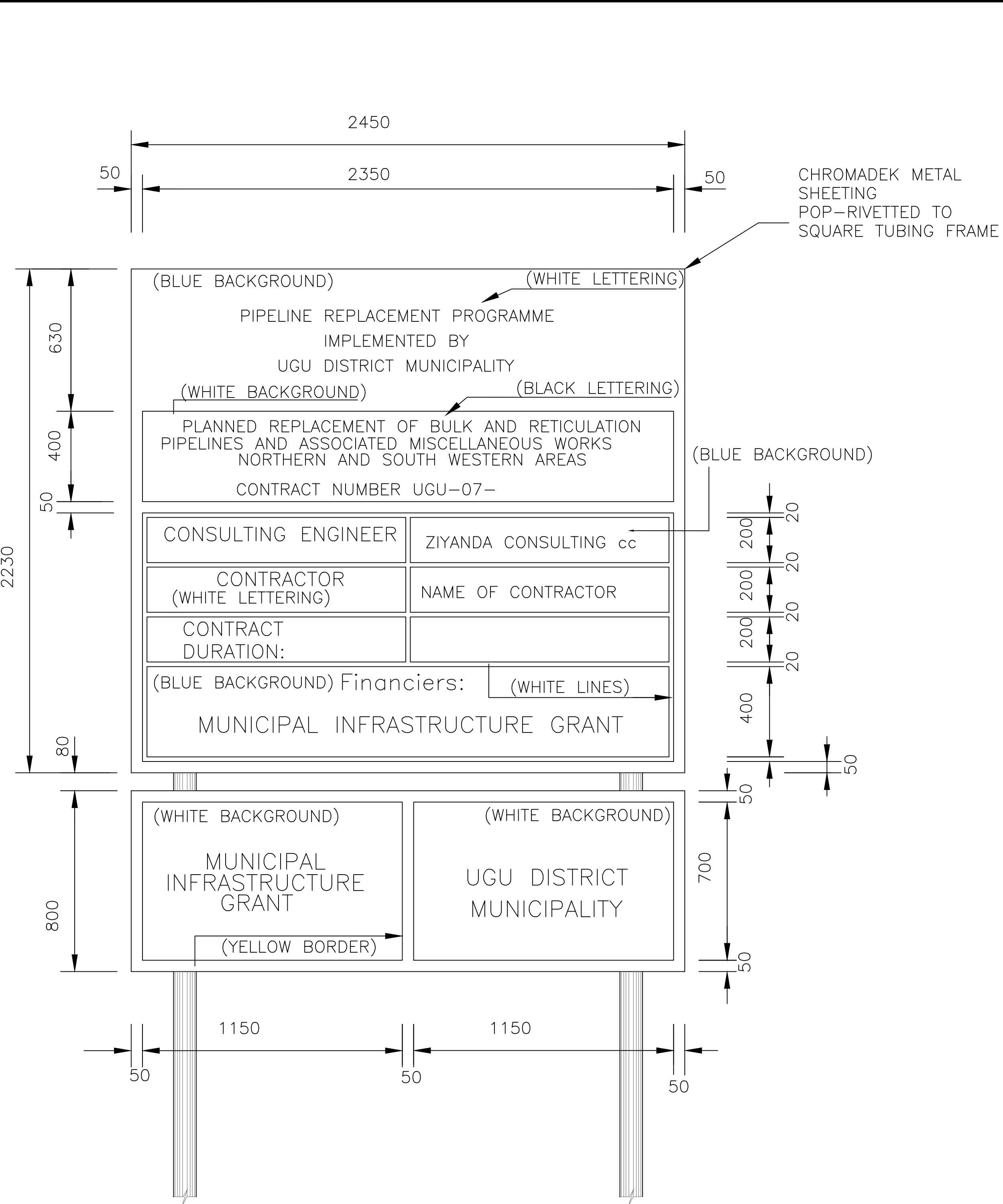
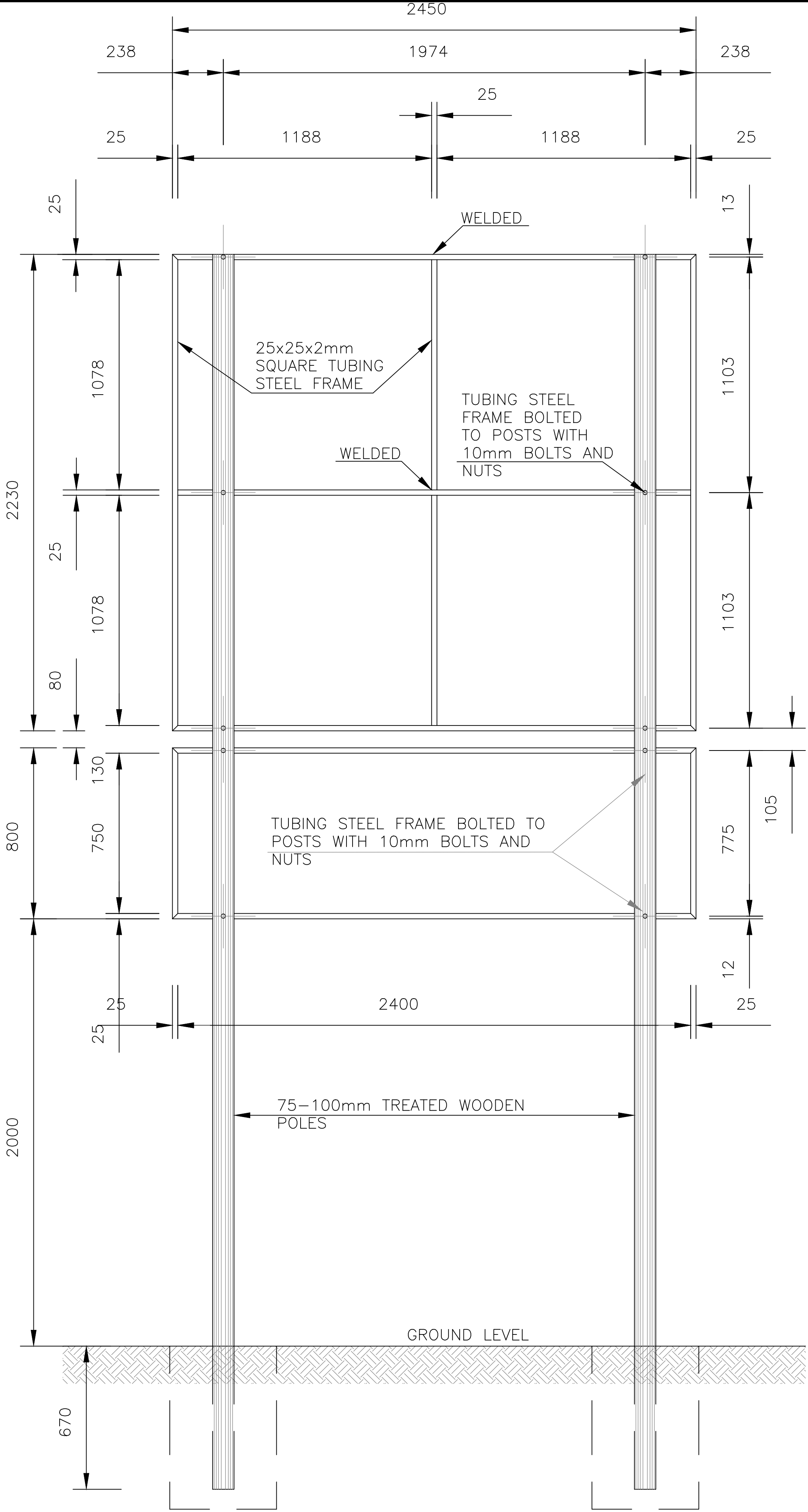
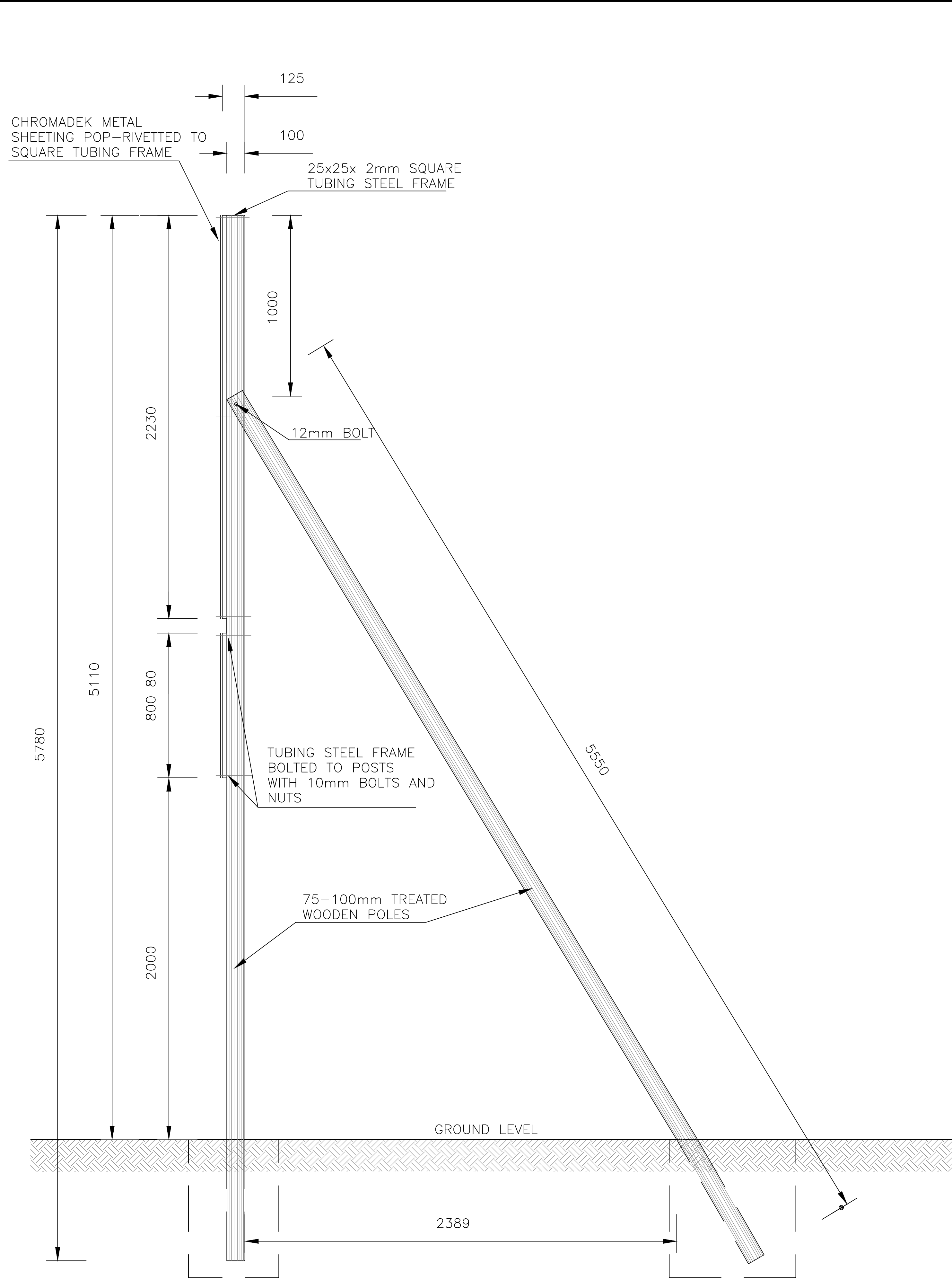




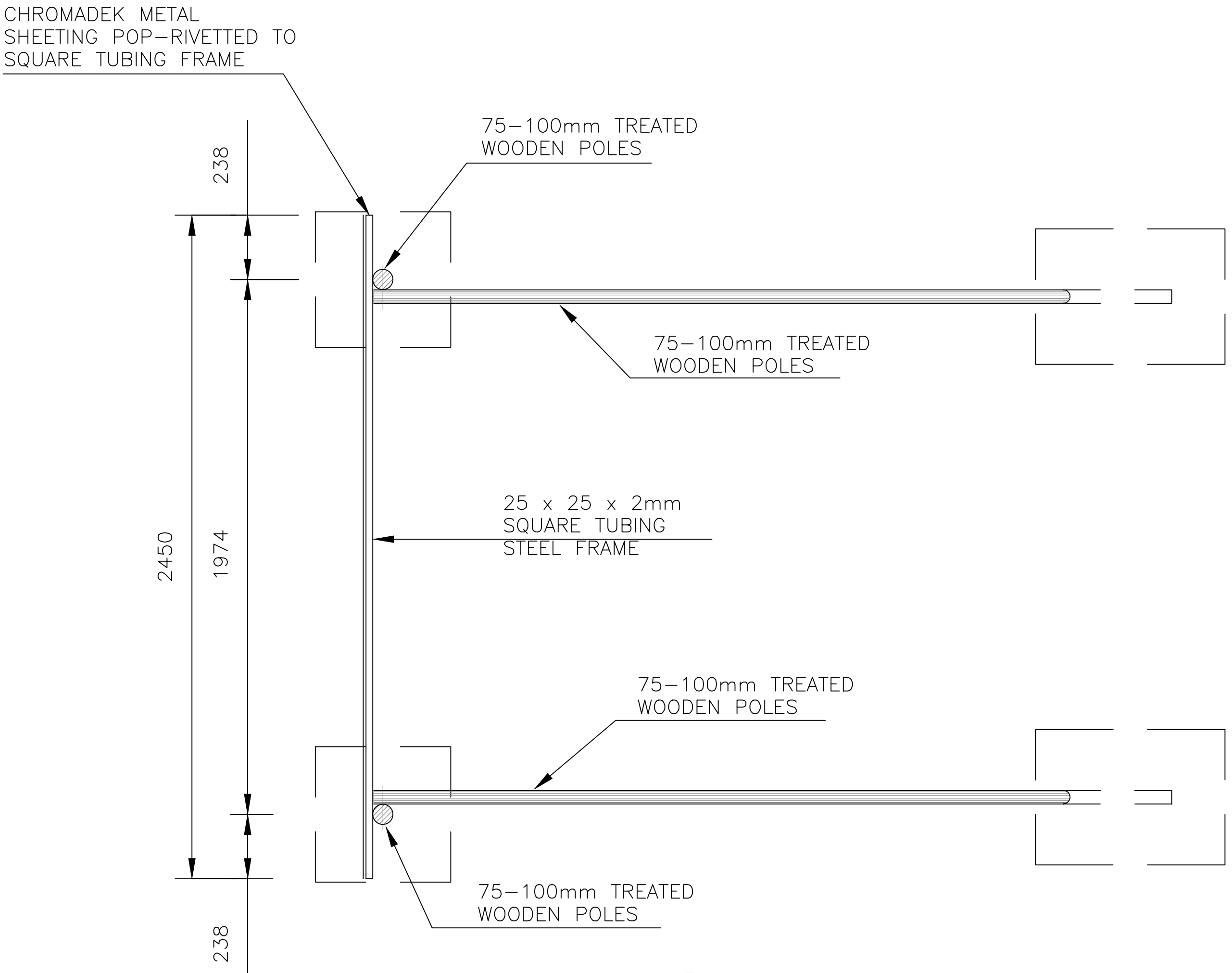
FRONT ELEVATION
SCALE 1 : 20



BACK ELEVATION
SCALE 1 : 20



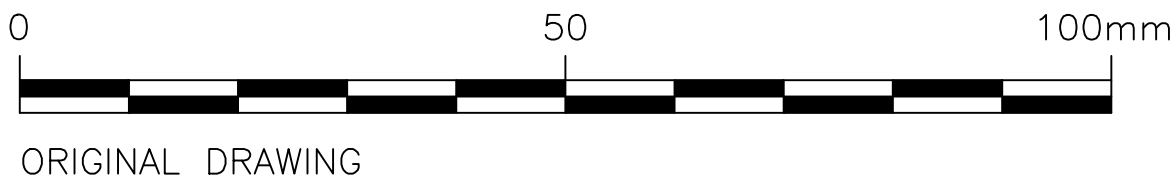
SIDE ELEVATION
SCALE 1 : 20



PLAN
SCALE 1 : 20

NOTES

- 1) CHROMADEK METAL SHEETING (RUST RESISTANT METAL)
- 2) SPRAY PAINTED TO CUSTOMER'S SPECIFICATIONS WITH AUTOMOTIVE QUALITY DUCO PAINT WORDING
- 3) HIGH PERFORMANCE 5 TO 7 YEAR OUTDOOR QUALITY VINYL LOGOS UV RESISTANT FULL COLOUR THERMAL PRINT ONTO A HIGH PERFORMANCE OUTDOOR GRADE VINYL SUBSTRATE OR HIGH PERFORMANCE 5 TO 7 YEAR OUTDOOR QUALITY
- 4) VINYL APPLIED DIRECTLY TO THE PREPARED CHROMADEK (IF LOGO CONSISTS OF FLAT COLOURS)
- 5) LOCATION THE BOARD MUST BE ERECTED AT THE ENTRANCE TO THE CONSTRUCTION SITE
- 6) ERECTION DURATION THE BOARD MUST REMAIN UNTIL THE END OF THE DEFECTS LIABILITY PERIOD



No.	REFERENCE DRAWINGS	0	ISSUED FOR TENDER	02/18	GM	SM
		△	ONLY REVISIONS MARKED THUS △ ARE VALID	DATE	CHKD	APPRV

DESIGNED	B. MLALAZI
CHECKED	G. MLAMBO
DRAWN	B. MLALAZI
CHECKED	G. MLAMBO
PROJ. ENG.	G. MLAMBO

TEL: (033) 346 0689
FAX: (033) 346 0692
E-mail: ziyanda@ziyandaconsulting.co.za

APPROVED :
S. MGUTSHINI
(PR ENG REG. No. 20040208)

