

QUEENSLAND FLOODS COMMISSION OF INQUIRY

STATEMENT OF MICHAEL PETER HARTLEY

I, Michael Peter Hartley, Director of Planning and Development, Gympie Regional Council make the following statement under oath as required by the Commissioner of Inquiry:

Any changes to the council's land planning processes, policies or other statutory instruments in response to flooding that occurred during the period 1 December 2010 to 31 January 2011, including drafts, considerations and adopted documents of council.

1. There have been no changes to Council's land planning processes, policies, or other statutory instruments in response to flooding that occurred during the period 1 December 2010 to 31 January 2011.

A summary of the assessment criteria contained in Council's planning scheme(s) and how such criteria are used to assess applications for development in the natural hazard management area.

2. Gympie Regional Council currently administers three planning schemes (Cooloola, Kilkivan and Tiaro).

Cooloola Planning Scheme 2005

3. The Gympie, Cooloola Coast and Rural planning areas cover the entire planning scheme area. Each of the respective planning area codes contains the following specific outcome and probable solution.

SO-10 Buildings are appropriately sited with respect to protection from flood events.	PS-10 The minimum floor levels of: a. residential buildings comply with Schedule 6 Minimum Floor Levels; and, b. non-residential buildings – no solution prescribed.
SO-11 Noise sensitive development including accommodation	

4. Schedule 6 referred to in probable Solution 10a is as follows:

Schedule 6 MINIMUM FLOOR LEVELS		
Schedule Table 6 lists minimum floor levels of non-habitable and habitable rooms.		
Schedule Table 6 Minimum Floor Levels		
COLUMN 1	COLUMN 2	COLUMN 3
AREA	MINIMUM FLOOR LEVELS OF NON-HABITABLE ROOMS	MINIMUM FLOOR LEVELS OF HABITABLE ROOMS
Gympie Defined Area	60.38 metres AHD at the Kidd Bridge	For: (1) accommodation premises and multi-residential – 62.15 metres AHD at the Kidd Bridge; or, (2) uses other than accommodation premises or multi-residential – 60.68 metres AHD at the Kidd Bridge.
Rainbow Beach Township	2.75 metres AHD	2.75 metres AHD
Rainbow Shores Stage 1	4.0 metres AHD	4.5 metres AHD
Tin Can Bay	2.20 metres AHD	2.5 metres AHD
Cooloola Cove	2.20 metres AHD	2.5 metres AHD
Tinana Creek Catchment	Highest level of the February 1992 flood	0.3 metres above the highest level of the February 1992 flood
Other areas	Highest level of the highest known flood	0.3 metres above the highest level of the highest known flood

5. Depending on the location of a particular development site, one of these planning area codes will apply to any development application for Material Change of Use. Where necessary Council would request proponents to provide satisfactory evidence to ensure proposals comply with the minimum floor levels outlined in Schedule 6.

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6. In relation to applications to subdivide land, the reconfiguring a lot code contains two specific outcomes and associated probable solutions as follows:

