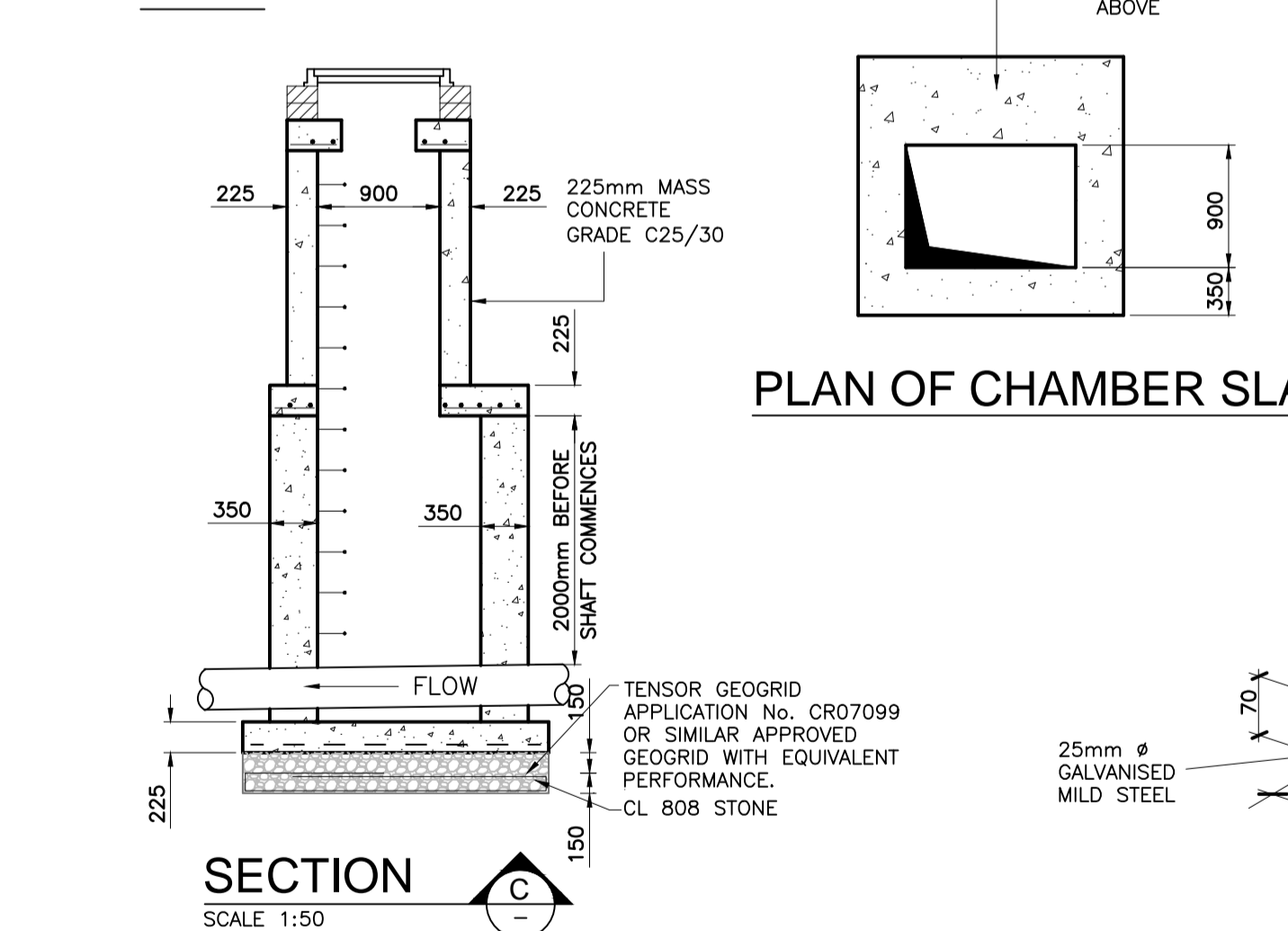
