

14 October 2019

General Manager  
Northern Beaches Council  
PO Box 882  
MONA VALE NSW 1660

Dear Sir/Madam

**Re: Stormwater Management Plan – 133 Garden Street, North Narrabeen**

With reference to the Development Application for the above property, please find copies of the site Stormwater Management Plan Sheet-2/A for your perusal.

The plan shows the roof and some landscaped areas draining into the Mullet Creek drainage reserve at the rear of the site. No on-site detention is required as the site is flood affected, in accordance with Council's stormwater policy.

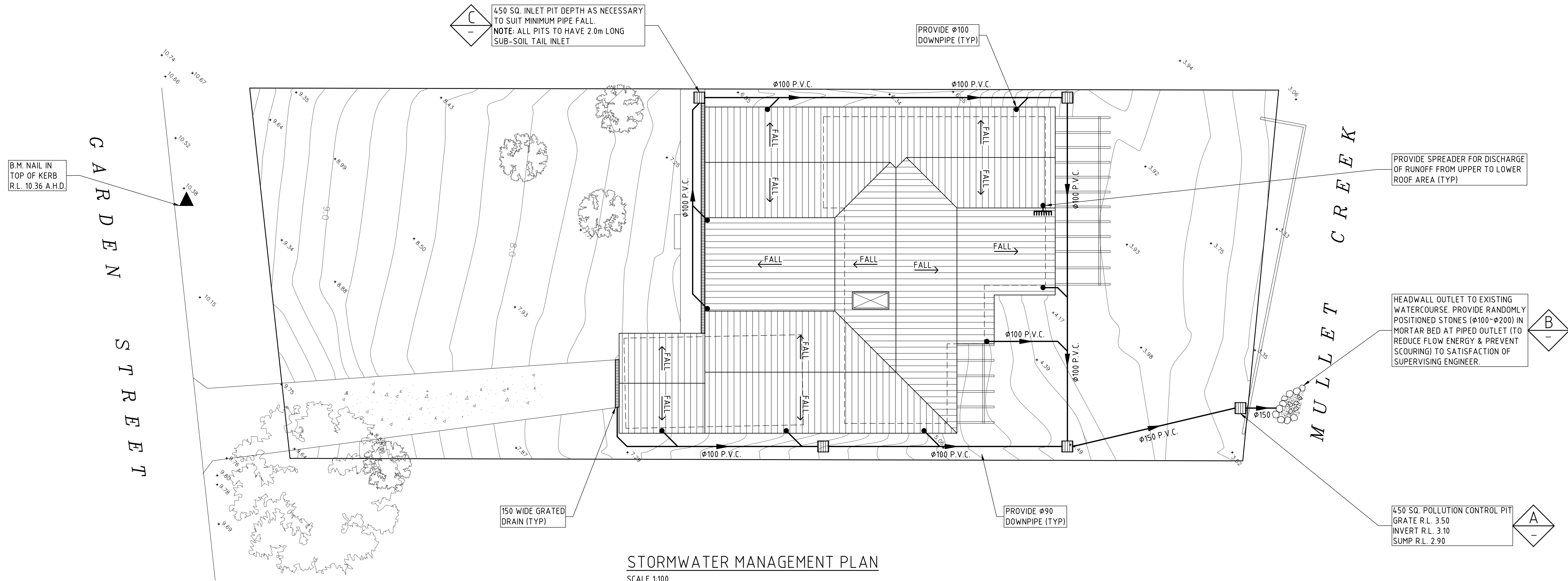
This is to certify that the Stormwater Management Plan layout as shown on Plan Sheet-2/A by Taylor Consulting Civil & Structural Engineers has been designed in accordance with section 3.1.2, 'Drainage', of the Building Code of Australia Housing Provision, AS/NZS 3500.3.2 – Stormwater Drainage and Northern Beaches Council's D.C.P. 21.

Should you require any further information please contact the undersigned.

