



NORTHERN SYDNEY
Seascope
Suite 7 22-27 Fisher Rd
Dee Why NSW 2099

BLUE MOUNTAINS
Shop 1
274 Macquarie Rd
Springwood NSW 2777

CONSULTING ENGINEERS
Civil
Structural
Stormwater & Flood

3 October 2024

Chief Executive Officer
Northern Beaches Council
725 Pittwater Road
Dee Why NSW 2099

Address of the Project: **1112-1116 Barrenjoey Road, Palm Beach**

Description of Project: **Drainage Letter - New Dwelling**

With reference to the Development Application for the above property, please find copies of the site Stormwater Management Plan, **STORM-1/B**, Basement Stormwater Management Plan, **STORM-2/B** and Stormwater Management Details, **STORM-3/B**, for your perusal.

The plan shows collected flows from the proposed roof areas, along with surrounding hardstand and landscaped areas, discharging into the existing council drainage system located at the front of the site.

Note that as the site is classified as flood affected, there has been no on-site detention system provided, in accordance with Council policy. 2 x 6000 litre rainwater storage tanks for non-potable domestic reuse have been provided in accordance with BASIX requirements.

Note that the basement drainage system includes the pump and sump which collects basement flows before pumping them up to the surface level drainage system at the site frontage.

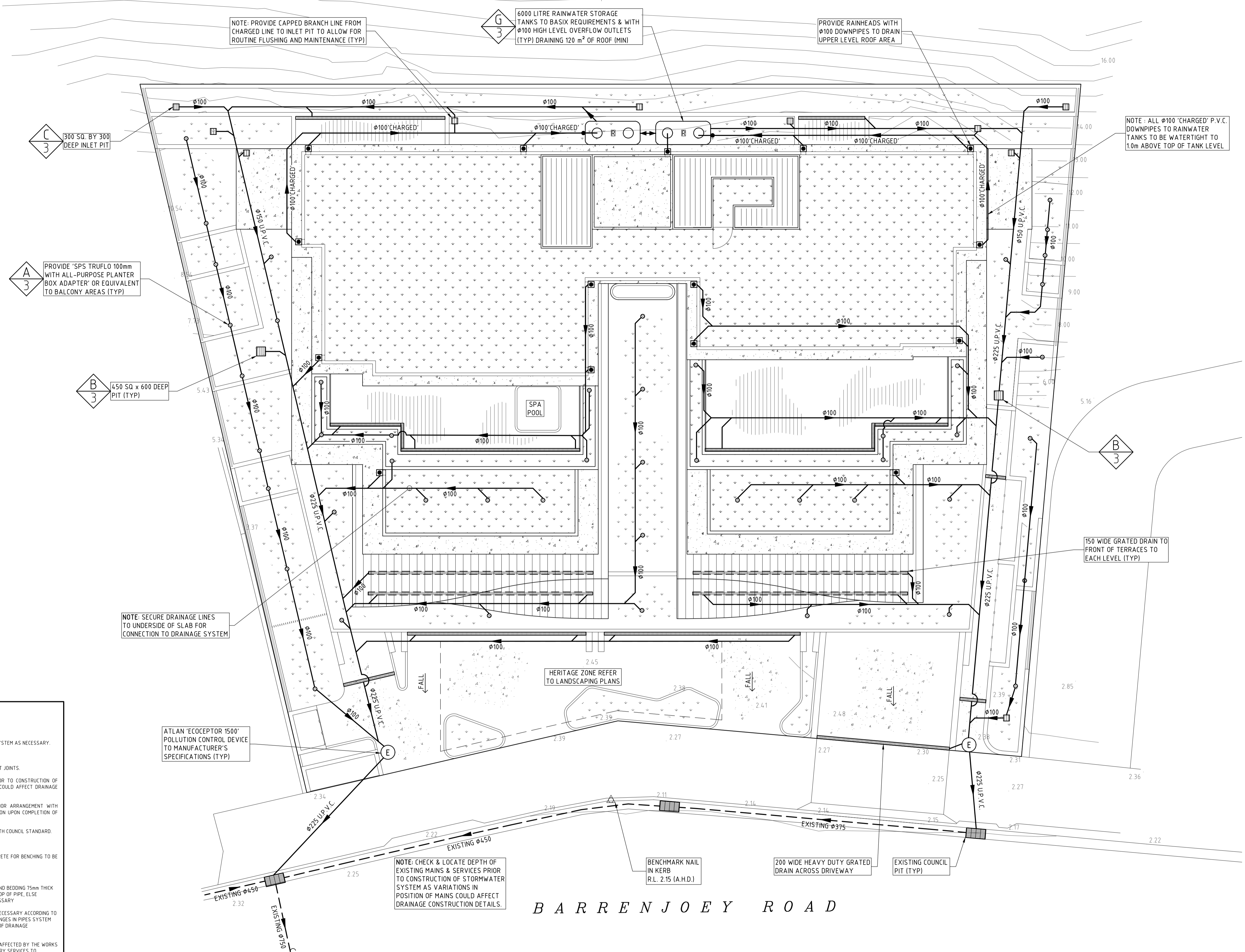
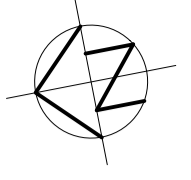
The plan also shows that water quality devices should be included within the stormwater drainage system in order to comply with the Council Water Management Policy for Development. The MUSIC modelling file is attached for your perusal.

