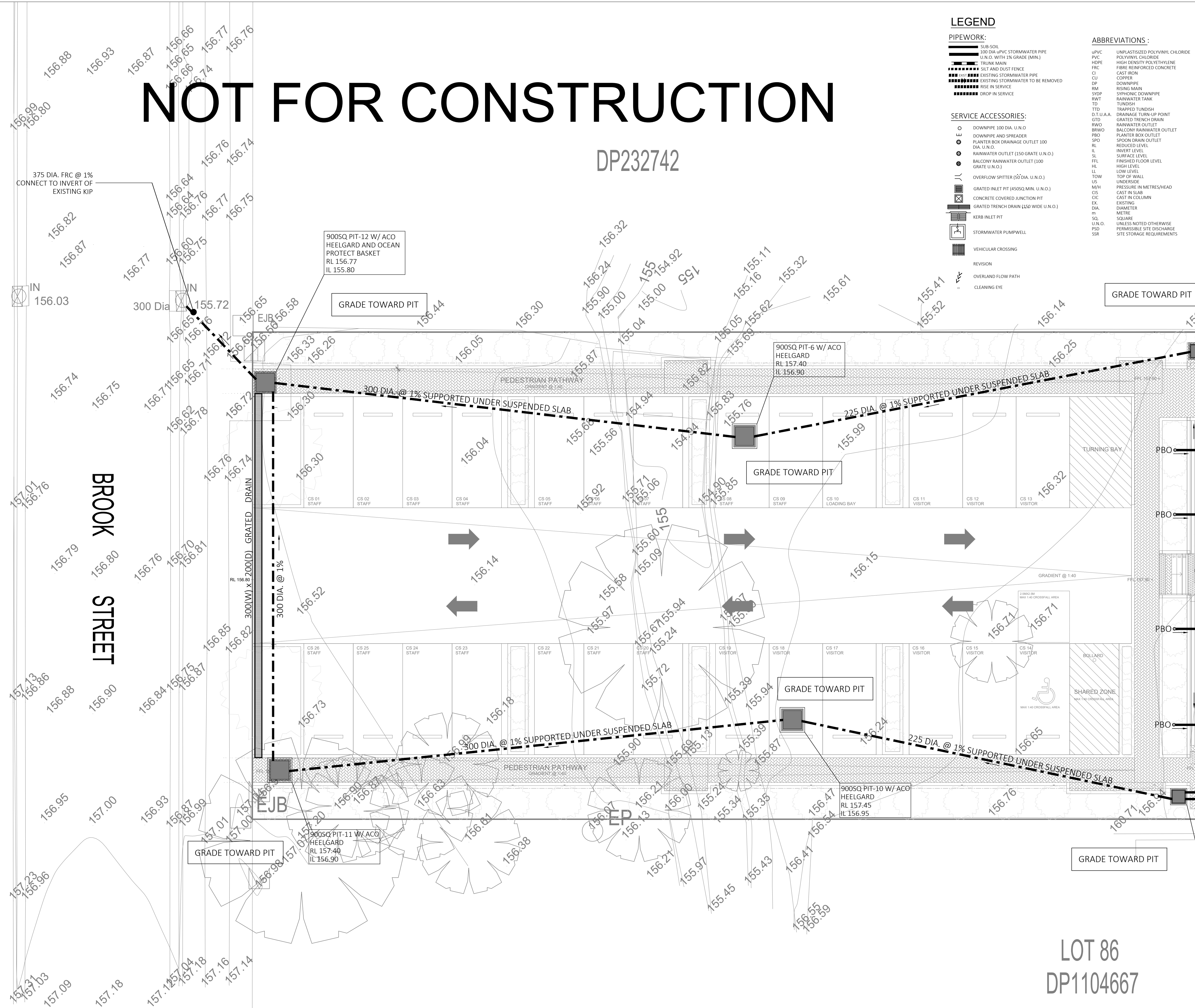


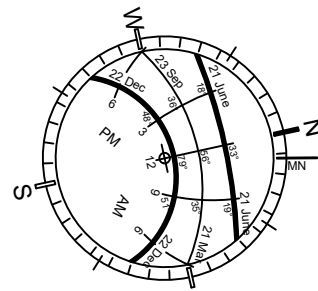
PMF FLOOD EXTENT (TAKEN OFF CAPITAL ENGINEERING CONSULTANTS FLOOD EPORT OF 17 May 2023)
NOT TO SCALE

- FLOOD ASSESSMENT NOTES (CAPITAL ENGINEERING CONSULTANTS' REPORT DATED 17 MAY 2023):
- ONLY POOL TYPE FENCE TO BE USED.
 - ALL POWER POINTS TO BE ABOVE THE 1% AEP LEVEL OF RL156.61m AHD.



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			Drawn & Designed by: K. Koh		ING CONSULTING ENGINEERS PTY LTD P. O BOX 1543 BAULKHAM HILLS NSW 1755 F: (02) 8807 5656 M: 0433 778 109 E: ken@ingengineers.com.au	Project Proposed Childcare Centre At 84 Brook Street Muswellbrook NSW 2333 Client	Drawing Title Ground Floor / Site Plan	
			Checked by: N. Evans				Date May 2023	Scale As Shown @ A1
			Approved by: Kenneth T. NG MIEAust CPEng NER APEC Engineer inPE(Aust) (Reg. No. 2206352) WPEC Registered Certifier (Hydraulic (stormwater), Road & Drainage and Stormwater) (Reg. No. BDC0827) Registered Design Practitioner (Drainage & Civil Engineering) (Reg. No. DEP0000692) & Professional Engineer (Civil) (Reg. No. DEP0000630) NSW Fair Trading				Project No. 391112022DA	Drawing & Sheet No. / Issue 39111-02/6 / A
A	Development Application	23 May 2023						
Issue	Description	Date						

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LEGEND

PIPEWORK:

