CAPRICORN MUNICIPAL DEVELOPMENT GUIDELINES

DRIVEWAYS

D15

DESIGN GUIDELINES

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

D15.01. SCOPE

D15.01.01. This document provides siting and design requirements for residential, commercial, rural, and industrial driveways.

D15.01.02. The following order of priority for interpretation of documents will apply:

Order of Priority

1) CMDG Design and Construction Specifications
2) CMDG Standard Drawings
3) AUSTROADS Publications
4) IPWEA-QNT Street Design Manual
5) Design Guidelines for Subdivisional Streetworks, 1995 - 'Queensland Streets'.
6) Department of Transport and Main Roads publications
7) Queensland Development Code
8) Australian Standards

Please note that reference to a Guideline or Standard, is reference to the latest version of the relevant document, unless specifically a version number is specifically stated.

D15.02. AIMS

D15.02.01. Property access and driveways shall be designed to:

- Provide convenient and safe access to all allotments for pedestrians, vehicles and cyclists.
- Minimise maintenance costs.
- Support the convenient installation of public utilities.
- Provide an opportunity for street landscaping.
- Provide a minimum level of off-street parking for visitors.

D15.03. REFERENCE AND SOURCE DOCUMENTS

D15.03.01. Australian Standards

- AS 1158 Lighting for roads and public spaces
- AS 1428.1 Design for Access and Mobility
- AS 2890.1 to 6 Parking facilities
- AS/NZS 3845 Road Safety Barrier Systems

QLD State Authorities

- Department of Local Government and Planning
- Queensland Residential Design Guidelines, 1998
- Queensland Transport Publications
- Public Transport Infrastructure Manual, June 2015 (PTIM)
- Department of Infrastructure, Local Government and Planning

Fact Sheet: Local government infrastructure framework

AUSTROADS

- Guide to Road Design
- Guide to Road Safety
- Guide to Traffic Management

Other

- The Institute of Public Works Engineering Australasia, QLD Division.
- Design Guidelines for Subdivisional Streetworks, 1995 -'Queensland Streets'.
- IPWEA-QNT Street Design Manual

D15.04. DEFINITIONS

D15.04.01. Major Road Frontage is the property frontage adjacent to the higher order hierarchy road. The road hierarchy is to be determined using *D1 GEOMETRIC ROAD DESIGN.* ***Major Road***

D15.04.02. Minor Road Frontage is the property frontage adjacent to the lower order hierarchy road. The road hierarchy is to be determined using *D1 GEOMETRIC ROAD DESIGN.* ***Minor Road***

D15.04.03. Low Parking Turnover examples are employee carparking areas at industrial and commercial premises and public carparking areas such as central city parking and sporting venues. ***Low Parking Turnover***

D15.04.04. Medium Parking Turnover examples are suburban shops and medical centres, visitor parking at commercial, industrial and residential premises and tenant carparking areas in residential buildings. ***Medium Parking Turnover***

D15.04.05. High Parking Turnover examples are small public carparking areas (duration of stay 30 minutes or less) particularly shopping centres up to 1,000m^2 GFA, drop-off areas, fast food stores etc. Parking spaces reserved for people with disabilities. ***High Parking Turnover***

D15.05. GENERAL DRIVEWAY AND ACCESS SITING

Constraints

D15.05.01. In siting driveways consideration must be given to restricted or limited access areas, easements and reserves that may prevent the location of driveways therein.

D15.05.02. All driveways must have sufficient sight distance for the vehicles entering and exiting the property. In special cases such as busy roads or Major Roads, works may need to be undertaken within the property to allow a vehicle to turn within the property and leave the property in a forward direction.

D15.05.03. No driveway shall be approved unless there exists a clear space of not less than 6 metres within the property boundary on which a vehicle may park.

D15.05.04. Where practical, driveways must be wholly located on the frontage of the allotment serviced with a minimum side boundary clearance of 2 meters.

D15.05.05. Generally, vehicular access into a property will not be permitted from the circulating pavement or approaches of a roundabout.

Service Location

D15.05.06. The applicant is required to ensure there is no conflict between existing services and the proposed driveway or access.

D15.05.07. Hydrants shall not be located within driveways.

D15.05.08. Multiple driveways shall be separated by a clear space of not less than 6 metres, at the face of the kerb.

D15.05.09. Wherever practicable, the location of a driveway in relation to other driveways on the lot, or on neighbouring lots, shall be positioned to preserve the maximum amount of kerbside parking space.

