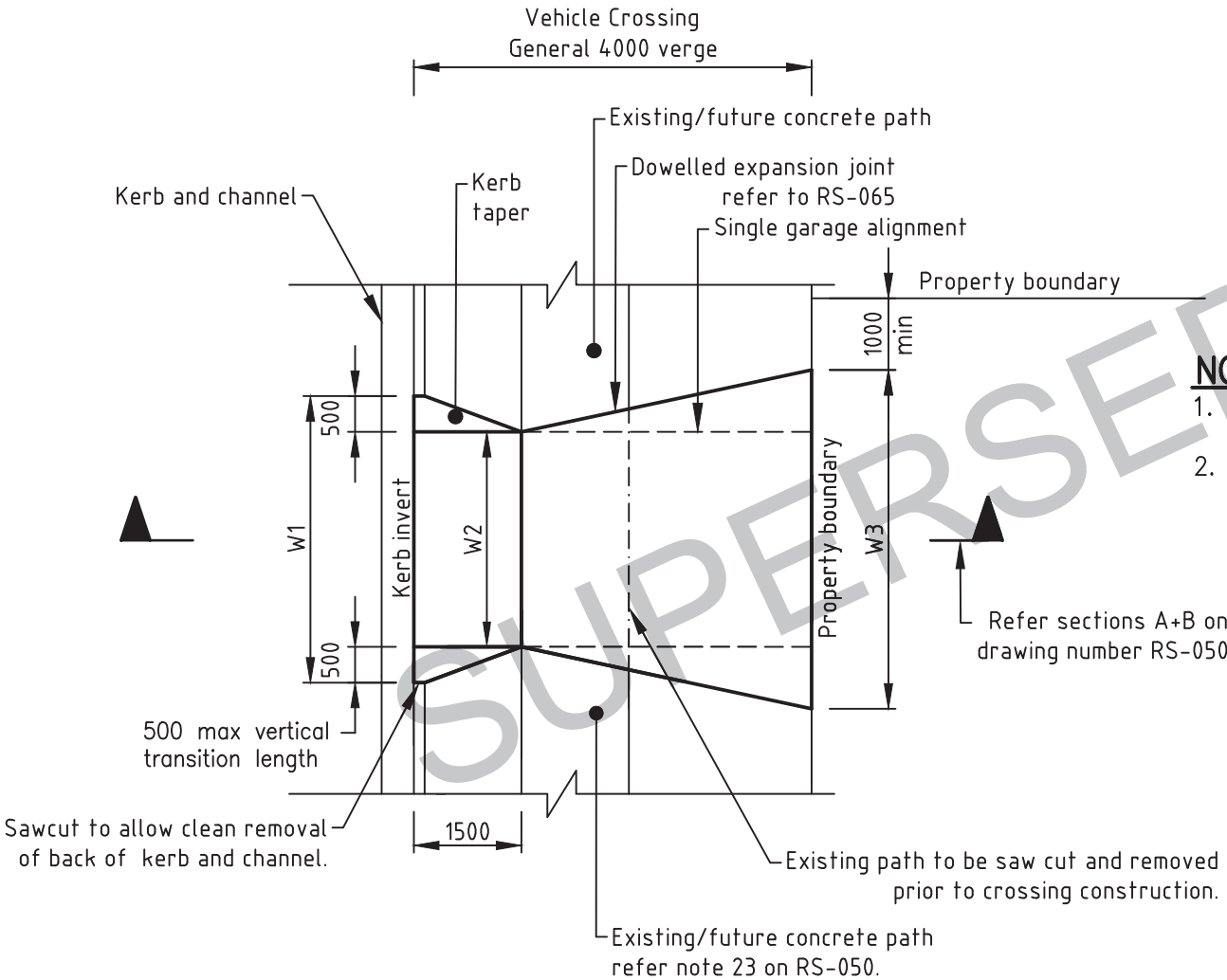


ALLOWABLE NUMBER AND WIDTH OF RESIDENTIAL VEHICLE CROSSINGS							
	TYPE	DESCRIPTION	ALLOWABLE No. OF CROSSINGS	max WIDTH AT KERB INVERT (W1)	W2	max WIDTH AT PROPERTY BOUNDARY (W3)	SPECIAL CONDITIONS APPLICABLE (All vehicle crossings are subject to relevant council approval.)
SINGLE HOUSE	1	Single garage	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)

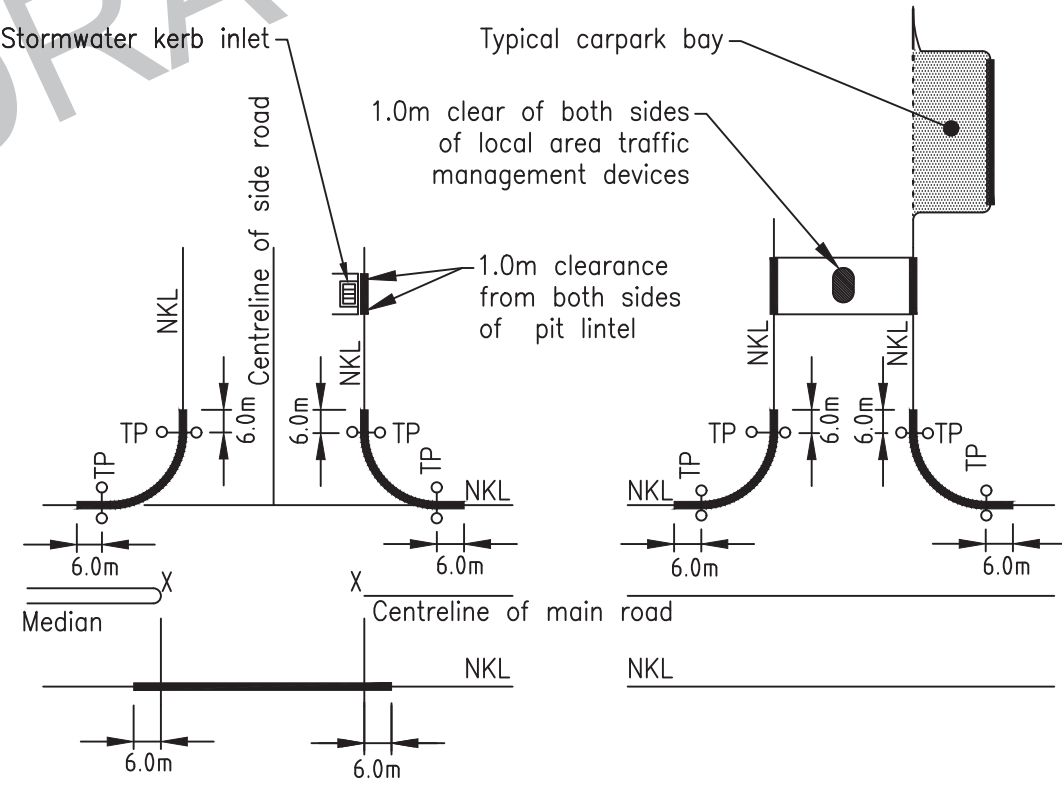
- NKL nominal kerb line (face of kerb)
- TP Tangent point on NKL
- Prohibited locations shown in a heavy line, based on AS 2890.1
- X The points marked 'X' are either at the median on a divided road, or at the intersection of the main road centreline and the prolongation of the side road NKL line on an undivided road.