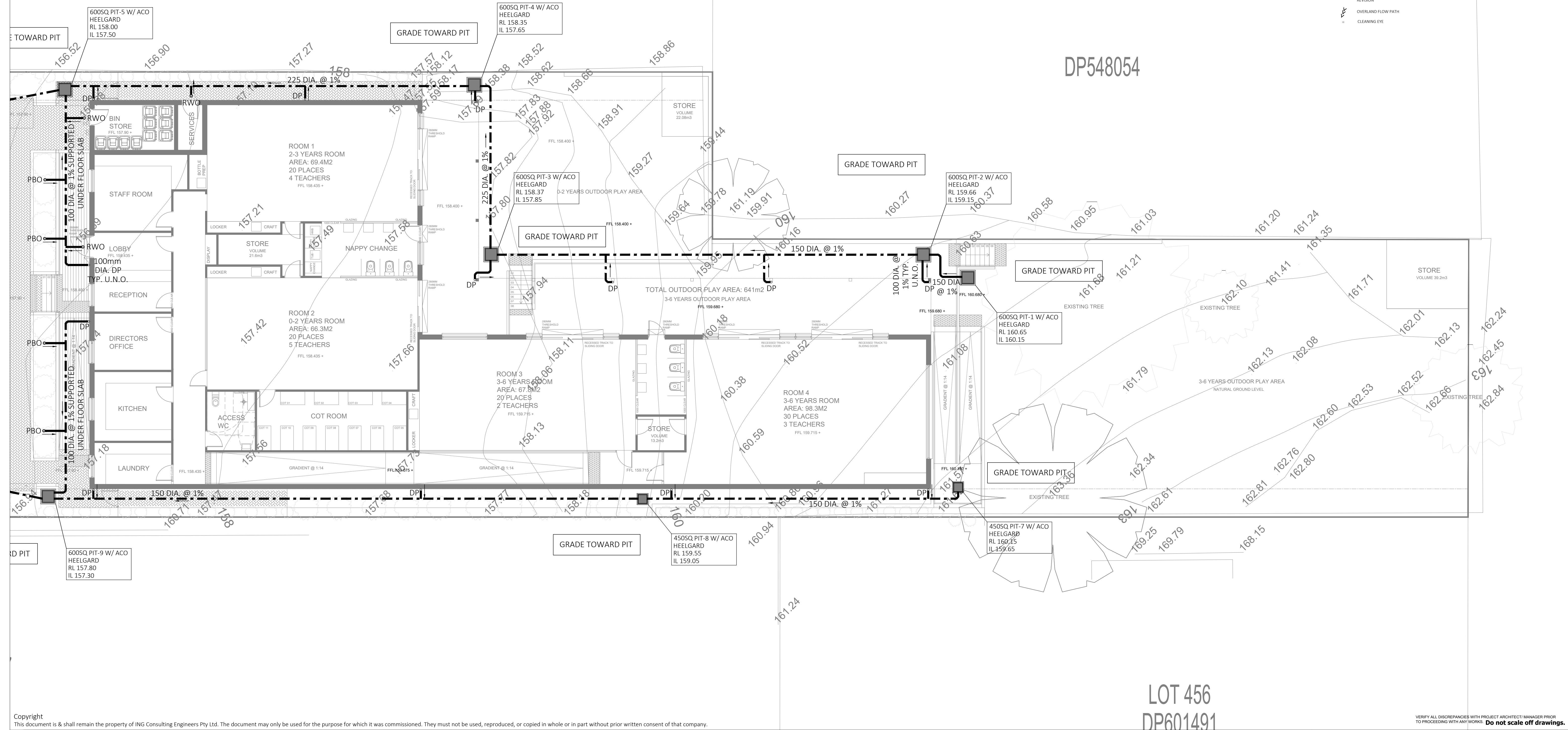
- SUB-SOIL
100 DIA UPVC STORMWATER PIPE
U.N.O. WITH 1% GRADE (MIN.)
TRUNK MAIN
SILT AND DUST FENCE
EXISTING STORMWATER PIPE
EXISTING STORMWATER TO BE REMOVED
RISE IN SERVICE
DROP IN SERVICE

SERVICE ACCESSORIES:

- DOWNPIPE 100 DIA. U.N.O.
DOWNPIPE AND SPREADER
PLANTER BOX DRAINAGE OUTLET 100 DIA. U.N.O.
RAINWATER OUTLET (150 GRATE U.N.O.)
BALCONY RAINWATER OUTLET (100 GRATE U.N.O.)
OVERFLOW SPITTER (50 DIA. U.N.O.)
GRADED INLET PIT (450SQ MIN. U.N.O.)
CONCRETE COVERED JUNCTION PIT
GRADED TRENCH DRAIN (150 WIDE U.N.O.)
KERB INLET PIT
STORMWATER PUMPWELL
VEHICULAR CROSSING
REVISION
OVERLAND FLOW PATH
CLEANING EYE


