

SITE DRAINAGE PLAN
SCALE 1:100

- 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.

- RAINWATER RE-USE NOTES AND SPECIFICATIONS**
- ROOF WATER ONLY TO BE DRAINED TO THE RAINWATER STORAGE TANK.
 - THE RAINWATER STORAGE TANK NEEDS TO BE CONNECTED FOR RE-USE AS REQUIRED BY THE OWNER.
 - RAINWATER STORAGE TANK TO BE CONFIGURED IN ACCORDANCE WITH SYDNEY WATER SPECIFICATIONS' GUIDELINES FOR RAINWATER TANK ON RESIDENTIAL PROPERTIES.
 - PROVIDE MAINS 'TOP-UP' SUPPLY TO RAINWATER TANK. MAINS 'TOP-UP' ZONE TO BE BASED ON THE DAILY NON-POTABLE USAGE THAT MAY BE EXPECTED FROM THE TANK.
 - PROVIDE A MECHANICAL PUMPING ARRANGEMENT (IN SOUND-PROOF HOUSING) TO PUMP SUPPLIERS SPECIFICATION TO SUIT INTENDED USAGE OF RAINWATER STORAGE. PUMPING ARRANGEMENTS MUST COMPLY WITH EPA GUIDELINES.
 - INLETS TO RAINWATER TANK MUST BE SCREENED TO PREVENT THE ENTRY OF FOREIGN MATTER, ANIMALS OR INSECTS.
 - A SIGN MUST BE AFFIXED TO THE RAINWATER TANK CLEARLY STATING THAT THE WATER IN THE TANK IS RAINWATER AND IS NOT TO BE USED FOR HUMAN CONSUMPTION.
 - RAINWATER TANK TO BE PLACED ON A STRUCTURALLY ADEQUATE BASE IN ACCORDANCE WITH THE MANUFACTURER'S OR STRUCTURAL ENGINEER'S DETAILS.
 - THE TANK MUST NOT BE INSTALLED OVER ANY MAINTENANCE STRUCTURE OR FITTINGS USED BY A PUBLIC AUTHORITY.
 - RAINWATER TANK AND ASSOCIATED PLUMBING WORKS TO BE INSTALLED AND CONFIGURED BY A LICENSED PLUMBER. PUMP TO BE INSTALLED BY A LICENSED ELECTRICIAN.
- OSD SYSTEM DESIGN DATA**
- SITE DATA**
- SITE AREA = 699 m²
ROOF AREA TO OSD = 259 m²
OTHER HARD SURFACES = 183 m²
- PSD STATE OF NATURE ANALYSIS**
- 5 YR ARI = 17 l/s
100 YR ARI = 33 l/s
- DEVELOPED SITE FLOWS**
- 5 YR ARI = 15 l/s
100 YR ARI = 25 l/s
- DETENTION SYSTEM DATA**
- ORIFICE DIAM = 60 mm
SSR = 10,000 LITRES
- NOTE: DETENTION STORAGE VOLUME HAS BEEN OFFSET BY 50% VIA THE PROVISION OF 5000 LITRES OF RAINWATER STORAGE.

STORMWATER SYSTEM DESIGN DATA

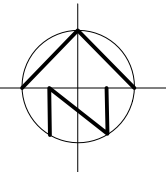
SITE DATA

SITE AREA = 699 m² (100%)
PROPOSED IMPERVIOUS AREA = 442 m² (63%)
PROPOSED LANDSCAPED AREA = 257 m² (37%)
EXISTING IMPERVIOUS AREA = 206 m² (36%)
EXISTING LANDSCAPED AREA = 371 m² (64%)

ISSUE DATE	REVISION

TITLE STORMWATER MANAGEMENT PLAN 4A CAMBRIDGE AVENUE, NARRAWEENA			
DRAWN MDB	DATE 20 JULY 2020	CHECKED 	SCALE @ A1 1:100
TAYLOR CONSULTING CIVIL & STRUCTURAL ENGINEERS			

