

QUEENSLAND FLOODS
COMMISSION OF INQUIRY

Requirement to Provide a Statement to the
Commission of Inquiry

Reference Document 1682113
Letter Dated 16th August 2011

Statement by:

Ms Julie Anne Edwards
Director
Development Services
Sunshine Coast Council

September 2011

QUEENSLAND FLOODS COMMISSION OF INQUIRY

Requirement to Provide Written Information to Commission of
Inquiry

Julie Anne Edwards, Director, Development Services
Sunshine Coast Council

In accordance with *Section 5 of the Commission of Inquiry Act 1950 (Qld)*, I, Julie Anne Edwards, Director, Development Services, Sunshine Coast Council, provide the following statement of information as directed by letter dated 16 August 2011 (reference 1682113).

Statement Prepared under Oath by:

Ms Julie Anne Edwards
Director, Development Services
Sunshine Coast Council

[Redacted Signature]

Signature

26.9.11

Date

Statement signed in the presence of:

[Redacted Name]

SP "Quid"

Witness

Solicitor/Justice of the Peace/Comm. Dec.



[Redacted Name]

Signature

26 SEPT 2011

Date

1. Summary of the assessment criteria and development controls contained in Council's Planning Scheme(s) and how such criteria are used to assess applications for development in the natural hazard management area

- 1.1 The Sunshine Coast Council currently administers 3 separate Planning Schemes for each of the former local government areas – the Maroochy Plan 2000, the Caloundra City Plan 2004, and the Noosa Plan 2006. Council endorsed a draft Sunshine Coast Planning Scheme on 27 June 2011, which has been referred to the State Government for preliminary review, but not yet for a first state interest review.
- 1.2 While there are fundamental principles commonly relied upon in the development of the four planning schemes in relation to flooding and Sunshine Coast Council has a common approach, in respect of development of flood affected land, there are some differences in the construction of the four schemes. Accordingly, this information is provided as a summary of the relevant particulars of each Planning Scheme.

1.2.1 Caloundra City Plan

A complete copy of the Caloundra City Plan can be accessed via Council's website:- <http://www.sunshinecoast.qld.gov.au/sitePage.cfm?code=caloundra-plan-document>

1.2.2 Assessment and Development Controls

- 1.2.3 The Planning Scheme includes, in respect of the Planning Scheme area:
- (i) the desired environmental outcomes in Parts 2 and 12 of the Planning Scheme; and
 - (ii) the Planning Scheme provisions in Parts 3-10 and Part 12 of the Planning Scheme; and
 - (iii) the Planning Scheme maps.
- 1.2.4 The Caloundra City Plan does not include a strategic plan. The Planning Scheme **contains 6 Desired Environmental Outcomes (DEOs)**, which broadly state what the scheme seeks to achieve. The DEOs are:
- Economic Development;
 - Community Life and Wellbeing;
 - Natural Assets and Systems;
 - Character and Identity;
 - Access and Mobility; and
 - Infrastructure.
- 1.2.5 The Caloundra City Plan divides the local government area into **16 planning areas**. The planning areas are broadly based on water catchment and geographical boundaries, including urban and township boundaries. Each of the 16 planning areas are further divided into precincts. The precincts are broadly grouped by land use type.
- 1.2.7 There are **14 overlays** which apply to the Planning Scheme area. These overlays refer to special features, constraints and hazards within an area that affect use and development of the planning area. The overlay maps are provided as a consolidated map applying to each individual planning area and are contained within Part 4 of the Plan.
- 1.2.8 The Tables of Development Assessment determine whether development in a Planning Area is exempt, self-assessable or assessable, including the level of assessment (Code or Impact) for assessable development. The Tables identify the applicable Codes, or parts of Codes for Self-assessable and Code Assessable uses. Applicable Codes may include Use Codes, Other

Codes (generally works and reconfiguration codes), the relevant Precinct Code and Planning Area Code. In addition, if an overlay applies to a site, the relevant Overlay Code also applies to assessment. There also may be Structure Plans for particular areas which contain additional or different provisions to those otherwise generally applicable.