NOTE:

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

SETOUT REQUIREMENTS



COLLECTOR

ACCESS

VEHICLE CROSSING PROHIBITED LOCATIONS

These drawings have been developed in consultation between the participating Councils.  
BEFORE USE, the user shall confirm that the drawing has been adopted by the appropriate Council.

Rv.	DATE	REVISIONS
C	06/16	Review (terminology)
B	06/14	Review
A	10/12	ORIGINAL ISSUE

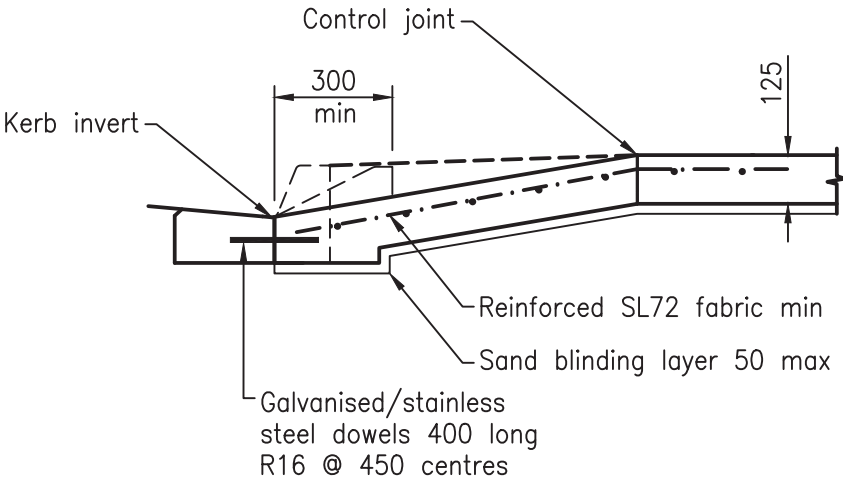


INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA  
STANDARD DRAWINGS

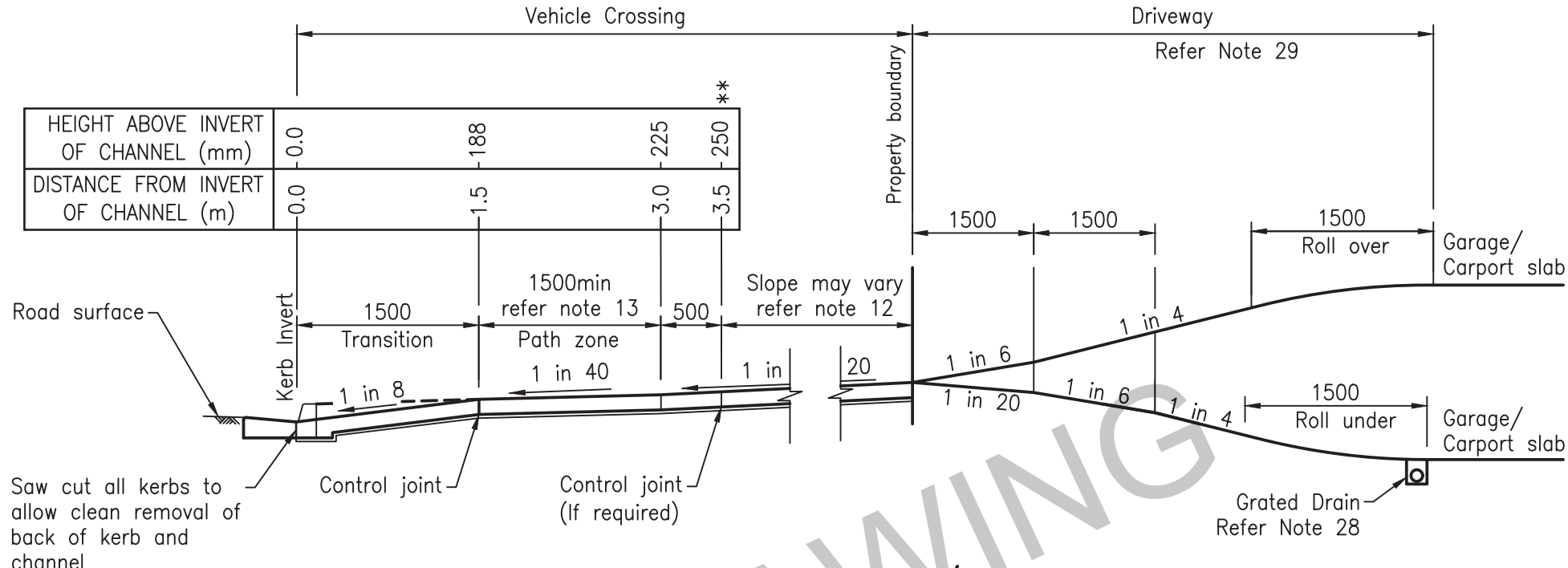
VEHICLE CROSSING  
RESIDENTIAL DRIVEWAYS  
PLAN 1 OF 2

RS-049

C  
B  
A  
Rv.



