Rylstone Shire Council
Development Control Plan
Rural Road and Access Standards

Contents

Part 1 - Introduction

1.1 Application

This plan applies to all development in the rural areas of the Shire of Rylstone.

The standard is applicable to roads to be constructed to provide access to new subdivisions or other development in Rylstone Shire, and / or upgrading of existing roads, to suit traffic generated from proposed development.

1.2 Objectives

- To ensure new development within the Shire is adequately serviced by roads and that the standard of road access is appropriate to the development.
- To encourage development within the Shire.
- To provide clear, concise guidelines to developers regarding Council requirements for rural access.
- To ensure that an appropriate and satisfactory standard of access is provided to the boundary of the property and to building envelopes within the property.
- To promote effective and efficient access to rural development for emergency services.

Part 2 - Types of Roads

Private Roads Private roads are where the access is owned privately or located on private property and include right of ways, access to building envelopes traversing private property and roads created pursuant to the Community Land Development Act 1989 and the Community Management Act 1989.	**Public Roads** Public roads are those in the ownership or care and management of Rylstone Council or will be transferred to Rylstone Council. These roads are for use of the general public and service a number of allotments and developments.
Type 1 To be applied to: • Rural subdivision where lot sizes exceed 40 ha. for 1 to 10 lots • Access to building envelopes • Access via right of way	**Type 3** To be applied to: • Minor rural subdivision of less than 5 lots • Rural development generating less than 25 vehicles per day.
Type 2 To be applied to : • Rural subdivisions where lot sizes exceed 40 ha. and create more than 10 lots • Other development likely to generate more than 50 vehicles per day	**Type 4** To be applied to: • Rural subdivision creating in excess of 5 lots • Rural development generating more than 25 vehicles per day
	Type 5 To be applied to Rural residential development.
	Type 6 To be applied when a public road currently maintained by Council need to be upgraded to cater for the increased traffic that is generated by the development.

The design and construction details for each type of road are contained within Part 3 and 4 of this DCP.

2.1 Legal and Practical Assess

The provision of access to a site and \ or a building envelope must be provided in a manner where the legal and practical or physical access coincide. For example, in gaining access to a dwelling the access road must be constructed within the boundaries of a legally created right of way or road reserve where that access passes through an adjoining lot.

2.2 Maintenance of Private Roads

Council will require provisions to be included within a Section 88B instrument created pursuant to the Conveyancing Act, 1919, for the maintenance of private roads, by the owner /s.

2.3 Crown Road Reserves

It is Council's policy not to acquire any further road assets due to its current financial commitment to maintenance of the existing road network. Where provisions of access is within a crown road reserve it will generally be required in accordance with a Type 1 or Type 2 road. In exceptional circumstances, where it is required that the road be dedicated to Council, a Type 3, 4 or 5 road will be required in accordance with the development type and traffic generation.

Part 3 - Design and Construction

3.1 General

3.1.1 New Roads.

The developer is responsible for the design and construction of all works associated with road works as detailed below.

A Construction certificate application should be submitted to Council prior to any work commencing. The application should be accompanied by certified engineering specifications and drawings.

In the case of public roads, Council will only formally accept roadworks where a period of 12 months have expired after certified practical completion of the work in accordance with the specification and current best practice. The developer will be responsible for the maintenance of the work during this period and the work is certified as being to a satisfactory standard. Council will require a maintenance bond equal to 20% of Council estimated construction cost of the works prior to the release of the plan of subdivision or certificate of compliance.

3.1.2 Plans

The Developer shall present two copies of all engineering working drawings & specifications to Council together with a lodgement fee as detailed in Council's current Management Plan

Design plans shall be definitive, and clearly set out, in order to present the design concept in such as way that the project can be understood.

All drawings shall be dated & numbered, with revision numbers as necessary. Drawings may be on A1 to A4 sheets as necessary.

3.1.3 Design certification.

Any road design shall be certified by a civil engineer eligible for membership of the Institution of Engineers. Australia, or a suitably experienced NSW Registered Surveyor, both requiring Professional Indemnity Insurance of a minimum of $5 million.

