16. STORMWATER DRAINAGE AND FLOODPRONE LAND

16.1 Explanation

"Stormwater Drainage" refers to the system of gutters, pipes and channels along with retardation basins, streams and water quality control systems which make up the drainage network.

"Floodprone Land" refers to those sites normally above water level where there is a reasonable probability of inundation during 100 year ARI flood events.

16.2 Key Issues

The key issues dictating the provision of stormwater drainage and sustaining development on floodprone land include:

- the large coastal lowlands and the broad expanse of the Maroochy, Mary and Mooloolah River systems and tributaries which results in periodic flooding in populated areas;
- the impact of flooding causing destruction of crops, damage to property, disruption to transport and social activity and associated economic impacts because of the historic location of land uses and infrastructure within the flood plains;
- the importance of land use planning in acknowledging the significance of flooding ensuring that land uses are appropriate and reducing or not worsening the impact of future flooding events;
- the need to constrain development on floodprone land so that flood paths are retained resulting in minimal adverse impact on flooding;
- the quality of stormwater as a significant issue which may drastically reduce the efficiency and working life of stormwater infrastructure;
- ecologically valuable components of the drainage network may be negatively impacted by the action of stormwater;
- the impact on drainage on State controlled roads by the changes to the land or the land use in catchment upstream and downstream of those roads; and
- the impact on drainage and diversion of floodwaters onto adjoining properties and land uses.

16.3 Stormwater Drainage and Floodprone Land Strategy

The following elements outline the planning strategy to be employed in the provision of stormwater drainage and development in floodprone land.

16.3.1 The principal elements of the Stormwater Drainage and Floodprone Land Strategy is 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.

16.3.2 Due to the continuing urbanisation of parts of the Shire, the adoption of higher densities of residential development and the topographic and hydrologic characteristics of the Shire, the use of sedimentation traps and retardation measures and other mitigating devices within the context of an integrated approach to Stormwater Management will become increasingly important in future development.

16.3.3 It is recognised that in some locations flooding and mitigation works requiring contour reprofiling and vegetation clearance may be required but will be undertaken in accordance with Best Environmental Management Practice and guidelines such as 'The Stormwater Quality Guidelines for Local Government'.

16.3.4 Council has prepared and adopted applicable Planning Scheme Code provisions to assist with the regulation of development on floodprone land.

16.4 Objectives and Implementation Measures

16.4.1 To Ensure any Structure or Activity is Located and Designed in a Manner Consistent with Council's Strategy on Development in Floodprone Lands

In addition to placing property at risk by locating within the flood plain, urban development and land filling within the flood plain can have a cumulative and adverse effect on flood levels, by obstructing flood flows and by reducing the available flood storage areas. Further, development in one part of the catchment may influence the flood regime further downstream. Such changes may include clearing of vegetation for agricultural purposes or a change in agricultural activity from grazing to cultivation.

Implementation

1. In determining the suitability of all proposals, due regard shall be given to the potential impact of the proposed development on flooding in adjoining areas and downstream of the proposed development.
2. Where requested, a flooding and stormwater management study clearly indicating the potential impact of the proposed development and supported by such information as is necessary is to be supplied prior to an approval being granted for the proposed development.

3. Any flooding investigation will be prepared by appropriately qualified and experienced professionals. If after assessing any hydrological investigation, Council is not satisfied that the hydrological impacts of the proposal can be supported, it may not support the application.

16.4.2 To Ensure that Ecological Values along Creek Systems can be Maintained in the Development of Urban Areas where Flood Mitigation and Drainage Works are Necessary

Considerable emphasis has been given to the preservation or rehabilitation of waterways and wetlands because of their ecological, economic, aesthetic and recreation potential. While it is preferred that waterways be preserved in a natural state, it is recognised that flood mitigation, streambank stabilisation and other works may be necessary at times to protect both property and environmental values.

Implementation

1. As indicated at Section 10.0 of this Strategic Plan, and in the relevant Code provision of the Planning Scheme. Council will require that vegetated corridors along waterways are protected to a width that will ensure flora and fauna habitats are safeguarded while permitting flood mitigation works where necessary.
2. Council may require that drainage easements and parkland designations within development sites occur side by side to enable the complimentary management of these areas. Parkland should be allocated over and above those areas required for stormwater drainage.
3. Council's open space strategy identifies open space projects in the Shire's river corridors and waterways. To implement these projects Council may wish to establish voluntary management agreements with private land owners.

16.4.3 To Ensure, Where Practical, that Stormwater Drainage Systems have a Natural Landscape Appearance or Integrate into the Landscaping Theme of an Area

Within any development site there must be adequate provision for the disposal of stormwater. Engineering solutions to achieve this capacity have the potential to disrupt the amenity of the area. Stormwater drainage solutions which utilise natural landscape features are more visually appealing and consequently improve the amenity of an area and have the potential to be a key feature of a locality while supporting stormwater management requirements.

Implementation

1. Council will have regard to the visual and ecological enhancement opportunities of any stormwater drainage features which are above ground when considering any development application to ensure, where practical, that they adopt natural landscape characteristics such as grassed overland swales, pools, riffles and vegetation and integrate with the landscaping theme of an area. The preservation and maintenance of natural stormwater systems is preferred to a constructed artificial stormwater drainage system.

16.4.4 To Ensure Impacts of Changes in Stormwater Drainage Characteristics does not Adversely Impact on State Controlled Roads

State controlled roads are a beneficial asset for the community by enabling the economic and social interactions necessary for the well being of the community. They should be protected from the impact of changes in the land use of upstream and downstream catchments, on the capacity of the drainage structures under these roads by increased run-off and reduced time of stormwater concentration or waters backing-up, or ponding on, the road.

Implementation

1. Where development upstream or downstream of a State controlled road will convert land to a higher drainage impact use, a hydrology study may be required:
   - to identify potential impacts of the stormwater run-off on the State controlled road; and
   - to identify the measures needed to ensure the stormwater flows do not adversely affect the State controlled road by overtopping, increased afflux and stream velocities or by increased moisture penetration into the pavement or road embankments.
2. In assessing applications involving such impacts on State controlled roads, Council will have regard to the comments and requirements of Queensland Department of Main Roads.