

Stormwater Concept Drainage Plan Proposed Additions and Alterations No. 5 Cabarita Road, Avalon Beach

Drainage Design Notes:

- All stormwater pipes are to be P.V.C. sewer grade and shall be installed in accordance with AS3500 and council requirements.
- The roofwater drainage system has been designed for 1 in 20 years ARI 5 mins duration.
- All downpipes are to be 100 mm diameter or approved equivalent and sealed and glued joints.
- Leaf gutter guard or downpipe guard is recommended to be installed on all gutters/DP to minimize debris from entering the rainwater tank system.
- All DP and DPS shall be installed according to AS3500.3:2018 . Maximum roof area per downpipe for the nominated gutter site to be determined using manufactures specification with overflow provisions by installers.
- All stormwater drainage lines to be at minimum 1% grade unless noted otherwise on plan.
- General layout only, the builder is to verify all levels on the site prior to commencing construction.
- General layout only, builder is to verify all levels on the site prior to commencing construction works. All levels are in m AHD (meter Australian Height Datum).
- Builder to ensure all drainage areas including balconies, parapets to have overflow mechanism in case of blockage with adequate overflow section through planters, parapets etc.
- All pits within the property area to be fitted with WELDLOK or approved equivalent grates in accordance to AS3996;
 - Light duty grate for landscaped area
 - Heavy duty grate where subjected to vehicular crossing.
- All fences shall be kept at least 100mm above the ground level to facilitate the free passage for stormwater overland flow.
- Minimum Pipe cover shall be as per council guidelines and as follows:

Location	Minimum Cover
-Not Subject to Vehicle Loading	100mm Single Residential 300mm All Other Developments
-Subject to Vehicle Loading	450mm Where not in a Road
-Under a Sealed Road	600mm
-Unsealed Road	750mm
-Paved Driveway	100mm Plus Depth of Concrete

 Please refer AS2032 for installation of UPVC pipes for further information.
- If the proposed drainage system is designed to connect to the council's existing drainage system, it is advised that the 'Work Permit' is to be obtained from the respective council before commencing any works on council's property.

Impervious Area Calculation:

Existing Condition:

Total impervious area including roof of existing dwelling, carport and driveway = **438.56 m²**

Post-development Condition:

proposed roof area = 336.31 m²

proposed carport and driveway = 150.5 m²

Proposed total impervious area = **486.81 m²**









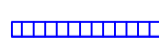
Increased impervious area = 48.25 m² < 50 m²
so OSD system is not required.

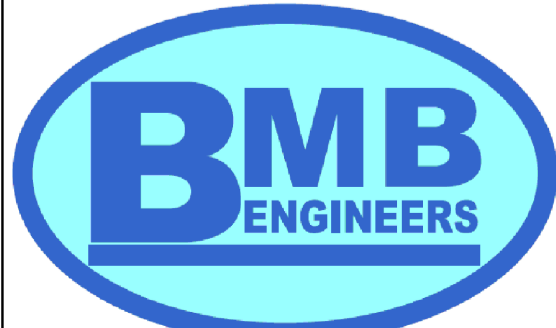
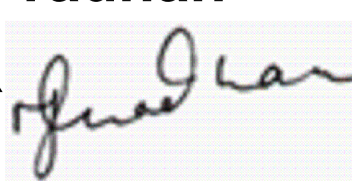
NOTE

Do not divert natural surface water runoff to adjoining properties.

NOTE

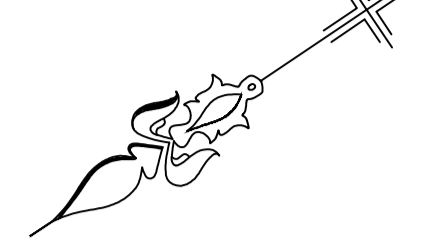
Subsurface drainage from retaining walls if any to be connected to the nearest drainage system.

SYMBOL	NOTATION
	Stormwater drainage line
	Sub-surface drainage line
	Roof water drainage line
	Downpipe
	Downpipe spreader
	Floor waste
	Grated pit
LL	Lid level
IL	Invert level
	Overland flow path
	Grated trench drain