<p>Natural hazards</p> <p>SO-17 Each new lot or part of a lot intended for primarily residential use has sufficient useable area to allow for the erection of a dwelling in a location that minimises the risk to life and property from:</p> <ul style="list-style-type: none"> a. flooding; or, b. landslide; or, c. bushfire. <p>SO-18 New lots intended for non-residential use maintains the safety of people and minimises the potential damage to property from flooding.</p>	<p>Natural hazards</p> <p>PS-17 In relation to:</p> <ul style="list-style-type: none"> a. flooding, each new lot or part of a lot has a building area that: <ul style="list-style-type: none"> (i) complies with the minimum building areas and dimensions in Schedule Table 7 Minimum Building Areas and Building Area Dimensions; and, (ii) is: <ul style="list-style-type: none"> (A) in areas where the 1:100 ARI flood level is known – at or above the known 1:100 ARI flood level; or, (B) if in Tin Can Bay or Cooloolo Cove – at or above RL2.2 AHD; or, (C) if in Rainbow Beach – at or above RL 2.75 AHD; or, (D) if in the Rainbow Shores Precinct – at or above RL 4.0 AHD; or, (E) in areas where the 1:100 ARI flood level is not known – at or above the highest known flood level in the locality; and (iii) has existing or constructed access above 1:2 ARI flood level linking it to a dedicated road; and, b. landslide – no solution prescribed²³¹; and, c. bushfire – no solution prescribed²³². <p>PS-18 Either:</p> <ul style="list-style-type: none"> a. all land within the boundaries of each new lot is at or above the 1:100 ARI flood level; or, b. there is no increase in the number of people living or working on land below 1:100 ARI flood level, except where the premises are occupied on a short-term or intermittent basis; or, c. each lot provides for building floor levels to be located at or above the 1:100 ARI flood level; or, d. each lot has at least one evacuation route that remains passable for emergency evacuations during all flood events up to and including the 1:100 ARI flood level; or, e. lots are located in an area where there is sufficient flood warning time²³³ to enable safe evacuation; or, f. each lot contains a safe refuge²³⁴.
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Schedule Table 7 Minimum Building Areas and Building Area Dimensions

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
ZONE	MINIMUM BUILDING AREA	MINIMUM WIDTH OF BUILDING AREA	MINIMUM DEPTH OF BUILDING AREA
Housing	400m ²	15 metres	20 metres
Rural	2000m ²	35 metres	35 metres
Rural Residential	1000m ²	35 metres	35 metres
Village	1000m ²	25 metres	25 metres

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7. The dwelling house, annexed unit and caretakers residence code contains a specific outcome and probable solutions in relation to natural hazard risk management as follows:

(ii) Natural and Man Made Hazard Risk Management:	
Specific Outcome	Acceptable Solution (if self assessable) Probable Solution (if code assessable)
<p>O2 Areas susceptible to hazards associated with erosion, land slide, mass movement, flooding, drainage problems, salinity and instability are maintained in a state which minimises the following relative to the site and its setting:</p> <p>(1) potential for significant adverse affects on habitats, water quality and landscape values,</p> <p>(2) unacceptable risks to public safety,</p> <p>(3) potential damage to property and essential service infrastructure,</p> <p>(4) adverse impacts on the capacity to use land and upon the economic value of water and land resources, and</p> <p>(5) unacceptable change to local flooding and drainage characteristics.</p>	<p>S2.1 Buildings and works are sited on slopes no greater than 15% in gradient.</p> <p>S2.2 Buildings, structures and works (including areas for on-site disposal of treated effluent) occur:</p> <p>(1) on cleared land,</p> <p>(2) outside overland flow paths, gullies or other drainage paths, including stormwater discharge points,</p> <p>(3) at least the following from the top bank of a river, creek, stream or wetland¹:</p> <p>1. 50 metres in the Rural Locality, and</p> <p>2. 20 metres in other Localities,</p> <p>(4) at least 200 metres from the full supply level for any referable dam², and</p> <p>(5) on free draining land so that:</p> <p>1. habitable rooms within a building are:</p> <p>(i) above the 1% Annual Exceedance Probability (AEP) flood event, where known; or</p> <p>(ii) 300mm above the highest known flood level</p> <p>2. non-habitable rooms within a building as well as carports, on-site areas for disposal of treated effluent and approved property accesses are 100mm above the highest known flood.</p>

The planning scheme contains a number of locality codes applicable to any development application for material change of use. The relevant code measure contained within the urban locality code is as follows. Identical measures are also contained within the rural and rural residential locality codes.

