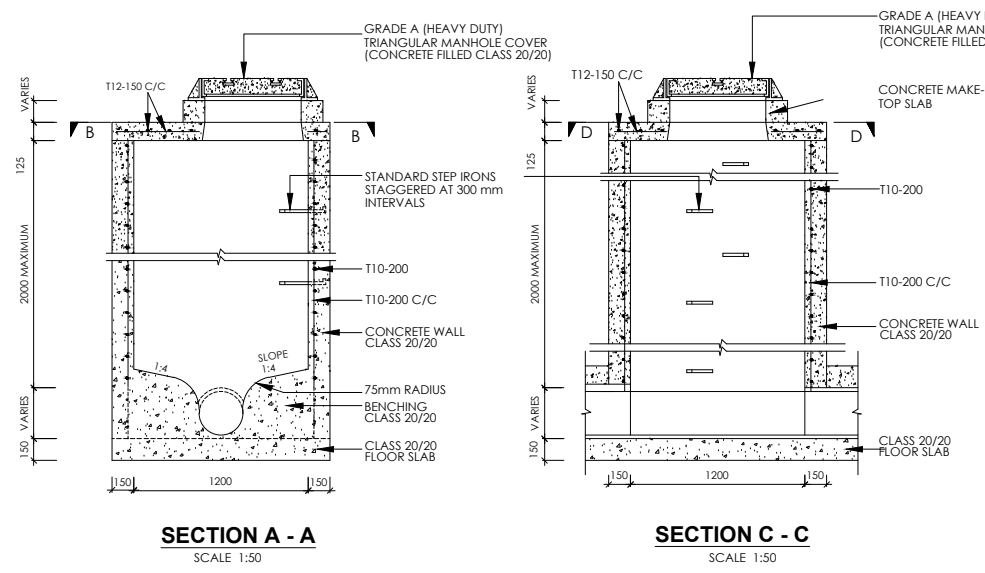
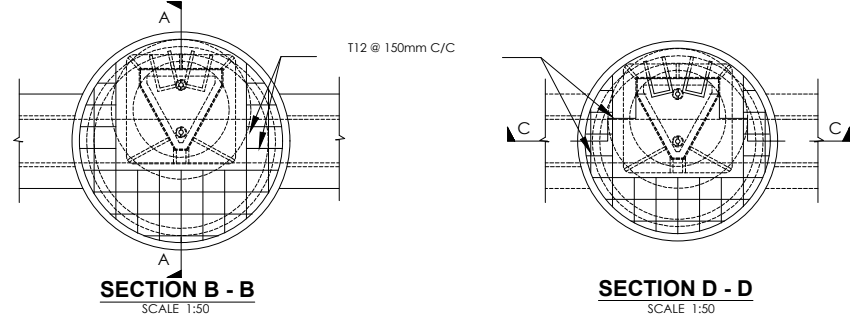
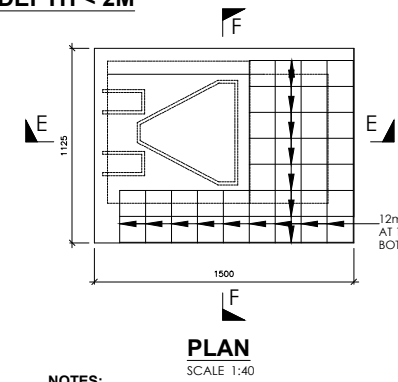
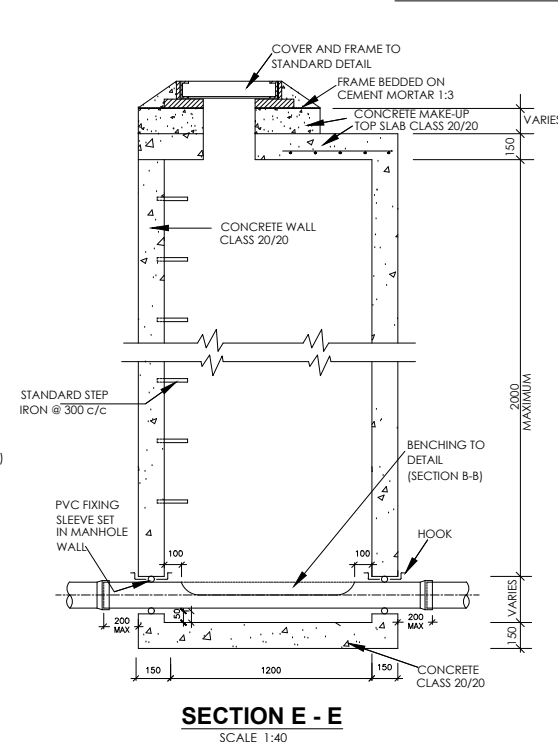


