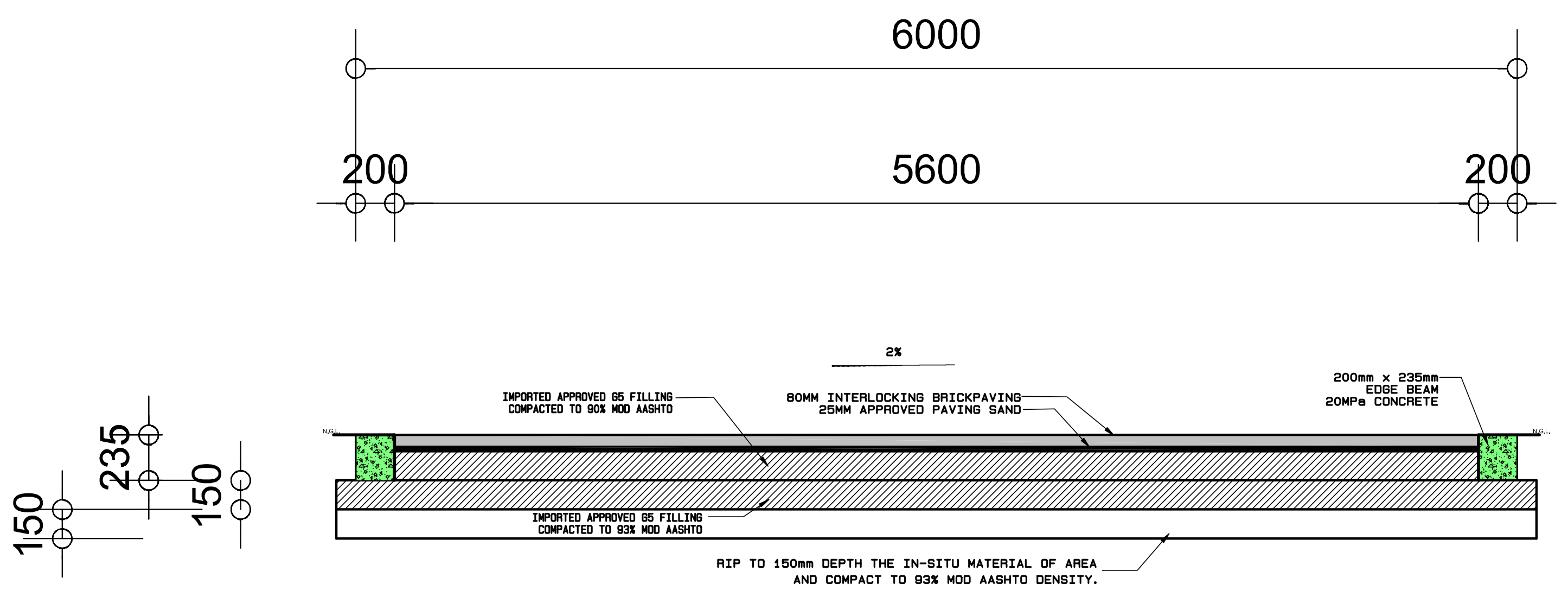
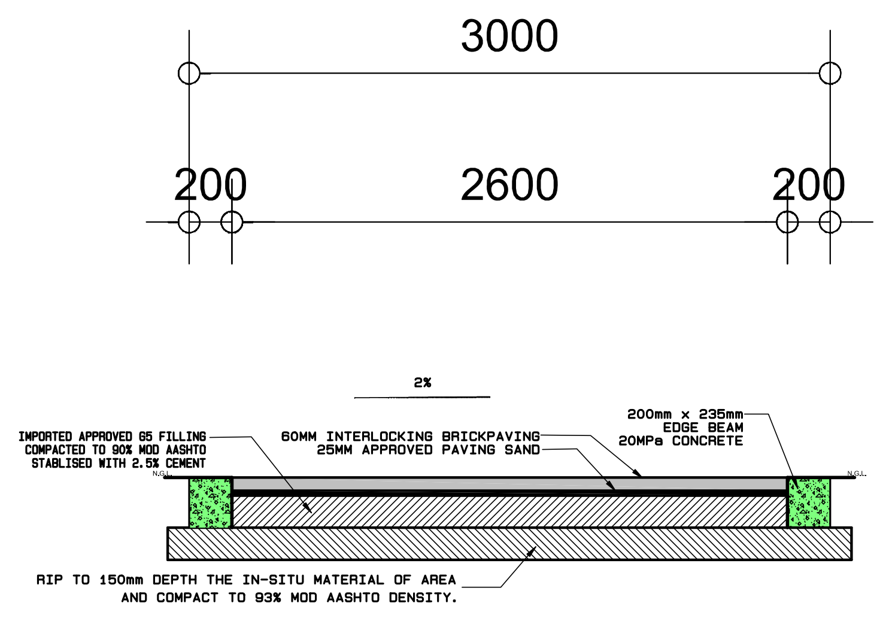


