



# PROPOSED DEVELOPMENT

## LOT. 1, NO. 7, SIR THOMAS MITCHELL DRIVE, DAVIDSON

### GENERAL DRAINAGE NOTES:

- THE CONTRACTOR SHALL ADEQUATELY DRAIN THE SITE DURING ALL STAGES OF CONSTRUCTION.
- CONTRACTOR SHALL VERIFY ALL LEVELS DIMENSIONS AND SERVICES EXISTING AND REPORT ANY DISCREPANCIES TO BUILDER WITHIN 5 DAYS OF MOBILISATION TO SITE.
- ALL APPROPRIATE PERMITS SHALL BE OBTAINED AND FEES PAID FOR BY THE CONTRACTOR.
- ANY PAVEMENT OR FEATURES DAMAGED DURING THE COURSE OF THIS CONTRACT SHALL BE REINSTATED TO THEIR FORMER CONDITION.
- THE CONTRACTOR SHALL ARRANGE A SITE INSPECTION WITH THE CIVIL ENGINEERING SUPERVISING OFFICER PRIOR TO THE COMMENCEMENT OF WORK TO RECORD ANY DAMAGE TO EXISTING FEATURES.
- ALL EXISTING PIT COVERS, DOWNPIPE CONNECTIONS AND SIMILAR FEATURES IN CONSTRUCTION AREAS ARE TO BE ADJUSTED TO SUIT.
- ALL CONCRETE PAVEMENT SHALL BE FINISHED WITH A NON SKID FLOAT, (NO BROOMED FINISH).
- BEFORE COMMENCEMENT OF WORK A TEMPORARY BENCH MARK IS TO BE ESTABLISHED BY THE CONTRACTOR IN A POSITION ON SITE SAFE FROM DISTURBANCE.
- ANY SHORTFALL IN INDIGENOUS TOPSOIL REQUIRED TO BRING THE GARDEN AND GRASSED AREAS TO THE DESIGN LEVELS SHALL BE MADE UP WITH APPROVED IMPORTED TOPSOIL.
- EXCAVATED MATERIAL SHALL BE STOCKPILED ON SITE AS DIRECTED BY THE SUPERINTENDENT. EXCESS TO BE REMOVED FROM SITE AT CONTRACTORS EXPENSE.
- TOPSOIL TO BE STRIPPED TO A DEPTH OF 150mm UNDER FILL AREAS AND ALL OTHER AREAS. THIS TOPSOIL SHALL BE STOCKPILED ON SITE AS DIRECTED BY SUPERINTENDENT. EXCESS SOIL SHALL BE REMOVED FROM THE SITE AT THE CONTRACTORS EXPENSE.
- ALL STORMWATER DRAINS SHALL BE BEDDED ON A MINIMUM OF 80mm COMPACTED THICKNESS 20 N.S. CLASS 3 FINE CRUSHED ROCK, IN SOIL BASED TRENCHES. INCREASE TO 200mm THICKNESS IN ROCK BASED TRENCHES.
- 100mm AND 150mm DIAMETER STORMWATER DRAINS SHALL BE LAID AT A MINIMUM GRADE OF 1:100, UNLESS OTHERWISE SHOWN.
- FOOTPATHS, DRIVEWAYS, ROADWAYS, KERBS, R.O.W.'S OR EXISTING FEATURES DISTURBED, BROKEN OR AFFECTED BY THE WORKS ARE TO BE REINSTATED TO THE COMPLETE SATISFACTION OF THE CITY ENGINEER OR HIS REPRESENTATIVE.
- ALL CONCRETE TO BE SAW CUT U.N.O AND BROKEN OUT TO THE NEAREST JOINT.
- ALL NATURE STRIPS AND LAWN AREAS OUTSIDE PRIVATE PROPERTY TO BE REINSTATED WITH TOP SOIL AND SEEDED.
- CONTRACTOR TO CONTACT LOCAL COUNCIL ENGINEERING DEPARTMENT AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OF OUTFALL DRAINAGE TO ARRANGE FOR COUNCIL SUPERVISION AND INSPECTION IF REQUIRED BY COUNCIL.
- THE CONTRACTOR IS TO VERIFY ALL LOCATIONS AND DEPTH OF SERVICES WITH THE RELEVANT AUTHORITIES FOR THE CONSTRUCTION OF DRAINS AND SERVICES OUTSIDE THE PROPERTY BOUNDARY PRIOR TO THE COMMENCEMENT OF WORK, AND SHALL BE FULLY RESPONSIBLE FOR RECTIFICATION OF ANY DAMAGED SERVICE.
- ALL ADDITIONAL FILL MATERIAL REQUIRED DUE TO OVER EXCAVATION OR A SHORTFALL OF SUITABLE EXCAVATED MATERIAL SHALL BE IMPORTED AT THE CONTRACTORS EXPENSE.

MIN. REQUIREMENTS FOR EXPANSION AND ALLOWABLE IN FITTINGS		
SITE CLASS	MIN. REQUIRED EXPANSION JOINT CAPACITY	ALLOWABLE ROTATION
'E'	150mm	15°
'H'	70mm	15°
'P'	70mm PLUS ADDITIONAL REQUIREMENTS IN THE CASE OF FILL (MIN. DEPENDENT ON SITE CONDITION)	15°
'M'	MIN. 25mm LAGGING THROUGH FOOTINGS	NOT APPLICABLE