D15.05.10. For the purpose of determining the number, size, and position of driveways, a number of adjoining lots under single ownership (whether amalgamated or not) and used for a single purpose shall be regarded as being a single lot. The number of driveways accessing a particular site is to be kept to the minimum necessary to allow satisfactory traffic operation for the site.

D15.05.11. The driveway must be constructed to the following setbacks:

- 600mm clear of any stormwater pit
- 500mm from street signs
- 1m clear of power poles or light poles
- 1m clear of guardrails
- 2.5m clear of public transport infrastructure
- 1m clear of a street tree or its canopy below 2m in accordance with CMDG-G-016

D15.06. URBAN RESIDENTIAL DRIVEWAYS

D15.06.01. Refers to residential properties with up to two (2) dwelling units, from travel lane of the road to property boundary at the road frontage within the region. It does not override development conditions imposed for a particular development.

D15.06.02. This D15.06 section is to be read in conjunction with D15.05. Where the provisions of D15.06 conflict with those of D15.05, the provisions of this section shall prevail.

D15.06.03. The minimum width for a straight driveway for a car is 2.7 metres, however, 3 metres is preferred.

D15.06.04. The number and size of driveways shall not exceed the following:

- Where the frontage of the lot is 10 metres or less, one driveway only having maximum width of 3 metres.
- Where the frontage of the lot exceeds 10 metres but is less than 30 metres, one driveway only having a maximum width of 6 metres.
- Where the lot frontage exceeds 30 metres in urban areas one additional driveway having a maximum width of 3 metres.
- Where the lot has more than one frontage, each frontage may be assessed separately.

D15.06.05. Driveways proposed in the vicinity of intersections must be located in accordance with Table D15.06.01. For signalised and unsignalised intersections Minimum Distance (MD) is measured from the tangent point of the invert of kerb on the adjacent street to the closest edge of the proposed driveway. For roundabouts MD is measured from the invert of kerb on the nearest legs connection with the circulating carriageway.

Table D15.06.01 Urban Residential Driveway Location

Local Government Authority	Minimum Distance (m)		
	Intersection Type		
	Unsignalised	Signalised	Roundabouts
Banana Shire	6	20	20
Central Highlands Regional	10	20	20
Gladstone Regional	20	20	20
Isaac Regional	10	20	20
Livingstone Shire	10	25	20
Maranoa Regional	10	20	20
Rockhampton Regional	10	25	20

Where the location of a proposed driveway does not comply with the requirements of Table D15.06.01, approval for any alternative location must be sought from the Local Government Authority.

D15.06.06. All driveways shall be set square to the kerb line and directly opposite the point of entry at the property boundary unless otherwise approved.

D15.06.07. For detailed driveway design considerations, refer to D15.10. GENERAL DRIVEWAY AND ACCESS DESIGN CONSIDERATIONS . ***Design Considerations***

D15.06.08. Driveways for single dwelling units or duplex developments must be constructed in accordance with CMDG Standard Drawings. Rutting presents an unacceptable pedestrian risk and therefore is not allowed on the footpath.

D15.06.09. Where a proposed driveway does not comply with the provisions of D15 and and/or associated CMDG standard drawings, and the applicant wishes to propose an alternative design, detailed plans certified by a Registered Professional Engineer Queensland (RPEQ) must be provided to the Local Government Authority for approval. All associated costs are to be borne by the applicant. The design must demonstrate unrestricted ingress and egress of a standard loaded passenger vehicle.

Compliance with Standards

D15.06.10. For new urban residential driveways, the applicant may be required by the Local Government Authority to apply for a permit for the driveway to be constructed on the road reserve as a part of their local laws. In such permit, the developer shall nominate the service vehicles expected to utilise the driveway. As such the driveway shall be approved for that type of vehicle only.

Residential Driveway Approval

D15.07. URBAN RESIDENTIAL DRIVEWAYS – RACING LINE ASSESSMENT

D15.07.01. Table D15.07.01 indicates the applicability of the racing line assessments to various Local Government Authorities.

Table D15.07.01 Racing Line Assessment Applicability

Local Government Authority	Is section 15.07 Racing Line assessment applicable?
Banana Shire	No
Central Highlands Regional	No
Gladstone Regional	Yes
Isaac Regional	No
Livingstone Shire	No
Maranoa Regional	No
Rockhampton Regional	No

D15.07.02. The purpose of a Racing Line Assessment is to determine a safe driveway location based the Stopping Sight Distance (SSD) for a vehicle that takes the racing line when manoeuvring around a bend

Definitions:

Definitions

Small Radius Bends means any bend in a Local Government Authority road network that has a design speed less than that identified for the road classification as per the Local Government Authority's road Hierarchy Policy.