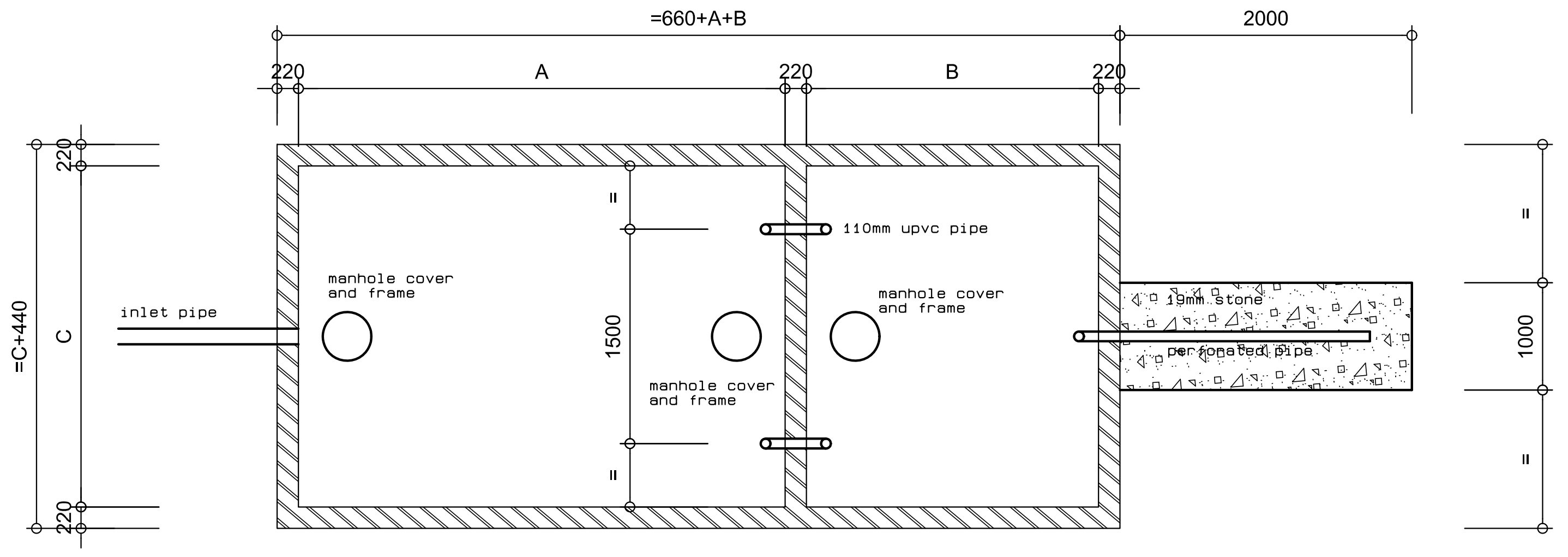
6000
200
5600
200
150
235
150
2%
200mm x 235mm EDGE BEAM 20MPa CONCRETE
80MM INTERLOCKING BRICKPAVING 25MM APPROVED PAVING SAND
IMPORTED APPROVED G5 FILLING COMPACTED TO 93% MOD AASHTO
RIP TO 150mm DEPTH THE IN-SITU MATERIAL OF AREA AND COMPACT TO 93% MOD AASHTO DENSITY.

MAIN ACCESS ROAD LAYERWORKS

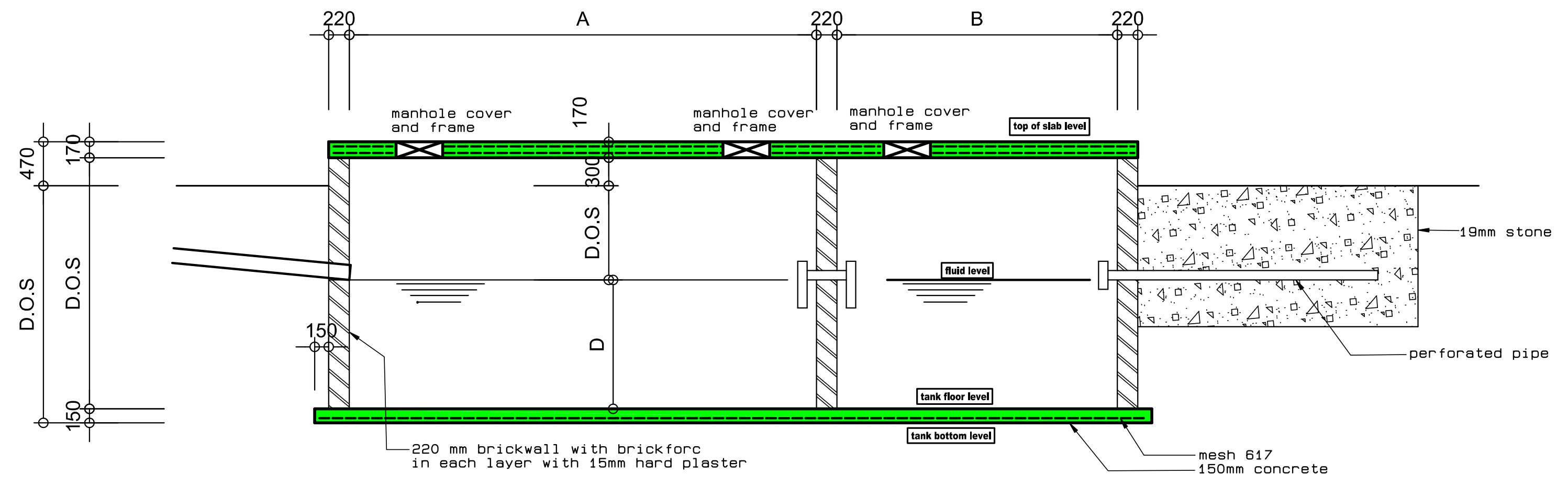


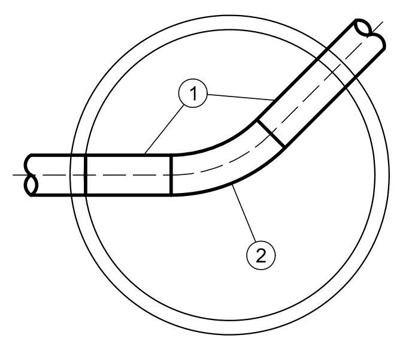
3000
200
2600
200
2%
200mm x 235mm EDGE BEAM 20MPa CONCRETE
80MM INTERLOCKING BRICKPAVING 25MM APPROVED PAVING SAND
IMPORTED APPROVED G5 FILLING COMPACTED TO 93% MOD AASHTO STABILISED WITH 3.5% CEMENT
RIP TO 150mm DEPTH THE IN-SITU MATERIAL OF AREA AND COMPACT TO 93% MOD AASHTO DENSITY.

