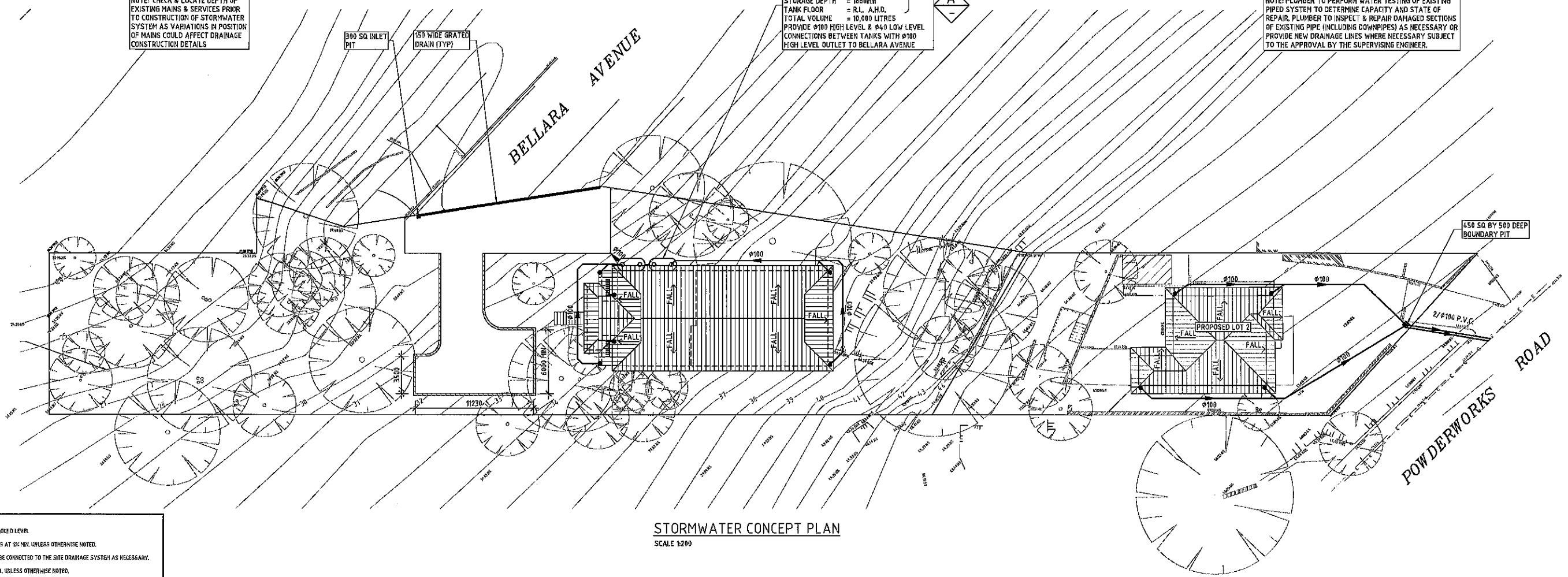




NOTE: CHECK & LOCATE DEPTH OF EXISTING MAINS & SERVICES PRIOR TO CONSTRUCTION OF STORMWATER SYSTEM AS VARIATIONS IN POSITION OF MAINS COULD AFFECT DRAINAGE CONSTRUCTION DETAILS

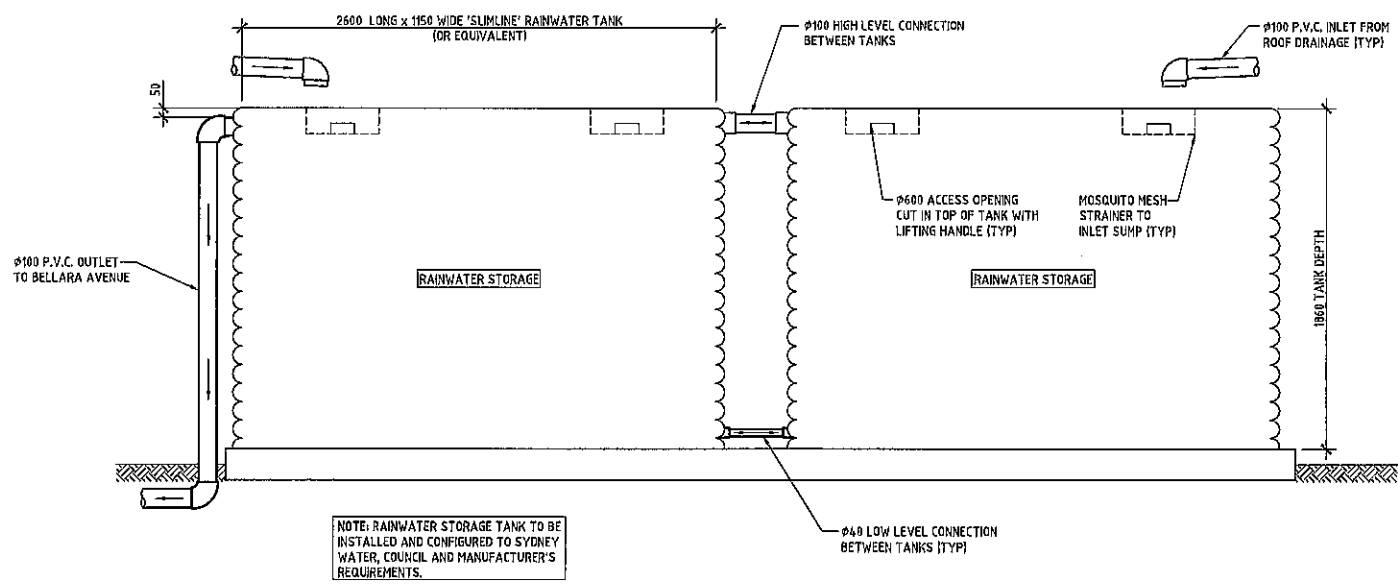
**RAINWATER STORAGE TANK**  
 STORAGE VOLUME = 5000 LITRES  
 STORAGE LENGTH = 2600mm  
 STORAGE WIDTH = 1150mm  
 STORAGE DEPTH = 1860mm  
 TANK FLOOR = R.L. A.M.D.  
 TOTAL VOLUME = 10,000 LITRES  
 PROVIDE  $\phi$ 100 HIGH LEVEL &  $\phi$ 40 LOW LEVEL CONNECTIONS BETWEEN TANKS WITH  $\phi$ 100 HIGH LEVEL OUTLET TO BELLARA AVENUE