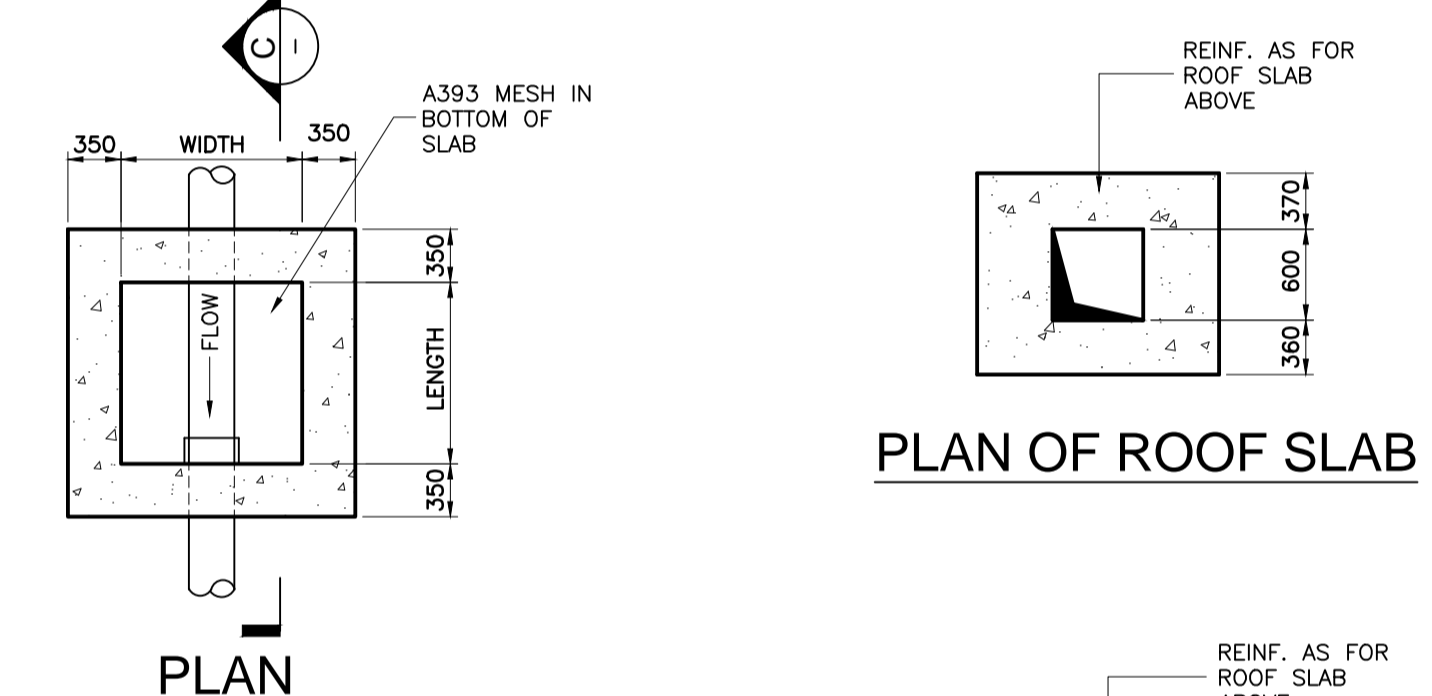
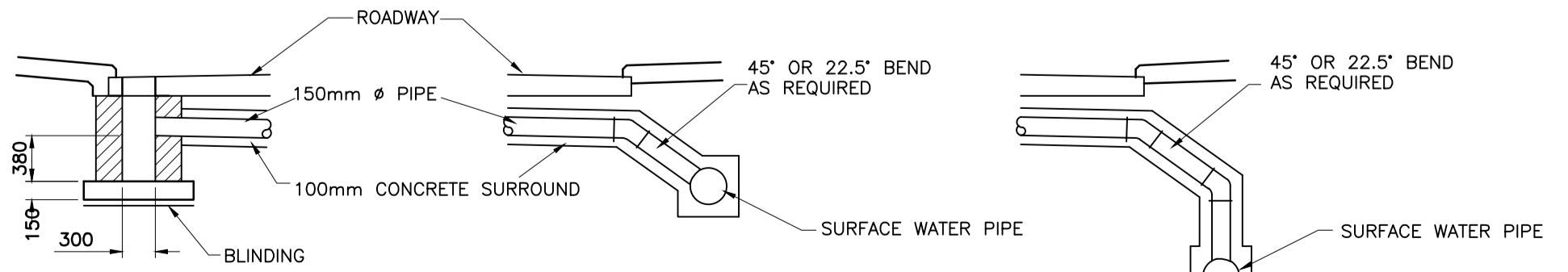
