

Queensland



IPWEA

INSTITUTE OF PUBLIC WORKS
ENGINEERING AUSTRALASIA

STANDARD DRAWINGS

HOMEOWNER





STANDARD DRAWINGS | HOMEOWNER

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Queensland (IPWEAQ)

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DISCLAIMER

Please note that these Standards have been developed by councils in the south of the state and may not be applicable in other regions of Queensland. The Standards Working Group is committed to collaborating with regional councils to incorporate other current standards in the suite of Standard Drawings. If you would like to participate in this project, please contact Ross Guppy, Director Technical Products, Ross.Guppy@ipweaq.com.

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Introduction

In 1995, the Institute of Public Works Engineering Australasia, Queensland (IPWEAQ) compiled a set of 96 drawings applicable to development and local authority works in Queensland. The drawings were revised in 1997 and reviewed and updated multiple times since by a Working Group comprising representatives from various councils. The Standard Drawings – Homeowner were most recently reviewed in 2014.

Each drawing reflects the latest technology and most up-to-date specifications and standards for modern land developments. The drawings are referenced in a significant number of council planning schemes and are an important technical reference for those working on public works projects in Queensland. Drawings offer councils, planners, developers and engineers, efficiencies with time and costs.

IPWEAQ wishes to thank the joint consultative efforts of the original steering committee and a 2006 Technical Reference Group including representatives from:

- The Department of Primary Industries – Water Resources
- Civil Contractors Federation
- Urban Development Institute of Australia
- Brisbane City Council
- Association of Consulting Engineers Australia
- Moreton Bay Shire Council (and predecessors)
- Sunshine Coast Council (and predecessors)
- Logan City Council
- And consultative designer, Kai Pelgrave

And we are indebted to the ongoing efforts of our dedicated Working Group chaired by Paul Paszek of Moreton Bay Regional Council:

- Brisbane City Council: Dallas Lee
- City of Gold Coast: Peter Crutch, Dean Ostrofski
- City of Ipswich: Raad Jarjees, Robert Young
- Moreton Bay Regional Council: Paul Paszek (Chair), Andrew Golkowski, Ruth Holliday
- Noosa Council: Craig Eldrige
- Redland City Council: Bradley Salton, Len Purdie
- Sunshine Coast Council: Gary Schulz, Darren Meredith
- TMR: Mark McDonald, Kevin R Mahoney
- Toowoomba Regional Council: Gary Natalier



Leigh Cunningham
CEO, IPWEAQ

ALLOWABLE NUMBER AND WIDTH OF RESIDENTIAL VEHICLE CROSSINGS

	TYPE	DESCRIPTION	ALLOWABLE No. OF CROSSINGS	max WIDTH AT KERB INVERT (W1)	W2	max WIDTH AT PROPERTY BOUNDARY (W3)	SPECIAL CONDITIONS APPLICABLE (All vehicle crossings are subject to relevant council approval.)
SINGLE HOUSE	1	Single garage	1	4.0m	3.0m	3.0m	
	2	Double garage or more	1	4.0m	3.0m	5.0m	
	3	Double garage or more	2	4.0m	3.0m	5.0m	1. min 40.0m frontage; 2. min 12.0m between two crossings.
	4	Double garage or carport on property boundary	1	5.0m	4.0m	6.0m	Subject to carport/garage approval.
DUPLEX	5	Duplex with frontage 20.0m or less	1	5.0m	4.0m	6.0m	
	6	Duplex with frontage greater than 20.0m	2	5.0m	4.0m	5.0m	min 7.0m between crossings.

LEGEND

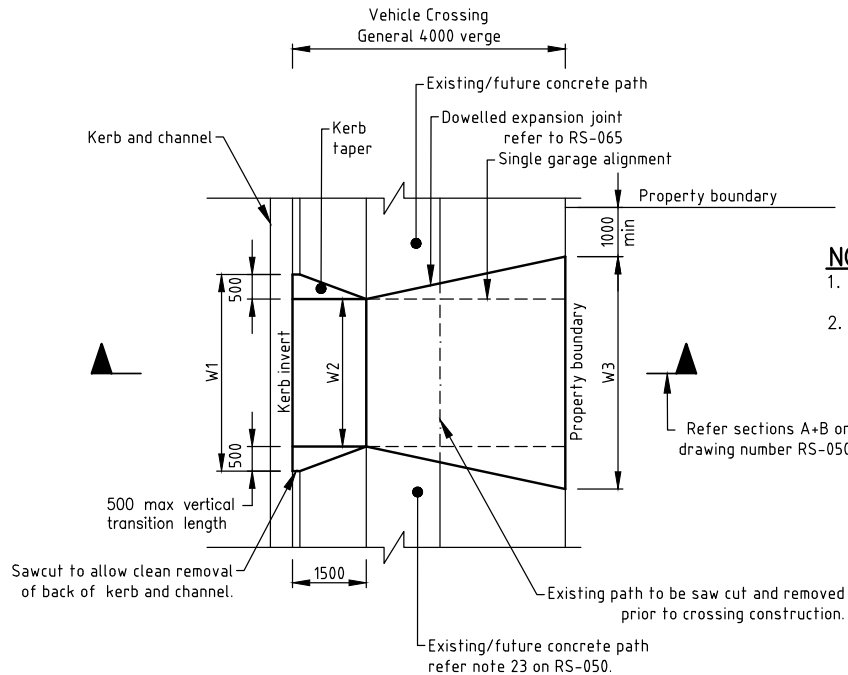
(VEHICLE CROSSING PROHIBITED LOCATIONS)