1.3 Applicability to Assessment of Applications in Natural Hazard Management Area

1.3.1 In the Caloundra City Plan, the management of natural hazards falls under DEO 3 for Natural Assets and Systems:

“(3) Water resources such as the Pumicestone Passage, the Mooloolah, Mary (including Obi Obi Creek) and Stanley Rivers and their tributaries and groundwater where:

(a) Except in the limited and specific circumstances provided for by a Structure Plan, the occurrence of filling and excavation works or development for urban purposes is avoided within flood plains and other areas subject to flooding.

(b)

1.3.2 This is a higher order outcome which may be referenced in Impact Assessable applications.

1.3.3 The primary measures incorporated into the scheme to achieve this outcome include:

Part 4 (Development in Planning Areas) – Overlay mapping including flooding constraints

Part 7 (Overlay Codes) – Flood Management Code

Part 11 (Planning Scheme Policies) – Overlays Planning Scheme Policy, Development Design Planning Policy

1.3.4 The **Flood Management Code** provides Overall and Specific Outcomes for land affected by flooding. This is the only criteria available for Code Assessable applications.

1.3.5 The overall outcomes sought for the Flood Management Code are the following:

- (a) floodplains and the flood conveyance capacity of waterways are protected;
- (b) the siting and level of development and associated works avoid or otherwise lessen the adverse impacts of flooding;
- (c) development accommodates the impacts of predicted sea level rise and changing flood intensity arising from climate change; and
- (d) the risk of loss of life, injury or damage to property and infrastructure arising from flooding is reduced as far as practicable.

1.3.6 The **Specific Outcomes (O1)** require that development does not occur on land subject to flooding, and that development does not result in loss of floodplain storage or increase peak flood levels. Outcome O2 refers to reconfiguration providing a flood free building site on each lot. O3 requires this to be accessible within the Q100 flood event. O4 requires minimum floor levels above the flood event for particular use types. O5 refers to the location of public infrastructure above the flood event.

1.3.7 Section 6.10 of the **Overlays Planning Scheme Policy** provides a description of what is to be included within a Flood and Stormwater Impact

Report for the purpose of addressing Specific Outcome O1 of the Flood Management Code.

- 1.3.8 In addition to the Flood Management Overlay, each of the 16 Planning Area Codes includes 4 Specific Outcomes which relate to flood management. These 4 specific outcomes provide the mechanism to regulate development on land which is subject to flooding but which is not covered by the Flood Management Overlay because detailed flood modelling does not exist.
- 1.3.9 Section 6 of the **Development Design Planning Scheme Policy (Stormwater and Drainage Management)** provides guidance for Water Sensitive Urban Design (WSUD) for development, including, at 6.8, the requirements for Flood and Stormwater Management Plans. This policy confirms Council's position that "hydraulic and flooding issues are considered to be a constraint for the site and, consequently, a report addressing concerns of flooding needs to be submitted in response to the Codes at the reconfiguration and/or Material Change of Use stage. These requirements will not be left to be addressed at an Operational Works stage and may form the basis for refusal if it is not properly addressed."

1.4 Maroochy Plan 2000

A complete copy of the Maroochy Plan 2000 can be accessed via Council's website:-
<http://www.sunshinecoast.qld.gov.au/sitePage.cfm?code=maroochy-plan>

