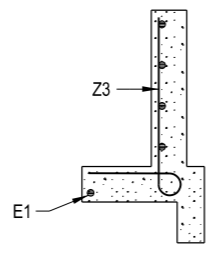
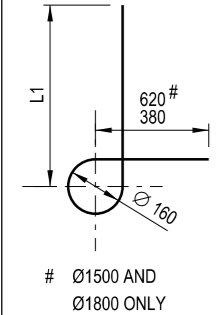
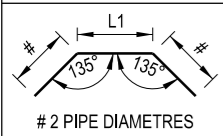
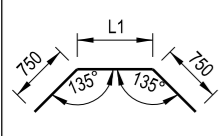
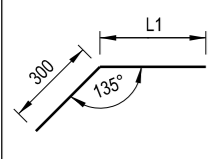
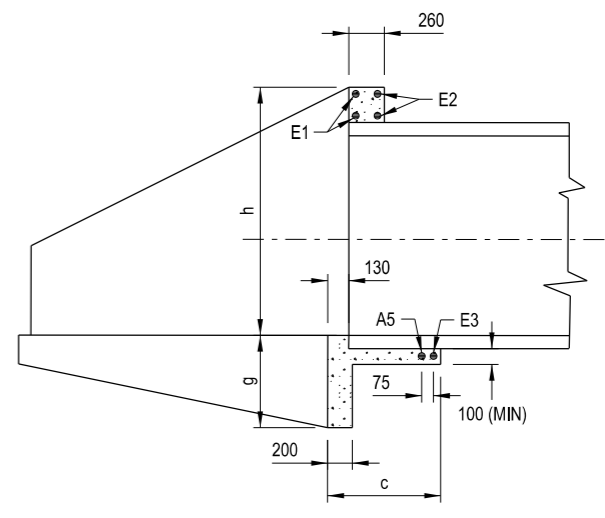
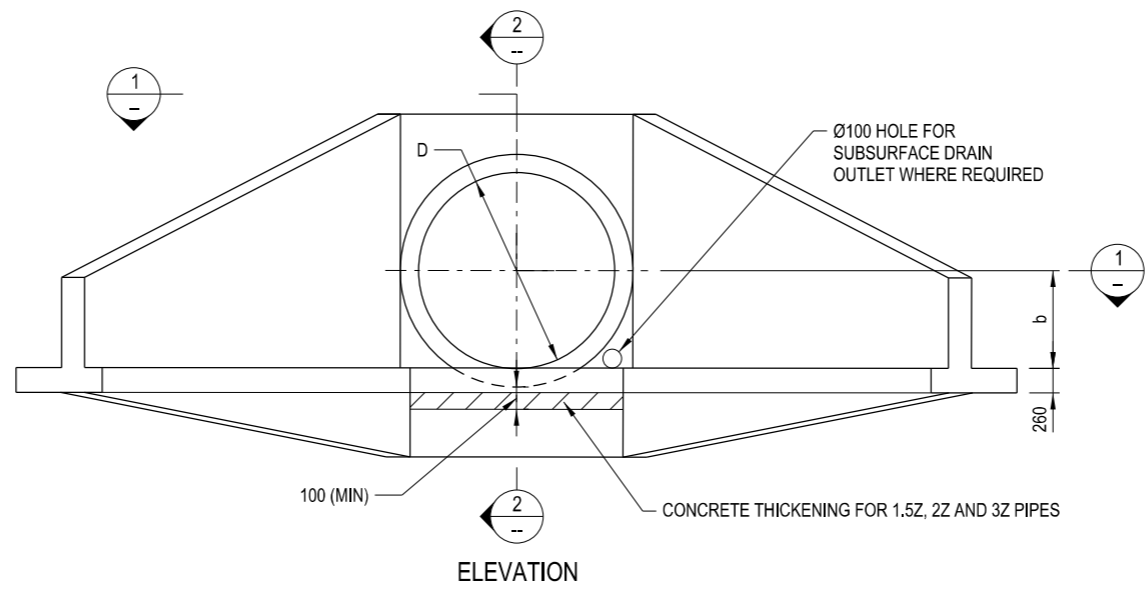
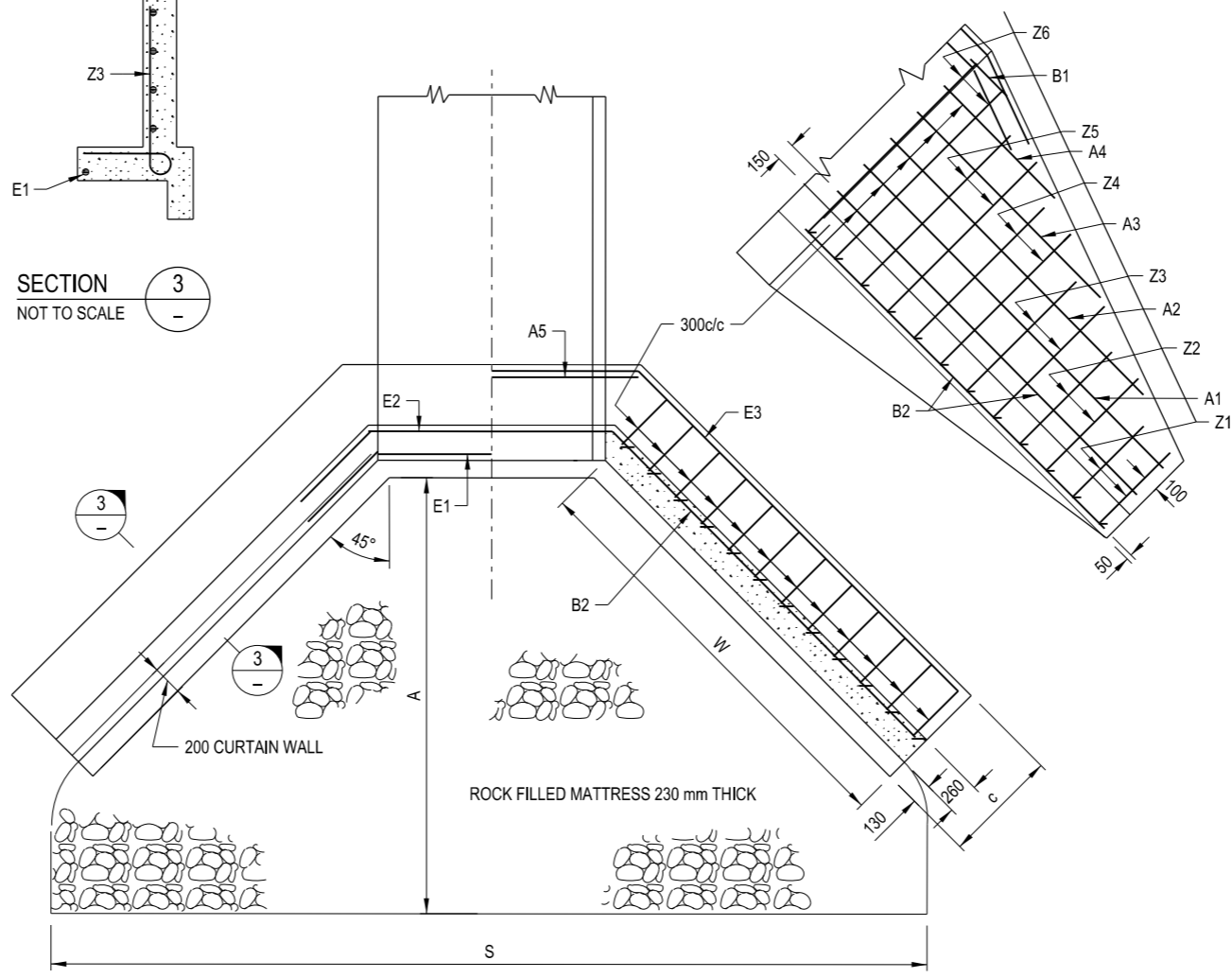


