# CAPRICORN MUNICIPAL DEVELOPMENT GUIDELINES

## AP1

# APPROVAL PROCEDURES

# TABLE OF CONTENTS

**Keeping the Capricorn Municipal Development Guidelines up-to-date**

The Capricorn Municipal Development Guidelines are living documents which reflect progress of municipal works in the Capricorn Region. To maintain a high level of currency that reflects the current municipal environment, all guidelines are periodically reviewed with new editions published and the possibility of some editions to be removed. Between the publishing of these editions, amendments may be issued. It is important that readers assure themselves they are using the current guideline, which should include any amendments which may have been published since the guideline was printed. A guideline will be deemed current at the date of development approval for construction works.

# GENERAL

## AP1.01 INTRODUCTION

1. This section is intended to be used as a guide to procedures involved Engineering Design and Operational Works that will ultimately be in the ownership and maintenance responsibility of Council or other service authorities or works which are subject to approval by Local Government.

2. It should be read in conjunction with the relevant development approval conditions.

***Development Approval Conditions***

3. Conditions of development approval (including reconfiguration) may require the Applicant to construct, bond and/or submit, various works or documentation before survey plans can be approved and sealed by Local Government or before a development may be occupied or a land use commenced.

4. Development approvals requiring the construction of operation works generally involve the Applicant and/or a Consulting Engineer requesting Council approve engineering designs and specifications.

5. A Registered Professional Engineer Queensland (RPEQ) shall be accepted as qualified to prepare:

***RPEQ***

- plans for roadworks, drainage works, water supply, sewerage works, and canal works.
- plans for bridges, retaining walls, miscellaneous structures, buildings, pumping stations and flood control structures.

6. Engineering drawings and specifications, shall be submitted to Council for approval prior to construction.

# ENGINEERING DESIGN APPROVAL

## AP1.02 PRE-SUBMISSION DISCUSSIONS

1. Prior to the submission for approval of detailed engineering designs, the Consulting Engineer is encouraged to meet with Council officers to discuss the following matters in the event that the following issues have not been addressed at Reconfiguration of a Lot approval.

- Legal point(s) of stormwater discharge.
- Identify environmentally significant areas and heritage features.
- Internal and external stormwater catchment boundaries.
- Tailwater conditions including water quality requirements and determination of tailwater level.
- Connection point(s) for water supply and available pressure and discharge capacities.
- Discharge point(s) for sewerage.
- Future planning for the provision of services, eg, water supply, sewerage, drainage and road networks, erosion control and stormwater management, structures, power,

communications and gas.

- Site conditions.
- Conditions of Approval for the particular application.
- Layout design, Speed restriction

2. Approval of designs will be expedited where the above issues have been resolved in advance.

3. The Consulting Engineer may obtain As-Constructed information in relation to existing roads, stormwater drainage, water and sewer reticulation if available from Council, on application and payment of a prescribed fee.

***Discuss Variations***

4. In addition to the above, it is advisable that the Consulting Engineer discuss and obtain Council's agreement to the following issues (where required) prior to submission of designs:

- possible variations to Council's guidelines and standards;
- variations to design due to inability to obtain drainage discharge approvals; and
- requests for Council to contribute towards some aspects of the work.

5. Resolution of these issues, particularly those requiring a decision of Council, (ie, amendments to conditions of approval, or requests for Local Government contributions), is essential to avoid protracted approval periods and wasted design effort.

## AP1.03 DESIGN REQUIREMENTS

***Local Laws and Policies***

1. The design of development works shall comply with the relevant conditions of approval, Council's local laws, Policies, the provisions of these Development Guidelines. The developer shall meet all costs associated with the compliance with these requirements.

2. It is Council's requirement that the Consulting Engineer must bear full responsibility for all aspects of the design of all development works for which they are engaged.

3. In preparing the design, the Consulting Engineer shall address the following issues. The list, which is not intended to be comprehensive, highlights critical areas which can have significant effects on cost and time for a project.