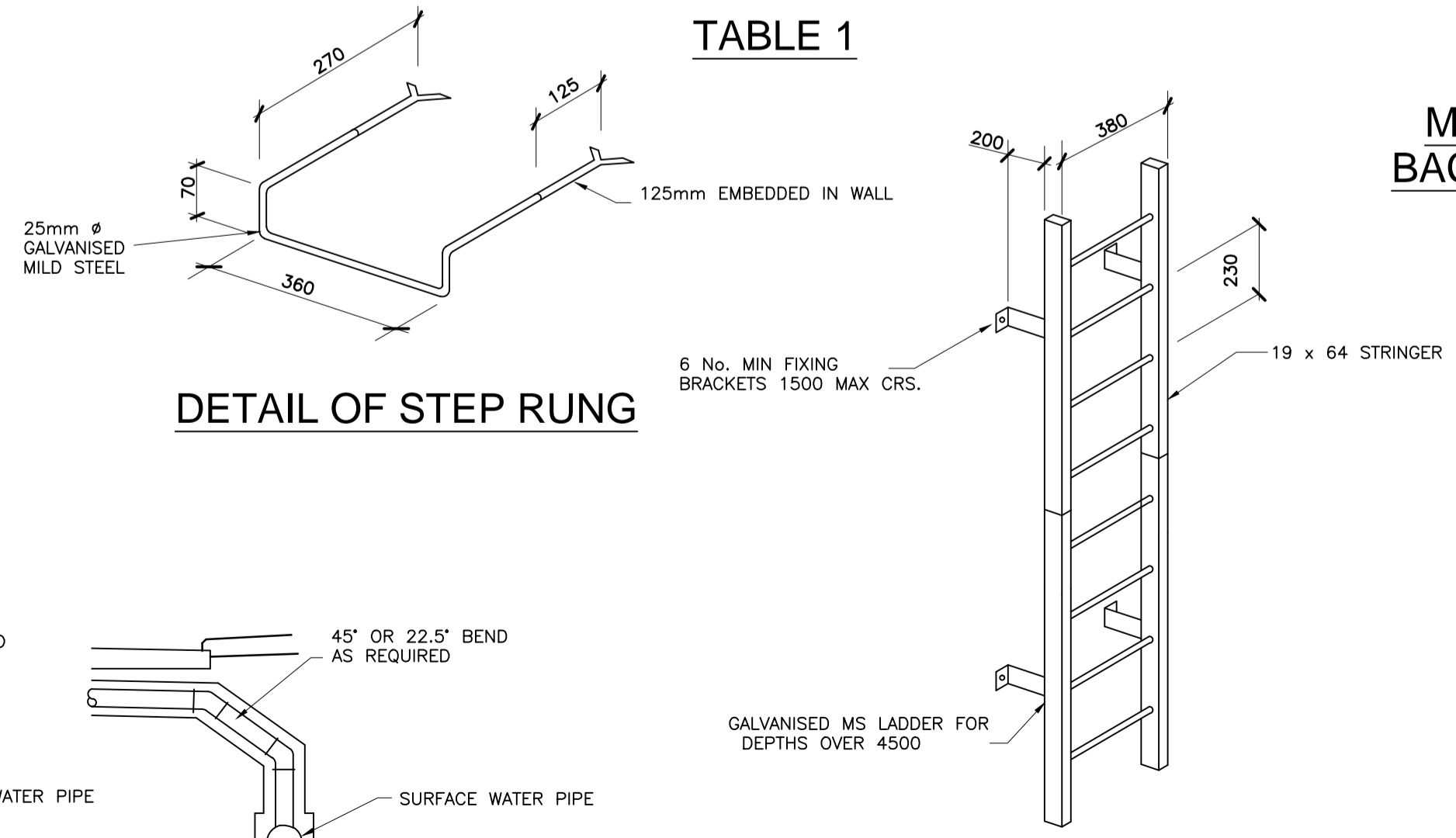


