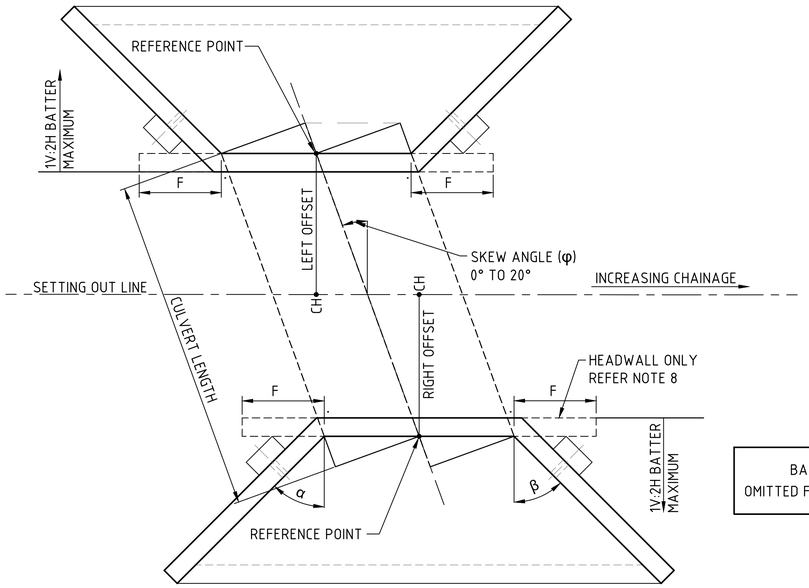
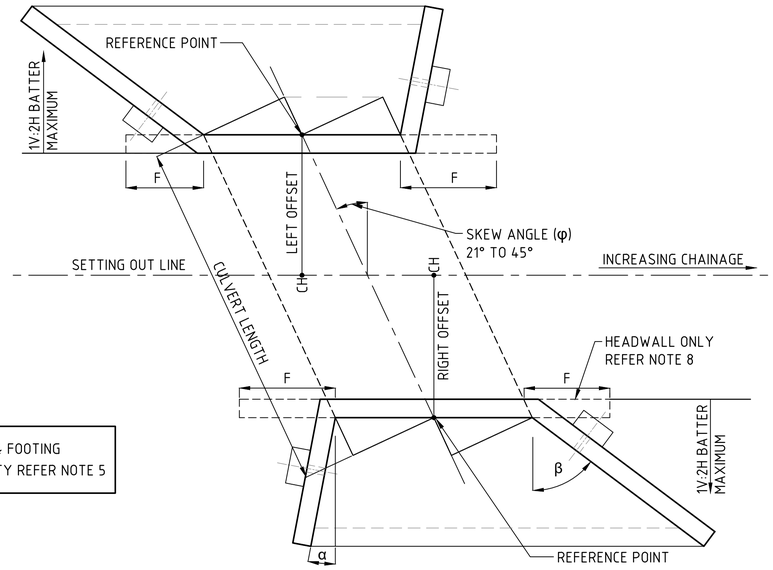


RCBC WITH SKEW ANGLE (φ) LESS THAN 20°
NOT TO SCALE

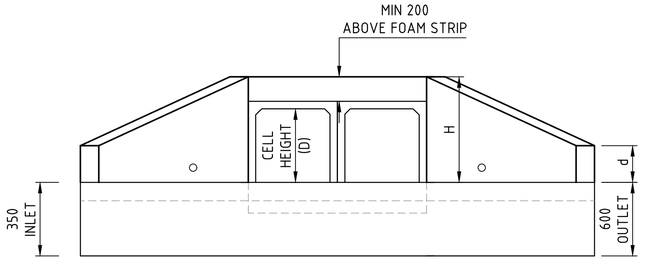
BASE SLAB & FOOTING
OMITTED FOR CLARITY REFER NOTE 5