## AP1.04 DRAINAGE

***Not Adversely Affected***

1. The design of the drainage system, and earthworks, for the proposed development shall be such that the upstream drainage is not adversely affected and that the downstream drainage system is capable of adequately catering for the discharge of the additional flow produced as a result of the development and a change in the quality of water. If the development will have a significant influence in the quality of the water draining from the development site into adjacent land or waterways, the Consulting Engineer shall indicate the measures that are proposed to ensure the downstream system is not adversely affected in accordance with the environmental Protection Act. If the downstream system is not adequate, the Consulting Engineer shall indicate the measures that are proposed to ensure the downstream system is capable of carrying the increased discharge including, but not limited to, investigation into upgrading the existing downstream system or alternately detention of the increased peak flows on site.

2. The design of the drainage system for the proposed development shall accommodate both existing and future developed flows from upstream catchments on the basis of development in accordance with the relevant Planning Scheme.

3. The Consulting Engineer shall be responsible for assessing the existing and future flow regimes entering the development site from upstream catchments.

4. Easements over downstream drainage paths from the respective property owners are required from the development site to the legal point of discharge.

**AP1.05 CONSENT OF ADJOINING LANDOWNERS**

1. In addition to the discharge approvals required above, written approval is required from adjoining property owners authorising any operational works on their property.

**AP1.06 APPROVAL OF OTHER AUTHORITIES**

1. The Developer shall be responsible for gaining the approvals of any other Authorities having jurisdiction over any part of the works.

**AP1.07 ROADWORKS**

1. The design of all roadworks shall comply with the provisions of these Guidelines and Department of Main Roads requirements as necessary.

**AP1.08 SEWER AND WATER SUPPLY SYSTEMS**

1. The design of all Sewer and water supply systems shall comply with the provisions of these Guidelines.

**AP1.09 UTILITY SERVICES**

1. Relocation of Services

The Developer is responsible for the costs involved in the relocation or adjustment of any services, necessitated by the development, including any frontage upgrading works necessary. Plans must clearly show all existing services and details of alterations required.

2. Electricity and Telstra

The Consulting Engineer must supply evidence of an Ergon Energy offer of supply and approved reticulation plan (where possible) plus a Telstra approved service plan and that negotiations have been entered into regarding the provision of these services.

**AP1.10 LOCAL GOVERNMENT APPROVAL**

1. The 'Statement of Compliance - Engineering Design' has been introduced to expedite the approval process.

***Statement of Compliance***

2. If Council review reveals the Statement of Compliance to be inaccurate, the submission may be returned to the Consulting Engineer for resubmission. A subsequent review fee will be levied in these cases in accordance with Council's fee and charges.

***Site Conditions***

3. It is the Consulting Engineer's responsibility to ensure the design as submitted takes into account all site conditions and complies and with Council's approval conditions, Council's local laws, Policies, the provisions of these Development Guidelines and other relevant authorities.

4. Council's review process does not warrant that an approved design complies with the above in every respect, and Council reserves its right to order the rectification of non-complying or unsafe works at the cost of the Applicant, despite its prior approval.

5. The applicable Statement of Compliance to be used for the various Councils is as follows in Table AP10.1

**Table AP10.1 Applicable Statement of Compliance**

| Council | Applicable Statement of Compliance |
|---|---|
| **Banana Shire** | CMDG Annexure AP1.A |
| **Central Highlands Regional** | CMDG Annexure AP1.A |
| **Gladstone Regional** | CMDG Annexure AP1.B – GRC specific |
| **Livingstone Shire** | CMDG Annexure AP1.A |
| **Maranoa Regional** | CMDG Annexure AP1.A |
| **Rockhampton Regional** | CMDG Annexure AP1.A |

## AP1.11 DESIGN SUBMISSIONS

### (a) General

1. A design submission for development works shall include the following:

- Design Plans (3 copies)
- Job Specification (3 copies)
- Design Report (3 copies)
- Operational Works Application
- Prescribed Application Fee

### (b) Design Plans

1. Design plans shall be definitive and clearly set out so as to present the design concepts in such a way that the project can be understood, specified for construction and satisfactorily built.