DETAILS OF STANDARD MANHOLE UP TO 3000 DEEP
(FOR DIMENSIONS ETC. SEE TABLE 1)



DETAILS OF STANDARD MANHOLE 3000-6000 DEEP
(FOR DIMENSIONS ETC. SEE TABLE 1)



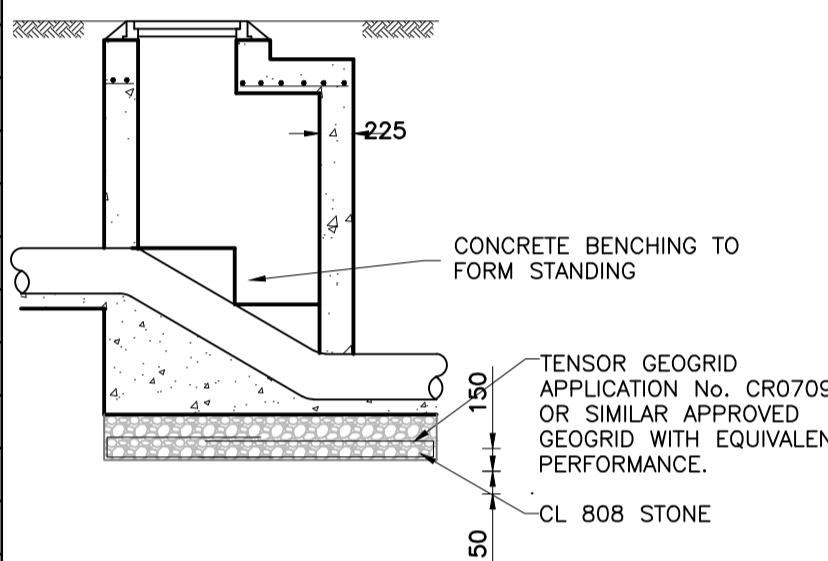
GULLY CONNECTION TO S.W. SEWER ACROSS ROADWAY

