Submission on Draft Planning Circular on *Coastal Hazard Notations*

My name is Frank Mieszala. I live at Blacksmiths Beach (2281) in Lake Macquarie City. I am a member of the local Sustainable Neighborhood Area Group, a programme run by Lake Macquarie City Council (LMCC). I have attended and participated in all of the workshops/community forums run by LMCC on sea-level rise (SLR). I would like to make a submission on the draft Planning Circular on *Coastal Hazard Notations* released by NSW Planning Minister on 30 January, 2014.

This revised circular came about as a result of complaints from coastal communities who were adversely and unnecessarily affected by councils who have acted prematurely on an issue that may or may not occur in 100 years time.

The history was summed up well in the Newcastle Morning Herald (NMH) on 30/01/2014:

> *Each council has varying definitions of a current flood risk, and what could become a flood risk as sea levels rise in the future. In recent years, the issue made headlines in Lake Macquarie when the council used climate change modelling to determine a property's flood risk and put it on section 149 planning certificates. Property owners argued the notations were unnecessary, were based on questionable climate change predictions, and were severely affecting property values.*

The article mentions property values, but does not mention building restrictions or the impact on insurance premiums, which are two other issues causing unnecessary pain to coastal communities.

The community expectations were summed up well in The Australian on 30/01/2014:

> *Councils in NSW will be instructed to distinguish between "clear and present dangers" of coastal erosion and flooding and "doomsday" UN scenarios of global sea-level rises under a landmark policy on coastal planning and climate change to be unveiled today. NSW Planning Minister Brad Hazzard will release a draft circular aimed at stopping some coastal councils from imposing draconian planning restrictions based exclusively on UN Intergovernmental Panel on Climate Change predictions of what could happen a century ahead.*
>
> *Under the state plan released yesterday, councils will be required to note only "current risk" of flooding or erosion ...*

But it goes on to say:

> *... "or future risk", which means the property might only be affected if climate change impacts reach certain points in the future. The councils will, however, need to do localised modelling of sea level rises to determine risks, and not base their modelling on statewide or global predictions.*

Unfortunately, the circular does not communicate these last points very well.
LMCC's response reported in the NMH sums it up:

> *Lake Macquarie council's manager of sustainability, Dr Alice Howe, said such modelling had already been done, and the council's existing policy would be unaffected.*

LMCC's policies are inflicting much unnecessary suffering and anguish on residents. If this council does not need to change its policies as a result of the draft Planning Circular, then the circular must be missing the mark.

The following submission outlines the main issues and why the circular does not address them. It follows the headings:

- UNCERTAIN SCIENCE
  - "Sufficiently reliable information" - IPCC, CSIRO, CRC, BOM, CSE
  - "Clear, present, and local"
- CONSEQUENCES
  - Insurance Costs
  - Property Values
  - Building Height Restrictions
  - Duty of Care

UNCERTAIN SCIENCE:

"Sufficiently reliable information" - IPCC, CSIRO, CRC, BOM, CSE

There is no doubt that climate is changing, that sea levels are rising, and that human pollution must be contributing. The question that remains open is, "By how much?" This is still an open question for the IPCC because they continue to predict a broad RANGE of outcomes, not a definitive level. There is no agreement amongst the IPCC scientists on the "equilibrium climate sensitivity" between the level of CO2 emissions and the impact on global temperatures. Until there is, there will be no definitive ("clear") prediction of climate change and SLR.

Councils are entitled, even obliged, to take notice of the IPCC projections on SLR, but they should acknowledge the whole range, not just the "doomsday" high. Until the IPCC does make a definitive prediction, councils should be required to prepare an **adaption plan** that acknowledges this **range**. There should be trigger points that initiate action when the observed levels reach certain height OR when the science becomes definitive.