INTERNAL ROADS LAYERWORKS

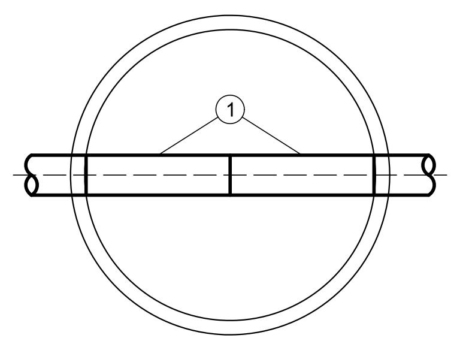


CONSERVANCY TANK SIZES
TANK 1- A=2.24M, B=0.96, C=1.6, D=2.0
TANK 2- A=3.15M, B=1.35, C=1.7, D=2.8
TANK 3- A=2.8M, B=1.2, C=1.5, D=2.5

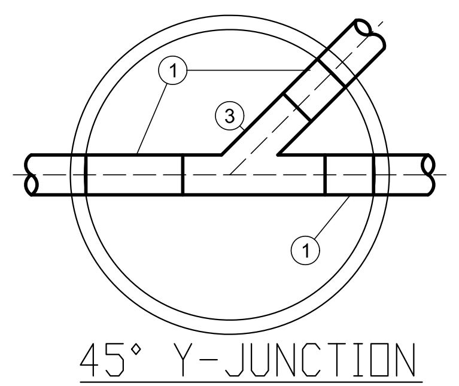




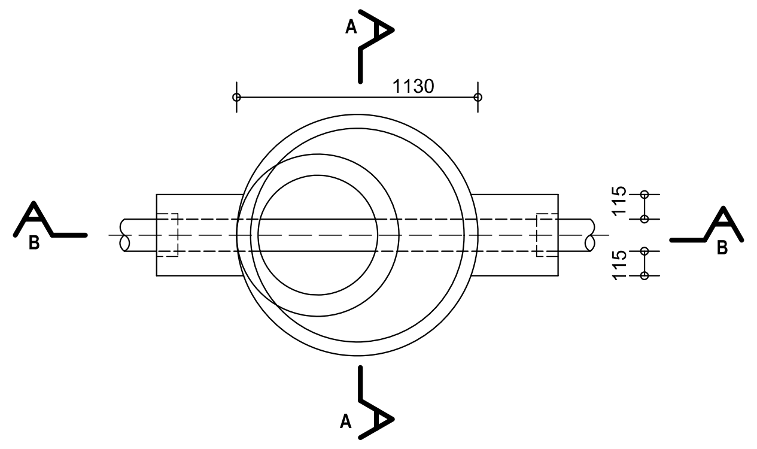
45° BEND



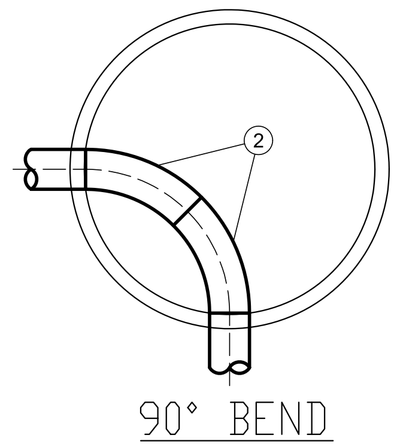
STRAIGHT CHANNEL



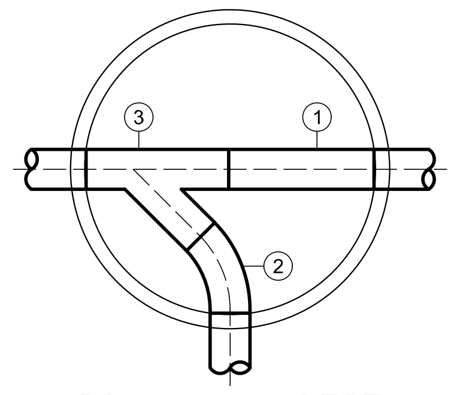
45° Y-JUNCTION



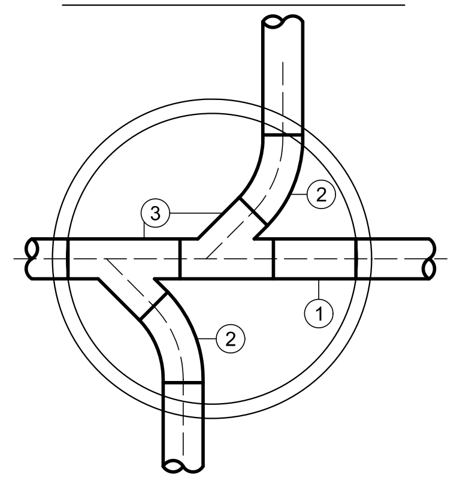
PLAN



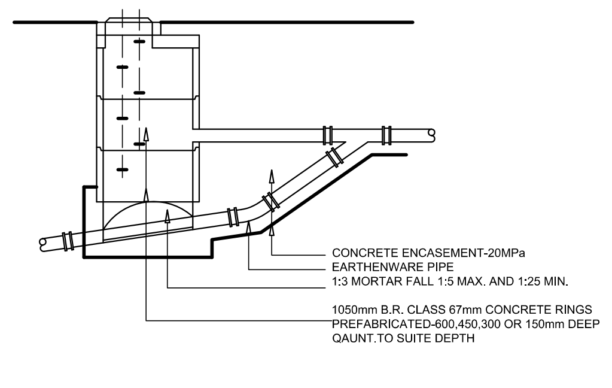
90° BEND



90° Y-JUNCTION



90° DOUBLE Y-JUNCTION

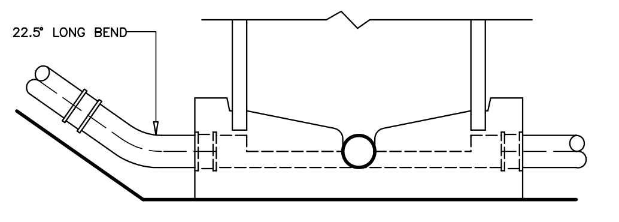


CONCRETE ENCASEMENT-20MPa EARTHENWARE PIPE
1:3 MORTAR FALL 1:5 MAX. AND 1:25 MIN.
1050mm B.R. CLASS 67mm CONCRETE RINGS PREFABRICATED 600,450,300 OR 150mm DEEP GAUNT TO SUITE DEPTH

