

- STORMWATER NOTES:**
- ALL PIPES TO BE 100mm ϕ UNLESS NOTED OTHERWISE.
 - ALL PIPES TO BE uPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
 - ALL PIPES TO BE LAYED AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
 - ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS.
(NO COMPACTION REQUIRED BELOW LANDSCAPING)
COVER TO SURFACE FROM TOP OF PIPE TO BE 300mm MINIMUM.
BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH GRANULAR MATERIAL AS SPECIFIED.
 - ALL DOWN PIPES TO BE 100mm ϕ UNLESS NOTED OTHERWISE.
 - DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
 - PROVIDE CLEANING EYES AT ALL DOWNPIPES.
 - ALL PITS TO BE CAST INSITU OR, IF PRECAST, APPROVED BY ENGINEER.
CAST INSITU PITS TO HAVE 150mm THICK CONCRETE WALLS AND BASE.
WALLS TO BE REINFORCED WITH 1 N12 TOP TIE UNLESS NOTED OTHERWISE.
CAST INSITU PITS GREATER THAN 900 DEEP TO BE MINIMUM 900x600 AND TO HAVE 150mm THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH N12 AT 300 EACH WAY UNLESS NOTED OTHERWISE.
 - ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
 - THE BOUNDARY OR SILT ARRESTOR PIT SHOULD ALWAYS INCORPORATE A SUMP AND MAXI-MESH SCREEN AS PER LOCAL COUNCIL REQUIREMENTS. HOWEVER, UNLESS SPECIFICALLY REQUIRED BY COUNCILS POLICY OR IF THE SITE CONSISTS OF A CLAY OR ROCK SUBGRADE, ALL OTHER DRAINAGE PITS WILL NOT REQUIRE A SUMP.
 - ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
 - PRIOR TO COMMENCING ANY SITE WORKS THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL MEASURES TO APPROVED SEDIMENT AND EROSION CONTROL PLAN, EPA GUIDELINES AND COUNCIL SPECIFICATIONS. ALL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION AND STABILIZATION OF THE SITE TO COUNCIL SATISFACTION.
 - ALL LEVELS SHOWN ARE TO AHD
 - ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
 - ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO uPVC.
 - ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2003 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE.
 - UNLESS NOTED OTHERWISE, SUB-SOIL DRAINS ARE TO BE INSTALLED IN ACCORDANCE WITH AS3500.3 ALONGSIDE WALLS THAT IMPEDE THE NATURAL FLOW OF GROUNDWATER. THIS MAY ALSO INVOLVE TRENCHING INTO THE CLAY OR ROCK SUBGRADE TO DIRECT GROUNDWATER AWAY FROM STRUCTURES.
 - IF NOT INDICATED ON PLANS, PROVIDE LEAF CATCHERS TO ALL DOWNPIPES OR GUTTER GUARD TO ALL EAVES GUTTERS.

- NOTES:**
- THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION IF THE ISSUE DATE PRECEDES THE ISSUE DATE ON THE ARCHITECTURAL DRAWINGS.
 - DO NOT SCALE FROM THIS DRAWING.
 - ALL DIMENSIONS ARE TO BE VERIFIED ON SITE BY THE BUILDER BEFORE COMMENCING WITH ASSOCIATED WORK.

NORTHERN BEACHES COUNCIL (PITTWATER AREA) ON SITE DETENTION SYSTEM CALCULATION SHEET	
ADDRESS: 24 TREVOR ROAD, NEWPORT	
SITE DETAILS	
TOTAL SITE AREA	562 m ²
PRE DEVELOPMENT IMPERVIOUS AREA	331 m ² (59% IMPERVIOUS)
POST DEVELOPMENT IMPERVIOUS AREA	371 m ² (66% IMPERVIOUS)
INCREASE	40 m ²
OSD REQUIREMENT	
SINCE THE TOTAL IMPERVIOUS AREA FOR THE SITE IS LESS THAN 50m ² , OSD IS NOT REQUIRED.	
PERMITTED SITE DISCHARGE	
PSD	N/A - DIRECT CONNECTION TO COUNCIL PIPELINE
SITE STORAGE REQUIREMENT	
OSD VOLUME REQUIRED	NIL
RAINWATER 'BASIX' REQUIRED	3.0 m ³ (4.0 m ³ PROVIDED)
OUTLET CONTROL	
METHOD OF DISCHARGE	DIRECT CONNECTION TO COUNCIL PIPELINE

