CAPRICORN MUNICIPAL DEVELOPMENT GUIDELINES

2023 MEETING 4 MINUTES

Venue: Teams

Date and Time: **26th May at 11:00 am**

<table>
<tr><th>Item</th><th>Item</th></tr>
<tr><td>1</td><td>Welcome

Attendance:
Chris Hegarty (MCE), Richard Bywater (MCE), Scott McDonald (GRC), Brendan Fuller (GRC), Grant Vaughan (RRC), Mohit Paudyal (RRC), Frank Nastasi (IRC), Jamie McCaul (RRC), Gary Carlyle (IRC), Jarvis Black (MRC), Nathan Garvey (BSC)</td></tr>
<tr><td>2</td><td>Apologies:
Sarah Banda (CHRC), Michael Stanton (IRC)</td></tr>
<tr><td>3</td><td>True and correct record of minutes from previous meeting
Refer Attachment A

<u>M2023.04 Resolution:</u>
That the minutes of the meeting held via Teams on 28th April 2023 be formally adopted.</td></tr>
<tr><td>4</td><td>Terms of reference and Budget
No issues noted.</td></tr>
<tr><td>5</td><td>Outstanding items from the previous meeting
This includes items which were not fully resolved at the previous meeting or items not considered due to time constraints.
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<tr><td>M10.5.1</td><td>D6 Site regrading – consider retaining wall issue</td><td>LSC</td></tr>
<tr><td>M22.04.01</td><td>Review of Reference documents in all Specifications</td><td>BSC</td></tr>
<tr><td>M23.01.02</td><td>Standard Drawing R-042 – Type A Commercial Driveway Slab</td><td>MCE</td></tr>
<tr><td>M23.01.03</td><td>Standard Drawing W-090 - 20 & 25mm Service and Water Meter Connections</td><td>GRC/MCE</td></tr>
<tr><td>M23.01.04</td><td>D1 – Evacuation Routes</td><td>GRC</td></tr>
<tr><td>M23.01.05</td><td>D11, D12, D5 – Acceptable software packages</td><td>All</td></tr>
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<tr><td>M23.01.07</td><td>C213 Earthworks Specification</td><td>GRC</td></tr>
<tr><td>M23.01.08</td><td>Sewer Jump up ownership and drawing CMDG-S-030</td><td>LSC</td></tr>
<tr><td>M23.02.01</td><td>Pipe roughness parameters</td><td>BSC</td></tr>
<tr><td>M23.02.02</td><td>D11 Water Supply Network -D11.07.02 and Table D.11.07.02 Minimum and Maximum Pressures for Network Design</td><td>LSC</td></tr>
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<tr><td>M23.03.01</td><td>G-020 Updates</td><td>All</td></tr>
<tr><td>M23.03.02</td><td>Planning scheme vs CMDG differences</td><td>All</td></tr>
<tr><td>M23.03.03</td><td>Sewer chamber size vs depth</td><td>GRC</td></tr>
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<tr><td>6</td><td>New Agenda Items
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<tr><td>M23.04.01</td><td>Minimum RCP pipe class for road crossings</td><td>BSC</td></tr>
<tr><td>M23.04.02</td><td>GRC Low Pressure Sewer System Drawing</td><td>GRC</td></tr>
<tr><td>M23.04.03</td><td>D5 – Kerb Discharge Points</td><td>RRC</td></tr>
<tr><td>M23.04.04</td><td>CMDG-R-040 Property Access along Bitumen Roads</td><td>CHRC</td></tr>
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<tr><td>7</td><td>General Business
None.</td></tr>
<tr><td>8</td><td>Next Meeting
Next meeting to be via Teams on Friday 23/06/23 at 11am.</td></tr>
<tr><td>9</td><td>CMDG Action Register
The latest register is Attachment B