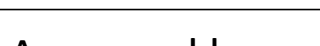
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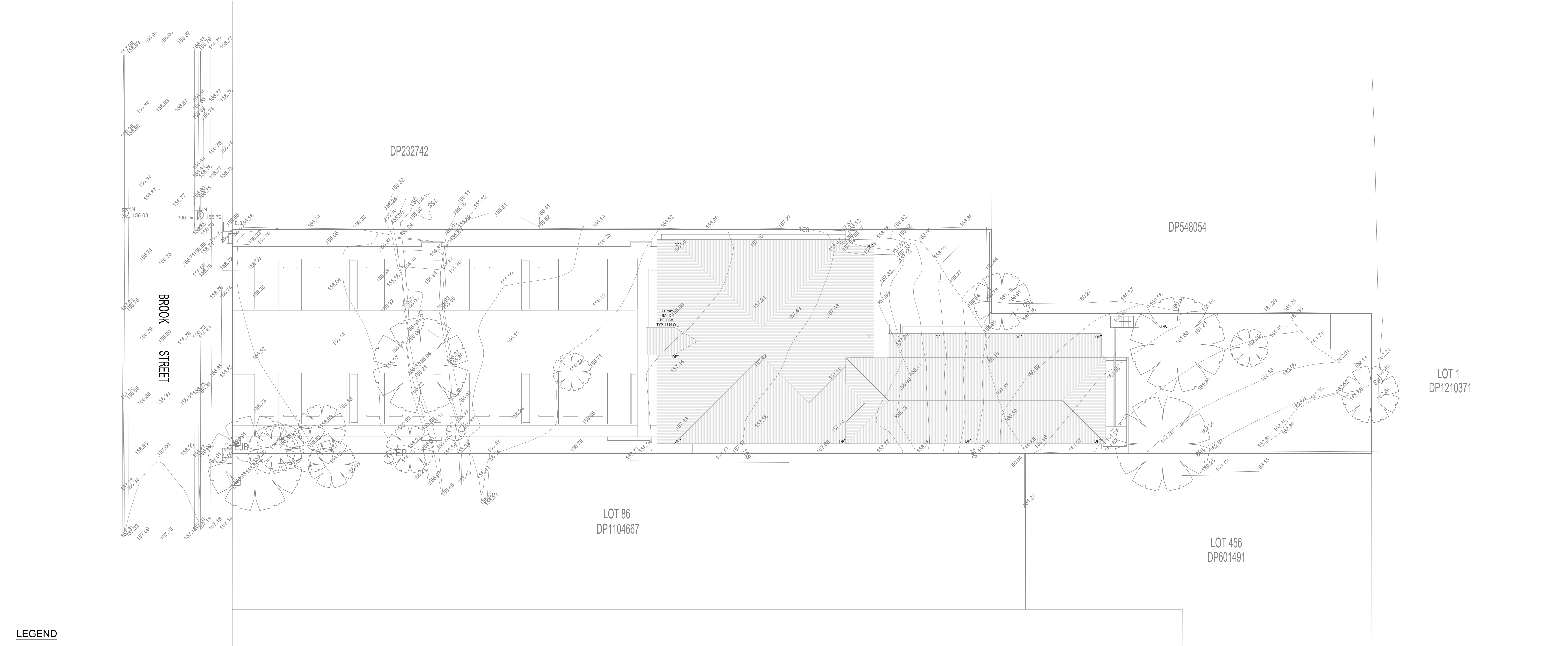
- UPVC UNPLASTICIZED POLYVINYL CHLORIDE
PVC POLYVINYL CHLORIDE
HDPE HIGH DENSITY POLYETHYLENE
FRP FIBRE REINFORCED CONCRETE
CI CAST IRON
CU COPPER
DN DOWNPIPE
RM RISING MAIN
SYDN SYDN DOWNPIPE
RWT RAINWATER TANK
TD TUNDISH
TTD TRAPPED TUNDISH
D.T.S.A.A. DRAINAGE TURN-UP POINT
GTD GRATED TRENCH DRAIN
RWO RAINWATER OUTLET
BRWD BALCONY RAINWATER OUTLET
PBO PLANTER BOX OUTLET
SPO SPOON DRAIN OUTLET
RL REDUCED LEVEL
IL INVERT LEVEL
SL SURFACE LEVEL
FFL FINISHED FLOOR LEVEL
HL HIGH LEVEL
LL LOW LEVEL
TOP OF WALL
US UNDERSIDE
PRESSURE IN METRES/HEAD
M/H METRE
C/C CAST IN COLUMN
EX EXISTING
DIA. DIAMETER
m METRE
SQ. SQUARE
U.N.O. UNLESS NOTED OTHERWISE
PSD PERMISSIBLE SITE DISCHARGE
SSR SITE STORAGE REQUIREMENTS



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			Checked by: N. Evans			At	84 Brook Street Muswellbrook NSW 2333		Date	May 2023	Scale	1 : 100 @ A1			
			Approved by: Kenneth T. NG <div>MIEAust CPeng NER APEC Engineer InPE(Aus) (Reg. No. 2206352) RPEQ Registered Certifier (Hydraulic (stormwater), Road & Drainage and Stormwater) (Reg. No. BDC0827) Registered Design Practitioner (Drainage & Civil Engineering) (Reg. No. DEP0000692) & Professional Engineer (Civil) (Reg. No. DEP0000630) NSW Fair Trading</div> 			Client			Project No.	391112022DA		Drawing & Sheet No. / Issue		39111-03/6 / A	
A	Development Application	23 May 2023													
Issue	Description	Date													



LEGEND

PIPEWORK:

- SUB-SOIL
- 100 DIA UPVC STORMWATER PIPE U.N.O. WITH 1% GRADE (MIN.)
- TRUNK MAIN
- SILT AND DUST FENCE
- EXISTING STORMWATER PIPE
- EXISTING STORMWATER TO BE REMOVED
- RISE IN SERVICE
- DROP IN SERVICE

SERVICE ACCESSORIES:

- DOWNPIPE 100 DIA. U.N.O.
- DOWNPIPE AND SPREADER
- PLANTER BOX DRAINAGE OUTLET 100 DIA. U.N.O.
- RAINWATER OUTLET (150 GRATE U.N.O.)
- BALCONY RAINWATER OUTLET (100 GRATE U.N.O.)
- OVERFLOW SPITTER (50 DIA. U.N.O.)
- GRATED INLET PIT (450SQ. MIN. U.N.O.)
- CONCRETE COVERED JUNCTION PIT
- GRATED TRENCH DRAIN (150 WIDE U.N.O.)
- KERB INLET PIT
- STORMWATER PUMPWELL
- VEHICULAR CROSSING
- REVISION
- OVERLAND FLOW PATH
- CLEANING EYE

