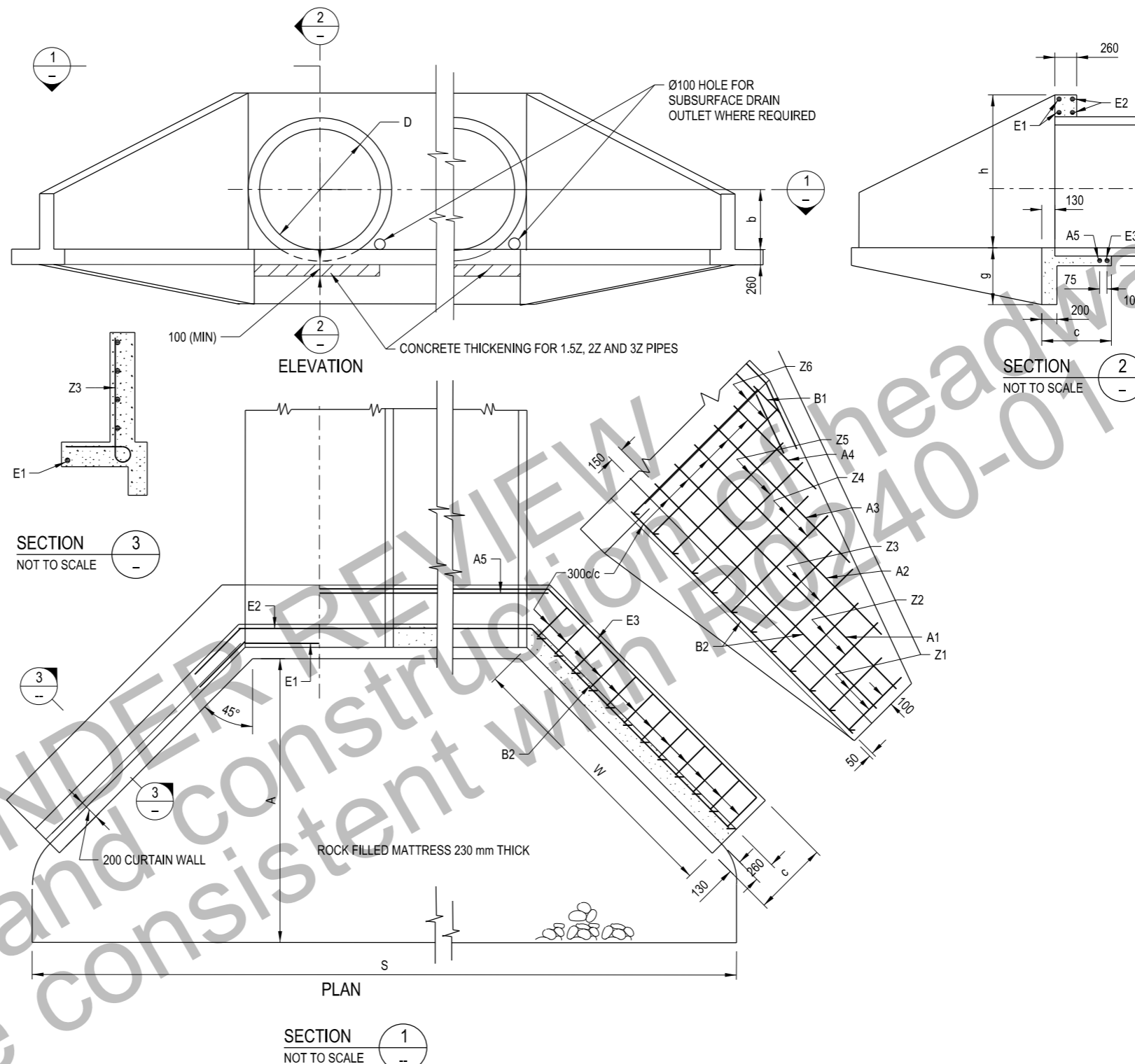


REINFORCEMENT FOR 2 HEADWALLS

SHAPE	MARK	DIA mm	PIPE DIA mm	L1 mm	L LENGTH mm	No. REQ'D	TOTAL LENGTH m	MASS kg
	A1	12	1 050	1 850	1 850	4	7.40	6.57
			1 200	2 250	2 250	4	9.00	7.99
			1 350	2 400	2 400	4	9.60	8.52
			1 500	2 800	2 800	4	11.20	9.95
			1 800	3 300	3 300	4	13.20	11.72
	A2	12	1 050	1 200	1 200	4	4.80	4.26
			1 200	1 550	1 550	4	6.20	5.51
			1 350	1 900	1 900	4	7.60	6.75
			1 500	2 350	2 350	4	9.40	8.35
	A3	12	1 800	2 950	2 950	4	11.80	10.48
			1 350	1 250	1 250	4	5.00	4.44
			1 500	1 700	1 700	4	6.80	6.04
	A4	12	1 800	2 350	2 350	4	9.40	8.35
			1 800	1 750	1 750	4	7.00	6.22
	A5	12	1 350	7 080	7 080	2	14.16	17.57
			1 500	7 530	7 530	2	15.06	13.35
1 800			8 520	8 520	2	17.04	15.04	
	B1	12	1 050	650	950	4	3.80	3.37
			1 200	1 000	1 300	4	5.20	4.62
			1 350	700	1 000	4	4.00	3.55
			1 500	1 100	1 400	4	5.60	4.97
			1 800	1 100	1 400	4	5.60	4.97
B2	12	1 050	1 950	2 250	8	18.00	15.98	
		1 200	2 350	2 650	8	21.20	18.83	
		1 350	2 525	2 825	8	22.60	20.08	
		1 500	2 850	3 150	8	25.20	22.38	
		1 800	3 450	3 750	8	30.00	26.64	
	E1	12	1 050	5 800	7 300	4	29.20	25.93
			1 200	6 250	7 750	4	31.00	27.53
			1 350	6 820	8 320	4	33.28	29.55
			1 500	7 330	8 830	4	35.32	31.36
			1 800	8 280	9 780	4	39.12	34.74
E2	12	1 050	6 000	7 500	4	30.00	26.64	
		1 200	6 450	7 950	4	31.80	28.24	
		1 350	6 970	8 470	4	33.88	30.09	
		1 500	7 430	8 930	4	35.72	31.72	
		1 800	8 320	9 820	4	39.28	34.88	
	E3	12	1 050	6 210	10 410	2	20.82	18.49
			1 200	6 690	11 490	2	22.98	20.41
			1 350	7 200	12 600	2	25.20	22.38
			1 500	7 810	13 810	2	27.62	24.53
			1 800	8 300	15 500	2	31.00	27.53
	Z1	12	1 050	580	1 340	4	5.36	4.76
			1 200	600	1 360	8	10.88	9.66
			1 350	700	1 450	8	11.60	10.30
			1 500	650	1 650	8	13.20	11.72
	Z2	12	1 800	650	1 650	8	13.20	11.72
			1 050	740	1 520	8	12.16	10.58
			1 200	900	1 650	8	13.20	11.72
			1 350	1 000	1 750	8	14.00	12.43
	Z3	12	1 500	950	1 950	8	15.60	13.85
			1 800	1 000	2 000	8	16.00	14.21
			1 050	1 010	1 790	8	14.32	12.72
			1 200	1 200	1 950	8	15.60	13.85