CMDG Trial Register
The latest register is Attachment C

Schedule 1
The latest schedule is Attachment D
Any update on names vs position titles in schedule?</td></tr>
<tr><td>10</td><td>Meeting Closed at 12.10pm</td></tr>
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Item No.	Item Details
M22.01.01	**Website Update** M2023.03 Update Sign off completed for LGAQ to progress detailed design. Grant, Scott and Rich attended meeting with LGAQ to discuss detailed design phase and transfer for files from current website to new website. Training requirements raised by Scott. LGAs to confirm if they wish to have representatives in attendance. *Post meeting additional notes:* • *Grant, Scott and Rich had a meeting to confirm some website layout and details.* • *LGAQ recommend limiting training to 10 people onsite and 8 via teams. Training location to be confirmed – potentially GRC in Calliope or RRC in Rockhampton. Note that additional costs e.g. travel and accommodation are not included in the LGAQ fee and will be charged as a variation.* M2023.03 Resolution Continue as planned with website development. M2023.04 Update New website is currently in the detailed design phase. Expected completion within the next few weeks. Currently draft version under review by subcommittee. Website planned to go live within the next few weeks. Draft version of website briefly displayed to the committee and the change in how drawings are displayed was presented. Training will be delivered remotely via teams. Date TBC. Current list of training attendees is: Rich and Nick (MCE), Scott/ Brendan? (GRC), Jamie (RRC). Action By MCE, GRC, RRC
M10.5.1	**D6 Site Regrading – consider retaining wall issue** • The previous resolution was • Meeting 10 – Sub Committee of Amal Meegahwattage (LSC), Jamie McCaul (RRC), and Chris Hegarty to review the document and advise. Phil McKone to check LGAQ legal site for any retaining wall related advice • Meeting 13. This item was not discussed. Chris, Jamie and Dev to meet to progress further. • No progress on this issue yet – need to discuss its priority and resources to progress the matter Previous Resolution Jamie and Chris to discuss further and determine a potential resolution. Discussion Jamie mentioned seeing lots of this type of boundary retaining wall being used in the region. Mention of previously court case regarding retaining wall failure, Jamie to investigate the outcome of the case to provide potential guidance on how to proceed. Resolution Jamie and Chris to discuss further and determine a potential resolution.

	M2022.09 Update: Jamie is waiting on the outcome from some current RRC cases of retaining wall issues. The outcomes from these may influence or provide direction to the D6 changes. M2022.10 17 Nov 2022 Update: Jamie briefly discussed the ongoing issues. It was agreed that it may be worth including guidance on minimum retaining wall requirements for example no rough-cut sandstone blocks. To be discussed further. M2023.02 Discussion Some discussion about background on this issue. Not as straightforward as it seems to resolve. Jason and Michael raised an interest of being involved when this item is being address. LSC could potentially draft example cross sections when required. M2023.03 Update/ Discussion Comments have been received from Tony at LSC regarding wall position and ownership and some debate has occurred between MCE and LSC. Tony's input will be presented as part of any future discussions in the subcommittee. Some resolutions to the RRC case. Following this some legal advice has been received and some typical cross sections have been created. Discussion on how much should be contained in CMDG as this could be covered in building application and RPEQ certification. However, retaining walls can form part of operational works. General agreement to limit the amount on information shown in CMDG, provide general guidance directly in relation to new development. M2023.03 Resolution Subcommittee meeting with RRC, LSC and MCE to be in next 2 weeks. Jamie to provide legal advice information to the committee Rich to send information from research include university paper and fact sheets M2023.04 Update Subcommittee meeting on 23rd May. Chris noted that the meeting was productive and outcomes agreed on for most issues. Revised D6 document by GRC used as a basis for the required content and the majority of this will be used in the final document with some details removed. Generally noted that detail has been removed from CMDG where possible to place the responsibility on the designer/ RPEQ engineer as there are many site-specific decisions to be made. Also noted that there is no specific legislation for retaining walls and legal outcomes are based on common law so CMDG documentation will be considerate of this when providing any specific direction. MCE is to prepare draft D6 document for final review by the committee. Action By MCE

M22.04.01

Review of Reference documents in all Specifications

- BSC (Daniel) suggests the group consider a Design Specification review and revising the referencing to current standards/guidelines. These references should provide the same or better information that was originally referred to by the CMDG Design Specs.
- IRC (Michael) has also pointed out that construction specifications have not been reviewed for some time.
- Whilst GRC conducted a review of many of the specs when joining the group there has been only ad hoc review of standards and references since. For discussion at this stage – the question is when should reviews take place and what resources should be assigned to it?

Previous Resolution

Discussion around potential review of documents as some have not been revised since 2007. Chris to review documents and highlight the ones in need of a review. In addition, it was agreed to complete a detailed review the documents on an ad hoc basis as changes are required/ requested to specific documents.

M2022.09 Resolution

The following is a summary of the agreed documents to be reviewed and those responsible for carrying out the review.

M2022.10 Update

Comments received about Australian Standard references need to be updated in D11 and D12 from Sarah

Updated at M2023.02:

Specification	Last review and notes	In need of review?	To be reviewed by?
D1 Geometric Road Design	Dec 2022	No	N/A
D2 Pavement Design	Dec 2021	Yes	RRC (Grant)
D3 Structures and Bridges	Apr 2019 – References updated	No	
D4 Surface Drainage	Aug 2019	Yes	IRC (Michael)
D5 Stormwater Design	Apr 2023	No	
D6 Site Regrading	Mar 2012	Yes	RRC (Jamie) and MCE
D7 Erosion Control and Stormwater Management	Sep 2020 – but review not comprehensive	Yes	RRC (Jamie/Tilak)
D9 Cycleway and Pathway Design	Apr 2023	No	
D10 Landscaping (DRAFT)		Yes	RRC (Grant/ Michael Ramsay)
D11 Water Reticulation	Jan 2022	No	CHRC (Sarah)
D12 Sewerage Reticulation	Jan 2022	No	CHRC (Sarah) Noted AS4999 is withdrawn
D13 Small Earth Dams (GRC only)	Apr 2019	Yes	GRC (Scott/Brendan)

D14 Floodways (DRAFT)		Yes	RRC (Grant)
D15 Driveways	Jun 2018	Yes	BSC (Nathan)

M2023.02 Resolution

Decided that review of all documents is to be by the end of July (4 months)

MCE to upload new D9 document within 2 weeks.