Each sheet of the plans and specifications shall signed and dated.

Details of drainage calculations and calculations of any structural items and geotechnical data shall be supplied with drawings.

3.2 General Technical Standards

3.2.1 Traffic Volumes

Traffic volumes applicable to road design will be based on additional traffic movements per day, per lot created, as outlined below for the whole road system servicing the development. If the existing feeder road system to the development is inadequate, then the developer will be requested to contribute to the upgrading of the feeder road system.

- Rural development (dwellings & broad acre farms) less than 40 ha - 5 vehicles per lot per day
- Rural development (dwellings & broad acre farms) more than 40 ha - 5 vehicles per lot per day
- Rural retreat development 5 vehicles per lot per day
- Rural residential development 8 vehicles per lot per day
- Industrial, commercial or other development will be assessed on the basis of similar developments in this Shire, or RTA Guidelines for Traffic Generating Development.

3.2.2 Design Guidelines

- Widening will be required on curves of small radius.
- Design speeds for horizontal & vertical alignment are dependent upon length of the road, but will generally range from 30km/h to 60km/h for dead end roads and 80km/h for through roads
- Minimum Longitudinal Grade. 0.5%
- Maximum Longitudinal Grade 20%
- Maximum super elevation on curves 7%

- Plan transition for horizontal curves will not be necessary for design speeds of 60km/h or lower.

- Vertical curves shall be simple parabolas and shall be used on all changes of grade exceeding 1 %.

- Length of crest vertical curves for stopping sight distance shall conform to RTA road design guide. Eye height 1.2m, object height 0.25m, reaction time 1.5 seconds.

- Sag vertical curves shall conform to RTA road design guide.

- Junctions of roads should be located at a safe distance from a crest.

- Required intersection treatment shall be generally in accordance with RTA road design guidelines.

3.2.3 Drainage

Drainage design to one in 10 years flooding frequency, for culverts under road, except where a major drainage structure is required. On large developments detention basins may be required, should Council deem it necessary.

The rational method, as specified in Chapter 14, Australian Rainfall & Runoff, shall be used for calculations, or similar method approved by Council. Allowance shall be made for the catchment to be fully developed. Land use shall be based on current available zoning information, or proposed future zonings, where applicable.

Relief Culverts to be located at appropriate intervals along any side hill cut.

- At maximum 200m spacing for 0 to 3%grade.
- At maximum 100m spacing for 3 to 5%grade.
- At maximum 50m spacing for 5 to10%grade.

Erosion and siltation plans [short term and long term treatment] shall be submitted with design

Scour protection of roadside drainage and table drains is required. The level of protection is dependent on flow rate and gradient and soil type, but may include concrete lining, turfing, rock pitching, grass seeding, jute mats, and sprayed bitumen. Investigation should be carried out at the design stage and shown on plans.

3.2.4 Pavement Design

Pavement design for roads to be Council maintained, to be carried out by a Geotechnical Consultant, and results supplied to Council, or a determination of approved gravel type required, based on local knowledge, be obtained from Council engineering staff in

writing on Council letter head. Gravel to be obtained only from Council approved Gravel Pits.

3.2.5 Minimum plan Requirements.

[1] Lot plan of subdivision prepared by a Registered Surveyor.

[2] Plan of road showing chainages at maximum 30m intervals and curve radii, and contours of surrounding land, at least 30m each side of road centreline, at maximum10m intervals, and culvert sizes and locations, at a reduction ratio [maximum] of 1 to 2000.

[3] Longitudinal section showing chainages and vertical curves and gradients.

[4] Cross sections at maximum 30m intervals showing a minimum of 30m of terrain each side of centreline. To show design and existing level at pavement centreline and edge, edge of formation, invert of table drain, top/toe of batter, distance of batter top/toe from centreline, any pavement/formation widening.

[5] Catchment plan for culvert sizing & drainage calculations.

[6] Longitudinal sections of culverts, showing reduced levels of road, and invert levels of inlet & outlet.