1.5 *Assessment and Development Controls*

- 1.5.1 The Planning Scheme includes, in respect of the Planning Scheme area:
- (i) the administration of the scheme, including tables of development in Volume 1; and
 - (ii) the desired environmental outcomes and strategic plan (Volume 2); and
 - (iii) the Planning Scheme provisions in Volumes 3 – 5 of the Planning Scheme, including appendices; and
 - (iv) the Planning Scheme maps.
- 1.5.2 The Strategic Plan contains 7 Desired Environmental Outcomes (DEOs) which broadly state what the scheme seeks to achieve. The DEOs are:
- Environmental Management;
 - Social Equity and Liveability;
 - Economic Sustainability;
 - Transport and Accessibility;
 - Community and Cultural Development;
 - Urban Design, Heritage and Character; and
 - Physical Infrastructure.
- 1.5.3 18 "strategies" have been developed to implement these DEOs, which are specifically referenced in the introduction to Volume 2 as intended to provide "assessment criteria" for Impact Assessable applications. The "purpose" and detailed assessment criteria of specific codes are derived from these strategies for Code Assessable applications.
- 1.5.4 The Maroochy Plan divides the local government area into **30 planning areas**. The planning areas are broadly based on water catchment and geographical boundaries, including urban and township boundaries. Each of the 30 planning areas is further divided into precincts. The precincts are broadly grouped by land use type ("precinct class"). The intent provisions for the planning areas and precincts are contained within Volume 3 and provide

assessment criteria for Impact Assessable applications. There are just 4 specific planning area codes and no individual precinct codes. Some parts of the Use codes may refer to, or call up, parts of the Volume 3 provisions. These provisions are not otherwise applicable to Code Assessment.

- 1.5.5 There are **10 overlays** which apply to the Planning Scheme area, referred to as **Special Management Areas (SMAs)**. These overlays refer to special features, constraints and hazards within an area that affect use and development of the Planning Scheme area. The SMAs are mapped as Regulatory maps and contained within Volume 1 of the Planning Scheme. The maps are provided as individual maps across the whole of the Planning Scheme area for each overlay type.
- 1.5.6 The Tables of Development Assessment determine whether development in a Planning Area is exempt, self-assessable or assessable, including the level of assessment (Code or Impact) for assessable development. The Tables identify the applicable Codes, or parts of Codes for Self-assessable and Code Assessable uses. Applicable Codes may include Use Codes and some other Codes (generally works and reconfiguration codes). In addition if an SMA overlay applies to a site, separate Tables of Development Assessment for Special Management Areas identify the relevant SMA code provisions that also apply to assessment. In some cases the Tables may elevate the level of assessment. There also may be structure plans for particular areas which contain additional or different provisions to those generally applicable.

1.6 Applicability to Assessment of Applications in Natural Hazard Management Area

- 1.6.1 In the Maroochy Plan 2000, the management of natural hazards falls under **DEO 1 for Environmental Management** and is specifically addressed by the **Stormwater Drainage and Flood Prone Land Strategy**:
- **16.3.1** – The principal elements of the Stormwater Drainage and Flood Prone Land Strategy are the emphasis given to the protection of waterway and drainage corridors, the limitations on further urban development on flood prone land and the protection of vegetation along waterways, and the maintenance of natural wetlands.
- 1.6.2 The primary measures incorporated into the scheme to achieve this outcome include:
- Volume 1 (Administration) – Regulatory Map 1.5 Flood Prone and Drainage Constraint Areas;
 - Volume 2 (Strategic Plan) - Stormwater Drainage and Flood Prone Land Strategy (Objectives and Implementation Measures);
 - Volume 3 (Planning Areas and Precincts) – Individual planning area and precinct intents (“Vision Statements” and “Statements of Desired Precinct Character”);
 - Volume 4 (Planning Scheme Codes) – Code for Integrated Water Management; and
 - Appendices (Planning Scheme Policies) – Operational Works Policy, Section 7 (Integrated Water Management).
- 1.6.3 The Objectives and Implementation Measures of the **Stormwater Drainage and Flood Prone Land Strategy** provide criteria for implementation of the principle elements of the strategy. These objectives may be referenced in Impact Assessable applications:
- **“Objective - To Ensure any Structure or Activity is Located and Designed in a Manner Consistent with Council’s Strategy on Development in Flood Prone Lands.”**