LMCC have already pulled the trigger based on the predictions for 2100. The projections from Assessment Report 4 (AR4 2007) were **between** 0.18 cm and 0.59 cm above 1990 levels. CSIRO then added 0.2 cm for ice-melt and a further 0.14 cm for NSW, yielding a high level projection of 0.93 cm. This was arbitrarily rounded down to 0.9 cm and set as a benchmark which was adopted, and continues to be used, by LMCC. LMCC claims they are not scientists and that they are entitled to "rely on" these predictions of IPCC and of pre-eminent scientists from CSIRO for policy making. They add that this is also supported by the views of the NSW CSE in her 2012 report, **i.e. this is "reliable information"**.

CSIRO's Dr John Church is one of the two Coordinating Lead Authors of AR5, assisted by contributors and co-authors Dr Neil White and Dr Kathleen McInnes, also of CSIRO, as well as Dr S. Rahmstorf, who shares similar views. These authors often quote each other as referees of each other's works.

Drs Church and White are involved in research related to measurement of SLR and are very active in advocating their views that the observed tide gauge and satellite data confirm that SLR is trending at the **top end of IPCC projections**. This is despite the fact that long term tide gauge data at Newcastle, Fort Denison and Port Kembla does not support this assertion. Nor does it support the modelled assertion that NSW SLR is higher and will continue to accelerate faster than the other states. They have written books on the topic and published papers via CRCs. BOM and CSE regurgitate their views, as will the Climate Change Adaptation Research Hub recommended by CSE. (I submitted a report to Hon R Parker on this topic last year and was advised by her that my report would be taken into account by OEH when reviewing future policies.)

If observed data indicates we are tracking towards the high-end projections, IPCC (Dr Church) should say so in AR5. Until then, it cannot be considered "sufficiently reliable information" and councils should adopt the full range of projections not just one end.

But where else could councils get "reliable information" if they ignored IPCC & CSIRO? The planning circular can not restrain CSIRO from developing an opinion on climate change, so it should be very clear on what "sufficiently reliable" means.

THE CIRCULAR SHOULD INSTRUCT COUNCILS TO USE THE FULL RANGE OF IPCC PROJECTIONS TO DEVELOP THEIR POLICY.

"Clear & Present"
In the draft circular, "clear & present" danger becomes "sufficiently reliable & future".

A 1.5 m 1/100 flood is an LMCC's current estimate but it is "clear" in the sense that it is supported by similar levels which occurred in the 1949 and 2007 floods, and it is "present" in the sense that it could actually occur tomorrow.

A 2.36 m 1/100 flood is LMCC's future prediction based on the current 1.5 m estimate plus a prediction of a 0.9 m SLR. The problem is that this is not a "clear" danger, i.e. a foregone event. It is the just high-end of a possible range.

From the draft circular:

> *If the information is **sufficiently reliable**, then the **council should adopt a policy** or planning instrument that manages development on the land. This would then **require disclosure** of the policy on the section 149(2) planning certificate.*

i.e. councils have been actually directed to make a prediction, adopt a policy and put the prediction on the s149 certificate, the exact opposite of what the community is asking for.

The projections from AR5 (2013) are between 0.32 cm to 0.96 cm (Table 13.5 of AR5). CSIRO will want to add the 0.14 cm "NSW component" to lift the "doomsday" projection to 1.10 cm. With the draft circular, Councils will claim that the IPCC projections, plus the views of CSIRO and CSE that we are trending towards the high end, are "sufficiently reliable" to allow them to adopt the high end of the projections and include this on the s149(2) certificate, as directed in the draft circular.

At two separate public meeting this month, LMCC's Sustainability Manager, Alice Howe, and Planning Manager, Sharon Pope, in answer to the question, "Why don't you adopt the full range of IPCC's projections?" both said that the high end applies to Australia and the low end applies to other locations around the world, despite the fact that both Newcastle and Fort Denison have been trending linearly at 0.9 mm per annum for the last 100 years, well below the global trend of 1.8 mm per annum (tide gauges).