NKL nominal kerb line (face of kerb)

TP Tangent point on NKL

Prohibited locations shown in a heavy line, based on AS 2890.1

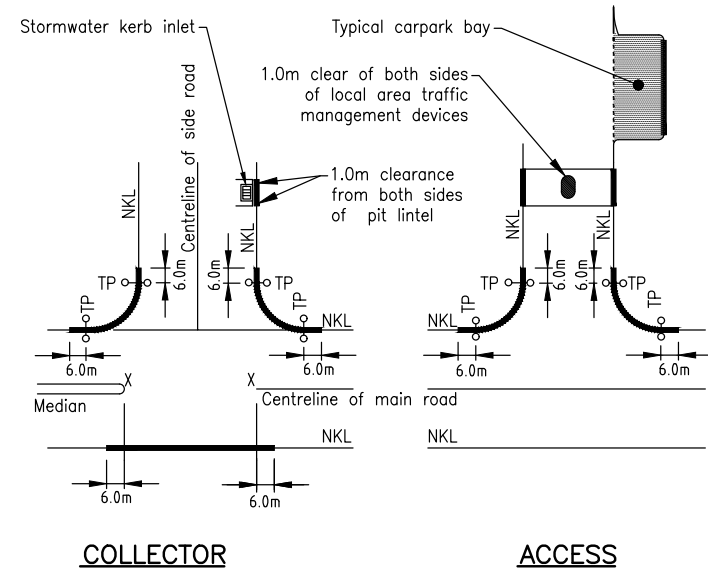
X The points marked 'X' are either at the median on a divided road, or at the intersection of the main road centreline and the prolongation of the side road NKL line on an undivided road.



NOTE:

- Services & road furniture will not be moved for Vehicle Crossings.
- This drawing to be read in conjunction with RS-050.

Refer sections A+B on drawing number RS-050



VEHICLE CROSSING PROHIBITED LOCATIONS

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BEFORE USE, the user shall confirm that the drawing has been adopted by the appropriate Council.

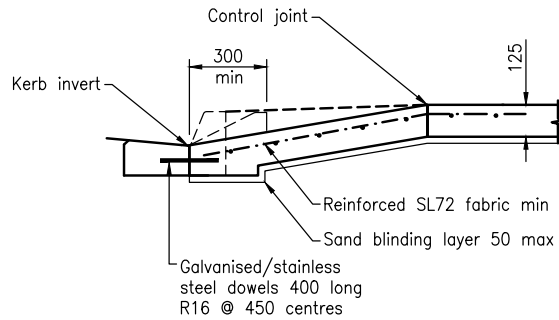
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B	06/14	Review	
A	10/12	ORIGINAL ISSUE	



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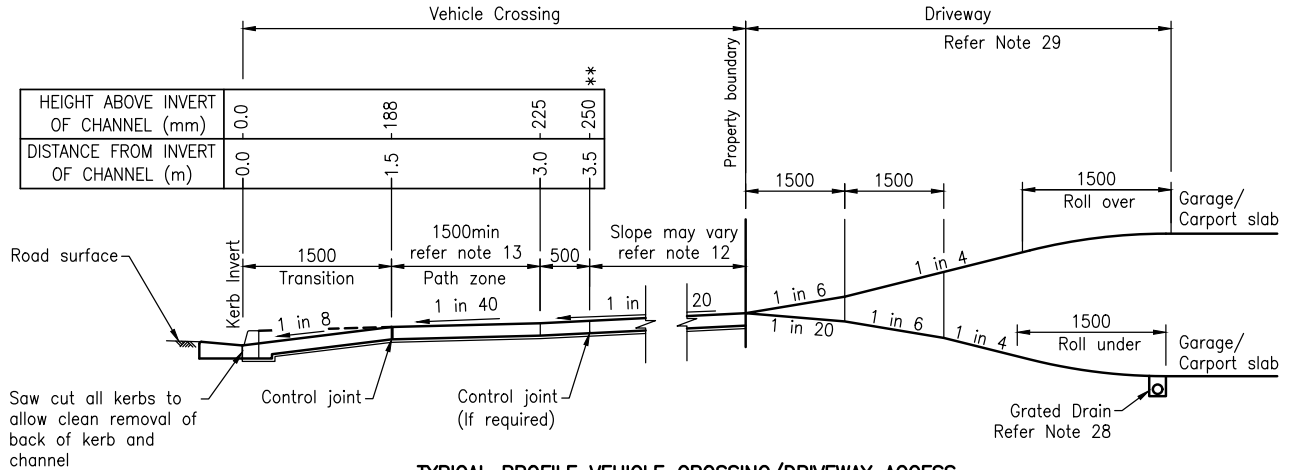
**VEHICLE CROSSING
RESIDENTIAL DRIVEWAYS
PLAN 1 OF 2**