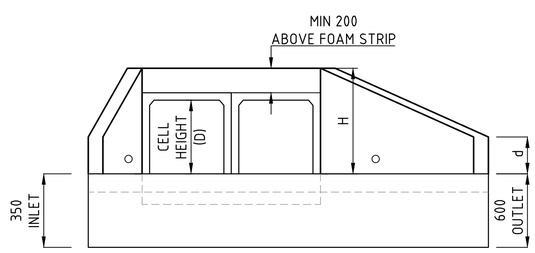
RCBC WITH SKEW ANGLE (φ) BETWEEN 20° AND 45°
NOT TO SCALE

EXAMPLE SET OUT PLAN FOR RCBC

(REFER TO NOTE 4 FOR REFERENCE POINT)

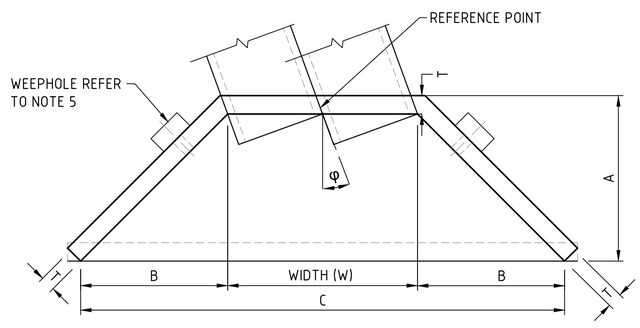


RCBC WITH SKEW ANGLE (φ) LESS THAN 20°
NOT TO SCALE

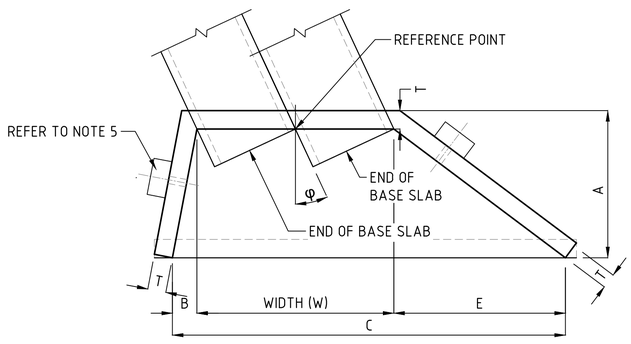


RCBC WITH SKEW ANGLE (φ) BETWEEN 20° AND 45°
NOT TO SCALE

ELEVATION



RCBC WITH SKEW ANGLE (φ) LESS THAN 20°
NOT TO SCALE



RCBC WITH SKEW ANGLE (φ) BETWEEN 20° AND 45°
NOT TO SCALE

HEADWALL & WINGWALL SET OUT DETAILS

NOTE

1. DESIGN LOADS ARE IN ACCORDANCE WITH AUSTRALIAN BRIDGE DESIGN CODE AS5100-2017.
2. HEADWALLS ARE NOT DESIGNED FOR GUARDRAIL IMPACT FORCES.
3. THE SETTING OUT DIMENSIONS IN THIS DRAWINGS ARE BASED ON A SET ROAD BATTER & CULVERT BATTER BEHIND THE WINGWALLS. THIS SHALL BE A MAXIMUM OF 1V:2H.
4. INLET AND OUTLET REFERENCE POINT FOR CULVERT SET-OUT LOCATED AT THE CENTER OF THE CULVERT CELL OR CELL GROUPS.
5. STANDARD DRAWING REFERENCES:
   - 5.1. CS3100 - NOTE 31 AND 32 FOR WEEPHOLES AND APRON DETAILS, NOTE 25 FOR MAXIMUM SPACING & GROUTING METHODS
   - 5.3. CS3108 - FOR LINK SLAB DETAILS.
   - 5.4. CS3109 AND CS3110 - FOR HEADWALL & WINGWALL REINFORCING DETAILS FOR CULVERT WITH D ≤ 900mm AND D > 900mm CORRESPONDINGLY.
   - 5.5. CS3111 - BASE SLAB & CONNECTION DETAILS WITH NIBS
   - 5.6. CS3112 - BASE SLAB & CONNECTION DETAILS WITH RECESSES
   - 5.7. CS3129 - CS3132 - WINGWALL SETOUT DIMENSIONS & QUANTITIES [A], [B], [C], [E], [H]
6. ALL EXPOSED EDGES TO BE PROVIDED WITH 20mm CHAMFERS.
7. LAY 50mm COMPACTED SAND AS FOUNDATION PREPARATION.
8. FOR BOX CULVERTS UP TO 600mm INTERNAL HEIGHT, WINGWALLS MAY BE OMITTED IN FAVOUR OF AN EXTENDED HEADWALL ARRANGEMENT. TYPICAL VALUES OF [F] ARE PROVIDED.
9. DEPTH OF HEADWALL MAY VARY, BASED ON THE BATTER SLOPE. LOCALLY INCREASE HEADWALL HEIGHT SO THAT BATTER HINGE MEETS FLUSH WITH TOP OF HEADWALL.