NOTE: PLUMBER TO PERFORM WATER TESTING OF EXISTING PIPED SYSTEM TO DETERMINE CAPACITY AND STATE OF REPAIR. PLUMBER TO INSPECT & REPAIR DAMAGED SECTIONS OF EXISTING PIPE (INCLUDING DOWNPIPES) AS NECESSARY OR PROVIDE NEW DRAINAGE LINES WHERE NECESSARY SUBJECT TO THE APPROVAL BY THE SUPERVISING ENGINEER.



**STORMWATER CONCEPT PLAN**  
 SCALE 1:200

- DRAINAGE NOTES**
- + DENOTES EXISTING GROUND LEVEL.
  - FALL STORMWATER PIPES AT 0% 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 WATER-TIGHT 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 STANDARDS.
  - REMOVE REDUNDANT DRAINAGE PITS AND SEAL PIPES.
  - PIT DIMENSIONS TO BE HALF THE OUTGOING PIPE DIAMETER. CONCRETE FOR BENCHING TO BE 60 MPa MASS CONCRETE.
  - APPROVED PRE-CAST PITS MAY BE USED.
  - ALL PIPES TO BE LAID ON COMPACTED FINE CRUSHED ROCK OR SAND BENCHING 15mm THICK & PIPES BACKFILLED WITH COMPACTED SAND TO 300mm ABOVE TOP OF PIPE, ELSE ATTACHED TO UNDERSIDE OF STRUCTURE AT 400mm V.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 INTERRUPTED. 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.
  - PLUMBERS 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/HOLDER FOR CONSTRUCTION. CONTACT TAYLOR CONSULTING FOR MORE INFORMATION.
- RAINWATER RE-USE NOTES AND SPECIFICATIONS**
- ROOF WATER ONLY TO BE DRAINAGE 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 REGULATIONS' GUIDELINES FOR RAINWATER TANKS 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 SOLID-PROOF HOUSING) TO PUMP SUPPLIES 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**  
 SCALE 1:20

**PRELIMINARY**  
 NOT FOR CONSTRUCTION

**STORMWATER SYSTEM DESIGN DATA**

LOT 1 SITE DATA	
SITE AREA = 1616.10 m <sup>2</sup> (100%)	
PROPOSED IMPERVIOUS AREA = 4,091.14 m <sup>2</sup> (25.32%)	
PROPOSED LANDSCAPED AREA = 1206.96 m <sup>2</sup> (74.68%)	
EXISTING IMPERVIOUS AREA = 0 m <sup>2</sup> (0%)	
EXISTING LANDSCAPED AREA = 1616.10 m <sup>2</sup> (100%)	
LOT 2 SITE DATA	
SITE AREA = 697.01 m <sup>2</sup> (100%)	
EXISTING IMPERVIOUS AREA = 205.88 m <sup>2</sup> (29.5%)	
EXISTING LANDSCAPED AREA = 491.13 m <sup>2</sup> (70.5%)	

ISSUE DATE	REVISION
28 NOV 19	TURNING BAY ADDED.
16 AUG 19	LOT 2 DRAINAGE DIVERTED TO POWDERWORKS ROAD.
16 AUG 19	CHANGES MADE TO SUIT ARBORIST'S REPORT AND NEW ARCHITECTURAL PLANS.
28 AUG 19	POSITION OF DETENTION TANK CHANGED & RAINWATER TANKS ADDED.

TITLE			
<b>SUB-DIVISION CONCEPT PLAN</b>			
<b>31 BELLARA AVENUE, NORTH NARRABEEN</b>			
DRAWN	DATE	CHECKED	SCALE
MDB	5 JUNE 2018	<i>[Signature]</i>	A1 1:200 1:20 1:10
BE Civil (P) MIE Aust			

**TAYLOR CONSULTING**  
 CIVIL & STRUCTURAL ENGINEERS

**SHEET - 1/E**