RS-049



BREAKOUT TYPE SECTION A

Refer drawing RS-049



TYPICAL PROFILE VEHICLE CROSSING/DRIVEWAY ACCESS SECTION B

Refer drawing RS-049

NOTE:

- All appropriate permits must be obtained from relevant council, specifying crossing type, construction materials, location, levels, surface finishes and dimensions, prior to any excavation.
- Alternative materials for construction, other than reinforced concrete, refer to relevant council for approval.
- Crossing to be constructed square to the street alignment, wholly contained within the site frontage from invert of channel to property boundary.
- One access to be constructed per allotment unless otherwise approved by relevant Council.
- To reduce impact on available street parking, consideration is to be given to visitor's and neighbouring property's parking needs when selecting a crossing location.
- Crossing to be located clear of existing gully pits. where this cannot be achieved, the gully pit and pipework may be relocated at the property owner's expense, subject to approval of the relevant council.
- Crossing to be located clear of all service authority's fittings, manholes and pits. Subject to relevant Council approval, where this cannot be achieved, existing service pits are to be contained within the area of new driveway, pit surface to match approved driveway finished levels.
- Kerb adaptors and associated roofwater drainage to be located clear of crossings.
- Council will not relocate traffic islands or provide breaks in traffic islands to allow driveway access.
- For water sensitive urban design verges, the crossing is subject to relevant council design and approval.
- **Crossing must achieve a high point of 250mm above invert of kerb to ensure stormwater is contained within the road reserve as per requirement of Q.U.D.M. (Queensland Urban Drainage manual). This constraint may be varied upon the approval of the relevant Council.
- Under special circumstances Council may approve a rising grade of 1:6 max or falling grade of 1:20 min. Longitudinal grades along property boundary must allow for free drainage and pedestrian safety.
- Path zone width may vary to match existing concrete pathways and verge profiles. Path earthworks adjoining concrete must be well compacted.
- Earthworks cut and fill batters from edge of crossing or path to natural surface to be maximum grade at 1 in 10 and fully turfed prior to council inspection.
- Existing path to be longitudinally transitioned to new crossing at a maximum grade of 1 in 10.
- Plain concrete surfaces to be heavy broom finished.
- Decorative surfaces are subject to relevant council approval, where approved, to have a 5mm max depth variation in the finished surface profile. Exposed aggregate finish subject to relevant council approval due to environmental reasons.
- Expansion joints to be 10mm thick full depth closed cell cross linked polyethylene foam (85 - 150 kg/m), or 8.5mm thick bitumen impregnated compressed granulated corkboard, installation to manufacturers' instructions. Seal surface of joint with a suitable polyurethane sealant.

- Concrete surface tolerance to be, $\pm 5\text{mm}$ over 3 metre sections.
- Concrete to be minimum grade N32 in accordance with AS 1379 and AS 3600
- Concrete construction to comply with the requirements of AS 3600, concrete code.
- Reinforcement fabric to AS 4671-2001 steel reinforcing materials, 50 top and edge cover, lap fabric 250.
- Control joints are to be sealed with a low modulus self priming sealant to the manufacturers specification. refer RS-065.
- Formwork and reinforcement shall be in place and inspected and approved by the relevant council prior to placement of concrete.
- Maintenance of the crossings are the responsibility of the property owner.
- Drawing to be read in conjunction with RS-049.
- Cross fall of existing pavement adjacent to the crossing to be checked. If cross fall exceeds 3%, relevant Council will decide if crossing needs to be re-designed to ensure satisfactory clearance for vehicles.
- Construct grated drain to prevent water entering garage/carport slab.
- Driveways to be constructed in accordance with Queensland Development Code NMP 1.1 - Driveways (However, drawings RS-049 and RS-050 take precedence in the extent of any inconsistency).
- All surfaces subject to pedestrian traffic (including vehicle crossings) will meet the minimum pendulum or ramp recommendations constrained in Table 3B of Australian Standard Handbook HB 198.2014 - Guide to the specification and testing of slip resistance of Pedestrian Surfaces. Compliance with the recommendations to be verified by testing to either AS/NZS 4586:2013 - Slip Resistance Classification of New Pedestrian Surface Materials or, AS/NZS 4663:2013 - Slip Resistance measurement of existing Pedestrian Surfaces as appropriate. In both instances compliance to be demonstrated by applying Clause 5.3 - Means of Demonstrating Compliance of AS/NZS 4586:2013 - Slip Resistance Classification of New Pedestrian Surface materials. In general, the classification of a surfacing material or finish to be made on a worst case basis as determined by pendulum testing using both the Four S (Slider 96) and TRL (Slider 55) rubber sliders. Where additional test results are available (Oil-Wet Ramp, W/Barefoot Ramp) they will be taken into consideration. Only those test reports/certificates produced by an appropriately NATA accredited laboratory will be deemed acceptable for consideration.
- All Dimensions are in millimetres unless shown otherwise.

