

21 December 2022

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

Dear Sir/Madam

Re: Stormwater Management Plan – 152-154 Sydney Road, Fairlight

With reference to the Development Application for the above property, please find enclosed a copy of the site Stormwater Management Plan, STORM-1/A and Stormwater Management Details, STORM-2/A, for your perusal.

The plan shows collected flows from the proposed roofed areas, along with the surrounding paved and landscaped areas, being discharged to the Council drainage system within William Street.

Note that it is proposed to provide a combination rainwater/detention storage tank comprising of 7,100 litre on-site detention and 4,400 litre rainwater storage tank beneath the stairs on the northern side of the building for non-potable domestic reuse in accordance with Council & BASIX requirements.

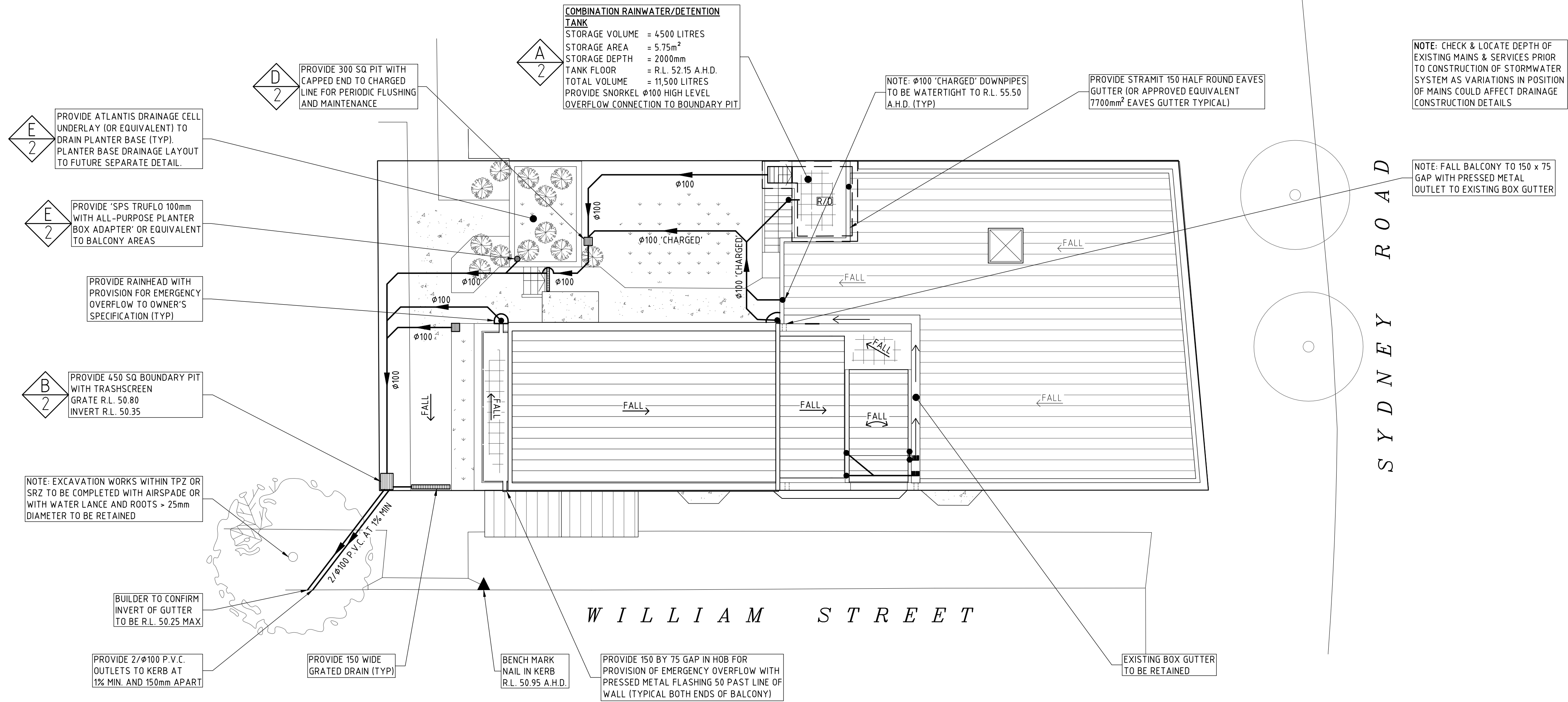
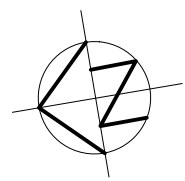
This is to certify that the Stormwater Management Plan layout as shown on STORM-1/A and STORM-2/A by Taylor Consulting Civil & Structural Engineers has been designed in accordance with section 3.1.2, 'Drainage', of the Building Code of Australia Housing Provision, AS/NZS 3500.3.2 – Stormwater Drainage and Northern Beaches Council - Water Management for Development Policy.