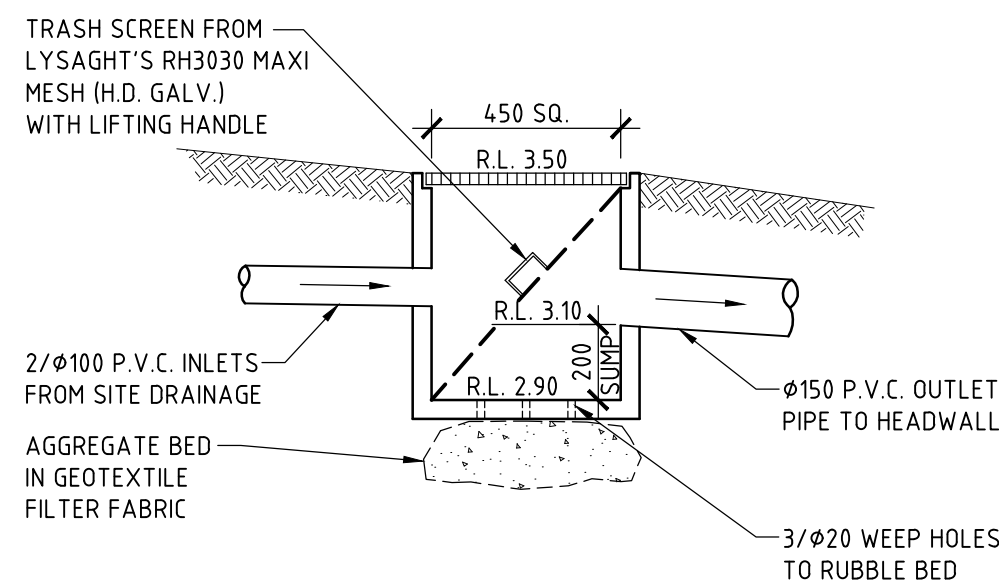
Yours faithfully  
TAYLOR CONSULTING

D M SCHAEFER - Director  
B.E. Civil – Hons. M.I.E. Aust.