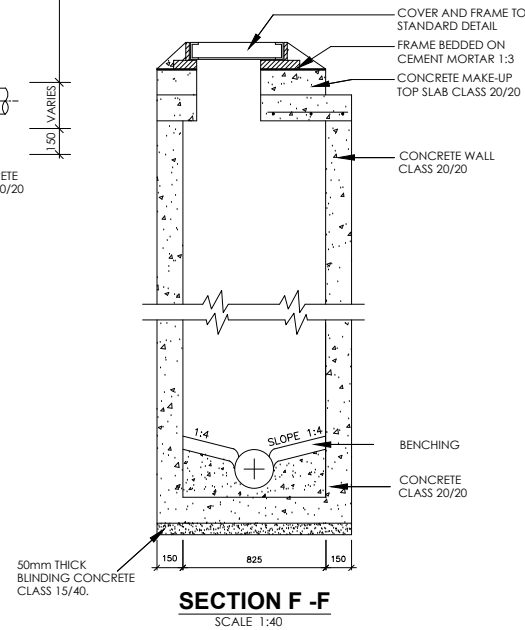
REINFORCED CONCRETE CIRCULAR MANHOLE & COVER
DEPTH n.e. 2.0m



RECTANGULAR MANHOLE FOR DEPTH < 2M

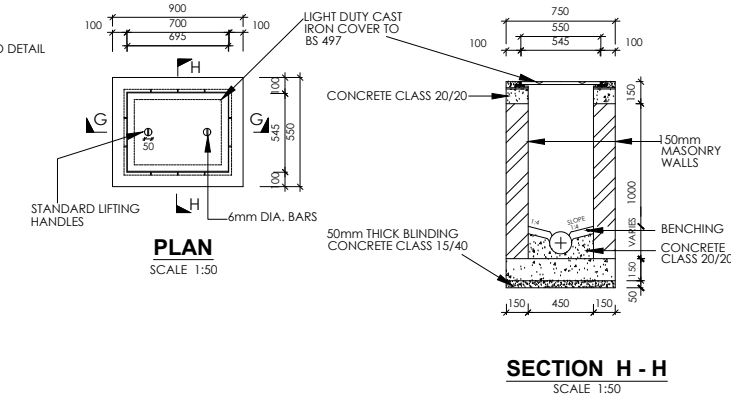
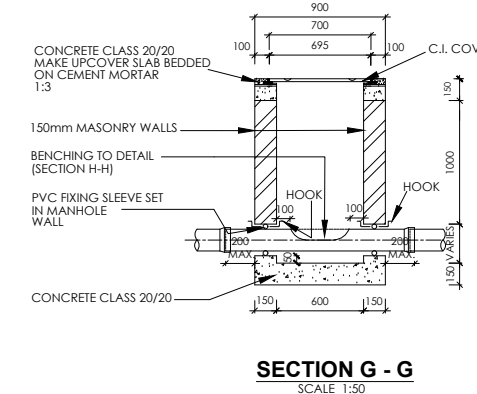


NOTES:
1. ALL CONCRETE TO BE CLASS 20/20 IN ACCORDANCE WITH THE SPECIFICATION
2. uPVC PIPE CUT TO MID DIAMETER INSIDE MANHOLE AS DETAILED.