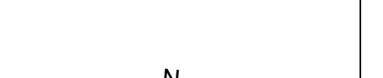
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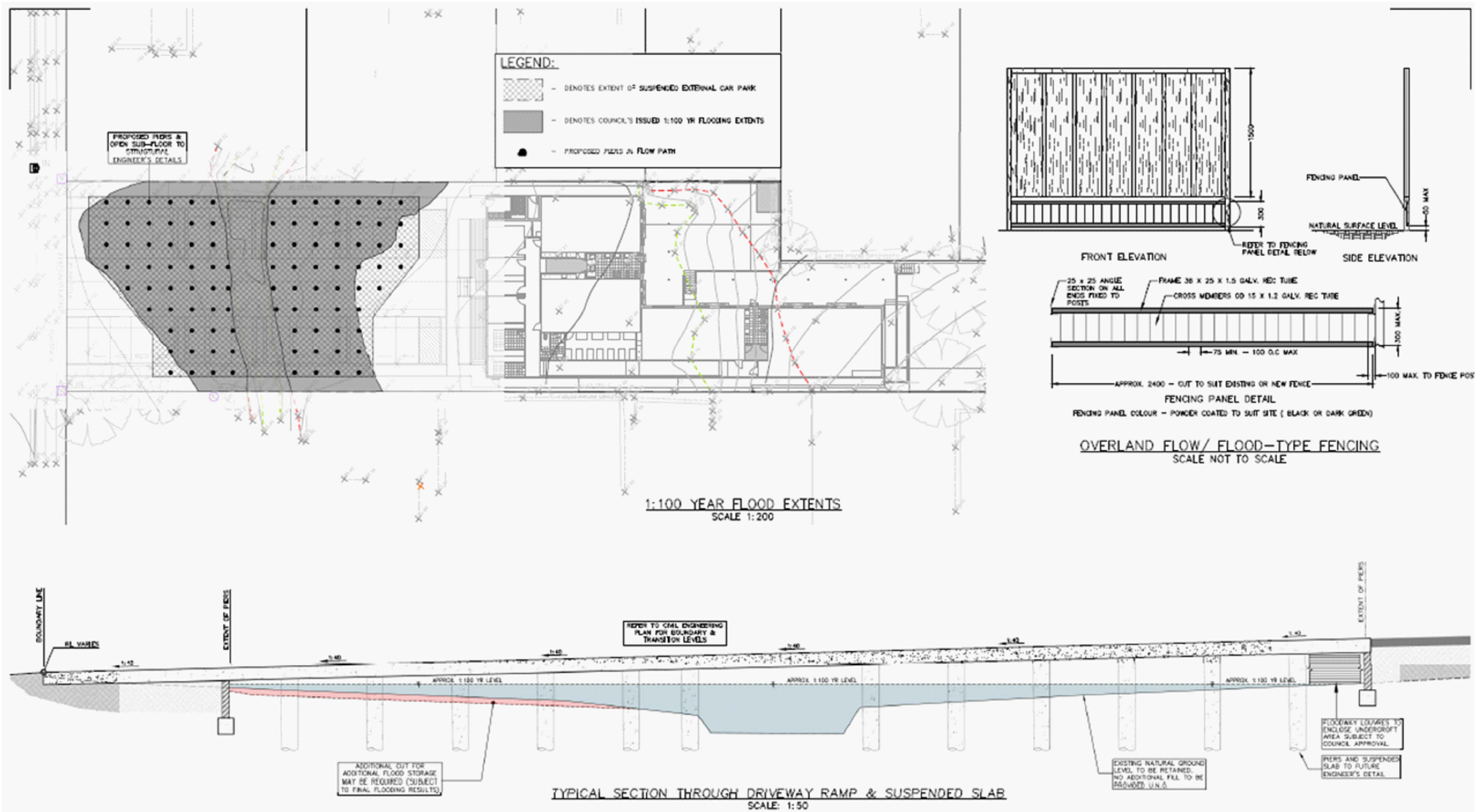
- UPVC UNPLASTICIZED POLYVINYL CHLORIDE
- PVC POLYVINYL CHLORIDE
- HDPE HIGH DENSITY POLYETHYLENE
- FRC FIBRE REINFORCED CONCRETE
- CI CAST IRON
- CU COPPER
- DP DOWNPIPE
- RM RISING MAIN
- SYDP SYPHONIC DOWNPIPE
- RWT RAINWATER TANK
- TD TUNDISH
- TTD TRAPPED TUNDISH
- DTJ.A.A. DRAINAGE TURN-UP POINT
- GTD GRATED TRENCH DRAIN
- RWO RAINWATER OUTLET
- BRWO BALCONY RAINWATER OUTLET
- PBO PLANTER BOX OUTLET
- SPO SPOON DRAIN OUTLET
- RL REDUCED LEVEL
- IL INVERT LEVEL
- SL SURFACE LEVEL
- FFL FINISHED FLOOR LEVEL
- HL HIGH LEVEL
- LL LOW LEVEL
- TOW TOP OF WALL
- US UNDERSIDE
- M/H PRESSURE IN METRES/HEAD
- C/S CAST IN SLAB
- C/C CAST IN COLUMN
- EX. EXISTING
- DIA. DIAMETER
- m METRE
- SQ. SQUARE
- U.N.O. UNLESS NOTED OTHERWISE
- PSD PERMISSIBLE SITE DISCHARGE
- SSR SITE STORAGE REQUIREMENTS

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			Checked by: N. Evans			At	84 Brook Street Muswellbrook NSW 2333		Date	May 2023	Scale	1 : 100 @ A1	
			Approved by: Kenneth T. NG <small>MIEAust CPEng NER APEC Engineer mPE(Aust) (Reg. No. 2206352) WPEC Registered Certifier (Hydraulic (stormwater), Road & Drainage and Stormwater) (Reg. No. BDC0827) Registered Design Practitioner (Drainage & Civil Engineering) (Reg. No. DEP0000692) & Professional Engineer (Civil) (Reg. No. DEP0000630) NSW Fair Trading</small>			Client			Project No.	391112022DA	Drawing & Sheet No. / Issue		
A	Development Application	23 May 2023											
Issue	Description	Date											



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PROPOSED CHILDCARE CENTER
85 BROOK STREET, MUSWELLBROOK

Scale: 1:100 @ A1 Date: 04/05/2023 Status: M.W. Design: M.W. Approval: P.E.

Capital Engineering Consultants
9630 0121
8 Buller Street, North Paramatta, NSW 2151
www.ccc-a1.com

Architect: JANSSEN DESIGN
FOR COUNCIL / CONSTRUCTION CERTIFICATE ISSUE
APPROVED BY: PAUL EL-BAYEH
DATE: 04/05/2023

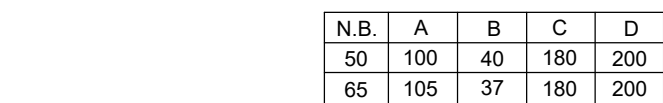
FLOOD MAP (1:100 YR) & PROPOSED MITIGATION MEASURES