**BREAKOUT TYPE  
SECTION A**  
Refer drawing  
RS-049



**TYPICAL PROFILE VEHICLE CROSSING/DRIVEWAY ACCESS  
SECTION B**  
Refer drawing  
RS-049

**NOTE:**

1. All appropriate permits must be obtained from relevant council, specifying crossing type, construction materials, location, levels, surface finishes and dimensions, prior to any excavation.
2. Alternative materials for construction, other than reinforced concrete, refer to relevant council for approval.
3. Crossing to be constructed square to the street alignment, wholly contained within the site frontage from invert of channel to property boundary.
4. One access to be constructed per allotment unless otherwise approved by relevant Council.
5. 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.
6. 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.
7. 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.
8. Kerb adaptors and associated roofwater drainage to be located clear of crossings.
9. Council will not relocate traffic islands or provide breaks in traffic islands to allow driveway access.
10. For water sensitive urban design verges, the crossing is subject to relevant council design and approval.
11. \*\*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.
12. 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.
13. Path zone width may vary to match existing concrete pathways and verge profiles. Path earthworks adjoining concrete must be well compacted.
14. 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.
15. Existing path to be longitudinally transitioned to new crossing at a maximum grade of 1 in 10.
16. Plain concrete surfaces to be heavy broom finished.
17. 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.
18. 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.
19. Concrete surface tolerance to be, +5mm over 3 metre sections.
20. Concrete to be minimum grade N32 in accordance with AS 1379 and AS 3600.
21. Concrete construction to comply with the requirements of AS 3600, concrete code.
22. Reinforcement fabric to AS 4671-2001 steel reinforcing materials, 50 top and edge cover, lap fabric 250.
23. Control joints are to be sealed with a low modulus self priming sealant to the manufacturers specification. refer RS-065.
24. Formwork and reinforcement shall be in place and inspected and approved by the relevant council prior to placement of concrete.
25. Maintenance of the crossings are the responsibility of the property owner.
26. Drawing to be read in conjunction with RS-049.
27. 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.
28. Construct grated drain to prevent water entering garage/carport slab.
29. 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).
30. All surfaces subject to pedestrian traffic (including vehicle crossings) will meet the minimum pendulum or ramp recommendations contained 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.
31. All Dimensions are in millimetres unless shown otherwise.

These drawings have been developed in consultation between the participating Councils.  
BEFORE USE, the user shall confirm that the drawing has been adopted by the appropriate Council.

G	10/17	Review
F	06/16	Review
E	06/14	Review
D	10/12	Review
C	06/10	Review
B	06/09	Review
Rv.	DATE	REVISIONS



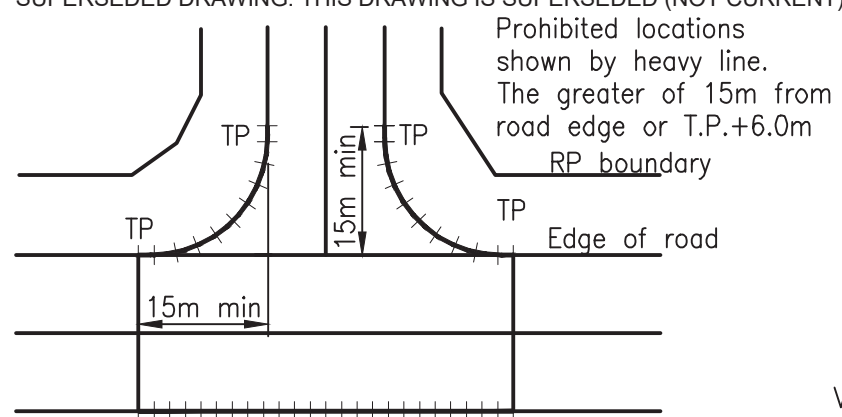
**INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA  
STANDARD DRAWINGS**

**VEHICLE CROSSINGS  
RESIDENTIAL DRIVEWAYS  
PLAN 2 OF 2**

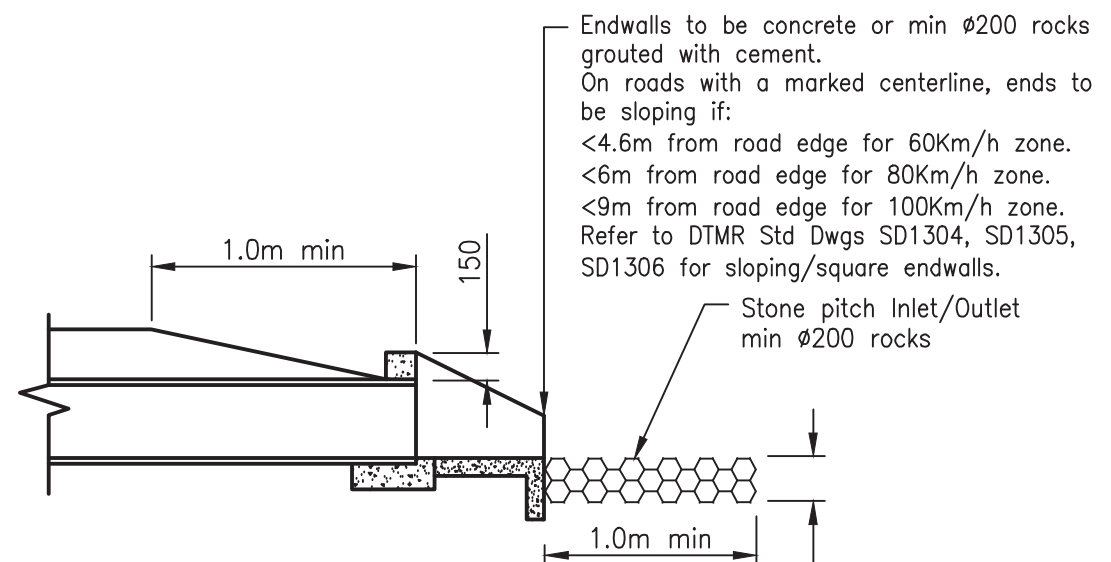
**RS-050**

G
F
E
D
C
B
Rv.