Local Government Authority's Road Network means any existing or future proposed road that is controlled by a Local Government Authority.

Racing Line means the path a vehicle takes when manoeuvring around a bend; it starts in the outside lane, crosses to the inside lane at the apex of the bend, and then back to the outside lane when exiting the bend.

Racing Line Assessment means assessment of the Safe Stopping Distance (SSD) as per AUSTROADS based on the Racing Line speed.

D15.07.03. For each small radius bend, the following is to be determined and shown on a drawing:

Racing Line Assessment

a) The alignment of the Racing Line. The racing line is based on the middle point of a B99 vehicle and any required widening of the bend in accordance with Queensland Streets Section 2.10;

b) Radius of the racing line;

c) Design Speed based on the radius of the racing line as per Austroads, Guide to Road Design, Part 3, Section 7.4.1, Horizontal Curve Equation, where E+F = 0.35;

d) Safe Stopping Distance for design speed as per Austroads, Guide to Road Design, Part 3, Section 5.3, SSD equation where V = Design Speed, 1.5s reaction time, and d = 0.36;

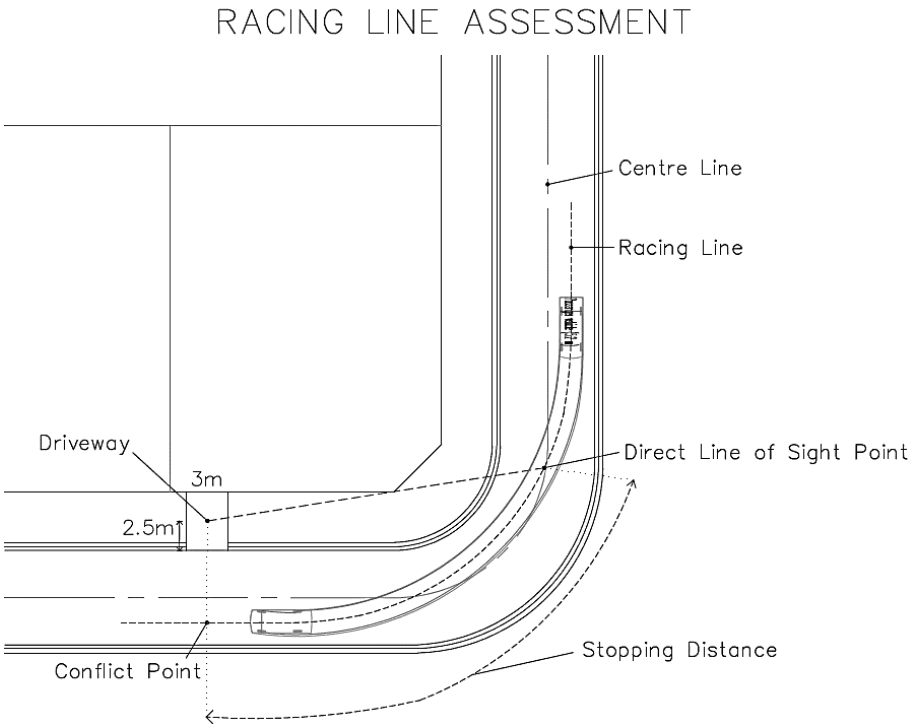
e) 'Direct Line of Sight Point' on the racing line where the driver has a direct line of sight to the middle of the driveway (2.5m from the curb at 1.15m height);

f) 'Conflict Point' of vehicle exiting the driveway and the vehicle on the racing line; and,

g) Distance along the racing line between the 'Direct Line of Sight Point' and the 'Conflict Point'

D15.07.04. Driveway has adequate sight distance if the distance along the racing line between the 'Direct Line of Sight Point' and the 'Conflict Point' is less than the Stopping Sight Distance (SSD) required for the Design Speed of the Racing Line. See Figure D15.07.01 for an example of a Racing Line Assessment.

Figure D15.07.01 Example of Direct Line of Sight Assessment



D15.07.05. Other alternatives, where the layout of allotment prohibits the driveway being located appropriately a number of options exist:

i. Relocating the driveway to an alternative appropriate frontage

ii. Increasing frontage length or

iii. Raised concrete medians imposed to enforce lane discipline.

D15.07.06. Raised concrete medians need to be designed to:

i. Not provide an obstacle to waste collection vehicles (widened road and swept paths required),

ii. Address the articulated vehicles that will need to access the area as part of house construction (to deliver house frames, etcetera), and,

iii. To ensure the driveways on the outside of the curve will have

appropriate access.