PO BOX 809
HILTON
PIETERMARITZBURG
3245

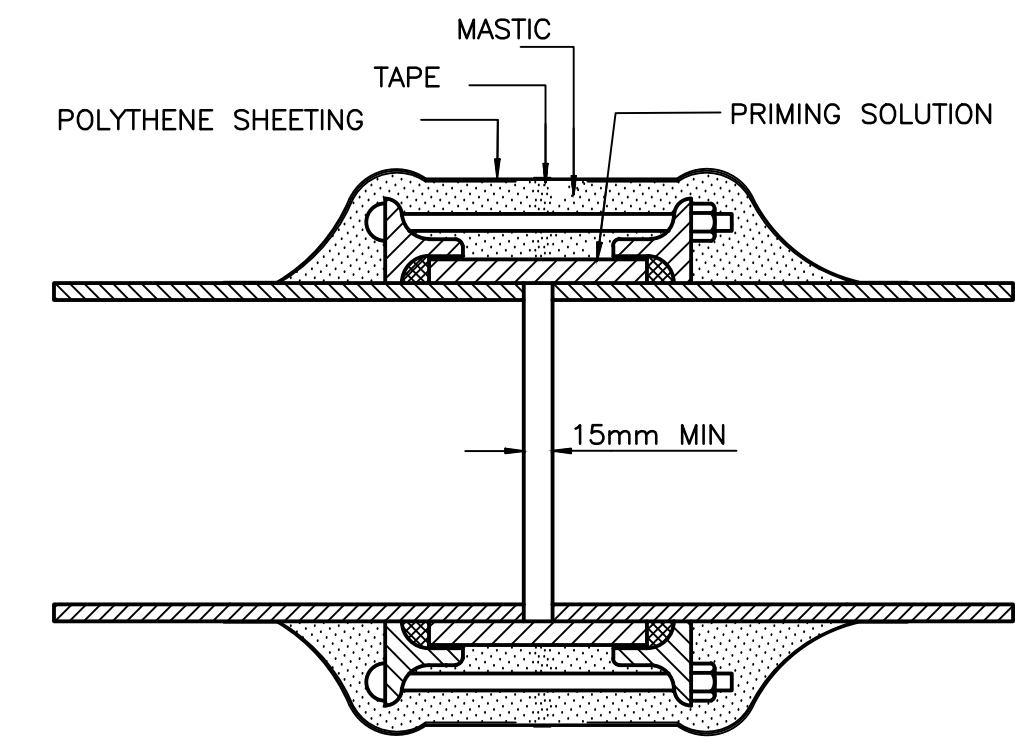
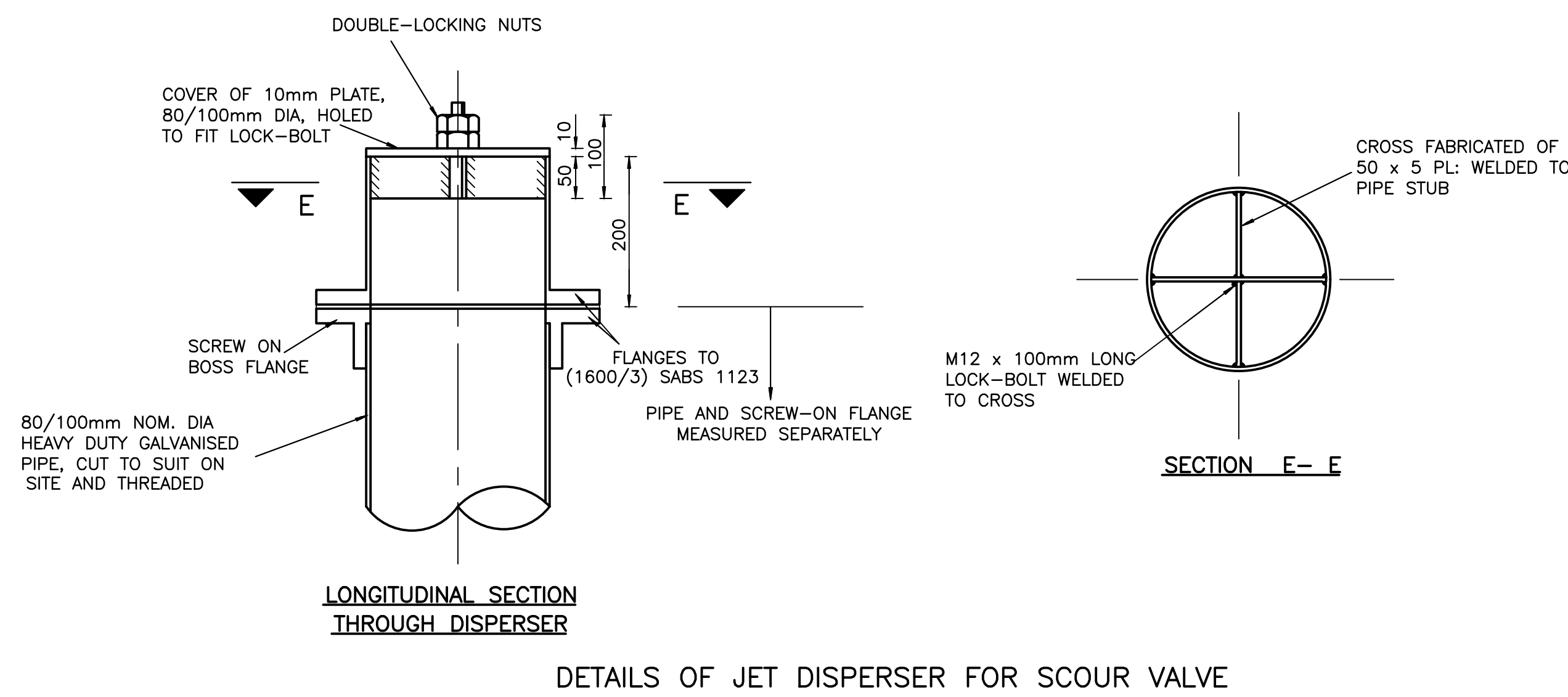
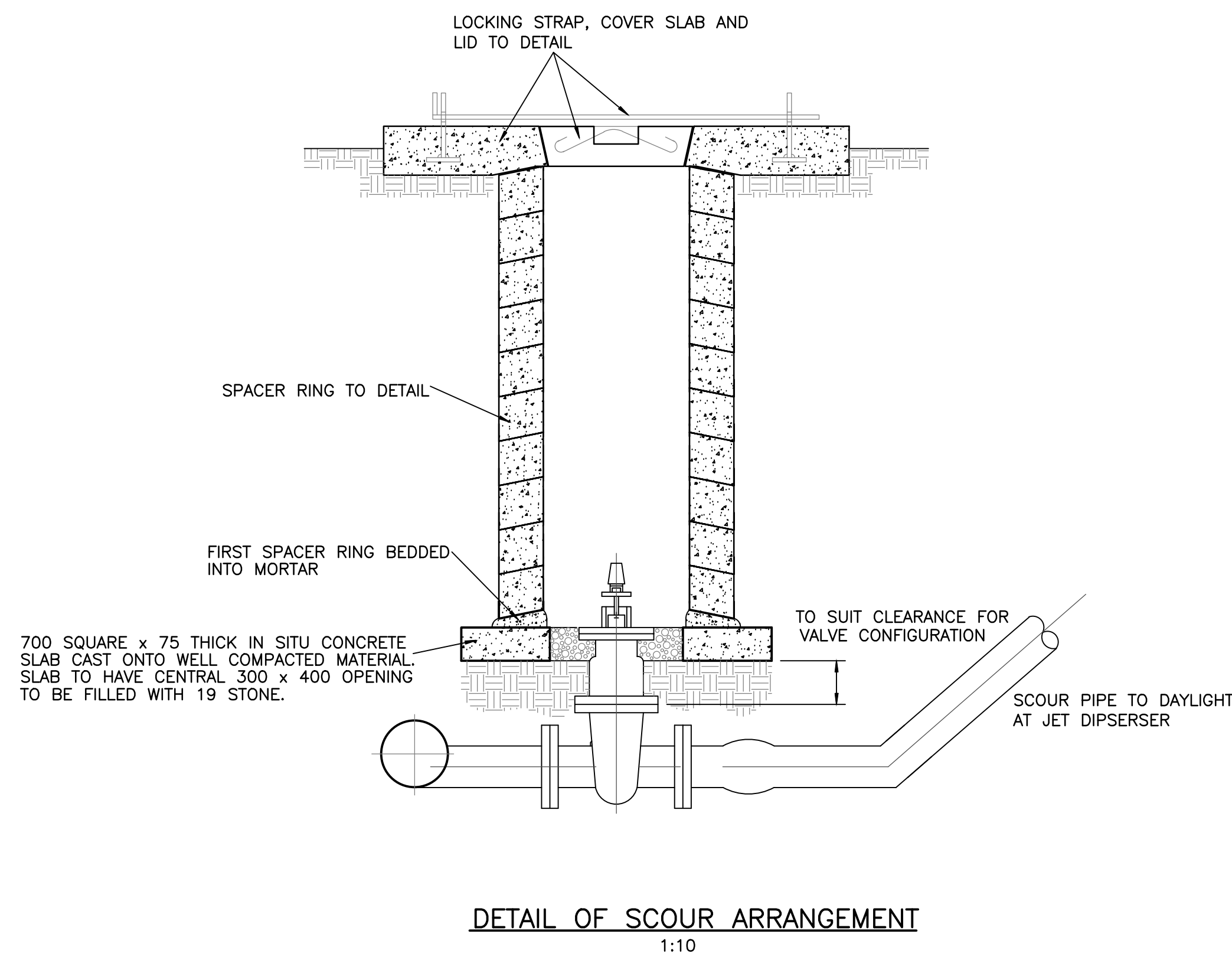
APPROVED : _____

PROJECT/DRAWING TITLE

UGU DISTRICT MUNICIPALITY
PIPELINE REPLACEMENT PROGRAMME
PLANNED REPLACEMENT OF BULK AND RETICULATION
PIPELINES AND ASSOCIATED MISCELLANEOUS WORKS
NORTHERN AND SOUTH WESTERN AREAS
NAMEBOARD DETAILS

DRAWING STATUS	
ISSUED FOR TENDER	
ORIGINAL SCALE	
1 : 20(ON A1)	
ALT. DWG. No.	CONTRACT No.
SHT. No.	OF PROJECT No.
J127	
DRAWING No.	REVISION
J071-D01	0

- NOTES**
- ALL STRUCTURAL STEELWORK TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH SANS 1200 H, SANS 0162-1193.
 - WELDING SHALL CONFORM TO AWS D1.1-90 SPECIFICATIONS.
 - BUTT-WELDS SHALL DEVELOP THE FULL STRENGTH OF THE ELEMENTS JOINED.
 - ALL WELDING TO BE 6MM CONTINUOUS FILLET WELDS UNLESS OTHERWISE SPECIFIED.
 - ALL WELDS TO BE DONE WITH E70 18 ELECTRODES UNLESS OTHERWISE SPECIFIED.
 - A COMPLETE SET OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE FABRICATION COMMENCES.
 - ALL STRUCTURAL BOLTS SHALL BE GRADE 8.8 (U.O.N.) A MINIMUM OF TWO BOLTS PER CONNECTION WILL BE USED (U.O.N.)
 - WHERE TEMPORARY PROPPING IS NECESSARY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, MAINTENANCE AND REMOVAL OF SUCH SUPPORTS.
 - ALL COLD FORMED HOLLOW SECTIONS AND HOT ROLLED STRUCTURAL STEELWORK SHALL BE GRADE 300W.
 - ALL PAINTING MUST COMPLY WITH SANS 1200 HC.
 - FIREPROOFING OF STEELWORK TO COMPLY WITH THE REQUIREMENTS OF SANS 0400 PART 1, THE FIREPROOFING METHOD MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
 - STRUCTURAL STEELWORK TO BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH SANS 763 TO BE SHOT BLAST TO SA 2.5 OF SIS-05-99-00.
 - PLASCON COATING SYSTEM TO GALVANIZED STEEL:
APPLY ONE COAT (50 MICRON) PLASCOGUARD GEHOPON 5 PRIMER AND APPLY ONE COAT (50 MICRON) INTERHANE 990 TO ARCHITECTS' COLOUR SPECIFICATION IN ACCORDANCE WITH MANUFACTURERS' DATA SHEETS.
 - DULUX COATING SYSTEM TO GALVANIZED STEEL:
APPLY ONE COAT (50 MICRON) SIGMACOVER PRIMER AND APPLY ONE COAT (50 MICRON) SIGMADUR GLOSS TO ARCHITECTS' COLOUR SPECIFICATION IN ACCORDANCE WITH MANUFACTURERS' DATA SHEETS.
 - H-D BOLTS TO BE HOT-DIPPED GALVANIZED AND THREADS UNDERCUT AFTER GALVANIZING.



TYPICAL SECTION THROUGH COUPLING

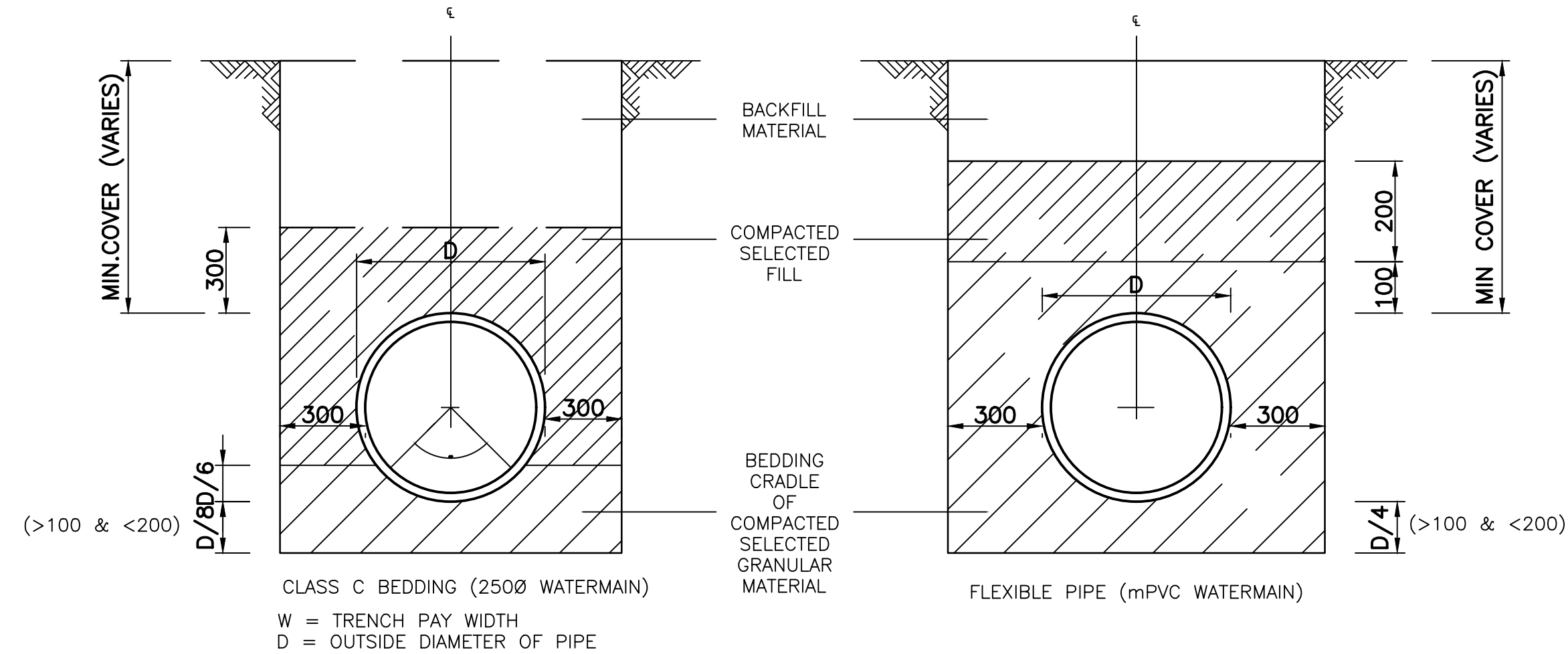
MASTIC PROTECTION TO FLANGED JOINTS, FLEXIBLE COUPLINGS AND FLANGE ADAPTORS TO BE AS SUPPLIED BY DENSO PRODUCTS OR SIMILAR APPROVED.

NOTE:

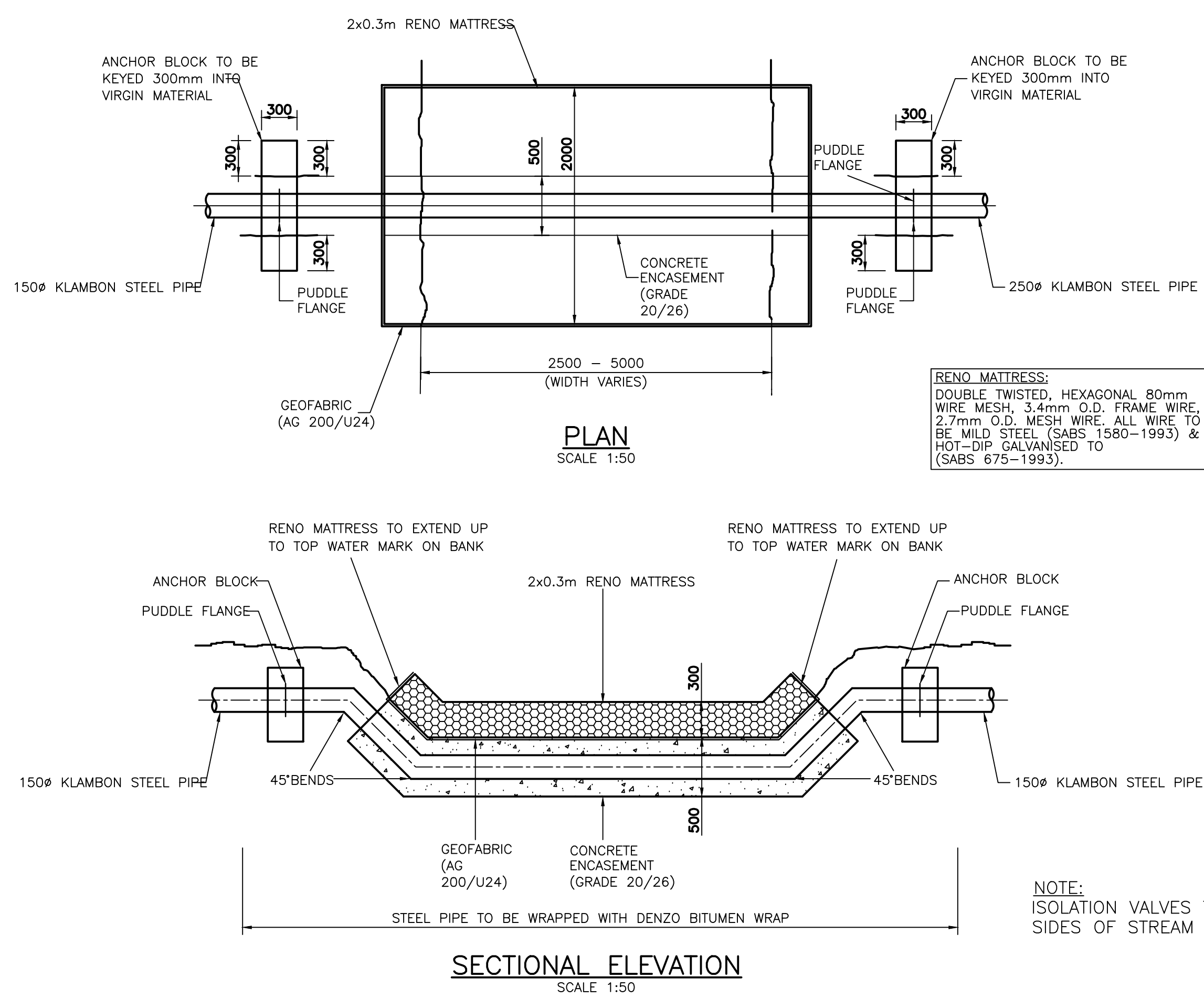
- APPLICATION TO BE IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS.
- MASTIC TO BE APPLIED AS SHOWN ABOVE AND MOULDED TO CONTOUR OF FLANGED JOINT/COUPLING ENSURING ALL AIR IS EXPELLED.
- MASTIC TAPE TO OVERLAP 75mm CIRCUMFERENTIALLY.
- POLYTHENE SHEETING TO OVERLAP BITUMEN WRAPPING ON PIPES EITHER SIDE OF JOINT BY 100mm AND SECURED USING DUCT TAPE.

