



**NOTES:**

- DESIGN LOADS ARE IN ACCORDANCE WITH AUSTRALIAN BRIDGE DESIGN CODE AS5100-2017.
- HEADWALLS ARE NOT DESIGNED FOR GUARDRAIL IMPACT FORCES.
- STANDARD DRAWING REFERENCES:
  - CS3100 - RECOMMENDED REINFORCEMENT COVER THICKNESS AND STRENGTH OF CONCRETE UNDER DIFFERENT EXPOSURE CLASS, WEEPHOLE NOTES, APRON DETAILS AND FOR MAXIMUM SPACING AND GROUTING METHODS.
  - CS3107 - RCBC SET OUT DETAILS & HEADWALL WINGWALL DETAIL FOR RCBC WITH D > 900mm.
  - CS3108 - ARRANGEMENT AND INSTALLATION DETAILS OF RCBC AND LINK SLAB
  - CS3110 - HEADWALL AND WINGWALL REINFORCING DETAILS FOR RCBC WITH D > 900mm
  - CS3111 AND CS3112 - BASE SLAB DETAILS.
  - CS3107 - CS3113 - SHEET 1 TO SHEET 7 OF THIS SET
  - CS3129 - CS3132 - CULVERT SETOUT DIMENSIONS & QUANTITIES FOR RCBC / SLBC
- REINFORCING BAR SHALL BE D500 AND MESH SHALL BE D500L IN ACCORDANCE WITH AS/NZS4671-2019.
- MINIMUM LAP SHALL BE 300mm FOR REINFORCING BARS AND 100mm FOR MESH.
- ALL EXPOSED EDGES TO BE PROVIDED WITH 20mm CHAMFERS.
- LAY 50mm COMPACTED SAND AS FOUNDATION PREPARATION.
- DEPTH OF HEAD WALL MAY VARY, BASED ON THE BATTER SLOPE & THICKNESS OF LINK SLAB. LOCALLY INCREASE HEADWALL HEIGHT SO THAT THE BATTER HINGE MEETS FLUSH WITH THE TOP OF HEADWALL.
- DESIRED HEADWALLS/WINGWALLS THICKNESS [T] IS 150mm. ANY OTHER PROJECT SPECIFIC THICKNESS SHALL DESIGN TO OBTAIN AN ADEQUATE CONCRETE COVER AS PER STANDARD DRAWING CS3100 NOTE 1.
- DOWELS ARE REQUIRED WHEN WIDTH OF THE CULVERT SYSTEM 'W' > 2.4m TO ENSURE SUFFICIENT RESISTANCE AGAINST SLIDING FAILURE.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

THIS DRAWING IS DERIVED FROM QUEENSLAND MAIN ROADS STANDARD DRAWING SET 1250 AND ADOPTED FOR NT CONDITIONS.

| No.        | DESCRIPTION                  | DATE      | NAME     | DEPT/COMPANY |
|------------|------------------------------|-----------|----------|--------------|
| 2          | DESIGN DETAILS AMENDED       | APR 2023  | J. COOK  | TCS / DIPL   |
| 1          | MINOR AMENDMENT              | OCT 2022  | N.V      | EES          |
| 0          | ISSUED AS A STANDARD DRAWING | SEPT 2017 | J.LEESON | EES/DIPL     |
| AMENDMENTS |                              |           |          |              |

**WARNING**  
 BEWARE OF UNDERGROUND SERVICES.  
 THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

|                          |                              |
|--------------------------|------------------------------|
| DRAWN<br>J.LEESON        | CHECKED<br>S.HATZI           |
| DATE<br>SEPT 2017        | DATE<br>SEPT 2017            |
| DESIGNED<br>S.A.         | CHECKED<br>S.A.              |
| DATE                     | DATE                         |
| DESIGN LEADER<br>S.HATZI | DESIGN DIRECTOR<br>S.JACKSON |
| DATE<br>1/09/2017        | DATE<br>1/09/2017            |



|  |           |           |             |                  |
|--|-----------|-----------|-------------|------------------|
| STANDARD DRAWINGS<br>DRAINAGE  |           |           |             |                  |
| REINFORCED CONCRETE BOX CULVERT (RCBC)<br>WINGWALL AND HEADWALL DETAIL FOR D ≤ 900mm |           |           |             |                  |
| FILE No.   | ASSET No. | SHEET No. | DRAWING No. | AMEND.           |
| -  | -         | 3 OF 7    | CS3109      | 2                |
|  |           |           |             | SHEET SIZE<br>A1 |