SH-4



BENCHMARK
NAIL IN KERB
R.L. 68.89 (AHD)

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SECURE DRAINAGE LINES TO
UNDERSIDE OF FLOOR STRUCTURE
AS NECESSARY FOR CONNECTION TO
DETENTION STORAGE TANK (TYP)

PROVIDE Ø100
DOWNPIPE (TYP)

300 SQ. BY 300 DEEP INLET PIT
WITH SURFACE FALLS TO SUIT
NOTE: ALL PITS TO HAVE 2.0m
LONG SUB-SOIL TAIL INLET

PROVIDE SPREADER FOR DISCHARGE
OF RUNOFF FROM UPPER TO LOWER
ROOF AREA (TYP)

PROPOSED RIGHT OF CARRIAGEWAY

PROPOSED RIGHT OF CARRIAGEWAY

RETENTION/DETENTION STORAGE TANKS
STORAGE VOLUME = 5000 LITRES
STORAGE LENGTH = 2600mm
STORAGE WIDTH = 1150mm
STORAGE DEPTH = 1860mm
TOTAL VOLUME = 10,000 LITRES
PROVIDE Ø100 HIGH LEVEL & Ø40 LOW LEVEL
CONNECTIONS BETWEEN TANKS WITH Ø150
HIGH LEVEL OUTLET TO BOUNDARY PIT

A
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SITE DRAINAGE PLAN

SCALE 1:100

PROPOSED PIT 2
DISCHARGES INTO COUNCIL SYSTEM
IN NEIGHBOURING PROPERTY.
SEE SHEET -3 FOR DETAILS

DRAINAGE NOTES

- + DENOTES EXISTING GROUND LEVEL
- FALL STORMWATER PIPES AT 1% MIN. UNLESS OTHERWISE NOTED.
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- SURFACE GRATES 300 SQ. UNLESS OTHERWISE NOTED
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OSD SYSTEM DESIGN DATA

SITE DATA

SITE AREA = 711 m²
ROOF AREA TO OSD = 297 m²
OTHER HARD SURFACES = 4 m²

PSD STATE OF NATURE ANALYSIS

5 YR ARI = 15 l/s
100 YR ARI = 29 l/s

DEVELOPED SITE FLOWS

5 YR ARI = 14 l/s
100 YR ARI = 24 l/s

DETENTION SYSTEM DATA

ORIFICE DIAM = 60 mm
SSR = 10,000 LITRES

NOTE: DETENTION STORAGE VOLUME HAS BEEN OFFSET BY 50% VIA THE PROVISION OF 5000 LITRES OF RAINWATER STORAGE.