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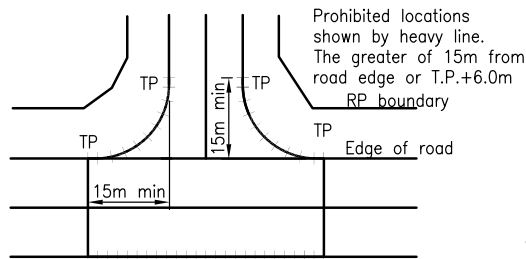
F	06/16	Review
E	06/14	Review
D	10/12	Review
C	06/10	Review
B	06/09	Review
A	03/08	ORIGINAL ISSUE
Rv	DATE	REVISIONS



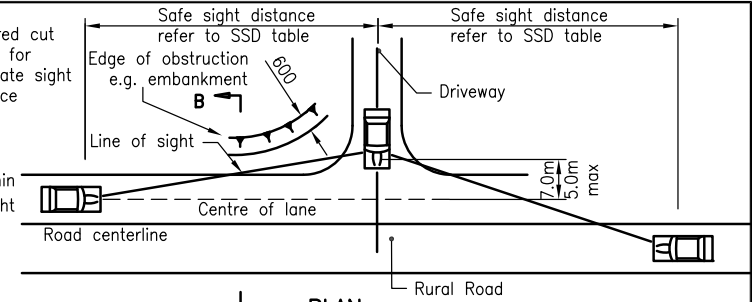
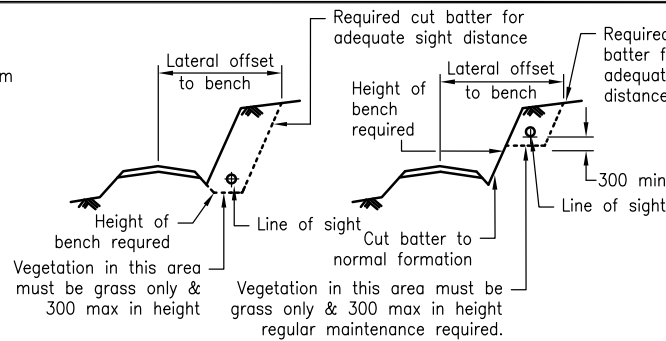
INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA
STANDARD DRAWINGS

VEHICLE CROSSINGS
RESIDENTIAL DRIVEWAYS
PLAN 2 OF 2

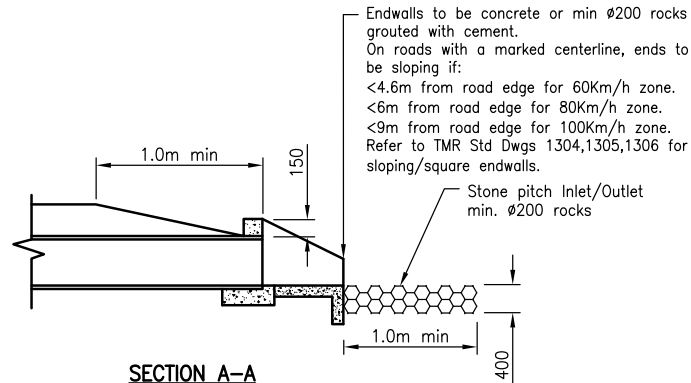
RS-050



PROHIBITED LOCATIONS AT INTERSECTIONS FOR RURAL DRIVEWAYS



PLAN



SECTION A-A

BENCHING DETAIL SECTION B-B

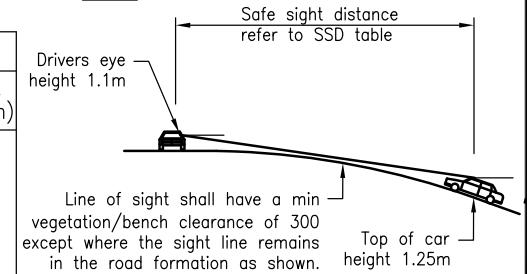
Catchment Area	PIPE SIZE	
	ARI 2	ARI 10
<0.5Ha	375	450
<1.0Ha	450	525
<1.5Ha	525	600
<2.5Ha	600	2/450
<3.0Ha	2/450	2/525
<4.0Ha	2/525	2/600
<5.0Ha	2/600	(2)