- 1.6.4 The associated implementation measures include that due regard is to be given to the potential impact of the proposal on downstream flooding and adjoining areas. Flooding and stormwater management studies will be requested to indicate the potential impact of the proposal and that, if Council is not satisfied that the hydrological impacts can be supported, it may not support the application.
- 1.6.5 The **Code for Integrated Water Management** provides Overall ("Purpose") and Specific Outcomes ("Performance Criteria") for land affected by flooding. These are criteria for Code Assessable applications and the Strategy specifically states they are provided to implement the higher order objectives of the scheme.
- 1.6.6 The **Purpose** of the Code for Integrated Water Management includes the following:
- “(g) Adverse impacts, including cumulative impacts, as a result of flooding are minimised and “unacceptable risk” (as defined by SPP1/03) to people and property is not created.”
- 1.6.7 The relevant **Performance Criteria** require that development does not result in adverse impacts upon flood conveyance capacity, the capacity to use land within the floodplain or unacceptable risk to people’s safety (refer Element 3, P1). The safety of people on-site, minimisation of property damage and functioning of essential services must be maintained for all flood events up to and including the 100 year ARI (refer Element 3, P2). Public safety and the environment are not to be impacted by the impacts of floodwater on hazardous materials manufactured or stored in bulk (refer Element 3, P3). A number of “acceptable measures” are provided to demonstrate how this is preferred to be achieved.
- 1.6.8 Section 7 of the **Operational Works Policy** (Integrated Water Management) provides guidance on how the requirements of the Integrated Water Management Code may be achieved, including the required levels and calculation of flood immunity for particular uses, the requirements of any Flood Assessment Report included as part of an Integrated Water Management Plan.

1.7 Noosa Plan

- 1.7.1 A complete copy of the Noosa Plan can be accessed via Council’s website:-
<http://www.sunshinecoast.qld.gov.au/sitePage.cfm?code=noosa-plan>

1.7.2 **Assessment and Development Controls**

The Planning Scheme includes, in respect of the Planning Scheme area:

- (i) the strategic framework in Part 1 of the Planning Scheme;
 - (ii) administration (interpretation) of the scheme in Part 2;
 - (iii) the desired environmental outcomes in Part 3 of the Planning Scheme;
and
 - (iv) the Planning Scheme provisions in Parts 4 to 14 of the Planning Scheme;
and
 - (v) the Planning Scheme maps.
- 1.7.3 The Noosa Plan includes, at Part 1, a strategy map showing key features preferred for the planning area (preferred land use patterns, centres, major transport network, etc.). The strategic framework summarises the strategy

adopted by the Planning Scheme to achieve the desired environmental outcomes. The Planning Scheme contains **12 Desired Environmental Outcomes (DEOs)** which broadly state what the scheme seeks to achieve. The DEO headings are:

- Agricultural Uses;
- Commercial and Retail Uses;
- Community Uses and Facilities;
- Heritage;
- Industrial Business Uses;
- Natural Resources;
- Open Space, Environment and Conservation Functions;
- Sport and Recreational Uses;
- Residential Uses;
- Tourism;
- Transport and Mobility Functions; and
- Infrastructure and Services.

1.7.4 The Noosa Plan divides the local government area into **9 Planning Areas ("Localities")**. The localities are broadly based on water catchment and geographical boundaries, including urban and township boundaries. Parts 4–12 of the scheme comprise 9 Locality Plans. Each Locality Plan comprises locality maps for zones and overlays, assessment tables for development in the zones and a locality code. Use Codes are located in Part 14.

1.7.5 There are **4 Overlays** which apply to the Planning Scheme area. These overlays refer to special features, constraints and hazards within an area that affect use and development of the planning area. The overlay maps are provided as individual maps applying to each individual locality and contained within Parts 4-14. The overlay codes are contained within Part 13. Part 13 also contains the assessment tables for the overlays.

1.7.6 ***Applicability to Assessment of Applications in Natural Hazard Management Area***

In the Noosa Plan, the management of natural hazards falls under **DEO F - Natural Resources**:

- Development should not diminish the quality of water in groundwater systems, watercourses or along the coast, nor should it diminish the volume of water flows in watercourses.