STORMWATER SYSTEM DESIGN DATA

SITE DATA

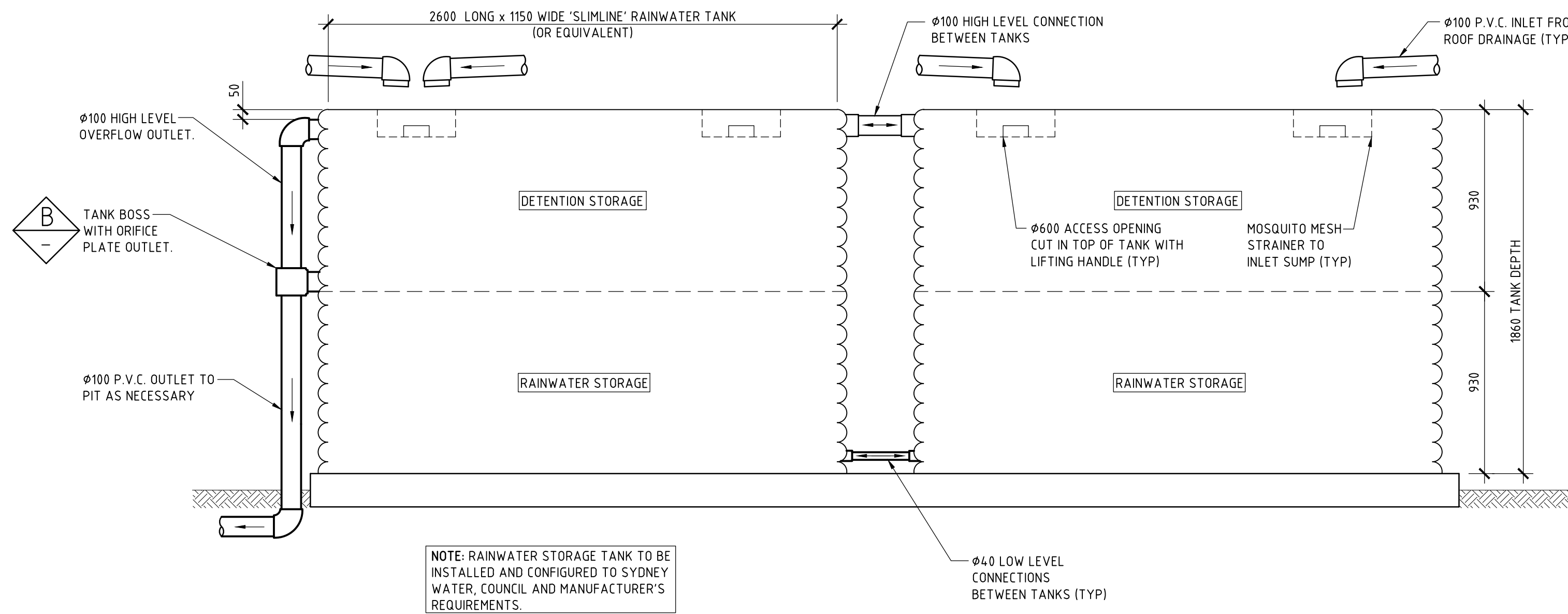
SITE AREA = 711 m² (100%)
PROPOSED IMPERVIOUS AREA = 301 m² (42%)
PROPOSED LANDSCAPED AREA = 410 m² (58%)
EXISTING IMPERVIOUS AREA = 67 m² (9%)
EXISTING LANDSCAPED AREA = 644 m² (91%)