Project Number: SW23077
Drawing Number: FL010
Revision: A

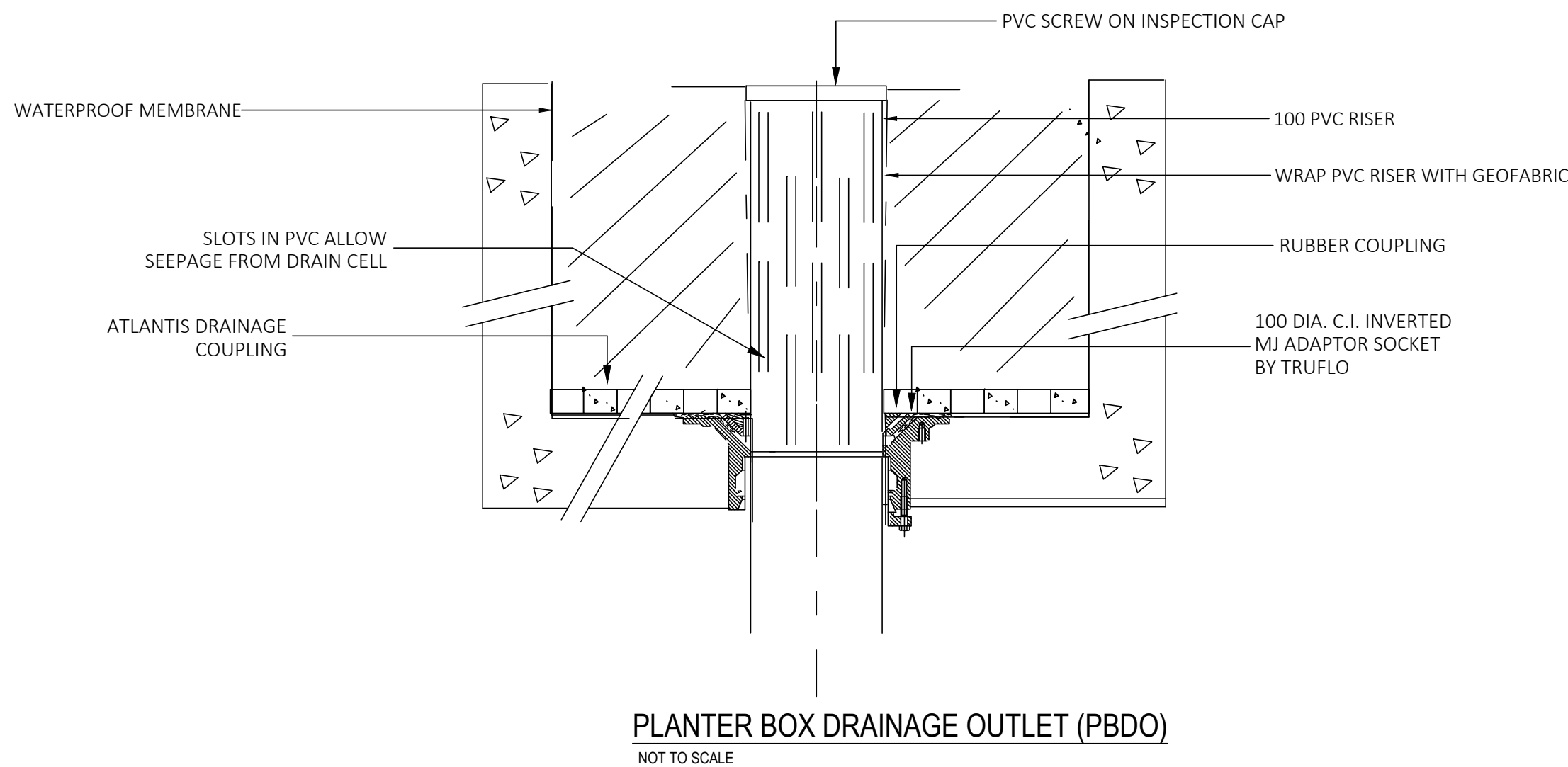
Copyright This document is & shall remain the property of ING Consulting Engineers Pty Ltd. The document may only be used for the purpose for which it was commissioned. They must not be used, reproduced, or copied in whole or in part without prior written consent of that company.		VERIFIED ALL DISCREPANCIES WITH PROJECT ARCHITECT/MANAGER PRIOR TO PROCEEDING WITH ANY WORKS. Do not scale off drawings.								
		Drawn & Designed by: K. Koh		Project	Proposed Childcare Centre		Drawing Title		Flood Mitigation as Per Capital Engineering Consultants' Flood Report of 17 May 2023	
		Checked by: N. Evans		At	84 Brook Street Muswellbrook NSW 2333		Date	May 2023	Scale	Not to Scale
		Approved by: Kenneth T. NG MIEAust CPEng NER APEC Engineer NPE(Aust) (Reg. No. 2206352) NPEQ Registered Certifier (Hydraulic (stormwater), Road & Drainage and Stormwater) (Reg. No. BDC0827) Registered Design Practitioner (Drainage & Civil Engineering) (Reg. No. DEPD000602) & Professional Engineer (Civil) (Reg. No. DEPD000630) NSW Fair Trading		Client			Project No.	391112022DA	Drawing & Sheet No. / Issue	39111-05/6 / A
ent Application	23 May 2023				ING CONSULTING ENGINEERS PTY LTD P. O BOX 1543 BAULKHAM HILLS NSW 1755 F: (02) 8807 5656 M: 0433 778 109 E: ken@ingengineers.com.au					
	Date									

1. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORKS.
2. ALL WORKS ARE TO BE CARRIED OUT TO THE DETAILS SHOWN ON THE DRAWINGS.
3. THESE PLANS ARE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS.
4. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR SERVICES. NO MECHANICAL EXCAVATION ARE TO BE UNDERTAKEN OVER TELECOMMUNICATION OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS ONLY.
5. DIAL 1100 BEFORE YOU DIG FOR LOCATION OF UNDERGROUND SERVICES PRIOR TO ANY CONSTRUCTION WORKS.
6. SERVICES HAVE NOT BEEN SHOWN ON THIS PLAN. FIELD INVESTIGATIONS ARE TO BE CARRIED OUT SEPARATELY TO DETERMINE EXACT POSITIONS OF SERVICES OR INFORMATION IS TO BE PROVIDED BY THE PROPERTY PROPRIETOR. NOT WITHSTANDING THIS, ALL INFORMATION PROVIDED SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.
7. THESE DRAWINGS ARE ONLY APPROVED WHEN THEY ARE SIGNED WITH AN ORIGINAL SIGNATURE BY THE ENGINEER.