TABLE 1

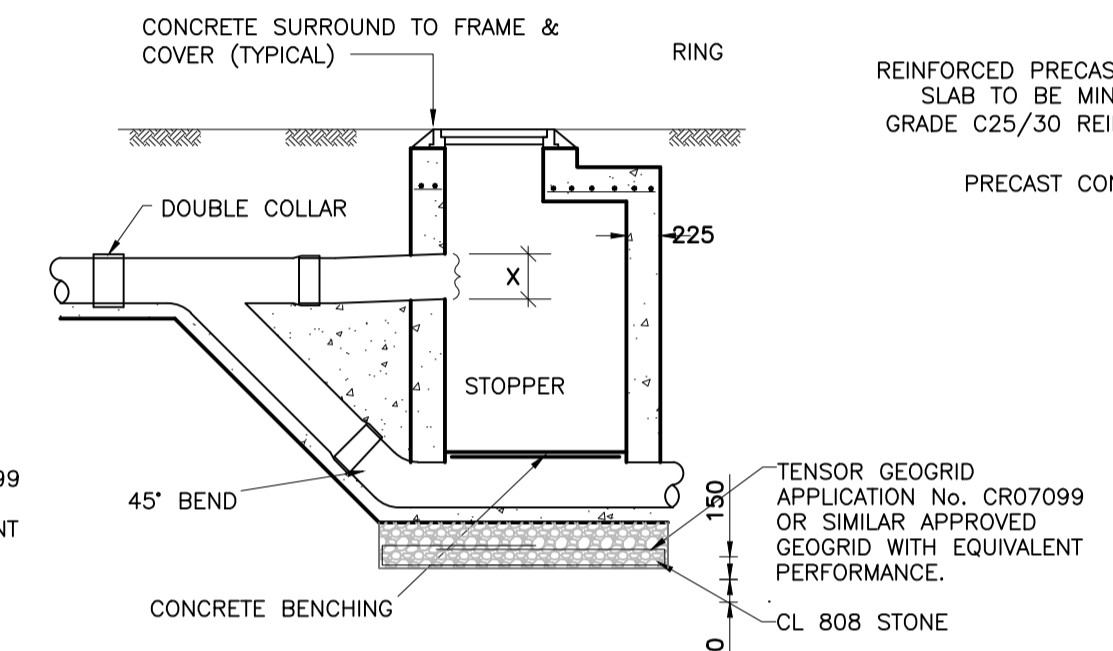
DEPTH	DIAMETER OF PIPE	ANGLE	MINIMUM DIMENSIONS		P.C. CONCRETE CIRCULAR SHAFT INTERNAL MH Ø
			LENGTH	WIDTH	
LESS THAN 1200	100	0-90°	1200	750	1050
	150	0-90°	1200	750	1050
	225	0-30°	1200	750	1050
		30°-90°	1200	750	1050
	300	0-30°	1200	750	1050
		30°-90°	1200	900	1050
	375	0-90°	1200	900	1050
	450	0	1200	1050	1050
	450	0-90°	1200	1200	1050
		0	1200	1200	1200
600	0	1200	1200	1200	
	0-45°	1200	1350	1200	
750	0-45°	1200	1350	1350	
	45°-90°	1350	1350	1350	
900	0-45°	1350	1500	1500	
	45°-90°	1500	1500	1800	
1200-3500	100	0-90°	1200	900	1200
	150	0-90°	1200	900	1200
	225	0-90°	1200	900	1200
	300	0-90°	1200	900	1200
	375	0-90°	1200	900	1200
	450	0	1200	1050	1200
	450	0-45°	1350	1350	1350
		45°-90°	1200	1350	1350
	525	0	1200	1200	1200
		0-45°	1200	1350	1350
600	45°-90°	1350	1350	1350	
	0-45°	1200	1350	1350	
750	45°-90°	1350	1350	1350	
	0-45°	1350	1350	1350	
900	0-45°	1350	1500	1800	
	45°-90°	1500	1500	1800	
3500-6000	100	0-90°	1200	900	1200
	150	0-90°	1200	900	1200
	225	0-90°	1200	900	1200
	300	0-90°	1200	900	1200
	375	0-90°	1200	900	1200
	450	0-45°	1200	1350	1350
	450	45°-90°	1350	1350	1350
		0-45°	1200	1350	1350
	525	0-45°	1200	1350	1350
		45°-90°	1350	1350	1500
600	0-45°	1200	1350	1350	
	45°-90°	1350	1350	1500	
750	0-45°	1200	1350	1500	
	45°-90°	1350	1350	1500	
900	0-45°	1350	1500	1800	
	45°-90°	1500	1500	1800	

MANHOLE TYPE	DIA. OF INLET	DROP	DIA. OF DROP	X
TYPE A	225	0-500	225	-
		500-1000	225	225
		> 1000	225	225
TYPE A	300	0-600	300	-
		600-1000	300	300
		> 1000	225	300
TYPE A	375	0-750	450	-
		750-1200	300	450
		> 1200	300	300
TYPE A	450	0-750	450	-
		750-1200	300	450
		> 1200	300	450
TYPE A	525	0-750	525	-
		750-1200	375	525
		> 1200	300	375
TYPE A	600	0-750	600	-
		750-1500	375	375
		> 1500	375	375
TYPE A	750	0-750	600	-
		750-1500	450	450
		> 1500	375	450