DETAILS OF MASTIC PROTECTION TO FLANGED JOINTS AND FLEXIBLE COUPLINGS

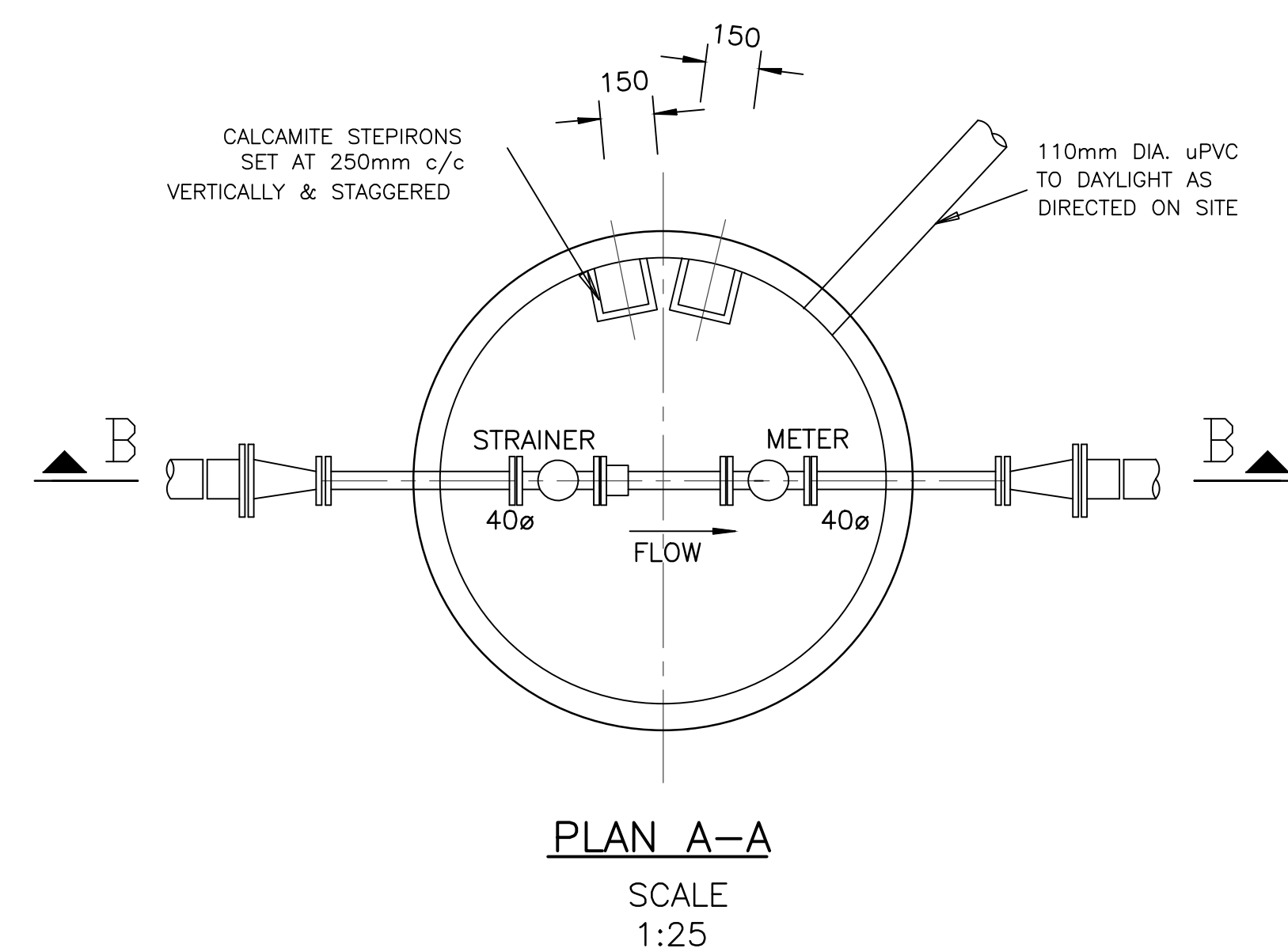
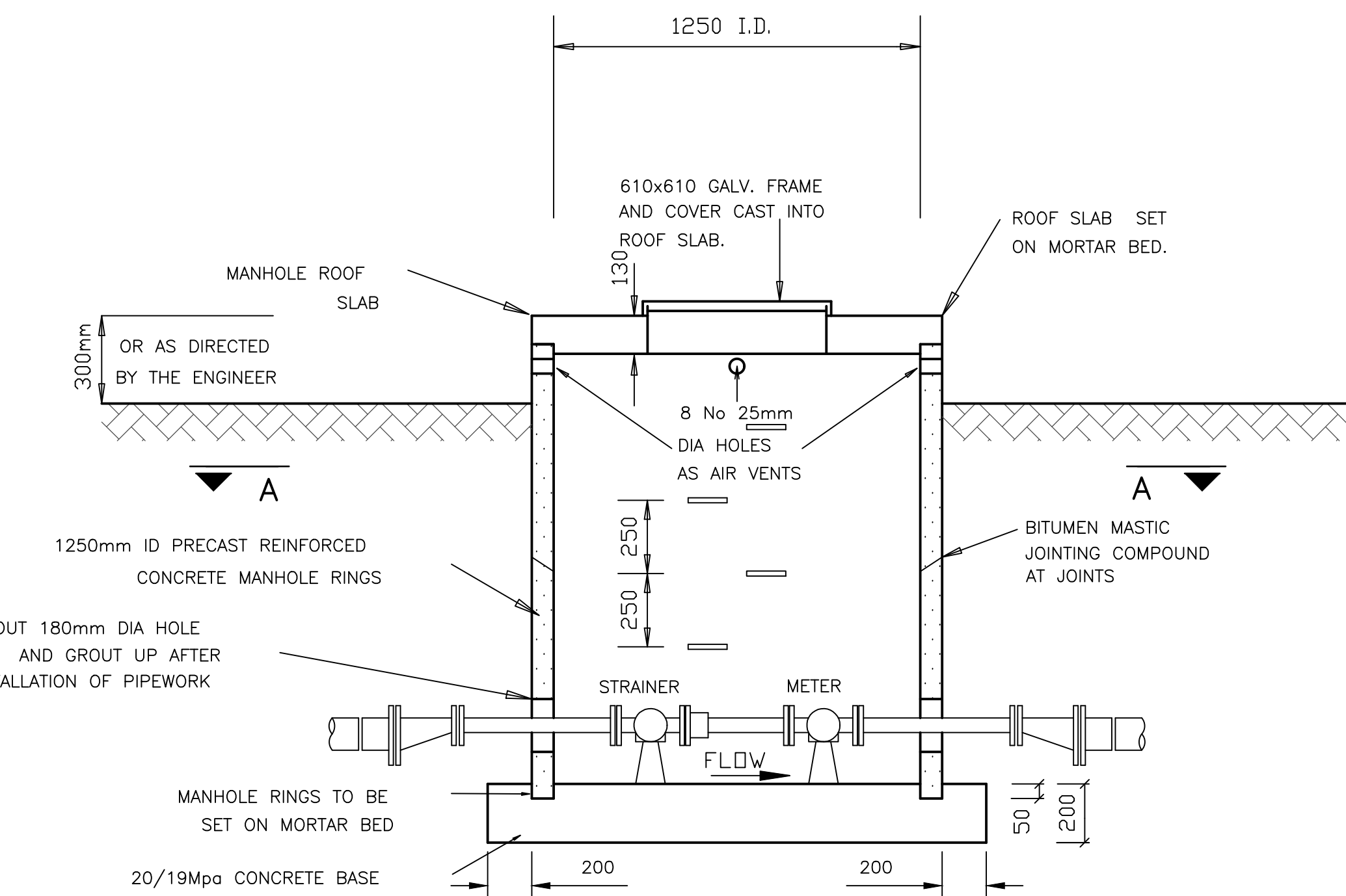
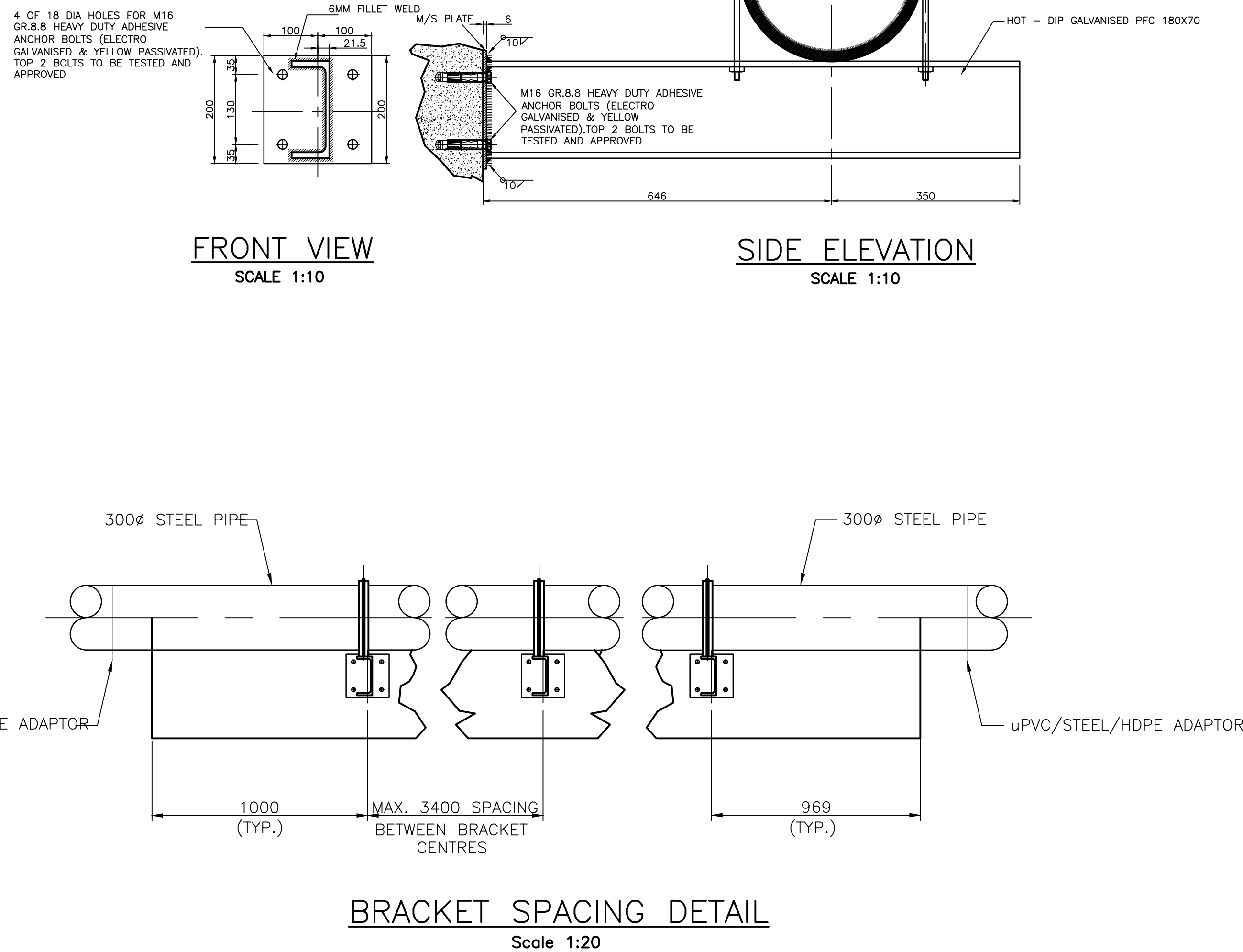
(TO BE READ IN CONJUNCTION WITH PROJECT SPECIFICATION)



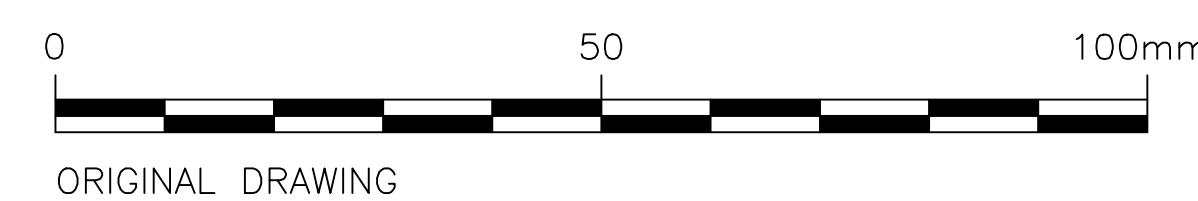
PIPE BEDDING DETAILS
SCALE: 1:15



PIPELINE STREAM CROSSING DETAILS FOR STEEL/mPVC/HDPE PIPELINE



DETAILS OF CONTROL METER CHAMBER



DRAWING STATUS
ISSUED FOR TENDER

ORIGINAL SCALE
AS SHOWN ON A1

ALT. DWG. No. CONTRACT No.
SHT. No. 1 OF 4 PROJECT No. J127

DRAWING No. J071-D02
REVISION
0

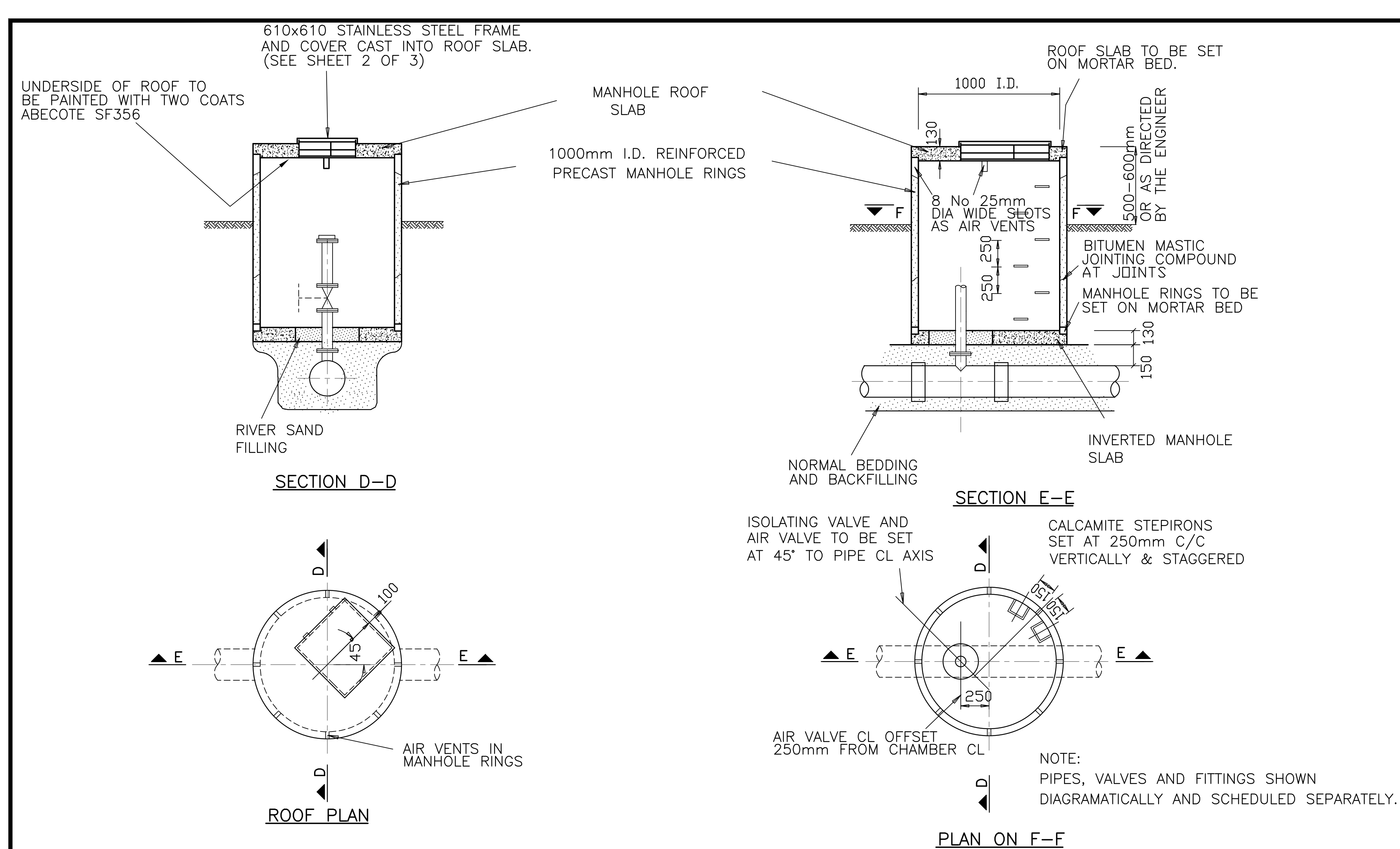
DESIGNED G. MLAMBO
CHECKED S. MGUTSHINI
DRAWN B. MLALAZI
CHECKED S. MGUTSHINI
PROJ. ENG. G. MLAMBO

TEL: (033) 346 0689
FAX: (033) 346 0692
E-mail: ziyanda@ziyandaconsulting.co.za
APPROVED: S. MGUTSHINI (PR ENG REG. No. 20040208)

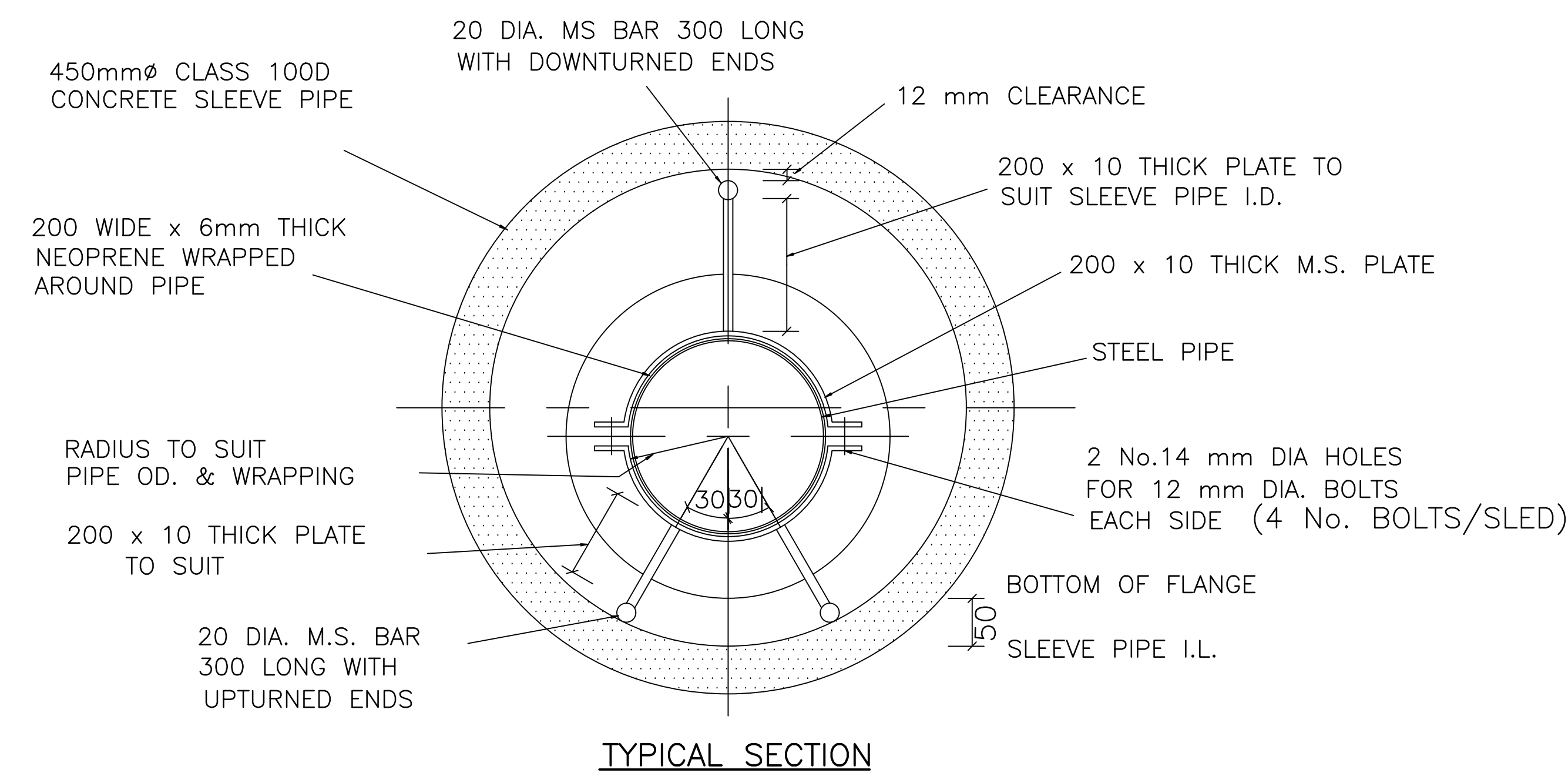
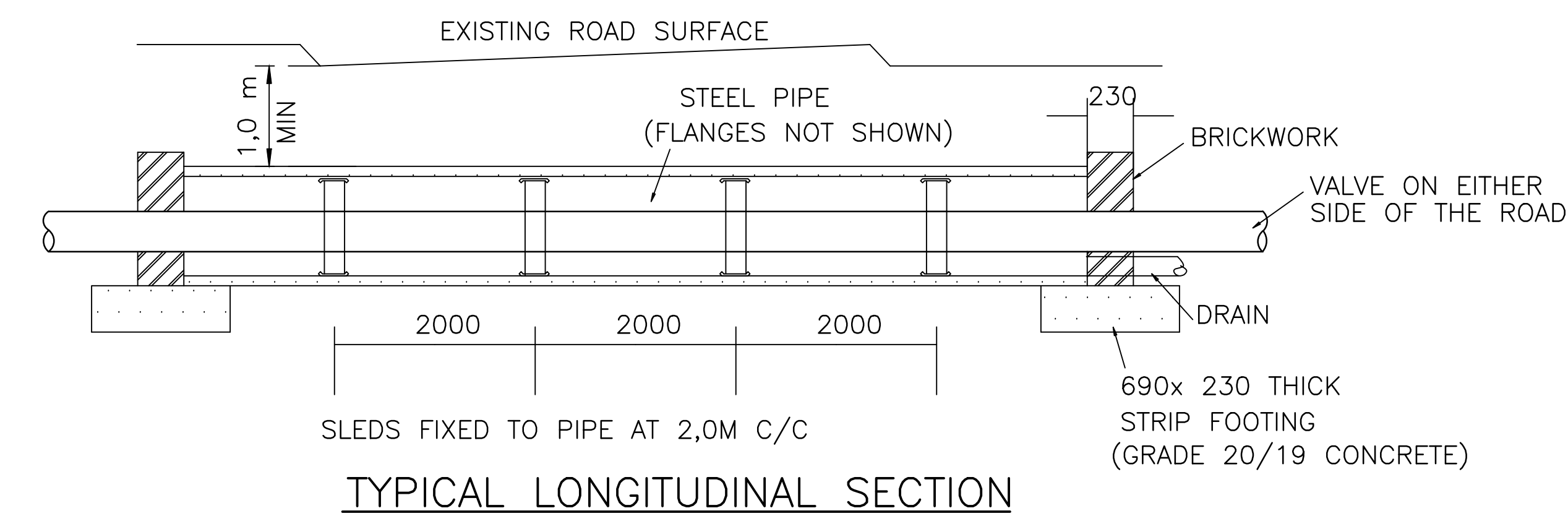


