
Planning Scheme Policy 19 Stormwater

1.1 Purpose of the Policy

The purpose of this Planning Scheme Policy is to provide a guide to Council's requirements for information that should be included in a report that addresses stormwater quantity and quality.

1.2 Information Requirements

(a) Stormwater Quantity

The following information is to be provided in a Flood Study to assist in the assessment process for all developments regarding stormwater quantity:

- (i) A certified flood study should be prepared by a Registered Professional Engineer (RPEQ) to:
 - (A) Investigate the hydraulic and the hydrological characteristics of both the undeveloped and developed scenarios;
 - (B) Determine flood storage by computer model based on pre and post development field contour surveys;
 - (C) Determine whether the development is likely to cause any nuisance to adjoining, upstream or downstream properties;
 - (D) Determine whether the cumulative impact of development is likely to cause an adverse impact on other properties; and
 - (E) Indicate whether any flood risks associated with the development are fully known, quantifiable and capable of being addressed without any uncertainties.
- (ii) The flood study should be based on the following data:
 - (A) Mapping and topographic survey data;
 - (B) Stream flow data;
 - (C) Rainfall data; and
 - (D) Flood height data (up to and including a 100 year ARI storm event).

(b) Stormwater Quality

A Site Based Stormwater Management Plan (SBSMP) is a broad outline for planning, design, management and maintenance issues for stormwater treatment measures or water quality issues during construction, 'on' and 'off' maintenance and operational phases of a development.

A SBSMP is to be used as a stand alone manual for site managers, engineers, landscape professionals and others conducting detailed design. A SBSMP may form part of an Environmental Management Plan for the development. Where a development is required to submit another management plan such as an Acid Sulfate Soils Management Plan or an Ecological Assessment Report these should be submitted together.

All information and designs are to be prepared by a suitably qualified individual such as a Registered Professional Engineer or Environmental Professional.

(c) Information Requirements to address Stormwater Quality Issues

A SBSMP should include the following information:

- (i) Site assessment information – a site analysis and description of the site, surrounds and catchment detailing:
 - (A) existing and proposed land use;
 - (B) topography;
 - (C) catchment area;
 - (D) soil type (including dispersive potential and iron content);
 - (E) existing vegetation;
 - (F) any site-specific issues;
 - (G) existing stormwater drainage system;
 - (H) major and minor flow paths; and
 - (I) all discharge points from the site and any local flooding issues.

- (ii) Review of existing information
 - (A) Description of the receiving environment and review of available water quality data including comparison to identified Environmental Values and receiving Water Quality Objectives.
 - (B) A review of existing downstream waterway/stormwater infrastructure that may be impacted by changes in hydrology, hydraulics or water quality; and
 - (C) A review of any Catchment or Waterway Management Plans, Stormwater Management Plans or Infrastructure Charges Plans for the area or catchment.
- (iii) Potential impacts of the development – includes a section which:
 - (A) assess risks from the impacts of development;
 - (B) estimates pollutant loads from the proposed development;
 - (C) identifies opportunities and constraints analysis based on the findings of steps 1 and 2;
 - (D) Identification of key pollutants for Construction and Operational phases;
 - (E) Identification of discharge limits based on adopted Water Quality Objectives.
- (iv) Stormwater Management Strategy - description of the overall strategy for the management of stormwater and water quality issues, addressing key pollutants and major risks and methods for achieving adopted Water Quality Objectives.
- (v) Figures and plans wherever possible, with the minimum requirements including:
 - (A) Existing and proposed catchment and sub-catchments and flow paths;
 - (B) The locations of stormwater treatment and management areas (at appropriate scale for comparison with other development plans);
 - (C) Conceptual plans and drawings of the location, size and type of stormwater treatment measures; and
 - (D) Descriptions and diagrams of the type of treatment measures to be provided.
- (vi) Construction Phase - details of the proposed erosion and sediment control measures are to be provided as part of an erosion and sediment control program, including:
 - (A) Identification of management issues such as highly dispersive soils, reactive soils, acid sulfate soils, Iron rich and organic rich soils and significant environmental areas on the site to be protected during construction (eg wetlands);
 - (B) Erosion and sediment control measures to meet the performance criteria;
 - (C) Monitoring, assessment and reporting provisions;
 - (D) Maintenance schedules include predicted frequency and responsibility for all treatment structures and the overall system during both the construction and operational phases of development;
 - (E) Timing of the proposed works; and
 - (F) A contingency plan if the system or particular structures do not meet the performance criteria that the indicators have been based on.
- (vii) Operational Phase

The following issues shall be addressed for the operational phases of the development:

 - (A) Modelled estimates of the hydraulic and mean annual pollutant loads (and concentrations) of stormwater pre and post development using local rainfall data, including comparisons of both (Model for Urban Stormwater Improvement Conceptualisation (MUSIC) is recommended to model loads);
 - (B) Provision of measures to mitigate hydrologic/hydraulic impacts and their integration with water quality mitigation measures;
 - (C) Selection of treatment devices to achieve the mean annual pollutant load reduction and/or water quality objectives for the identified target pollutants; and
 - (D) Specific treatment measures to target iron and organic concentrations where required (iron and organic rich soil and/or discharge to marine or estuarine waterway).

Information should be submitted demonstrating that a range of treatment options have been considered and the optimal treatment train has been selected to achieve maximum pollutant removal effectiveness.

If the proposed stormwater network is proposed to discharge into marine or estuarine waterways effective control of iron and organics (Total Organic Carbon) must be specifically demonstrated.

A conceptual design of the proposed stormwater treatment devices should be included. The Caboolture Shire Council Design and Development Manual (Drainage) should be consulted when applying for the installation of treatment devices. The *Healthy Waterways Water Sensitive Urban Design – Technical Design Guidelines for South East Queensland* should also be referred to when designing treatment trains.

The plan should identify and detail the following:

- (A) description of the water quality objectives to be met by the proposed system;
- (B) details of mean annual loads for specific pollutants and the reduction in load as a result of the proposed treatment train;
- (C) details of anticipated iron and organic concentrations and the reduction in concentration as a result of the proposed treatment measures (where relevant);
- (D) specifications of design for each treatment device and a site layout of the treatment train;
- (E) details of the management measures proposed for the implementation;
- (F) monitoring, assessment and reporting provisions;
- (G) maintenance schedules including predicted frequency and responsibility for all treatment structures and the overall system during both the operational and construction phases of the development;
- (H) cost estimation for maintenance required on stormwater treatment devices including on and off maintenance costs and life cost for the replacement of infrastructure;
- (I) timing of the proposed works in relation to the stage of development and describe the maintenance regime to be undertaken during 'on' and 'off' maintenance and the proposed length of both; and
- (J) a contingency plan if the system or particular structures do not meet the water quality objectives that the indicators have been based on.

END NOTES

- (1) Changes adopted 12 February 2008. Section 1.2(c)(vii). Effective from 10 March 2008.