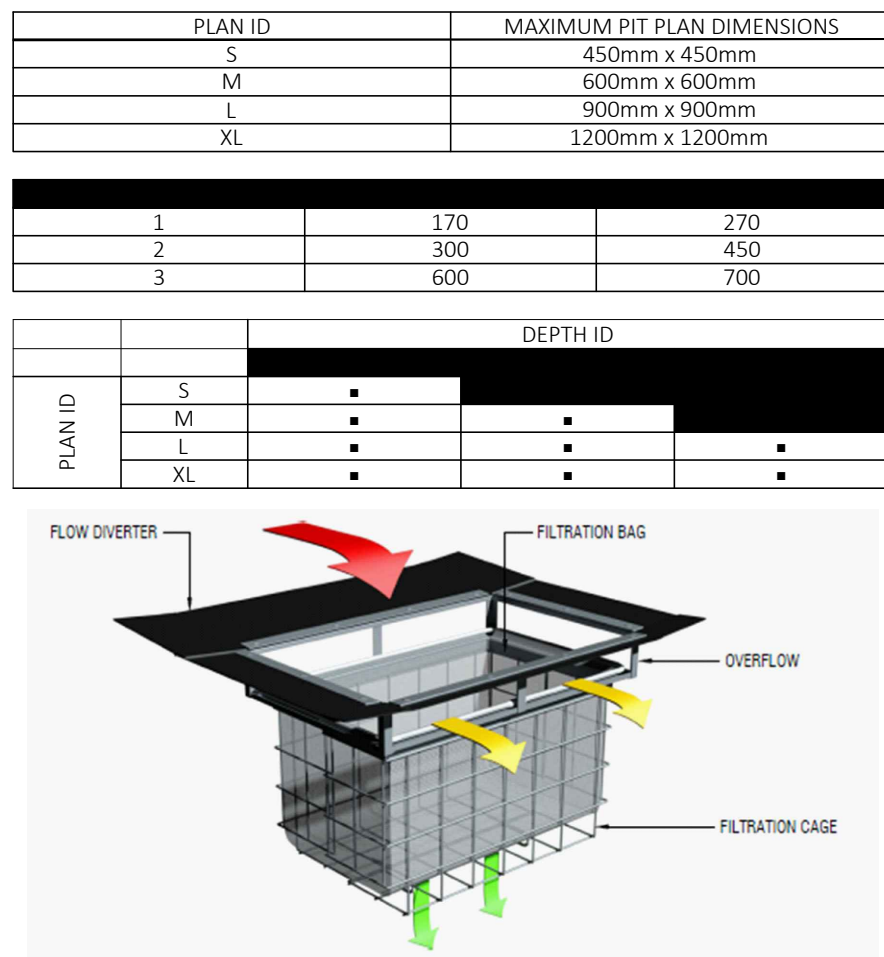
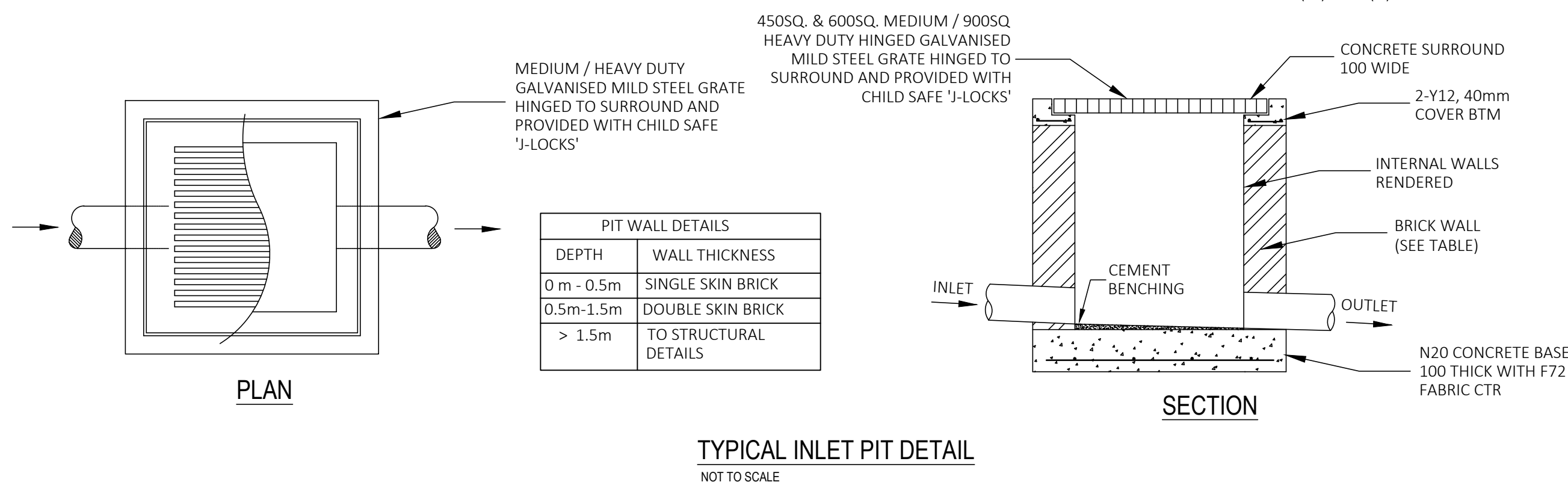
8. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS 3500 AND THE REQUIREMENTS OF THE LOCAL COUNCIL'S POLICIES AND CODES.
9. ALL GUTTERS TO BE 100 x 75 MIN. AND DOWNPIPES TO BE 100 x 75 (76 DIA.) UNLESS OTHERWISE NOTED.
10. ALL PIPES TO BE 100mm uPVC SEWER GRADE UNLESS NOTED OTHERWISE.
11. ALL GRADIENTS FOR STORMWATER PIPES TO BE NOT LESS THAN 1.0% UNLESS NOTED OTHERWISE.
12. THE INVERTS OF ALL OUTLET PIPES ARE TO BE INSTALLED FLUSHED WITH THE BASE OF ALL STORMWATER/RAINWATER PIT.
13. ALL FENCES SHALL BE KEPT AT LEAST 100mm ABOVE THE GROUND LEVEL TO FACILITATE THE FREE PASSAGE FOR STORMWATER OVERLAND FLOW.
14. MANUFACTURER'S CERTIFICATE SHALL BE OBTAINED BY THE BUILDER FOR PIPES, PRE-CAST PITS AND GRATES FOR THE STRUCTURAL ADEQUACY RELATING TO ITS LOCATION.
15. AREAS SPREAD WITH BARK SHALL BE BARRICADED TO PREVENT BARK GETTING INTO THE PITS AND STORMWATER SYSTEMS.
16. MINIMUM SLOPE FOR PAVED AREAS SHALL BE 0.5%, FOR LANDSCAPED AREAS MINIMUM SLOPE SHALL BE 1% AND GRADED TOWARDS THE GRATED PITS.
17. ALL EXCAVATIONS WITHIN THE INFLUENCE OF BUILDINGS AND SERVICES SHALL BE UNDERTAKEN WITH THE KNOWLEDGE OF THE HYDRAULIC AND STRUCTURAL ENGINEER.
18. THE DETENTION AND DRAINAGE SYSTEM SHALL BE MAINTAINED AT REGULAR INTERVALS AND THE CONTRACTOR SHALL MAKE NECESSARY ARRANGEMENTS.
19. CONNECTION OF DISCHARGE PIPE TO EXISTING COUNCIL KERB AND GUTTER, PIPE OR KERB INLET PIT SHALL BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS.
20. PROVIDE STEP-IRONS 'MASCOT S1:104' OR SIMILAR STAGGERED TO GIVE SPACING 300 VERTICAL AND 220 HORIZONTAL TO ALL PIT DEEPER THAN 1m .
21. SUITABLE AG-LINES SHALL BE PROVIDED AND CONNECTED TO STORMWATER SYSTEM OR AS INSTRUCTED BY THE ENGINEER ON SITE PRIOR TO BACKFILLING.