10. DESIRED HEADWALLS/WINGWALLS THICKNESS (T) ARE PROVIDED. ANY OTHER PROJECT SPECIFIC THICKNESS SHALL DESIGN TO OBTAIN AN ADEQUATE CONCRETE COVER AS PER STANDARD DRAWING CS3100 NOTE 1.
13. CROWN UNITS MAY BE PLACED EITHER TOUCHING OR WITH A GAP.
14. DO NOT USE THIS DRAWING SET FOR WINGWALL SETOUT IF A TRAVERSABLE WINGWALL GRATE IS TO BE INSTALLED. REFER CS3133 FOR USE OF THE WINGWALL GRATE
15. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

SETOUT REFERENCES & ABBREVIATIONS

DESCRIPTION	REFERENCE
REINFORCED CONCRETE BOX CULVERT	RCBC
SLAB LINK BOX CULVERT	SLBC
SKEW ANGLE	φ
HEADWALL HEIGHT FROM TOP OF APRON TO TOP OF HEADWALL	H
CULVERT CELL HEIGHT	D
CULVERT WINGWALL END HEIGHT	d = 200mm
DESIRABLE WINGWALL / HEADWALL THICKNESS	D ≤ 900mm, T = 150mm D > 900mm, T = 250mm
CULVERT APRON LENGTH	A
WINGWALL ANGLE 1	α
WINGWALL ANGLE 2	β
WIDTH DUE TO WINGWALL ANGLE 1	B
WIDTH DUE TO WINGWALL ANGLE 2	E
CULVERT WIDTH	W
HEADWALL EXTENSION (HEADWALL ONLY)	D = 450mm, F = 700mm D = 600mm, F = 950mm D > 600mm, F = N/A
APRON END WIDTH/GRATE MAX SPAN	C

THIS DRAWING IS DERIVED FROM TRANSPORT SOUTH AUSTRALIA STANDARD DRAWING S-4002, SHEET 19 & 20 AND ADOPTED FOR NT CONDITIONS.

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
4	DESIGN DETAILS AMENDED & SETOUT UPDATED	APR 2023	J. COOK	TCS / DIPL
3	MINOR AMENDMENT	OCT 2022	N.V	TCS / DIPL
2	HEAD WALL ANGLE MODIFIED FOR RCBC	JUNE 2018	S.JALIL	EES/DIPL
1	HEADWALL DETAILS ADDED	DEC 2017	J.STANW	EES/DIPL
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 J.LEESON	DATE	CHECKED S.HATZI	DATE
DESIGNED S.A.	DATE	CHECKED S.A.	DATE
DESIGN LEADER S.HATZI	DATE 1/09/2017	DESIGN DIRECTOR S.JACKSON	DATE 1/09/2017

Northern Territory Government

STANDARD DRAWINGS
DRAINAGE

REINFORCED CONCRETE BOX CULVERT (RCBC)
SET OUT DETAILS

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
-	-	1 OF 7	CS3107	4	A1

CS3107_AMED_4 RELEASED 12/07/2023