D15.07.07. Local Government Authorities are not in favour of creating allotments that require driveways located opposite intersections (i.e. on kerb section Y-Y on Figure 3.1 AS2890.1) in greenfield sites.

D15.08. COMMERCIAL / INDUSTRIAL DRIVEWAYS

D15.08.01. Refers to driveways for industrial and commercial properties from travel lane of the road to property boundary at the road frontage within the Local Government Authority area, as well as multiple dwellings.

D15.08.02. This D15 08 is to be read in conjunction with D15.05. Where the provisions of D15.08 conflict with those of D15.05, the provisions of this section shall prevail.

Constraints

D15.08.03. Driveways proposed in the vicinity of intersections must be located in accordance with Table D15.08.01. For signalised and unsignalised intersections Minimum Distance (MD) is measured from the tangent point of the invert of kerb on the adjacent street to the closest edge of the proposed driveway. For roundabouts MD is measured from the invert of kerb on the nearest legs connection with the circulating carriageway.

Table D15.08.01 Commercial / Industrial Driveway Location

Local Government Authority	Minimum Distance (m)		
	Intersection Type		
	Unsignalised	Signalised	Roundabouts
Banana Shire	6	20	20
Central Highlands Regional	10	20	20
Gladstone Regional	20	20	20
Isaac Regional	10	20	20
Livingstone Shire	20 (Industrial/centres zone) 10 otherwise	25	20
Maranoa Regional	10	20	20
Rockhampton Regional	20 (Industrial/centres zone) 10 otherwise	25	20

Where the location of a proposed driveway does not comply with the requirements of Table D15.08.01, approval for any alternative location must be sought from the Local Government Authority.

D15.08.04. In Commercial Areas, the Local Government Authority may direct applicants to install tactiles on the footpath at the driveway line to assist vision-impaired pedestrians. The tactiles must comply with the Disability Discrimination Act (DDA) and AS1428.1.

D15.08.05. For commercial or industrial driveways, the desirable maximum driveway grade after the footpath is 10% (1 Vertical in 10 Horizontal).

D15.08.06. The construction of the driveway must be completed and safe within 10 days of commencing excavation, including back fill to the side of the driveway.

Design Considerations

D15.08.07. For commercial and industrial driveway design considerations refer to D15.10. GENERAL DRIVEWAY AND ACCESS DESIGN CONSIDERATIONS

D15.08.08. The driveway configuration shall satisfy the basic traffic design criteria for all intersections with regard to driver behaviour, safety of pedestrians and vehicle characteristics.

D15.08.09. Generally, only a single access point (entrance/exit) will be approved for any development. However, this may be relaxed where it can be demonstrated that safety and traffic operation on the road are not compromised, or where pedestrian safety can be improved by such a design.

D15.08.10. All developments are to provide internal traffic circulation to avoid use of the

public road system for movements between car parking and / or servicing areas of a site.

D15.08.11. Developments with driveway/s via signalised intersections or roundabouts may need to dedicate land as public roadway to ensure lawful priority of traffic movements under current Queensland traffic law.

D15.08.12. Access to developments is preferred via Minor Roads rather than Major Roads, provided the traffic generated by the development will not compromise the amenity of that road. In some cases, improvement works may be required in the Minor Road/s to alleviate possible detrimental impacts to that road.

D15.08.13. The driveway must be wide enough to accommodate the swept path of the nominated vehicle to prevent rutting over the driveway edges. To check this, the applicant is to assess the largest vehicle expected to enter and exit the property over the area where the driveway is intended and allow 0.3 to 0.6 metres either side of the wheel path.

Commercial / Industrial Driveway Types

D15.08.14. The type and width of driveway appropriate for a development depends on:

- volume of traffic generated at that driveway by the development
- type of road to which access is sought
- existing and predicted future traffic volumes of the road to which access is sought
- number of car parking spaces served by the driveway
- size and type of the largest vehicle likely to use the driveway on a regular basis (usually a service vehicle)
- number of service bays served by the driveway.

D15.09. DRIVEWAY SELECTION

D15.09.01. This section is applicable to the Local Government Authorities as set out in the following table:

Table D15.09.01 Applicability Table for section D15.09 Driveway Selection

Local Government Authority	Is D15.09 Driveway Selection Applicable?
Banana Shire	No
Central Highlands Regional	No
Gladstone Regional	Yes
Isaac Regional	No
Livingstone Shire	No
Maranoa Regional	No
Rockhampton Regional	No

D15.09.02. A driveway type should be selected according to its function with regard to car parking or service vehicle requirements, or both.