THE CONTRACTOR TO REFER SOIL CLASSIFICATION REPORT TO DETERMINE THE TYPE OF EXPANSION JOINT TO BE USED

### DRAINAGE NOTES:

- ALL SURFACE DRAINAGE WORKS SHALL BE INSTALLED IN ACCORDANCE WITH CLAUSE 5.6.3 DRAINAGE REQUIREMENTS OF AS 2870-2011, WHEREIN FOR BUILDINGS ON MODERATELY, HIGHLY AND REACTIVE SITES:
  - SURFACE DRAINAGE SHALL BE CONTROLLED THROUGHOUT CONSTRUCTION AND BE COMPLETED BY THE FINISH OF CONSTRUCTION.
  - WHERE PIPES PASS UNDER THE FOOTING SYSTEMS, CLAY PLUGS ARE ADOPTED TO PREVENT THE INGRESS OF WATER.
  - THE USE OF FLEXI JOINTS AND CLAY PLUGS SHOULD COMPLIES WITH AS2870-2011
- FOR BUILDINGS ON HIGHLY AND REACTIVE SITES, BUILDER SHALL PROVIDE DRAINAGE ARTICULATION TO ALL STORMWATER, SANITARY PLUMBING DRAINS AND DISCHARGE PIPES IN ACCORDANCE WITH CLAUSE 5.6.4 PLUMBING REQUIREMENTS, WHEREIN FLEXIBLE JOINTS IMMEDIATELY OUTSIDE BUILDING AND COMMENCING WITHIN 1m OF THE BUILDING PERIMETER ARE REQUIRED TO ACCOMMODATE THE REQUIRED DIFFERENTIAL MOVEMENT BASE ON THE SOIL CLASSIFICATION, REFER TABLE 'MIN. REQUIREMENTS FOR EXPANSION AND ALLOWABLE IN FITTINGS.
- DRAINAGE DESIGN IS IN ACCORDANCE WITH AS3500.
- ALL INTERNAL DRAINAGE, UNDERGROUND DRAINAGE AND SURFACE DRAINAGE WORKS TO BE CONSTRUCTED AS PER AUSTRALIA STANDARD AS3500.3-2018 & AS2870-2011. SURFACE DRAINAGE SHALL BE CONTROLLED THROUGHOUT CONSTRUCTION AND BE COMPLETED BY THE FINISH OF CONSTRUCTION
- FOR INFILTRATION, DISPERSION AND ABSORPTION SYSTEM, THIS OFFICE TO BE NOTIFIED IMMEDIATELY IF SHALLOW ROCK PRESENTED ON SITE DURING TRENCHING AND EXCAVATION

### MATERIALS

- PROPOSED 100ϕ AND 150ϕ STORMWATER DRAINS AND FITTINGS SHALL BE UPVC CLASS SN8/10— UNLESS OTHER WISED SPECIFIED ON PLANS.
- PROPOSED 225ϕ AND 300ϕ STORMWATER DRAINS, USE UPVC CLASS SH TO AS1260, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- PROPOSED 375ϕ OR LARGER STORMWATER DRAINS, USE FRC RRJ JOINT CLASS 4 WHERE COVER EXCEEDS 600mm, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- PROPOSED 375ϕ OR LARGER STORMWATER DRAINS, USE RCP RRJ JOINT CLASS 2 WHERE COVER IS 600mm OR LESS, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- WHERE CONSTRUCTION LOADS CAN'T BE ACHIEVED, CONCRETE ENCASE THE PIPE OR IMPLEMENT LOW IMPACT CONSTRUCTION METHODS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK PIPE TYPE AND CLASS REQUIREMENTS PRIOR TO CONSTRUCTION. IF THERE ARE ANY CONCERNS THEY SHOULD BE RAISED WITH THE DESIGNER PRIOR TO COMMENCEMENT OF CONSTRUCTION.

### SERVICE

- WHERE PROPOSED SERVICES TRAVERSE EXISTING ASPHALT AND CONCRETE PAVEMENTS THE PAVEMENT IS TO BE SAW CUT TO FULL DEPTH OF PAVEMENT PRIOR TO EXCAVATION. THE INTERFACE BETWEEN EXISTING KERB AND CHANNEL (TO BE REMOVED) AND EXISTING ASPHALT SHALL BE SAWCUT.
- THE CONTRACTOR SHALL CO-ORDINATE THE LAYING OF ALL SERVICES TO AVOID CLASHES.
- LAY ALL SERVICES TO NOMINATED LEVELS WHERE GIVEN, OTHER SERVICES SHALL BE LAID TO COMPLY WITH MINIMUM COVER REQUIREMENTS.
- DIFFERENT PARALLEL SERVICES THAT ARE IN CLOSE PROXIMITY TO EACH OTHER MAY BE LAID IN A COMMON TRENCH, SUBJECT TO THE APPROVAL OF THE RELEVANT AUTHORITY AND THE SUPERINTENDENT.
- ALL HWS AND AC UNIT OVERFLOWS TO BE CONNECTED TO THE PROPOSED STORMWATER DRAINAGE SYSTEM