Should you require any further information, please contact the undersigned.

Yours faithfully
TAYLORCONSULTING.NET.AU

D.M.Schaefer - Director
B.E Civil (Hons) M.I.E. Aust. N.E.R.





NOTE: PROVIDE CAPPED BRANCH LINE FROM CHARGED LINE TO INLET PIT TO ALLOW FOR ROUTINE FLUSHING AND MAINTENANCE (TYP)

6000 LITRE RAINWATER STORAGE TANKS TO BASIX REQUIREMENTS & WITH $\phi 100$ HIGH LEVEL OVERFLOW OUTLETS (TYP) DRAINING 120 m² OF ROOF (MIN)

PROVIDE RAINHEADS WITH $\phi 100$ DOWNPIPES TO DRAIN UPPER LEVEL ROOF AREA

NOTE: ALL $\phi 100$ 'CHARGED' P.V.C. DOWNPIPES TO RAINWATER TANKS TO BE WATERTIGHT TO 1.0m ABOVE TOP OF TANK LEVEL

$\phi 300$ SQ. BY 300 DEEP INLET PIT

PROVIDE 'SPS TRUFLO 100mm WITH ALL-PURPOSE PLANTER BOX ADAPTER' OR EQUIVALENT TO BALCONY AREAS (TYP)

450 SQ X 600 DEEP PIT (TYP)

NOTE: SECURE DRAINAGE LINES TO UNDERSIDE OF SLAB FOR CONNECTION TO DRAINAGE SYSTEM

ATLAN 'ECOCEPTOR 1500' POLLUTION CONTROL DEVICE TO MANUFACTURER'S SPECIFICATIONS (TYP)

HERITAGE ZONE REFER TO LANDSCAPING PLANS

150 WIDE GRATED DRAIN TO FRONT OF TERRACES TO EACH LEVEL (TYP)

NOTE: CHECK & LOCATE DEPTH OF EXISTING MAINS & SERVICES PRIOR TO CONSTRUCTION OF STORMWATER SYSTEM AS VARIATIONS IN POSITION OF MAINS COULD AFFECT DRAINAGE CONSTRUCTION DETAILS.

BENCHMARK NAIL IN KERB R.L. 2.15 (A.H.D.)

200 WIDE HEAVY DUTY GRATED DRAIN ACROSS DRIVEWAY

EXISTING COUNCIL PIT (TYP)

BARRENJOEY ROAD

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 15mm 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 SUBMISSION TO COUNCIL CERTIFIER AND DOES NOT NECESSARILY CONTAIN ALL APPROPRIATE INFORMATION TO ENABLE FOR ISSUE TO PLUMBER/BUILDER FOR CONSTRUCTION. CONTACT TAYLOR CONSULTING FOR MORE INFORMATION.