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. N.E.R.





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 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.

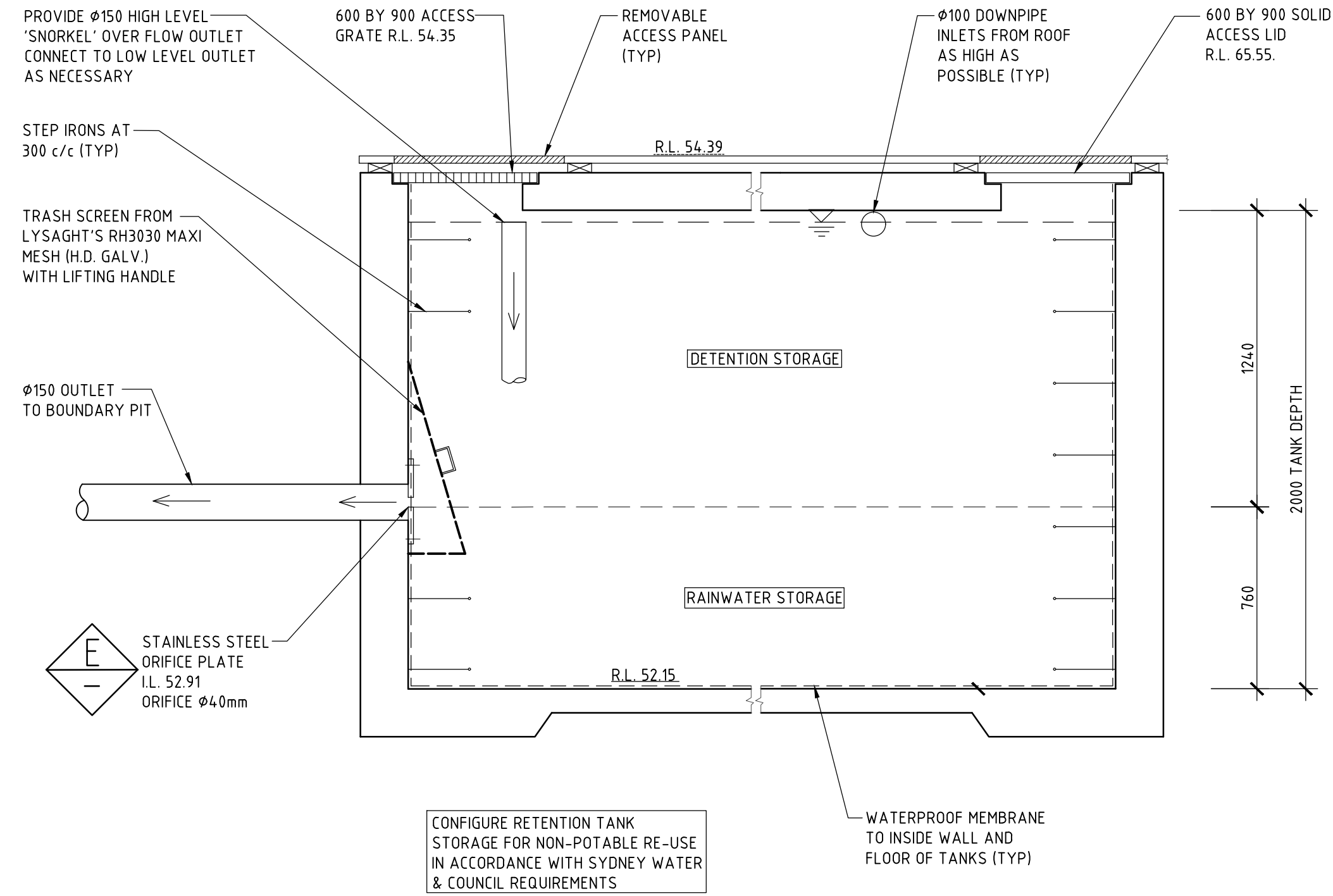
| SDS SYSTEM DESIGN DATA | |
|--|--|
| EXISTING SITE FLOWS | |
| 5 YR ARI = 8 l/s | |
| DEVELOPED SITE FLOWS | |
| 100 YR ARI = 9 l/s | |
| DETENTION SYSTEM DATA | |
| TOTAL SITE AREA = 360m ² | |
| AREA DRAINING TO THE TANK = 244 m ² (68% TOTAL SITE AREA) | |
| IMPERVIOUS AREA TO TANK = 244m ² (100%) | |
| PERVIOUS AREA TO TANK = 0m ² (0%) | |
| AREA BYPASSING TANK = 16m ² (33% TOTAL SITE AREA) | |
| IMPERVIOUS AREA BYPASSING TANK = 50m ² (43%) | |
| PERVIOUS AREA BYPASSING TANK = 66m ² (57%) | |
| 100YR TWL = RL 53.81 A.H.D. | |
| ORIFICE DIAM = 40mm | |
| SSR = 9m ³ | |
| NOTE: DETENTION STORAGE VOLUME HAS BEEN OFFSET BY 24% VIA THE PROVISION OF 4400 LITRES OF RAINWATER STORAGE. | |