For average daily traffic <= 2000, ARI 2
For average daily traffic > 2000, ARI 10

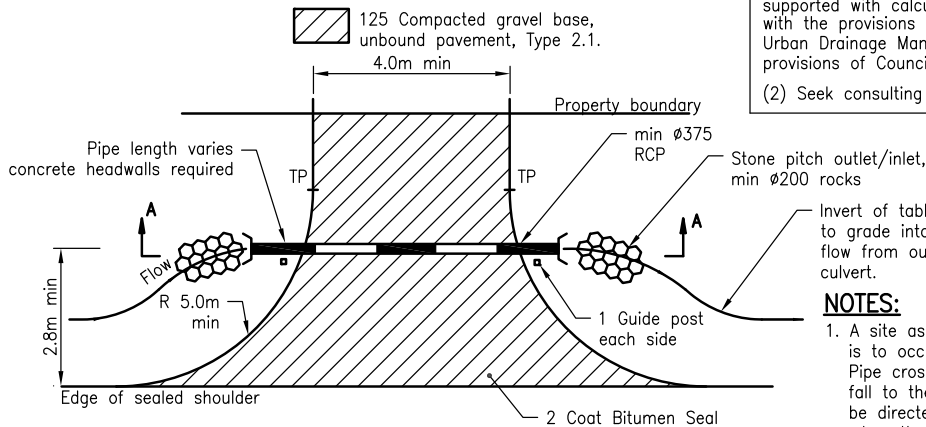
- (1) Alternatives may be approved if supported with calculations in accordance with the provisions of the Queensland Urban Drainage Manual or under the provisions of Council's Planning Scheme.
- (2) Seek consulting engineer advice.

Speed Limit (km/h)	Safe Sight Distance (m)
40	73
50	97
60	123
70	151
80	181
90	214
100	248

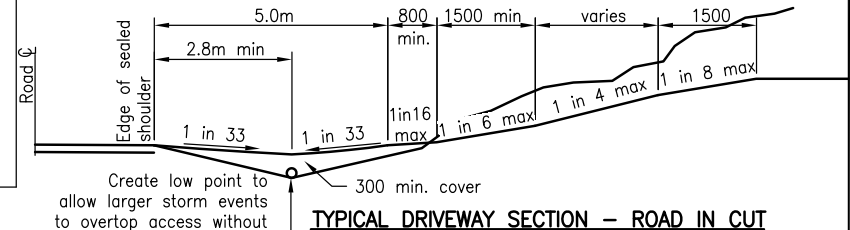
Based on Austroads Part 4A - 2009, Table 3.2



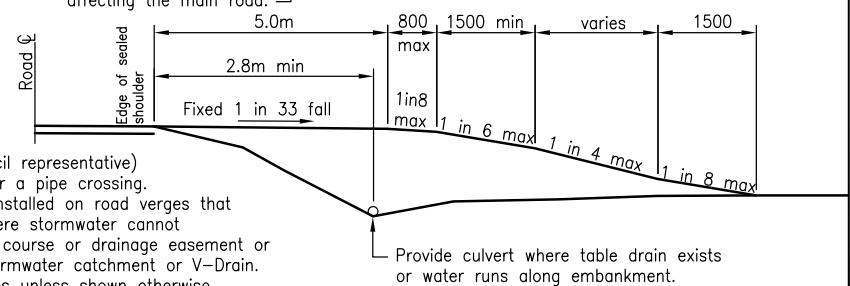
LONGITUDINAL SECTION SSD - EXITING FROM DRIVEWAY



DRIVEWAY PLAN



TYPICAL DRIVEWAY SECTION - ROAD IN CUT



TYPICAL DRIVEWAY SECTION - ROAD IN FILL

NOTES:

- 1. A site assessment (By a Council representative) is to occur upon application for a pipe crossing. Pipe crossings are not to be installed on road verges that fall to the subject property where stormwater cannot be directed to a natural water course or drainage easement or when there is no upstream stormwater catchment or V-Drain.
- 2. All dimensions are in millimetres unless shown otherwise.