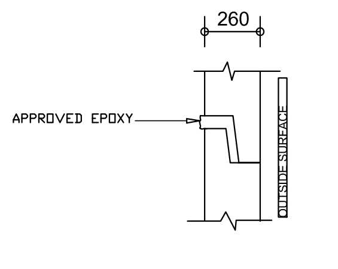
DROP CONNECTION

ITEM	DESCRIPTION	COMMENT
1	STRAIGHT CHANNEL	
2	BEND	APPR. DIAMETER
3	Y-PIECE	LENGTH & ANGLE

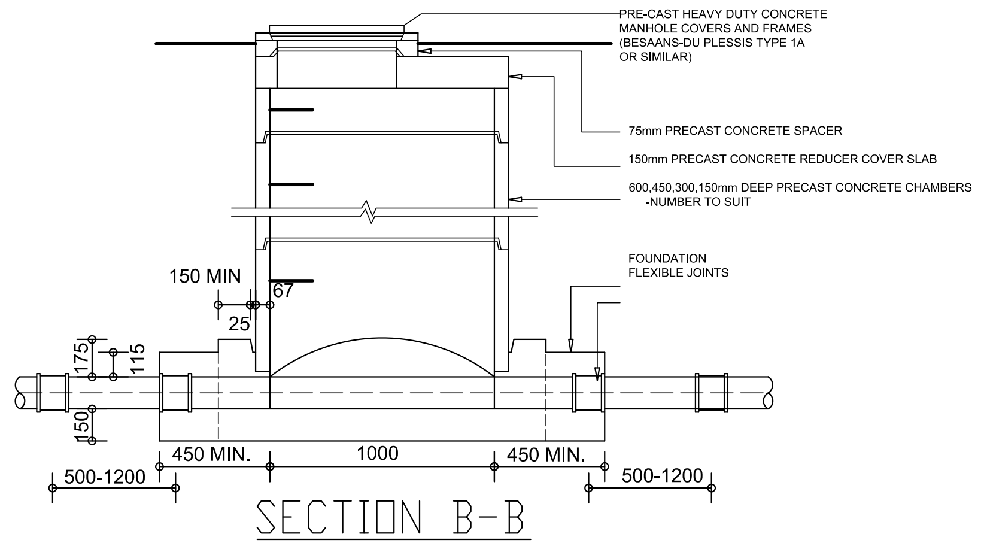
CHANNEL LAYOUTS IN MANHOLES



SECTION
MANHOLE CONNECTION

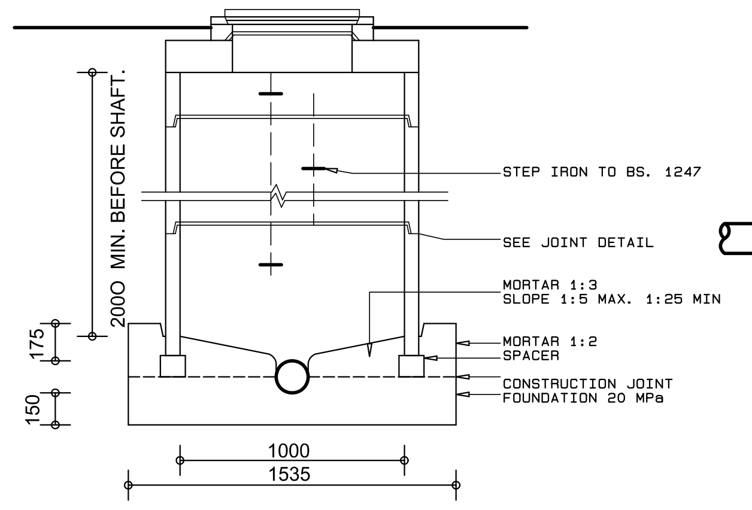


JOINT DETAIL

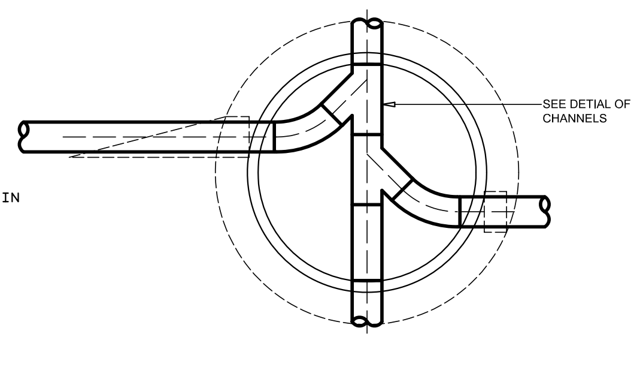


PRE-CAST HEAVY DUTY CONCRETE MANHOLE COVERS AND FRAMES (SESAMIS-DU PLESSIS TYPE 1A OR SIMILAR)
75mm PRECAST CONCRETE SPACER
150mm PRECAST CONCRETE REDUCER COVER SLAB
600,450,300,150mm DEEP PRECAST CONCRETE CHAMBERS (NUMBER TO SUIT
FOUNDATION FLEXIBLE JOINTS
150 MIN
67
25
175
115
150
450 MIN.
1000
450 MIN.
500-1200
500-1200