STORMWATER SYSTEM DESIGN DATA

SITE DATA

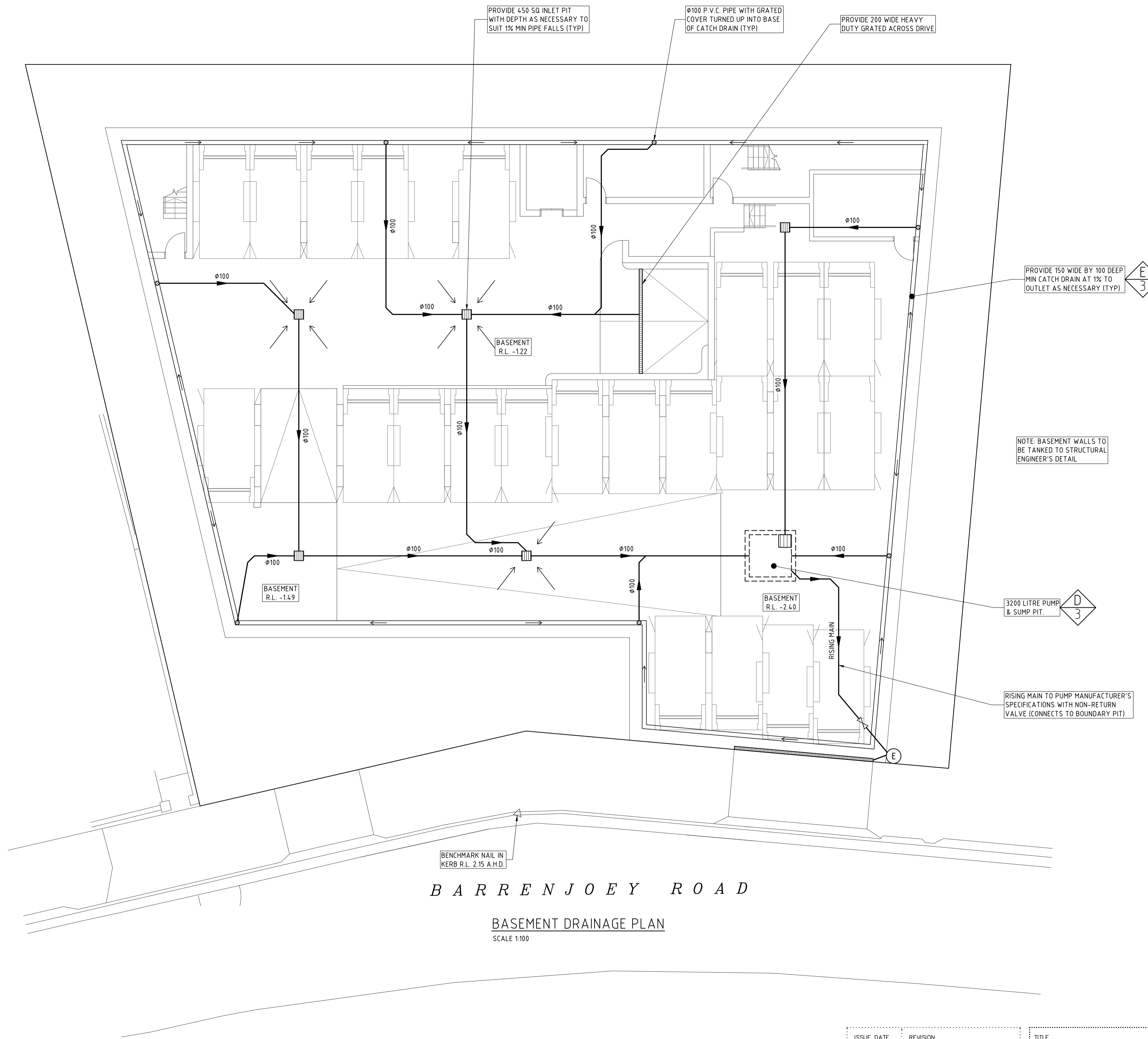
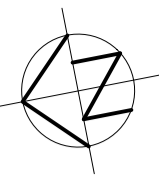
SITE AREA = 13615 m ² (100%)
PROPOSED IMPERVIOUS AREA = 629.9 m ² (4.6%)
PROPOSED LANDSCAPED AREA = 731.6 m ² (5.4%)
EXISTING IMPERVIOUS AREA = 623.1 m ² (4.5%)
EXISTING LANDSCAPED AREA = 138.4 m ² (1.0%)

ISSUE DATE	REVISION
8 SEP 23	BASIX TANKS ADDED
12 SEP 24	UPDATED PLAN TO SUIT LATEST ARCHITECTURAL PLAN

TITLE STORMWATER MANAGEMENT PLAN 1112-1116 BARRENJOEY ROAD, PALM BEACH	
DRAWN LI	DATE 1 OCTOBER 2024
ENGINEER DMS	CHECKED BE Civil (Hons) MIE Aust.
SCALE @ A1 1:100	

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CIVIL & STRUCTURAL ENGINEERS