In response to the question, "How then do you account for the low linear trends at Newcastle and Fort Denison?" they replied that, "The past is no indication of the future. The trend will take off towards the 0.9m level soon - our computer models tell us that!"

So the global historic trends indicate we are tracking towards the top end of projections, the local trends do not support this, but the computer models predict we are heading for doomsday ... and the models must be right, not the local trends.

THE CIRCULAR SHOULD **NOT** ALLOW COUNCILS TO ADOPT SINGLE POINT COMPUTER PREDICTIONS AND PUT THEM ON S149(2) CERTIFICATES.

"Local"
LMCC have done local modelling but this relates to how a particular parcel of land will be inundated if the SLR rises to 0.9 cm, i.e if it is a foregone event. This does NOT take into account the long-term local trends at Newcastle and Fort Denison, which are just north and south of Lake Macquarie.

The IPCC baseline for projections is 1990. Twenty four years have passed since then, so there should be some local confirmation that we are following the high trend.

If we were trending to the high end of 0.9 m or 900 mm, we should now be at 83 mm.
If we were trending to the low end of 0.18 m or 180 mm, we should now be at 43 mm.
The levels at Newcastle and Fort Denison are actually 24 x 0.9 mm pa, or 22 mm.
Not only are we not trending at the high end, we are trending below the low end!

Newcastle and Fort Denison are included in the 290 weather stations that are averaged to obtain the 1.8 mm per annum global tide gauge trend. Again, the local trends are below the global average. None of the local gauges support the view that NSW SLR is higher or ever will be higher than the other states. LMCC should be required to reconcile these local trends with global trends and global projections before they can adopt any global figures.

THE CIRCULAR NEEDS TO CLEARLY STATE THAT "LOCAL MODELLING" MUST RELATE TO CONFIRMING SLR TRENDS.

CONSEQUENCES:
Insurance Costs
Up to 2007, LMCC defined its flood-prone area as all land < 2.0 mAHD - this affected about 6,000 properties. In 2008, they changed this to all land < 3.0 mAHD, based on the adoption of a 0.9 m SLR policy - the number increased to about 10,000 properties.

This is when the damage was done! Overnight, LMCC exposed 4,000 extra properties to the vagaries of flood insurance causing the owners great pain, anxiety and anguish over the ensuing years as the insurance companies integrated the new levels into their policies.

At one of the public meetings this month, Insurance Council of Australia's, Policy, Risk and Disaster Planning Director, Karl Sullivan, advised that there are 110 insurance providers in Australia. These providers have varying capacities to assess flood risks and offer appropriate insurance cover. They have the options of declining to provide insurance altogether, declining a flood cover option, including flood cover as a standard item, or including flood cover as an optional item. They are entitled to charge whatever premium they want in providing this cover, no doubt influenced by competitive market forces. Federal law requires that if the actual risk is not known, the company must cover for worst possible case. They can review their risk assessment and advise of revised premiums at any time, often resulting in >50% increases or annual increases of $2000 till the required premium is reached (often > $7000). These are the vagaries of flood insurance.

Karl advises that "insurance companies have groups of back-room nerds who pore over flood maps or whatever information they can get to assess risk." There is no doubt these people would have pored over the data coming from LMCC in 2008. In addition, banks would become aware of flood categories when the alert appeared on a s149(2) certificate and would require that the borrower acquires flood insurance.

As a result, premiums in the LMCC flood-prone areas have become very unstable over the past 6 years causing much confusion and pain. In the case of the 4000 "extra" properties this pain has been unnecessary because the flood cover is not "present." In the case of the 6000 "pre-2008" properties, the cover may have been excessive based on LMCC's revised flood zones. Properties labelled "High Lake Hazard", i.e. predicted by LMCC to become permanently inundated by SLR, may become uninsurable.