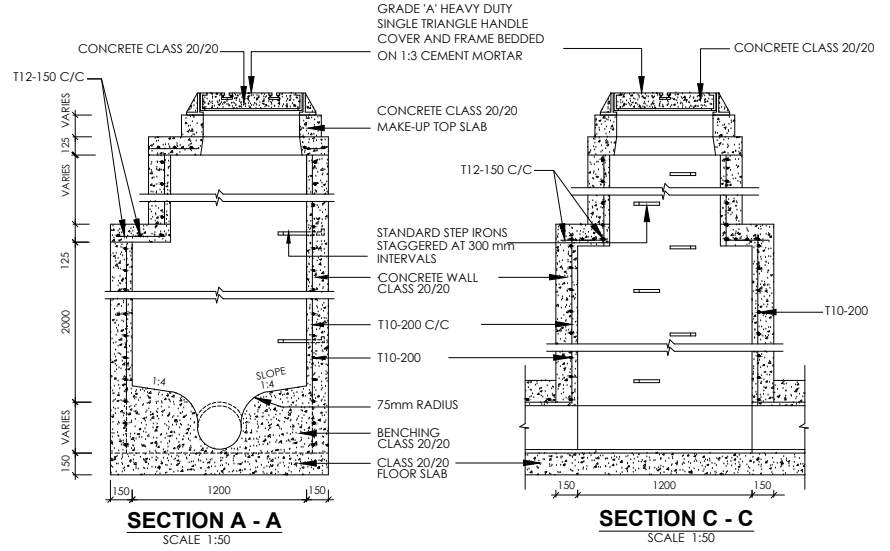


NOTES:
1. INSPECTION CHAMBER SHOULD BE SIZE 600x450mm UPTO DEPTH OF 1000mm
2. FOR INSPECTION CHAMBER EXCEEDING DEPTH 1000mm SIZE SHOULD BE 850x1200mm
3. WALLS OF INSPECTION CHAMBER TO BE OF MASONRY

INSPECTION CHAMBER DETAILS



REINFORCED CONCRETE MANHOLE & COVER
DEPTH > 2.0m



- NOTES**
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED
 2. ALL CONCRETE TO BE CLASS 20/20
 3. ALL PRECAST CONCRETE UNITS TO BS 556
 4. CONCRETE FILLING CLASS 25/20 VIBRATED AND CURED IN ACCORDANCE WITH THE APPROPRIATE SPECIFICATION CLAUSES.
 5. TOLERANCE ON OVERALL SIZE 3mm
 6. ALL HAUNCHES ARE CLASS 15/40 CONCRETE AS INDICATED ON THE SPECIFICATION OVER EXCAVATION TO BE MADE GOOD IN CONCRETE CLASS 15/40.

ABBREVIATIONS

1. n.e. - NOT EXCEEDING
2. c/c - CENTRE TO CENTRE
3. MIN - MINIMUM
4. G.L. - GROUND LEVEL
5. mm - MILLIMETER
6. m - METRE
7. EXT. DIA. - EXTERNAL DIAMETER
8. OD - OUTSIDE DIAMETER
9. ND - NOMINAL DIAMETER
10. RC - REINFORCED CONCRETE
11. T10 - TWISTED BAR 10mm SIZE
12. NTS - NOT TO SCALE
13. CU.M PER LIN. METER - CUBIC METER PER LINEAR METER
14. CI - CAST IRON

NOTES

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		BY		
		CHECKED		
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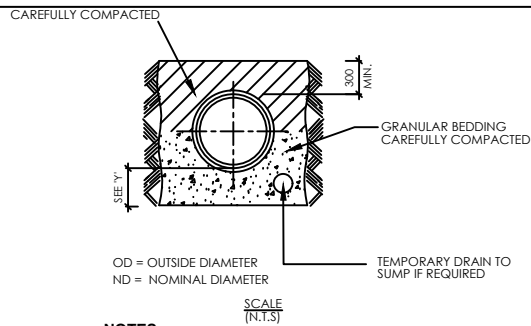
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PROJECT
MAUA SEWERAGE LAST MILE CONNECTIVITY PROJECT

