

**NOTE:**

This design shall not be used in:  
 a. Highly reactive or expansive clay soils (linear shrinkage >8%).  
 b. Where large differential settlement is expected to occur.  
 Specialist design advice shall be obtained in these circumstances.

DESIGN FOUNDATION BEARING CAPACITY is 150 kPa.  
 Foundation bearing capacity shall be certified by an RPEQ Geotechnical engineer prior to casting of base slab

**NOTES:**

- EXTENSIONS TO EXISTING RC SLAB DECK CULVERT shall be in accordance with MRTS03 and MRTS86.
- EXTENSIONS TO EXISTING RC SLAB DECK CULVERT shall be constructed in accordance with Standard Drawing 1240.
- CONTRACTOR shall submit a complete Construction Method Statement to administrator minimum 14 days prior to commencement of culvert extension work. This shall include, but not be limited to, method for demolishing existing culvert components and construction of extension, as detailed in the project drawings.
- DESIGN LOADS: Traffic loads and traffic load surcharge shall be in accordance with AS 5100. Heavy load platform HLP400. Load factors and load combinations shall be in accordance with AS 5100.
- CONCRETE shall be in accordance with MRTS70. Design life 100 years. Exposure classification and cover to reinforcement shall be in accordance with AS 5100. Minimum concrete strength and cover to reinforcement shall be as shown in table below.  
 Blinding concrete N20/20.

Exposure classification	minimum B2	C*
Minimum concrete strength	S40/20	S50/20
Minimum Cover UNO	55	70

\* Dimensions within brackets ( ) are for exposure classification C.

- REINFORCING STEEL to be read in conjunction with Standard Drawings 1043 and 1044. Reinforcing steel to be in accordance with MRTS71 and AS/NZS 4671. Deformed bars Grade D500N, Round bars Grade R250N and reinforcing mesh Grade D500L. Reinforcement to be hot dip galvanised to AS/NZS 4680 where shown.
- TACK WELDING to reinforcement for location purposes to AS/NZS 1554.3. Welding consumables to be controlled hydrogen type: G49X to AS/NZS ISO 14341-B or T49X to AS/NZS ISO 17632-B unless shown otherwise.
- EXPANSION PIERS must be provided to match existing articulation.
- WEEPHOLES shall be provided as follows:
  - Wingwalls and abutment walls, horizontally at 1200 crs,
  - Kerbs where there is fill on the deck, a minimum of 2 weepholes for each span, provided horizontally, and where the deck is superelevated at the lower kerb only,
  - Location of weepholes shall be determined such that reinforcement cover requirements are met,
  - A 300 x 300 x 150 no fines concrete block or approved equivalent shall be provided at each weephole as a drainage filter.
- SCUPPERS are applicable only when there is no fill on the deck and shall be provided at both kerbs of each span where
  - the length of culvert exceeds 10m measured along the Control Line and the grade is 0.25% or less
  - the length of culvert exceeds 20m measured along the Control Line and the grade is 0.35% or less
 Where the deck is superelevated, one scupper per span shall be provided at the lower kerb only. For culverts with fill, provide a 300 x 300 x 150 thick no-fines concrete block or approved equivalent on each scupper. Spacing of reinforcement in kerbs may be altered slightly near scuppers such that minimum cover is maintained.
- HEIGHT OF FILL over deck shall be 2500 maximum.
- Refer Standard Drawing 1359 for details of culvert installation and earthworks.
- PROJECT-SPECIFIC INFORMATION TO BE SHOWN ON THE DRAWINGS: Skew angle; W1 and W2 dimensions; Safety barrier system setout; Steel schedule
- DIMENSIONS are in millimetres unless shown otherwise.