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(d) Land and water resource management

Specific Outcomes		Acceptable Solutions (if self assessable) Probable Solutions (if code assessable)	
017	Development is located, designed and constructed to function effectively in a manner that minimises disturbance to the geotechnical, physical, hydrological and environmental characteristics of the site and its setting, including: <ul style="list-style-type: none"> (a) related to degradation of the environmental values of both land and water resources and receiving environments, (b) significant remnant native vegetation important to land stability, salinity and erosion land management as well as to landscape, biodiversity, riparian and habitat management, (c) hydrological processes of flood plains and drainage systems, (d) ecological values of waterways and drainage features, (e) the propensity for any natural hazard related to flooding, landslip and bushfire to adversely affect people, property, economic activity and the environment⁶, (f) soil conservation works, (g) quality and quantity of surface and ground water resources, and (h) landscape character. 	S17.	Uses and associated works are confined to: <ol style="list-style-type: none"> 1 (a) free draining areas with a cross fall of at least 0.5-1%, (b) slopes not exceeding: <ol style="list-style-type: none"> (i) for <i>Residential uses</i> or a <i>Small-scale tourist facility</i> - 15%, (ii) for associated works including driveways - 20%, or (iii) for all other circumstances not specified for a use in any applicable use code in Part 4, Division 2 - 10%, (c) for storage areas, vehicle movement areas, essential infrastructure, and buildings and structures, they are located at ground level to be at least: <ol style="list-style-type: none"> (i) for habitable buildings: <ol style="list-style-type: none"> (A) above land inundated by the 1% Annual Exceedance Probability (EAP) flood event where known, or (B) 300mm above the highest known flood, (ii) for <i>Major utilities</i> or <i>Special uses</i> - above land inundated by the 0.5% Annual Exceedance Probability (AEP) flood event, or (iii) for other uses and works - 100mm above the highest known flood event, (d) areas outside stormwater discharge points, overland flow paths, watercourses and natural drainage features, and (e) existing cleared lands or otherwise areas not supporting significant remnant native vegetation.

⁶ Development which is not compatible with the nature of a natural hazard is either:

- (a) in the public interest,
- (b) not catered to by another site which is suitable and available for the proposal, or
- (c) minimises adverse impacts from natural hazards and does not create an unacceptable risk to people and property.

The parameters will be determined for assessable development in accordance with the *State Planning Policy Guideline - Mitigation of Adverse Impacts of Flood, Bushfire and Landslide*, Queensland Government, June, 2003

8. These provisions require new proposals for residential purposes to have floor levels above the Q100 flood event (where known) or the highest known flood.

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Tiara Planning Scheme 2005

9. Zone codes within the Tiara Planning Scheme apply to any development application for material change of use. In relation to flood, relevant measures within the residential zone code are as follows:

<p>(ii) Residential uses are established in localities:</p> <ul style="list-style-type: none"> • where amenity is high and not endangered from natural hazards or from deterioration due to inadequate development standards. • with high natural amenity • with high quality infrastructure • where impacts of intensive rural uses, or rural industry are minimal. 	<p>(ii) New residential areas are developed on land which has the following characteristics.</p> <p>Above the highest available flood level in the locality or the Q₁₀₀ flood whichever is higher and</p> <ul style="list-style-type: none"> • 100 m from the level of the highest astronomical tide (HAT) in all tidal areas • All lots are free draining and with
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10. Measures within the rural zone code are as follows:

<p>(ii) Development does not:-</p> <ul style="list-style-type: none"> * - Establish in flood prone areas 	<p>(ii) Buildings and ancillary structures are constructed</p> <ul style="list-style-type: none"> - with floor levels 300mm above the Q₁₀₀ flood for the locality . - 100 m from the level of the highest astronomical tide (HAT) in all tidal areas.
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11. Measures within the rural residential zone code are as follows:

<p>(ii) Development does not establish in flood prone areas.</p>	<p>(ii) Buildings and ancillary structures are constructed with floor levels</p> <ul style="list-style-type: none"> ▪ 300mm above the Q₁₀₀ flood for the locality.
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12. The reconfiguring a lot code applies to any development application proposing subdivision of land. Relevant provisions of the code relating to flooding are as follows:

(e) Lots are not constrained by;	(e) Allotments are not created:
(i) excessive slope	(i) For residential uses on land steeper than 15% on 50% or more of the lot
(ii) floods ²⁵	(ii) Below the highest recorded flood level or Q ₁₀₀ flood level for the locality, whichever is higher.
(iii) poor drainage	(iii) On low lying land incapable of being permanently drained, or filled and drained.
(iv) instability or	(iv) In areas identified as potential bushfire prone or steep unstable ground.
(v) bushfire risk	(v) Closer than 100 m from the level of the highest astronomical tide (HAT) in tidal areas.