Civil/Structural Engineers
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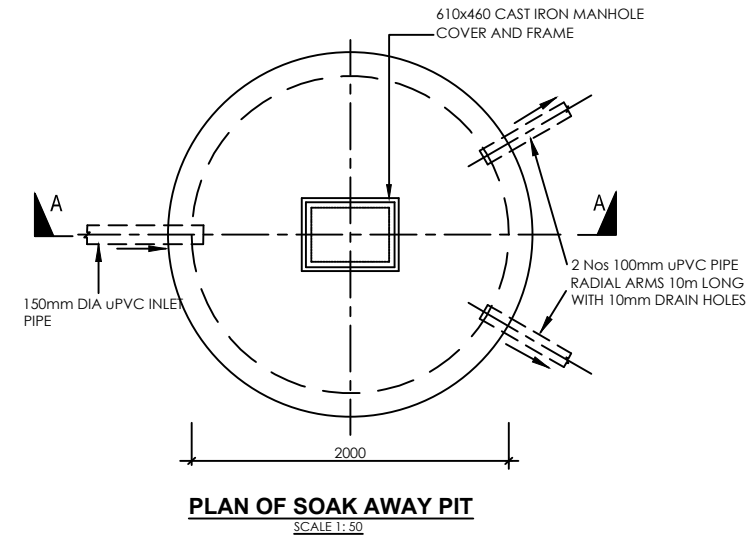
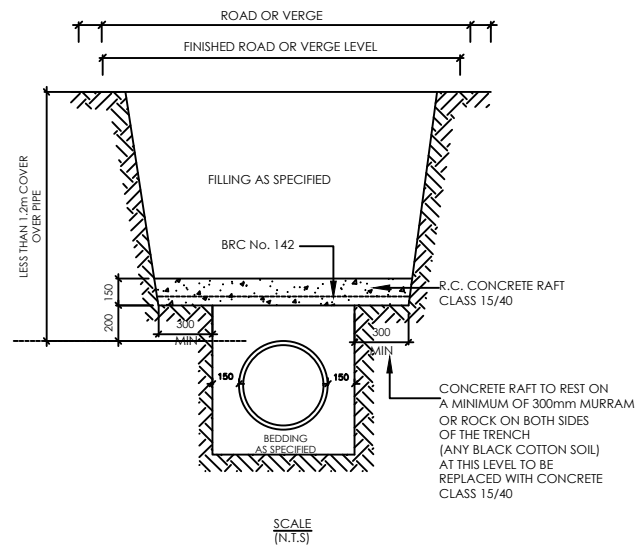
Drawing Title
MAUA LAST MILE SEWERAGE PROJECT
MANHOLE DETAILS
PLAN AND PROFILE (SHEET 1 OF 3)

Designed by KNG	Drawn by MMM
Checked by JMM	Approved by
Scale AS SHOWN (A1)	Date APRIL 2024
Job No. 1	ACAD File:
C STATUS	DRAWING No. TWWDA/MALMSP/MHD PD REV

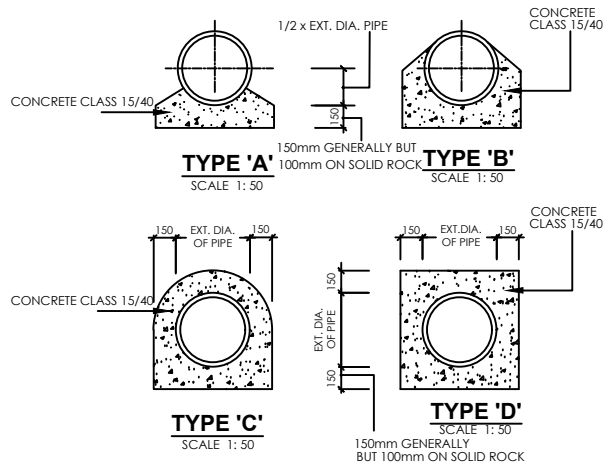


NOTES:

1. DIMENSION 'Y' IN ROCK OR MIXED SOILS CONTAINING ROCK BANDS BOULDERS OR STONES OR OTHER IRREGULAR HARD SPOTS. Y = 1/4 OD UNDER BARRELS WITH MIN. 150mm (PLUS 12mm PER 300mm OF COVER IN EXCESS OF 4.85m) UNDER BOTH BARRELS AND SOCKETS IN MACHINE DUG UNIFORM SOILS Y = OD UNDER BARRELS WITH MIN. 100mm UNDER BOTH BARRELS AND SOCKETS
2. FOR GRANULAR BED AND SURROUND TO PIPES UNIFORMLY GRADED GRANULAR MATERIAL SUCH AS GRAVEL OR BROKEN STONE TO BE USED. IT SHOULD PASS 12mm SIEVE OR SHALL BE RETAINED ON 5mm SIEVE.
3. TRENCHES MUST BE KEPT TO DESIGN WIDTH