SECTION B-B

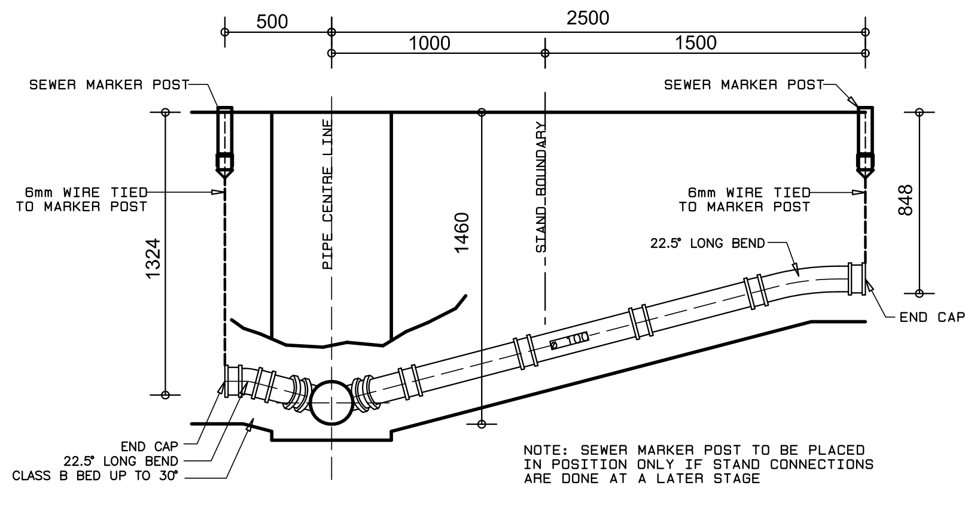


SECTION A-A

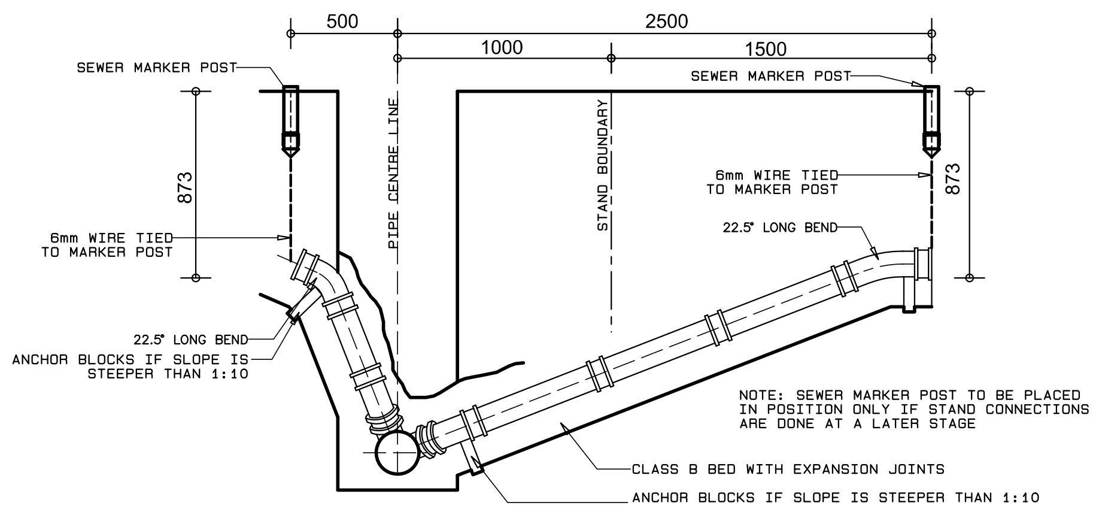


PLAN

SEWER DETAILS (MANHOLE CONNECTION AND JUNCTIONS)

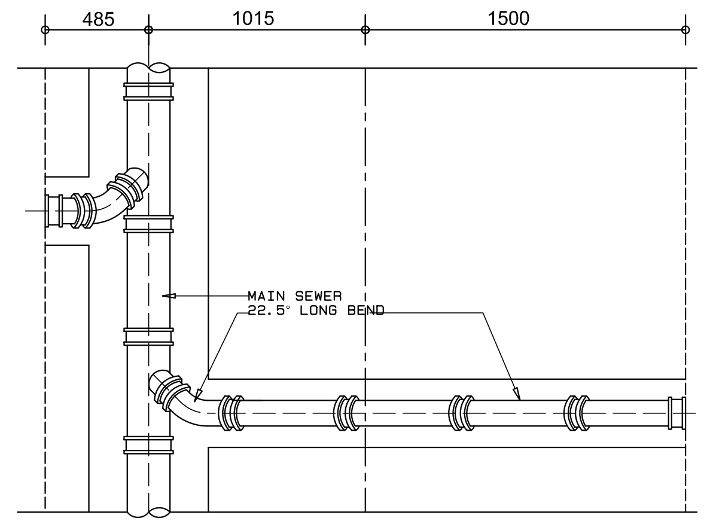


ELEVATION - CONNECTION UP TO 30°

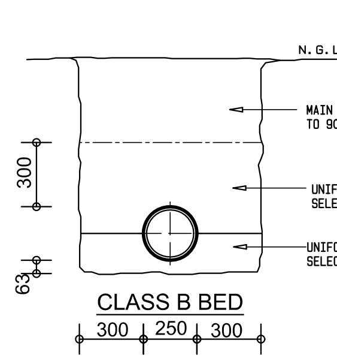


500
2500
1000
1500
SEWER MARKER POST
6mm WIRE TIED TO MARKER POST
PIPE CENTRE LINE
STAND BOUNDARY
873
873
22.5° LONG BEND
ANCHOR BLOCKS IF SLOPE IS STEEPER THAN 1:10
NOTE: SEWER MARKER POST TO BE PLACED IN POSITION ONLY IF STAND CONNECTIONS ARE DONE AT A LATER STAGE
CLASS B BED WITH EXPANSION JOINTS
ANCHOR BLOCKS IF SLOPE IS STEEPER THAN 1:10