REINFORCEMENT FOR 2 HEADWALLS

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
	A4	12	1 500	1 700	1 700	4	6.80	6.04
			1 800	2 350	2 350	4	9.40	8.35
	A5	12	1 800	1 750	1 750	4	7.00	6.22
			1 350	1 825	1 825	2	3.65	3.24
1 500			1 975	1 975	2	3.95	3.51	
	12	1 800	2 300	2 300	4	4.60	4.05	
		1 050	650	950	4	3.80	3.37	
		1 200	1 000	1 300	4	5.20	4.62	
B1	12	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	
		1 050	1 950	2 250	8	18.00	15.98	
B2	12	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	1 200	2 700	4	10.80	9.59	
		1 200	1 350	2 850	4	11.40	10.12	
		1 350	1 575	3 075	4	12.30	10.92	
		1 500	1 750	3 250	4	13.00	11.54	
		1 800	2 100	3 600	4	14.40	12.79	
E2	12	1 050	1 330	2 830	4	11.32	10.05	
		1 200	1 470	2 970	4	11.88	10.55	
		1 350	1 675	3 175	4	12.70	11.28	
		1 500	1 800	3 300	4	13.20	11.72	
E3	12	1 800	2 150	3 650	4	14.60	12.96	
		1 050	1 600	5 800	2	11.60	10.30	
		1 200	1 750	6 550	2	13.10	11.63	
		1 350	1 950	7 350	2	14.70	13.05	
Z1	12	1 500	2 250	8 250	2	16.50	14.65	
		1 800	2 600	9 800	2	19.60	17.40	
		1 050	580	1 330	4	5.32	4.72	
		1 200	600	1 350	8	10.80	9.59	
Z2	12	1 350	700	1 450	8	11.60	10.30	
		1 500	650	1 650	8	13.20	11.72	
		1 800	650	1 650	8	13.20	11.72	
		1 050	740	1 490	8	11.92	10.58	
Z3	12	1 200	900	1 650	8	13.20	11.72	
		1 350	1 000	1 750	8	14.00	12.43	
		1 500	950	1 950	8	15.60	13.85	
		1 800	1 000	2 000	8	16.00	14.21	
Z4	12	1 050	1 010	1 760	8	14.08	12.50	
		1 200	1 200	1 950	8	15.60	13.85	
		1 350	1 300	2 050	8	16.40	14.56	
		1 500	1 200	2 200	8	17.60	15.63	
Z5	12	1 800	1 250	2 250	8	18.00	15.98	
		1 050	1 320	2 070	8	16.56	14.71	
		1 200	1 500	2 250	8	18.00	15.98	
		1 350	1 575	2 350	8	18.60	16.52	
Z6	12	1 500	1 500	2 500	8	20.00	17.76	
		1 800	1 600	2 600	8	20.80	18.47	
	12	1 500	1 800	2 800	8	22.40	19.89	
		1 800	1 850	2 850	8	22.80	20.25	
Z6	12	1 800	2 150	3 150	8	25.20	22.38	



SECTION 3 NOT TO SCALE



SECTION 1 NOT TO SCALE

SECTION 2 NOT TO SCALE

Symbol	Description	Unit	1 050	1 200	1 350	1 500	1 800
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 <sup>2</sup> )	4.3	5.6	6.4	8.2	11.1
A	APRON WIDTH	(m)	5.5	6.1	6.7	7.3	8.5
S	APRON LENGTH	(m)	4.6	5.2	5.65	6.1	7.3

- NOTES
- CONCRETE STRENGTH GRADE SHOWN ARE FOR EXPOSURE CLASSIFICATION A2. REFER TO AS3600-2009, SECTION 4 FOR CONCRETE STRENGTH GRADES, COVER TO REINFORCEMENT AND FOR OTHER EXPOSURE CLASSIFICATIONS.
  - CLEAR COVER TO OUTER FACE OF REINFORCEMENT 50 mm UNLESS OTHERWISE SHOWN.
  - CONCRETE GRADE N25.
  - ALL BARS TO BE GRADE 400Y TO AS4671-2001.

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

QR CODE 	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN	CONTACT DETAILS	ISSUED	<b>Transport Roads &amp; Maritime Services</b> STANDARD DRAWING ROAD DESIGN ENGINEERING R0210 STORMWATER DRAINAGE SERIES - HEADWALLS CONCRETE HEADWALLS SINGLE CELL Ø1050mm to Ø1800mm WITH ROCK MATTRESS PROTECTION (2 TO 1 BATTER OR STEEPER) SHEET 1 OF 1 STANDARD DRAWING No. <b>R0210-03</b>	REV.
						SCALES ON A3 SIZE DRAWING	SEND FEEDBACK ON THIS STANDARD DRAWING TO : technologystandards@rms.nsw.gov.au	SFR MANAGER ROAD POLICY, SPECIFICATIONS & TECHNOLOGY DATE 20.01.17		STATUS ISSUED

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