CONCRETE PIPE BEDS AND HAUNCHES



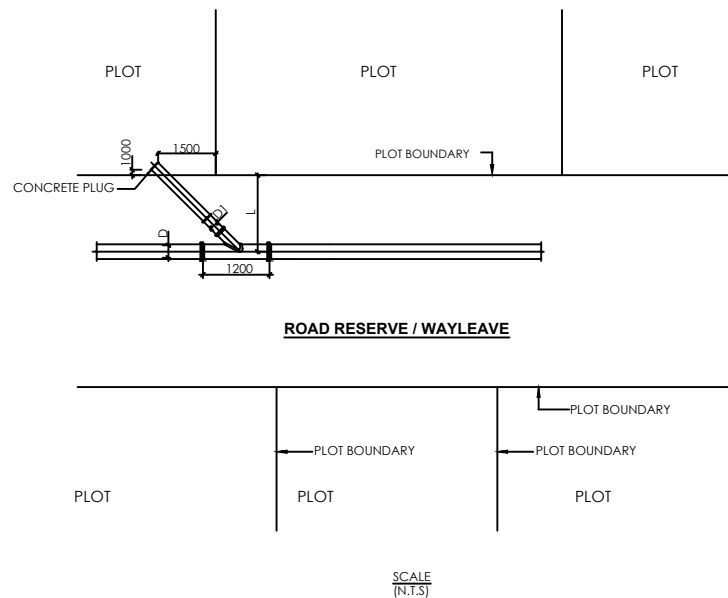
PIPE DIAMETER mm	PIPE WALL THICKNESS mm	HAUNCH TYPE							
		'A'		'B'		'C'		'D'	
		100mmBED	150mmBED	100mmBED	150mmBED	100mmBED	150mmBED	100mmBED	150mmBED
100	25.4	0.0556	0.0791	0.0799	0.1034	0.1431	0.1666	0.1653	0.1888
150	25.4	0.0642	0.0904	0.0845	0.1107	0.1706	0.1968	0.1981	0.2242
225	28.57	0.0783	0.1053	0.1262	0.1557	0.2155	0.2450	0.2525	0.2821
300	31.75	0.0929	0.1277	0.1557	0.1905	0.2617	0.2965	0.3100	0.3448
375	34.92	0.1080	0.1470	0.1864	0.2255	0.3094	0.3485	0.3702	0.4093
450	38.10	0.1253	0.1689	0.2208	0.2644	0.3623	0.4059	0.4382	0.4818
525	44.45	0.1433	0.1916	0.2564	0.3046	0.4169	0.4652	0.5052	0.5536
600	50.80	0.1619	0.2147	0.2943	0.3471	0.4731	0.5259	0.5844	0.6372
675	53.98	0.1804	0.2375	0.3310	0.3880	0.5270	0.5841	0.6570	0.7141
750	57.15	0.1986	0.2600	0.3582	0.4295	0.5823	0.6436	0.7325	0.7938
900	63.50	0.2378	0.3077	0.4479	0.5161	0.6973	0.7672	0.8922	0.9620
1050	69.85	0.2810	0.3605	0.4945	0.5741	0.8181	0.8977	1.0635	1.1431
1200	76.20	0.3291	0.4161	0.6230	0.7101	0.9448	1.0318	1.2466	1.3336

CONCRETE QUANTITIES IN BED AND SURROUNDS FOR O. G. CONCRETE PIPES (CU.M.PER LIN. METER)

DEPTH TO THE TOP OF PIPE	PIPE DIAMETER IN mm									AS SPECIFIED BY ENGINEER
	150	225	300	375	450	525	600	675	750	
<1.25M IN ROADS <1.00M ELSEWHERE	TYPE 'C'									
<4.00M	TYPE 'A' (CONCRETE BED) MAY BE DELETED AT THE DISCRETION OF THE ENGINEER				TYPE 'B'					
>4.00M	TYPE 'B'									
>6.00M OR IN HEADING	TYPE 'C' OR 'D' AS DIRECTED									