M2023.03

Rich to send Grant summary of previously noted changes required to D2.

Scott noted that D13 may no longer be applicable to GRC and may be removed. All LGAs to confirm that D13 is not applicable, if so D13 can be removed.

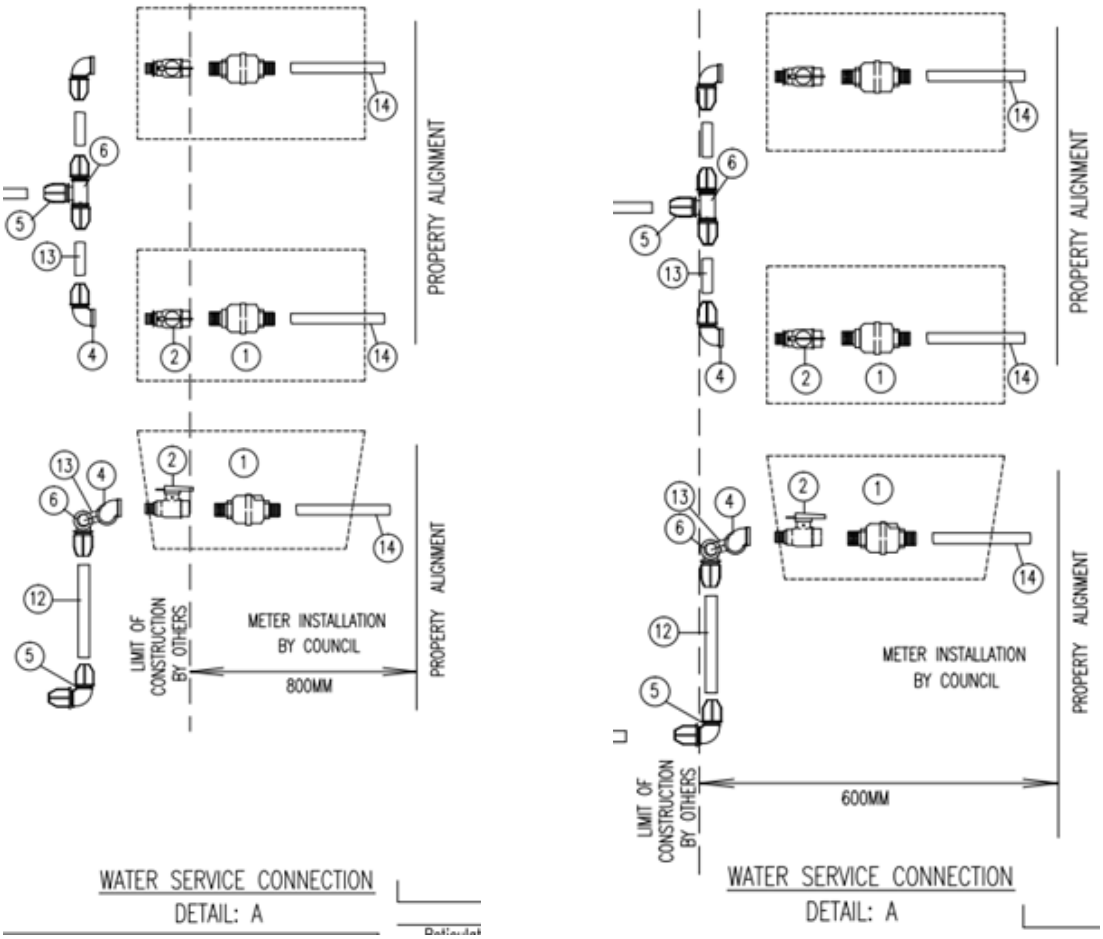
Local Government	D13 Applicability
Banana Shire	
Central Highlands Regional	
Gladstone Regional	No
Isaac Regional	
Maranoa Regional	
Livingstone Regional	
Rockhampton Regional	No

M2023.04

Reminder for LGAs to confirm if D13 is applicable. Rich advised that D13 is only applicable to GRC. Scott noted that D13 was originally extracted from D3.