APPROVED: _____

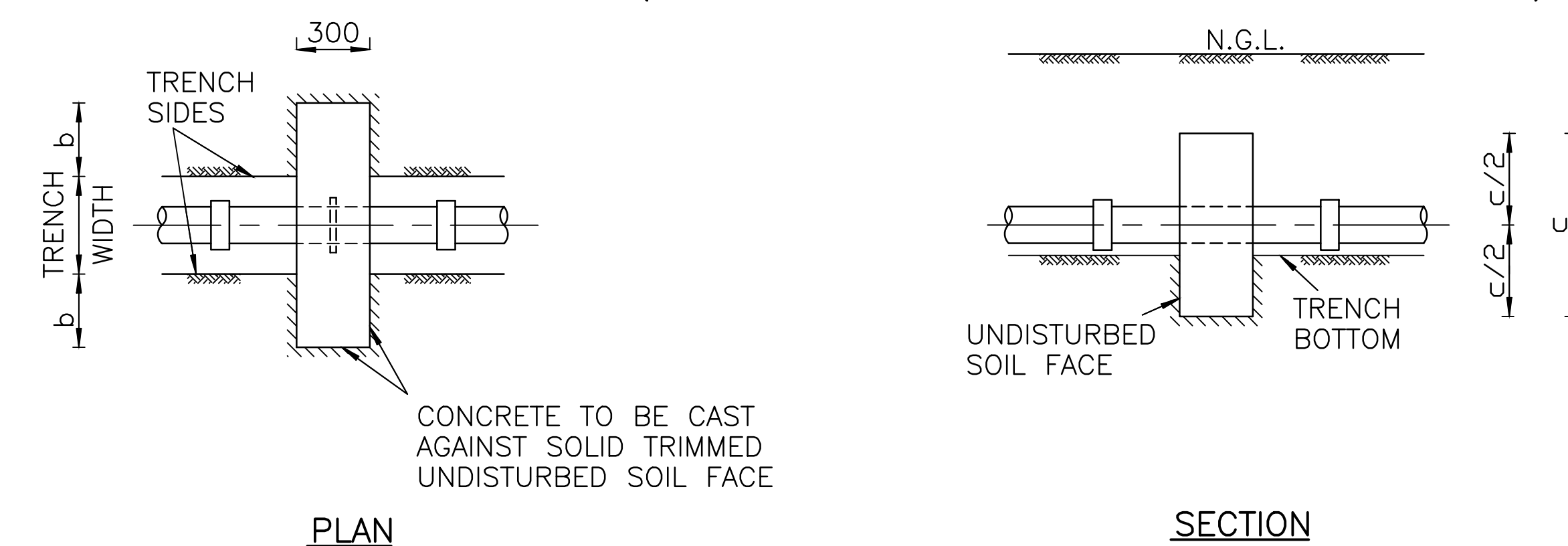
PROJECT/DRAWING TITLE
UGU DISTRICT MUNICIPALITY
PIPELINE REPLACEMENT PROGRAMME
PLANNED REPLACEMENT OF BULK AND RETICULATION
PIPELINES AND ASSOCIATED MISCELLANEOUS WORKS
NORTHERN AND SOUTH WESTERN AREAS
STANDARD DETAILS



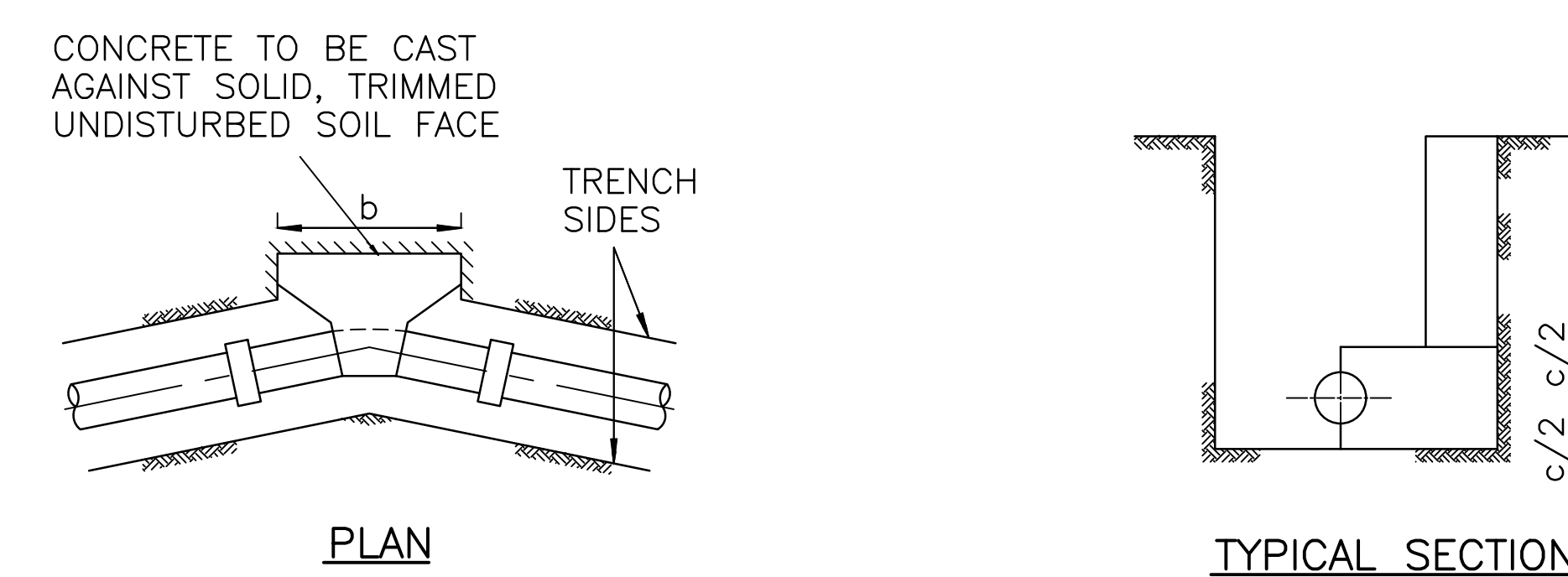
REFER TO TABLE BELOW FOR APPLICABLE SIZES	
PIPE SIZE	CONCRETE SLEEVE SIZE
160mm $\varnothing$	450mm $\varnothing$
110mm $\varnothing$ & LOWER	300mm $\varnothing$



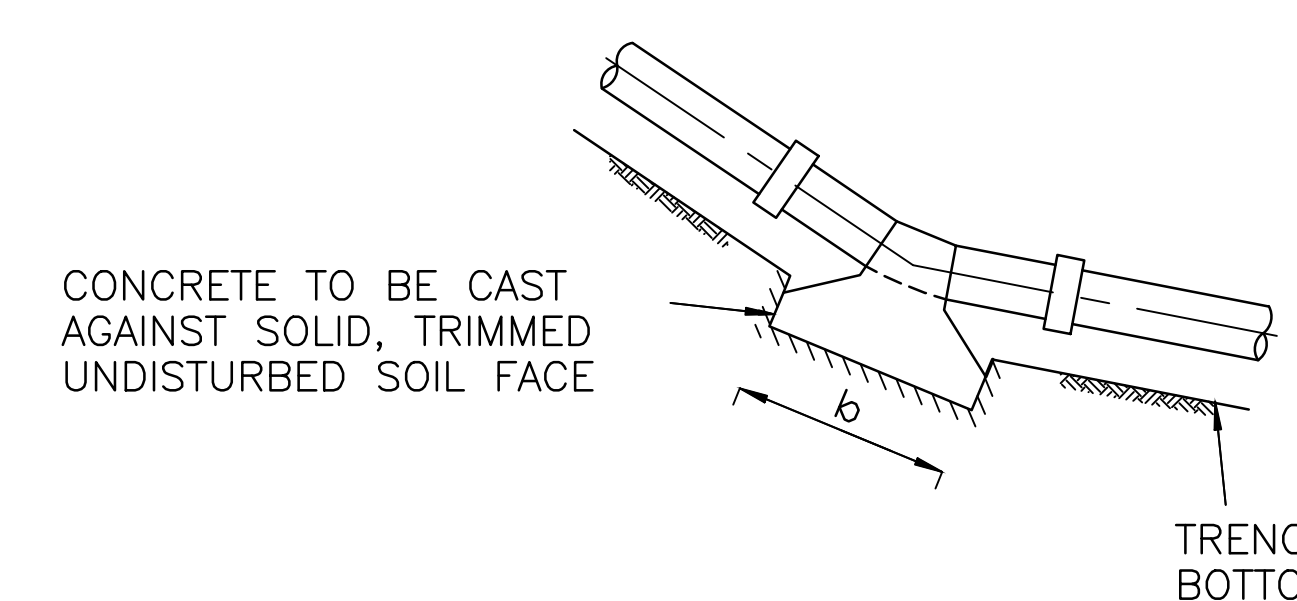
DETAILS OF SLEEVED PIPE CROSSING AND SLEDs (FOR USE WITH FLANGED STEEL PIPES)



THRUST WALLS

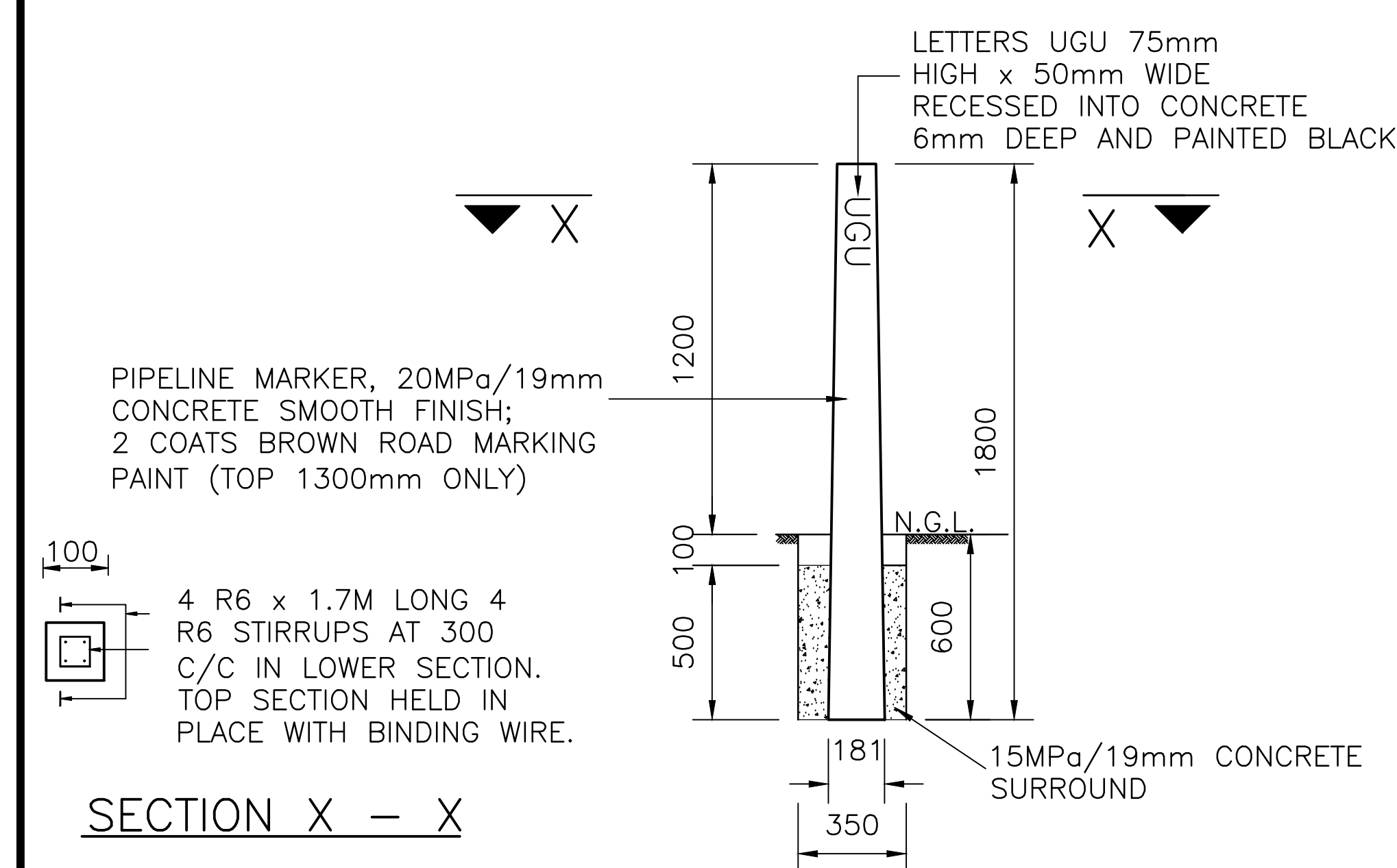
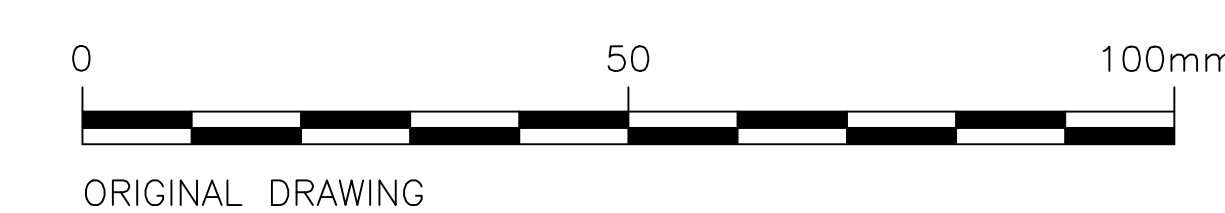