1.7.7 The **Strategy for Environmental and Heritage Protection and Management** (Part 1); Natural Hazard Management states:

- (a) the Planning Scheme identifies areas at risk from natural hazards including landslide, bushfire, flooding and acid sulfate soils; and
- (b) development in areas at risk from natural hazards is to be compatible with the nature of the hazard so as not to place people, property or the natural environment at risk.

1.7.8 The primary measures incorporated into the scheme to achieve this outcome include:

- Parts 4-12 (Locality plans) – Overlay mapping including Natural Hazards (flood);
- Part 13 (Overlay Codes) – Natural Hazards Code; and
- Planning Scheme Policies – Planning Scheme Policy 5 – Engineering Design Standards.

- 1.7.9 The **Natural Hazards Code** provides Overall and Specific Outcomes for land affected by flooding.
- 1.7.10 The overall outcomes sought for the **Natural Hazards Code** are as follows:
- (a) development in areas at risk from natural hazards is compatible with the nature of the natural hazard;
 - (b) the risk to people, property and the natural environment from natural hazards is minimised;
 - (c) development does not result in a material increase in the extent or severity of natural hazards; and
 - (d) for acid sulfate areas—the generation or release of acid and associated metal contaminants into the environment is avoided.
- 1.7.11 The **Specific Outcomes for Flood Hazard Areas** require that development does not compromise the safety of people or property from floods up to and including the 100 year ARI flood event, with the primary “probable solution” being that a use does not result in an increase in persons living, working or congregating in a Flood Hazard Area. However, an alternative probable solution to this that at least one access route above the 100 year event is available for evacuation (clause 14.2) OR that an area of sufficient size and dimensions above the 100 year ARI event is provided for users that allows for safe congregation and evacuation (clause 14.3). However, the Specific Outcomes also require landform to be maintained rather than altered, so extensive filling in order to achieve the required flood level has not been supported so the scenarios contemplated in cl.14.2 and cl.14.3 have not arisen with the subdivision of land. In respect of other Material Changes of Use in areas that may be subject to flooding, but zoned for development, minimum floor levels above the flood event are required.
- 1.7.12 Other Specific Outcomes deal with storage of hazardous materials and protection / location of essential infrastructure in flood mapped areas. Minimum floor levels above particular flood events are provided for a range of uses.
- 1.7.13 **Planning Scheme Policy 5 Engineering Design Standards (Roads, Drainage and Earthworks)** provides information and guidance for achieving the requirements of certain relevant codes. Site excavation and filling is dealt with at section 2.8. Section 4 deals with design and approval for drainage matters including run-off calculations and surface drainage control.

1.8 Draft Sunshine Coast Planning Scheme (Confidential Document)

- 1.8.1 The Draft Sunshine Coast Planning Scheme is in its early stages and has been forwarded to the State Government to commence, unofficially, the First State Interest Check (pending the receipt of the Iconic Panels Reports). The following sections of the draft Planning Scheme contain provisions or mapping relating to flooding:
- (i) Part 3 – Strategic Framework, section 3.10 Natural Hazards;
 - (ii) Part 5 – Tables of Assessment, section 5.10 Levels of Assessment – Overlays;
 - (iii) Part 8 – Overlay Codes, section 8.2.8 Flood Overlay Code; and
 - (iv) Schedule 2 Maps, Flood Overlay Maps.

(Note: the numbering of these may change during drafting updates).