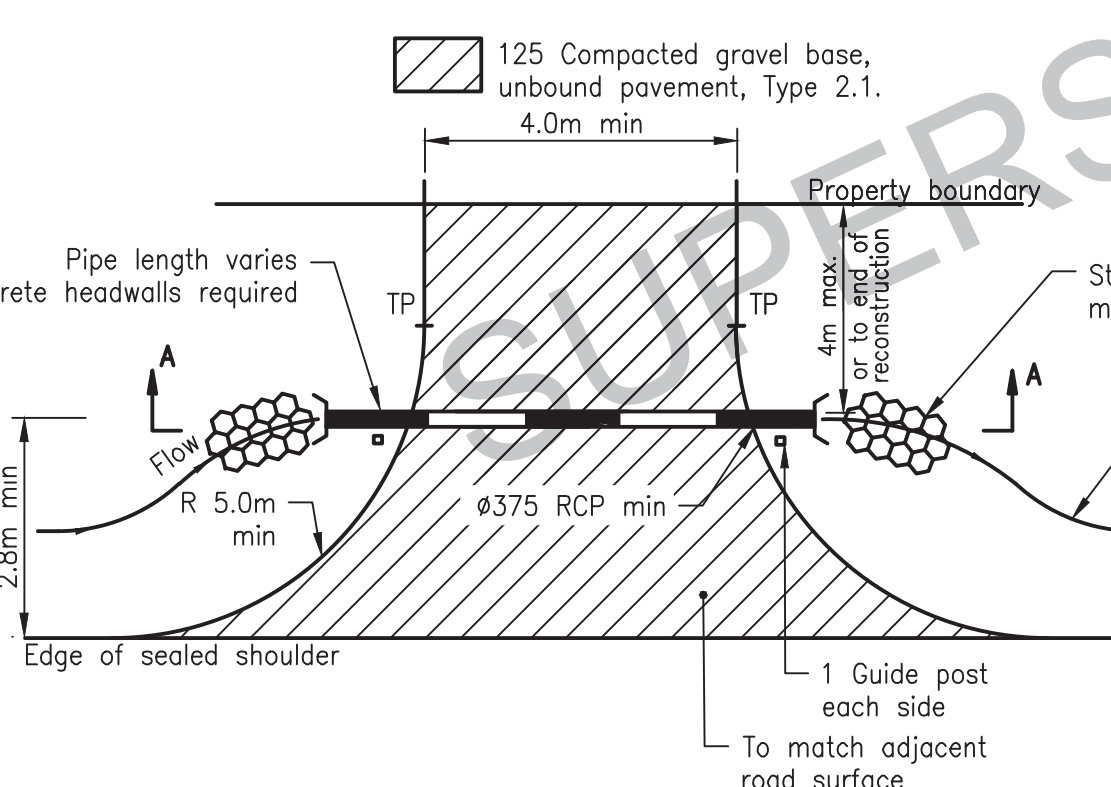




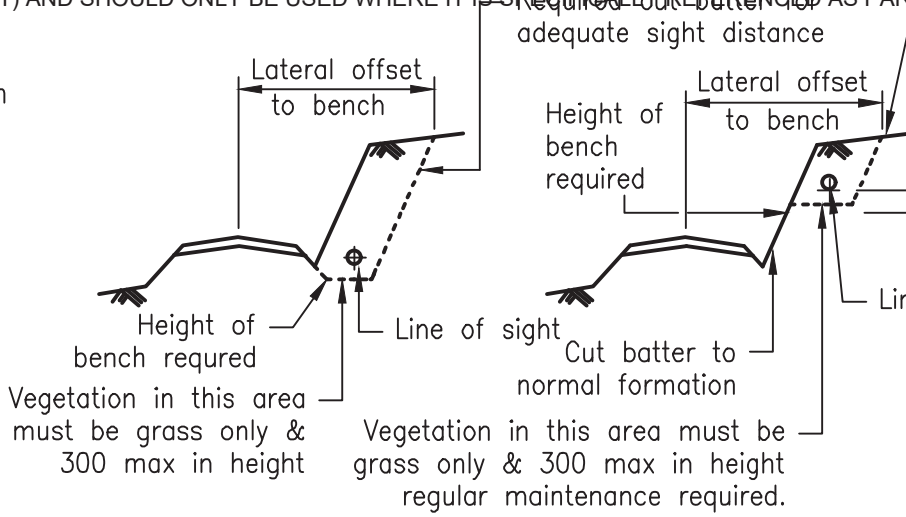
PROHIBITED LOCATIONS AT INTERSECTIONS FOR RURAL VEHICLE CROSSINGS



SECTION A-A



VEHICLE CROSSING PLAN



BENCHING DETAIL SECTION B-B

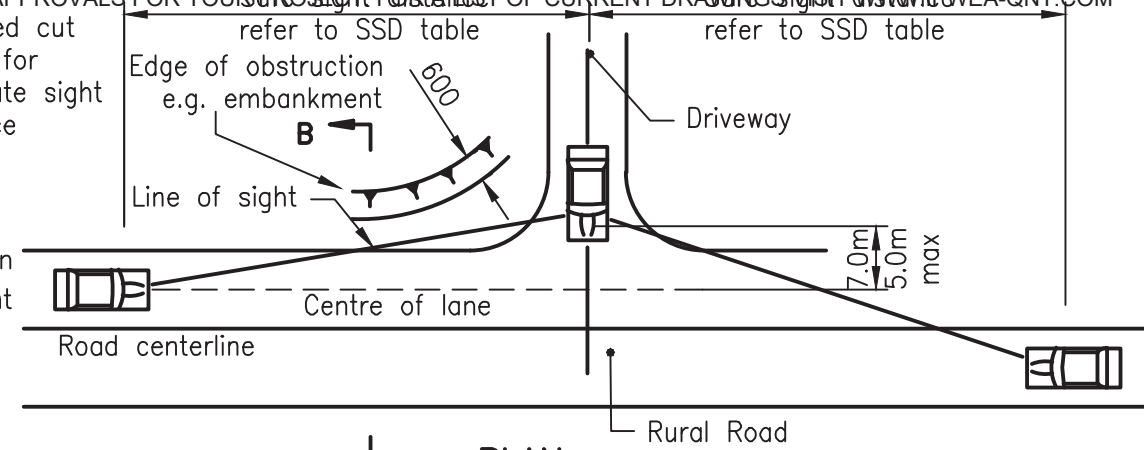
PIPE SIZE		
Catchment Area	ARI 2	ARI 10
<0.5Ha	375	450
<1.0Ha	450	525
<1.5Ha	525	600
<2.5Ha	600	2/450
<3.0Ha	2/450	2/525
<4.0Ha	2/525	2/600
<5.0Ha	2/600	(2)

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.

NOTES:

- 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.
- All dimensions are in millimetres unless shown otherwise.

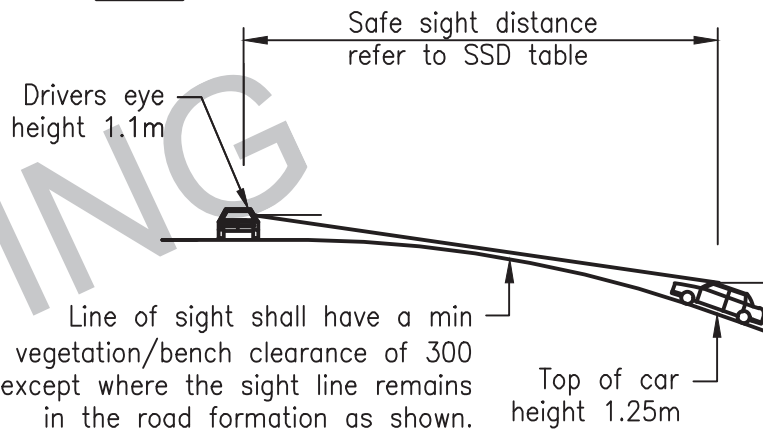
These drawings have been developed in consultation between the participating Councils. BEFORE USE, the user shall confirm that the drawing has been adopted by the appropriate Council.