LEGEND

- DPI • 100mm ϕ DOWNPIPE TO DISCHARGE TO RWT
- DP2 • 100mm ϕ DOWNPIPE TO DISCHARGE TO BOUNDARY PIT
- NEW STORMWATER PIPE
- STORMWATER PIPE FLOW DIRECTION
- PIT STORMWATER PIT
- GDI GRATED DRAIN
GDI - 150 MIN DEPTH x 150 WIDE GRATED DRAIN
GD2 - STORMTECH 65AG GRATED DRAIN
- STEP RECOMMENDED STEP
- RWT RAINWATER TANK TO COLLECT ALL DPI DOWNPIPES. TO BE RE-USED AS PER BASIX REQUIREMENTS LOCAL COUNCIL & SYDNEY WATER REQUIREMENTS

NOTE: ALL DRAINAGE LINE LOCATIONS ARE INDICATIVE ONLY. LOCATION MAY VARY DUE TO CONSTRAINTS.

NOTE:
STORMWATER DRAWINGS DO NOT INCLUDE SUBSOIL AGRICULTURAL DRAINAGE DETAILS FOR D.A. SUBMISSION. NORTHERN BEACHES CONSULTING ENGINEERS PTY LTD MUST BE COMMISSIONED TO INCLUDE THESE DETAILS ONLY WHEN CONSTRUCTION CERTIFICATE AND/OR CONSTRUCTION DOCUMENTATION IS COMPLETE AND PROVIDED.

NOTE: EXISTING STORMWATER SYSTEM
EXISTING STORMWATER DRAINAGE SYSTEM TO BE UTILISED WHERE ADEQUATE. BUILDER TO INSPECT PRIOR TO CONSTRUCTION AND UPGRADE IF REQUIRED IN ACCORDANCE WITH AS 3500.3

NOTE: EXCAVATION AROUND TREES
CARE SHOULD BE TAKEN WHEN UNDERTAKING WORKS IN THE VICINITY OF SELECTED TREES NOT TO DISTURB THE TREE ROOT SYSTEM. HAND DIGGING OF TRENCHES ETC MAY BE NECESSARY. REFER ARBORISTS REPORT.



NOTE:
NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN:

- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED

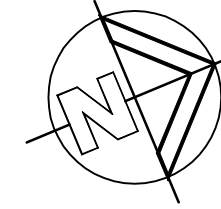
MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG. ~ TEL. 1100

ISSUED FOR D.A. SUBMISSION ONLY NOT FOR CONSTRUCTION

IF IN DOUBT ASK

DOCUMENT CERTIFICATION Date : 14-10-2020 Rick G Wray BE(Civil), CPEng, MIEAust., NER, RPEQ: 08293. (Director NB Consulting Engineers) The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers				NB Consulting Engineers STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616 Sydney: Ph: (02) 9984 7000 Suite 207, 30 Fisher Road Dee Why N.S.W. 2099 Gold Coast: Ph: (07) 5631 4744 Unit 8, 1726 Gold Coast Highway Burleigh Heads QLD 4220 E : nb@nbconsulting.com.au W : www.nbconsulting.com.au		Designer: ACTION PLANS Client: STEPHAN DADOUR & GINE SVENDSEN	Project: PROPOSED RESIDENCE 24 TREVOR ROAD, NEWPORT Drawing Title: STORMWATER MANAGEMENT GROUND LEVEL DRAINAGE PLAN	Date: SEPT. 2020 Job No: 200979	Design: CF Drawing No: D01	Drawn: MC Issue: A
14-10-2020	A	ISSUED FOR DA SUBMISSION ONLY			MC	MJA				
Date:	Issue:	Description:			By:	Review:				

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BUILDER TO PROVIDE A MINIMUM 100mm WIDE x 30mm HIGH OR 50mm DIA OVERFLOW FOR EVERY 6m² OF EXPOSED TERRACE/BALCONY AREA. THE FULL OVERFLOW DEPTH MUST BE LOCATED BELOW THE ADJACENT INTERNAL FLOOR LEVEL TO PROTECT AGAINST INCIDENTAL FLOODING DUE TO A BLOCKED FLOOR OUTLET.