[7] Environmental Management Plan, showing details of all measures to minimise degradation of the environment, including, but not limited to

- Soil & Water Management
- Erosion Minimisation Measures
- Noise Abatement

[8]Typical cross section required are to be as per the standards shown on attached Rural Road Development Standard Drawings Type 1 to 6.

Part 4

Rylstone Shire Council

DEVELOPMENT CONTROL PLAN

ROAD CONSTRUCTION STANDARDS

Type 1 Road

General Refer Typical Cross Section Type 1 Road.

Road Reserve Width. To be 20m

Formation /Clearing. 4m from road centreline where no earthworks, 1m from catch drain on cuts, 1m from toe of batter on fills.

Pavement. Width shall be 3.6 m.

Passing Bays. These are to be provided at 300m maximum intervals, of a length of 30m, to be widened to a total width of 6m to allow trucks to pass.

Turning Circle. These are to be provided at the end of each dead end road, of an outside diameter of 18m. Maximum crossfall 6%.

Property Entrances. To be located where adequate sight distance available (minimum 7 to 10 seconds where practicable). Where the entrance crosses a table drain it shall be piped with minimum 3 x 2.4m lengths of minimum 300 diameter reinforced concrete pipe, and precast concrete headwalls. Gravelling, if applicable to the access road, shall continue across the entrance. The splayed entrance gates shall be set back away from the road reserve a distance of 9m, to allow a vehicle to get off the road, before opening the gate.

Intersections Where a new public road is proposed to intersect with an existing public road, an intersection treatment as required in RTA road design guide, appropriate for the volume of traffic, shall be required.

Batters. To be as typical cross section drawing, or flatter if necessary.

Alignment Standard. To be minimum 30km/h or horizontal curve radius not less than 20m. Superelevation maximum 5%.

Gravelling. Approved gravel shall be required on all areas of the road, at a compacted thickness of minimum of 100mm, and width of 3.6m. Where suitable natural material is found in situ, this requirement will, at the discretion of Council, be waived, considering that the Community Title owners will be responsible for future maintenance.

Table Drains. In flatter country will be necessary both sides of formation. In the case of the road alignment being on a naturally straight graded side slope, not exceeding 6%, 100mm of imported gravel and no table drains may be the best solution.

Mitre drains. Shall be provided at minimum 50 metre spacing, to reduce volume of water in table drains.

Disturbed Areas. All areas where pavement works or earthworks are proposed, shall have topsoil removed prior to works, and respread on disturbed areas, on completion.

Compaction Requirements. Areas to be filled are to be free from topsoil and vegetation, and tyned to receive fill. Approved material from excavations is to be used, spread in 300mm layers, watered as necessary, and compacted. Gravel is to be spread and watered, so that upon compaction, there is 100mm thickness. Material deemed unsuitable for filling is to be spread on batters.

Rylstone Shire Council

DEVELOPMENT CONTROL PLAN
ROAD CONSTRUCTION STANDARDS

Type 2 Road

General Refer Typical Cross Section Type 2 Road.

Road Reserve Width. To be 20m

Formation / Clearing. 4m from road centreline where no earthworks, 1m from catch drain on cuts, 1m from toe of batter on fills.

Pavement Width shall be 3.6metres, 5% crossfall

Turning Circle. These are to be provided at the end of each dead end road, of an outside diameter of 18m. Maximum crossfall 6%.

Property Entrances. To be located where adequate sight distance available (minimum 7 to 10 seconds where practicable). Where the entrance crosses a table drain it shall be piped with minimum 3 x 2.4m lengths of minimum 450 diameter reinforced concrete pipe, and precast concrete headwalls. Gravelling shall continue across the entrance. The splayed entrance gates shall be set back away from the road reserve a distance of 9m, to allow a vehicle to get off the road, before opening the gate.

Intersections. Where a new public road is proposed to intersect with an existing public road, an intersection treatment as required in RTA road design guide, appropriate for the volume of traffic, shall be required.

Batters. To be as typical cross section drawing, or flatter if necessary.

Alignment Standard. To be minimum 50km/h or horizontal curve radius not less than 50m. Superelevation maximum 7%.

Gravelling. Approved gravel shall be required on all areas of the road, at a compacted thickness of minimum of 100mm, and width of 3.6m.