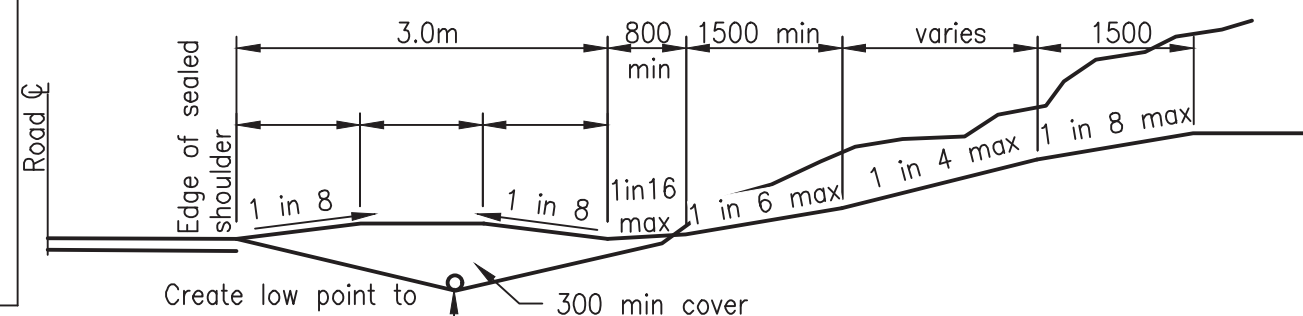
PLAN

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

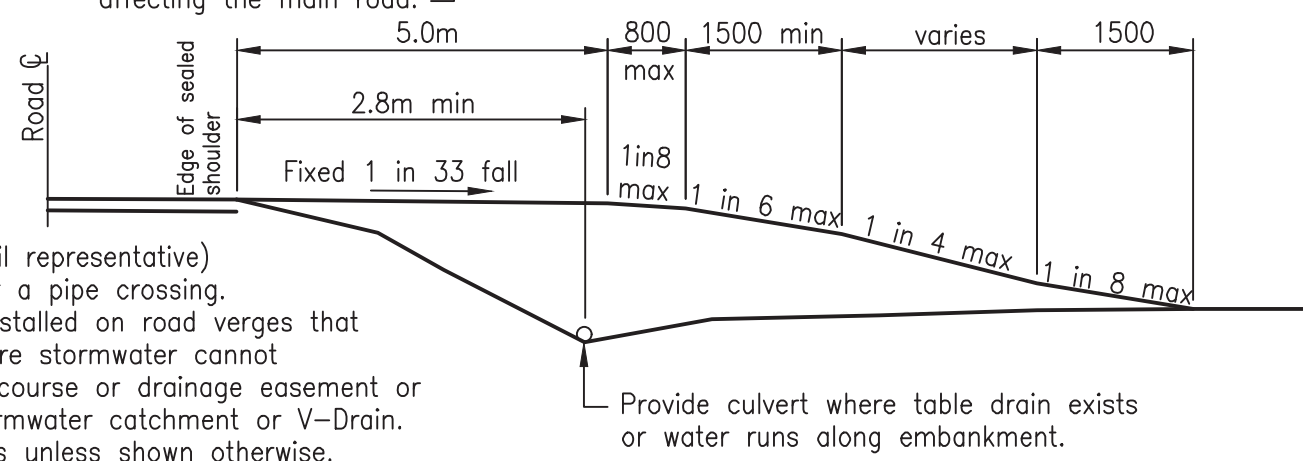
Based on Austroads Part 4A - 2009, Table 3.2



LONGITUDINAL SECTION SSD - EXITING FROM DRIVEWAY



TYPICAL DRIVEWAY SECTION - ROAD IN CUT



TYPICAL DRIVEWAY SECTION - ROAD IN FILL

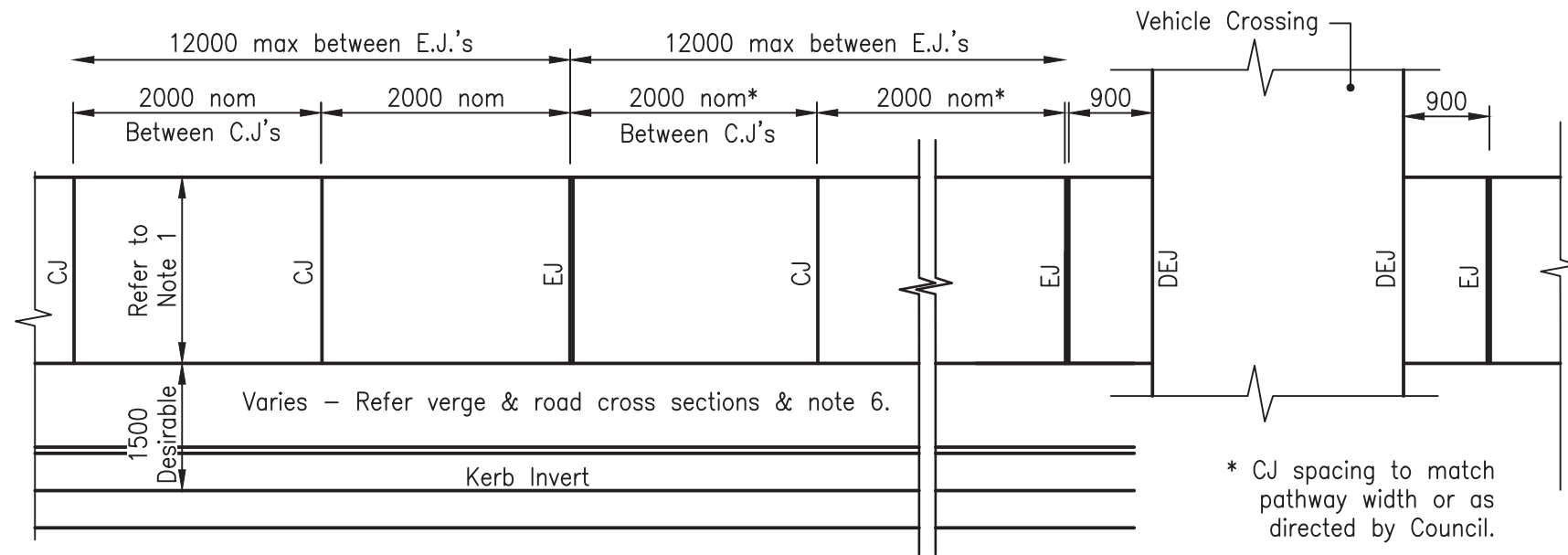
G	06/16	Review
F	06/14	Review
E	03/14	Amended Drawing Number
D	12/11	Drawing number changed from SEQ R-056 to RS-056
C	06/10	Review
B	06/09	Review
A	06/09	Review
Rv.	DATE	REVISIONS
		03/09 ORIGINAL ISSUE