We are advised that in September 2013, LMCC started submitting 3 sets of detailed flood maps to the Insurance Council - one for current risks, one for plus 0.4 m SLR in 2050, and one for plus 0.9 m SLR in 2100. We are also advised that the Insurance Council discards two of these maps and only uses the current risk map. And finally, we are advised that as a result, insurance policies should start to normalise in Lake Macquarie in the next two years and reflect the actual current risk of flooding. This is good news, if it happens.

For the past six years, residents have endured pain and anguish because LMCC has jumped the gun and incorporated predictions into its flood plan. In one sense LMCC is leading other councils and discovering the pitfalls of jumping the gun. This should NOT be allowed to happen in other councils.

THE CIRCULAR SHOULD ENSURE NO PREDICTIONS ARE ALLOWED ON THE CERTIFICATES OR FLOOD PLANS. CERTIFICATES SHOULD ADVISE THAT THE PROPERTY IS SUBJECT TO AN ADAPTION PLAN WHICH WILL INCLUDE ACTIONS AT MULTIPLE LEVELS, WITH APPROPRIATE LEAD TIMES. FLOOD PLANS SHOULD ONLY EVER RELATE TO CURRENT RISKS.

Property Values
In 2009, LMCC put the SLR prediction overtly on s149(2) certificates.

Following objections from the public, in 2012 LMCC removed the overt reference to SLR from the certificate and instead put a notation that the property was subject to flood-related building restrictions. These restrictions and flood risk categories, including the "High Lake Hazard" category of <1 mAHD, which is just another name for permanent inundation from SLR, could be discovered on a flood certificate (for a fee).

Any prospective buyer, and any prospective lender, would be advised by their solicitor to obtain a flood certificate. They would discover that the property was labelled by council as a low or high flood risk, or that it will be permanently inundated by SLR. So rather than being overtly included on the s149(2) certificate, the council's prediction was included covertly on the flood certificate.

Either way, the prospective buyer has a bargaining advantage that he can use to negotiate a lower price. Faced with two identical houses, one flood-prone and one not, a buyer would obviously prefer the "safe" house and would pay less for the other.

In some cases the sale would fall through altogether. A bank in assessing the risk of lending a sum of money and using the purchased property as security, needs to value the property such that if the borrower defaults, the bank can recover its money by selling the property. If the council predicts that the property will be permanently inundated by SLR, at some point the property will become unsellable. The bank's valuation must reflect this.

At the community meetings, residents have claimed that property sales have fallen through even though they have dropped the sale price by up to $200k, because the bank would only lend 50% of the sale price.

THE CIRCULAR SHOULD ENSURE THAT COUNCILS CAN NOT, EITHER OVERTLY OR COVERTLY, PUT PREDICTIONS ON S149(2) CERTIFICATES. THE WARNING SHOULD BE THAT THE PROPERTY IS SUBJECT TO AN ADAPTION PLAN.

LMCC is locked in on one point - plus 0.9 m SLR in 2100. The problem is that IPCC projections change and will continue to change every reporting period. The future is not predictable, either as a single point, or in relation to any mitigating circumstances.

It is conceivable that when properties become directly threatened by SLR, community outcry will force the Government to seriously consider levee banks. If levee banks are constructed, then the crisis will have been averted and any actions related to council's single point projections will have been in vain.

It is conceivable that developers would quickly snap up waterfront properties if the council allowed "development". They would knock down, build up the land and rebuild at great profit. This may not be a popular option now, but conceivably may become attractive later. This would "rescue" waterfront properties and would do not penalize the current owner.

The latter possibilities are arguably more likely than the IPCC doomsday possibility and they actually avert such an outcome. Predictions should evaluate a number of possible futures (see later comments on Treasury's ‘wellbeing framework').

Building Height Restrictions
LMCC has imposed building height and density restrictions based, in part, on SLR predictions. They quote the "Precautionary Principle" in support of this. They say the figures are based on a 100 year asset life (recommended by their solicitors). They say this is supported by the fact that most dwellings undergo a face-lift every 50 years and a major refurbishment every 100 years.