ELEVATION - CONNECTIONS STEEPER THAN 30°

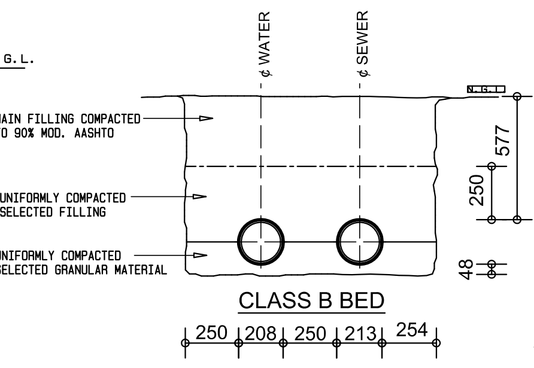


PLAN



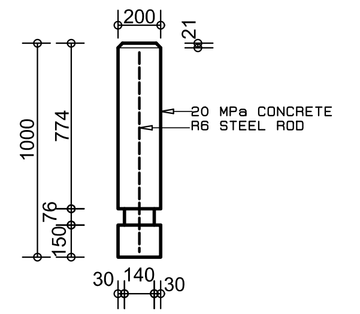
N.G.L.
MAIN FILLING COMPACTED TO 93% MOD. AASHTO
UNIFORMLY COMPACTED SELECTED FILLING
UNIFORMLY COMPACTED SELECTED GRANULAR MATERIAL
300
63
CLASS B BED
300
250
300

SINGLE TRENCH EXCAVATION

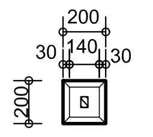


DOUBLE TRENCH EXCAVATION

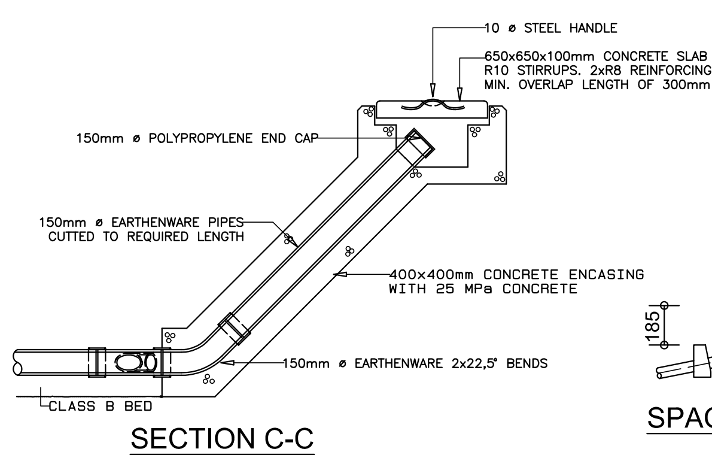
CONSTRUCTION OF PIPE BED



SEWER MARKER POST
ELEVATION

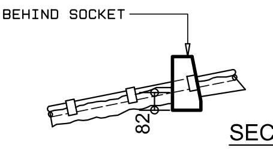


SEWER MARKER POST
PLAN

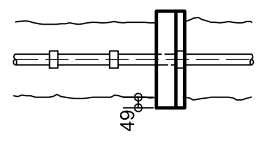


10 ø STEEL HANDLE
450x450x100mm CONCRETE SLAB WITH R10 STIRRUPS, 2xR8 REINFORCING WITH MIN. OVERLAP LENGTH OF 300mm
150mm ø POLYPROPYLENE END CAP
150mm ø EARTHENWARE PIPES CUTTED TO REQUIRED LENGTH
400x400mm CONCRETE ENCASING WITH 25 MPa CONCRETE
150mm ø EARTHENWARE 2x22.5° BENDS
CLASS B BED

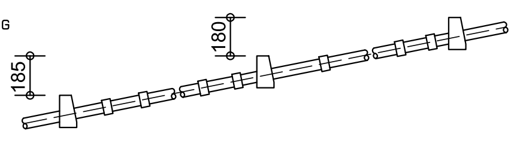
SECTION C-C



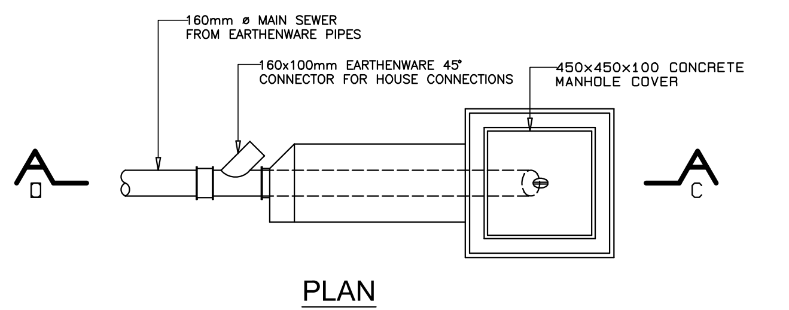
SECTION



PLAN



SPACING OF ANCHOR BLOCKS



160mm ø MAIN SEWER FROM EARTHENWARE PIPES
160x100mm EARTHENWARE 45° CONNECTOR FOR HOUSE CONNECTIONS
450x450x100 CONCRETE MANHOLE COVER
A
C
A
C

PLAN
RODDING EYE

SEWER DETAILS

FILLING NOTES

1. ALL MATERIAL TO BE USED AS FILLING MUST BE APPROVED BY THE ENGINEER. SAMPLES OF SUCH MATERIAL MUST BE GIVEN TO THE ENGINEER AND WILL BE TESTED IF REQUIRED. NO MATERIAL SHALL BE DELIVERED ON SITE BEFORE IT HAS BEEN APPROVED.
2. FILLING MUST CONSIST OF AN APPROVED SAND GRAVEL WITH A MAXIMUM AGGREGATE SIZE OF 25MM. THE PLASTIC INDEX MUST BE LESS THEN 10. THE CBR. AT 93 % DRY DENSITY (MOD. AASHTO) CBR 20 @ 93% MOD AASHTO
3. ALL WORK STRICTLY TO S.A.B.S.-1200-1983 (AS REVISED FROM TIME TO TIME).
4. BEDDING MATERIAL MUST BE APPROVED AND MUST BE COMPACTED TO 93% MOD AASHTO IN LAYERS NOT EXCEEDING 150MM

FIRE DEPARTMENT.