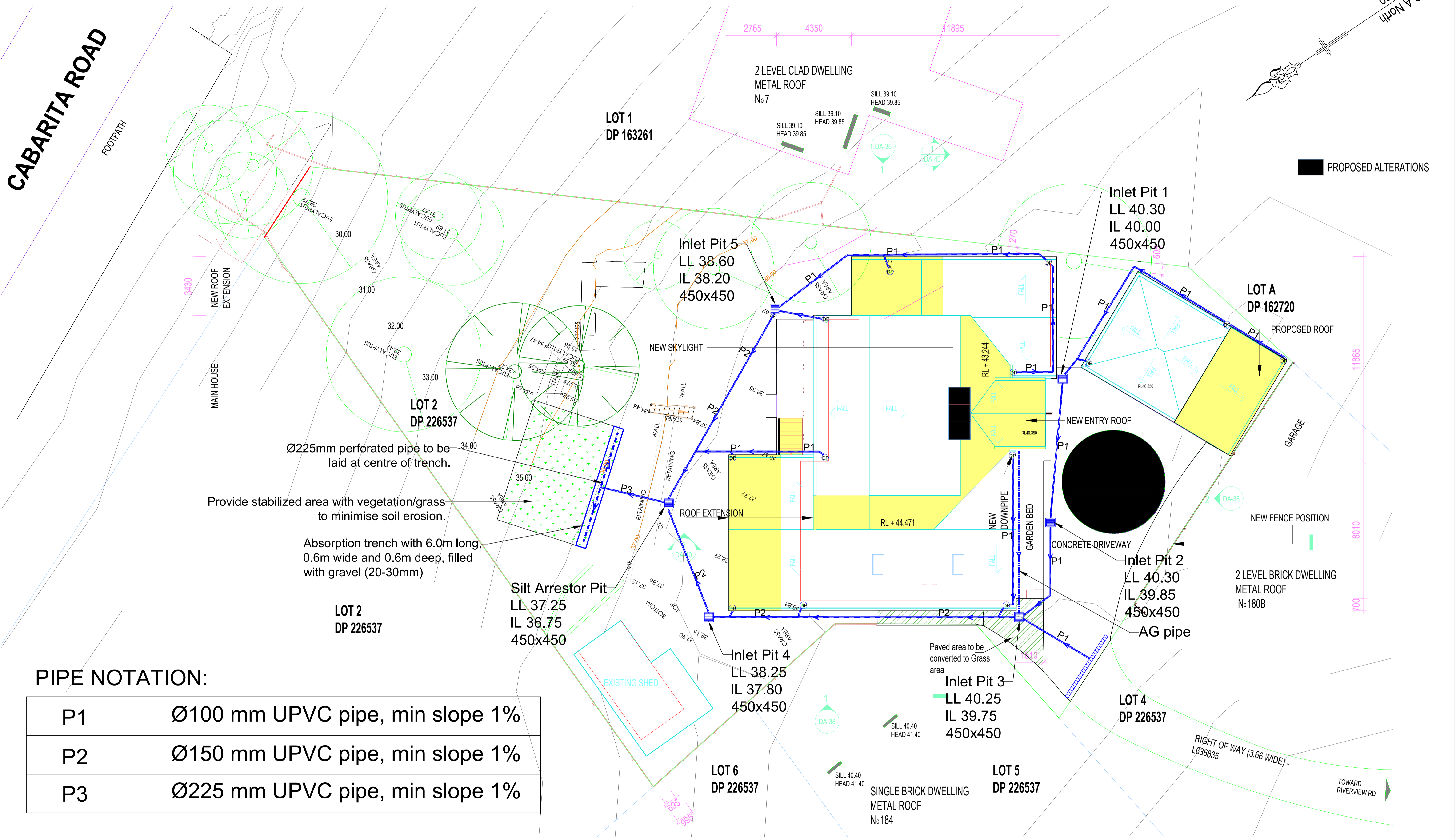
Date	Rev	Amendment	STORMWATER DRAINAGE DESIGN Proposed Additions and Alterations No. 5 Cabarita Road, Avalon Beach LGA: Northern Beaches Council		BMB ENGINEERS civil, stormwater, structural & geotechnical engineers Ph. 02 9836 1373 Email: info@bmbengineers.com.au Web: www.bmbengineers.com.au	Design by M Pradhan MIEAust CPEng NER  Date 16/10/2024	Title Stormwater General Notes	Dwg. No. SWD2195 Sheet No. 1/3
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CABARITA ROAD