Action By

All

M23.01.03	**Standard Drawing W-090 - 20 & 25mm Service and Water Meter Connections** As part of an update to W-090 it was noted that the differences between W-090 and W-090A are minor and there may be an opportunity to combine them. The key difference between the drawings W-090 and W-090A Is the water service connection detail: **W-090** **W090A**  The other difference between the drawings is just the short single size on the W-090A is 25mm not 32mm, this could be covered in the applicability table if required. The main benefit from not installing the valve is reduction in the risk of water theft. For discussion. <u>M2023.03 resolution</u> LGAs to discuss with requirements water departments and provide feedback. <u>M2023.04 Discussion</u> Brief discussion on whether other LGA have experienced water theft. RRC noted that they (FRW) have had no issues. General agreement to maintain current practices. MRC noted no particular preference but would default to current arrangement unless general consensus to change. Raised that GRC detail does not actually provide a connection to each individual property which may technically not comply with planning scheme. <u>M2023.4 Suggested Resolution</u> GRC to confirm current installation practices with the potential to align with the other LGAs.

	MCE wait for response to GRC and depending on outcome investigate whether there is space to have both details on one drawing with a table of difference. Action By GRC and MCE.
M23.01.04	**D1 – Evacuation Routes** It was raised by GRC that an evacuation route section/ clause may be beneficial in D1. A general clause may be useful referring to any specific work done by the relevant LGA on flooding/ storm surge to inform level and designated evacuation routes. An example from Mackay is reproduced below: **2.19 Evacuation Routes** Where works are proposed for existing or foreshadowed evacuation routes, designers shall recognise that minimisation of inundation during flooding or storm surge events is a requirement to ensure the ability of the roadway to maintain its function as an evacuation route. Crown levels on these roads is to be maintained at a minimum level of 5.0m AHD to ensure its viability and trafficability during evacuation incidents. Further, where the development is controlled by the storm surge Minimum Level of RL5.0m, then the road shall be no lower than 4.7m AHD at the lip of the kerb & channel. The evacuation routes to which this requirement applies are shown in the *Mackay City Council – Emergency Action Guide*. Copies of this document are available from Council and are on Council's web page. For discussion M2023.04 Discussion Discussion about the impacts from fires, there may be a requirement for multiple routes. Agreed not to include information/ requirement for fire as it is a broader planning topic and under the jurisdiction of QFES. Discussion about inclusion of road level information as it may be site specific and differs between LGAs/ locations and flooding mechanism. Consideration of including a version of paragraph 2 to refer back to LGA for specific level information. Agreed not to include as it is a given that developers would be liaising with LGA for levels. M2023.04 Resolution Add the first paragraph from the Mackay example to D1 with the title "Evacuation Routes – Flooding" Action By MCE

M23.01.05

D11, D12, D5 – Acceptable software packages.

The wording in relation to software package use in CMDG uses terms “acceptable” or “must” in relation to use of software packages which implies that Consultants must use the stated software packages. It was my understanding that these packages were preferred and encouraged simply because it was easier for LGA’s to check and therefore approval for development was easier to obtain. Are other software packages excluded?

Extract from D5 Following to illustrate.

D05.06.10. The full electronic files associated with any computerised modelling works shall be provided to Council as a part of Site Based Stormwater Management Plan. Computer model shall be prepared by a qualified person experienced in the use of the program and under the supervision of a Registered Professional Engineer of Queensland (RPEQ) experienced in this field. The accuracy of the model shall be verified by a RPEQ experienced in this field. The model shall be calibrated and a sensitivity analysis shall be completed. Acceptable software packages are identified in Table D05.06.02 – Acceptable Modelling Packages.

Table D05.06.02 – Acceptable Modelling Packages

	Banana Shire	Central Highlands Regional	Gladstone Regional	Isaac Regional	Maranoa Regional	Livingstone Shire	Rockhampton Regional
Runoff Routing:			XP Raft/ TUFLOW				
Drainage Analysis:			Drains (ILSAX)/ PCDRAINS				
Steady Flow			HEC-RAS				
Unsteady flow			MIKE 11/ XPSWIM/ TUFLOW				
Water Quality			MUSIC				

D11.06.01. The planned service area, hydraulic capacity and component sizing shall be as approved by the Water Service Provider via a Water Supply Network Analysis. Software used by consultants for Water Supply Network Analysis must be compatible with that use by the relevant Council. A list of the software used by each of the participating Councils has been provided below.

Table D11.06.01 Water Supply Network Analysis Software

Council	Software Used
Banana Shire	
Central Highlands Regional	
Gladstone Regional	InfoWater
Isaac Regional	H2OMAP
Livingstone Shire	INFOWORKS
Maranoa Regional	WATER GEMS
Rockhampton Regional	WATER GEMS

D12.06.01. Software used by consultants for Sewer Reticulation Network Analysis must be compatible with that use by the relevant Council. A list of the software used by each of the participating Councils has been provided in Table D12.06.01 Sewer Reticulation Network Analysis Software below.