The Precautionary Principle says that in an unknown future, as a precaution, you should act to avoid the risk of the worst case scenario, if you can. Such action will "save" or "rescue" the property in the event of that scenario occurring. Whilst this may be true of flood risk from PMF, it does not work so well with SLR.

A face-lift in the case of SLR needs to be a foundation-lift, i.e. a knock down and rebuild, otherwise the height restrictions will not "rescue" these homes. There are many buildings that survive well past 100 years, so the proportion of homes actually rescued might not be very high. LMCC has not analyzed this.

Building height restrictions do not work till there is a clearly defined SLR peak.
- At the low end of 0.18 m, **no action is required**. The current 1/100 flood level plus a 0.5 m freeboard is adequate.
- At the high end, if we reach 0.9 m by 2100, sea levels will be rising at 10 times the rate they are now. In 2114, 100 years from today, a 0.9 m precaution **will not be enough**.
- If a levee bank is constructed, then the 0.9 m precaution **will not be necessary**.
- Scaring off prospective buyers by putting SLR predictions in s149(2) certificates is not a precaution that will rescue the property, it just penalizes the current owner.

The Precautionary Principal based on SLR **fails on all counts** because SLR is a moving target.

The Precautionary Principal based on current 1/100 flood levels plus a 0.5 m freeboard may be all that is required. It covers the worst-case SLR scenario till 2050 and by that time, the science might have developed to a stage where a definitive projection can be made.

THE CIRCULAR SHOULD INSTRUCT COUNCILS TO ADOPT BUILDING HEIGHT RESTRICTIONS BASED ON THE CURRENT 1/100 YEAR FLOOD PLUS AN 0.5 M FREEBOARD UNTIL A DEFINITIVE PROJECTION OF SLR BECOMES AVAILABLE.

Duty of Care
LMCC claims it has a "Duty of Care" to advise prospective buyers of "known" risks. The problem is that permanent inundation from SLR is not a known risk, it is a future prediction. No future prediction can be made with certainty. IPCC cannot predict SLR with certainty, that is why it predicts a range. In addition, no one can predict what the Government will do if SLR does threaten properties. There will be a lot of political will, spurred on by community pressure, to build a levee bank. If that happens, the "known" risk evaporates.

Duty of care is usually associated with a responsibility "to do no harm". LMCC's motivation, however, is "to avoid prosecution". This is clearly evident in their submission to the Productivity Commission and in other published literature. It is evident however that their policies and actions are actually inflicting harm, rather than preventing it.

The 2012 Productivity Commission Inquiry into Regulatory and Policy Barriers to Effective Climate Change Adaptation said that the broad objective of public policy should be to **increase community wellbeing**. It recommended the Treasury's ‘wellbeing framework' which is an established approach that is well suited to the issue of climate change adaptation. It involves:
– defining the problem in a way that allows consideration of a variety of solutions
– describing the objectives of reform
– identifying options to address the problem
– considering the positive and negative impacts of each reform option
– considering any potential risks to effective implementation and operation

In short, councils should consider various options and choose the option with least impact to wellbeing.

LMCC has not considered any other options nor has it considered community well-being.

Deferring by 10 or 20 years any action that has a negative impact on the community will have no impact on the effective implementation and operation of a SLR adaption plan, it will only enhance it by making it more definitive.

THE CIRCULAR SHOULD INSTRUCT COUNCILS TO FOLLOW THE TREASURY'S WELLBEING FRAMEWORK, TO CONSIDER A VARIETY OF OPTIONS AND TO SELECT THE LEAST IMPACT OPTION. THE CIRCULAR SHOULD INSTRUCT COUNCILS NOT TO IMPLEMENT ANY ACTIONS THAT HAVE A NEGATIVE IMPACT ON COMMUNITY WELL-BEING FOR ANOTHER 10 YEARS TILL THE SCIENCE IS BETTER UNDERSTOOD.