STORM-1/B

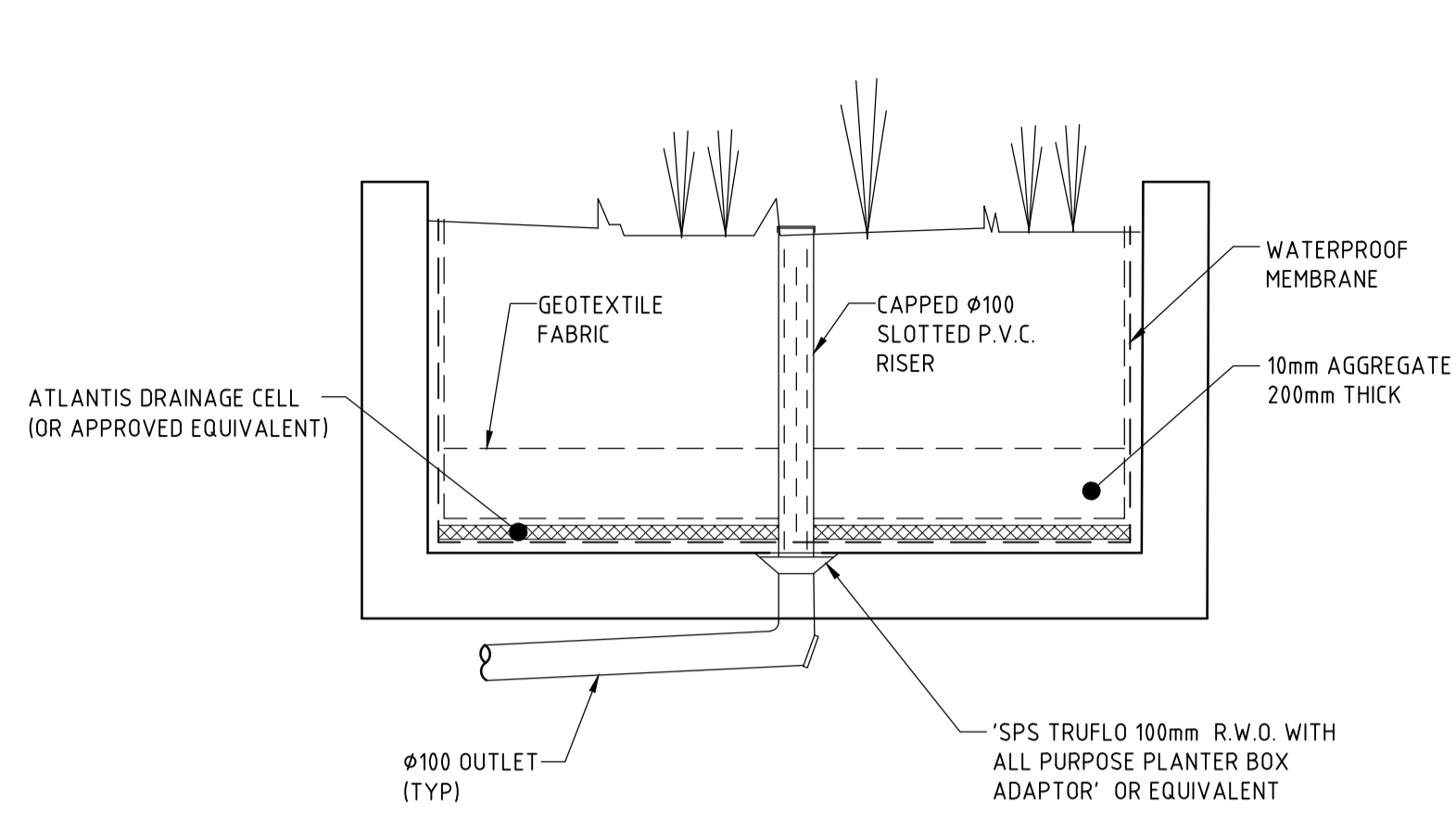


ISSUE DATE	REVISION
8 SEP 23	BASEMENT LEVELS UPDATED
13 SEP 24	UPDATED PLAN TO SUIT LATEST ARCHITECTURAL PLAN