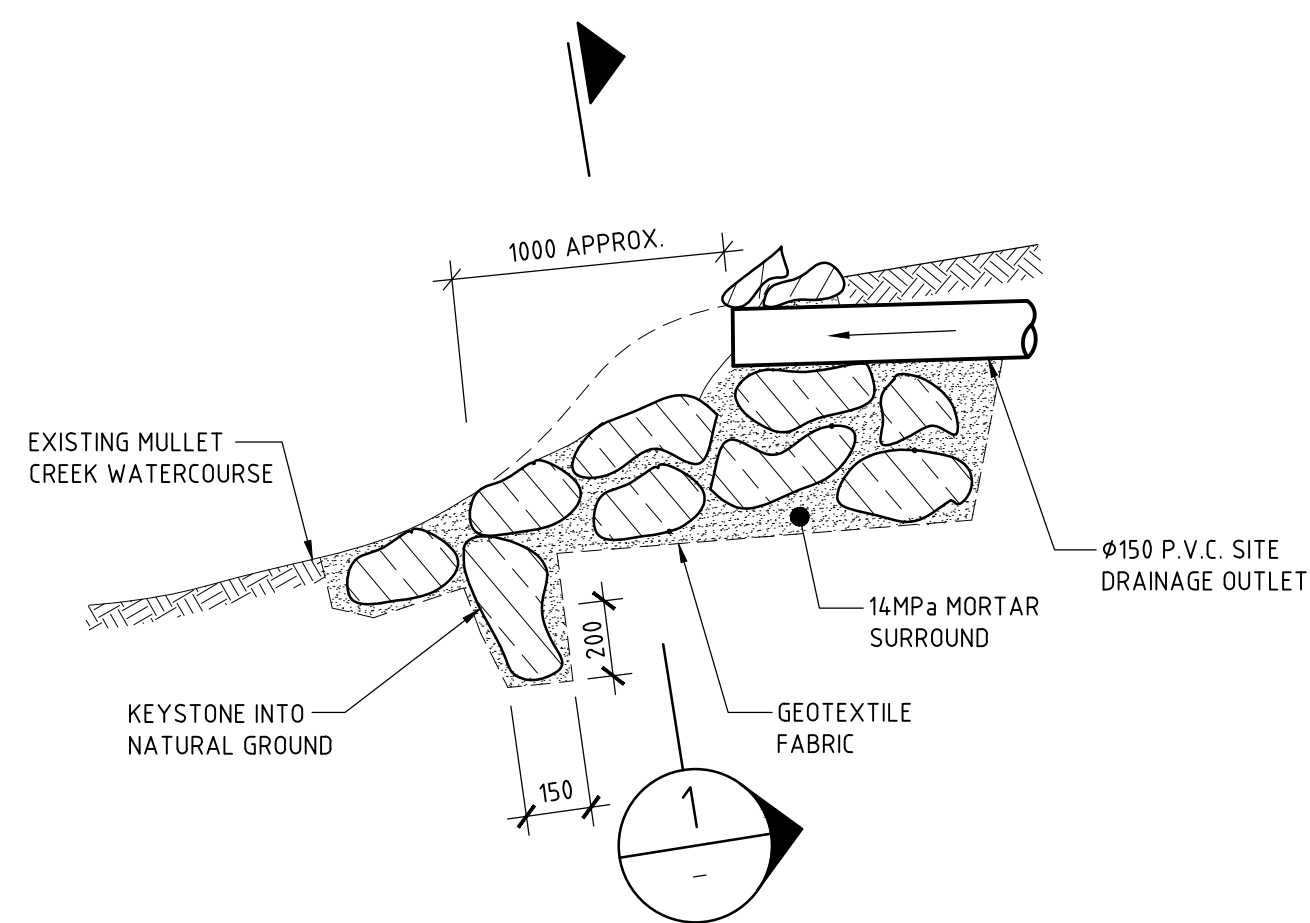


- DRAINAGE NOTES**
- + DENOTES EXISTING GROUND LEVEL
  - FALL STORMWATER PIPES AT 1% MIN. UNLESS OTHERWISE NOTED.
  - SUB-SOIL DRAINAGE TO BE CONNECTED TO THE SITE DRAINAGE SYSTEM AS NECESSARY.
  - SURFACE GRATES 300 SQ. UNLESS OTHERWISE NOTED.
  - ALL STORMWATER PIPES TO HAVE SOLVENT CEMENT WATERTIGHT JOINTS.
  - CHECK & LOCATE DEPTH OF EXISTING MAINS & SERVICES PRIOR TO CONSTRUCTION OF STORMWATER SYSTEM AS VARIATIONS IN POSITION OF MAINS COULD AFFECT DRAINAGE CONSTRUCTION DETAILS.
  - INSPECTIONS MUST BE UNDERTAKEN BY THIS OFFICE (BY PRIOR ARRANGEMENT WITH ENGINEER) DURING CONSTRUCTION TO ENABLE FULL CERTIFICATION UPON COMPLETION OF WORKS.
  - ALL CONSTRUCTION OF COUNCIL DRAINAGE WORKS TO COMPLY WITH COUNCIL STANDARD.
  - REMOVE REDUNDANT DRAINAGE PITS AND SEAL PIPES.
  - PIT BENCHING TO BE HALF THE OUTGOING PIPE DIAMETER. CONCRETE FOR BENCHING TO BE 20 MPa MASS CONCRETE.
  - APPROVED PRE-CAST PITS MAY BE USED.
  - ALL PIPES TO BE LAID ON COMPACTED FINE CRUSHED ROCK OR SAND BEDDING 75mm THICK & PIPES BACKFILLED WITH COMPACTED SAND TO 300mm ABOVE TOP OF PIPE, ELSE ATTACHED TO UNDERSIDE OF STRUCTURE AT 600mm c/c AS NECESSARY.
  - PIPE ROUTES SHOWN ARE INDICATIVE ONLY AND SHOULD BE AS NECESSARY ACCORDING TO SITE CONDITIONS, TREE POSITIONS ETC. CONFIRM SIGNIFICANT CHANGES IN PIPES SYSTEM DETAILS WITH SUPERVISING ENGINEER PRIOR TO COMMENCEMENT OF DRAINAGE CONSTRUCTION WORKS.
  - CONTRACTOR SHALL ENSURE THAT SERVICES TO BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED. CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS WHERE REQUIRED. ONCE WORKS ARE COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SERVICES AND MAKE GOOD ALL DISTURBED AREAS.
  - STORMWATER SYSTEM REQUIRES SIGNIFICANT MAINTENANCE DUE TO POTENTIAL HIGH POLLUTANT LOAD. FILTERS AND POLLUTANT TRAPS SHOULD BE CHECKED AFTER LARGE STORM EVENTS AND CLEANED EVERY 6 MONTHS.
  - PLUMBING AND DRAINAGE WORKS TO COMPLY WITH AS-3500, THE NATIONAL DRAINAGE & PLUMBING CODE.
  - WHERE POSSIBLE, DRAINAGE LINES SHALL BE LAID IN AREAS PREVIOUSLY DISTURBED BY OTHER SITE WORKS AND FOLLOW TOPOGRAPHICAL FEATURES TO REDUCE IMPACT AND AVOID TREE ROOTS.
  - THIS STORMWATER MANAGEMENT PLAN HAS BEEN PREPARED FOR D.A. SUBMISSION TO COUNCIL AND DOES NOT NECESSARILY CONTAIN ALL APPROPRIATE INFORMATION TO ENABLE FOR ISSUE TO PLUMBER/BUILDER FOR CONSTRUCTION. CONTACT TAYLOR CONSULTING FOR MORE INFORMATION.