Z4	12	1 350	1 300	2 050	8	16.40	14.56	
		1 500	1 200	2 200	8	17.60	15.63	
		1 800	1 250	2 250	8	18.00	15.98	
		1 050	1 320	2 100	8	16.80	14.92	
Z5	12	1 200	1 500	2 250	8	18.00	15.98	
		1 350	1 575	2 350	8	18.60	16.52	
		1 500	1 500	2 500	8	20.00	17.76	
Z6	12	1 800	1 600	2 600	8	20.80	18.47	
		1 500	1 800	2 800	8	22.40	19.89	
			1 800	1 850	2 850	8	22.80	20.25
			1 800	2 150	3 150	8	25.20	22.38



D	NOMINAL PIPE DIAMETER	(mm)	1 050	1 200	1 350	1 500	1 800
h	HEADWALL HEIGHT	(mm)	1 380	1 550	1 700	1 900	2 270
g	CURTAIN WALL DEPTH	(mm)	600	600	700	700	750
c	CURTAIN WALL WIDTH	(mm)	700	700	700	900	900
b	WINGWALL HEIGHT	(mm)	450	450	530	530	600
W	WINGWALL LENGTH	(mm)	1 930	2 300	2 490	2 850	3 400
	CONC. IN 2 HEADWALLS	(m ²)	8.0	10.5	11.9	14.7	18.4
A	APRON WIDTH	(m)	5.5	6.1	6.7	7.3	8.5
S	APRON LENGTH	(m)	8.8	9.8	10.5	11.6	13.3

NOTES

1. CONCRETE STRENGTH GRADES SHOWN ARE FOR EXPOSURE CLASSIFICATION A2. REFER TO AS3600-2009, FOR CONCRETE STRENGTH GRADE, COVER TO REINFORCEMENT AND FOR OTHER EXPOSURE CLASSIFICATIONS.
2. CLEAR COVER TO OUTER FACE OF REINFORCEMENT 50 mm UNLESS OTHERWISE SHOWN.
3. CONCRETE GRADE N25.
4. ALL BARS TO BE GRADE 400Y TO AS4671-2001.
5. SPACING FOR MULTIPLE PIPES AS SPECIFIED IN R0240-01.

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED



REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
1	9/10/17	Added Watermark		SFR

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN	
SCALES ON A3 SIZE DRAWING	CONTACT DETAILS
	SEND FEEDBACK ON THIS STANDARD DRAWING TO : technologystandards@rms.nsw.gov.au
	DATE 20.01.17

ISSUED	SFR
MANAGER ROAD POLICY, SPECIFICATIONS & TECHNOLOGY	

NSW GOVERNMENT
Transport
Roads & Maritime
Services

PREPARED BY
ENGINEERING SERVICES
ROAD POLICY, SPECIFICATIONS
AND TECHNOLOGY

STANDARD DRAWING		A3
ROAD DESIGN ENGINEERING		
R0210 STORMWATER DRAINAGE SERIES - HEADWALLS		
CONCRETE HEADWALLS TRIPLE CELL Ø300 mm TO Ø900 mm		
WITH ROCK MATTRESS PROTECTION (2 TO 1 BATTER OR STEEPER) SHEET 1 OF 1		
STANDARD DRAWING No.	R0210-09	REV. 1
STATUS	ISSUED	
EDMS No.	DS2014/005797	ORIGINAL ISSUE DATE JANUARY 2017