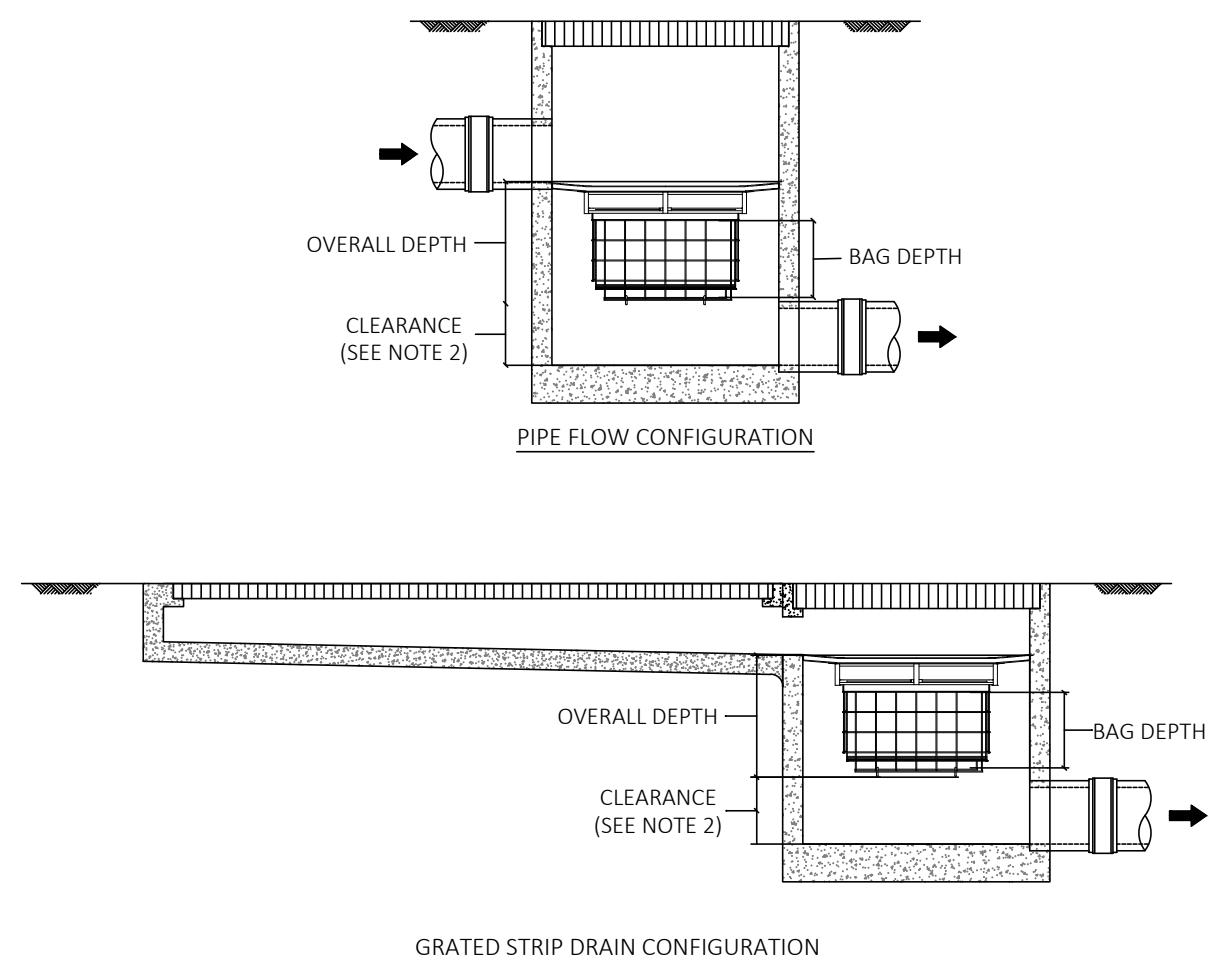
NOT TO SCALE



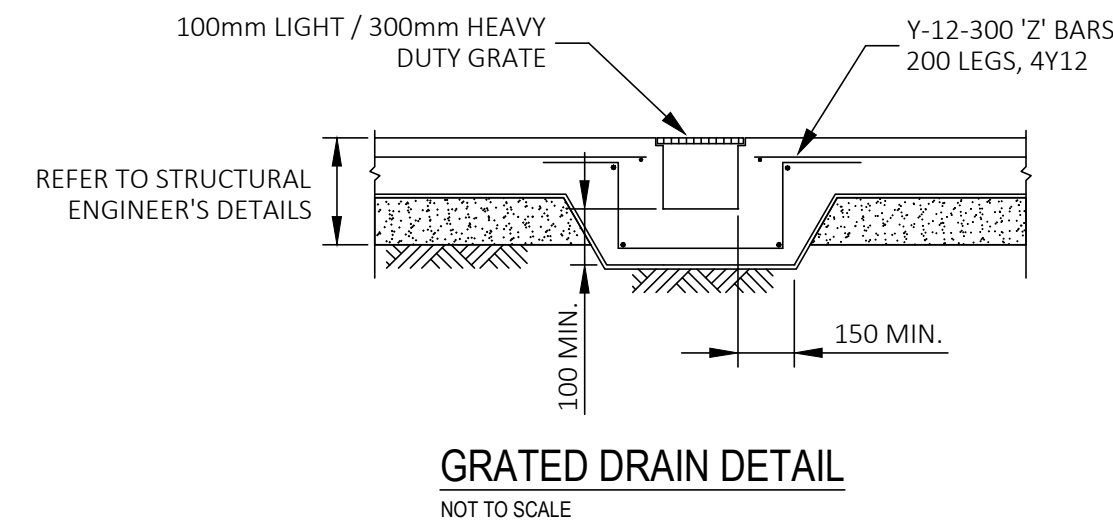
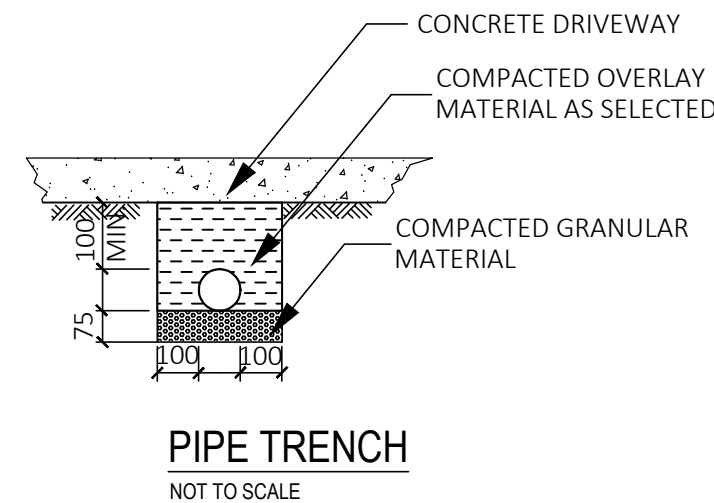
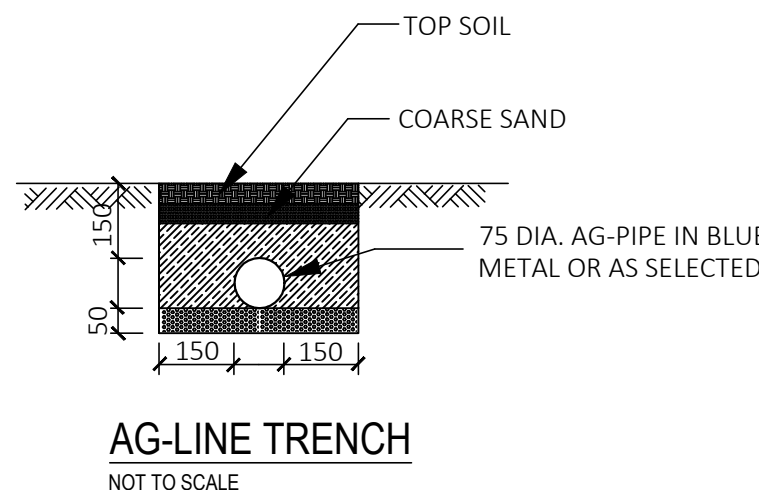
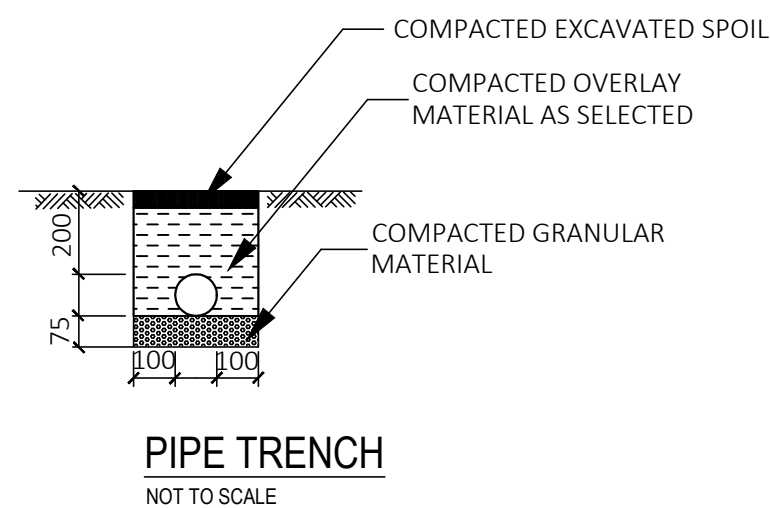
1. PROVIDE LIGHT DUTY GRATES FOR NON VEHICULAR TRAFFICKED AREAS.
2. PROVIDE HEAVY DUTY GRATES FOR VEHICULAR TRAFFICKED AREAS.
3. PROVIDE 450 x 450 CLEAR OPENING FOR PIT DEPTHS UP TO 600mm U.N.O.
4. PROVIDE 600 x 600 CLEAR OPENING FOR PIT DEPTHS UP TO 900mm U.N.O.
5. PROVIDE 900 x 900 CLEAR OPENING FOR PIT DEPTHS GREATER THAN 900mm U.N.O.
6. ALL REINFORCED CONCRETE PIPES SHALL BE OF RUBBER RING JOINTS
7. ALL DISCHARGE CONTROL PITTS SHALL HAVE A MINIMUM OF 900 x 900 CLEAR OPENING U.N.O.
8. ALL GRATED TRENCH SHALL BE A MINIMUM OF 150(W) x 200(H) U.N.O.



1. THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.
2. CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
3. OCEAN PROTECT PROVIDES TWO FLOW FILTRATION BAG TYPES- 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
4. DRAWINGS NOT TO SCALE.



NOT TO SCALE



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			Checked by: N. Evans		At	84 Brook Street Muswellbrook NSW 2333		Date	May 2023	Scale	As Shown @ A1
			Approved by: Kenneth T. NG MIEAust CPEng NER APEC Engineer mPE(Aust) (Reg. No. 2206353) RPEQ Registered Certifier (Hydraulic (stormwater), Road & Drainage and Stormwater) (Reg. No. BDC0827) Registered Design Practitioner (Drainage & Civil Engineering) (Reg. No. DEP0000692) & Professional Engineer (Civil) (Reg. No. DEPO000630) NSW Fair Trading		Client			Project No.	391112022DA	Drawing & Sheet No. / Issue 39111-06/6 / A	
A	Development Application	23 May 2023									
Issue	Description	Date									