FOOTPATH



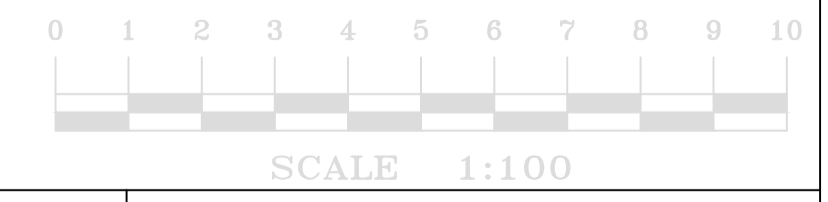
PROPOSED ALTERATIONS



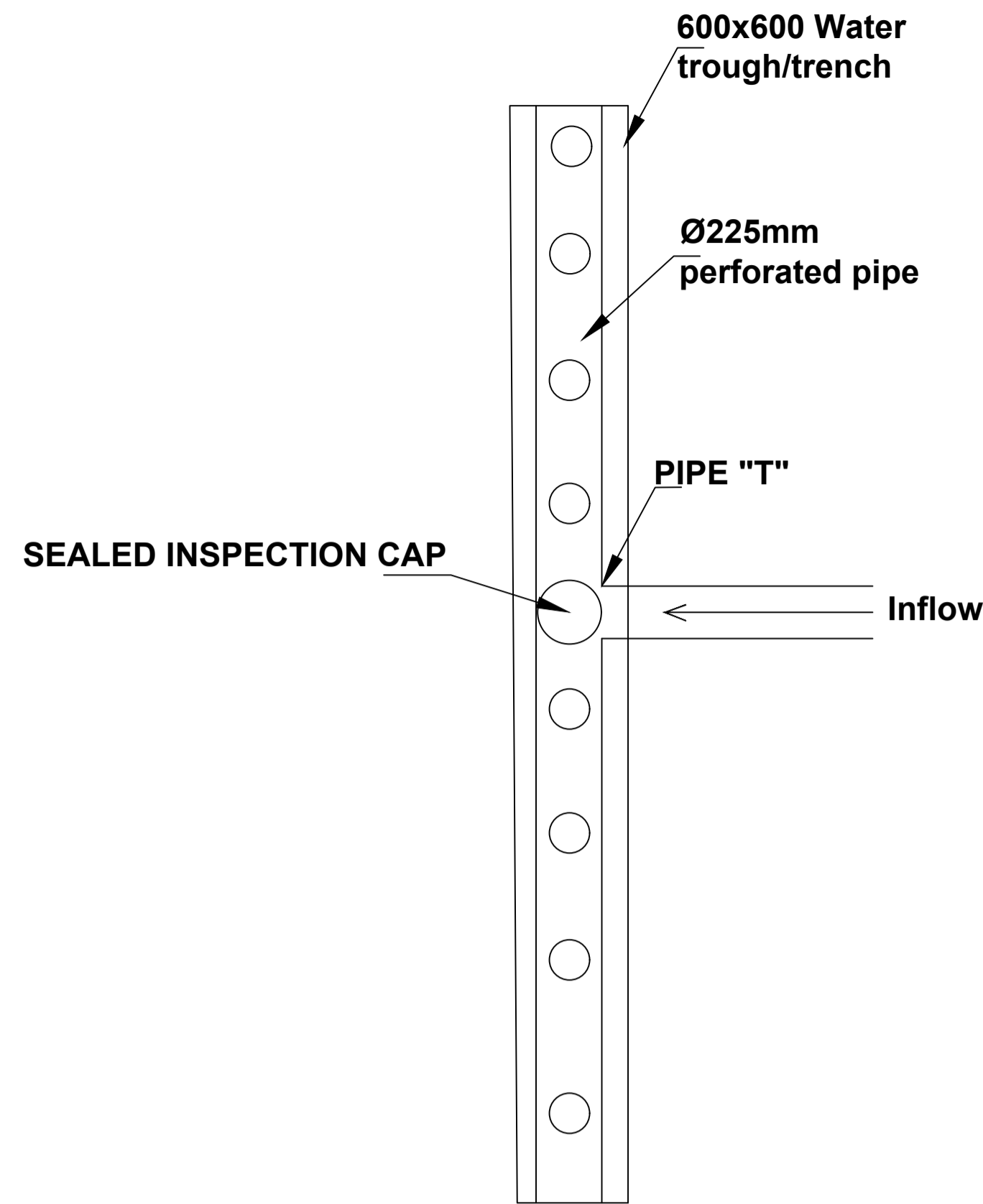
Ø225mm perforated pipe to be laid at centre of trench.
Provide stabilized area with vegetation/grass to minimise soil erosion.
Absorption trench with 6.0m long, 0.6m wide and 0.6m deep, filled with gravel (20-30mm)

PIPE NOTATION:

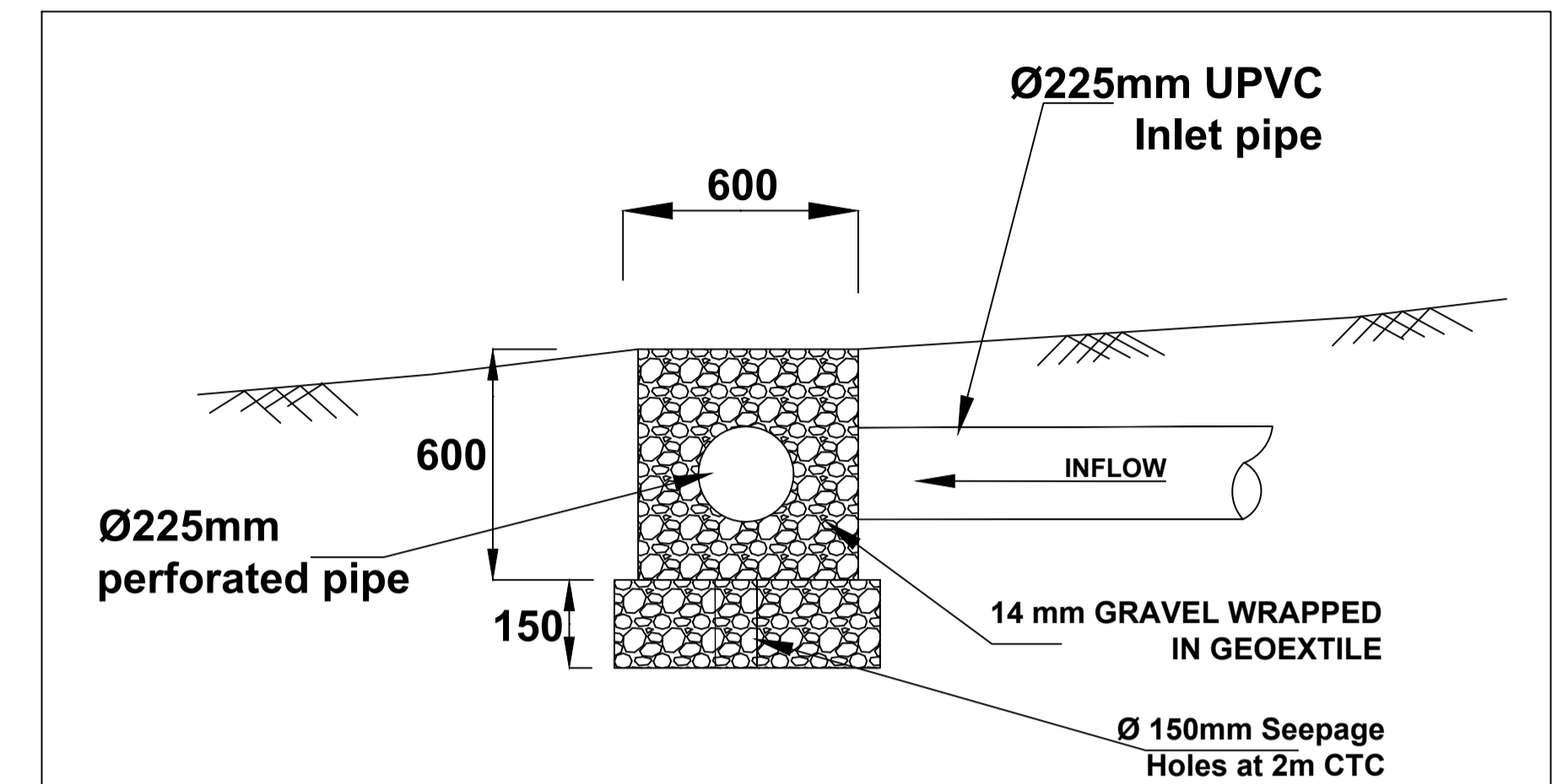
P1	Ø100 mm UPVC pipe, min slope 1%
P2	Ø150 mm UPVC pipe, min slope 1%
P3	Ø225 mm UPVC pipe, min slope 1%