### SITE DRAINAGE REQUIREMENTS - CONSTRUCTION STAGE:

- PREVENT WATER PONDING AGAINST OR NEAR ANY EXISTING FOOTING.
- THE GROUND IN THE IMMEDIATE VICINITY OF THE PERIMETER FOOTING SHALL BE GRADED TO A FALL OF 50mm MIN. AWAY FROM THE FOOTING OVER A DISTANCE OF 1000mm (1:20) AND SHAPED TO PREVENT PONDING OF WATER (THIS INCLUDES THE GROUND UPHILL FROM THE FOOTING ON A CUT/FILL SITE) - WHERE FILLING IS PLACED ADJACENT TO THE BUILDING, THE FILLING SHALL BE COMPACTED AND GRADED TO ENSURE DRAINAGE OR WATER AWAY FROM THE BUILDING.
- ALL COLLECTED STORMWATER MUST BE DISCHARGED TO THE LPOD.
- INSTALL SUB-SURFACE DRAINAGE TO AS2439.1 100mm DIAMETER SN8 IN A 300mm WIDE TRENCH (MIN. FALL OF 1:100), BASE OF THE TRENCH IS FILLED WITH 12mm SINGLE SIZE AGGREGATE.
  - AG DRAINS MUST BE INSTALLED AT THE BASE OF ALL SITE CUTS THAT EXCEED 400mm IN HEIGHT, ALONG THE HIGH SIDE OF A SLOPING SITE AND POSSIBLY ALONG THE LOW SIDE OF A SLOPING SITE ALONG THE BOUNDARY. TO BE CONNECTED TO STORMWATER SYSTEM VIA A SILT PIT.
  - AG DRAINS TO BE LAID APPROX. 200mm INTO UNDISTURBED CLAY OR COMPACTED CLAY.
- TRENCHES MUST BE 'CLAY PLUGGED' OR CONCRETED WHEN PASSING PERPENDICULARLY UNDER ANY PART OF THE FOOTING AND ON ANY SLOTTED PIPE SIDE OF A CONNECTION PIT
  - ALL TRENCHES WITHIN 1500mm OF ANY FOOTING MUST BE EFFECTIVELY SEALED FROM SURFACE WATER, WITH AT LEAST THE TOP 300mm OF THE TRENCH FILLED WITH LOCAL CLAY COMPACTED TO AN IMPERMEABLE TOP LAYER. APPROVED MOISTURE BARRIER USE WITH TRENCHES IS AN OPTION.
- FLEXIBLE PLUMBING JOINTS ARE REQUIRED FOR H1/H2/E/P SITES TO ALLOW FOR EXPECTED VERTICAL GROUND MOVEMENTS (REFER GEOTECHNICAL REPORT). THE JOINTS MUST BE SET AT THE MIDWAY POINT WHEN INSTALLED & MUST ALSO INCORPORATE SWIVEL JOINTS IN THE SYSTEM
  - DRAINS EMERGING FROM UNDER THE FOOTING REQUIRE THE FLEXIBLE JOINT TO BE WITHIN 1000mm OF THE OUTSIDE OF THE PERIMETER FOOTING
  - INSTALLATION, LOCATION AND NUMBER OF JOINTS TO COMPLY WITH MANUFACTURER'S SPECS.
- STORMWATER PIPE TO BE LAID 800mm CONTERS AWAY FROM EDGE OF SLAB U.N.O
- ALL FINISHED SURFACE LEVEL TO BE SLOPED AWAY FROM FINISHED FLOOR LEVEL AND DRAIN TOWARDS STORMWATER PITS
- AT NO TIME IS ANY EXISTING OR PROPOSED FOOTING TO BE UNDERMINED DURING CONSTRUCTION. BUILDER TO ENSURE AND CONFIRM PRIOR TO COMMENCEMENT OF CONSTRUCTION. THIS OFFICE TO BE CONTACTED IF ANY DISCREPANCY.
- ALL DOWNPIPES LOCATION ARE PRELIMINARY ONLY. CONTRACTOR TO REFER LATEST ARCHITECTURAL PLANS FOR EXACT LOCATION OF ALL DOWNPIPES. CONNECTION AND LOCATION TO COMPLY WITH PLUMBING STANDARD AS3500.
- BUILDER TO CONFIRM ALL PIT LEVELS AND COVERS PRIOR TO COMMENCEMENT OF CONSTRUCTION

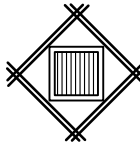
### OTHERS:

- THESE PLANS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL & LANDSCAPE PLANS FOR EXTERNAL WORKS
- AUTHORITY APPROVAL REQUIRED PRIOR TO COMMENCEMENT OF CONSTRCUTION

### WARNING

THE BUILDER/CONTRACTOR SHALL PROVE ALL EXISTING SERVICES WITHIN 3 DAYS OF MOBILISATION OR ANY WORKS OCCURRING ON SITE.

PROVIDE 2-N12 BARS × 1200 LONG TOP FOR ALL RE-ENTRY CORNERS OF PITS. (TYPICAL).



D	FOR CONSTRUCTION PENDING APPROVAL	10.11.23	P.F
C	FOR CONSTRUCTION PENDING APPROVAL	03.11.23	P.F
B	FOR CONSTRUCTION PENDING APPROVAL	04.07.23	P.F
A	FOR CONSTRUCTION PENDING APPROVAL	01.07.23	P.F
Rev.	Remark/Comment	Date:	Appr.

Client:  
METRICON HOMES PTY LTD



Melbourne 03 8371 0100  
Sydney 02 8355 1200  
Brisbane 07 3067 0800  
Adelaide 08 8165 0122  
Perth 08 9202 6825  
www.intrax.com.au  
Intrax Consulting Group  
VIC | NSW | SA | QLD | WA