HORIZONTAL BENDS

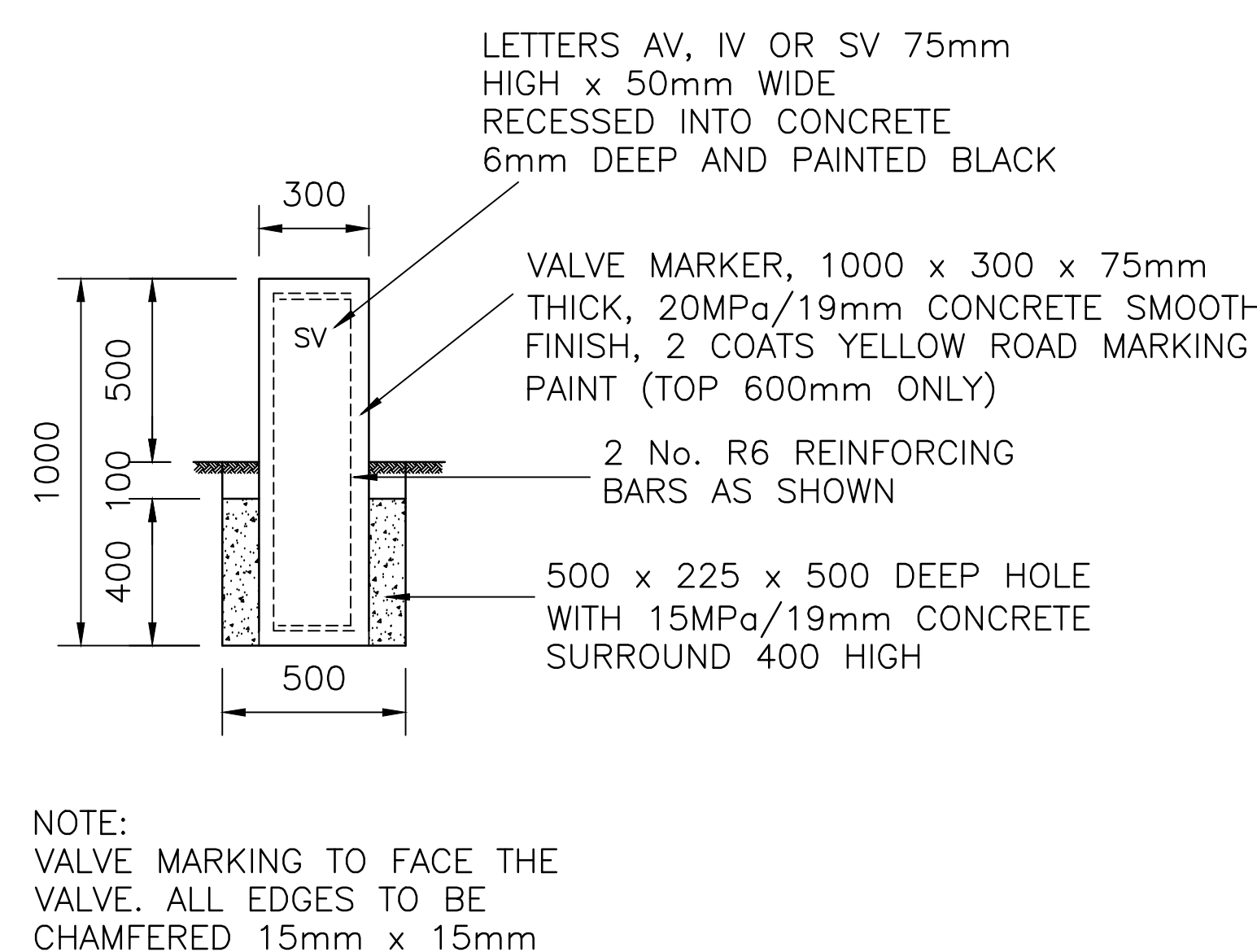


VERTICAL BEND SECTION

DETAILS OF ANCHOR BLOCKS



PIPELINE MARKER
1 : 25



VALVE MARKER
1 : 25

DRAWING STATUS
ISSUED FOR TENDER

ORIGINAL SCALE
AS SHOWN ON A1

ALT. DWG. No. CONTRACT No.
SHT. No. 2 OF 4 PROJECT No. J127

DRAWING No. J071-D02
REVISION
0

No.	REFERENCE DRAWINGS

0	ISSUED FOR TENDER	02/18	GM
REVISIONS	DATE	CHKD	APPRV
ONLY REVISIONS MARKED THUS Δ ARE VALID			

DESIGNED	G. MLAMBO
CHECKED	S. MGUTSHINI
DRAWN	B. MLALAZI
CHECKED	S. MGUTSHINI
PROJ. ENG.	G. MLAMBO

TEL: (033) 346 0689
FAX: (033) 346 0692
E-mail: ziyanda@ziyandaconsulting.co.za

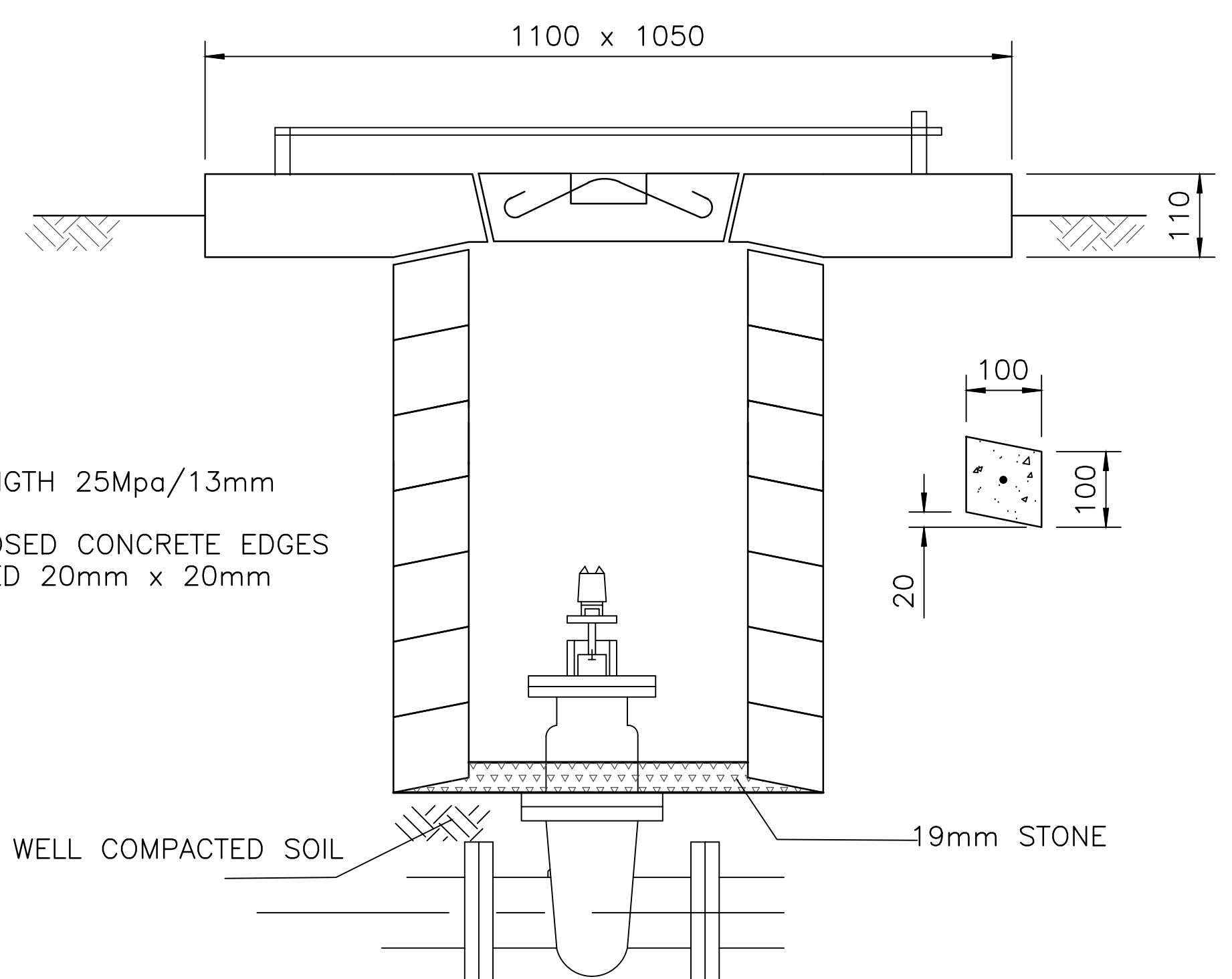
ZIYANDA consulting
PO BOX 809
HILTON
PIETERMARITZBURG
3245

APPROVED :
S. MGUTSHINI
(PR ENG REG. No. 20040208)

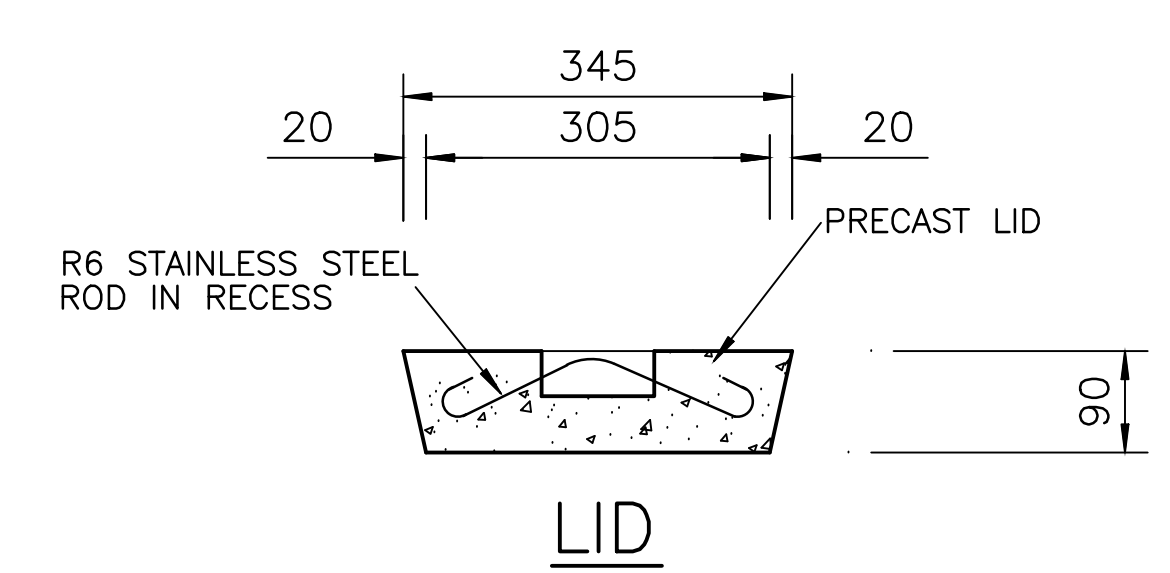
APPROVED : _____

PROJECT/DRAWING TITLE
UGU DISTRICT MUNICIPALITY
PIPELINE REPLACEMENT PROGRAMME
PLANNED REPLACEMENT OF BULK AND RETICULATION
PIPELINES AND ASSOCIATED MISCELLANEOUS WORKS
NORTHERN AND SOUTH WESTERN AREAS
STANDARD DETAILS

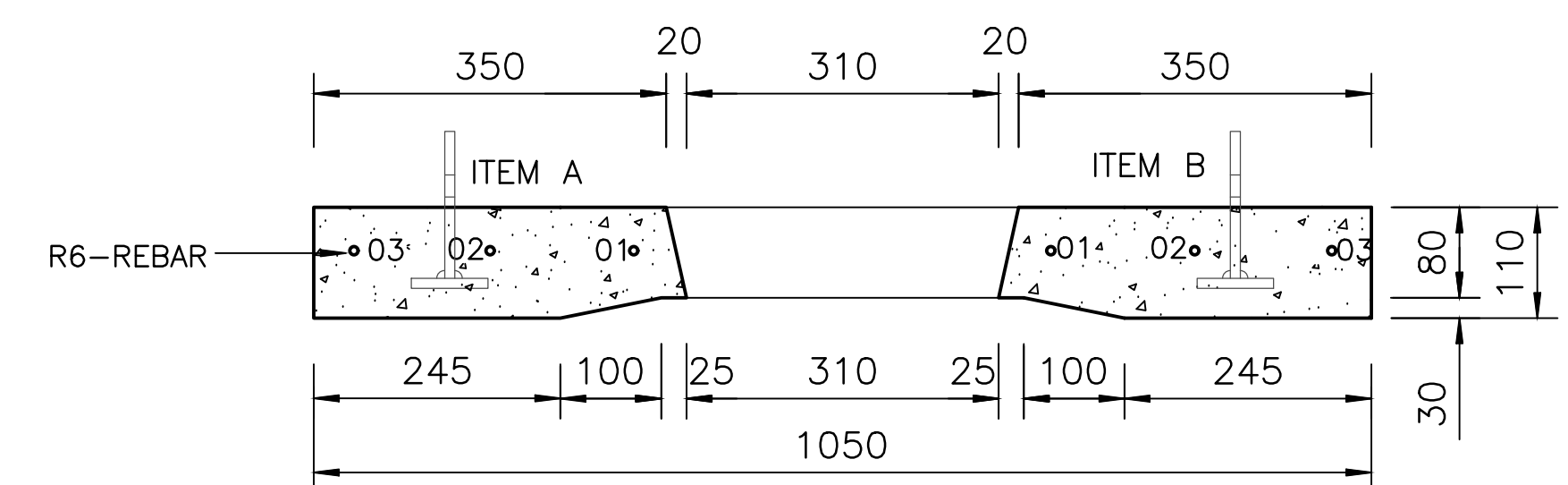
NOTES:
1. CONCRETE STRENGTH 25Mpa/13mm
2. SMOOTH FINISH
3. ALL SHARP EXPOSED CONCRETE EDGES
TO BE CHAMFERED 20mm x 20mm



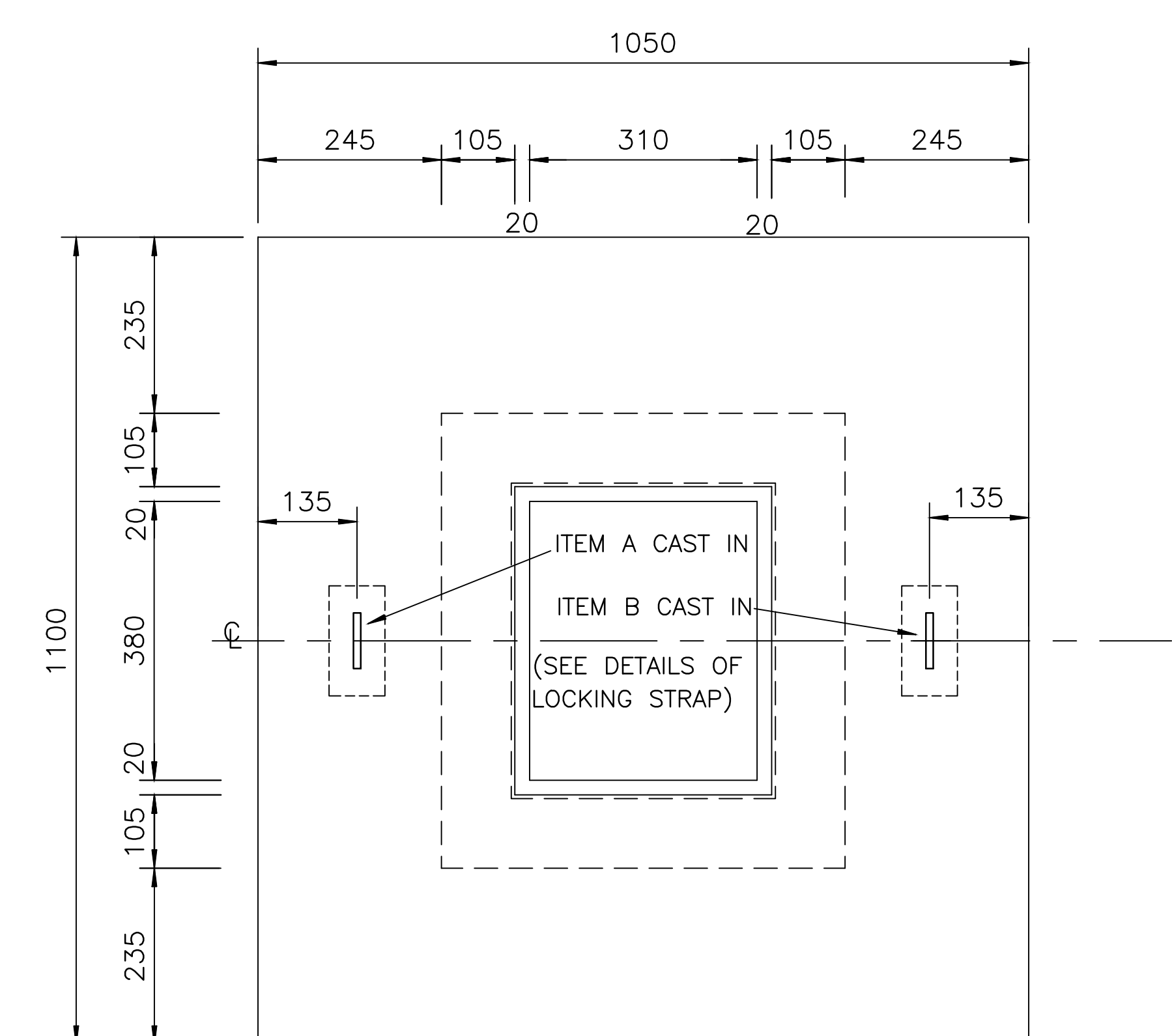
TYPICAL DETAIL OF MANHOLE
USING SPACER RINGS
1:10