Table D12.06.01 Sewer Reticulation Network Analysis Software

Council	Software Used
Banana Shire	
Central Highlands Regional	
Gladstone Regional	InfoSWMM
Isaac Regional	
Livingstone Shire	SWMM
Maranoa Regional	SEWERGEMS
Rockhampton Regional	SEWERGEMS

Note: SWMM5 is freely available online via the USEPA.

M2023.03 Discussion

Scott raised that there could be issues if the LGA is not able to access or use the information. Jamie raised the same issue with LGAs potentially not being able to feed new information back into existing models if the format is different.

M2023.04 Discussion

Discussion on how information presented by consultants needs to be compatible with LGA's software otherwise it is not possible to review or incorporate into wider models. MCE noted that it may be unreasonable to force consultants to use specific software for all cases, especially when LGAs use different software. Agreement that not all developments will require the use of specific software and typically it is only important in large developments. Agree to add a line to note that alternative software may be acceptable.

M2023.04 Resolution

Table D05.06.02 – Acceptable Modelling Packages

Computerised Models

	Banana Shire	Central Highlands Regional	Gladstone Regional	Isaac Regional	Maranoa Regional	Livingstone Shire	Rockhampton Regional
Runoff Routing:	12d Model Drainage		XP Raft/ TUFLOW				XP Raft/ TUFLOW
Drainage Analysis:	Watercom DRAINS		Drains (ILSAX)/ PCDRAINS				Drains (ILSAX)/ PCDRAINS
Steady Flow	HEC-RAS		HEC-RAS				HEC-RAS
Unsteady flow	TUFLOW		MIKE 11/ XPSWIM/ TUFLOW				MIKE 11/ XPSWIM/ TUFLOW
Water Quality	MUSIC/ MUSIC X		MUSIC/ MUSIC X				MUSIC/ MUSIC X

D5, D11, D12 - Keep the current text and requirement for specific software packages but include an additional statement "The use of alternate software packages is subject to LGA approval".

D5 table to be updated as above.

	MCE to confirm with LSC and CHRC if they have any specific software packages to include. Action By MCE
M23.01.06	**C224 – Open Drains** Brendan noted that he was looking for table drain information and this construction specification contains the relevant information. A title change was suggested or potentially adding this information to the drainage design specification D5. For discussion. CAPRICORN MUNICIPAL DEVELOPMENT GUIDELINES OPEN DRAINS INCLUDING KERB & GUTTER (CHANNEL) C224 **CONSTRUCTION SPECIFICATION** M2023.04 Discussion Discussions around what should be included in C224 vs D5 as some of the information currently in C224 is more focused on design requirements. Some rewording to the text or titles may be possible to make the requirements for Table Drains more obvious. M2023.04 Resolution Brendan/ GRC to review document and consider which elements can be moved to D5 and provide feedback/ and updated C224 document. Action By GRC

M23.01.07	**C213 Earthworks Specification** GRC have commented on C213 in relation to the setout. The document discusses the installation and spacing of pegs. However, it is common in the industry to use 3D models, GPS/ RTK a rather than pegs and offsets. For discussion <u>M2023.04 Discussion</u> Discussion on whether some of the requirements for pegs and profiles etc is now redundant. Grant raised some examples where the use of survey pegs and traditional survey methods would have provided better accuracy and likely prevented significant issues due to poor level control. Rich noted that ultimately the contractor/ developer/ engineer is responsible for building to correct levels and it is current industry standard to use 3D models. Brendan raised that the use of modern methods is more efficient and has the potential to be more environmentally friendly. Modernisation of the document is potentially required. Agreed to incorporate some clauses in relation to RTK and 3D models but maintain all other current requirements as it gives LGAs a method and opportunity to check setout. <u>M2023.04 Resolution</u> MCE to draft some additional clauses in C213 to include the use of 3D models and RTK. <u>Action By</u> MCE