Project:  
PROPOSED DEVELOPMENT  
LOT. 1, NO. 7, SIR THOMAS MITCHELL  
DRIVE, DAVIDSON

Drawing:  
GENERAL NOTES

## FOR CONSTRUCTION

PENDING APPROVAL

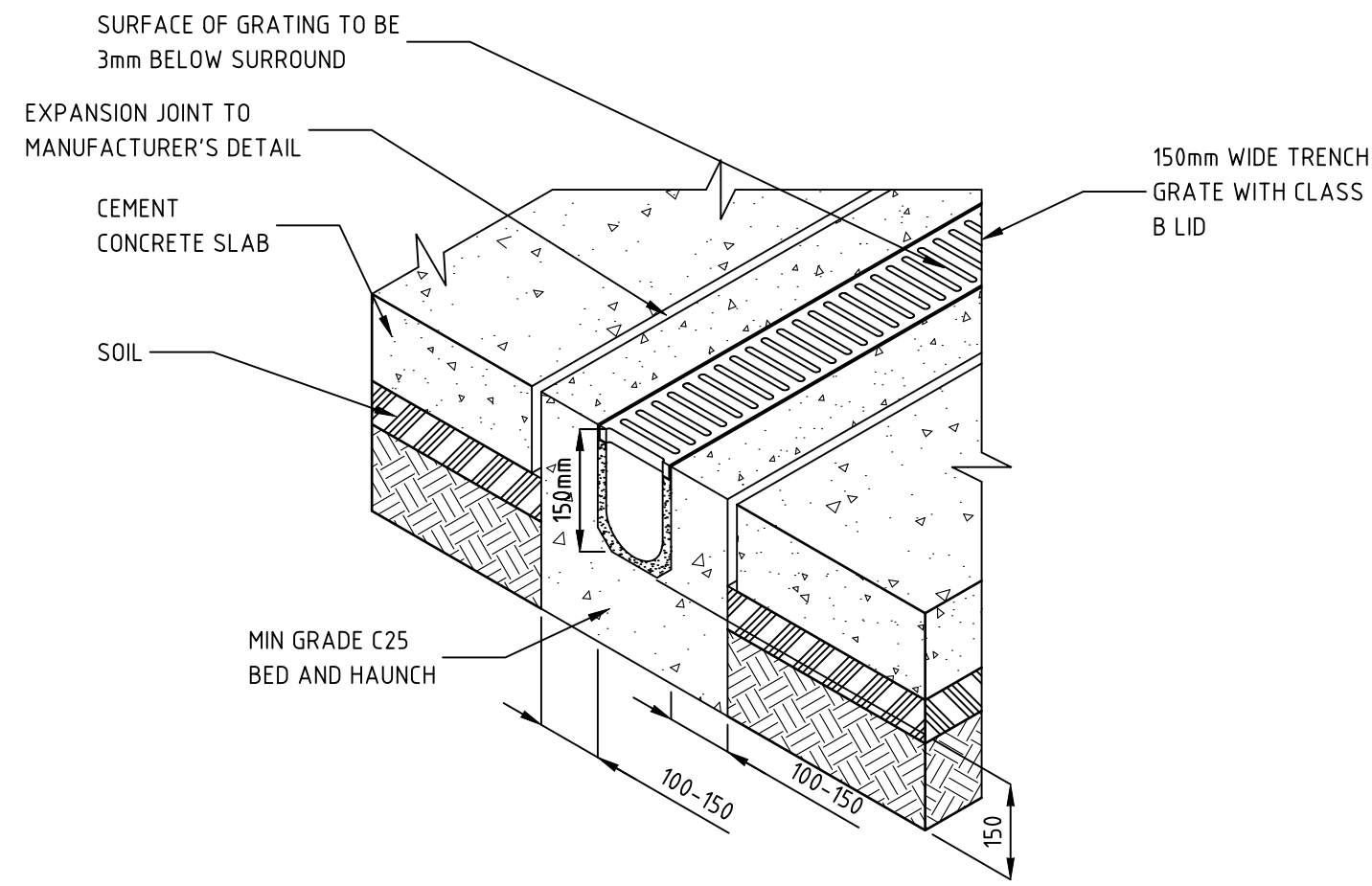
Date:	JUN.2023	Engineer:	F.L	Drawn:	Y.X.C
Scale @ A1:	N/A	Checked:	P.F	Sheets:	1 OF 3
Reference No.	198027	Drawing No.	C01	Rev.	D