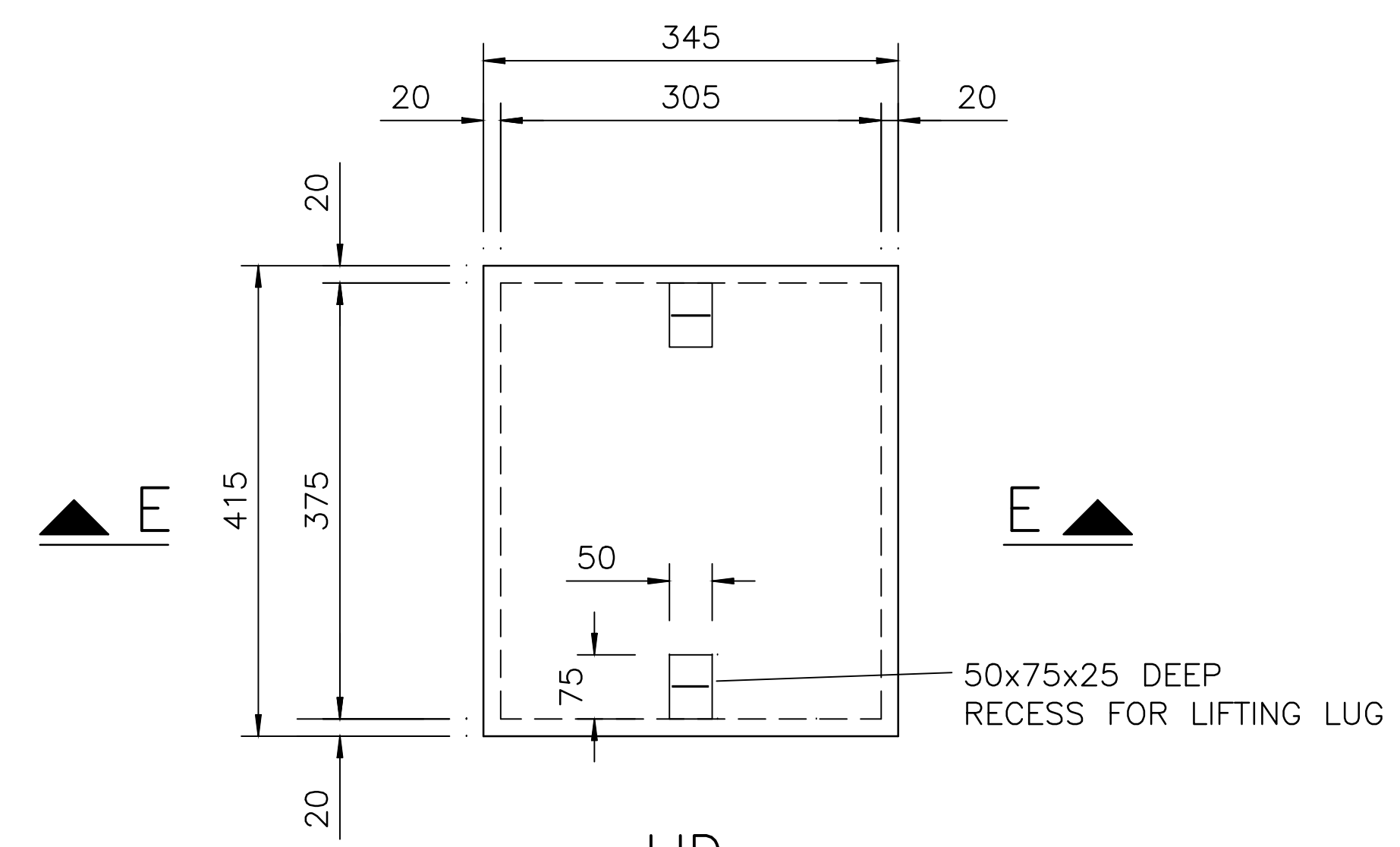
LID



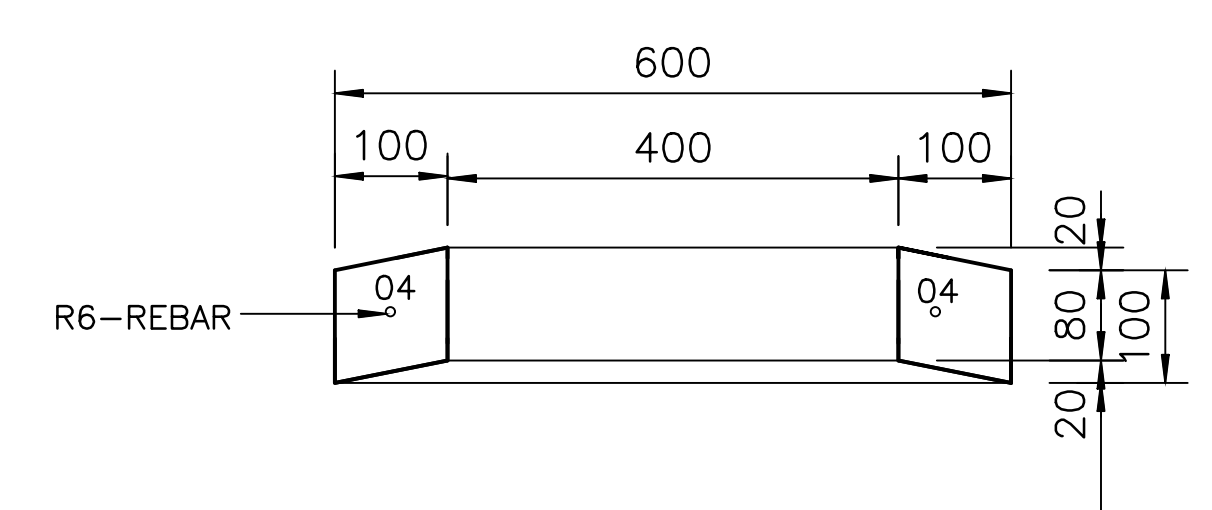
COVER
SECTION E-E
1 : 10



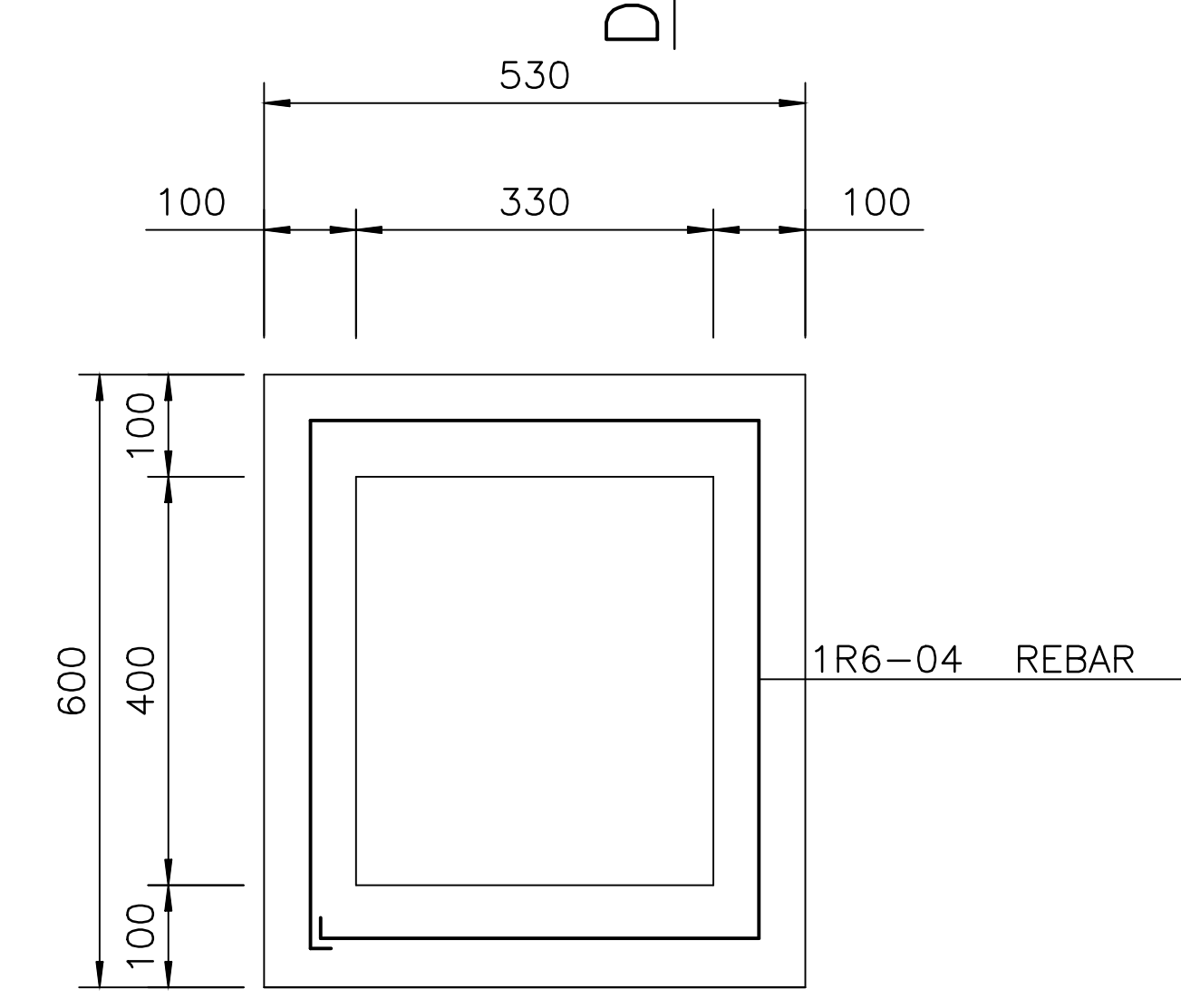
PLAN OF COVER
CONCRETE LAYOUT
1 : 10



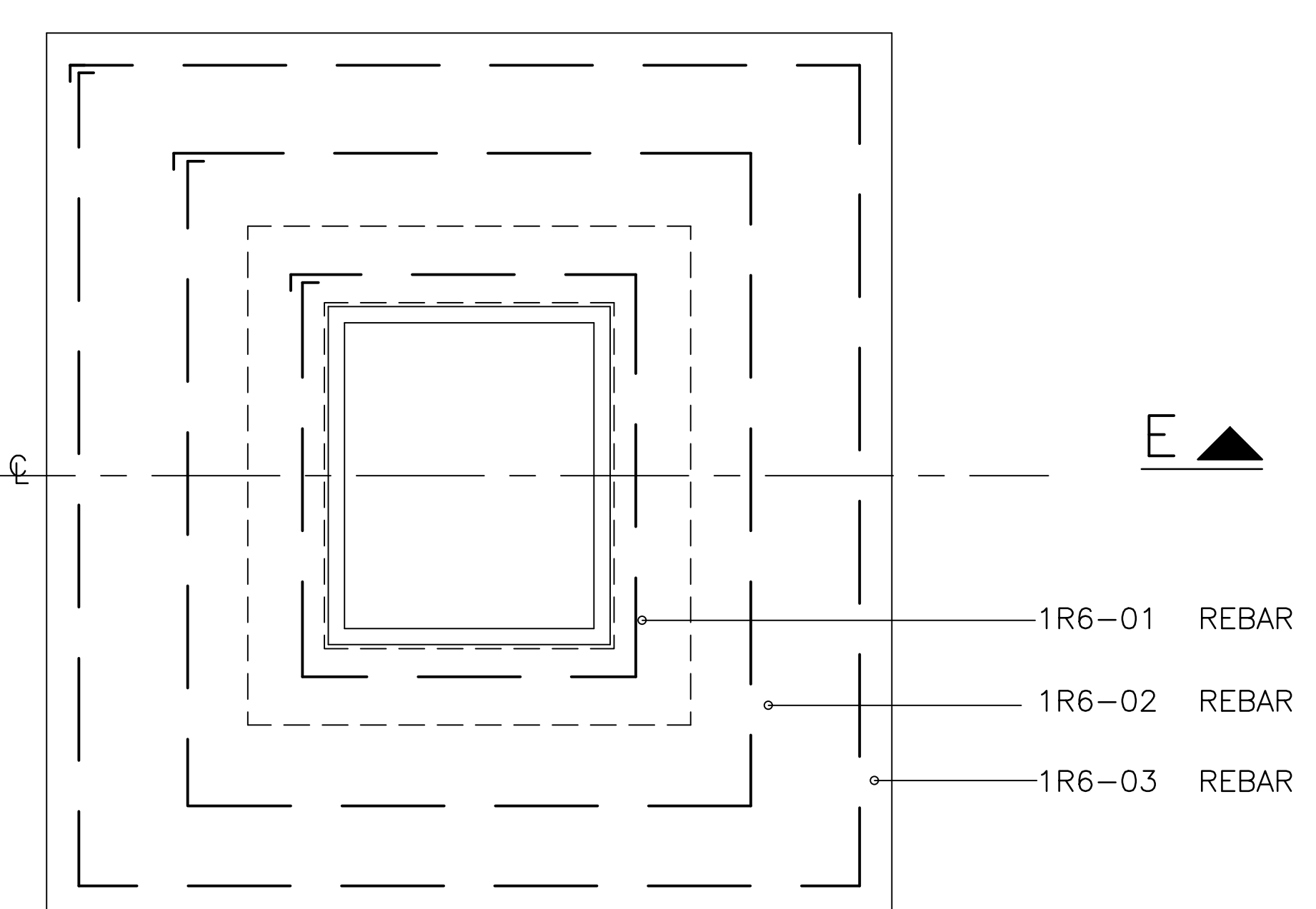
LID
PLAN ON PRECAST LID
1 : 10



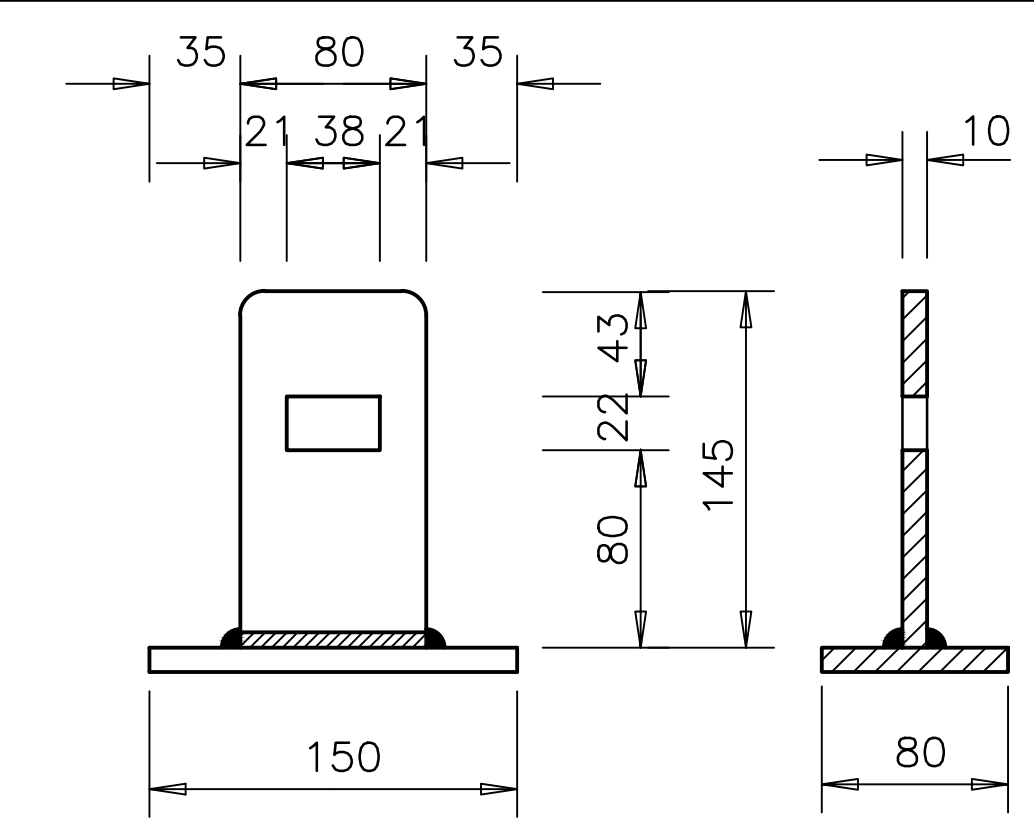
SECTION D-D
1 : 10



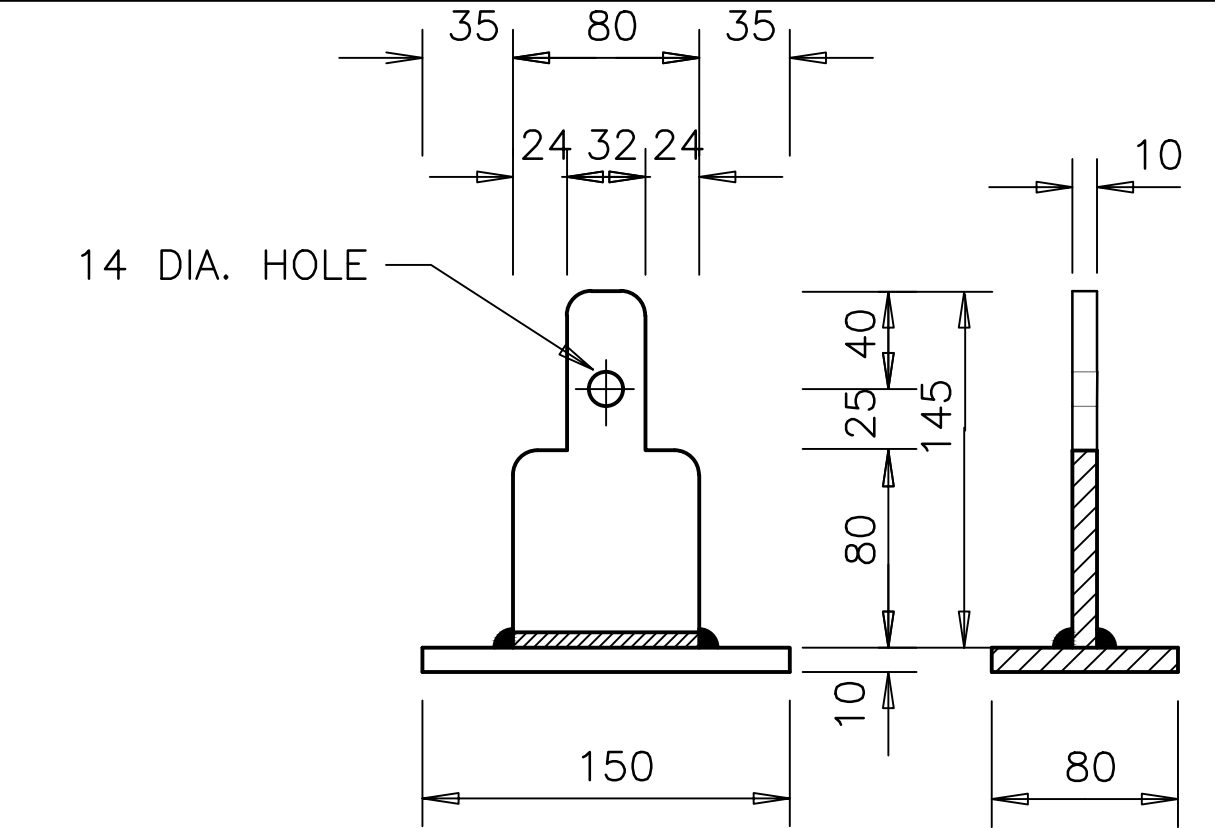
TYPICAL DETAIL OF MANHOLE
SPACER RING
1 : 10



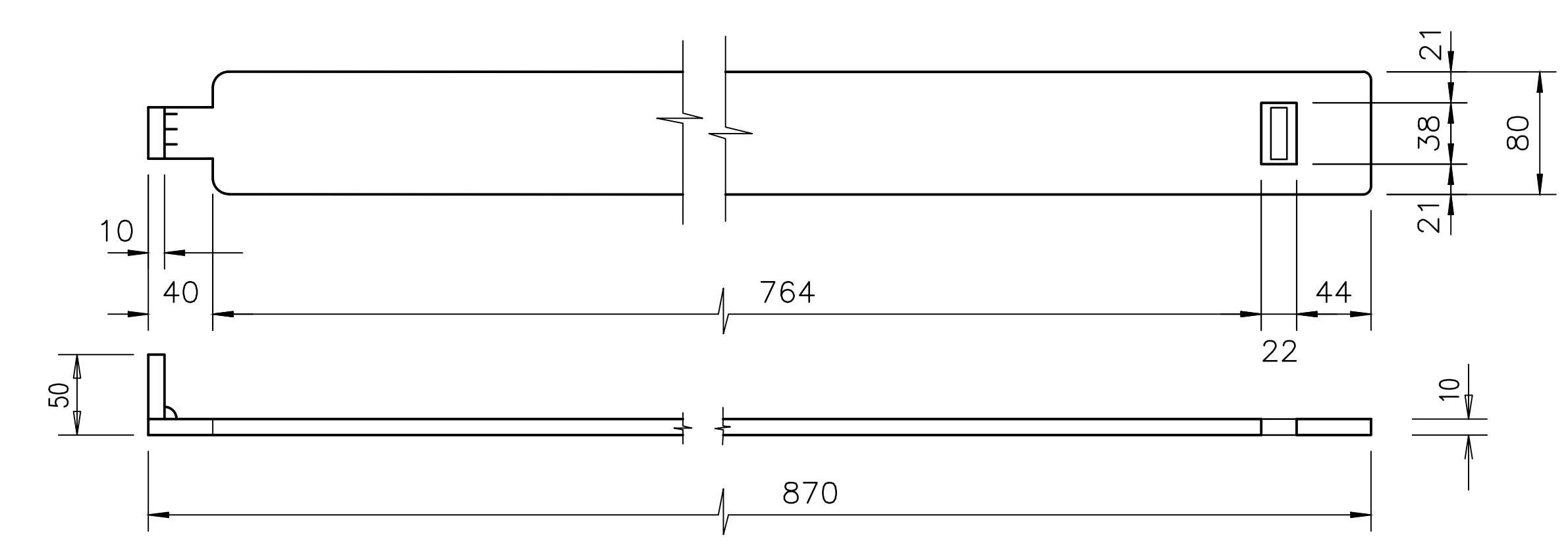
PLAN OF COVER
REINFORCEMENT LAYOUT
1 : 10



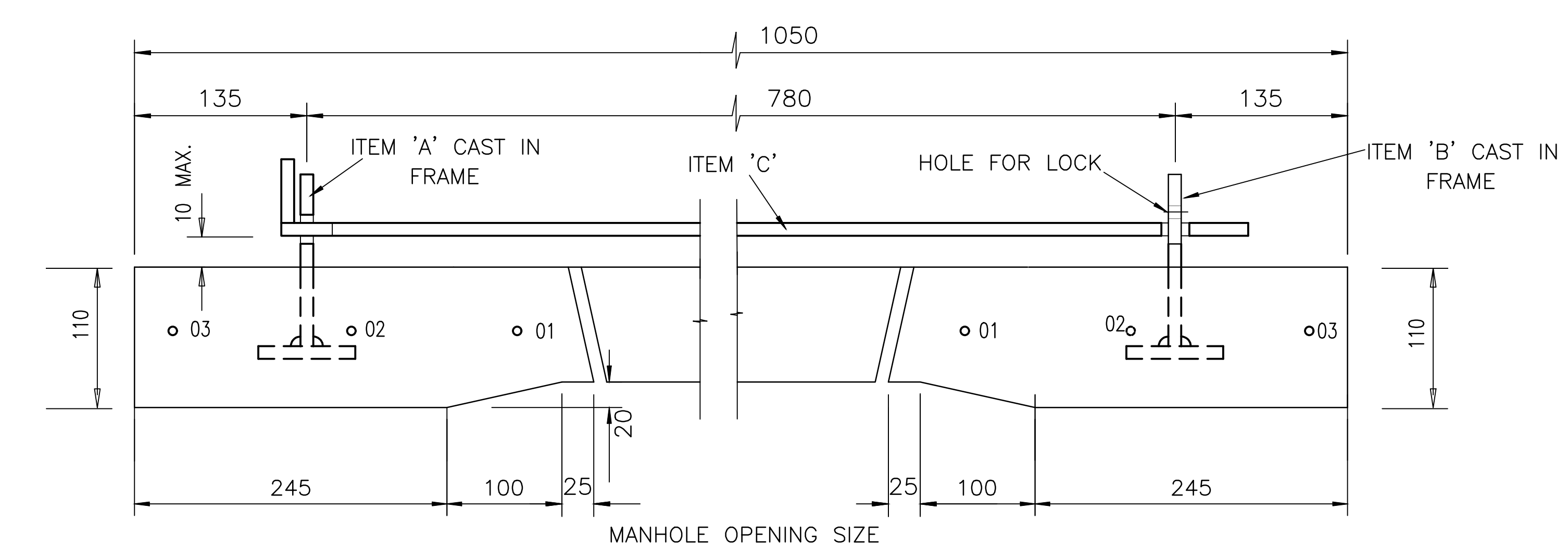
ITEM A



ITEM B



ITEM C



ASSEMBLY DETAIL

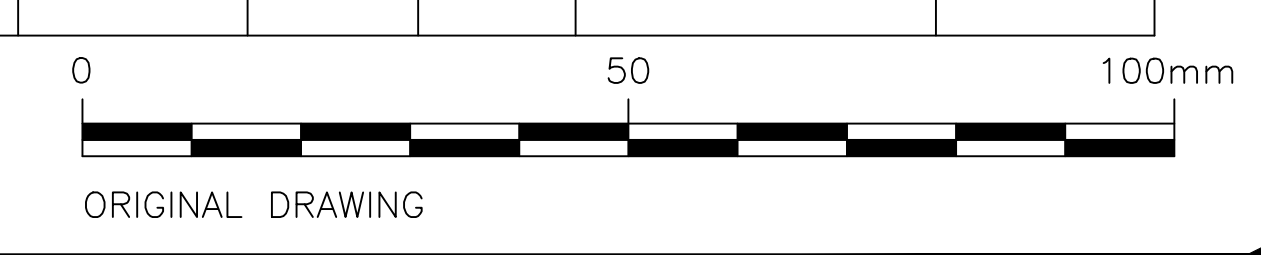
- * THESE UNITS TO BE PROVIDED FOR MANHOLES AND WHEREVER ELSE ORDERED BY ENGINEER
- * ALL COMPONENTS TO BE MILD STEEL HOT DIPPED GALVANISED
- * 14mm DIA. HOLE IN ITEM B TO SUIT DISCUS 0370. PADLOCK
- * ASSEMBLY TO BE PLACED CENTRALLY ACROSS MANHOLE / OPENING.
- * ALL CORNERS TO BE RADIUS TO 10mm RADIUS AS SHOWN