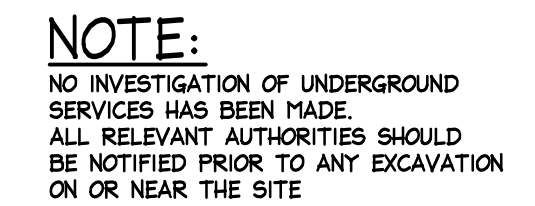
SCALE = 1 : 100



SCALE = 1 : 100

1. CONSIDERING THE ROOF CATCHMENT AREA, LOCATION OF PROPERTY, INTENDED USE OF RAINWATER AND GARDEN SIZE WE RECOMMEND PROVIDING A RAINWATER TANK FOR USE AS PER BASIX REQUIREMENTS, SYDNEY WATER AND NSW HEALTH REQUIREMENTS FOR NON DRINKING USE ONLY.
2. THE TANKS PROVIDED WILL REDUCE PRESSURE ON COUNCIL'S STORMWATER INFRASTRUCTURE.
3. REFERENCES:
COOMBS P.J. & KUCZERA G. (2001), "RAINWATER TANK DESIGN FOR WATER SUPPLY & STORMWATER MANAGEMENT" A STORMWATER INDUSTRY ASSOCIATION REGIONAL CONFERENCE.
PATRICK DUPONT & STEVE SHACKEL, "RAINWATER"
AUSTRALIAN GOVERNMENT (2004), "GUIDANCE ON USE OF RAINWATER TANKS"
4. ALL CONNECTIONS TO PLUMBING AND RAINWATER TANKS TO BE IN ACCORDANCE WITH SYDNEY WATERS' GUIDE "INSTALLING A RAINWATER TANK"
AVAILABLE AT www.sydneywater.com.au
5. PROVIDE A DUAL SUPPLY BACKFLOW PREVENTION SYSTEM IN ACCORDANCE WITH 'BASIX-DESIGN GUIDE FOR SINGLE DWELLINGS' BY NSW DEPARTMENT OF INFRASTRUCTURE, PLANNING AND NATURAL RESOURCES
6. IF NOT SPECIFIED ON PLANS, THE FIRST FLUSH SYSTEM IS TO HAVE A MINIMUM SIZE OF 20L PER 100m2 OF ROOF CATCHMENT AREA PRIOR TO ENTERING THE RAINWATER TANK. INDIVIDUAL SITE ANALYSIS IS REQUIRED IN HEAVILY POLLUTED AREAS TO DETERMINE IF LARGER VOLUMES OF FIRST FLUSH RAINWATER ARE TO BE DIVERTED. IF IN DOUBT, CHECK WITH LOCAL HEALTH AUTHORITIES.
7. SCREENED DOWNPIPE RAINWATER HEAD OR OTHER SUITABLE LEAF AND DEBRIS DEVICE TO BE INSTALLED ON EACH DOWNPIPE. SCREEN MESH TO BE 4-6mm AND DESIGNED TO BE SELF-CLEAN
8. FIRST FLUSH DEVICES, OR APPROVED ALTERNATIVE, TO BE INSTALLED WITH AN AUTOMATED DIVERSION AND DRAINAGE SYSTEM, THAT IS, NO MANUAL DIVERSION AND DRAINAGE VALVES. REFER TYPICAL FLUSH OUT PIT FOR DETAILS.
9. BEFORE PURCHASING MATERIALS OR PAINT TO BE USED ON ROOF CATCHMENT AREAS, THE MANUFACTURER'S RECOMMENDATIONS ON LABELS AND BROCHURES FOR RAINWATER TANK SUITABILITY TO BE READ AND ADHERED TO.
10. PRE-STORAGE PITS FOR UNDERGROUND RAINWATER STORAGE TANKS AND FLUSH OUT PITS MAY ASSIST IN LIMITING SILT, AND PREVENT VERMIN, INSECTS (INCLUDING MOSQUITOES) AND DEBRIS FROM ENTERING THE RAINWATER STORAGE AREA.
11. BUILDER/PLUMBER TO ENSURE THE INSTALLATION OF THE RAINWATER TANK SYSTEM IS IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND THE RAINWATER TANK DESIGN AND INSTALLATION HANDBOOK - HB 230-2006. IF IN DOUBT CONTACT ENGINEER.
12. RAINWATER TANK TO BE WATER PROOFED IN ACCORDANCE WITH HB 230-2006.