D15.09.03. Determine driveway function and select driveway type from relevant table:

- Cars only, Table D15.09.02
- Service vehicles only, Table D15.09.03

i. Where an access is used by both cars and service vehicles, the access shall be selected for the largest vehicle type.

ii. For developments that generate large volumes of traffic, and where the use of a standard driveway would cause unacceptable delays or hazard to traffic, a fully channelised intersection may be required.

iii. To ensure adequate visibility between vehicles on a driveway and pedestrians on the footpath, sight splays are to be provided at the property boundary, where the driveway leaves between two obstructions

D15.09.04. For a parking area that has multiple points of access, each driveway is to be designed on the basis of the number of spaces effectively served by that driveway. The driveway type should then be selected from Table D15.09.02

Table D15.09.02 – Driveway selection for cars only

Turnover rate of car parking area [1]	Type of frontage road	Type of driveway for the number of spaces in car parking area			
		1-25	26-250	251-500	Over 500 [2]
Low/Med	Minor	A [3]	B2	C1	C3
Low/Med	Major	B1 (6m)	C1	C2	C3
High	Minor	B1 (7m)	C1	C2	C3
High	Major	B2 (7m)	C2	C3	C3

Notes:

1) Low to medium parking turnover rates are likely to be generated by residential, industrial and commercial developments. High parking turnover rates are likely to be generated by entertainment, transport, retail and fast-food developments.

2) *Car parking areas containing over 500 spaces or generating more than 1,000vpd are to be assessed for the need of an appropriately designed channelised access intersection.*
3) *On Minor Roads, residential (Type A) driveways less than 6m wide are acceptable for streetscape enhancement, provide normal manoeuvring and queuing requirements are satisfied.*

Driveways for Service Vehicles

D15.09.05. Driveway types for service vehicles are determined according to the turning path requirements of the relevant design vehicle. The appropriate driveway is selected from Table D15.09.03.

D15.09.06. Where the volume of traffic generated by a development contains a substantial proportion of service vehicles and exceeds 500vpd, then a channelised access intersection may be required in place of a standard driveway.

D15.09.07. Where traffic is required to be restricted to left in/out movements only, a Type 2 driveway with centre island is to be used. Refer to the CMDG Standard drawings for details.

D15.09.08. For entry or exit only driveways, the relevant half of a Type C driveway in accordance with Tabel D15.09.03 is to be used.

Table D15.09.03 – Driveway selection for service or other large vehicles

Frontage Road Type	Minor Road	Major Road <100vpd	Major Road
Nominated design vehicle [1]	**Driveway Type**		**Driveway Type**
Car and Trailer	A (6m)		C1
Service Vehicle (8.8m)	B2 (7m)		C2
Single unit truck (12.5m)	B2 (7m)		C2
Refuse Collection Vehicle	B2 (7m)		C2
Bus	B2 (9m)		C4
Prime Mover	B2 (9m)		C4
B - Double	B2 (9m)		C4

Notes:

1) *Where semi-trailers, B-doubles or coaches are to negotiate the driveway and internal roads, a plan showing the swept and wheel paths of the vehicle is required to be submitted to the Local Government Authority to demonstrate how the vehicle will practically access the property. Accesses for such vehicles require forward only manoeuvre for entry and exit of the property.*

Commercial / Industrial Driveway Approval

D15.09.09. For new commercial or industrial accesses, the applicant may be required by the Local Government Authority to apply for a permit for the access to be constructed on the road reserve as a part of their local laws. In such permit, the developer shall nominate the service vehicles expected to utilise the access. As such the access shall be approved for that type of vehicle only.

D15.10. GENERAL DRIVEWAY AND ACCESS DESIGN CONSIDERATIONS

Design Standards

D15.10.01. This section refers to the design of all driveways and accesses. All driveways are to be constructed in accordance applicable CMDG Standard Drawings and the provisions of this D15 – Driveways document.

D15.10.02. For roads under the control of the Department of Transport and Main Roads (DTMR), its separate design requirements will be determined by DTMR.

D15.10.03. Reference should be made to *D15.11 URBAN DRIVEWAYS – BATTLE-AXE LOTS AND SHARED DRIVEWAY ARRANGEMENTS* when considering the use of battle axe and / or shared driveway arrangements for property access.

Driveway Levels and Slopes

D15.10.04. The slopes and levels along driveways shall be designed to allow a the fully loaded vehicle (vehicle with lowest clearance, usually a passenger vehicle) to enter the property without scraping the middle or ends of the vehicle. Transitions must be provided between changes in vertical grades to ensure loaded vehicles clear the driveway.