2. Description of how the natural hazard management area as it relates to flood affected land is reflected in the Planning Scheme

- 2.1.1 As described in the preceding information, the natural hazard management area (flood affected land) is reflected in each Planning Scheme as a mapped overlay. This overlay is linked to a Table of Development for the overlay, which triggers assessment against the relevant flooding code by proposed development. Although the maps, tables and codes are located differently within each scheme, the manner in which flood affected land is reflected in each Planning Scheme, the level of applicable assessment criteria and how the assessment criteria is triggered, are essentially the same.
- 2.1.2 The overlay in each existing Planning Scheme is based primarily on the modelled 1 in 100 year inundation extent for the region's major watercourses. However, it is noted that there are still areas of flood prone land inside and outside of the urban footprint not currently mapped in the overlays.
- 2.1.3 Council's Flooding and Stormwater Management Discussion Paper (2009), which can be accessed via Council's website <http://www.sunshinecoast.qld.gov.au/sitePage.cfm?code=flooding-stormwater> identifies Council's intended principles for flooding and stormwater management.
- 2.1.4 The flood overlay maps in the Draft Sunshine Coast Planning Scheme identify areas of inundation (where modelling is available) at the 1% Annual Exceedance Probability (AEP), plus make allowance for the possible impacts of climate change and areas subject to storm tide. (In some cases modelling does not include climate change and not all areas have been modelled.) The flood overlay code will regulate development in the defined flood event (e.g. 1% AEP plus climate change factors) and defined storm tide event and contain provisions relating to the Probable Maximum Flood (PMF). The Draft Sunshine Coast Planning Scheme also contains flood related provisions in its Strategic Framework.

3. Details of council's defined flood event including a description of:

(a) how the defined flood event was chosen

- 3.1.1 The Defined Flood Event (DFE) for all 3 existing schemes administered by Sunshine Coast Council is the 1 in 100 year Average Recurrence Interval (ARI) event. This reflects the advice of the State Planning Policy 1/03 - Mitigating the Adverse Impacts of Flooding, Bushfires and Landslides, at Annex 3 Natural Hazard Management Areas – Flood; A3.2, and SPP 1/03 Guideline Appendix 2 – Undertaking Natural Hazard Assessment – Flood; A2.7:
- The Queensland Government's position is that, generally, the appropriate flood event for determining a natural hazard management area (flood) is the 1% Annual Exceedance Probability (AEP) flood.
- 3.1.2 The 1% AEP is also expressed as the 1 in 100 year ARI (Annual Recurrence Interval) event.
- 3.1.3 The DFE in the Draft Sunshine Coast Planning Scheme is the 1% AEP flood event and incorporates an allowance for future climate change factors. Similarly, this scheme reflects the advice of the State Planning Policy 1/03 - Mitigating the Adverse Impacts of Flooding, Bushfires and Landslides.

(b) the way in which the Council's defined flood event was calculated or determined

- 3.1.4 The DFE levels are predicted through a number of Council flood studies (computer modelling). These details have been previously provided to the Commission in March 2011.
- 3.1.5 The current risk mapping utilised is based on 100 year ARI flood modelling, not including climate change.

- 3.1.6 Where prospective developers are interested in developing in a location where Council has no information on the flood risk, the Council may require the developer to undertake a flood study to determine the defined flood level for the area of interest. The information would be subject to review by Council as part of the development approval process.
- 3.1.7 A number of studies have informed Council's Draft Sunshine Coast Planning Scheme, including a Joint Probability Storm Tide/Freshwater Flooding Analysis Study, as previously provided.
- 3.1.8 The term "Defined Flood Event" is defined in the Draft Sunshine Coast Planning Scheme. In some cases it is mapped on the flood overlay maps. Where flood modelling data is available, the Flood Overlay maps reflect the 1% AEP, plus climate change factors and areas subject to storm tide. In some cases, the modelling available does not include climate change factors and not all areas have been modelled.

4. A description of:

(a) 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 the occupiers of areas at high risk of flooding

