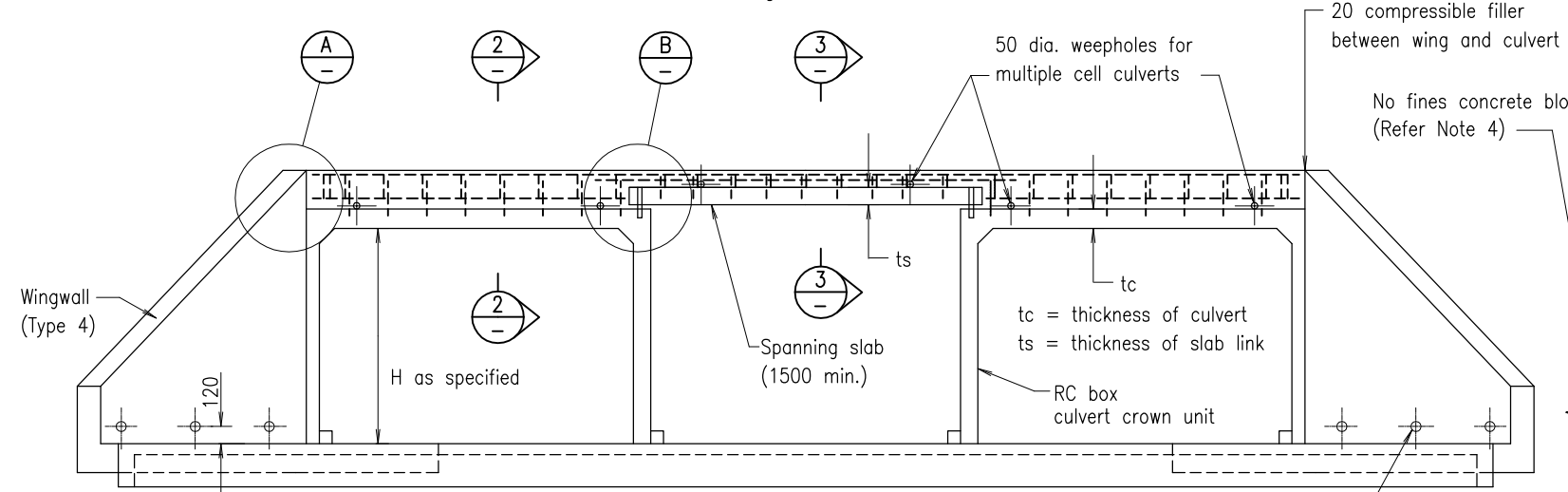
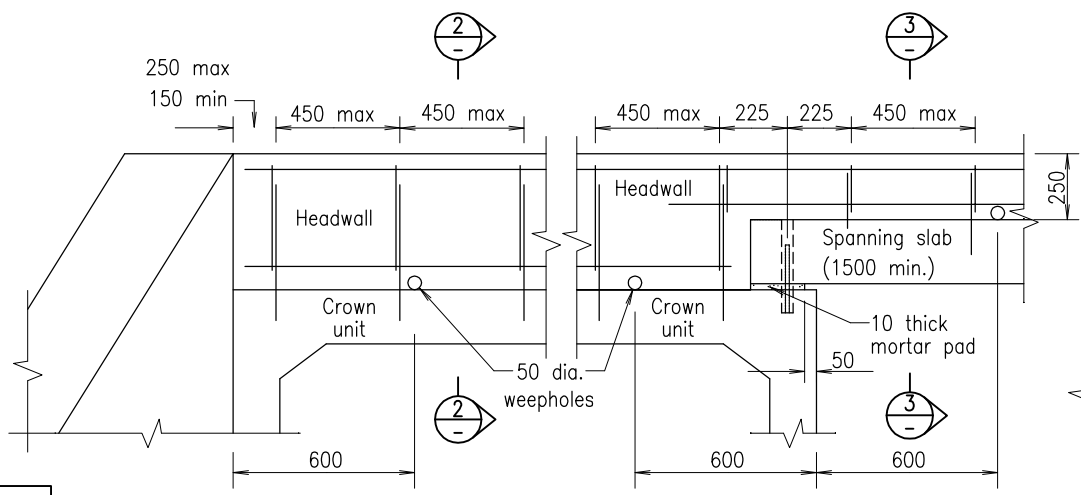