D15.10.05. Although the owner of the property may own a high clearance vehicle, the residential driveway shall be designed to suit a standard passenger vehicle so that visitors are able to traverse the driveway.

D15.10.06. The applicant may be required to provide evidence of satisfactory ground clearance for the proposed driveway or access based on AS2890.1 Appendix C.

D15.10.07. The applicant may be required to provide evidence of swept path analysis for residential vehicular access into and out of the site.

D15.10.08. The driveway grade within the footpath section will not exceed 2.5%.

D15.10.09. For residential driveways, the grade across the road verge must match existing footpath levels. The desirable maximum driveway grade within private property is 16% (approx.1 Vertical in 6 Horizontal). Driveways with grades steeper than 16% should be constructed suitable for the traction of the appropriate two-wheel drive to traverse the driveway in wet weather. The maximum grade for residential is 20% (1 Vertical in 5 Horizontal). A grade of 25% may be approved by the Local Government Authority in exceptional circumstances, however the Local Government Authority is not responsible for the driveway and any access difficulties that may exist when desirable grades are exceeded.

D15.10.10. Driveways and surrounding ground must be maintained such that any tripping hazards are minimised. The driveway must be built and maintained to the following tolerances:

Table D15.10.01 – Urban Driveway Tolerances

Type of Adjacent Grounds	Maximum height difference between driveway and adjacent ground	Maximum grade adjacent to driveway
Hard surfaces (concrete, pavers, gravels)	10mm for new installation	1V in 8H (12.5%)
Soft natural surfaces (grass, loose soil)	25mm for new installation	1V in 8H (12.5%)

Surface Treatments

D15.10.11. The driveway must meet the relevant AUSTROADS' Guidelines in terms of skid resistance. Accordingly, broom finished concrete provides a good

textured finish and is accepted for residential driveways. Sealed or asphalt surface for residential driveways in urban areas will not be accepted.

D15.10.12. Loose surfaces will not be permitted in urban areas because the material can be washed onto footpath and gutters or stormwater drains and tracked onto the road causing a hazard and polluting water ways.

D15.10.13. Uneven surfaces such as stamped concrete must be avoided as they can create a tripping hazard.

D15.10.14. Slick coatings or finishes with low skid resistance in wet weather must be avoided. This may include; rounded pebbles in exposed aggregate driveways, silicon sealant paint and glossy or ceramic tiles.

Existing Footpaths

D15.10.15. If an existing footpath location and height conflicts with the driveway design standards, additional footpath may need to be removed and reconstructed to enable an acceptable transition to the newly built driveway.

D15.10.16. If the existing footpath within the road verge is required to be removed to facilitate driveway or access construction, cutting of the footpath is to be undertaken using a Diamond Blade saw.

D15.10.17. Any reconstructed footpath transition is to be constructed with the Specification for *CYCLEWAY AND PATHWAY DESIGN D9.*

Services and Markers

D15.10.18. The Local Government Authority and other utility providers are likely to have service pipes and cables under the footpath where the driveway will be placed. Accordingly, the driveway constructor must undertake 'Before You Dig Australia' and locate the existing services in the road reserve in advance of driveway construction.

D15.10.19. Any necessary alteration to services including but not limited to water, sewer, gas, electricity, telecommunication and stormwater to facilitate the driveway construction is to be coordinated by the applicant with the relevant authority for approval prior to any alterations being undertaken. All associated costs will be borne by the applicant/property owner.

D15.10.20. Utility providers may have constructed access points such as surface or subsurface pits, valves or connections which, if covered by concrete or other material during construction of a driveway, may prevent future access for maintenance work. Accordingly, the driveway must be located to avoid construction over these points.

D15.10.21. Where kerb is cut during the construction of a driveway, the contractor must be aware of the possibility of service indicator (brass disk) markers on the kerb. These markers may designate a conduit or location of a fire hydrant (painted marker). If these markers are to be removed the Local Government Authority must be contacted to relocate the markers before they are removed.

D15.10.22. During the construction of a driveway, the contractor must be aware of the possibility of service indicators (posts/star pickets) including survey markers. These markers may designate a service location, conduit, pit or survey reference. If these markers are to be removed the relevant service provider/authority must be contacted to relocate the markers before they are removed. All associated costs will be borne by the applicant/property owner.

Signs and Pavement Markings

D15.10.23. Signs are to be provided on site to clearly indicate the existence and location of access points to car parking areas where:

I. Parking areas are located at the rear of a development,

II. Access to the car parking area is not from the main frontage road,

III. Visitor parking is provided for multi-unit residential developments and is not visible from the frontage road or access driveway and where ingress/egress is via one-way driveways.