A description of how the natural hazard management area, as it relates to flood affected land, is reflected in the planning scheme.

Cooloola Planning Scheme 2005

13. State Planning Policy 1/03 ("SPP") is not identified as having been appropriately reflected in this planning scheme. As such, there is no formal "natural hazard management area (floods)", as that term is defined in the SPP, in this planning scheme.
14. However, for areas susceptible to flooding, the level of the Q100 flood event is nominated within a schedule which is referred to in the planning area and reconfiguring a lot codes.

Kilkivan Planning Scheme 2007

15. State Planning Policy 1/03 ("SPP") is not identified as having been appropriately reflected in this planning scheme. As such, there is no formal "natural hazard management area (floods)", as that term is defined in the SPP, in this planning scheme.
16. Flood affected land is not mapped or reflected in the planning scheme.

Tiaro Planning Scheme 2005

17. State Planning Policy 1/03 ("SPP") is not identified as having been appropriately reflected in this planning scheme in relation to flooding. The planning scheme only incorporates the SPP in relation to bushfires and landslide. As such, there is no formal

“natural hazard management area (floods)”, as that term is defined in the SPP, in this planning scheme.

18. However, flood affected land is mapped as an overlay (OM5).

Details of Council’s defined flood event including a description of how the defined flood event was chosen.

Cooloola Planning Scheme 2005

19. While no formal “defined flood event” has been adopted by Council pursuant to the SPP, measures in the planning scheme addressing flooding were informed by a flood study prepared for Council by consultants GHD in May 2000 to determine the Q100 flood event. The focus of the flood study was a defined area around Gympie and downstream to approximately Fishermans Pocket.

Kilkivan Planning Scheme 2005

20. While no formal “defined flood event” has been adopted by Council pursuant to the SPP, measures in the scheme dealing with flood affected land are based on either a 1% Annual Exceedance Probability flood event or the highest known flood level. I have no knowledge of how the defined flood event was chosen in the development of this planning scheme, other than to comment that it appears to be generally consistent with the requirements of the SPP.

Tiaro Planning Scheme 2005

21. While no formal “defined flood event” has been adopted by Council pursuant to the SPP, overlay OM5 and other measures in the scheme dealing with flood affected land appears to have been based on a Q100 event or the highest available flood level. I have no knowledge of how this level was chosen in the development of this planning scheme, other than to comment that it appears to be generally consistent with the requirements of the SPP.

A description of any planning requirements to have evacuation routes and/or early warning systems for areas identified to be at high risk of flooding, including information about how the existence of such evacuation routes and/or early warning systems are communicated to occupiers of areas at high risk of flooding.

Cooloola Planning Scheme 2005

22. The following measure is contained in the Gympie Planning Area Code relevant to development in the commercial and industrial zones:

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<p>SO-8 Development maintains the safety of people from floods.</p>	<p>PS-8 For non-residential development, either:</p> <ul style="list-style-type: none"> a. the floor levels of buildings are at or above the 1:50 ARI flood level; or, b. there is at least one evacuation route that remains passable for emergency evacuations during all floods up to and including the 1:50 ARI flood; or, c. the premises are located in an area where there is sufficient flood warning time⁵⁵ to enable safe evacuation; or, d. a safe refuge⁵⁶ is available for people within the development site.
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23. The planning scheme also includes the following administrative definition:

"flood warning time" means the time between the release of a flood warning indicating that the locality is likely to be subject to flooding, and the time that the last evacuation route providing egress from the locality to land above the 1:100 ARI would be made unsafe for evacuation purposes by rising floodwaters.