Table Drains. In flatter country will be necessary both sides of formation.

Mitre drains. Shall be provided at minimum 50 metre spacing, to reduce volume of water in table drains.

Disturbed Areas. All areas where pavement works or earthworks are proposed, shall have topsoil removed prior to works, and respread on disturbed areas, on completion.

Compaction Requirements. Areas to be filled are to be free from topsoil and vegetation, and tyned to receive fill. Approved material from excavations is to be used, spread in 300mm layers, watered as necessary, and compacted. Gravel is to be spread and watered, so that upon compaction, there is 100mm thickness. Material deemed unsuitable for filling is to be spread on batters.

Rylstone Shire Council

DEVELOPMENT CONTROL PLAN
ROAD CONSTRUCTION STANDARDS

Type 3 Road

General Refer Typical Cross Section Type 3 Road.

Road Reserve Width. To be 20m

Formation / Clearing. 4m from road centreline where no earthworks, 1m from catch drain on cuts, 1m from toe of batter on fills.

Pavement Width shall be 4.5 metres with 5% crossfall.

Passing Bays. These are to be provided at 300m maximum intervals, of a length of 30m, to be widened to a total pavement width of 6m to allow vehicles to pass in a safe and effective manner.

Turning Circle. These are to be provided at the end of each dead end road, of an outside diameter of 18m. Maximum crossfall 6%.

Property Entrances. To be located where adequate sight distance available (minimum 7 to 10 seconds). Where the entrance crosses a table drain it shall be piped with minimum 3 x 2.4m lengths of minimum 450 diameter reinforced concrete pipe, and precast concrete headwalls. Gravelling shall continue across the entrance. The splayed entrance gates shall be set back away from the road reserve a distance of 9m, to allow a vehicle to get off the road, before opening the gate.

Intersections Where a new public road is proposed to intersect with an existing public road, an intersection treatment as required in RTA road design guide, appropriate for the volume of traffic, shall be required.

Batters. To be as typical cross section drawing, or flatter if necessary.

Alignment Standard. To be minimum 60km/h or horizontal curve radius not less than 90m. Superelevation maximum 7%.

Gravelling. Approved gravel shall be required on all areas of the road, at a compacted thickness of minimum of 100mm, and width shown on drawing.

Table Drains. In flatter country will be necessary both sides of formation. In the case of the road alignment being on a naturally straight graded ridge, 100mm of imported gravel and no table drains may be the best solution.

Mitre drains. Shall be provided at minimum 50 metre spacing, to reduce volume of water in table drains.

Disturbed Areas. All areas where pavement works or earthworks are proposed, shall have topsoil removed prior to works, and respread on disturbed areas, on completion.

Compaction Requirements. Areas to be filled are to be free from topsoil and vegetation, and tyned to receive fill. Approved material from excavations is to be used, spread in 300mm layers, watered as necessary, and compacted . Gravel is to be spread and watered, so that upon compaction, there is 100mm thickness. Material deemed unsuitable for filling is to be spread on batters.

Signposting, Road Furniture. Approved Signs, Guardrail, & Guideposts shall be erected as required.

Rylstone Shire Council

DEVELOPMENT CONTROL PLAN
ROAD CONSTRUCTION STANDARDS

Type 4 Road

General Refer Typical Cross Section Type 4 Road.

Road Reserve Width. To be 20m

Formation / Clearing. 4m from road centreline where no earthworks, 1m from catch drain on cuts, 1m from toe of batter on fills.

Pavement Width shall be 6m with 5% crossfall

Turning Circle. These are to be provided at the end of each dead end road, of an outside diameter of 18m. Maximum crossfall 6%.

Property Entrances. To be located where adequate sight distance available. Where the entrance crosses a table drain it shall be piped with minimum 3 x 2.4m lengths of minimum 450 diameter reinforced concrete pipe, and precast concrete headwalls. Gravelling shall continue across the entrance. The entrance gates shall be set back away from the road reserve a distance of 9m, to allow a vehicle to get off the road, before opening the gate.