DETAILS OF LOCKING STRAP

1 : 5

NOTES:
1.) CONCRETE STRENGTH 25Mpa /13mm
2) SMOOTH FINISH
3) ALL SHARP EXPOSED CONCRETE EDGES
TO BE CHAMFERED 20mm x 20mm

ITEM	BAR MARK	DIAMETER	SHAPE CODE	DIMENSIONS			MASS
				A	B	TOTAL LENGTH	
FRAME (1 N°)	01	R6	60	500	420	2050	
	02	R6	60	800	700	3200	
	03	R6	60	1010	970	4150	
SPACER RING (1 N°)	04	R6	60	450	520	2150	



DESIGNED	G. MLAMBO
CHECKED	S. MGUTSHINI
DRAWN	B. MLALAZI
CHECKED	S. MGUTSHINI
PROJ. ENG.	G. MLAMBO

TEL: (033) 346 0689
FAX: (033) 346 0692
E-mail: ziyanda@ziyandaconsulting.co.za

APPROVED :
S. MGUTSHINI
(PR ENG REG. No. 20040208)

APPROVED : _____

PROJECT/DRAWING TITLE
UGU DISTRICT MUNICIPALITY
PIPELINE REPLACEMENT PROGRAMME
PLANNED REPLACEMENT OF BULK AND RETICULATION
PIPELINES AND ASSOCIATED MISCELLANEOUS WORKS
NORTHERN AND SOUTH WESTERN AREAS
STANDARD DETAILS

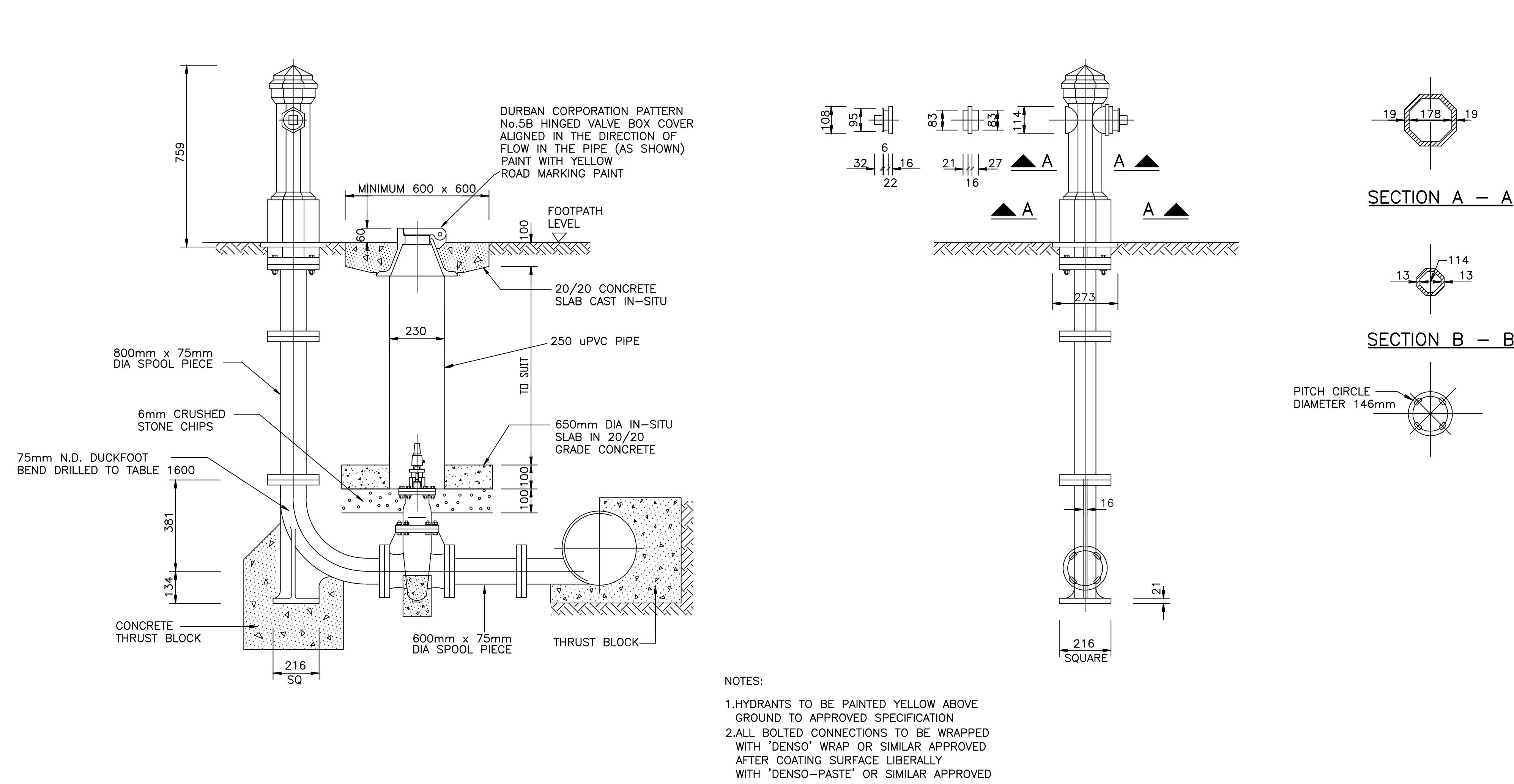
DRAWING STATUS
ISSUED FOR TENDER

ORIGINAL SCALE
AS SHOWN ON A1

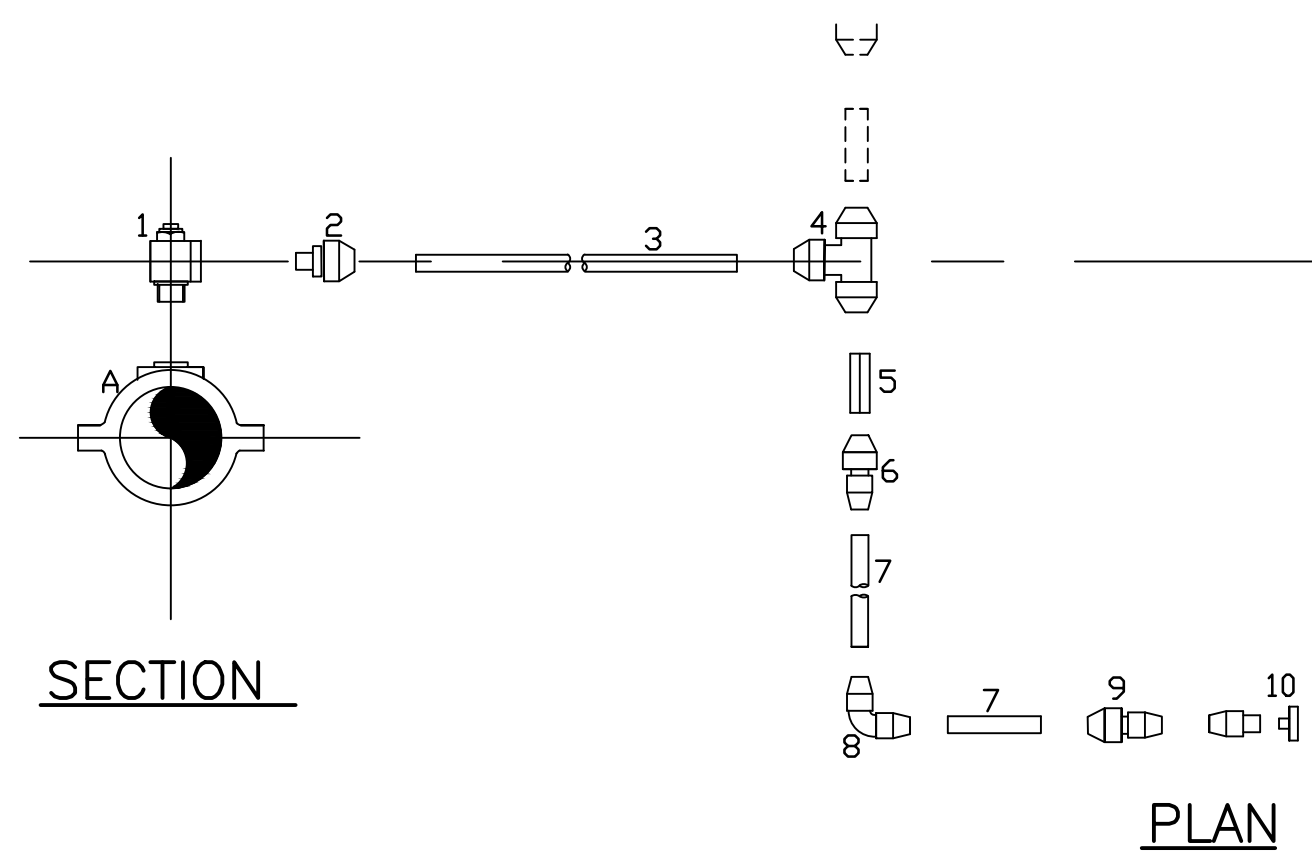
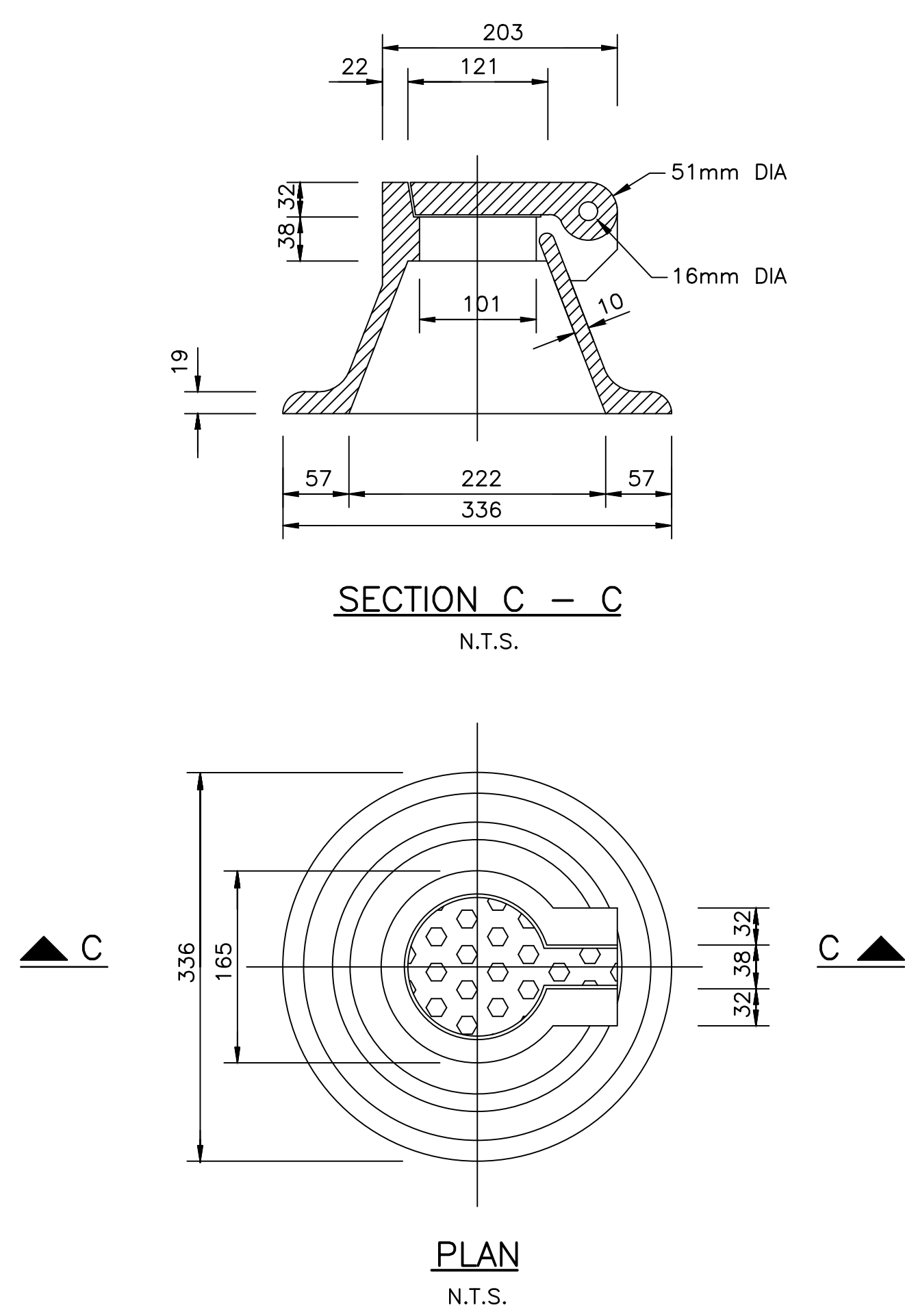
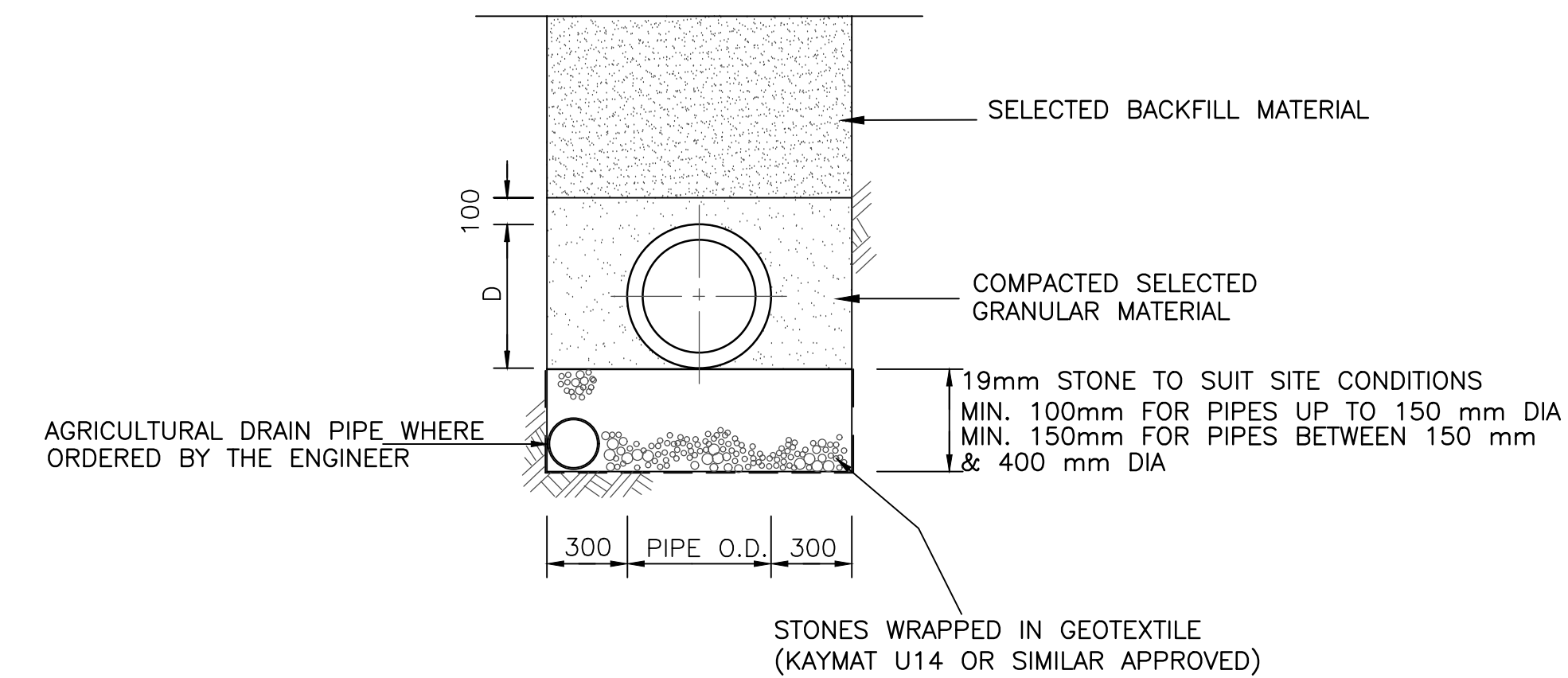
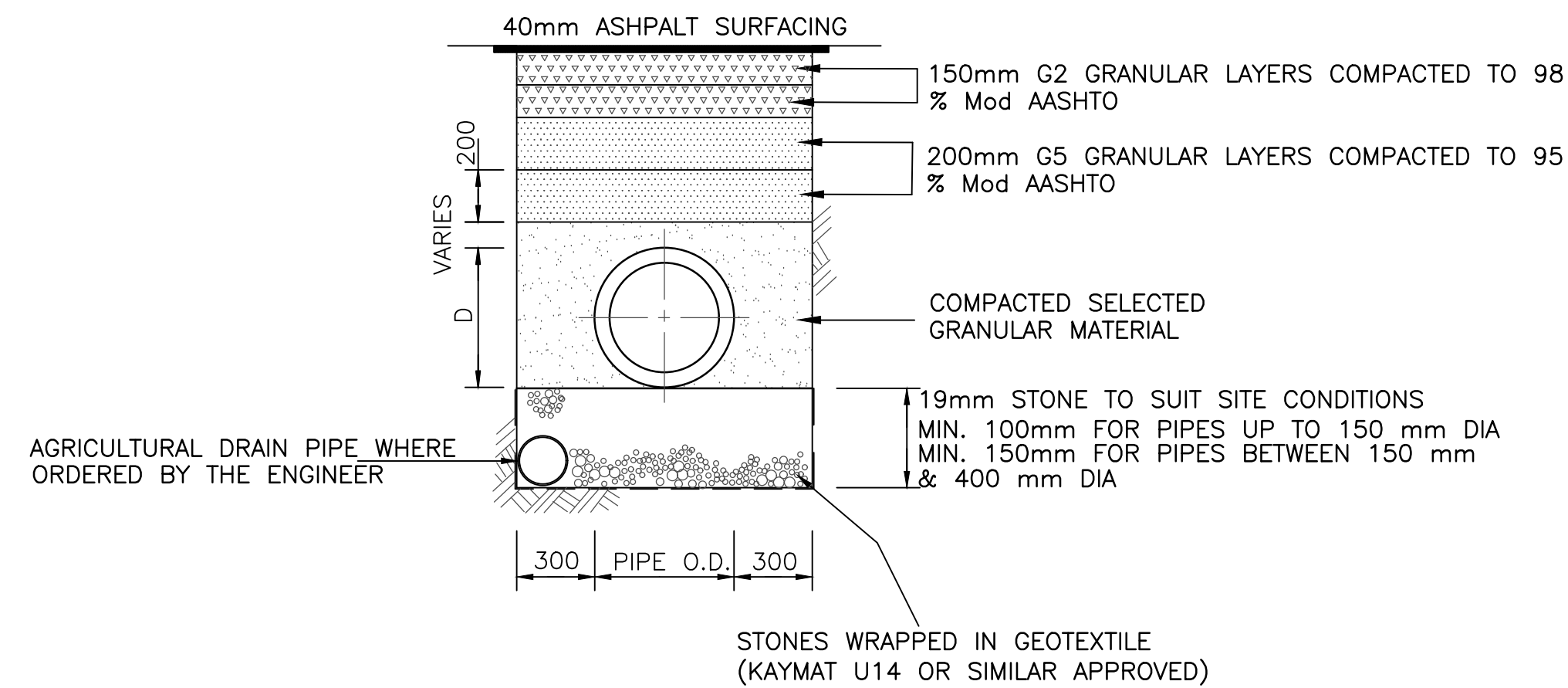
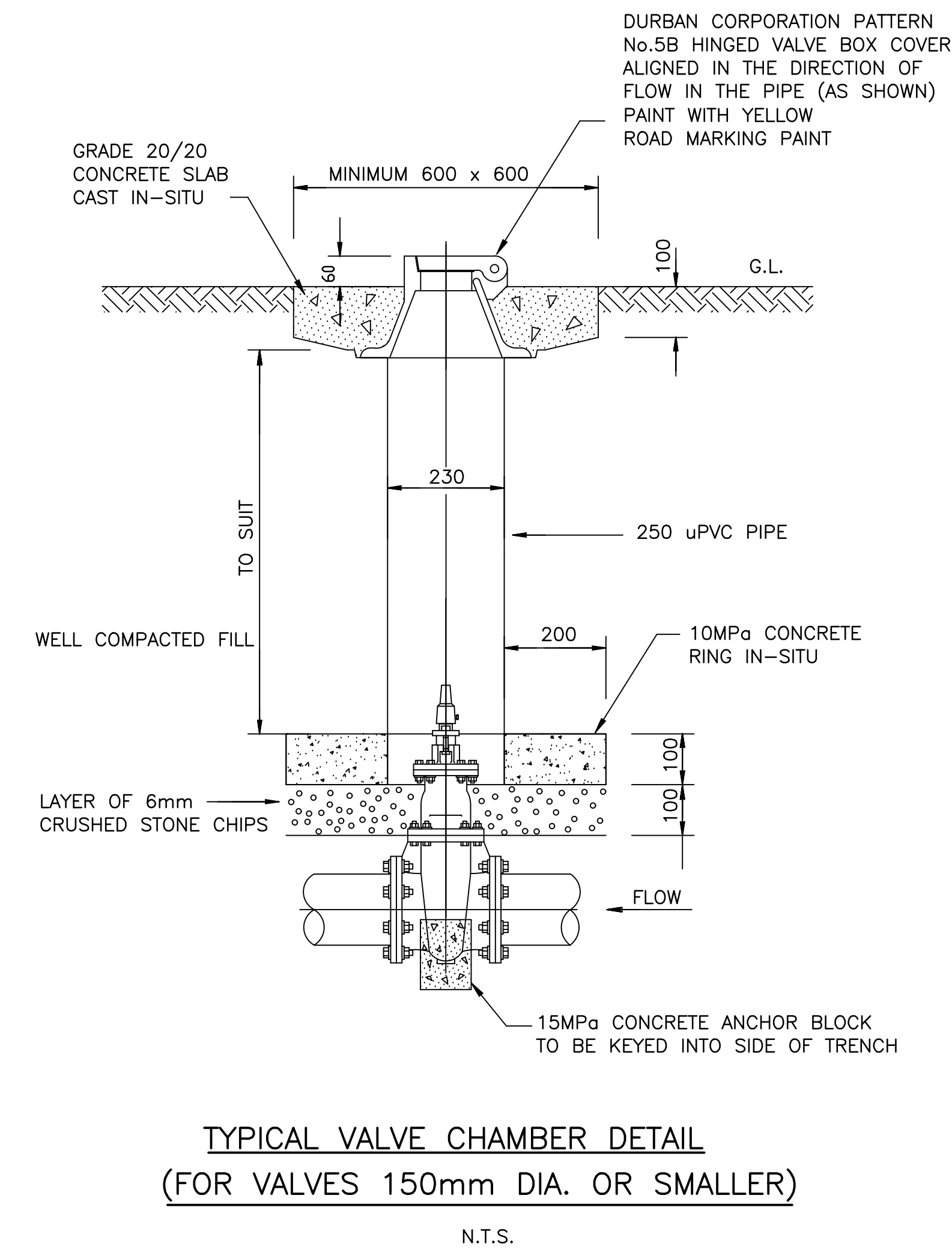
ALT. DWG. No. CONTRACT No.
SHT. No. 3 OF 4 PROJECT No. J127