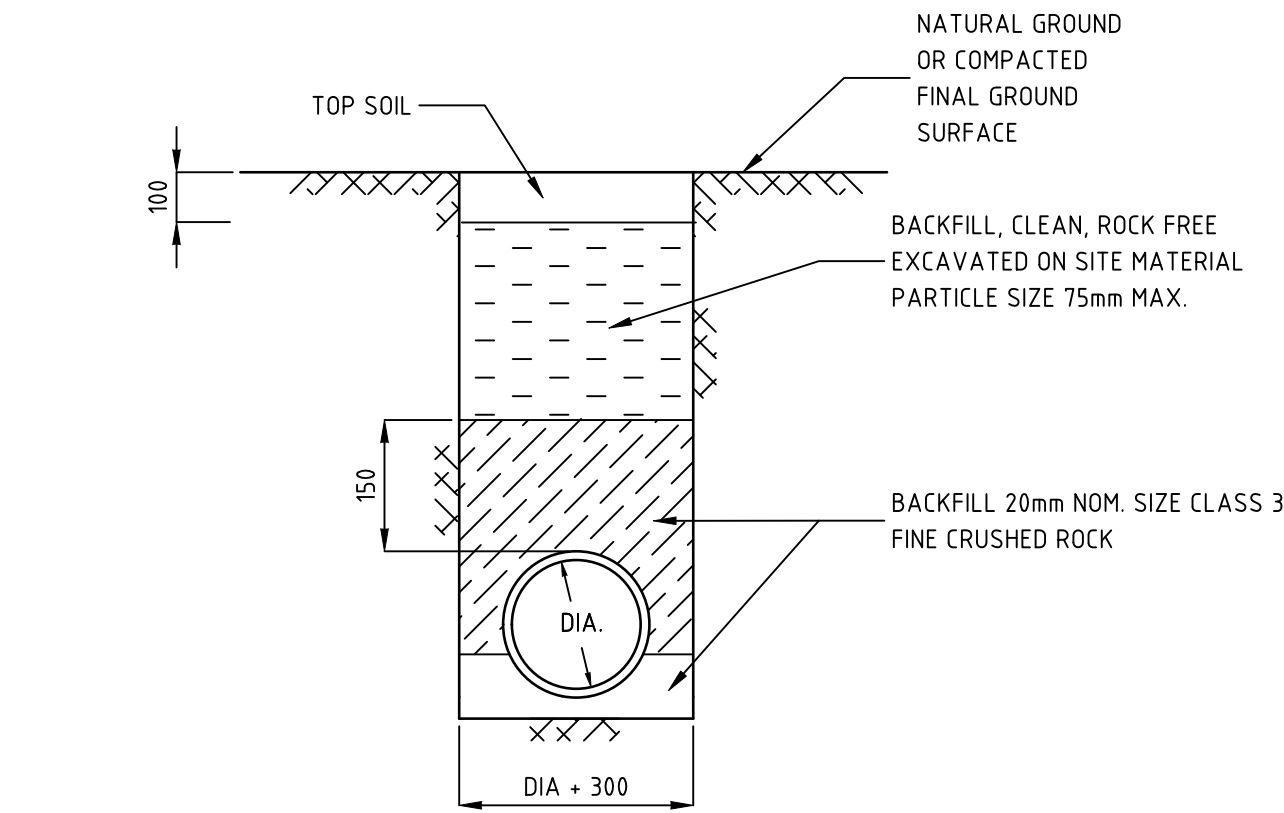




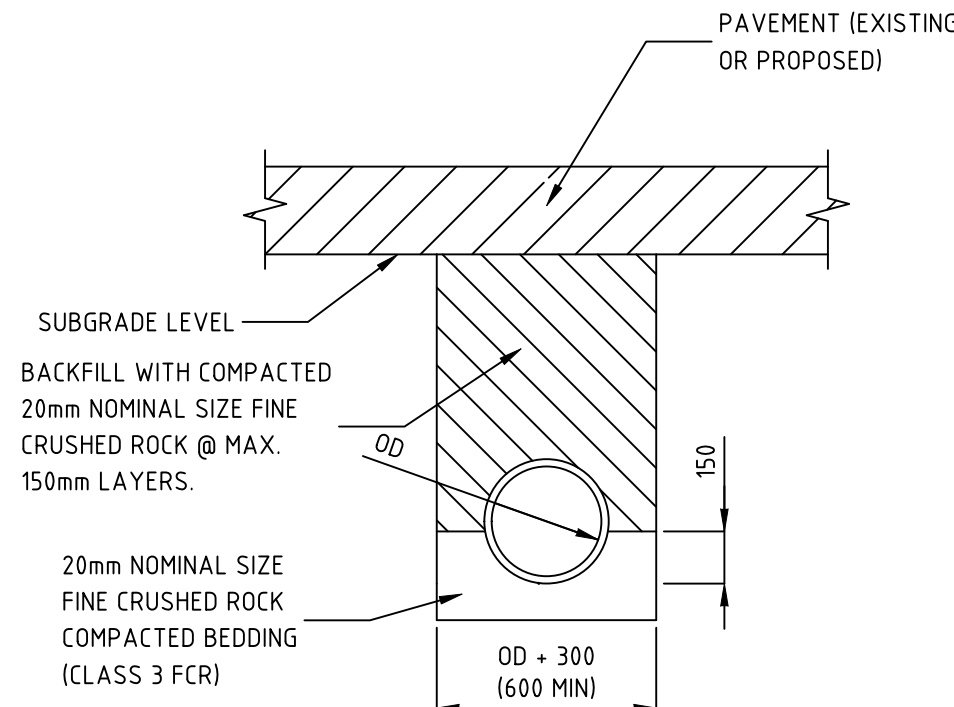




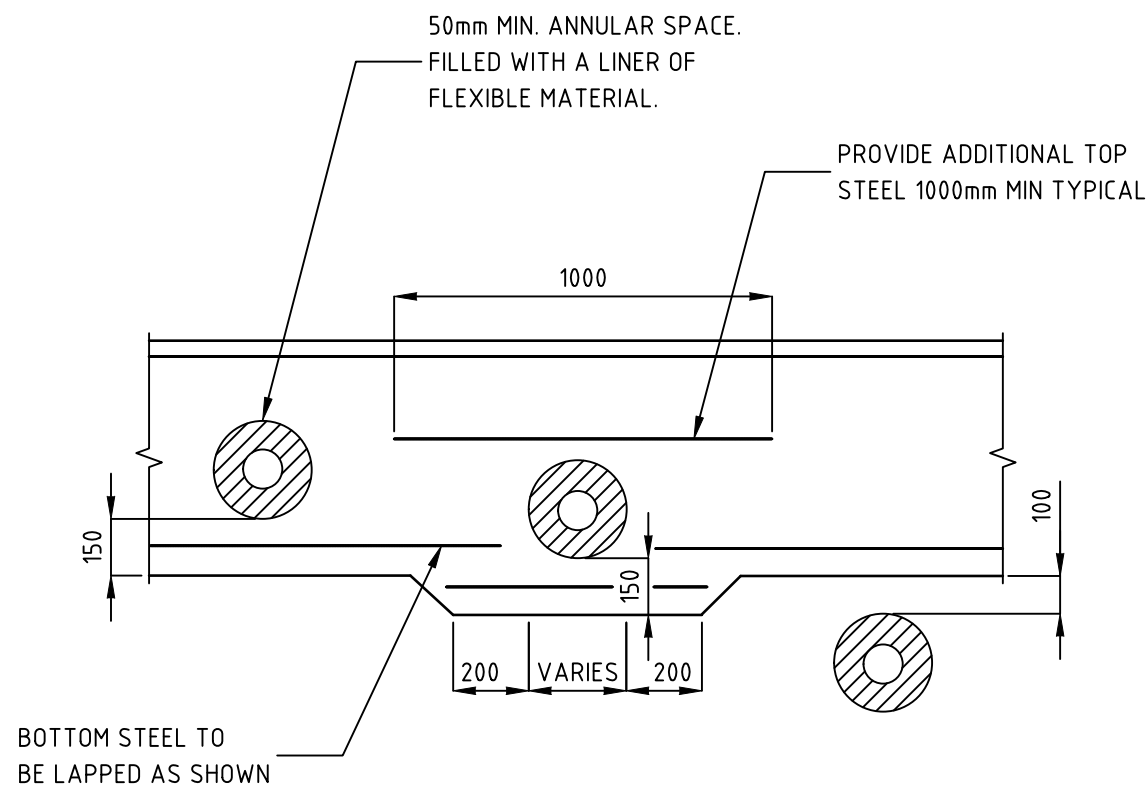
TYPICAL GRATED TRENCH INSTALLATION  
NOT TO SCALE