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- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
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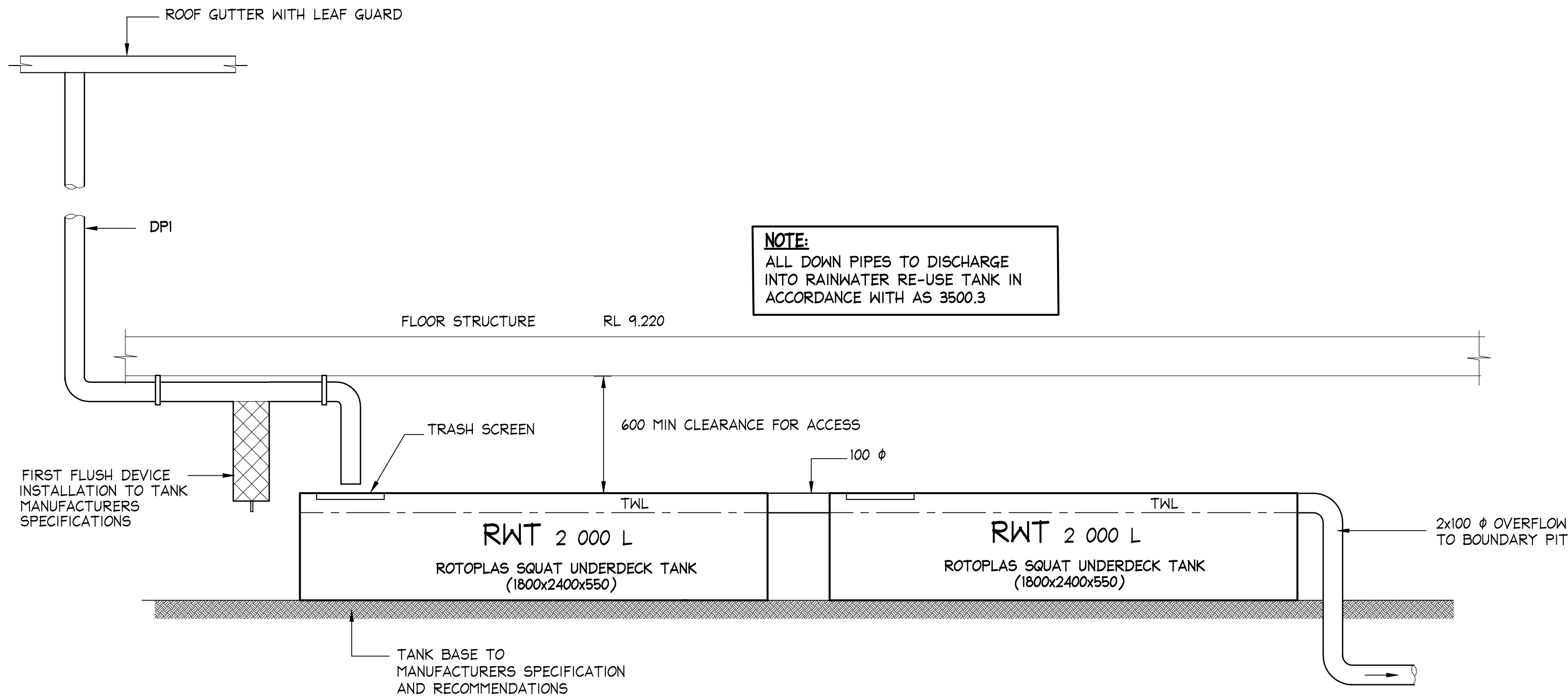