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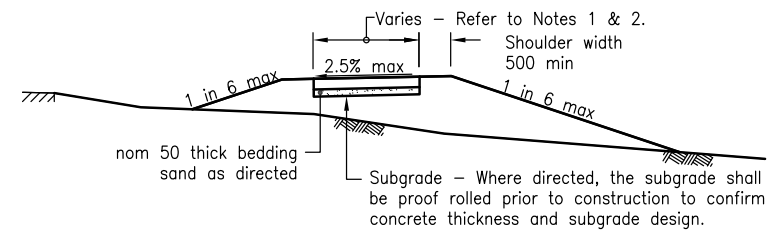
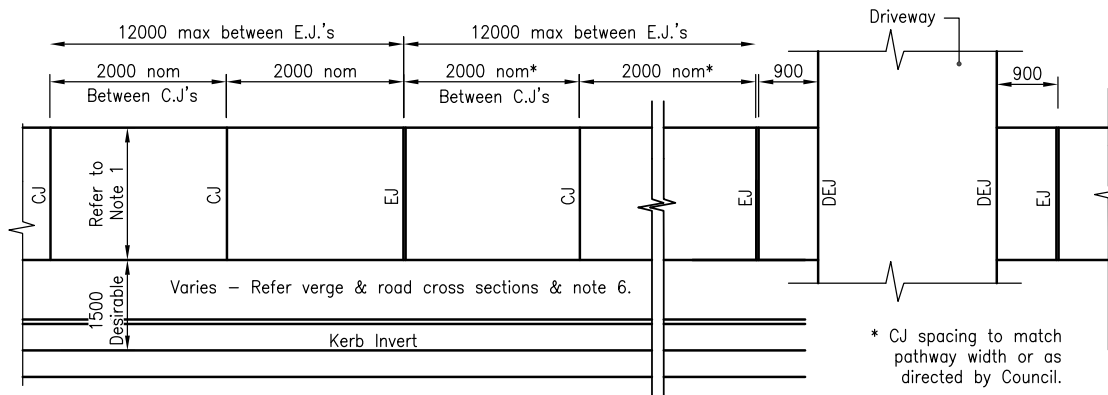
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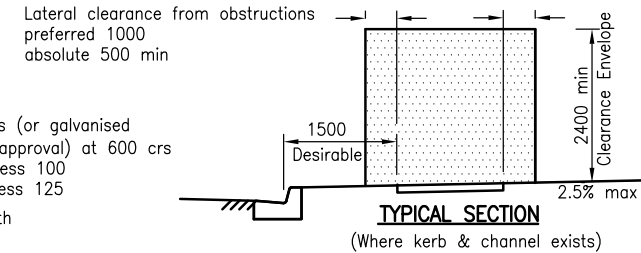
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DRIVEWAYS
RURAL DRIVEWAY

RS-056

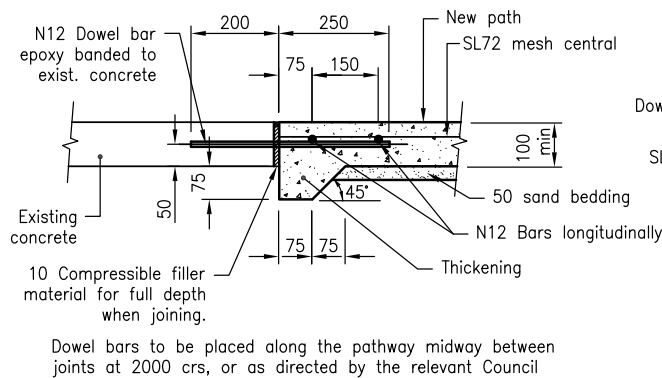


TYPICAL SECTION
(Where no kerb & channel exist)

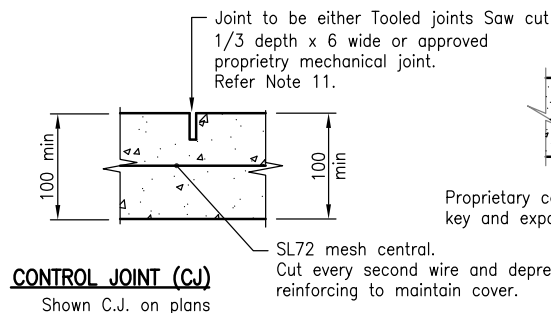


TYPICAL SECTION
(Where kerb & channel exists)