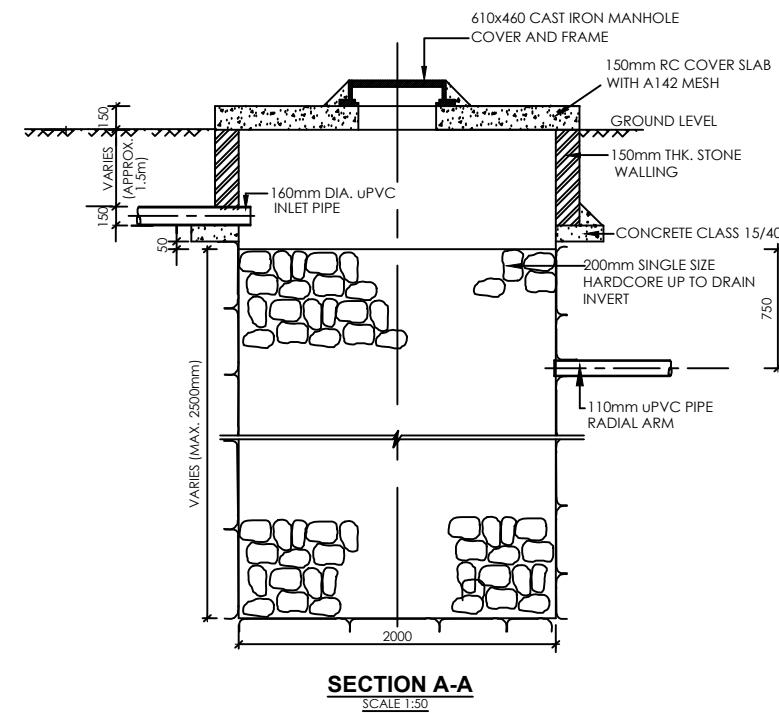
TYPE OF BED AND HAUNCH TO BE USED

Y - JUNCTION DETAILS



NOTES:


- L - TO BE DETERMINED ON SITE
- D - VARIES BETWEEN 160 - 250mm
- D1 - 160mm DIA uPVC SEWER PIPE




NOTES

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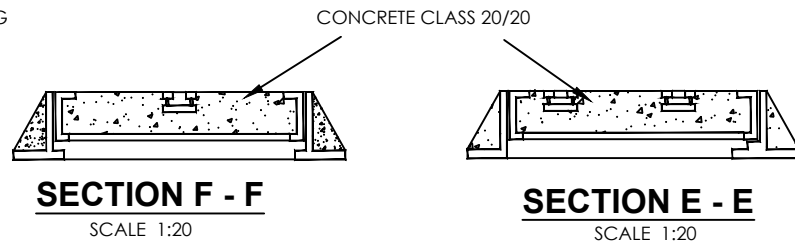
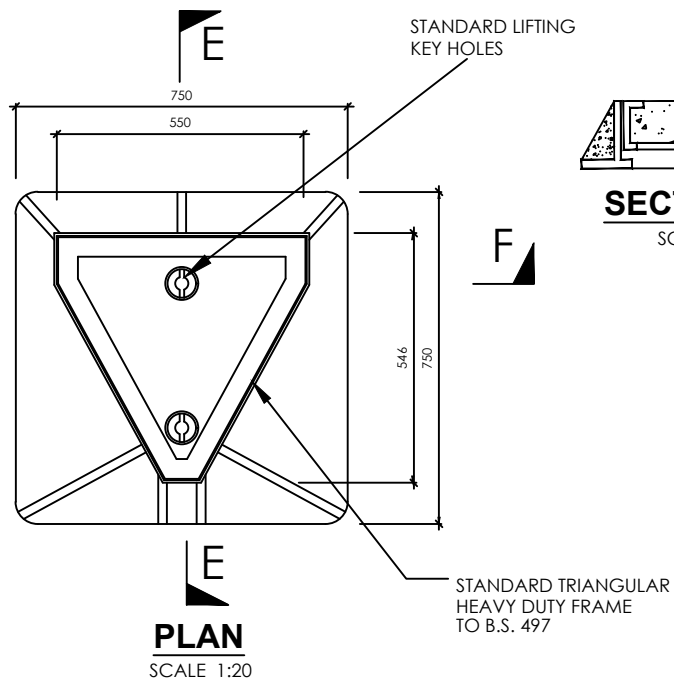
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MAUA SEWERAGE LAST MILE CONNECTIVITY PROJECT