ISSUE DATE	REVISION

TITLE	STORMWATER MANAGEMENT PLAN 4B CAMBRIDGE AVENUE, NARRAWEENA		
DRAWN	DATE	CHECKED	SCALE @ A1
MDB	20 JULY 2020		1:100
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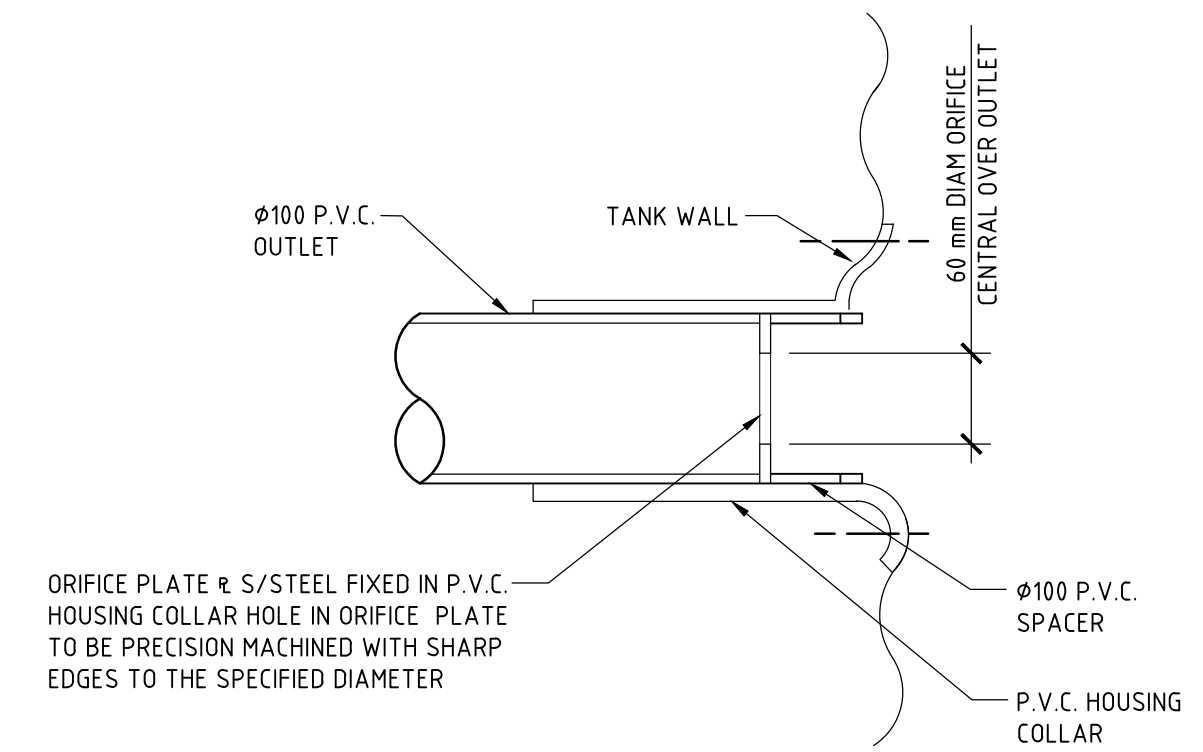
TAYLOR
CONSULTING
CIVIL & STRUCTURAL ENGINEERS