Kilkivan Planning Scheme 2007

24. This planning scheme does not contain specific provision requiring evacuation routes and/or warning systems.

Tiaro Planning Scheme 2005

25. This planning scheme does not contain specific provision requiring evacuation routes and/or warning systems.

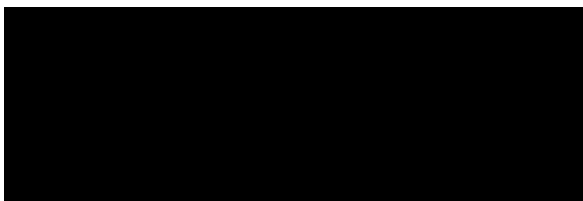
Any policies or other documents which require property owners to have an evacuation plan and/or route in the case of flooding.

26. I am not aware of any policies or documents which require property owners to have an evacuation plan and/or route in the case of flooding other those identified in paragraph 22 and 23 above.

A description of any controls or standards used to assess the storage of chemicals or other Environmentally Relevant Applications for development below the Q100 flood line or the council's defined flood event.

Cooloola Planning Scheme 2005

27. The following specific outcome and probable solution is contained in the Gympie Planning Area Code applicable to the industry zone.



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SO-8 Public safety and the environment are not adversely affected by the detrimental impacts of floodwater on hazardous materials manufactured or stored in bulk.	PS-8 Either: a. the manufacture or storage in bulk of hazardous materials takes place above the 1:100 ARI flood level; or, b. buildings and structures used for the manufacture or storage of hazardous materials in bulk are designed to prevent the intrusion of floodwaters.
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Kikivan Planning Scheme 2007

28. This planning scheme does not contain measures relating to the storage of chemicals below the Q100 flood line.

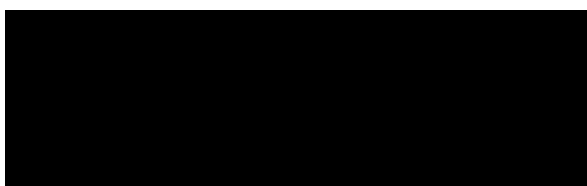
Tiaro Planning Scheme 2005

29. The planning scheme contains a natural hazards overlay code, applicable to development below 20metres AHD subject to tidal surges and floods, as reflected on overlay map OM5. The code contains the following relevant specific outcome and probable solution.

(c) not adversely affected by the detrimental impacts of tidal surges or associated floodwaters on hazardous materials manufactured or stored in bulk.	(c) The manufacture or storage in bulk of hazardous materials takes place above at least 100 m from the HAT or above the level of associated floods OR Buildings or structures used for the manufacture or storage of hazardous materials are designed to prevent the intrusion of floodwaters up to the level of a 1:100 year flood event or at least 100m from the HAT
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A description of any conditions imposed by council on the approval of development applications to ensure that hazardous materials affected by flood water do not affect public safety.

30. Examples of conditions that have been imposed by Council on commercial and industrial developments where the site is affected by flooding follow.
- a) "A contingency plan is to be submitted and approved by Council for the evacuation of chemicals stored on the property in the event of flood".
 - b) "A flood management plan for the development is to be prepared and submitted to Council for endorsement."
 - c) "The flood management plan is to be stored on the site at all times outlining required actions in the event of a flood. Actions recommended by the plan, including



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- d) complete containment of all landscaping materials, are to be implemented prior to floodwaters entering the development site”.
- e) “In the event of flood, stockpiles are to be removed from the site prior to floodwaters entering the site”.
- f) “A management plan for evacuation of materials in the event of flood is to be submitted to Council for approval. The plan should include:
 - (a) list of landscaping materials to be stored on the site;
 - (b) assessment of each material and potential impacts from the site in the event of the flood;
 - (c) management plan for evacuation of high risk materials to be removed from the site.

The plan should be compiled by a suitably qualified professional”.

Sworn by Michael Peter Hartley at Gympie this 25th day of August 2011 in the presence of:

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