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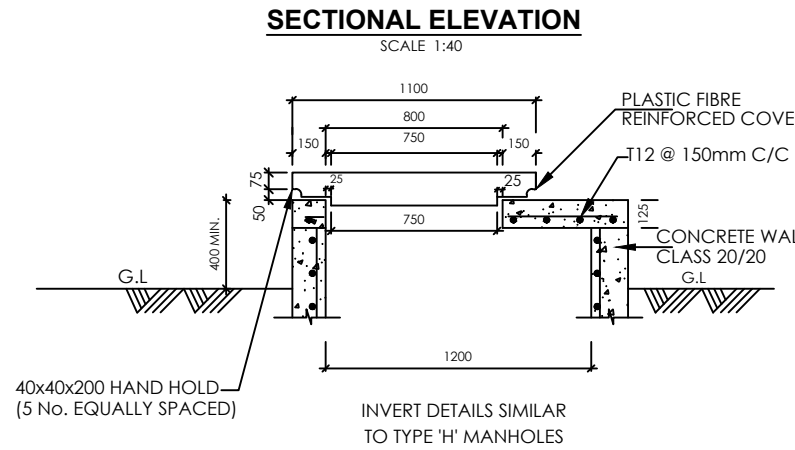
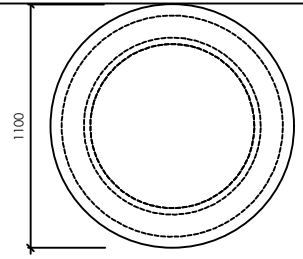
Drawing Title
**MAUA LAST MILE SEWERAGE PROJECT
 MANHOLE DETAILS
 PLAN AND PROFILE (SHEET 2 OF 3)**

Designed by KNG	Drawn by MMM
Checked by JMM	Approved by
Scale AS SHOWN (A1)	Date APRIL 2024
Job No. 1	ACAD File:
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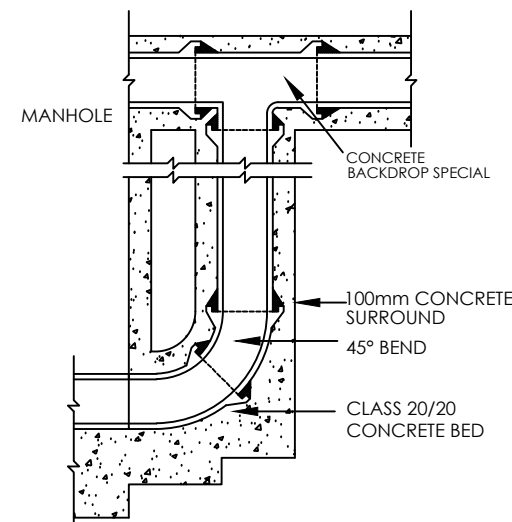
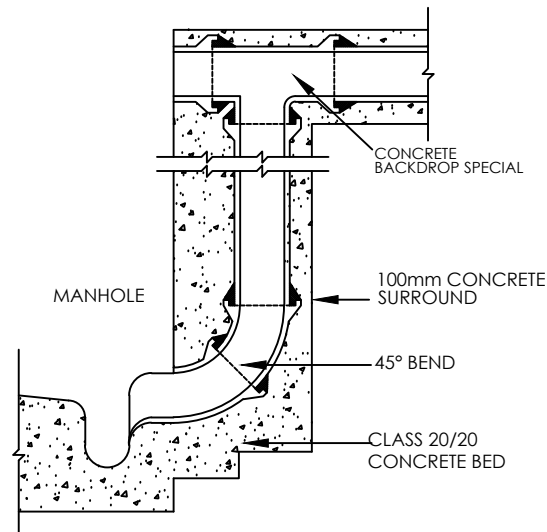
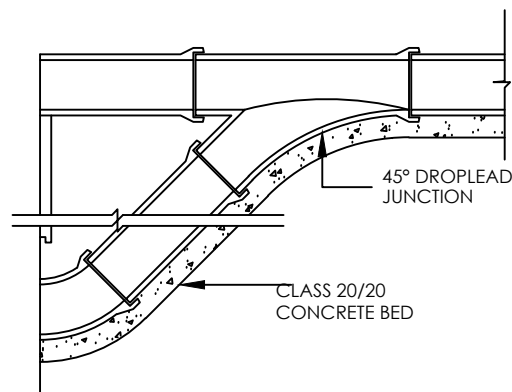
DETAILS OF TRIANGULAR CONCRETE FILLED MANHOLE COVER FOR FOUL SEWER



NOTE
COVER FABRICATED FROM 6mm M.S. PLATE.



DETAILS OF BACKDROPS FOR MANHOLES



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PROJECT
MAUA SEWERAGE LAST MILE CONNECTIVITY PROJECT

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Drawing Title
MAUA LAST MILE SEWERAGE PROJECT
MANHOLE DETAILS
PLAN AND PROFILE (SHEET 3 OF 3)

Designed by KNG	Drawn by MMM
Checked by JMM	Approved by
Scale AS SHOWN (A1)	Date APRIL 2024
Job No. 1	ACAD File:
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