DRAWING No. J071-D02

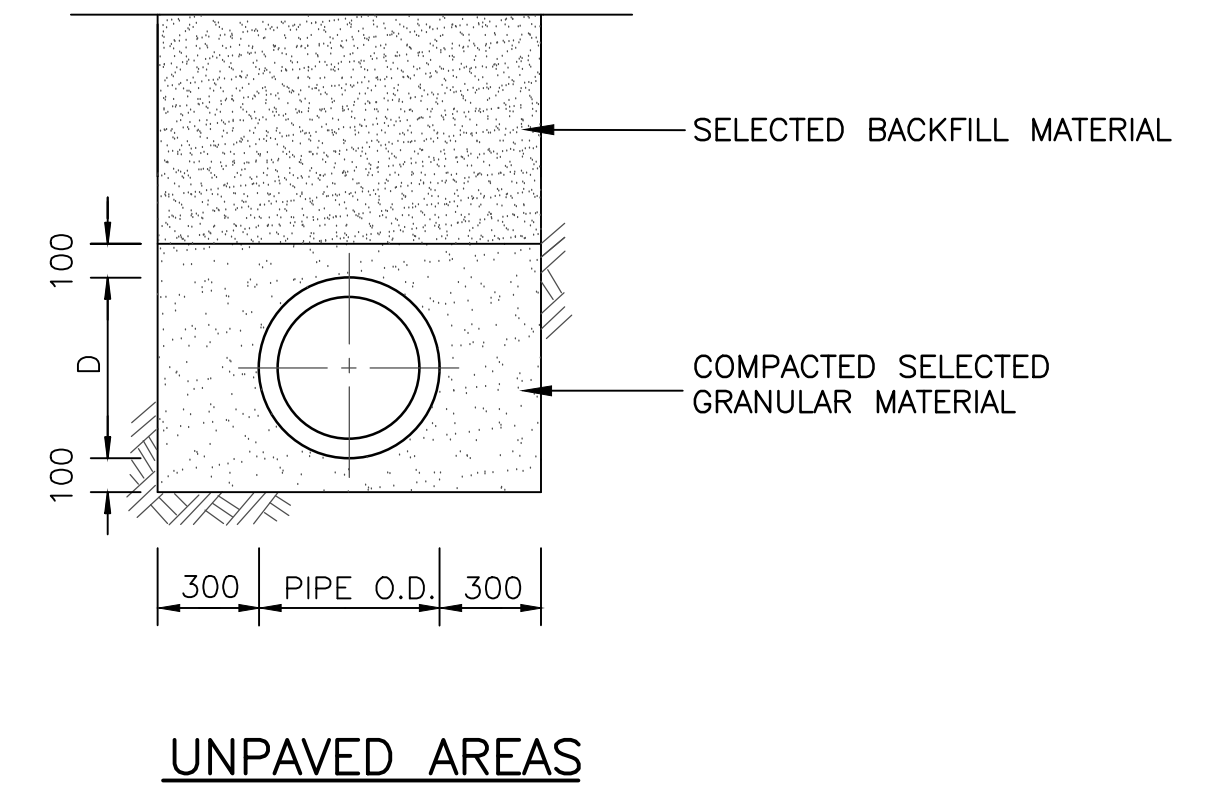
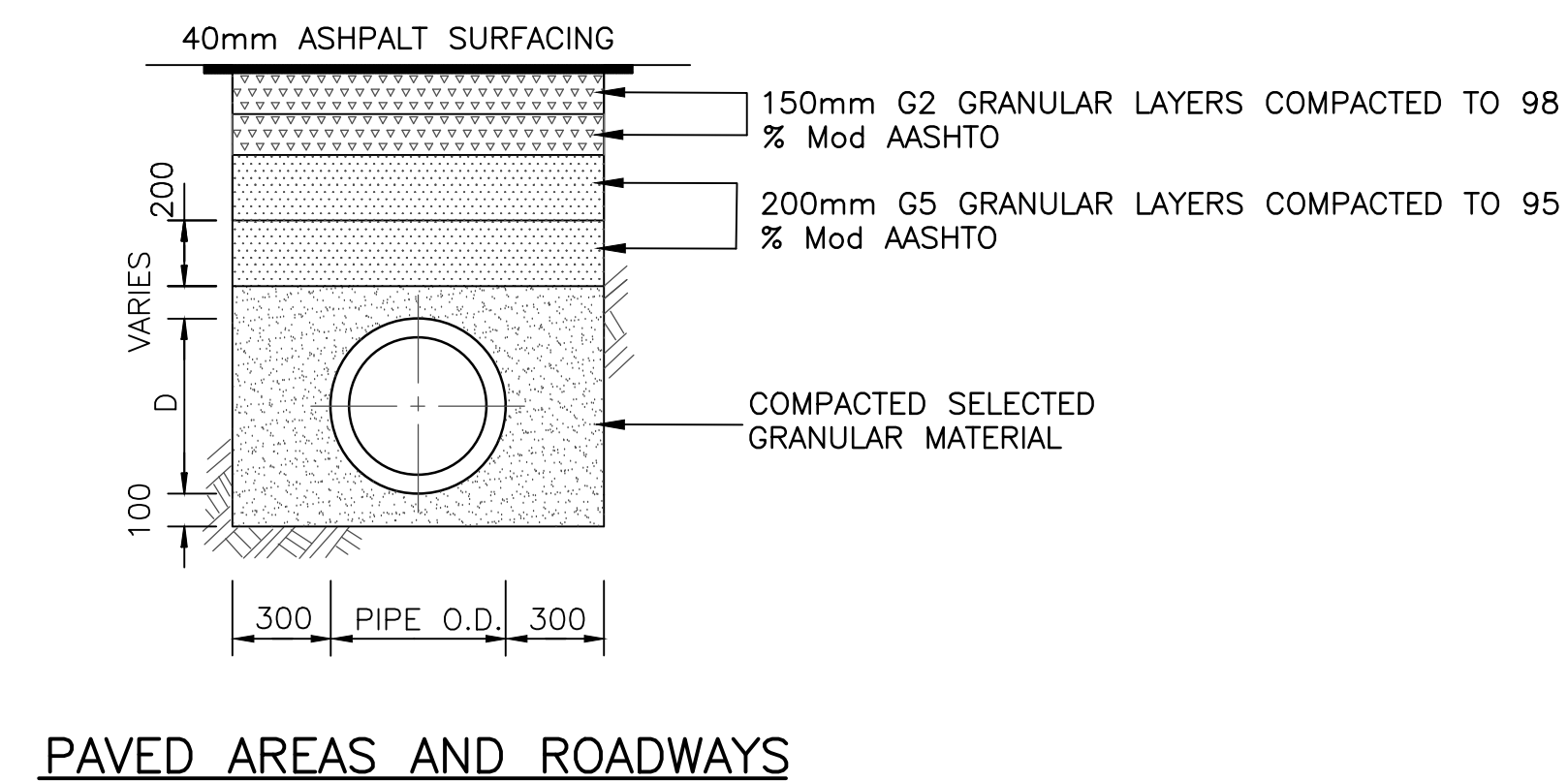
REVISION
0



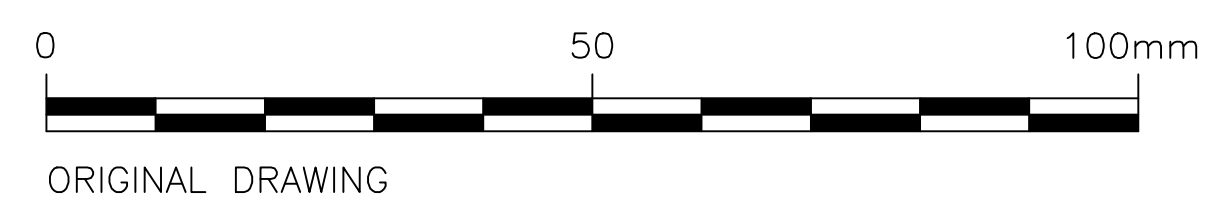
STANDARD 75mm DURBAN PATTERN HYDRANT
N.T.S.



ITEM	DESCRIPTION
A	MALLEABLE IRON SADDLE TO SUIT DIAMETER OF PIPE, WITH 25 DIA. FEMALE THREAD
1	25 DIA. BRASS FERRULE TO SUIT SADDLE
2	25/32DIA. MALE ADAPTOR TO SUIT FERRULE
3	32 DIA. HDPE PIPE
4	32 DIA. TEE
5	32 DIA HDPE PIPE
6	32/25 DIA. REDUCER
7	25 DIA. HDPE PIPE
8	25 DIA. ELBOW
9	25 DIA. FEMALE ADAPTOR
10	25 DIA. PLUG



TYPICAL TRENCH SECTION
N.T.S.



DRAWING STATUS
ISSUED FOR TENDER

ORIGINAL SCALE
AS SHOWN ON A1

ALT. DWG. No.	CONTRACT No.
SHT. No. 4 OF 4	PROJECT No. J071
DRAWING No. J071-D02	REVISION 0

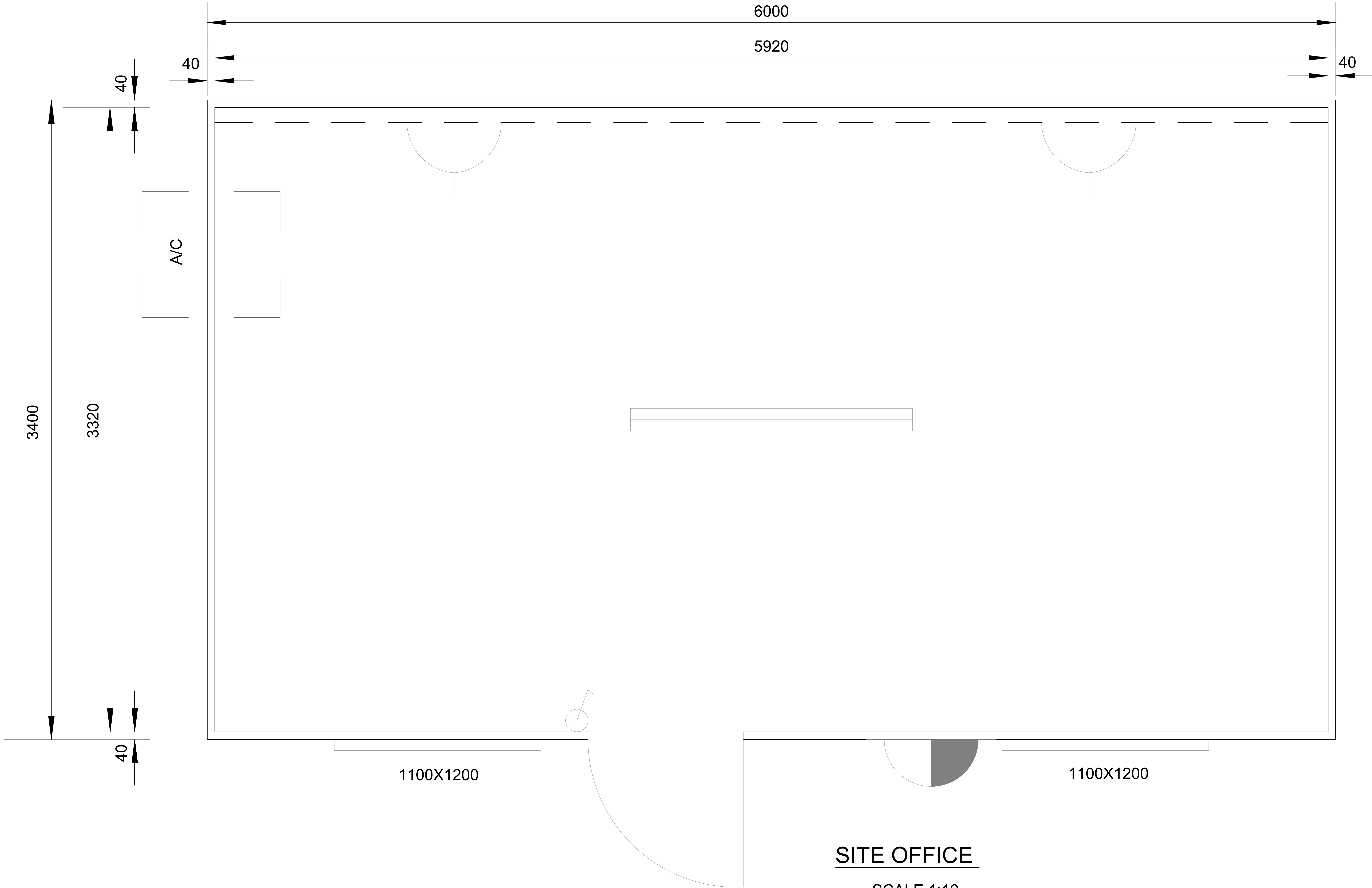
No.	REFERENCE DRAWINGS
0	ISSUED FOR TENDER
1	ONLY REVISIONS MARKED THUS ARE VALID

DESIGNED	G. MLAMBO
CHECKED	S. MGUTSHINI
DRAWN	B. MLALAZI
CHECKED	S. MGUTSHINI
PROJ. ENG.	G. MLAMBO


ZIYANDA CONSULTING
 PO BOX 809
 PIETERMARITZBURG 3245
 TEL: (033) 34 34
 FAX: (033) 34 34
 E-mail: ziyanda@ziyandaconsulting.co.za
 APPROVED : S. MGUTSHINI (PR. ENG. REG. No. 20040208)


 APPROVED : _____

PROJECT/DRAWING TITLE
 UGU DISTRICT MUNICIPALITY
 PIPELINE REPLACEMENT PROGRAMME
 PLANNED REPLACEMENT OF BULK AND RETICULATION
 PIPELINES AND ASSOCIATED MISCELLANEOUS WORKS
 NORTHERN AND SOUTH WESTERN AREAS
 STANDARD DETAILS

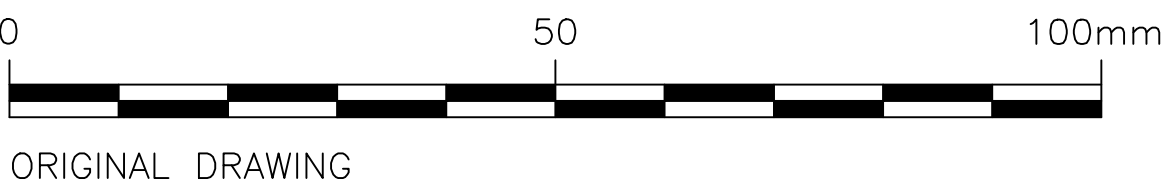


ELECTRICAL LEGEND

- FLUORESCENT LIGHTING
- SECURITY LIGHTING
- PLUG POINT
- SWITCH POINT
- AIR CONDITIONER

NOTES

- DOORS**
INTERIOR WALL PLY C/DECK
EXTERIOR WALL PLY C/DECK
- ELECTRICITY**
D.B220V
NORMAL TRUNKING
- OTHER**
IND. VINYL
- OFFICE FURNITURE**
AS PER THE BID SPECIFICATION



DRAWING STATUS	
ISSUED FOR TENDER	
ORIGINAL SCALE	
AS SHOWN ON A1	
ALT. DWG. No.	CONTRACT No.
SHT. No.	PROJECT No.
J127	
DRAWING No.	REVISION
J071-D03	0

No.		REFERENCE DRAWINGS	
0		ISSUED FOR TENDER	
△		REVISIONS	
ONLY REVISIONS MARKED THUS △ ARE VALID			
DESIGNED		B. MLALAZI	
CHECKED		G. MLAMBO	
DRAWN		B. MLALAZI	
CHECKED		S. MGUTSHINI	
PROJ. ENG.		G. MLAMBO	



TEL: (033) 346 0689
FAX: (033) 346 0692
E-mail: ziyanda@ziyandaconsulting.co.za

APPROVED : _____
S. MGUTSHINI
(PR ENG REG. No. 20040208)

PO BOX 809
HILTON
PIETERMARITZBURG
3245



APPROVED : _____

PROJECT/DRAWING TITLE

UGU DISTRICT MUNICIPALITY
PIPELINE REPLACEMENT PROGRAMME
PLANNED REPLACEMENT OF BULK AND RETICULTION
PIPELINES AND ASSOCIATED MISCELLANEOUS WORKS
NORTHERN AND SOUTH WESTERN AREAS
SITE OFFICE DETAILS