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						Date 16/10/2024		Dwg. No. SWD2195
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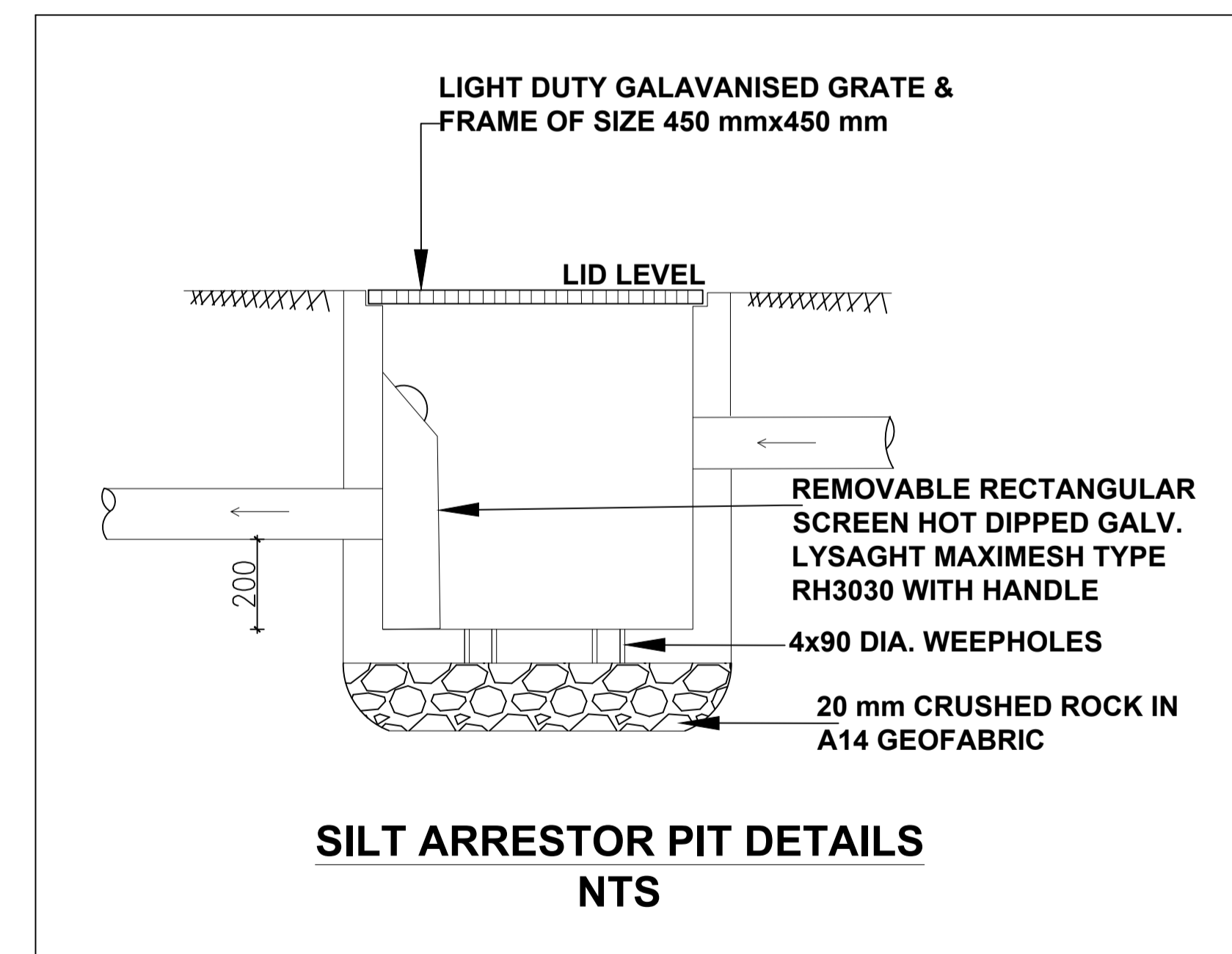
**PLAN OF TYPICAL TROUGH
NOT TO SCALE**



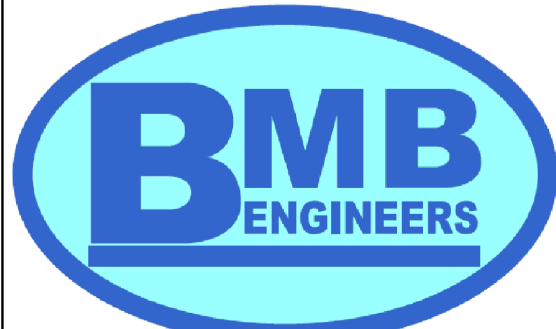
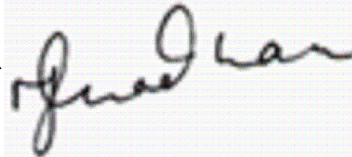
**TYPICAL SECTION OF TROUGH
NOT TO SCALE**

Trough Note:

- The trough is to be fully contained within the property for future maintenance access and is to be a minimum of 0.6 m wide and 0.6 m deep. The base of the trough shall have 150 mm seepage holes filled with geotextile at 2.0 m center interval connected to a gravel seepage system set below natural ground level that will allow the trough to drain after the storm has finished. The discharge from the upstream drainage system should connect towards the middle (if possible) of the trough through a "T" fitting to minimise spill and concentrated flow.



**SILT ARRESTOR PIT DETAILS
NTS**

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