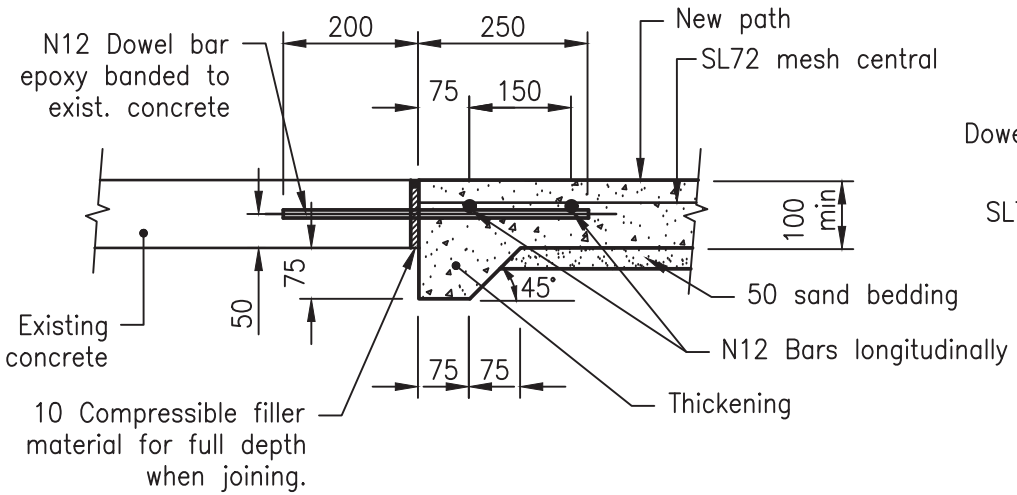
INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA  
STANDARD DRAWINGS

VEHICLE CROSSINGS  
RURAL DRIVEWAY

RS-056

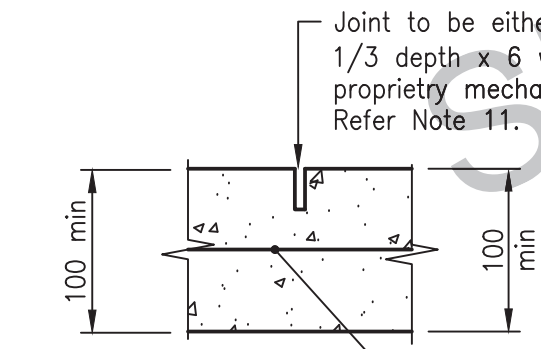


CONCRETE PATHWAYS - PART PLAN

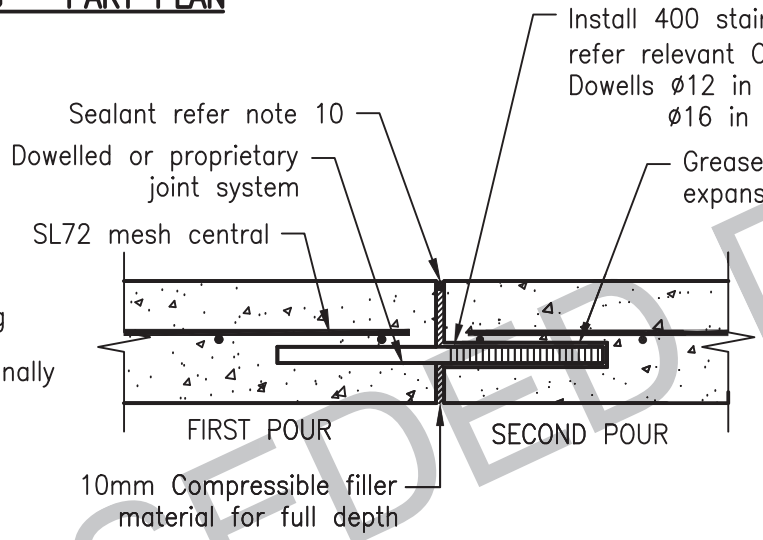


Dowel bars to be placed along the pathway midway between joints at 2000 crs, or as directed by the relevant Council

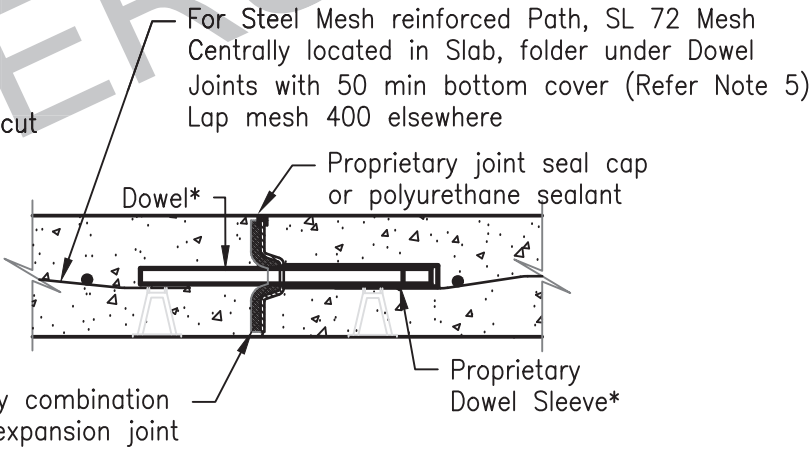
PATHWAY WIDENING/JOINING  
(minimum widening 800)



CONTROL JOINT (CJ)  
Shown C.J. on plans

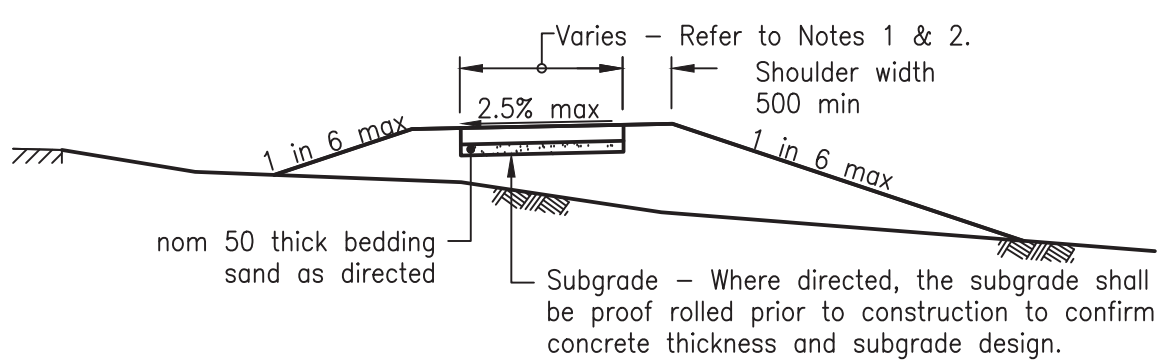


DOWELLED EXPANSION JOINT DETAIL (DEJ)