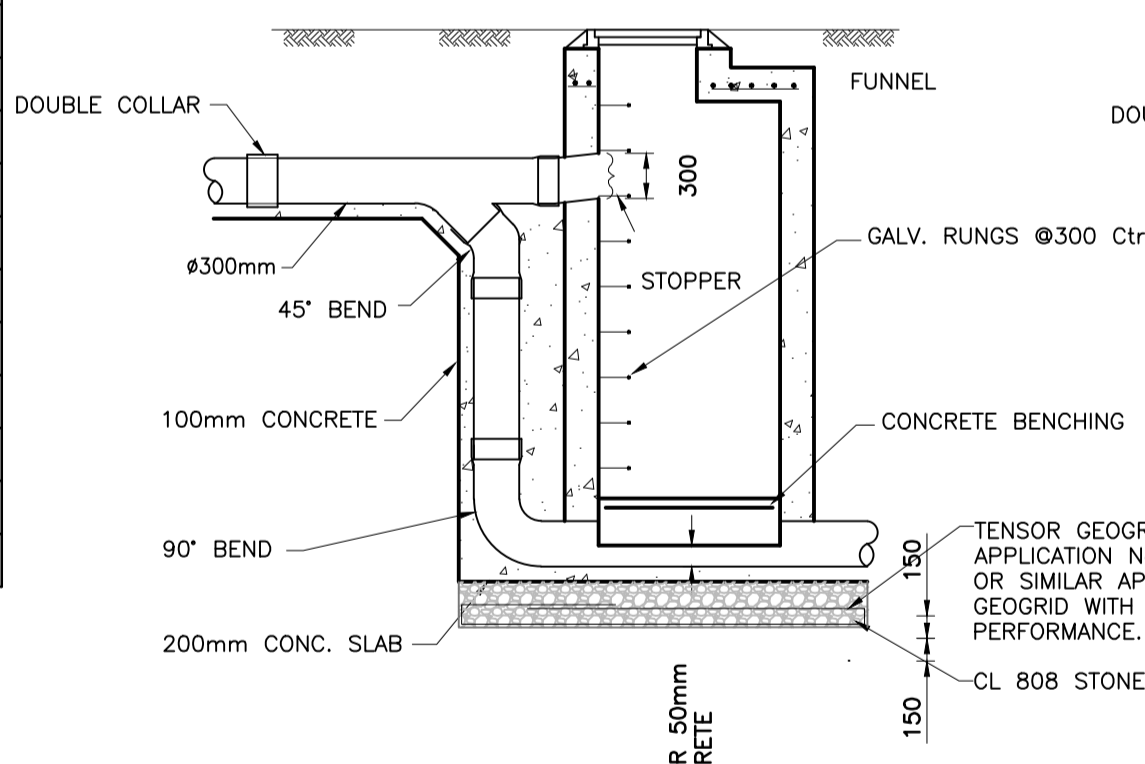
TABLE 2



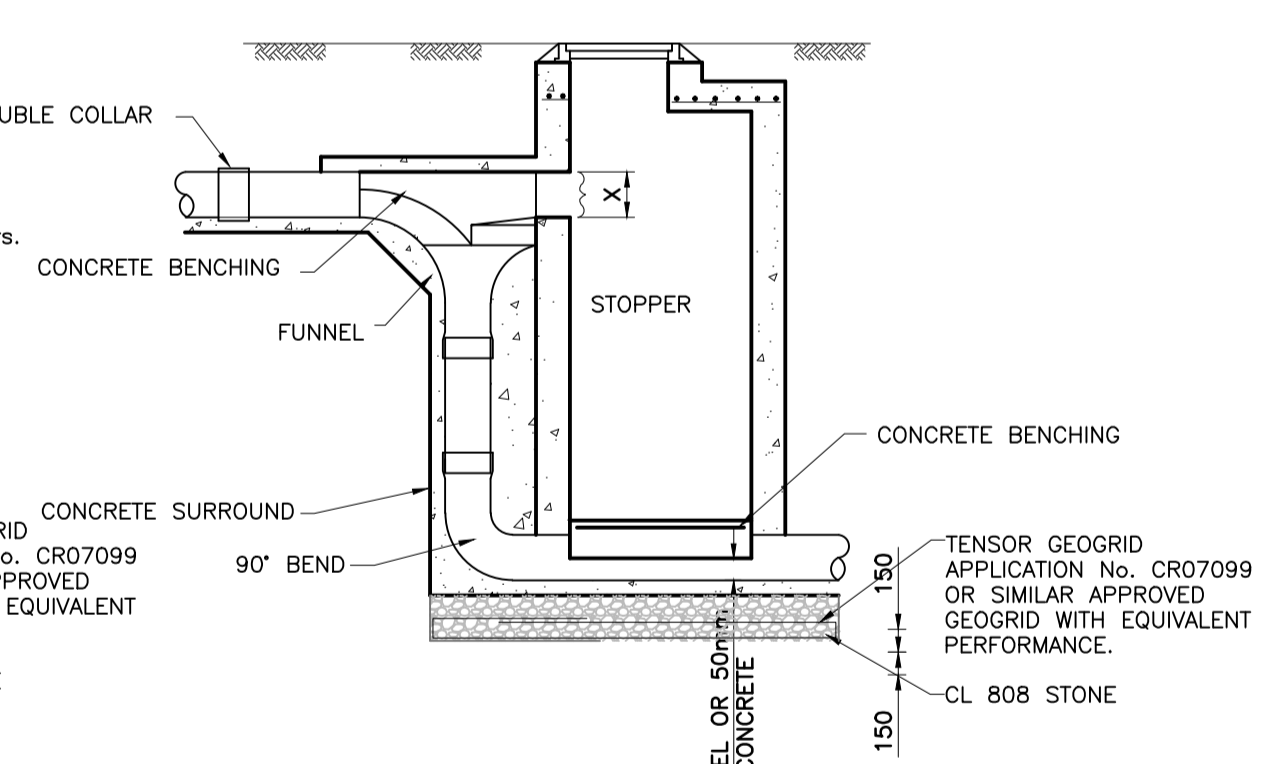
MANHOLE TYPE 'A' RAMP MANHOLE



MANHOLE TYPE 'B' INTERMEDIATE DROP MANHOLE

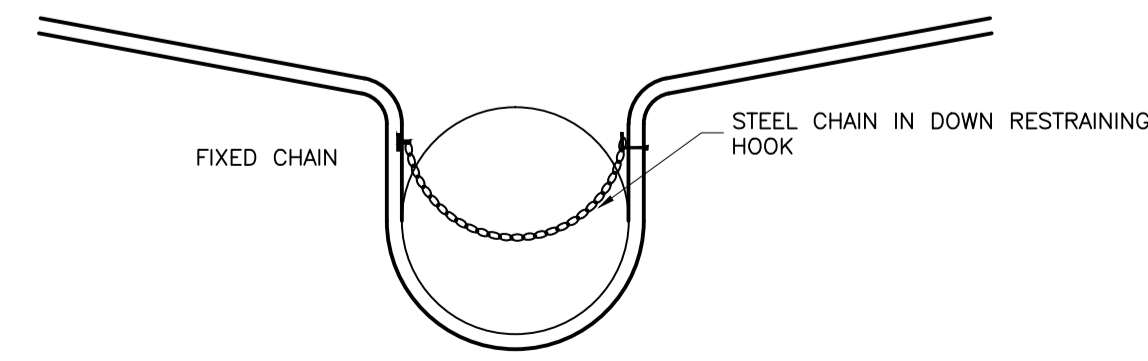


MANHOLE TYPE 'C' BACK DROP MANHOLE



MANHOLE TYPE 'D' BACK DROP MANHOLE

NOTE:
FOR DIMENSIONS ETC. TO MANHOLES TYPE 'A', 'B', 'C', & 'D' SEE TABLE 2



TYPICAL DETAIL OF SAFETY CHAIN

NOTES

- PRECAST MANHOLES SHALL HAVE 150mm GRADE C16/20 CONCRETE SURROUND UNLESS MANUFACTURER CAN SHOW, TO THE ENGINEERS SATISFACTION, THAT PERMANENTLY WATERPROOF JOINTS CAN BE ACHIEVED BY SOME OTHER METHOD
- FOR 750mm Ø PIPES OR GREATER, USE A SAFETY CHAIN AND PROVIDE 25mm Ø GALVANISED SOLID BAR HANDRAILS AT EDGES OF BENCHING
- STEP RUNGS TO BE PROVIDED IN MANHOLES MORE THAN 1m DEEP
- MANHOLE COVERS & FRAMES SHALL BE IN ACCORDANCE WITH EN 124. WATERWORKS (SLUICE VALVES, HYDRANTS ETC.) SHALL BE IN ACCORDANCE WITH IS261