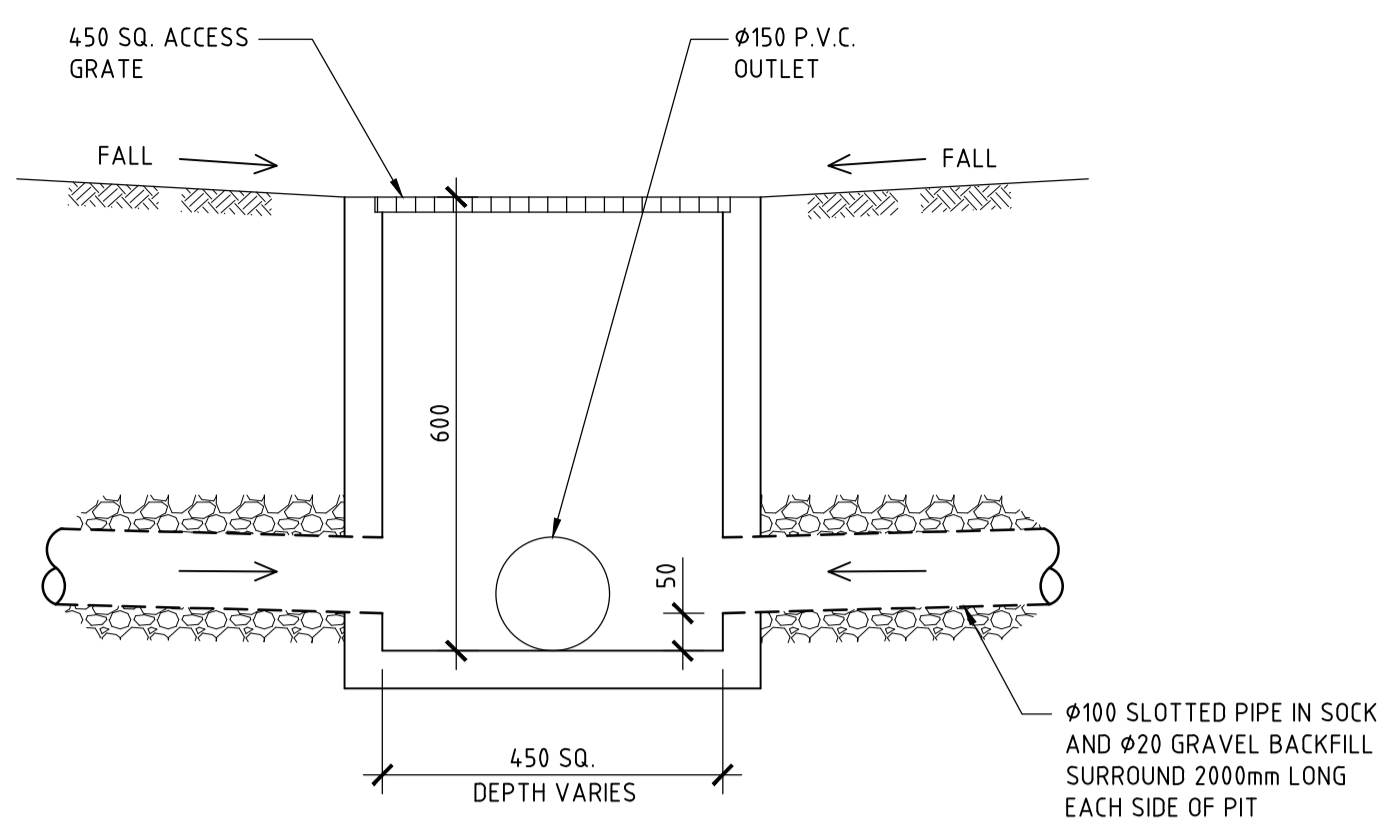
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DRAWN LI	DATE 3 OCTOBER 2024	CHECKED 	SCALE @ A1 1:100
ENGINEER DMS	BE Civil (Hons) MIE Aust.		