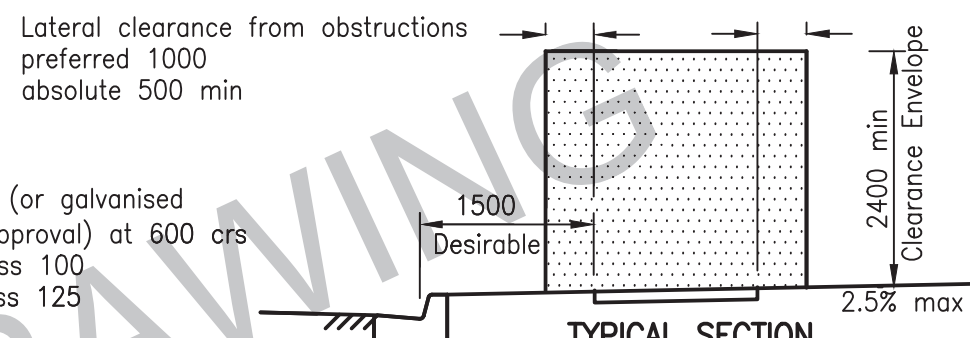


\* Dowel maybe eliminated for mass concrete paths

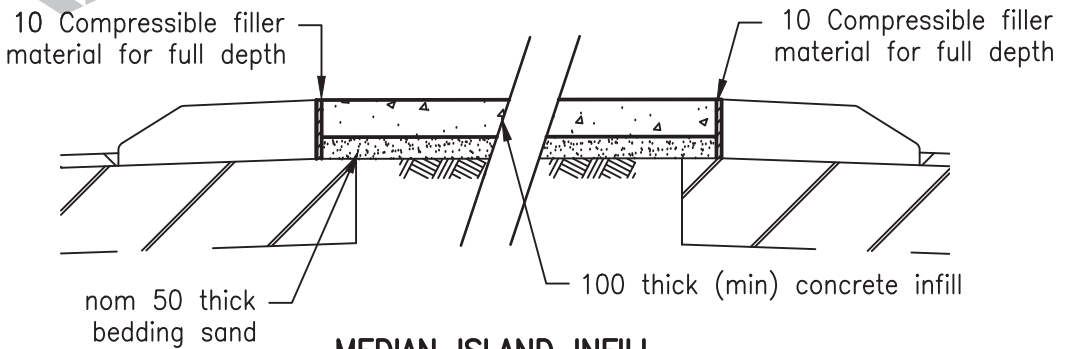
DETAIL 'A'  
PREFORMED KEY JOINT WITH DOWEL



TYPICAL SECTION  
(Where no kerb & channel exist)



TYPICAL SECTION  
(Where kerb & channel exists)



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 manufactures 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. Pathway surface finish to comply with Notes 16, 17 and 30 on Standard Drawing RS-050.
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.

These drawings have been developed in consultation between the participating Councils.  
BEFORE USE, the user shall confirm that the drawing has been adopted by the relevant Council.

I	10/17	Review
H	06/16	Review
G	06/14	Review
F	03/14	Amended Drawing Number
E	12/11	Drawing Number changed from SEQ R-065 to RS-065
D	06/11	Review
Rv.	DATE	REVISIONS
		09/08 ORIGINAL ISSUE



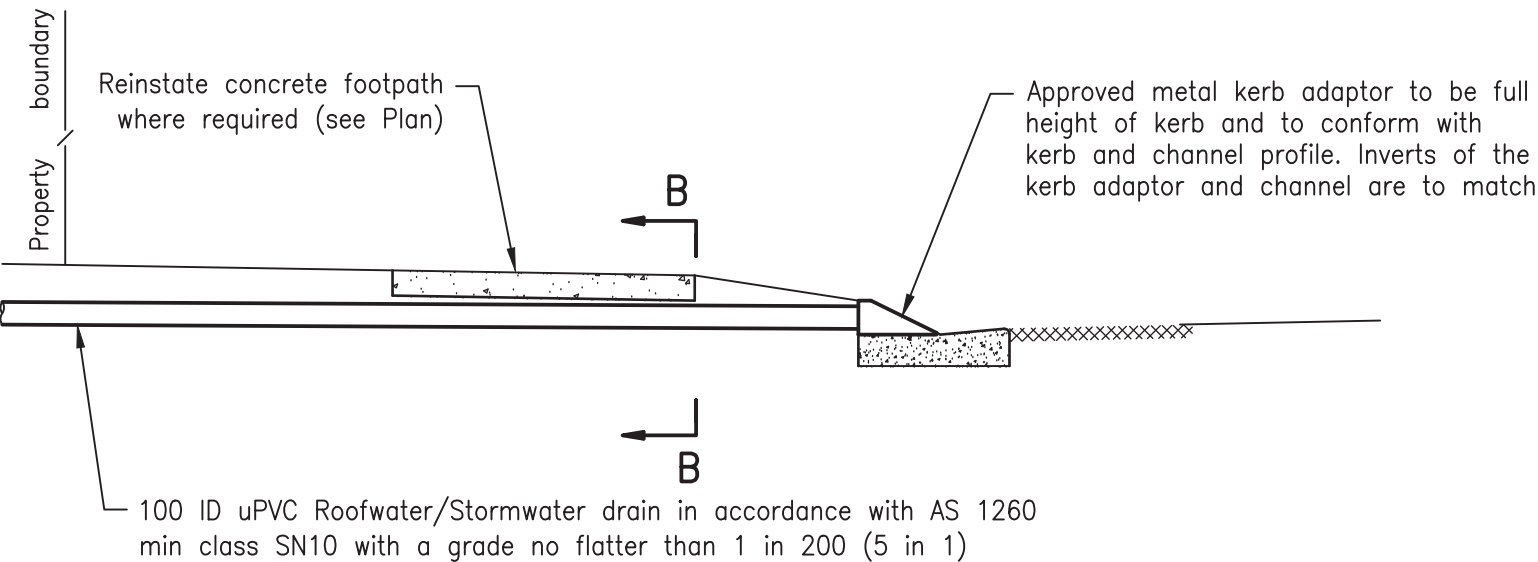
INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA  
STANDARD DRAWINGS