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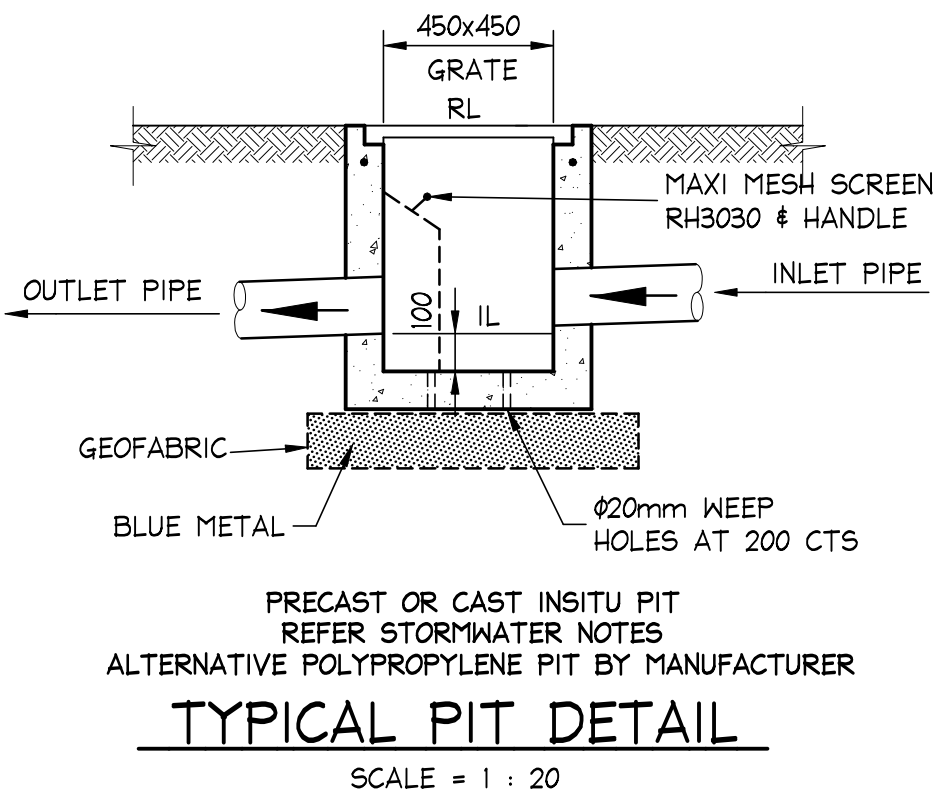
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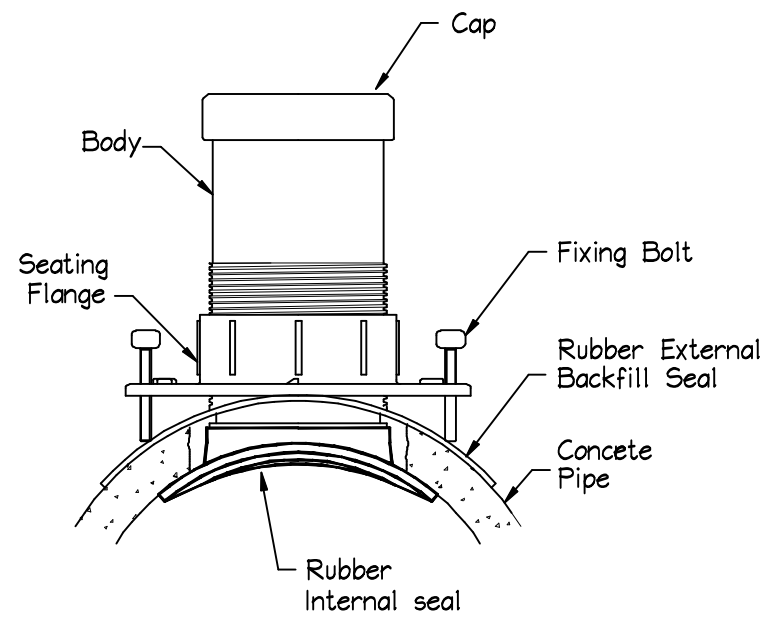
TYPICAL RAINWATER RE-USE TANK DETAIL
NOT TO SCALE