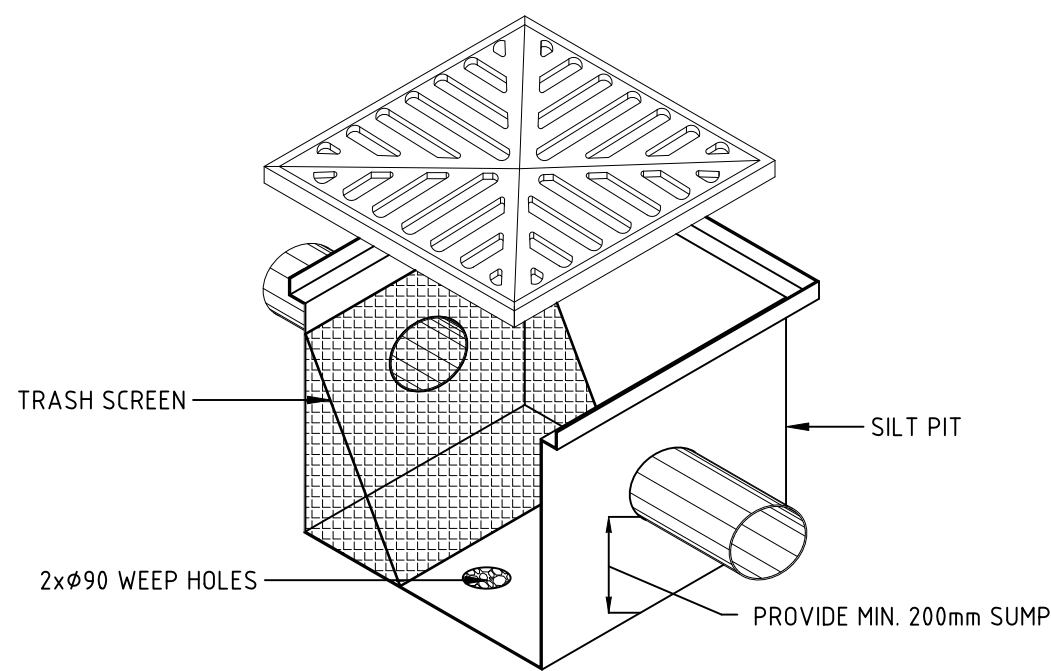
TRENCH CONDITIONS FOR DRAINAGE PIPE  
INSTALLATION (NOT UNDER PAVEMENTS)  
NOT TO SCALE



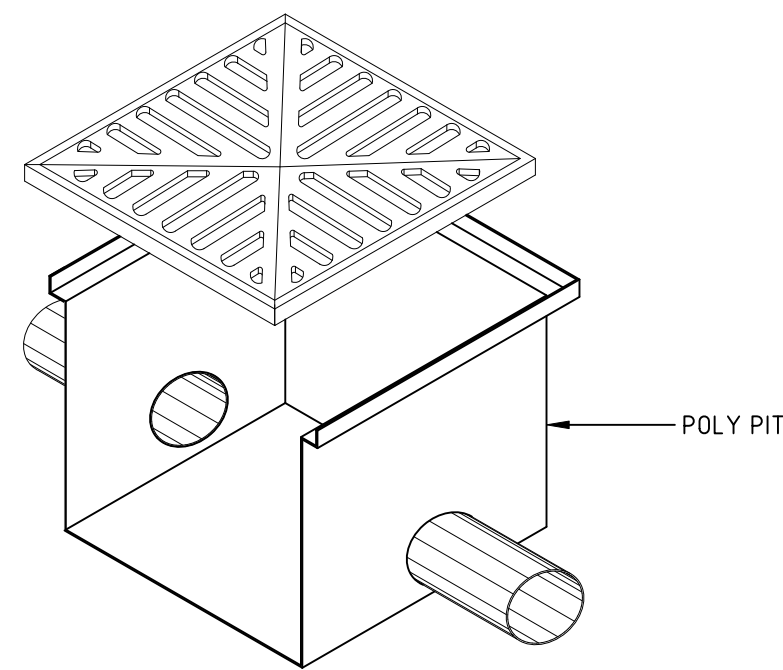
PIPE TRENCH UNDER PAVEMENT  
NOT TO SCALE



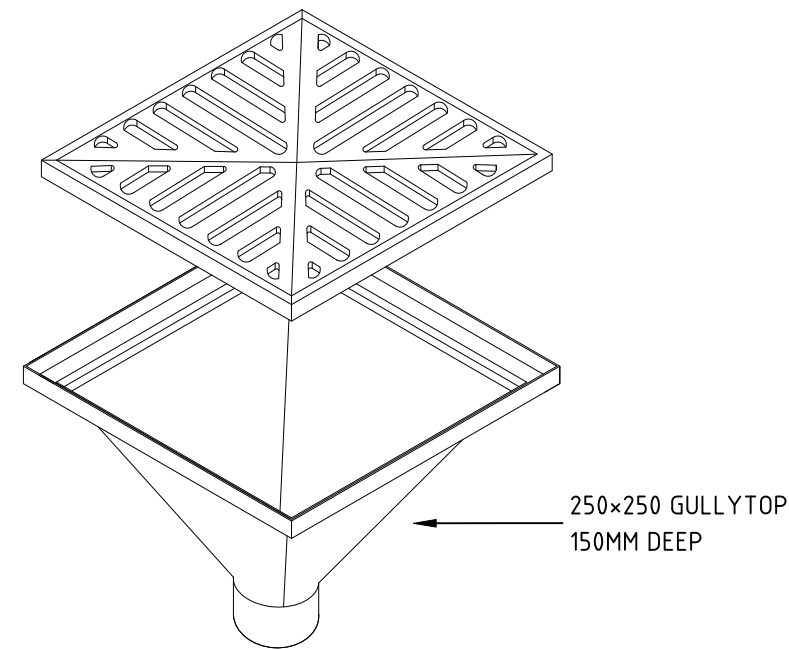
TYPICAL PIPE PENETRATION DETAIL  
SCALE 1:20