- IN MANHOLES WHOSE PIPE DIAMETER IS GREATER THAN 375, ONE BENCHING SHOULD BE AT LEAST 400 WIDE
- BENCHING TO BE OF CLASS C16/20 CONCRETE FINISHED WITH 2:1 SAND/CEMENT MORTAR
- ALL MANHOLE COVERS & GULLIES TO BE LOCKABLE
- PRECAST CONCRETE RINGS TO BE ENCASED IN 150mm MIN. MASS CONCRETE.

NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR STORED IN ANY RETRIEVAL SYSTEM OF ANY NATURE WITHOUT THE WRITTEN PERMISSION OF MALONE O'REGAN CONSULTING ENGINEERS AS COPYRIGHT HOLDER EXCEPT AS AGREED FOR USE ON THE PROJECT FOR WHICH THE DRAWING WAS ORIGINALLY ISSUED.

- A. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALISTS DRAWINGS.
- B. ALL DIMENSIONS IN mm UNLESS NOTED.
- C. DO NOT SCALE DIMENSIONS.
- D. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. DISCREPANCIES SHALL BE REPORTED TO THIS OFFICE IN WRITING.

LOCAL AUTHORITY / COUNTY COUNCIL GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF HOUSING MANUAL TO TAKE PRECEDENCE WHERE ANY CONFLICT OCCURS.

