). [1]. These extremes then increase when the forecast period is extended beyond 2040-2060 to 2100 [2]. These model projections are agreement with observational changes of climate change already seen by Met Éireann.

The consequences of these precipitation changes on groundwater flow and resurgences are the subject of current work at the Geological Survey of Ireland and have yet to be included in OPW flooding guidelines, but an increase in the expected peak flows of at least 30% would appear warranted. The estimates for peak flows, and storm drainage and culvert sizes need to be adjusted accordingly.

We currently have a reactive approach to pluvial flooding: if the existing network is not effective, it will be upgraded. However the anticipated changes listed mean that a currently sufficient drain may soon be insufficient. Secondly, the heavier volume of rain leads to more debris, causing drains to be more susceptible to flooding. This was seen in February in Maigh Cuilinn, for example.

A systematic survey of the storm drainage capacity is needed, to document what the current network is capable of, and what will be needed to change. This is important as land use change (eg. Forestry planting, removal of bogs and peatland) change the drainage characteristics upstream, and the flood risk will change.

It is noted that Met Éireann and the OPW are piloting flood forecasting for Ireland (beyond single river basin models). Additionally the government is working on land use modelling as part of a larger strategy of land use change. This will be crucial in discovering if the network is sufficient for expected conditions over the next decades.

Surveying the drainage network will be a time-consuming exercise; it is recommended that this be included in any on-going work on the drainage network and surveys of the county, rather than being a standalone exercise.

### Sea level rise with climate change

The council will receive a statutory update on CFRAMS from the Office of Public Works. This details sea level rise threats in the short to medium term, that is: threatening existing buildings and land, and the increased likelihood of flooding. The previous assessment was based on the UN IPCC report AR5 (2013), which underestimated the risks due to uncertainties in Ice sheet dynamics. The CFRAMS report presumed 50cm of SLR (Sea Level Rise) by 2100, with 23-80 cm uncertainty. The UN IPCC report AR6 is being prepared for 2021, which will be too late for inclusion in the CFRAMS update; however the AR6 drafts (and science and detailed modelling in the CMIP6 simulations on which the report summarises) update the range to 1.5-2 m for the worst-case (RCP8.5) scenario which we are to date tracking. In the US, NOAA [3] have stated we need to prepare for a 2.5m regional rise by 2100, and in the UK, English Nature have also issued guidance to prepare for 2.5m flooding.

However this is based on work that ends in 2100 for convenience of modelling; in practice we are planning for well beyond that: roads, street layouts and towns have a centuries-long future. We are obliged to ensure that roads, schools, houses and other critical infrastructure we plan today should be well above the sea-level rise of 2200 and beyond; this should dictate our choice of “village centres” and zoning in general.

The UN IPCC Special report on the Oceans [4] summarises the science to date. Simply put: the last time we were at 2 degrees above today, the oceans were 6-9m higher (we’re on a path to 4 degrees). Even if we reduce greenhouse gases, ice sheet collapse already in progress leading to the likely collapse of the Greenland Ice sheet, West and East Antarctic Ice sheets mean that 8-14m of rise is “locked in”, admittedly after many centuries rise (the fastest model scenario being 4m by 2150).

We should hence be zoning and granting permission with this future in mind: planning our villages to be at least 14m above sea level in the foreseeable future.

## “Co-living” and COVID (and other epidemics)

There are grave concerns about the introduction of a shared living, or co-living model of accommodation to the Irish market; as representatives of communities experiencing desperate shortages of good quality residential accommodation, we do not view this type of development as fit for purpose when it comes to addressing those shortages while growing and enhancing those communities in a sustainable way. As of now, these have not been introduced into the county, and we propose that there should be a pre-emptive ban on co-living developments as they essentially make impossible safe “social distancing” in the current or future epidemics.

The viability of the co-living model is as yet untested in the Irish market, and until it is established that people a) wish to live this way, b) can safely live this way in a world irrevocably impacted by Covid-19, and c) can afford to live this way with a deep recession on the horizon, then it would be reckless to continue to grant planning permission for further shared or co-living developments.

To underscore the above point, we need look no further than the proliferation of purpose-built student accommodation in the Dublin, the rapid delivery of which the SHD process was designed to facilitate. Much of this accommodation now lies empty or is being actively being repurposed to a ‘co-living’ model due to uncertainty around the upcoming academic year. Yet despite this, further developments of student accommodation are still in progress. Flooding the market with a single model of accommodation (and a model which has limited, and as yet unproven appeal) would be ill-advised even if we weren’t in the midst of a global pandemic, but the current public health crisis makes it imperative that the future viability and safety of any shared-living model is properly established before any more of these applications are even considered.

Housing Minister Darragh O’Brien has pledged to conduct a review into the provision of co-living to ensure “there are no unintended consequences to proceeding with such schemes”, and we would urge that planning permission be refused until such a review has taken place. Co-living is the antithesis of responsible, sustainable development, and it would be irresponsible in the extreme to risk destroying the fabric of our city and our communities with a proliferation of sub-standard accommodation that undermines the city’s development goals, only to find out they are economically unviable too. The established fall-back use of this model as tourist accommodation must likewise be assessed for viability with that industry now decimated by the impacts of the global pandemic.

[1] Ensemble of regional climate model projections for Ireland, P. Nolan, EPA Report 159 (2015)

[https://www.epa.ie/pubs/reports/research/climate/EPA%20159\\_Ensemble%20of%20regional%20climate%20model%20projections%20for%20Ireland.pdf](https://www.epa.ie/pubs/reports/research/climate/EPA%20159_Ensemble%20of%20regional%20climate%20model%20projections%20for%20Ireland.pdf)

[2] EC-Earth Global Climate Simulations - Ireland’s Contributions to CMIP6. P. Nolan and A. McKinstry, EPA report 2015-CCRP-FS.23 (2020)

[3] NOAA:

[https://tidesandcurrents.noaa.gov/publications/techrpt83\\_Global\\_and\\_Regional\\_SLR\\_Scenarios\\_for\\_the\\_US\\_final.pdf](https://tidesandcurrents.noaa.gov/publications/techrpt83_Global_and_Regional_SLR_Scenarios_for_the_US_final.pdf)

[4] <https://www.ipcc.ch/srocc/>