2. All design plans should be clearly numbered with separate sheets numbered as part of a set.

3. Sheets of drawings should not be overcrowded with information and should not rely on colour printing or colour wash to impart information. Drawings should be true to scale A3 size sheets and be suitable for black and white copying and photo reduction.

4. The design plans shall be prepared and each signed by the consulting engineer and is to be submitted for all roadworks, stormwater drainage, site regrading, sewerage reticulation, sewer pump stations, water reticulation and erosion control and stormwater management required by Council's Approval Conditions.

**(c) Job Specification**

1. A Job Specification shall be prepared by the consulting engineer specifying site specific requirements not covered in standard specifications.

2. All works shall be in accordance with Council's standard specifications where available. Where no Council standard specifications exist for a particular type of work, the consulting engineer may use the Department of Main Roads specification or their own standard specification. Both options shall be subject to approval by Council.

***Other Standard Specifications***

**(d) Design Report**

1. The Design Report shall be a signed by the consulting engineer and shall contain all the necessary design calculations, correspondence and information to enable Council to expeditiously check the design submission and grant approval to construct.

***Design Report***

2. The Design Report shall contain the following:

i) Copy of Statement of Compliance - Engineering

ii) Design details of alternatives proposed which depart from the Council's Guidelines/Development Conditions with supporting arguments for how the alternative meets Council's objectives.

iii) A copy of the development approval conditions on which the design is based including a statement addressing each of the approval conditions in the decision notice.

iv) Records of pre-submission discussions with Council including confirming correspondence.

v) Copies of letters of approval from adjoining property owners for any works or discharge on their properties.

vi) Evidence of an offer of supply from Ergon Energy and Telstra (including approved reticulation/service plans).

vii) Stormwater drainage calculations in spreadsheet format in accordance with QUDM requirements including detail of pit types and capture charts used.

viii) Stormwater Drainage Catchment Plan detailing external catchments and internal sub catchments.

ix) Design calculations for detention basins, dissipaters and gross pollutant traps.

x) Any water reticulation networks that are included are to be supplied in a format compatible with Council's network system where requested.

xi) If available at this time, pavement design criteria including records of geotechnical tests indicating subgrade CBR's, adopted traffic load, requirements for subsoil drainage and subsoil drainage design by a geotechnical engineer.

xii) Geotechnical reports where relevant relating to slope and batter stability, in-situ materials etc.

xiii) Structural and Geotechnical certification of design of miscellaneous structures including retaining walls, non-standard headwalls, drainage structures, reservoirs etc.

xiv) Design parameters and operating regimes for water supply and sewerage pump stations.

xv) For staged development plans showing the overall design concept for water, sewer, stormwater, roadworks, earthworks, erosion control and stormwater management plans shall be submitted with Stage 1 and an updated copy provided with subsequent stages.

xvi) Consulting Engineers completed bill of quantities and estimate of cost.

# PLAN PRESENTATION

## AP1.12 GENERAL REQUIREMENTS

1. These presentation guidelines shall apply to engineering plans submitted for approval for operational works associated with approved developments.

2. Standardisation of the presentation of engineering plans submitted for approval is necessary for consistency in Council's records and desirable for expedient review and approval.

***Staging***

3. For Staged Reconfigurations the overall road network, roadworks drainage, water, sewerage, cycleway/pathway and erosion control and stormwater management plans are to be submitted to Council with Stage 1.

4. Scaled Engineering Drawings in accordance with these guidelines are required for plan review.

## AP1.13 TITLE BLOCK

1. Each sheet of Engineering Drawings shall have a Title Block containing the following information:-

i) Estate Name (if any).

ii) Locality/Approved Street Name

iii) Developer's Name.

iv) Bar Scales as a minimum (Alternately Numerical Scale with original sheet size stated).

v) Plan Number and Sheet Number.

vi) Schedule and Date of Amendments.

vii) Certification by RPEQ.