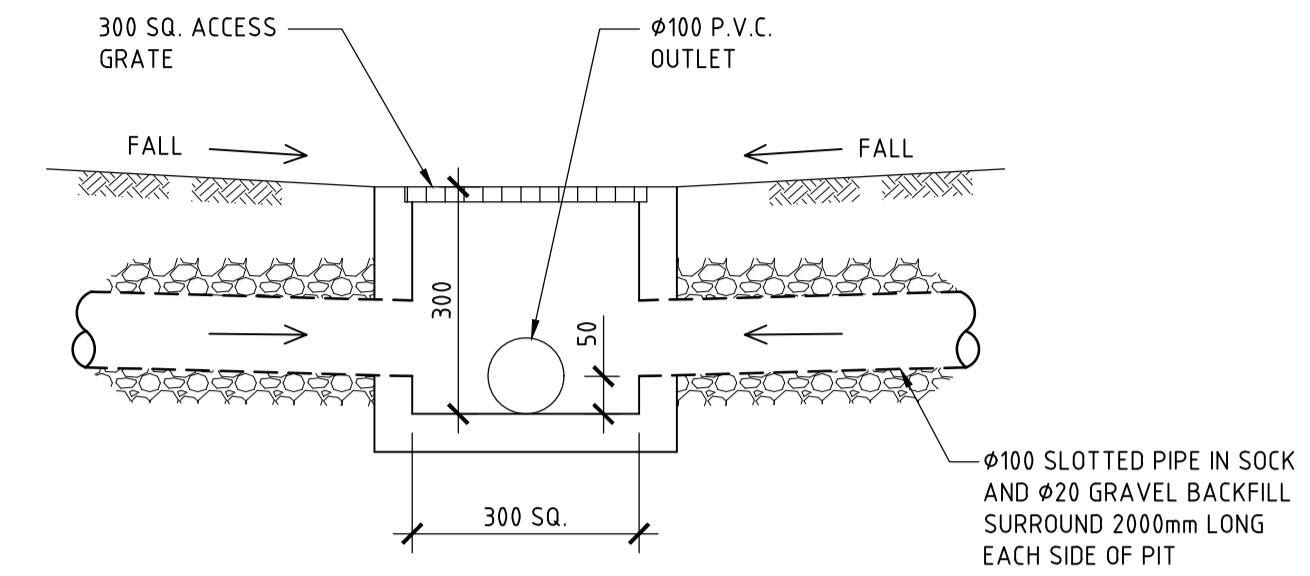
DRAWING NO
STORM-2/B



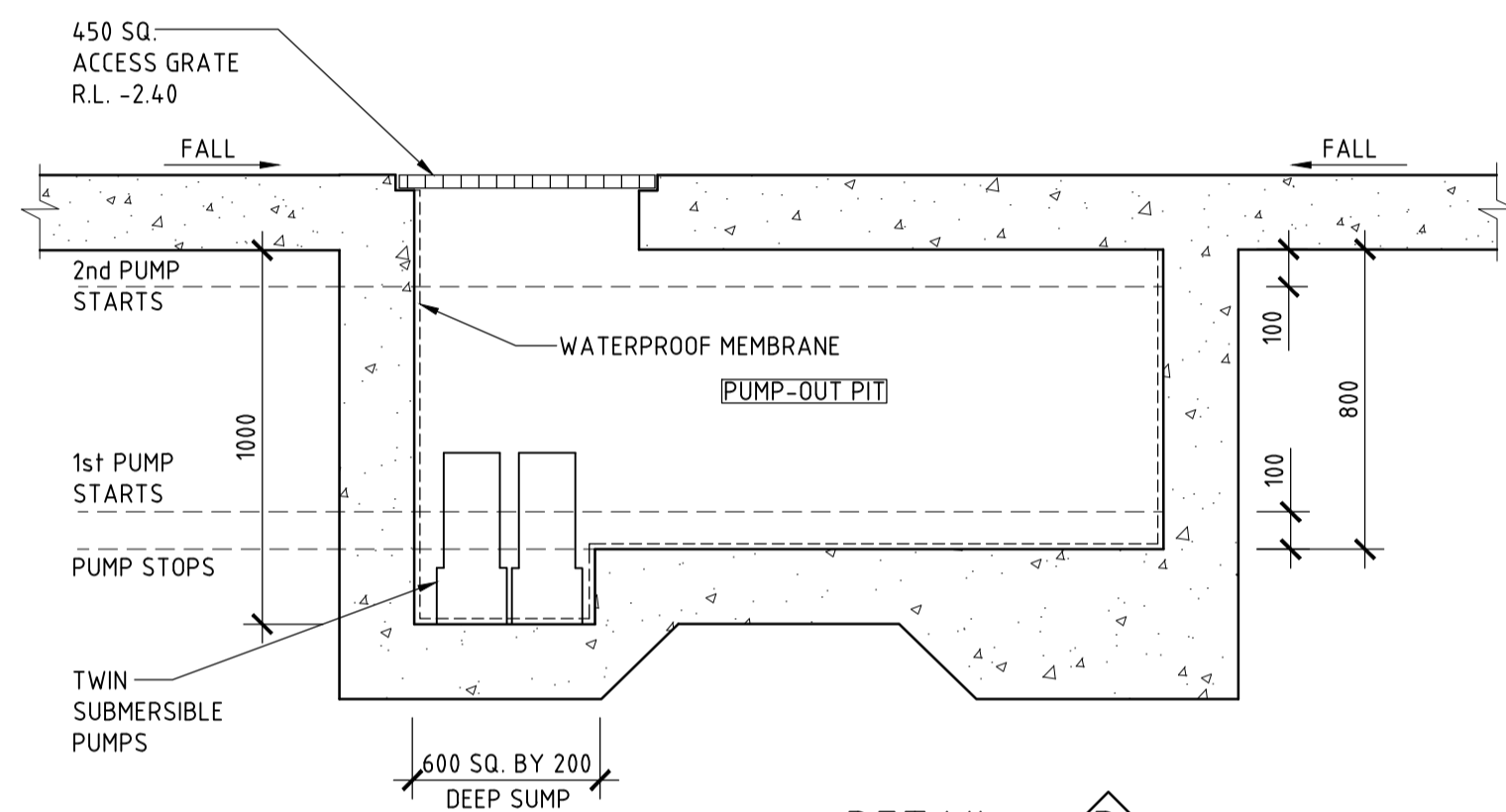
DETAIL A
SCALE 1:20
SHOWING TYPICAL PLANTER BOX DETAIL