ALL EXCAVATIONS/FORMATIONS TO BE SUBJECT TO PLATE TESTS AT LOCATIONS TO BE AGREED ON SITE

PRECAST MANHOLES SHALL HAVE 150mm GRADE C16/20 CONCRETE SURROUND UNLESS MANUFACTURER CAN SHOW, TO THE ENGINEERS SATISFACTION, THAT PERMANENTLY WATERPROOF JOINTS CAN BE ACHIEVED BY SOME OTHER METHOD

PRECAST CONCRETE MANHOLE

P1	ISSUED FOR PART 8 PLANNING	13.04.17	KD	DW
P	PLANNING ISSUE	08.02.17	KD	DW
REV	DESCRIPTION	DATE	DRWN BY	CHKD BY

ADR MALONE O'REGAN CONSULTING ENGINEERS
2B Richview Office Park, Clonskeagh, DUBLIN 14.
Tel: +353 1 260 2655 Fax: +353 1 260 2660 Email: info@morje.ie
St. Catherine's House, Catherine Street WATERFORD
Tel: +353 51 876 855 Fax: +353 51 876 828 Email: info@waterford.morje.ie

CLIENT NAME	RESPOND	DRAWING NAME	SITE DEVELOPMENT DETAILS		
JOB NAME	PROPOSED DEVELOPMENT AT FLINTERS FIELD, ATHY CO. KILDARE	SHEET NUMBER	SHEET 1 DRAINAGE DETAILS		
JOB NUMBER	16036	DRAWING NUMBER	120	REVISION	P1
SHEET SIZE	A1	SCALE	SHOWN	DATE	DEC'16
DRAWN BY	KD	ENGINEER	ND		