PLAN - Headwall and Wingwall Details for SLBC & RCBC

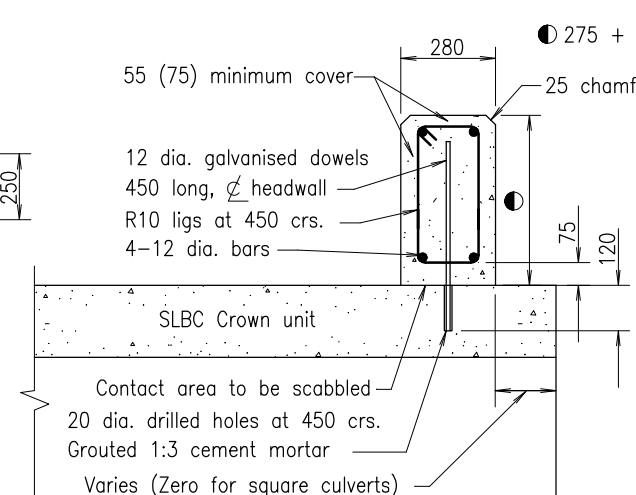


ELEVATION - Headwall and Wingwall Details for SLBC & RCBC (Base with Nibs)

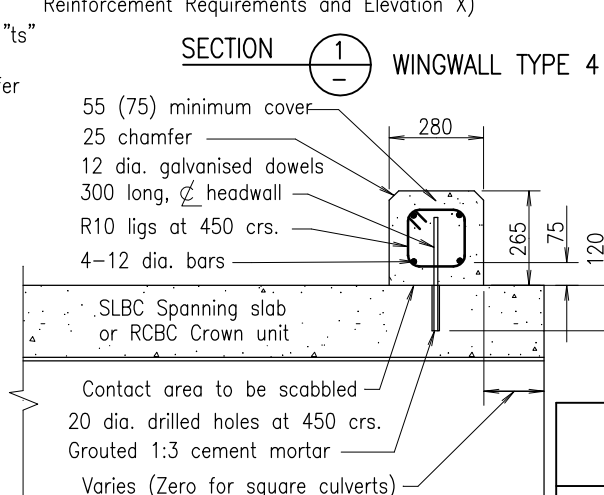


DETAIL A

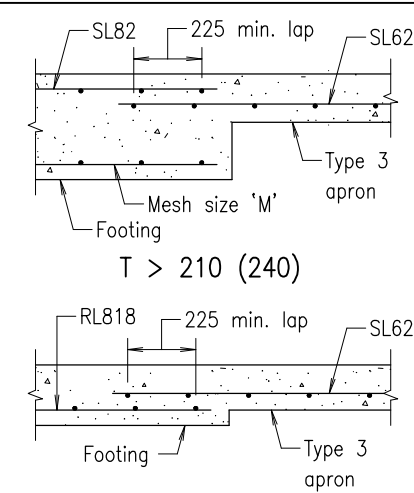
DETAIL B



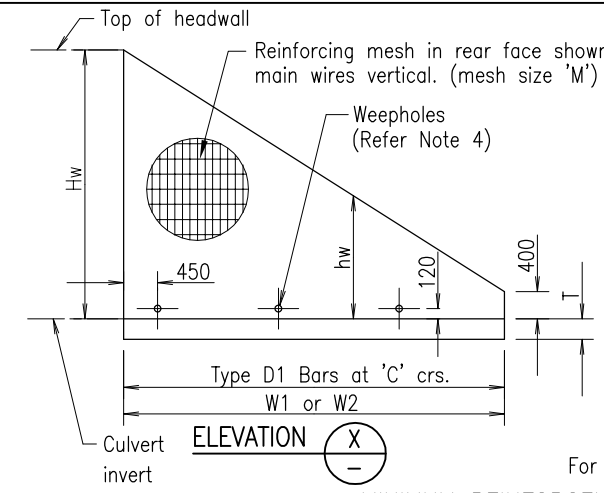
SECTION 2 HEADWALL



SECTION 3 HEADWALL



WING WALL FOOTING - TYPE 3 APRON REINFORCEMENT DETAILS



ELEVATION X

WING DIMENSIONS
(Refer Note 3)

up to Hw†	F	T
1000		210 (240)
1500		210 (240)
2000		260 (290)
2500	0.75 Hw	310 (340)
3000		310 (340)
3700		360 (390)
4350		360 (390)