DETAIL B
SCALE 1:10
TYPICAL SURFACE INLET PIT DETAIL



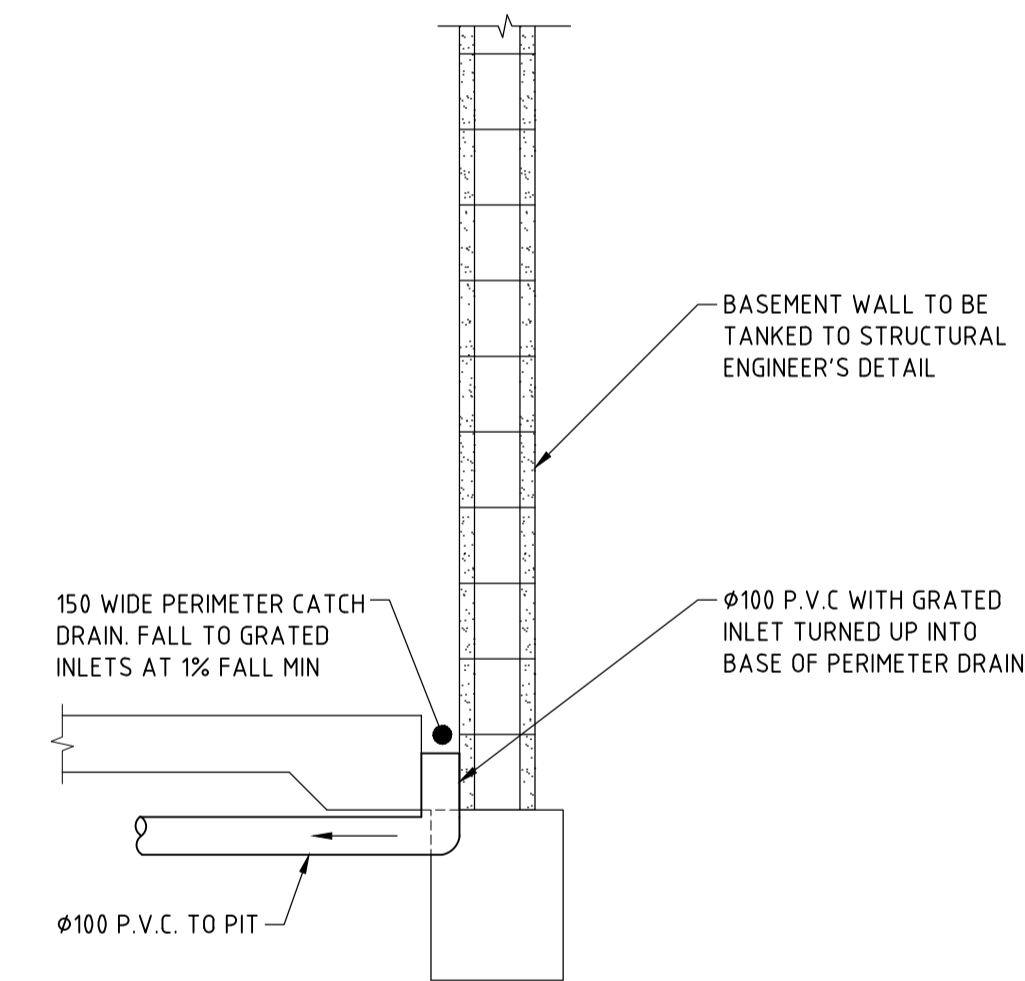
DETAIL C
SCALE 1:10
TYPICAL SURFACE INLET PIT DETAIL