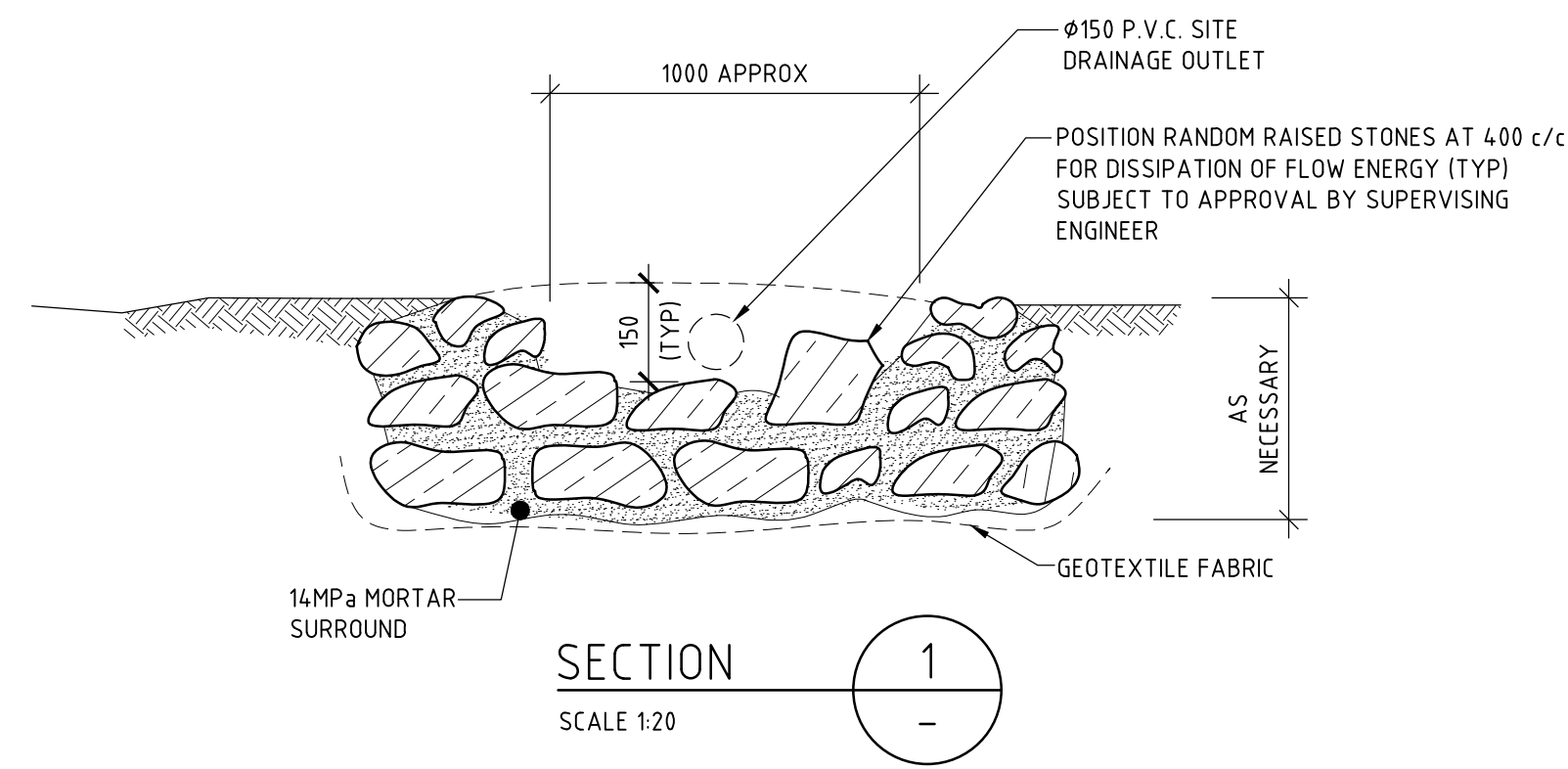
DETAIL A  
SCALE 1:20

TYPICAL POLLUTION CONTROL PIT DETAIL

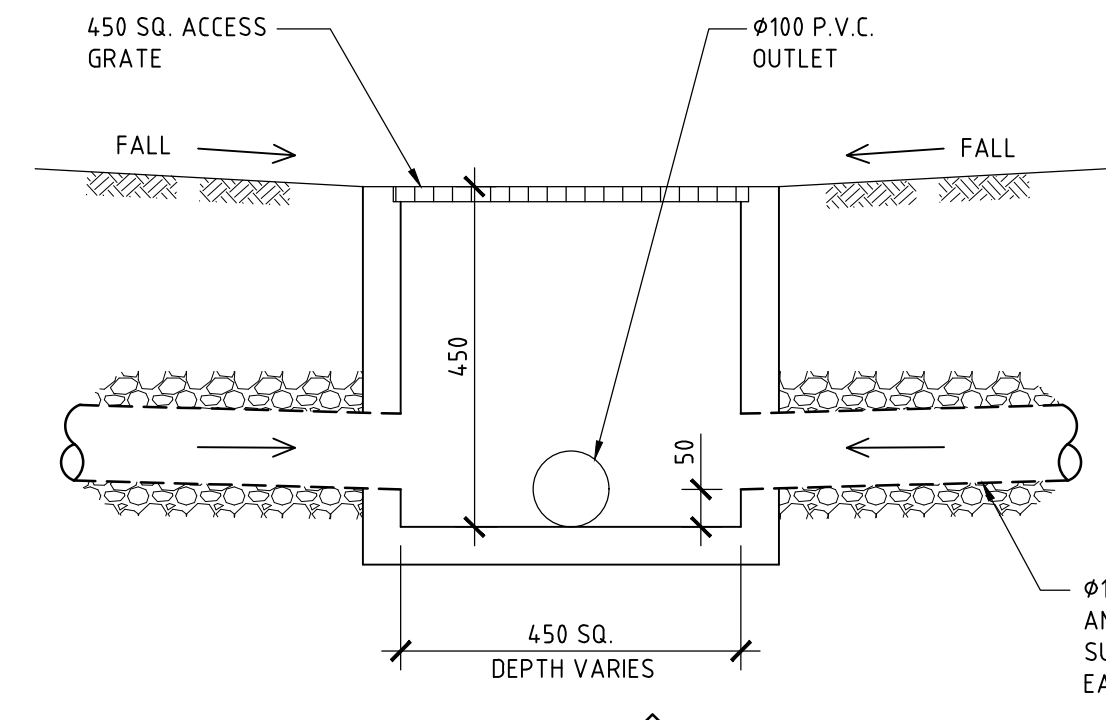


DETAIL B  
SCALE 1:20

HEADWALL OUTLET FLOW DISSIPATER



SECTION 1  
SCALE 1:20



DETAIL C  
SCALE 1:10

TYPICAL SURFACE INLET PIT DETAIL

**STORMWATER SYSTEM DESIGN DATA**

**SITE DATA**

SITE AREA	= 614.6 m <sup>2</sup> (100%)
PROPOSED IMPERVIOUS AREA	= 228.6 m <sup>2</sup> (37%)
PROPOSED LANDSCAPED AREA	= 386 m <sup>2</sup> (63%)
EXISTING IMPERVIOUS AREA	= 246.1 m <sup>2</sup> (40%)
EXISTING LANDSCAPED AREA	= 368.6 m <sup>2</sup> (60%)

ISSUE DATE	REVISION
8 OCTOBER 2019	NEW ROOF PLAN

TITLE <b>STORMWATER MANAGEMENT PLAN</b> <b>133 GARDEN STREET, NORTH NARRABEEN</b>			
DRAWN  ALG	DATE  16 APRIL 2019	CHECKED  <i>[Signature]</i> BE Civil (Hons) MIE Aust.	SCALE @ A1 1:100 1:20 1:10



SHEET -2/A