† where Hw = Internal culvert height (H) + (tc) + (ts) + 250

For H < 600 Refer Standard Drawing 1174

MINIMUM REINFORCEMENT REQUIREMENTS (Refer Note 2)

hw	M	Type D1 Bars			12 dia. Type D2 Bars	
		dia.	A	B		C
400 - 1000	RL818	12	550	400	200	450
1001 - 1500	RL818	12	550	400	200	550
1501 - 2000	RL1018	12	600	400	100	600
2001 - 2500	RL1018	12	650	400	100	650
2501 - 3000	RL1218	20	750	500	100	650
3001 - 3700	RL1218	20	1000	1000	100	700
3701 - 4350	RL1218	20	1800	1800	100	700

NOTES :

- CONCRETE :
Reinforced concrete class S40/20 (S50/20).
Concrete cover to be 55 (75) unless shown otherwise.
Exposure classification B2.
- STEEL :
Reinforcing steel to be in accordance with AS/NZS 4671.
Deformed bars - Grade D500N.
Round bars - Grade R250N.
Deformed Wire - Grade D500L.
All reinforcing steel to be ACRS certified.
Steel reinforcement to be read in conjunction with Drg. Nos. 1043 and 1044.
- AGGRESSIVE ENVIRONMENT - Concrete class, dimensions indicating steel cover and 't' are shown in brackets for aggressive environment.
- WEEPHOLES of 90 dia. are to be provided at maximum 1200 crs. in wingwalls. A 300 x 300 x 150 no fines concrete block or approved equivalent is to be provided at each weephole. Location of weepholes is to provide 55 (75) clear cover to wingwall steel.
- LAPS shall be made so that the two outermost wires of one fabric overlap the two outermost wires of the sheet being lapped.
- MESH AND TYPE D1 & D2 BARS may be varied for the appropriate value of 'hw' used in the lower parts of the wing. 't' is a constant thickness based on maximum height 'Hw'.
- EXCESS BAR LENGTH - Excess bar length protruding outside the dimensions of the wall or footing shall be cut to provide the minimum cover.
- APRONS - A continuous reinforced concrete apron is to be provided between the walls when Hw > 3000 (refer Type 3 of Standard Drawings 1317 and 1318). Where the width between the walls makes a continuous apron uneconomic, the wall is to be referred for structural design.
- DETAILS TO BE SHOWN ELSEWHERE IN THE DOCUMENTS :
Wingwall lengths W1 and W2.
Aggressive environment treatment (if required).
- DIMENSIONS are in millimetres unless shown otherwise.

- ASSOCIATED DOCUMENTS :
- Department of Main Roads Manual of Standard Drawings Roads
 - Department of Main Roads Manual of Standard Specifications Roads
- REFERENCED DOCUMENTS :
- Standard Drawings :
- 1043 Reinforcing Steel - Standard Bar Shapes Drawings 1 of 2 and 2 of 2
 - 1044 Reinforcing Steel - Standard Hook, Lap and Bend Details and General Steel Reinforcing Information
 - 1174 R C Box Culverts - Construction of End Structures H = 150 - 600
 - 1316 R C Box Culverts & Slab Link Box Culverts - General Arrangement and Installation of Precast Units
 - 1317 R C Box Culverts & Slab Link Box Culverts - Construction of Bases with Nibs and Aprons
 - 1318 R C Box Culverts & Slab Link Box Culverts - Construction of Bases with Recesses and Aprons
 - 1320 R C Box Culverts & Slab Link Box Culverts - Crown Unit Holding Down Anchors
- Australian Standards :
- AS/NZS 4671 Steel Reinforcing Materials
 - AS/NZS 4680 Hot-dip Galvanized (Zinc) Coatings on Fabricated Ferrous Articles

R C BOX CULVERTS & SLAB LINK BOX CULVERTS

CONSTRUCTION OF REINFORCED CONCRETE WINGWALLS AND HEADWALLS



Size A3	Drawing No
Not to Scale	1303
	Date 4/06
	A B C D E F

1303