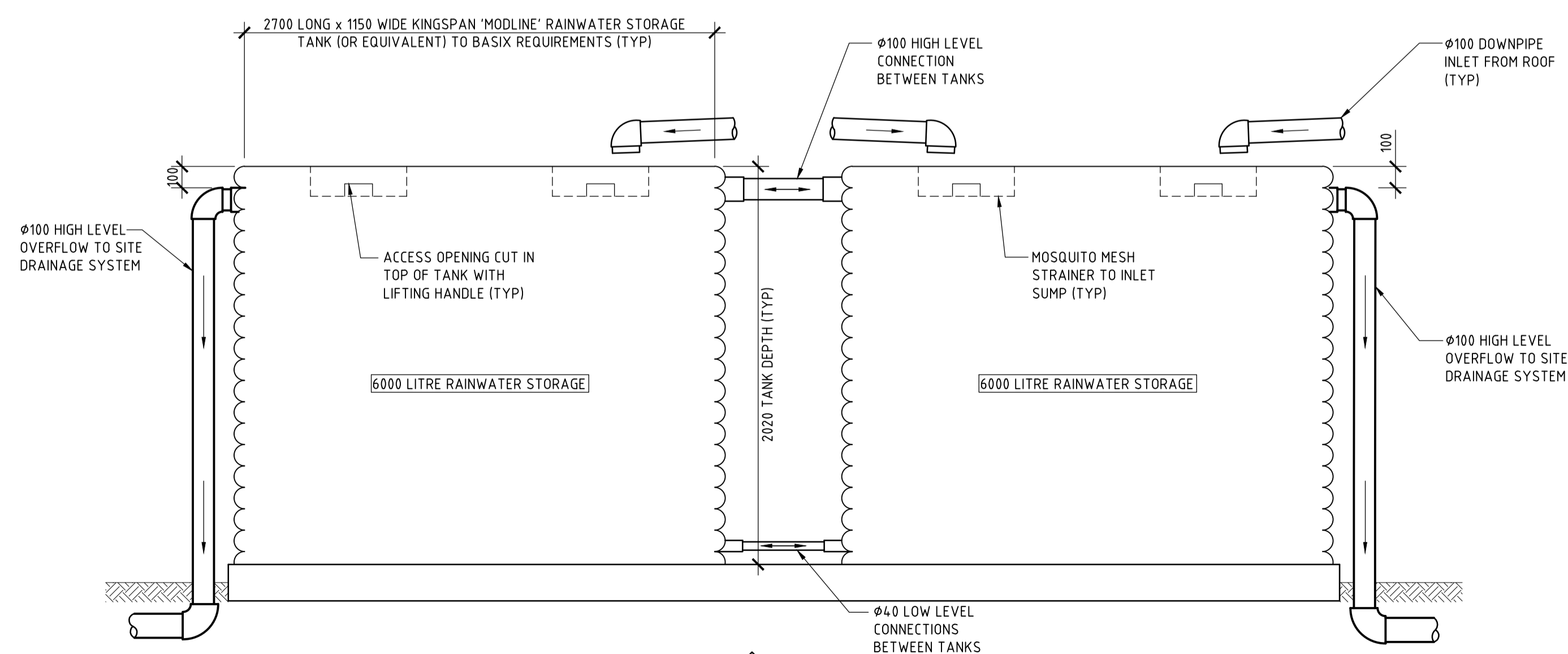
DETAIL D
SCALE 1:20
SHOWING PUMP AND SUMP CONFIGURATION
NOTE: SUMP MAY BE A PROPRIETARY PRODUCT AS PREFERRED BY DEVELOPER

PUMP NOTES
 1. TWIN SUBMERSIBLE PUMPS TO BE PROVIDED IN PUMP PIT.
 2. PUMPS TO OPERATE ALTERNATELY AT LOW INLET FLOWRATE & CONCURRENTLY AT HIGH INLET FLOWRATE.
 3. PUMP CAPACITY TO BE 2.0 l/s EACH FOR STATIC HEAD = 6.0m (EXCLUDES OUTLET PIPE LOSSES).
 4. PROVIDE EXTERNAL CONTROL PANEL WITH AUDIO, VISUAL ALARMS & BATTERY POWER BACK-UP.
 5. INLET PIPE TO BE LOCATED CLEAR OF THE HIGH LEVEL FLOAT SWITCH TO PREVENT FALSE ALARMS.

- DRAINAGE NOTES**
- + DENOTES EXISTING GROUND LEVEL
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 - 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.
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- 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.



DETAIL E
SCALE 1:20



DETAIL G
SCALE 1:20
SHOWING RAINWATER TANK CONFIGURATION

ISSUE DATE	REVISION
8 SEP 23	BASIX TANK ADDED
13 SEPT 2024	UPDATED TO SUIT LATEST ARCHITECTURAL PLANS

TITLE STORMWATER MANAGEMENT DETAILS 1112-1116 BARRENJOEY ROAD, PALM BEACH		DRAWN MDB		DATE 3 OCTOBER 2024	CHECKED <i>[Signature]</i> BE Civil (Hons) MIE Aust.	SCALE @ A1 1:20 1:10
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TAYLOR CONSULTING CIVIL & STRUCTURAL ENGINEERS

STORM-3/B