-FIRE WATER SUPPLY MUST BE SEPERATE FROM THE MAIN BUILDING.
-ALL FIRE EQUIPMENT AND EMERGENCY EXITS MUST BE MARKED AND FIXED PROPERLY AND MUST COMPLY TO THE NATIONAL BUILDING REGULATIONS T32
-SIGNS MUST BE ERECTED TO SHOW IN WHICH DIRECTION TO MOVE IN AN EMERGENCY.
-USE 50mm DIA. WATERPIPE'S FOR FIRE HOSE'S.
-NO FLAMMABLE LIQUIDS MUST BE HELD ON THE SITE UNLESS COMPLIED TO S.A.B.S. 067 AND UNLESS THE BUILDING IS REGISTERED AT THE FIRE DEPARTMENT.

-THE FIRE DEPARTMENT RESERVES THE RIGHT TO RE-CONSIDER ANY PREVIOUS REQUIREMENTS UNDER THE FOLLOWING CONDITIONS:
1. ANY STRUCTURAL CHANGE;
2. ANY ACCUPATIONAL CLASS;
3. CHANGES IN OWNERSHIP;
4. ANY CHANGES IN FIRE RISK;

STRUCTURAL STEEL NOTES

- ALL STRUCTURAL DRAWINGS SHOWN ARE GENERAL LAYOUT DRAWINGS
- IF WORKSHOP DRAWINGS ARE REQUIRED, THE GENERAL PROCEDURE AS LISTED IN THE LATEST S.A.B.S. 1200 SHOULD BE FOLLOWED.
- ALL CONNECTIONS ARE WELDED CONNECTIONS EXCEPT WHERE SHOWN OTHERWISE.
- USE STEEL GRADE 300W.
- TEMPORARY BRACING MUST BE SUPPLIED.
- ROOFPLATES AND PURLINS MUST BE LIFTED INDIVIDUALLY AND LAYED IMMEDIATELY.
- ALL WELDS MUST BE 6MM MIN.
- ALL FOOTINGS MUST BE INSPECTED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
- ROOF TRUSSES MUST BE INSPECTED AND APPROVED BEFORE THE TRUSSES ARE LAYED.
- ALL DIMENSIONS MUST BE CHECKED ON SITE AND ANY DISCREPANCIES OR ILLEGIBILITIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCEMENT OF THE WORKS.
- ALL CONNECTIONS MUST TRANSMIT FULL STRENGHT OF ELEMENTS.
- ALL BOLTS ARE GRADE 8.8.
- ALL CONNECTIONS , OTHER THAN SHOWN MUST BE APPROVED BY THE ENGINEER.

CONCRETE NOTES

-ALL WORK TO S.A.B.S.-1200-1982 (AS REVISED FROM TIME TO TIME).
-ALL DIMENSIONS MUST BE CHECKED ON SITE AND ANY DISCREPANCIES OR ILLEGIBILITIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCEMENT OF THE WORKS.

-CONCRETE STRENGTH	: FOOTINGS	= 25 MPa/19mm
	: COLUMNS	= 40 MPa/19mm
	: SLABS AND BEAMS	= 25 MPa/19mm
	: ALL WATER RETAINING STRUCTURES	= 35 MPa/19mm
	: GENERAL	= 25 MPa UNLESS SHOWN OTHERWISE.
-CONCRETE COVER	: FOOTING	= 75mm
	: COLUMNS	= 30mm
	: BEAMS	= 20mm
	: SLABS	= 20mm
	: WATER RETAINING STRUCTURES	= SIDE OF WATER=50mm = SIDE OF SOIL =25mm
	: UNLESS SHOWN OTHERWISE.	

-CAST 50-75mm BLINDING LAYER UNDERNEATH ALL FOOTINGS (15 MPa).
-REINFORCEMENT AND EXCAVATIONS MUST BE CHECKED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS POURED.
-THE CONTRACTOR MUST ENSURE THAT THE REINFORCEMENT ARE KEPT IN POSITION BEFORE AND DURING THE POURING OF CONCRETE.
-REINFORCEMENT MUST BE KEPT IN PLACE BY MEANS OF APPROVED S.A.B.S. PLASTIC COVER CLIPS OR CONCRETE COVER BLOCKS MADE OF THE SAME CONCRETE STRENGTH AS THE CONCRETE BEING POURED.
-LOADBEARING BRICKWORK : EVERY LAYER BELOW GROUND FLOOR SLAB;
: EVERY LAYER ABOVE WINDOWS, OPENINGS & DOORS (AT LEAST 4 LAYERS);
: EVERY FOURTH LAYER INBETWEEN.
-PROVIDE 2 LAYERS OF 3-PLY MALTHOID ON ALL LOADBEARING WALLS (OR JUST AS SHOWN).
-TEST CUBES: 9 PER 6m MIN.-TEST 3 CUBES ON 3, 7 & 28 DAYS. (TEST RESULTS MUST BE HANDED TO THE ENGINEER AS SOON AS POSSIBLE)
-ALL EXPOSED CORNERS TO BE 25x25mm CHAMFER EXCEPT WHERE OTHERWISE INDICATED.