- 4.1 The Planning Schemes currently address safety primarily through requiring development to be above the Defined Flood Event (DFE). Despite the Noosa Plan stating that provision of emergency evacuation routes or safe evacuation/congregation points might be provided, these provisions are not utilised due to other requirements that limit or control development form in flood plains.
- 4.2 Significantly, the schemes do not address the residual flood risk for events exceeding the DFE and how people may be evacuated during these events. This is seen as a deficiency in the current schemes and current SPP 1/03.
- 4.3 The Draft Sunshine Coast Planning Scheme, Flood Overlay Code - Performance Outcome 3 and Acceptable Outcomes 3.1 and 3.2, seek to address residential risk to ensure people's safety is not compromised for events exceeding the DFE, and includes provisions relating to evacuation routes, flood warning times and safe refuges above the Probable Maximum Flood (PMF).
- 4.4 Currently, Council maintains a section on its website called "Flood Ready", under "Disasters and Emergencies". This web page includes links to information on past floods, flood risk areas, updated warnings and river levels and types of flood events on the coast. The Disasters and Emergencies page also has links to the full Local Disaster Management Plan and up-to-date road closure information and can be accessed via Council's website:-
<http://www.sunshinecoast.qld.gov.au/sitePage.cfm?code=flood-ready>
- 4.5 Council is also currently undertaking a project to develop evacuation plans consistent with the recently released Disaster Management Act guidelines and is making efforts to have these plans in place for the next flood season.

(b) controls or standards used to assess the storage of chemicals or other Environmentally Relevant Activities below the Q100 flood line or the Council's defined flood event

- 4.6 These assessment controls are located in the Codes previously referenced. Usually the performance standard is a choice between storage above the Defined Flood Event (DFE) or that any building used for the storage of such hazardous material is designed to prevent the intrusion of water during the DFE.

- **Caloundra City Plan**

Flood Management Code, Overall Outcomes

- (d) The risk of loss of life, injury or damage to property and infrastructure arising from flooding is reduced as far as practicable.

- **Maroochy Plan 2000**

Code for Integrated Water Management, Element 3 – Flooding:

Performance Criteria

- P3 Public safety and the environment are not adversely affected by the detrimental impacts of floodwater on hazardous materials manufactured or stored in bulk.

Acceptable Measures

A3.1

- (a) The manufacture or storage in bulk of hazardous materials takes place above the 100 year ARI flood level.

OR

- (b) Structures used for the manufacture or storage of hazardous materials in bulk are designed to prevent the intrusion of floodwaters from a 100 year ARI flood.

- **Noosa Plan**

Natural Hazards Code, Element 3 – Flood Hazard Areas

Specific Outcomes

- O16 Public safety and the environment are not adversely affected by the detrimental impacts of floodwater on hazardous materials manufactured or stored in bulk.

Probable Solutions

- S16.1 Hazardous materials are manufactured and stored above the level of a 1% AEP (1:100 year ARI flood event);

OR

- S16.2 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% AEP (1:100 year ARI) flood event.

- **Draft Sunshine Coast Planning Scheme**

- 4.7 The Draft Sunshine Coast Planning Scheme, Flood Overlay Code – Performance Outcome 5 and Acceptable Outcome 5, relate to the impacts of hazardous materials on flood waters.

5. A description of any conditions imposed by Council on the approval of development applications to ensure that hazardous materials affected by floodwater do not affect public safety and/or the environment

- 5.1 Each of the 3 Planning Schemes administered by the Sunshine Coast Regional Council includes provisions to ensure that hazardous materials are not stored in areas subject to flooding during a defined flood event. The locations of hazardous material storage are specified on the plans approved by Council and, as part of the development assessment process, it is checked that the specified locations are not subject to flooding during the defined flood event.

- 5.2 With regard to development approvals, specific storage conditions are not applied to ensure hazardous material storage resulting from a land use approval does not affect public safety and/or the environment in the case of the use being flooded by a 1 in 100 ARI. The development approval relies upon conditions for fill and/or building finished floor levels above the 1 in 100 ARI in accordance with development assessment criteria to ensure hazardous material storages are not affected by flood water and do not affect public safety and/or the environment.
- 5.3 Various industrial land uses throughout the Sunshine Coast Council region are shown on overlay maps as affected by the 1 in 100 ARI. Where these land uses exist, and the subject fill and/or buildings on the land result from historical approvals that may not have required fill and/or building finished floor levels above the 1 in 100 ARI (for example, existing non-conforming uses not subject to development assessment criteria), then any storage of hazardous materials as a result of the land use may in the future be affected by flood water from a 1 in 100 ARI.