M23.01.08	**Sewer Jump up ownership and drawing CMDG-S-030** - No resolution this meeting LSC have raised issues around ongoing maintenance costs of sewer connections. The issues are often caused by poor workmanship of contractors. LSC have proposed revisions to drawing S-030 as per the markup **(Attachment M)** The justifications are as per below: • Council does not install the top junction of a "jump up". • Plumbing contractors have no incentive [except for good practice] to compact around and under the top junction that commonly fails. • Council plumbing inspectors have measured up and left when this void is filled. • Access to this area in the property is often difficult and expensive. • Re-instatement of this area is often difficult and expensive. • Property owners often don't know about "jump ups" and commonly build over them. • Should council repair/replace a "jump up" there is an expectation we have accepted ownership and will continue to maintain it. • Council often has to return and maintain the re-instatement. This change would required updates to other LGA documentation as well as the CMDG drawings. Historically the ownership of the jump up is by the LGA. This is supported by the Standard Sewerage Law/ Sewerage and Water Supply Act 1949, which in section 14 point 6 states that the jump up is part of the sewerage system (extract below). For discussion. **14 Access to sewerage system** **(1)** A local government must, to the greatest practicable extent, make sure that— (a) all premises in a sewered area are able to be connected directly and separately to the local government's sewerage system for the sewered area; and (b) the sewerage system can deal with the sewerage requirements of all premises in the sewered area. **(2)** Subsection (1) does not stop the local government from recovering from an owner of premises the reasonable cost of complying with the subsection for any particular premises or premises group. **(3)** If 2 or more premises are part of a premises group, the local government does not fail to comply with subsection (1) because it makes sure only that the premises group, rather than each individual premises, is able to be connected directly and separately to its sewerage system. **(4)** The design of the sewerage system must allow for a connection point for each premises or premises group to be at or within the boundary of the premises or premises group, and, to the greatest practicable extent, at an invert level below ground level at which a sanitary drain or property sewer laid at minimum grade is capable of servicing the premises or premises group. **(5)** The placing of each connection point is to be decided by the local government, acting reasonably in the circumstances of the connection. **(6)** A junction, bend, pipe, jump up or graded jump up required to connect a sanitary drain or property sewer to the local government's sewer is part of the sewerage system, but only if the sanitary drain or property sewer is at or above the level of the sewer. <u>M2023.02 Discussion</u> Brief summary on the issue and MCE highlighted that there may be legal ramifications with the proposed change.

	M2023.02 resolution LGAs to review any internal information and consider LSC proposal. M2023.04 Discussion Brendan has provided some additional information from WSA. Refer to **Attachment E.** M2023.04 Suggested resolution TBC Action By All
M23.02.01	**Pipe roughness parameters** - No resolution this meeting From Nathan/ BSC: With the significant rainfall currently being experienced, we are finding that pipes are quickly becoming congested with debris, reducing their operational capacity. Networks designed to the 'Good' parameters require continued maintenance to operate at an acceptable level or can quickly deteriorate from good to poor condition very quickly. This results in resourcing issues when Council inherits these assets at the conclusion of the on-maintenance period. The original request was that BSC wished to adopt 0.6mm minimum pipe roughness value. However, D5 doesn't directly contain any information in relation to the Colebrook White equation. It does reference the charts and the CPAA hydraulics design manual (which uses Colebrook White). However, QUDM is the main point of reference and is based on manning's equation for pipe capacity, typical values are for "average" conditions. For discussion: • Use of worse case parameters for design • Higher cost for developers to reduce LGA maintenance costs • Any similar issues noted by other LGAs Suggested resolution TBC For Action TBC

M23.02.02	**D11 Water Supply Network -D11.07.02 and Table D.11.07.02 Minimum and Maximum Pressures for Network Design** - No resolution this meeting LSC have been having issues with achieving minimum pressure at house pad on elevated battleaxe blocks. There have been a number of discussions and it is suggested that the text below be included in D11: *In situations where internal services from the meter to proposed house building pads exceeds a length of 10m (for example battleaxe allotments) it may be necessary for 32 to 50mm polyethylene to be extended from the meter to the building site or the installation of tanks and pumps (both options at the Developers expense). This is to ensure that sufficient pressure is available at the house building pad location. The designer shall make a submission to Council to demonstrate what internal infrastructure is necessary where the internal service from the meter to the house building site will exceed a length of 10m.* Further background from Chris' email: The design parameters in CMDG are intended to ensure that Council has enough capacity in the system to supply elevated lots. So the design parameters ensure that the infrastructure has the capability to supply water to a higher level than the meter. Owners could usually do this by using larger diameter poly to the house site. In fact in the past I have conditioned for larger diameter poly to extend up a battleaxe handle to the building site to ensure this happens. The service standards are where you outline that Council is obligated to supply the required pressure at the meter. That is, despite what the design standards say Council takes on a lesser obligation when it comes to the customer service standards. Refer to FRW customer service standards below. Note I could not find LSC's customer service standards – do you have something similar? I suggest you would defend Councils position based on your obligation to supply the required pressure only at the meter and at no other point based on customer service standards (despite what the design parameters are). Having said that I think that the situations you have presented below with long internal service lines to building sites does present an issue. This is because the Node level for design at "Finished surface/ street elevation at the main location, building pad level or at the mean lot level, whichever is the highest" does not contemplate it will be a long horizontal distance from the meter to the building pad level. The way for Council to deal with this is to identify such properties at development time and ensure tanks and pump are provided by the Developer if necessary (Tanks and pumps for private maintenance not Council – Councils obligation ends at the meter).