GENERAL NOTES

1. ALL WORK MUST COMPLY TO THE MUNICIPAL REGULATIONS & TO THE NATIONAL BUILDING REGULATIONS (S.A.B.S. 0400)
2. OUTSIDE WALL FOUNDATIONS: STRIP FOOTINGS 700x300mm. FOUNDATIONS (25 MPa) MIN. 230mm UNDER GROUND LEVEL & FLOOR MIN. 230mm ABOVE NATURAL GROUND LEVEL.
3. 75mm CONCRETE SLAB - (25MPa)
4. SEWER: - ø 160mm PVC PIPE FALL 1:80 MAX.
   - RODDING EYE'S AT ALL CHANGES IN DIRECTIONS AND ENDPOINTS OF SEWER PIPES.
   - INSPECTION EYE'S AT ALL CONNECTIONS
   - ENCASE SEWER PIPE IN 300x300mm CONCRETE IF UNDER BUILDING.
   - VENTILATION PIPE MIN. 1800mm ABOVE INSPECTION EYE AND WITHIN 6m THEREOFF. (USE BI-DIRECTIONAL VENTILATION SOCKET)
5. DPC'S UNDER ALL WALLS AND AT WINDOW CILLS.
6. ALL MATERIAL TO BE USED AS FILLING MUST BE APPROVED BY THE ENGINEER. SAMPLES OF SUCH MATERIAL MUST BE GIVEN TO THE ENGINEER AND WILL BE TESTED IF REQUIRED. NO MATERIAL SHALL BE DELIVERED ON SITE BEFORE IT HAS BEEN APPROVED.
7. FILLING MUST CONSIST OF AN APPROVED SAND GRAVEL WITH A MAXIMUM AGGREGATE SIZE OF 25MM. THE PLASTIC INDEX MUST BE LESS THEN 10. THE CBR. AT 93 % DRY DENSITY (MOD. AASHTO) CBR 20 @ 93% MOD AASHTO
8. ALL WORK STRICTLY TO S.A.B.S.-1200-1983(AS REVISED FROM TIME TO TIME).
9. BEDDING MATERIAL MUST BE APPROVED AND MUST BE COMPACTED TO 93% MOD AASHTO IN LAYERS NOT EXCEEDING 150MM

WATER AND SEWER PIPES NOTES

SPECIFICATIONS FOR WATER PIPES

-ALL HOUSE WATER DOMESTIC CONNECTIONS TO BE 20mm MIN ø HDPE OD TYPE 4 CLASS 10 PIPE
-ALL FIRE HYDRANTS TO BE ABOVE GROUND " PRETORIA TYPE - TAMPER PROOF"
-ALL WATER NETWORK PIPES TO BE CLASS 16 uPVC

SPECIFICATIONS FOR SEWER PIPES

-ALL SEWER MAIN PIPES TO BE STRUCTURED WALL 400 KPa UG SEWER PIPES (SABS 1601)
-ALL MANHOLES TO BE PRE-CAST CONCRETE WITH CONCRETE COVER SLAB AND MEDIUM DUTY LID WITH METAL BAND
-ALL BENCHING TO BE DONE WITH CONCRETE

NOTES AND SPECIFICATIONS

LEGEND

ROADS:

1. KERBING TO BE AS PER STANDARD DETAIL PLANS.
2. TRAFFIC CONTROL MUST COMPLY WITH THE REQUIREMENTS OF THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL (THIRD EDITION).
3. ALL LEVELS TO BE CONFIRMED ON SITE.

STORMWATER

1. MINIMUM PIPE DIAMETER TO BE 450mm.
2. MINIMUM PIPE FALL TO BE 1:200(1%) UNLESS OTHERWISE APPROVED BY MUNICIPALITY.
3. PIPE BEDDING TO BE CLASS B UNLESS OTHERWISE SPECIFIED.
4. ALL EXCAVATIONS AND BEDDING MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE LAYING OF ANY PIPES.
5. CLEAN EXISTING STORMWATER INLETS AND REPAIR WHERE NECESSARY (IF APPLICABLE).
6. BELL MOUTHS TO HAVE FIG8c KERBS

LEGEND

PROPOSED:		EXISTING:
━ ▪ ━ ▪ ━	STORMWATER PIPE	— · · — · · —
JB ☐	JUNCTION BOX	JB ☐
FI ☒	FIELD INLET	FI ☒
KI	KERB INLET	KI ▭
GI ▥	GRID INLET	GI ▥
⟩━ ▪ ━ ▪ ━	WINGWALL OUTLET	⟩— · · — · · —
▥▥▥	STORMWATER GRID GRATING	
MH# ●	STORMWATER MANHOLE	MH# ○
◎ BM	BENCHMARK	◎ KS
━ ━ ━ ━	STORMWATER CHANNEL	
━ ━ ━ ━	GUARDRAILS	
▬	PROPOSE SURFACE	
▭	EXISTING BLOCK PAVING	
—×—×—	PROPERTY BOUNDARY	
═	MOUNTABLE CONCRETE KERB FIG.8b	

SCALE 1:50

0 10 20 40 60 80m
SCALE 1:1000

SHEET LAYOUT

PROJECT STATUS

○	●	○	○
CONCEPT DRAWING	TENDER DRAWING	APPROVED FOR CONSTRUCTION DRAWING	ASBUILT DRAWING

PROJECT ENGINEER:
INITIALS AND SURNAME
SIGNATURE & PR NUMBER
DATE
INSPECTOR OF WORKS:
SIGNATURE
DATE
REMARKS:
ORIGINAL PAPER SIZE: A0
DRAWING NO. AWA-26-06-02
SHEET NO: 2 OF 3
0
REVISION

AMENDMENTS

NR.	DATE	DESCRIPTION

CONSULTANTS DETAIL:
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ENGINEERS
218 Rivier Street
Villa Perez, Unit no 8
Potchefstroom
2531

TEL : 015 022 1118
eMAIL: admin@tekrod.co.za
WEBSITE: www.Tekrod.co.za

TEKROD
CONSULTING ENGINEERS

CLIENT DETAIL:

Maquassi Hills Local Municipality

19 Kruger Street, Wolmaransstad
North West Province
South Africa

Customer Service: 018 065 0010
Fax: 018 596 1555

Maquassi Hills
Local Municipality

DESIGNED
B Appels
DRAWING CHECKED BY
T MASWANGANYI
DRAWN
B Appels
CIVIL DRAUGHTING SERVICES
AWA ARCHITECTURAL DESIGNS

LOCATION OF PROJECT:
Witpoort, Maquassi Hills

DESCRIPTION OF PROJECT
CONSTRUCTION OF RECREATIONAL FACILITIES
AT THE WITPOORT DAM-PHASE 2

CONTRACT No. :
PROJECT No. : AWA-25-06
SCALE : AS SHOWN
DATE : JUNE 2026