ASSOCIATED DEPARTMENTAL DOCUMENTS:

- Design Criteria for Bridges and Other Structures
- NDRRA Guidelines
- Road Planning and Design Manual

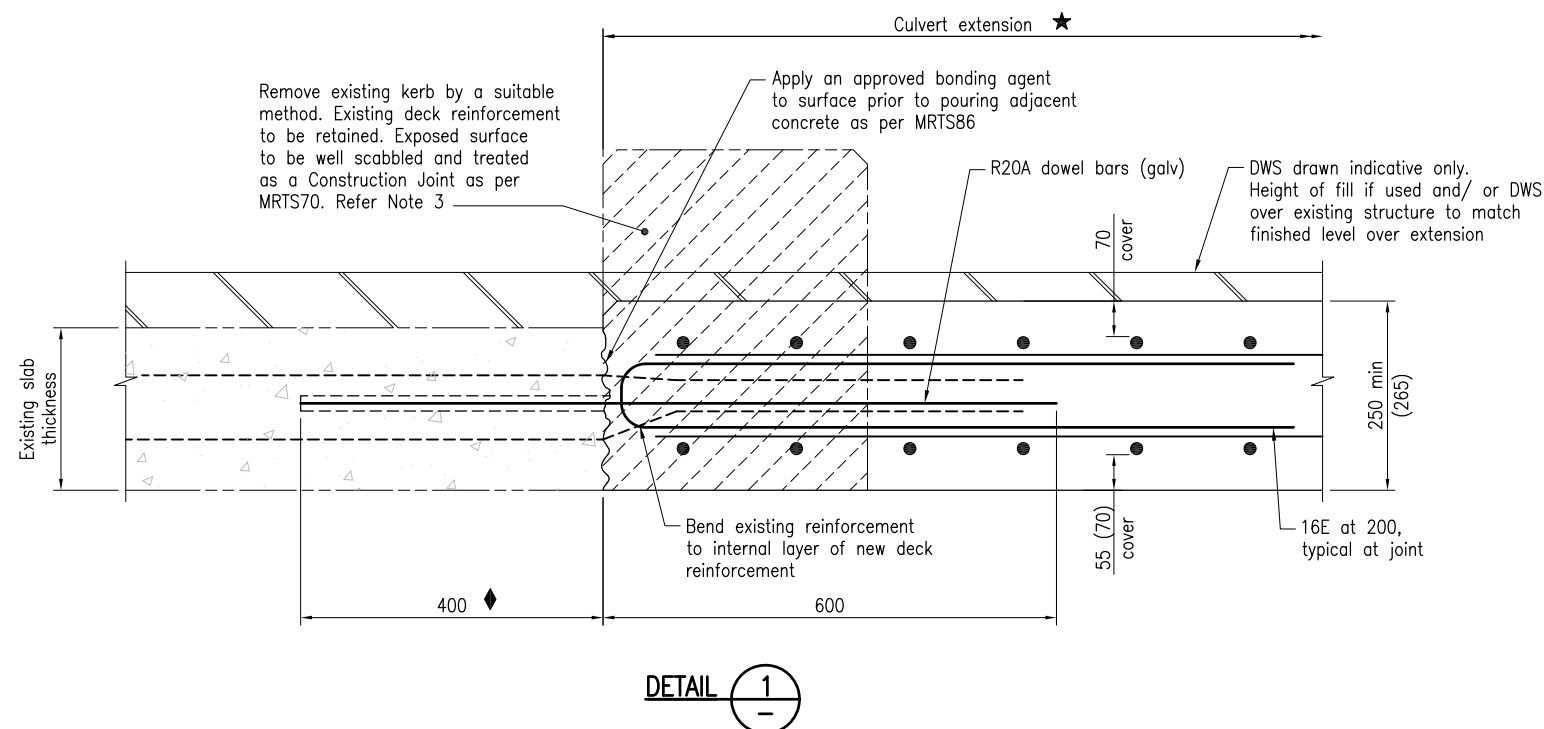
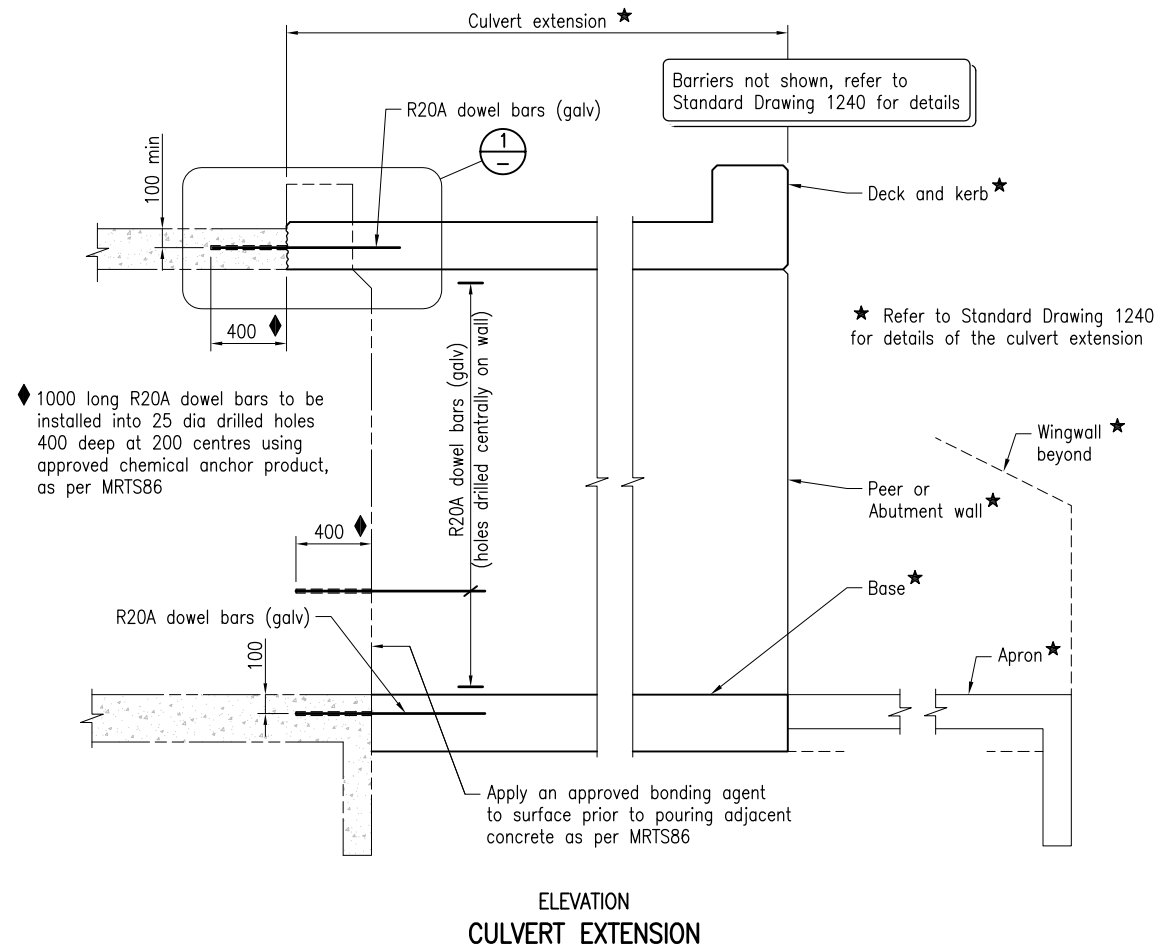
REFERENCED DOCUMENTS:

Departmental Standard Drawings:

- 1043 Reinforcing Steel – Standard Bar Shapes
- 1044 Reinforcing Steel – Lap Lengths
- 1240 RC Slab Deck Culvert
- 1359 Culverts – Installation, Bedding and Filling/Backfilling Against/Over Culverts

Departmental Specifications:

- MRTS03 Drainage, Retaining Structures and Protective Treatments
- MRTS70 Concrete
- MRTS71 Reinforcing Steel
- MRTS86 Widening, Strengthening and Rehabilitation of Bridges



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RC SLAB DECK CULVERT			
CULVERT EXTENSION		A3	Standard Drawing No
		Not to Scale	1241
			Date 7/16
A	B	C	