SH-5
SHEET -5



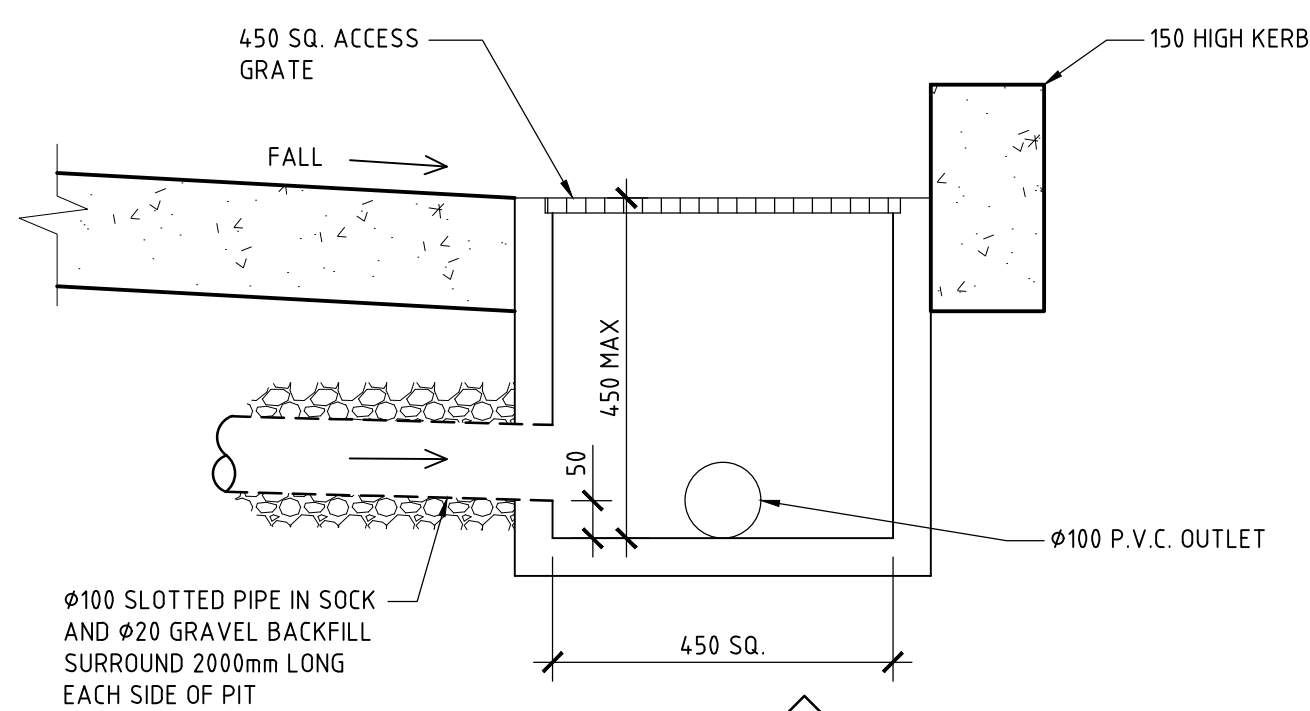
DETAIL A
SCALE 1:20

TYPICAL COMBINATION DETENTION/RETENTION CONFIGURATION SCHEMATIC



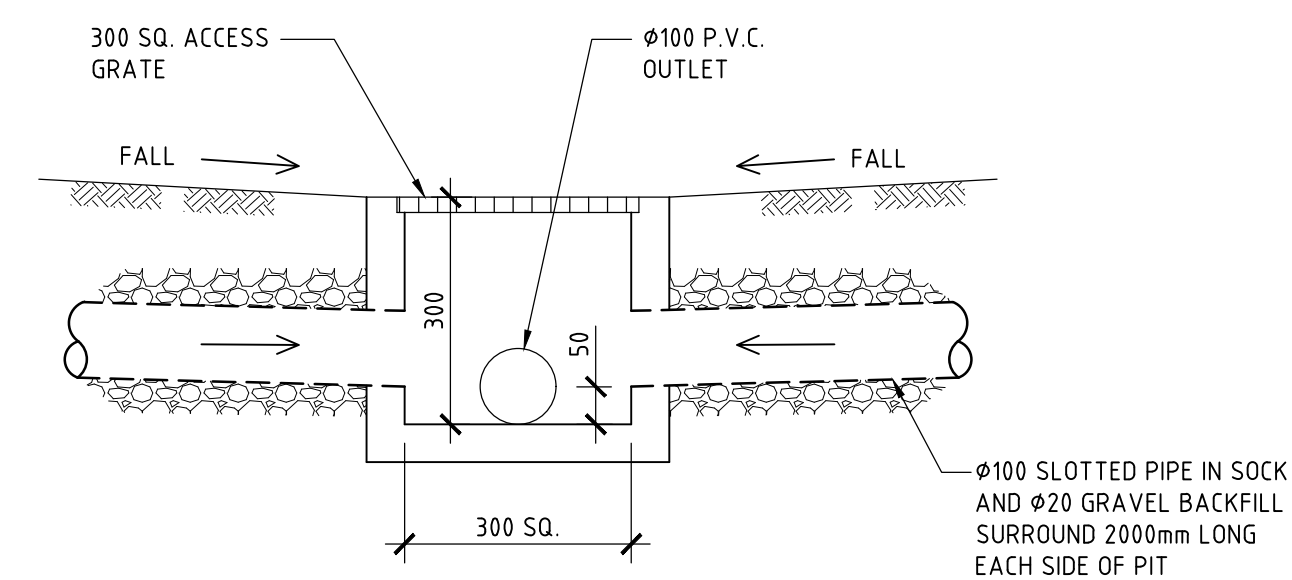
DETAIL B
SCALE 1:5

DETENTION STORAGE TANK OUTLET ORIFICE PLATE



DETAIL C
SCALE 1:10

TYPICAL SURFACE INLET PIT DETAIL



DETAIL D
SCALE 1:10

TYPICAL SURFACE INLET PIT DETAIL

ISSUE	DATE	REVISION

TITLE STORMWATER MANAGEMENT DETAILS 4A & 4B CAMBRIDGE AVENUE, NARRAWEENA				<p>TAYLOR CONSULTING CIVIL & STRUCTURAL ENGINEERS</p>	<p>DRAWING NO. SHEET -6</p>
DRAWN MDB	DATE 20 JULY 2020	CHECKED 	SCALE @ A1 1:20 1:10 1:5		
<p>BE Civil (Hons) MIE Aust.</p>					
<p>enquire@taylorconsulting.net.au</p>					