## AP1.14 SHEET SIZES

| Size | Overall Dimensions | |
|---|---|---|
| A3 | 420 mm x 297 mm | Mandatory Size |

### AP1.15 SCALES AND DIMENSIONING

1. Scales used for plans should preferably be those recommended by the Standards Association of Australia and AUSTROADS.

**Dimensioning On Plans**

2. Linear dimensions on all roadworks plans will be in metres, with the exception of some detail plans of small structures (eg. manholes) and some standard plans (eg. kerb and channel), which may be in millimetres.

3. Details of methods of dimensioning shall be in accordance with AS 1155 Appendix A - Metric Units in Construction.

**Standard Cross-Section Intervals**

4. Urban cross-sections should be provided to roads at 20.0m intervals and tangent points, with further reduction to 10.0 m or 5.0 m intervals where necessary due to horizontal or vertical curvature.

5. Rural cross-sections should be provided to roads at 25.0m intervals and tangent points, with further reduction where necessary due to horizontal or vertical curvature.

**Chainages And Offset Dimensions**

6. Chainage and Offset Dimensions on plans shall be expressed to 0.01 m. (0.005 may be used as the order of accuracy requires).

### AP1.16 LEVELS

1. All levels shall be reduced to Australian Height Datum, or Local Government Datum's.

2. Reduced levels of Bench Marks and Reference Pegs including Permanent Survey Marks shall be expressed to three decimal places i.e. 0.005 m. The location of the origin of the survey should be stated on the plan.

3. Reduced levels of roadworks and stormwater drainage shall be expressed to three decimal places ie. 0.005 m.

4. Reduced levels of sewerage reticulation shall be expressed to three decimal places ie. 0.005 m.

### AP1.17 GRADES

1. Road grades shall be shown as a percentage to two decimal places.

2. Pipe grades shall be shown either as a percentage to two decimal places or as gradient to one decimal place.

## DESIGN DRAWINGS

### AP1.18 DRAWINGS REQUIRED

1. Engineering drawings will generally consist of the following:

- Locality Plan.
- Subdivision Layout/Staging Plan.
- Earthworks Plan.
- Roadworks and Drainage Plan.
- Longitudinal Section of each Road.
- Type Cross-Sections for each road.
- Cross-Sections of each Road.
- Detail Plan of each Intersection and Cul de sac.
- Longitudinal Section of each Stormwater Drainage Line.
- Sewerage Reticulation Plan.
- Longitudinal Section of each Sewerage Line.
- Water Reticulation Plan.
- Landscape Plan.
- Erosion control and Stormwater Management Plan.
- Lighting Plan.
- Miscellaneous Details

2. The minimum requirements for each drawing are detailed in the following sections.

## AP1.19 LOCALITY PLAN

1. Locate the subdivision in relation to adjacent towns, main roads, major streets, etc.

2. North Point.

3. May be included on Layout/Staging Plan for large jobs or Roadworks and Drainage Plan for smaller jobs.

## AP1.20 LAYOUT/STAGING PLAN

***Master Subdivision Staging Plan***

1. For large subdivisions, the layout plan should show the relationship of all new roads to each other, and to existing roads adjoining the subdivision. All adjacent structures and services are to be shown also.

2. Where development is to be carried out by Stages, the boundaries of proposed Stages should be shown on this plan, and the stages identified by numbering.

3. For small subdivisions, where all new roads can be shown on one detail plan, the layout plan may be omitted.

## AP1.21 EARTHWORKS PLAN

1. The Earthworks Plan may be included with the Roadworks and Drainage Plan for smaller subdivisions and shall include:

- Legend.
- Existing site contours and finished surface contours. (Spot levels should be used to complement contours).
- Limits and levels of major allotment cut and fill - distinguished by hatching.
- Location of cut and fill batters relative to allotment boundaries.
- Location and levels of retaining walls (if required).
- Batter slopes and treatments.
- Appropriate flood levels in accordance with Council's Policies
- North Point.
- For smaller subdivisions, the earthwork details may be included on the Roadwork's and Drainage Plan.
- Location(s) and level(s) of permanent survey mark(s), reference stations etc, used as datum for the works.
- Vegetation including trees to be retained.