D15.10.24. Where developments are expected to generate vehicular traffic movements during hours of darkness, self - illuminated and/or reflectorised signs and pavement marking complying with current state or national standards are to be provided.

D15.10.25. All existing signs and pavement markings are to be maintained and replaced such that they retain their function and remain in accordance with state or national standards and rules.

D15.10.26. All new traffic/parking control signs and pavement markings are to conform to the requirements of the current Manual of Uniform Traffic Control Devices (MUTCD).

D15.10.27. Direction, regulatory, warning and information signs, and pavement markings are to be erected on site to control traffic movements and driver behaviour and to warn of any potential safety hazards. Signage also includes pavement markings.

Expansion Joints

D15.10.28. Expansion joints are to be provided at intersecting points where the driveway joins the footpath.

Isolation Joints

D15.10.29. Isolation joints must be provided where a pavement adjoins a building or other rigid structure such as drainage pit. Isolation joints must allow freedom of movement between the slab and the structure and resist the entrance of foreign matter.

Kerb Construction

D15.10.30. When constructing a driveway, the kerb and channel shall be cut down in accordance with CMDG Standard Drawings with a diamond saw.

D15.10.31. The kerb can be cut down between 50mm and 100mm. The outline of the driveway shall be cut by a professional concrete cutter with a diamond saw.

D15.10.32. The Local Government Authority will reject an uncut kerb broken out by other means e.g. sledgehammer, and may replace the damaged kerb and channel at the expense of the property owner.

D15.10.33. The level of the top of the kerb before removal must be achieved within 1.2 metres of the driveway to maintain flow of stormwater and avoid potential property flooding.

D15.10.34. Kerbs, ropes, edging etc. must not be placed on the side of a driveway or footpath as they present a tripping hazard.

D15.11. BATTLE-AXE LOTS AND SHARED DRIVEWAY ARRANGEMENTS

D15.11.01. Table D15.11.01 indicates specific requirements for battle-axe lots

Table D15.11.1 - Vehicle Access for Battle-axe Lots – Urban

Local Government Authority	*1 Lot Access*	*Double Lot Access*	*Multiple Dwelling*
Banana Shire	5m Lane Width 3m Sealed Carriageway	6m Lane Width 4m Sealed Carriageway	5.5m wide access 100mm thick reinforced concrete driveway
Central Highlands Regional	5m Lane Width 3m Sealed Carriageway	5m Lane Width 4m Sealed Carriageway	8m lane Width 6m Sealed Carriageway
Gladstone Regional	5m Access Handle Width, 3m Sealed Carriageway	Prohibited Refer note e)	5.5m Sealed Carriageway OR Applicable Commercial Driveway for Nominated Design Vehicle (Whichever is larger)
Isaac Regional	5m Lane Width 3m Sealed Carriageway	6m Lane Width 4m Sealed Carriageway	5.5m wide access 100mm thick reinforced concrete driveway
Livingstone Shire	5m Lane Width 3m Sealed Carriageway	6m Lane Width 4m Sealed Carriageway	5.5m wide access 100mm thick reinforced concrete driveway
Maranoa Regional	5m Lane Width 3m Sealed Carriageway	6m Lane Width 4m Sealed Carriageway	N/A
Rockhampton Regional	5m Lane Width 3m Sealed Carriageway	Prohibited Refer note e)	7.5m lane width, 5.5 wide access, and 125mm thick reinforced concrete driveway

Note:

a) Planning scheme requirements will override these requirements where such policies exist.

b) All dimensions are desirable minimum requirements.

c) *Multiple dwelling access requirements to be considered on application.*

d) *All lots are provided with a frontage that can wholly accommodate the relevant driveway without extending in front of another lot*

e) *Prohibited Double Lot Access - The Local Government Authority does not allow multiple lots (2 or more) to utilise a single driveway, whether the shared driveway is proposed to be located within a battle-axe handle or not. Whilst* Local Government Authority *acknowledges that there are existing arrangements where multiple lots share a single driveway, no additional lots will be permitted to gain access to these existing shared driveway arrangements. Reconfiguration of existing lots will encourage alternate access arrangements to be explored that do not include the use of an existing or proposed shared access*

D15.12. RURAL AND RURAL RESIDENTIAL PROPERTY ACCESS

Rural Residential Driveways

D15.12.01. This D15.12 applies to access to rural or other land uses where there is no kerb and channel along the frontage of the property. This excludes industrial or commercial uses unless referenced from another standard. It does not override development conditions imposed for a particular development.