PATHWAYS  
CONCRETE PATHWAY  
CONSTRUCTION DETAILS

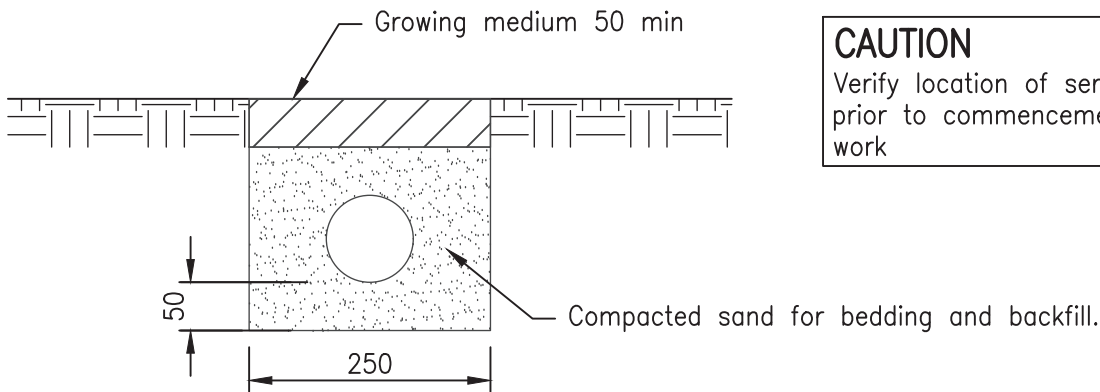
RS-065

I
H
G
F
E
D
Rv.



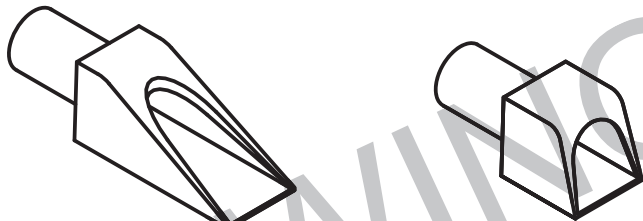


SECTION A-A



SECTION B-B

**CAUTION**  
Verify location of services prior to commencement of work



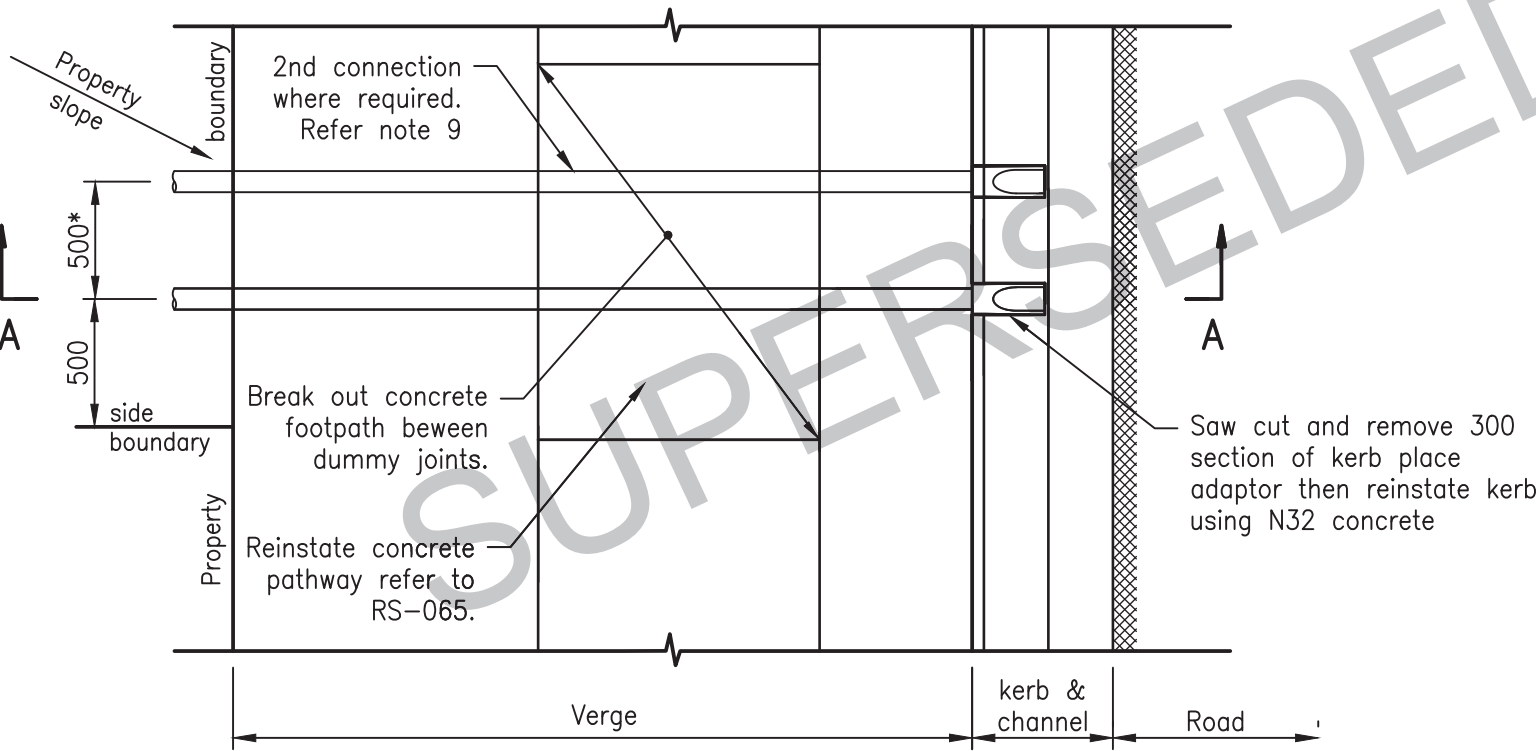
Note:  
For specifications refer to manufacturer's product information.

Layback Kerb Adaptor Upright Kerb Adaptor

**TYPICAL FULL HEIGHT KERB ADAPTORS**

**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.



PLAN

\* Spacing may be reduced if approved by relevant Council

These drawings have been developed in consultation between the participating Councils.  
BEFORE USE, the user shall confirm that the drawing has been adopted by the appropriate Council.

F	03/14	Amended Standard Drawings
E	12/11	Drawing number changed from SEQ R-081 to R-081
D	06/11	Review
C	06/10	Review
B	06/09	Review
G	06/14	Review
Rv.	DATE	REVISIONS
		03/08 ORIGINAL ISSUE



INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA  
STANDARD DRAWINGS

KERB AND CHANNEL  
RESIDENTIAL DRAINAGE CONNECTIONS

RS-081

F
E
D
C
B
G
Rv.