TYPICAL PIT DETAIL
SCALE = 1 : 20

OR PRECAST GRATED DRAIN
ALTERNATIVE POLYPROPYLENE DRAIN BY MANUFACTURER

TYPICAL GRATED DRAIN GDI
SCALE = 1 : 20



Code	Item	Size
1026635	Flowcon PVC Conconnect	100mm
1026636	Flowcon PVC Conconnect	150mm

TO BE INSTALLED AS PER MANUFACTURERS DETIALS
FLOWCON CONCONNECT TYPICAL DETAIL
SCALE = N.T.S.

CONNECTION TO R.C. PIPE

THE R.C. STORMWATER PIPE SHALL BE PERFORATED BY A NEAT OPENING AS SHOWN TO ALLOW THE CONNECTION OF A SQUARE SLOPED JUNCTION OR BEND WHICH SHALL NOT PROTRUDE BEYOND THE INNER SURFACE OF THE R.C. STORMWATER PIPE.

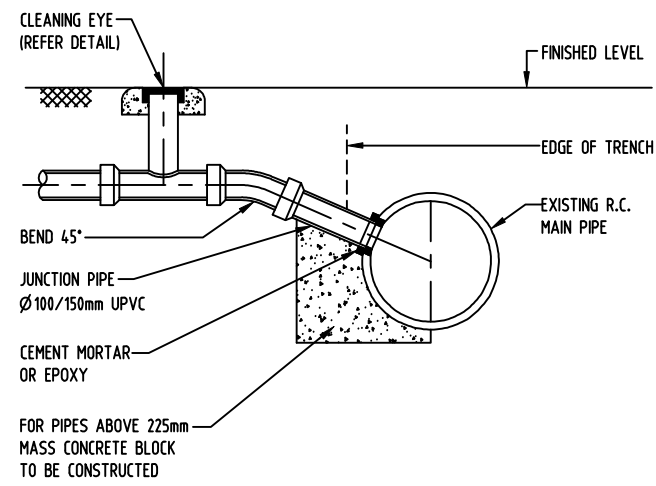
THE INTERNAL JUNCTION SHALL BE SMOOTHLY FINISHED WITH 2:1 CEMENT MORTAR OR EPOXY CEMENT SO AS TO PRESENT NO OBSTRUCTION WITHIN THE INTERNAL SURFACE OF THE R.C. STORMWATER PIPE. THE LINE IS NOT TO EXTEND BEYOND POINT 1 UNTIL APPROVED BY COUNCIL.

THE HOLE IN COUNCIL'S PIPE IS TO BE FORMED BY CAREFUL DRILLING TO NEATLY ACCEPT THE OUTSIDE DIAMETER OF THE PIPE.

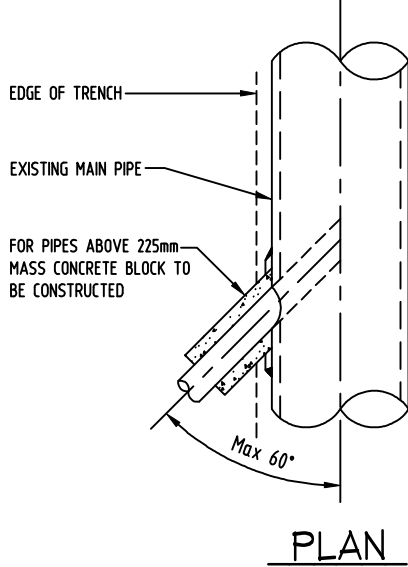
ANY DAMAGE TO THE STRUCTURE OF COUNCIL'S PIPE IS TO BE MADE GOOD TO THE SATISFACTION OF COUNCIL'S ENGINEER, IF NECESSARY BY THE REPLACEMENT OF THE PIPE.

PIPE FITTINGS ARE TO BE VETTERED CLAY OR SEWER QUALITY UPVC.

COUNCIL PIPELINE IS TO BE LEFT FREE OF DROPPED CLAY, CONCRETE, MORTAR, ETC...



TYPICAL CONNECTION TO EXISTING R.C. PIPE DETAILS
SCALE = N.T.S.



PLAN

ISSUED FOR D.A. SUBMISSION ONLY
NOT FOR CONSTRUCTION

IF IN DOUBT ASK

Scale check - 100mm when printed to scale

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