## AP1.22 ROADWORKS AND DRAINAGE PLAN

1. The Plan of each road shall include:

- Legend.
- Road reserve boundaries.
- Allotment numbers and boundaries, both existing and proposed (including existing and proposed easements).
- Chainages, on centreline or construction line.
- Bearings of the centreline or construction line. (Set out co-ordinates may also be used).
- Tangent point chainages of each curve.
- Deflection angle radius, arc length, tangent length and secant distance of each curve.
- Chainage and the Intersection Point of road centre lines or construction lines.
- Kerb lines, kerb radii, and chainage of all tangent points of the kerb line.
- Footpaths / bikeways and Pram ramp locations.
- Fencing
- Access where required to be constructed.
- Edge of pavement, where no kerb is to be constructed.
- Dimensioned road reserve, footpath and pavement widths, where these differ from the standard cross-section.
- Existing and finished surface contours, highlighting cut and fill areas.
- Drain line locations, diameters (including extent of easements where required).
- Drainage structures and structure number.
- Subsoil drain locations.
- Location of existing utilities or other existing works within the site.
- Location of all service clashes including levels of services and clearance distance.
- Location and levels of Bench Marks and reference pegs.
- North Point.
- Linemarking, and signing.*
- Guide posts, guard rails and other traffic control devices.*
- Creek protection works and the like.
- Street name signs.

- Overland drainage paths.

  * May be shown on separate plan(s)

**AP1.23 LONGITUDINAL SECTIONS OF ROADS**

1. The longitudinal section of each road shall include:

- Chainages
- Existing surface levels
- Design road centreline levels
- Cut or fill depths
- Design grades
- Chainages and levels of grade intersection points
- Chainages and levels of tangent points of vertical curves
- Chainages and levels of crest and sag locations
- Lengths and radii of vertical curves
- Sections on control lines on superelevated curves (ie. pavement edges, kerb or lane edges), curve widening and superelevation details.
- Location of services where they cross the centre of the road.

**AP1.24 TYPE CROSS-SECTIONS**

1. A type cross-section shall be shown for each road, including:

- Road reserve width including property boundary location;
- Pavement widths including medians (as applicable);
- Footpath widths;
- Crossfalls of pavement and footpaths;
- Pavement depth - nominal or design;
- Type of kerb and channel;
- Type of pavement surfacing;
- Sub-soil drainage.
- Table Drain details for rural
- Batter slopes

2. The standard cross-section may be included in the detailed cross-sections provided for each road.

## AP1.25 CROSS-SECTIONS OF ROADS

1. A cross-section shall be shown for each pegged chainage on each road and shall show:

- Road reserve boundaries;
- Pavement centre line and/or other construction line;
- Natural surface profile;
- Design Cross-Section;
- Crossfall of pavement and footpath, pavement and footpath widths and pavement depths wherever these differ from the standard cross-section.
- Chainage of cross section
- Datum reduced level
- Existing services.

## AP1.26 DETAIL PLANS OF INTERSECTIONS & CUL DE SACS

1. Intersection detail plans shall include all the relevant information required for Roadworks and Drainage Plans, as listed above together with additional details such as kerb levels on all kerb returns, pavement contours, channelisation works, linemarking, signing and pram ramps.

## AP1.27 LONGITUDINAL SECTIONS OF STORMWATER DRAINAGE LINES

1. A longitudinal section of each drain line shall be shown, including:

- Chainages
- Existing surface levels
- Design finished surface and invert levels
- Drainage Structure chainages and offsets and inlet and outlet invert levels
- Distances between drainage structures
- Grade of each pipe
- Material and Diameter of each pipe length
- Class of each pipe length (including joint type)
- Hydraulic grade line
- Drainage structure type and sizes and/or reference to separate detail drawing.
- Crossings with any other services (location and invert level of pipe crossing)
- Outlet profile for a minimum of 25 m downstream from the outlet structure.