| STORMWATER SYSTEM DESIGN DATA | |
|---|--|
| SITE DATA | |
| SITE AREA = 360 m ² (100%) | |
| PROPOSED IMPERVIOUS AREA = 297 m ² (88%) | |
| PROPOSED LANDSCAPED AREA = 63 m ² (12%) | |
| EXISTING IMPERVIOUS AREA = 308 m ² (86%) | |
| EXISTING LANDSCAPED AREA = 52 m ² (14%) | |

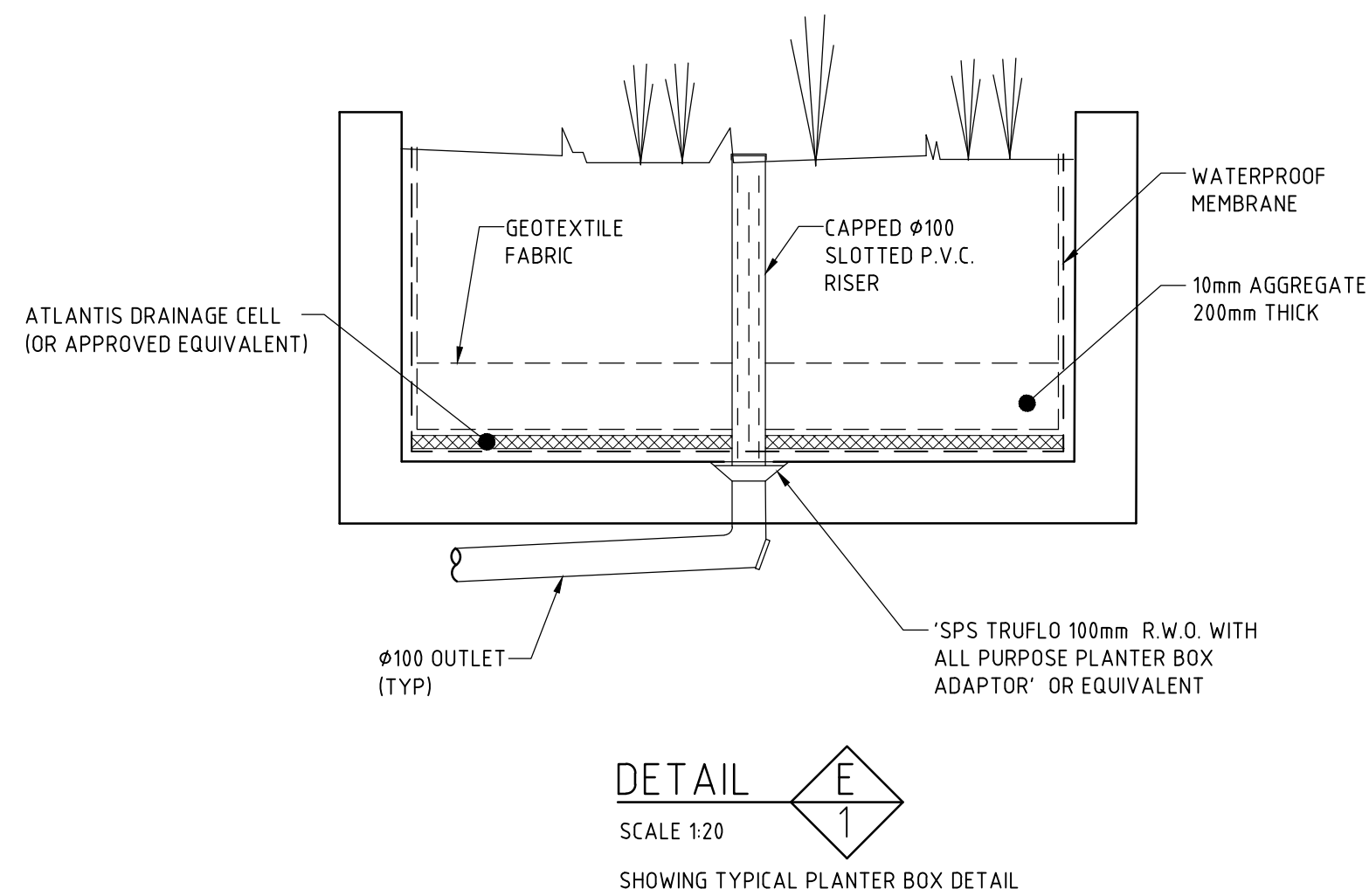
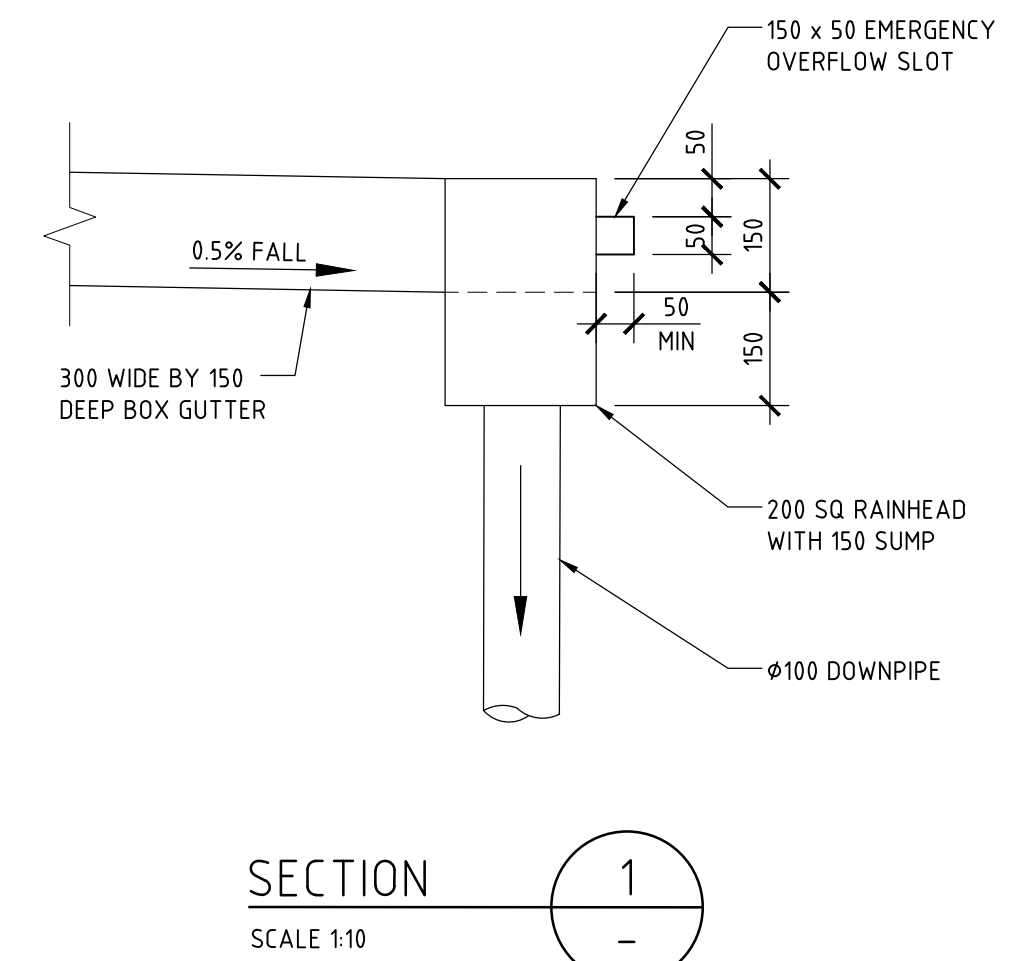
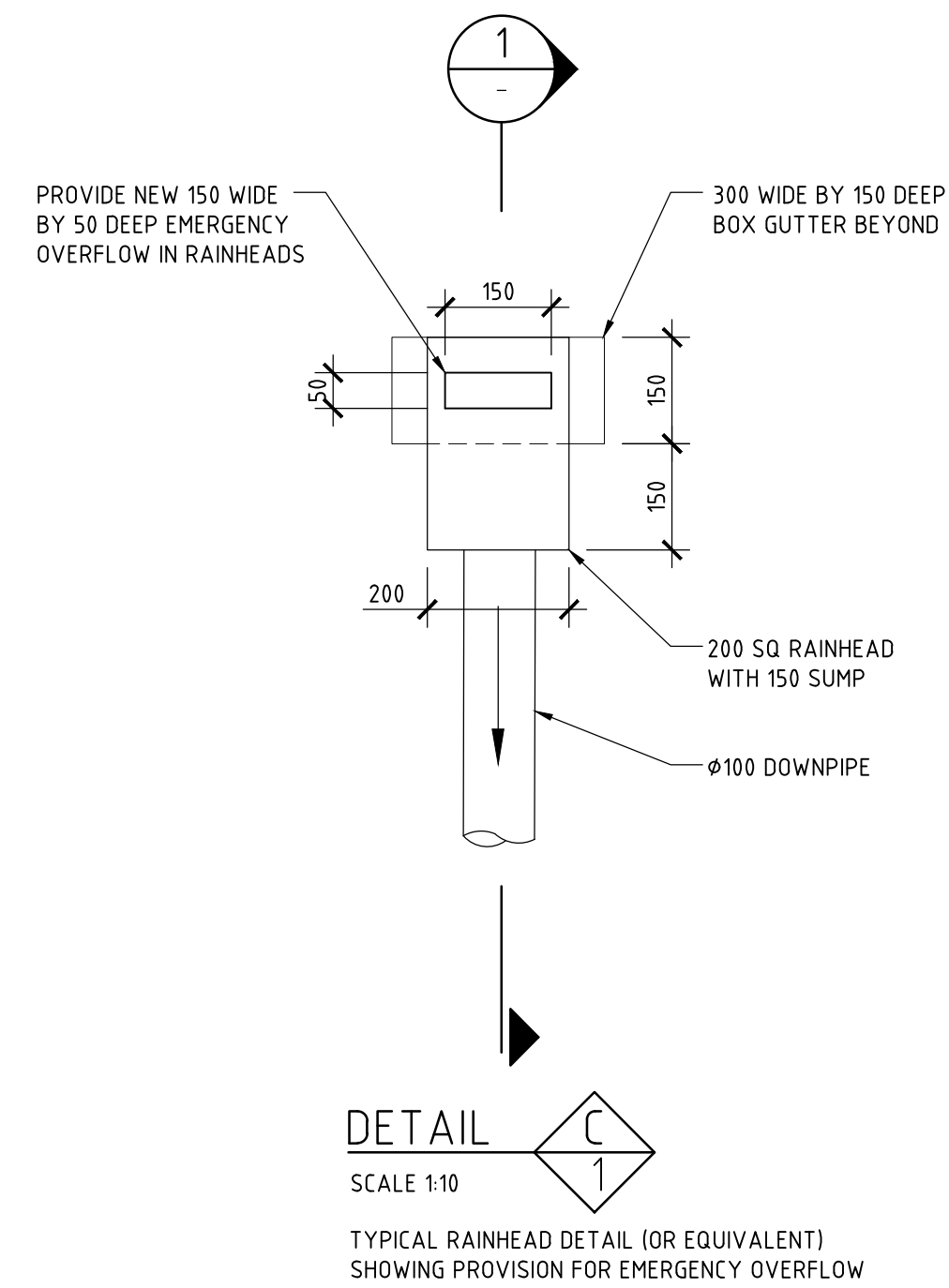
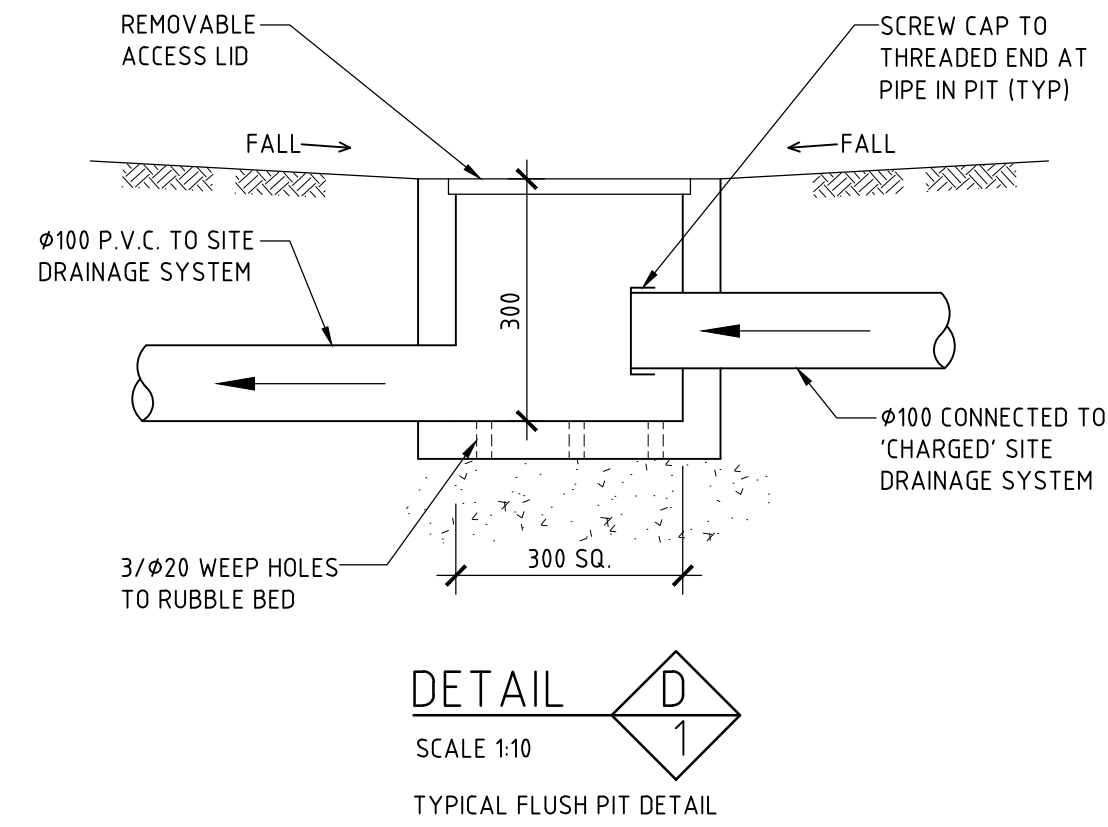
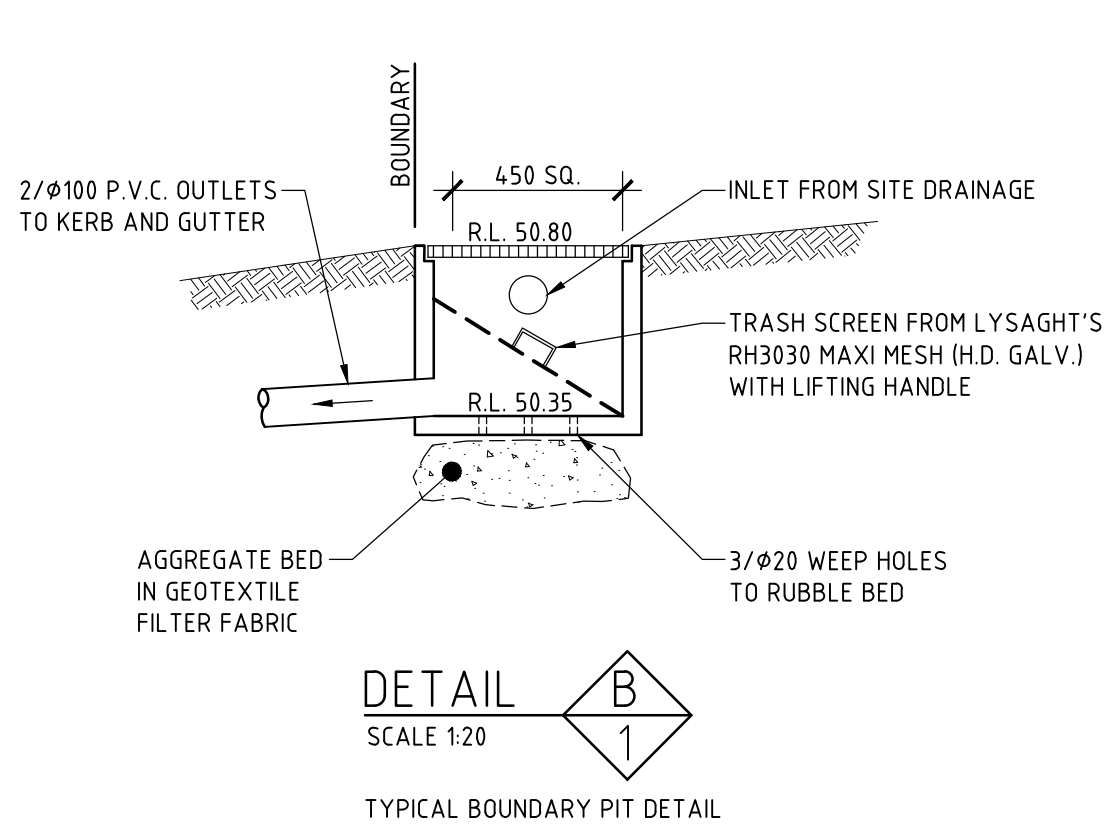
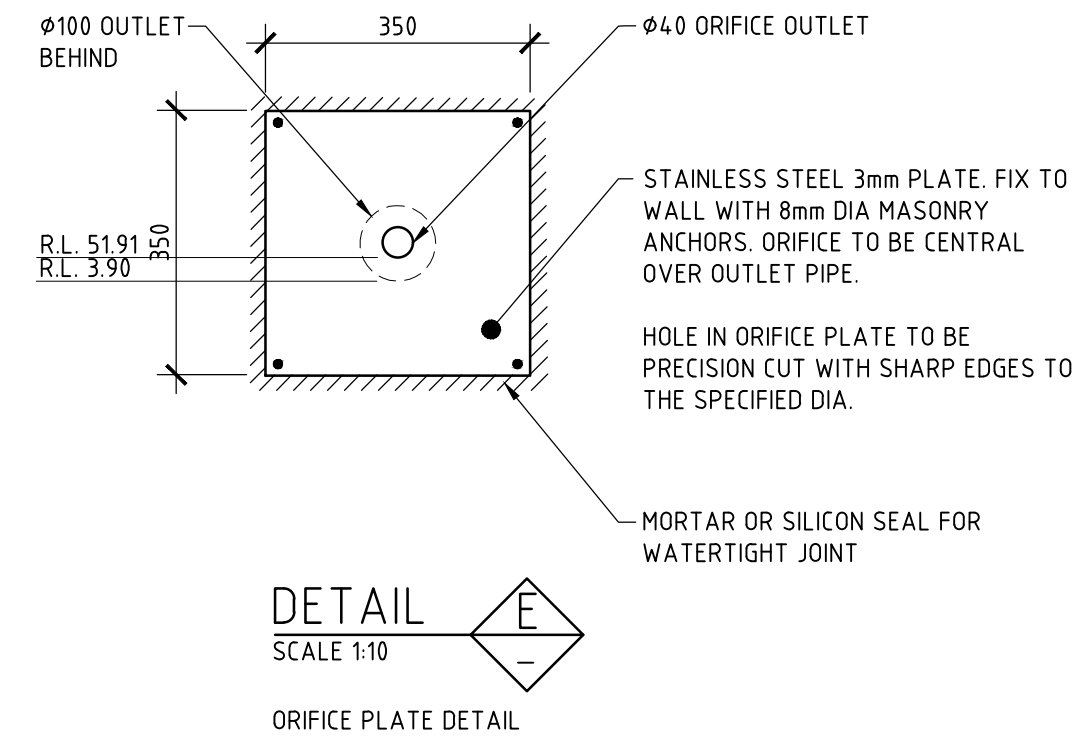