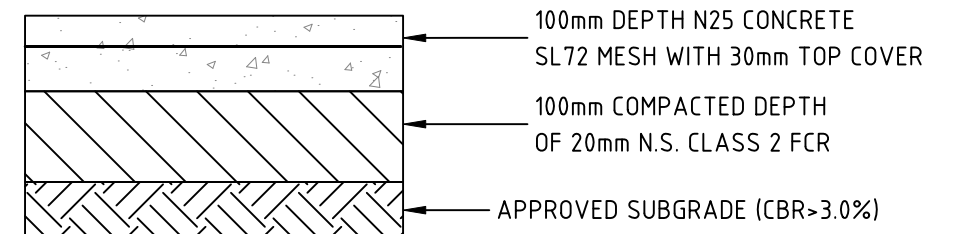
SILT ARRESTOR PIT  
(EVERHARD OR APPROVED  
EQUIVALENT WITH LITTER GUARD)  
NOT TO SCALE (NO VEHICLE TRAFFIC ALLOWED)



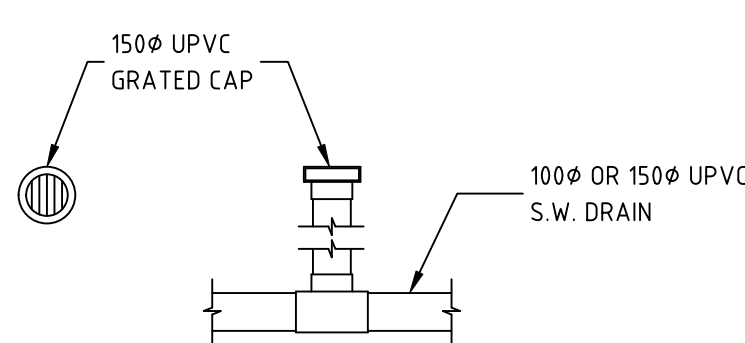
POLY PIT (EVERHARD OR  
APPROVED EQUIVALENT)  
NOT TO SCALE (NO VEHICLE TRAFFIC ALLOWED)



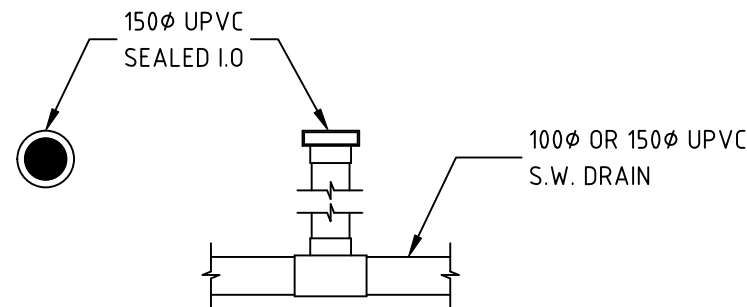
GULLYTOP CLASS A  
COVER (EVERHARD OR  
APPROVED EQUIVALENT)  
NOT TO SCALE



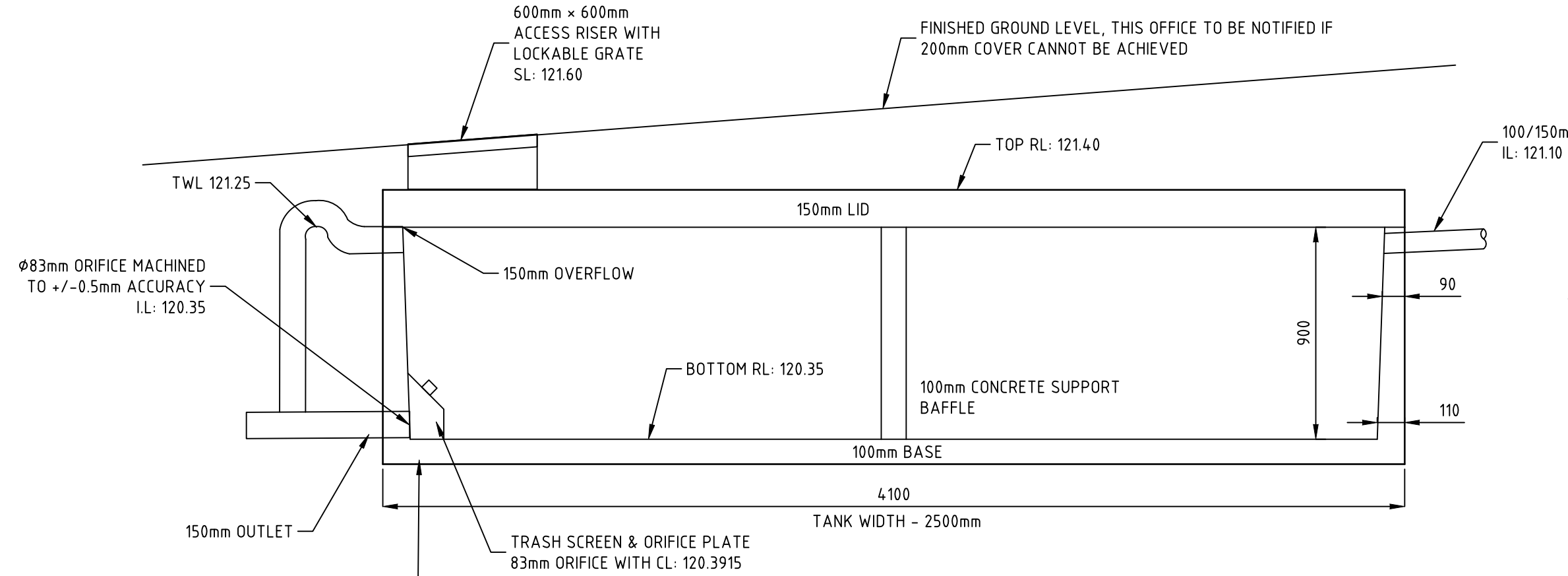
CONCRETE FOOTPATH PAVEMENT  
NOT TO SCALE - PROVIDE 35mm DEEP SAWCUT FOR EVERY 15m  
SPACING AND CONSTRUCTION JOINT FOR EVERY NEW POUR  
REFER STRUCTURAL DRAWING  
FOR ISOLATION JOINT DETAILS