D15.12.02. This D15.12 is to be read in conjunction with D15.05. Where the provisions of D15.12 conflict with those of D15.05, the provisions of this section shall prevail.

D15.12.03. If a developer chooses to use kerb and channel along the frontage of the properties within rural residential developments, driveways are required to comply with D15.07 URBAN RESIDENTIAL DRIVEWAYS.

D15.12.04. Rural residential area accesses will have one access per lot other than in the case of corner lots where an access on the second frontage may be permitted. Any additional accesses on any one lot will be at the discretion of the Local Government Authority.

D15.12.05. Driveways must not be located within 20 metres of the centre point of an intersection or roundabout unless otherwise approved by the Local Government Authority.

Driveway Design

D15.12.06. Accesses to rural allotments must be constructed in accordance with CMDG Standard Drawings. The driveway must be located such that the sight distance requirements from the CMDG Standard Drawings are satisfied using the visibility triangle (Sight Line).

D15.12.07. If CMDG Standard Drawings are not being used, then the applicant must submit an alternate plan including a long section and cross section showing distances and heights with respect to the required offsets to services (where services exist in the footpath) to the Local Government Authority for approval. The driveway design shall be submitted for approval prior to the issue of a building approval over the site. Where the alternate design differs significantly from CMDG Standard Drawings, the alternate design will require signoff by a Registered Professional Engineer of Queensland (RPEQ) and all associated costs are to be borne by the applicant. The design must demonstrate unrestricted ingress and egress of a standard loaded passenger vehicle.

D15.12.08. The driveway must be constructed wide enough to accommodate the swept path of the largest vehicle to likely use the driveway, so as to prevent rutting over the driveway edges or drop off over pipe.

Drainage Considerations

D15.12.09. Where access is required across a road side drain, in most instances, a pre-cast reinforced concrete pipe must be installed including sloping pre-cast headwalls at each end. This work must be carried out by a civil contractor with the relevant experience and equipment.

D15.12.10. The size of the pipe to be installed depends on the shape of the drain and the size of the catchment and stormwater flow in the drain. In some instances, multiple pipes or box culverts may be required to take the stormwater flow in the table drain. An RPEQ approved pipe design is to be submitted to the Local Government Authority for consideration.

D15.12.11. The minimum size pipe shall be a 375mm diameter reinforced concrete "Class 3" pipe with a minimum cover of 300mm. However, a Class 2 pipe may be approved should 450mm cover be achieved. Pipe joins are to be externally

wrapped prior to backfill with an approved product.

D15.12.12. The pipe may be placed towards the property if suitable to shorten the length of the pipe required; provided that the roadside drain is relocated properly with all associated costs to be borne by the applicant and utility services are not interfered with.

D15.12.13. Stormwater pipes must not be located over water mains, sewers, or any other services, and should avoid alignments for such services in areas capable of future connection to these services. The provision of sloping headwalls is preferred to avoid affecting other services.

D15.12.14. When the table drain has inadequate depth and it is impractical to fit a pipe even after re-grading works, "Flat Terrain Crossing" (a concrete floodway) is to be provided through the table drain. The floodway must be constructed in accordance with CMDG Standard Drawings.

D15.12.15. The shape of the floodway must be such that a Local Government Authority grader is able to traverse it during maintenance operations. Advice must be sought from the Local Government Authority regarding the level of the slab with respect to the table drain before construction.

D15.12.16. Guideposts shall be placed at either end of the pipe or slab to denote the location of the driveway and warn traffic of a possible hazard.

D15.12.17. Driveway construction must not cause flooding of adjoining lands as a result of diverting or backing up the water in the road reserve.

D15.12.18. The driveway must not force water out on to the travel lane of the road. Thus, the surface of the driveway must not be higher than the shoulder of the road.

D15.12.19. Topsoil, including any vegetation matter, must be removed from the ground where the driveway is to be formed, and where applicable, replaced with suitable gravel materials specified in design.

D15.12.20. The quality and compaction of the gravel driveway must be such that the surface is compacted tight with adequate strength for heavy vehicle use. Without undertaking laboratory testing, the following are basic indications of adequate gravel driveway construction;

- The gravel cannot be kicked out with the heel of a shoe
- A car or truck must not indent the surface of the gravel
- The ground under the gravel is not spongy or showing sign of movement when a vehicle drives over it

Surface Treatments

D15.12.21. The driveway surface is to be non-slip and suitable for the type of traffic that will use the facility. A gravel driveway surface will not be permitted if the adjoining road is bitumen or asphalt surface. The driveway surface is to be constructed to be similar to the existing road surface unless otherwise approved.