D11.07.03. A minimum design pressure head for Domestic Demands alone, for each Water Service Provider as presented in Table D11.07.02 Minimum and Maximum Pressures, shall be provided during the MH (maximum hourly maximum day) on third consecutive Maximum Day consumption at the defined building pad level or at the mean lot level, whichever is the highest elevation. For clarity when carrying out water network analysis the node levels must comply with the details in Table D11.07.02. ***Minimum Pressure Domestic Demands***

D11.07.04. The maximum design pressure shall not be exceeded. The maximum desirable design pressure for each local government is outlined in Table D11.07.02. Where, practical, pressure reducing valves or other network design measures shall be utilised to achieve this requirement. ***Maximum Pressure***

Table D11.07.02 Minimum and Maximum Pressures for Network Design

	Minimum Pressure at the Node	Node Level for Design	Maximum Desirable Pressure	Absolute Maximum Pressure
Banana Shire	22 m	Finished surface/ street elevation at the main location, building pad level or at the mean lot level, whichever is the highest	50 m	80m
Central Highlands Regional	22 m		50 m	80m
Gladstone Regional	25 m (in main)* 20m (in main – constant flow network)	Finished surface/ street elevation at the main location	50 m (reticulation network)	80 m
Isaac Regional	22 m	Finished surface/ street elevation at the main location, building pad level or at the mean lot level, whichever is the highest	50 m	80m
Livingstone Shire	22 m		50 m	80m
Maranoa Regional	20 m		50 m	80m
Rockhampton Regional	22 m		50 m	80m

* In all design instances it is required that there is a minimum of 22m at the water meter

Adequacy and Quality of Normal Supply of Water

CSS Reference	Performance Indicator	Potable Water Schemes	
		Rockhampton & Gracemere Water Supply Scheme	Mount Morgan Water Supply Scheme
CSS8	Minimum pressure standard at the water meter (kPa)	220 kPa	220 kPa
CSS9	Minimum flow standard at the water meter	9 L/min	9 L/min
CSS10	Connections with deficient pressure and/or flow (% of total connections)	< 2.5%	< 2.5%
CSS11	Drinking water quality (compliance with industry standard)[1]	> 98%	> 98%
CSS12	Drinking water quality complaints (number per 1,000 connections)	< 5	
CSS13	Drinking water quality incidents (number per 1,000 connections)	< 5	< 5

Suggested resolution

Include proposed text in D11.

In situations where internal services from the meter to proposed house building pads exceeds a length of 10m (for example battleaxe allotments) it may be necessary for 32 to 50mm polyethylene to be extended from the meter to the building site or the installation of tanks and pumps (both options at the Developers expense). This is to ensure that sufficient pressure is available at the house building pad location. The designer shall make a submission to Council to demonstrate what internal infrastructure is necessary where the internal service from the meter to the house building site will exceed a length of 10m.

Action By

MCE

M23.03.01

Standard Drawing CMDG-G-020 - No resolution this meeting

Summary of MRC comments:

1. Preference is to retain hazard markers.
2. Remove reference to a proprietary product removed. Instead quote the engineering/ technical parameters. Historically they have had big issues with stipulating a proprietary product.
3. Is the pre-cast base required in all circumstances? Can it be applied on a case-by-case basis?
4. G-020 does not have an abutment detail like G-018 has presumably this is because G-020 users utilise pre-cast units, however the regional areas regularly cast in-situ. Abutment detail required.
5. There is frequent reference to 'precast' preference for this to be removed.
6. We are cognisant that some councils have a Grid Policy, so we want the standard drawing to be in line with MRC's existing Grid Policy.
7. For example, we recommend Note 5 is tabulated (widths/traffic counts for each Council). MRC is shown below.

Traffic Volumes	Grid Type Required
Road with greater than 250 vehicles per day	Not permitted
Road with traffic volumes less than 250 but more than 20 vehicles per day	Double grid (8m)
Road less than 20 vehicles	Single grid (4m)

a. Notwithstanding the above, a double grid may be required, at Council's discretion, irrespective of the above if:

8. Note 7. Not applicable to MRC.
9. Note 6. Possibly tabulated. MRC's loading criteria is below (based on the TMR guide).

Frames and abutments are to be structurally certified for design loads in accordance with AS5100.2-2017 (the Bridge Design Code), including all relevant load factors, dynamic load allowances and deflection limits (i.e. span/600). The particular loads to be applied are as follows:

- W80 wheel load;
- A160 axle load;
- M1600 moving load;
- S1600 stationary traffic load.

Local Government	G-018 Applicability	G-020 Applicability
Banana Shire		
Central Highlands Regional		
Gladstone Regional		
Isaac Regional		
Maranoa Regional		
Livingstone Regional		
Rockhampton Regional		

Sarah has asked if width of grid can be specified on the drawing as CHRC does not have a grids policy. For discussion.

For discussion

Suggested Resolution

Make the following updates:

- Remove proprietary produce reference and add additional specification/ requirements similar to TMR as per MRC recommendation.
- Tabulate note 5 for the requirements of each LGA to align with their grid policies.