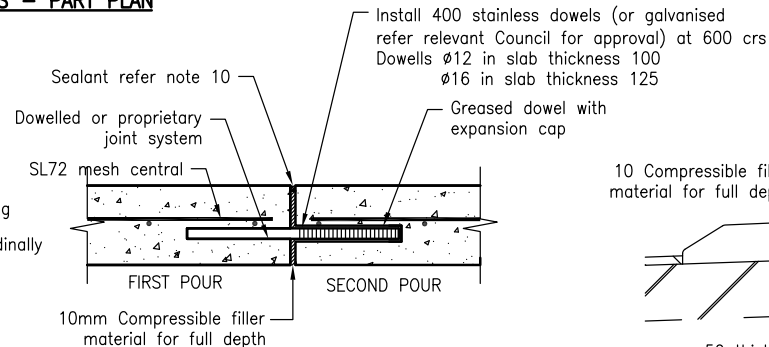
CONCRETE PATHWAYS - PART PLAN



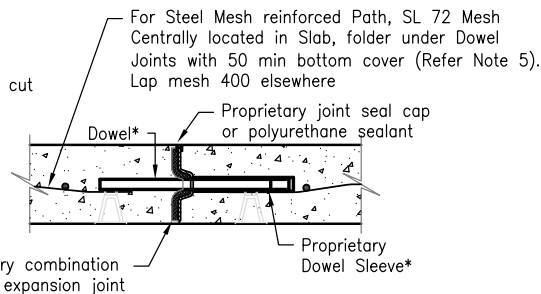
PATHWAY WIDENING/JOINING
(minimum widening 800)



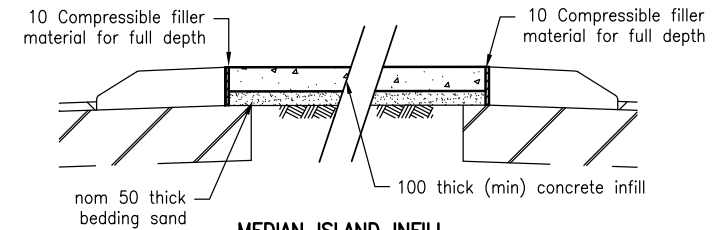
CONTROL JOINT (CJ)



DOWELLED EXPANSION JOINT DETAIL (DEJ)



* Dowel maybe eliminated for mass concrete paths
DETAIL 'A'
PREFORMED KEY JOINT WITH DOWEL



MEDIAN ISLAND INFILL

NOTES:

1. Refer to relevant Council requirements for pathway width, dimensions and concrete colour.
2. Concrete to be grade N32 AS 1379 and AS 3600 unless approved otherwise.
3. Reinforcing requirements may be amended on written instructions from Council.
4. Fibre reinforcement - When approved for use by the relevant Council, the concrete shall be reinforced with Class 2 macro structural synthetic polymer fibres in accordance with the manufacturers specification for the specified design load.
5. For steel mesh reinforced paths at dowelled expansion joints: Mesh is to be stopped 75 from the joint, be placed under the dowels and chaired at min 50 cover from bottom to deter the mesh deflection interfering with the Dowels.
6. Surface to be non-slip concrete finish to AS 1428.1.
7. The dimension between kerb invert and edge of pathway may be varied subject to relevant council approval. For appropriate treatment of grades greater than 1 in 8 (12.5%), refer to AS 1428, Design for access & mobility.
8. Where a vehicle crossing point, or path is subject to longitudinal traffic the pathway details shall be per relevant residential driveway standard details RS-050.
9. Additional path details shall be as per Austroads Guidelines.
10. Expansion joints to be sealed with a low modulus self priming sealant to the manufacturers specifications. The colour of the sealant is to match the adjoining surface finish.
11. Saw cut joints are to be undertaken between 4 to 12 hours after laying depending on conditions. Joint sealant is required in sandy areas.
12. All dimensions are in millimetres unless shown otherwise.

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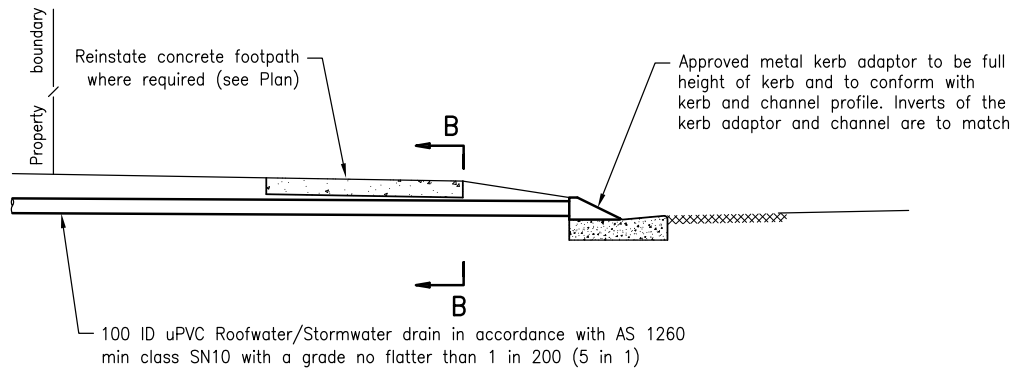