## AP1.28 SEWERAGE RETICULATION PLAN

1. The sewerage reticulation plan shall include:

- Legend;
- All allotments and allotment numbers;
- Boundary of the subdivision;
- North Point;
- Location and size of existing sewers;
- Location of new sewers including line number
- Location of other services which cross sewer lines;
- Location of manholes with manhole numbers (including dimensions where not shown on alignment);
- Identification of allotments which are currently sewered;
- Finished surface contours sufficient to enable verification of house connection design;
- Details of permanent survey marks including AHD from which levels are to be transferred;
- Details of pumping stations including location, inlet/outlet levels, overflow, cut-off levels, electrical switchboard layout and water supply, size of pumping plant;
- Diameter, material class and route of pressure main(s); indicating air valve and scour valve locations;
- Clear identification of any alterations/connections to existing sewers to be completed by Council at developer's cost;
- Locations and level of sewer house connections and type.

## AP1.29 LONGITUDINAL SECTIONS OF SEWERAGE LINES

1. A longitudinal section of each sewerage line shall be shown, including

- Existing surface levels;
- Design finished surface;
- Manhole/line number;
- Distance between manholes;
- Grade of each pipe length;
- Diameter, material and class of each pipe length;
- Manhole diameter and cover type;

- Invert levels of existing lines;
- Crossings with any other services (location and invert level of pipe crossing).

**AP1.30 WATER RETICULATION PLAN**

The water reticulation plan shall include:

- Legend;
- All allotments and allotment numbers;
- Boundary of subdivision;
- North Point;
- Location and size of existing mains;
- Location, size, material and class of new mains;
- Location of other services which cross the mains;
- Details of connection to existing mains;
- The location of valves, hydrants, scours and caps, T's, reducers, etc.
- Water service crossing conduit locations, under roads
- Water service connection details.
- Clear identification of any alterations/connections to existing mains to be completed by Council at developer's cost;
- Electricity services and street light locations.

**AP1.31 LANDSCAPE PLAN**

1. The landscape plan shall include:

a) Irrigation

b) Maintenance requirements

c) Species and size

d) Plant layout and number

e) Landscape features

**AP1.32 EROSION CONTROL AND STORMWATER MANAGEMENT PLAN**

1. Erosion Control & Stormwater Management Plan

- North Point
- A plan of development showing the road and allotment boundaries

- Existing surface and finished surface contours at an interval close enough to define terrain.
- Contours shall extend beyond the limits of the development site to fully define the limits of external catchments.
- Extent of clearing and trees to be removed.
- Line diagram of drain lines and drainage structures.
- The location of erosion control and stormwater management control measures that are proposed for construction, maintenance and permanent phases.
- Location of fencing for restricted areas.
- Existing significant vegetation to be retained.
- Revegetation works.
- Bush fire management applications

**AP1.33 LIGHTING PLAN**

1. The following detail are required for lighting plans:

- Legend;
- Road reserve boundaries;
- Allotment numbers and boundaries;
- North point;
- Kerb and channel or pavement edge where no kerb is constructed;
- Lux contours, design assumptions (including maintenance intervention schedule);
- May be included on water reticulation plan for smaller projects.

**AP1.34 MISCELLANEOUS DETAILS**

1. Detail are required for the following either on separate drawings or appropriate service plan:

- Stormwater inlet and outlet structures, other than standard head walls;
- Manhole details where pipe alignments are critical for clearances or flow considerations;
- Details of Erosion Control and Stormwater Management Structures
- Surcharge structures;
- Overland drainage paths;
- Sewer pump stations showing all relevant levels for pumps, etc. (where not provided elsewhere).
- Footbridges

- Reservoirs
- Entry structures
- Retaining walls
- Buildings
- Any details or variations from standard drawings.

## RECORDS

### AP1.35 DESIGN RECORDS

1. The Designer shall provide Council with appropriate design records in a format such that they can be understood readily by design staff with no prior knowledge of the particular design.

2. A design file shall be maintained by the Developer or the Developer's Consultant containing records of calculations, approvals and decisions, geotechnical data and other design data which could be relevant in reviewing aspects of the design or planning future maintenance responsibilities.

3. Particular requirements apply to hydrological and hydraulic design data. (Refer to Council's Stormwater Drainage Design Guidelines).