	• Remove reference to precast and replace with “concrete”. <u>Action By</u> MCE
M23.03.02	**Planning scheme vs CMDG differences** - No resolution this meeting LGAs to check planning schemes for any inconsistencies with CMDG so that these can be either amended or noted in CMDG.
M23.03.03	**Sewer chamber size vs depth** - No resolution this meeting Consideration to be given varying diameter of chamber based on depth. This is pursuant to GRC recent experience where a manhole internal reline left the reduced internal diameter unfit for confined space entry. *More detail and suggested resolution to come following research by MCE* For discussion <u>Suggested Resolution</u> <u>Action By</u>

M23.04.01	**Minimum RCP pipe class for road crossings** - No resolution this meeting BSC have requested that a class 3 be added to CMDG as minimum strength requirement for RCPs using for road crossings. Currently D5 has clause D05.08.04: D05.08.04. Culvert classes shall be determined in accordance with manufacturer's recommendations. Appropriate consideration should be taken for loadings from construction traffic when determining culvert class. ***Culvert Classes*** **Background from Nathan:** Banana Shire Council is working through an Operational Works application for the realignment of a road. The applicant has advised that they have designed their culverts to Class 2 in accordance with DTMR Specification MRTS25 (Figure B1 of Appendix B), stating that Section D05.08.04 of CMDG (see below) leaves room for interpterion. It is Banana's Director of Infrastructure's position that all crossroad drainage pipelines are to be a minimum Class 3 unless otherwise approved by the respective Council. **MCE comments:** The required pipe class is based on a number of factors including: • In service traffic loading • Construction traffic loading • Support condition • Depth of cover If correctly designed a class 2 pipe could be adequate for a road crossing and would be in accordance with the design standards and TMR. The risk of failure/ pipe damage during construction from compaction/ machinery traffic does typically become higher with a lower strength pipe. It is worth noting that many manufactures, including Holcim (Humes) are currently only making class 4 and above to increase efficiently and speed of manufacture by having less moulds/ different reinforcement cages. So it may not be a big issue to developers to increase the minimum requirements. <u>Suggested Resolution</u> For discussion <u>Action By</u> TBC

M23.04.02	**GRC Low Pressure Sewer System Drawing** - No resolution this meeting GRC propose a new low pressure sewer system drawing to be included in CMDG (**Attachment F**). LGAs to review and confirm applicability or any required changes. Complimentary amendments to D12 may also be necessary to stipulate circumstances where Low pressure sewer systems can be used and acceptable design parameters. For discussion <u>Suggested resolution</u> Make any required changes including formatting and upload drawing to website. <u>Action By</u> TBC
M23.04.03	**D5 – Kerb Discharge Points** - No resolution this meeting RRC has raised the point that CMDG doesn't currently have any limitations around discharge to the kerb. Do we need to update D5 to include something similar to Brisbane City Council? BCC specifies that for Connection to Kerb and Channel – • The maximum permissible discharge to the kerb and channel must be limited to 30L/s (i.e. maximum 2 single house lots per discharge point dependent on roof area), and twin 100mm diameter pipes (equivalent 150mm diameter) with approved kerb adaptors. • All drainage pipes >150mm nominal diameter are to connect to a stormwater gully or maintenance hole. For discussion <u>Suggested resolution</u> Include an additional clauses in section D5.15 – Lawful Point of Discharge: • The maximum permissible discharge to the kerb and channel must be limited to 30L/s (i.e. maximum 2 single house lots per discharge point dependent on roof area), and twin 100mm diameter pipes (equivalent 150mm diameter) with approved kerb adaptors. • All drainage pipes >150mm nominal diameter are to connect to a stormwater gully or maintenance hole. <u>Action By</u> MCE

M23.04.04	**CMDG-R-040 Property Access along Bitumen Roads** - No resolution this meeting CHRC have received a number of applications for rural driveways along bitumen roads. On one application it was conditioned that the applicant seal their driveway since it was along a bitumen road. The condition was changed following the applicant complaining to Council and the condition was deemed to be unreasonable on the basis of the cost the property owner had to incur to get the driveway sealed. Since then, CHRC have not been conditioning sealed driveways for out of town property accesses, because the cost of installing sealed accesses is prohibitive. CHRC is interested to know if other councils are facing the same issue and requested discussion into whether the guideline be modified so it better aligns with what can be implemented on the ground. While the cost implication may be causing difficulties there are some important some reasons for sealing driveways including: • The sealing helps to prevent gravel being tracked onto the road and creating a significant hazard for other road users. • Helps to prevent erosion especially if a bed level crossing is used. • It is necessary for safety to seal of the widening on the opposite side of the road once you reach higher traffic volumes. • Rutting in the road shoulder is much more likely to occur which is a hazard for road users. • Reduced maintenance. This could be an ongoing battle with owners about who maintains which parts of the driveway/ road shoulder. For discussion. <u>Suggested resolution</u> TBC <u>Action By</u> TBC