Intersections Where a new public road is proposed to intersect with an existing public road, an intersection treatment as required in RTA road design guide, appropriate for the volume of traffic, shall be required.

Batters. To be as typical cross section drawing, or flatter if necessary.

Alignment Standard. To be minimum 60km/h or horizontal curve radius not less than 90m. Superelevation maximum 7%.

Gravelling. Approved gravel shall be required on all areas of the road, at a compacted thickness of minimum of 100mm, and width shown on drawing.

Table Drains. In flatter country will be necessary both sides of formation. In the case of the road alignment being on a naturally straight graded ridge, 100mm of imported gravel and no table drains may be the best solution.

Mitre drains. Shall be provided at minimum 50 metre spacing, to reduce volume of water in table drains.

Disturbed Areas. All areas where pavement works or earthworks are proposed, shall have topsoil removed prior to works, and respread on disturbed areas, on completion.

Compaction Requirements. Areas to be filled are to be free from topsoil and vegetation, and tyned to receive fill. Approved material from excavations is to be used, spread in 300mm layers, watered as necessary, and compacted . Gravel is to be spread and watered, so that upon compaction, there is 100mm thickness. Material deemed unsuitable for filling is to be spread on batters.

Signposting, Road Furniture. Approved Signs, Guardrail, & Guideposts shall be erected as required.

Rylstone Shire Council

DEVELOPMENT CONTROL PLAN
ROAD CONSTRUCTION STANDARDS

Type 5 Road

General Refer Typical Cross Section Type 5 Road.

Road Reserve Width. To be 20m

Formation / Clearing. 4m from road centreline where no earthworks, 1m from catch drain on cuts, 1m from toe of batter on fills.

Pavement Minimum width of 6 m and 3 % crossfall on the seal.

Turning Circle. These are to be provided at the end of each dead end road, of an outside diameter of 18m. Maximum crossfall 6%.

Property Entrances. To be located where adequate sight distance available (minimum 7 to 10 seconds). Where the entrance crosses a table drain it shall be piped with minimum 3 x 2.4m lengths of minimum 450 diameter reinforced concrete pipe, and precast concrete headwalls. Gravelling shall continue across the entrance. The splayed entrance gates shall be set back away from the road reserve a distance of 9m, to allow a vehicle to get off the road, before opening the gate.

Intersections Where a new public road is proposed to intersect with an existing public road, an intersection treatment as required in RTA road design guide, appropriate for the volume of traffic, shall be required.

Batters. To be as typical cross section drawing, or flatter if necessary.

Alignment Standard. To be minimum 60km/h or horizontal curve radius not less than 90m. Superelevation maximum 7%.

Gravelling. Approved gravel shall be required on all areas of the road, at a compacted thickness of minimum of 100mm, and width shown on drawing.

Table Drains. In flatter country will be necessary both sides of formation.

Mitre drains. Shall be provided at minimum 50 metre spacing, to reduce volume of water in table drains.

Disturbed Areas. All areas where pavement works or earthworks are proposed, shall have topsoil removed prior to works, and respread on disturbed areas, on completion.

Compaction Requirements. Areas to be filled are to be free from topsoil and vegetation, and tyned to receive fill. Approved material from excavations is to be used, spread in 300mm layers, watered as necessary, and compacted. Gravel is to be spread and watered, so that upon compaction, there is 100mm thickness. Material deemed unsuitable for filling is to be spread on batters.

Signposting, Road Furniture. Approved Signs, Guardrail, & Guideposts shall be erected as required.

Rylstone Shire Council

DEVELOPMENT CONTROL PLAN
ROAD CONSTRUCTION STANDARDS
Type 6 Road

General To be considered having regard to additional traffic generated and the current standard of the road.

You are advised to consult the Council's Road Engineer regarding road construction standard.

In the interest of public safety and convenience a monetary levy of $2000.00 towards the upgrade of the local roads in the vicinity of the development shall be paid to the Council prior to the issue of the subdivision certificate. The additional road traffic generation arising from the creation of the new allotment is estimated at 5 traffic movements per day. The levy is subject to the Consumer Price Index on a yearly bases.