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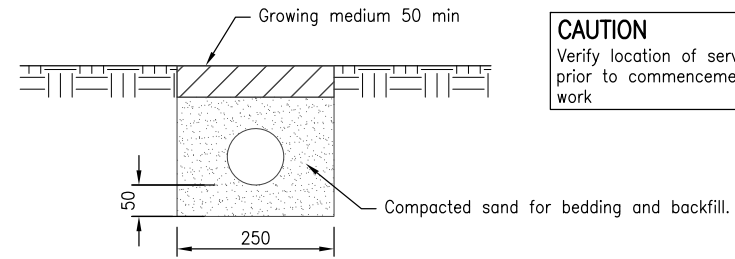
PATHWAYS
CONCRETE PATHWAY
CONSTRUCTION DETAILS

RS-065

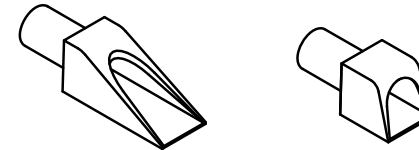
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SECTION A-A



SECTION B-B

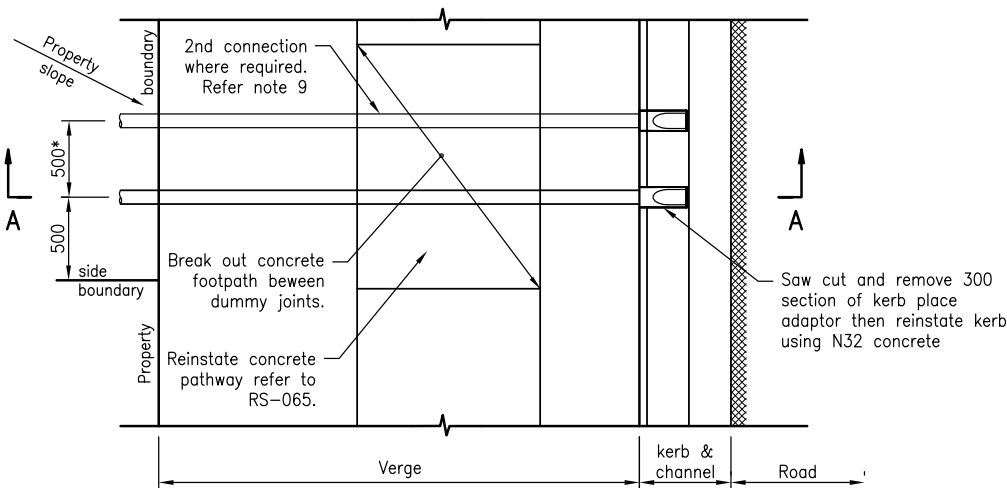


Layback Kerb Adaptor Upright Kerb Adaptor

TYPICAL FULL HEIGHT KERB ADAPTORS

CAUTION
Verify location of services prior to commencement of work

Note:
For specifications refer to manufacturer's product information.



PLAN

* Spacing may be reduced if approved by relevant Council

NOTES:

1. Kerb adaptors and other ancillary components within the verge are to be designed to cater for residential vehicle loadings and be approved by the relevant Council.
2. Roofwater/Stormwater drains are to transport only clean stormwater runoff from roofed or otherwise uncontaminated areas.
3. The requirements of AS 3500.3.1 Stormwater drainage – Performance requirements and the Queensland Building Code Regulations are to be met.
4. Roofwater/Stormwater drain outlets are not to be positioned within 5 metres of the upstream side of a catchpit (measured from the nearest catchpit component). Thus providing uncompromised capture efficiency of the catchpit. Outlets in this area are to discharge into the catchpit. The maximum discharge of stormwater drainage allowable to Council's kerb & channel street drainage system at any one location is 25 litres/second.
5. Council approval is required to connect to stormwater infrastructure such as manholes, catchpits and the like.
6. An alternative Roofwater/Stormwater drain within the verge is two continual lengths of 125x75x3 hot dipped galvanised RHS at a grade no flatter than 1 in 200 and cut to finish flush with the kerb profile. All cut ends are to be cold galvanised and the kerb reinstated. Concrete cover to relevant Council approval.
7. Council's policy is that provision and maintenance of private Roofwater/Stormwater drains are the responsibility of the property owner. The property owner is also responsible for verge restoration to original conditions after construction.
8. Appropriate measures are to be taken to ensure work site safety during construction.
9. The minimum requirement for new allotments is the provision of two kerb adaptors plus piped drainage to the far edge of the concrete footpath where applicable.
10. All dimensions are in millimetres unless shown otherwise.

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F	03/14	Amended Standard Drawings
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**INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA
STANDARD DRAWINGS**

**KERB AND CHANNEL
RESIDENTIAL DRAINAGE CONNECTIONS**

RS-081



Queensland



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