- Definition of hazardous contaminant:

hazardous contaminant means a contaminant, other than an item of explosive ordnance, that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of—

- (a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- (b) its physical, chemical or infectious characteristics.

6. A description of how levee banks are regulated in the Council area using specific examples

- 6.1 To the best of my knowledge Council does not have any or regulate any levee banks within the Sunshine Coast region.
- 6.2 However, as Mr Crispin Smythe has pointed out in his response on behalf of Mr Nick Cooney to the Commission, Council has other flood mitigation infrastructure in place including;
- Parrearra Flood Bypass Channel. This assists the conveyance of flood waters of the Mooloolah River. The channel is inspected annually and receives priority maintenance and/or rehabilitation based on the inspection recommendations. A description of the inspection protocol is contained within the electronic supplementary material in *Parrearra Bypass Channel\ Parrearra Weirs Inspection Details.doc*.
[CD#1, Reference 6]
 - Small earth bunds at Pacific Paradise, Maroola and Coolum. These are located in designated drainage deficient areas and are intended to provide protection against low level flooding. These bunds receive an annual inspection and are maintained as part of the parks maintenance program of works.
 - Council has numerous detention basins within the region. These are inspected annually. As the majority of these are located within Council Parks, these generally receive regular maintenance as part of the scheduled Parks maintenance program of works. Rehabilitation works are programmed as necessary where this has been identified during the annual inspection program.
 - Council has a network of stormwater culverts, pipes and overland flow paths that manage stormwater runoff in line with the design requirements of the Planning Schemes of the former Maroochy, Caloundra and Noosa Councils.

7. Details of Council infrastructure (sewers, roads, stormwater, etc.) that was affected by flooding during the period 1 December 2010 to 31 January 2011

- 7.1 Council can confirm that some Council infrastructure was affected by flooding that occurred during early January 2011.
- 7.2 Refer to all documents in the folder *Situation Reports – Road Closures* within the electronic supplementary material for details of the road closures provided to State Disaster Co-ordination Centre during the January 2011 flood event. [CD#1, Reference 2]
- 7.3 Refer to *Damage Register\Jan2011 Floods - Damage Register.xls* within the electronic supplementary material for details on the infrastructure damaged by the January 2011 flood event, as assessed by Council during the post event inspections. [CD#1, Reference 3]
- 7.4 The electronic supplementary material provides a summary of the funding submission made to the Queensland Recovery Authority (QLDRA). This detail is located in *Funding Submission\Jan2011 Floods - Funding Submission.xls*. The costs associated with the funding submission represent the cost of repairing affected infrastructure to standard. [CD#1, Reference 5]
- 7.5 Emergent works have been identified by the Sunshine Coast Regional Council that followed the floods of early January 2011. The details of these works are included within the electronic supplementary material located in *Emergent Works\Jan2011 Flood - Emergent Works SCC.xls*. [CD#1, Reference 4]
- 7.6 These works represent the immediate works required by Council to return Infrastructure to a functional status.
- 7.7 On July 1st 2010, Unitywater became the responsible authority for water and sewerage infrastructure in this region and they would have details of any sewerage and water infrastructure affected by flooding during the period 1 December 2010 to 31 January 2011.

8. A description of the measures used by Council to protect Council infrastructure (sewers, roads, stormwater, etc.) and to ensure such infrastructure functions during a defined flood event

- 8.1 Roads and stormwater drainage in urban areas are designed in accordance with the Queensland Urban Drainage Manual. This includes limiting the depth of floodwaters over urban roads to 250mm during a 1% AEP flood event. The Major System design is undertaken for the 1% AEP flood event.
- 8.2 On July 1st 2010, Unitywater became the responsible authority for water and sewerage infrastructure in this region and they should be contacted regarding the measures they use to ensure their infrastructure functions during a defined flood event.

END OF STATEMENT