| ISSUE DATE | REVISION |
|---------------|---|
| DECEMBER 2022 | REVISED RAINWATER/DETENTION STORAGE ARRANGEMENT |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| TITLE STORMWATER MANAGEMENT PLAN 152-154 SYDNEY ROAD, FAIRLIGHT | | | |
|---|-----------------|---------|------------|
| DRAWN | DATE | CHECKED | SCALE @ A1 |
| MD8 | 2 DECEMBER 2022 | | 1:100 |
| BE Civil (Hons) MIE Aust. | | | |

| | |
|--|--|
| TAYLOR CONSULTING CIVIL & STRUCTURAL ENGINEERS | |
| STORM-1/A | |



DETAIL A
SCALE 1:20
SHOWING SCHEMATIC LAYOUT OF RETENTION/DETENTION SYSTEM



| ISSUE | DATE | REVISION |
|---------------|------|--|
| DECEMBER 2022 | | REVISED RAINWATER & DETENTION STORAGE DETAIL |
| | | |
| | | |
| | | |
| | | |
| | | |

| | | | |
|--|-------------------------|--|------------------------------------|
| TITLE STORMWATER MANAGEMENT DETAILS 152-154 SYDNEY ROAD, FAIRLIGHT | | | |
| DRAWN MDB | DATE 2 DECEMBER 2022 | CHECKED <i>[Signature]</i> BE Civil (Hons) MIE Aust. | SCALE A1 1:20 1:10 1:5 |

TAYLOR
CONSULTING
CIVIL & STRUCTURAL ENGINEERS

STORM-2/A