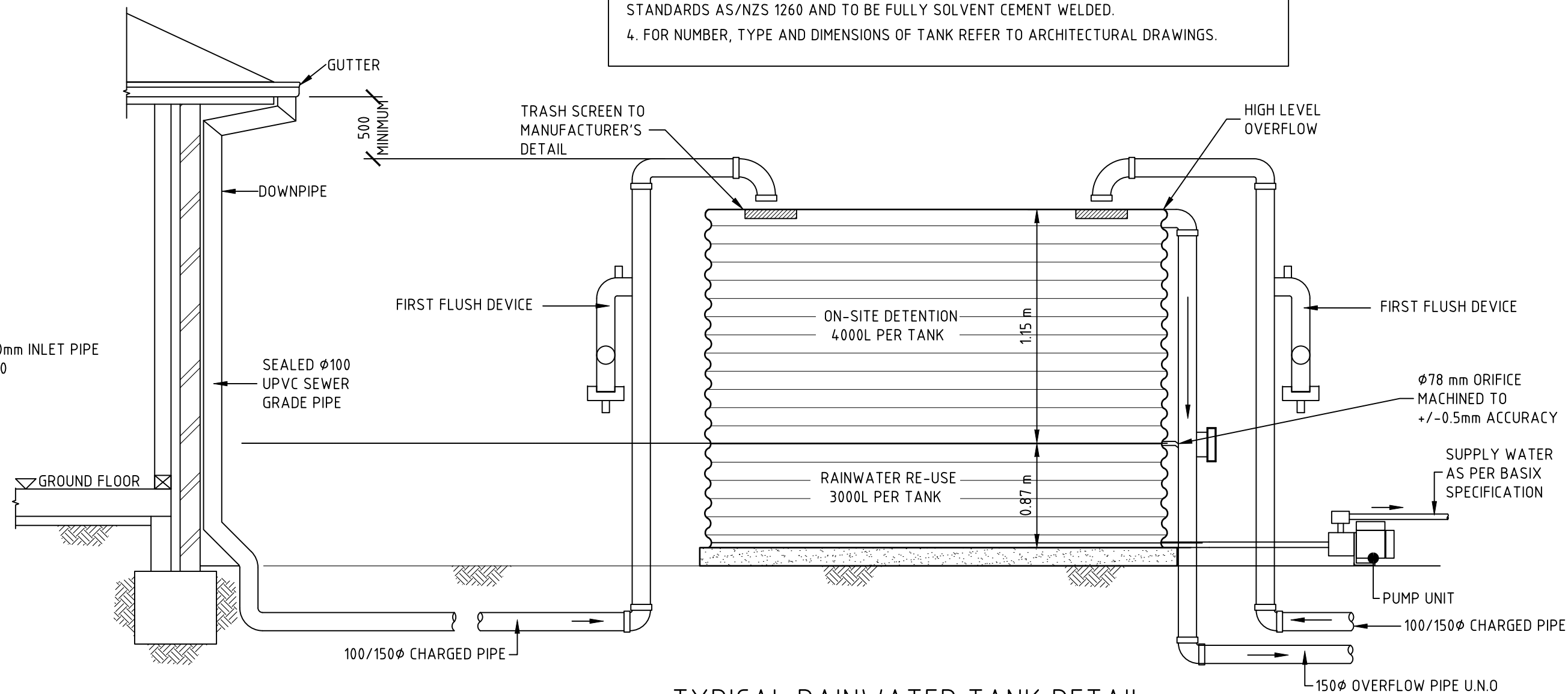
CAPPED RISER  
NOT TO SCALE



SEALED INSPECTION  
OPENING DETAIL  
NOT TO SCALE



RAINMASTER OSD IN-GROUND TANK (8000L)  
NOT TO SCALE



TYPICAL RAINWATER TANK DETAIL  
NOT TO SCALE

- NOTES:
1. THIS CHARGED SYSTEM DOES NOT PERMIT ANY SURFACE WATER TO BE DISCHARGING INTO.
  2. ALL PLUMBING/ DRAINAGE WORKS TO BE CONSTRUCTED AS PER RELEVANT AUTHORITIES OR TO BUILDING SURVEYOR SATISFACTION.
  3. ALL DOWNPIPES AND FITTING ON CHARGED SYSTEM TO BE INSTALLED AS PER AUSTRALIA STANDARDS AS/NZS 1260 AND TO BE FULLY SOLVENT CEMENT WELDED.
  4. FOR NUMBER, TYPE AND DIMENSIONS OF TANK REFER TO ARCHITECTURAL DRAWINGS.

Rev.	Remark/Comment	Date:	Appr.
D	FOR CONSTRUCTION PENDING APPROVAL	10.11.23	P.F
C	FOR CONSTRUCTION PENDING APPROVAL	03.11.23	P.F
B	FOR CONSTRUCTION PENDING APPROVAL	04.07.23	P.F
A	FOR CONSTRUCTION PENDING APPROVAL	01.07.23	P.F

Client:  
METRICON HOMES PTY LTD



Melbourne 03 8371 0100  
Sydney 02 8355 1200  
Brisbane 07 3067 0800  
Adelaide 08 8165 0122  
Perth 08 9202 6825  
www.intrax.com.au  
Intrax Consulting Group  
VIC | NSW | SA | QLD | WA

Project:  
PROPOSED DEVELOPMENT  
LOT. 1, NO. 7, SIR THOMAS MITCHELL  
DRIVE, DAVIDSON

Drawing:  
STORMWATER HYDRAULIC DETAILS

FOR CONSTRUCTION  
PENDING APPROVAL

Date:	JUN.2023	Engineer:	F.L	Drawn:	Y.X.C
Scale @ A1:	NTS	Checked:	P.F	Sheets:	3 OF 3
Reference No.	198027	Drawing No.	C03	Rev.	D