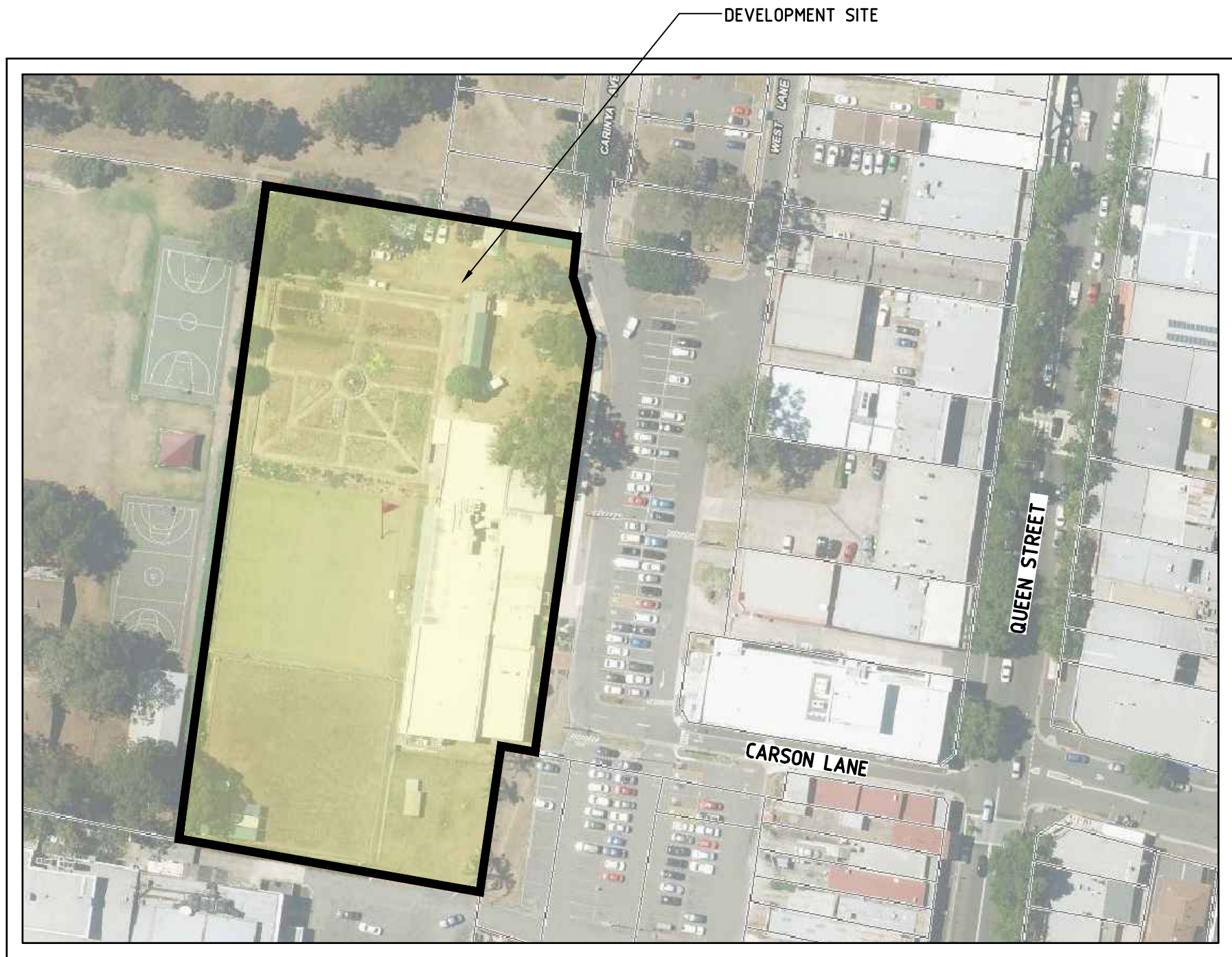


PROPOSED RESIDENTIAL FLAT BUILDING

AT 12 CARSON LANE, ST MARYS

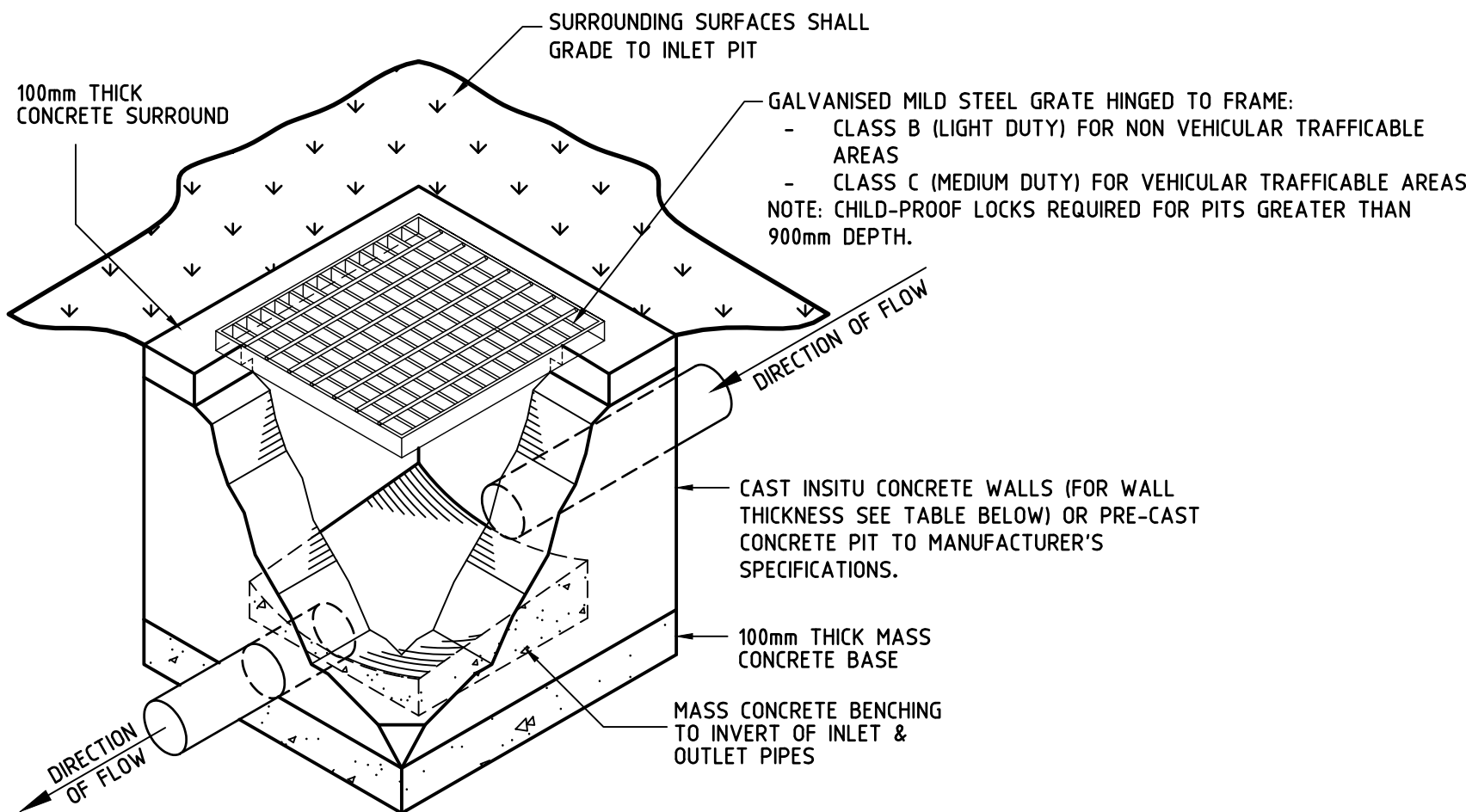
DRAWING INDEX

SW001	TITLE PAGE, NOTES AND DETAILS DRAWING
SW010	STORMWATER LAYOUT DRAWING - BASEMENT LEVEL
SW020	STORMWATER LAYOUT DRAWING - GROUND LEVEL
SW021	PLAN AND SECTION OF STORMFILTER TANK DRAWING AND NOTES



SITE LOCALITY

NOT TO SCALE



NOTE: PLASTIC PITS IN COURTYARDS WILL BE CONSIDERED FOR APPROVAL UPON REQUEST

TYPICAL GRATED INLET PIT DETAIL

NOT TO SCALE

TABLE FOR PIT WALL THICKNESS

PIT DEPTH (mm)	WALL THICKNESS (mm)	REINFORCEMENT
0-1500	150	N12.200 V+H CENTRAL
1501-3000	200	N12.200 V+H CENTRAL

NOTE: PROVIDE ADDITIONAL CORNER BARS N12 @ 200mm CENTERS WHERE WALLS ARE REINFORCED

DANGER

WHEN EXCAVATING WITHIN ANY SITE, FOOTPATH AND ROADWAY, ALL SERVICES SHALL BE LOCATED PRIOR TO COMMENCEMENT OF THE EXCAVATION WORKS. CONTACT "DIAL BEFORE YOU DIG" ON PHONE No. 1100 OR GO TO THE WEB SITE

"www.1100.com.au"

NOTES

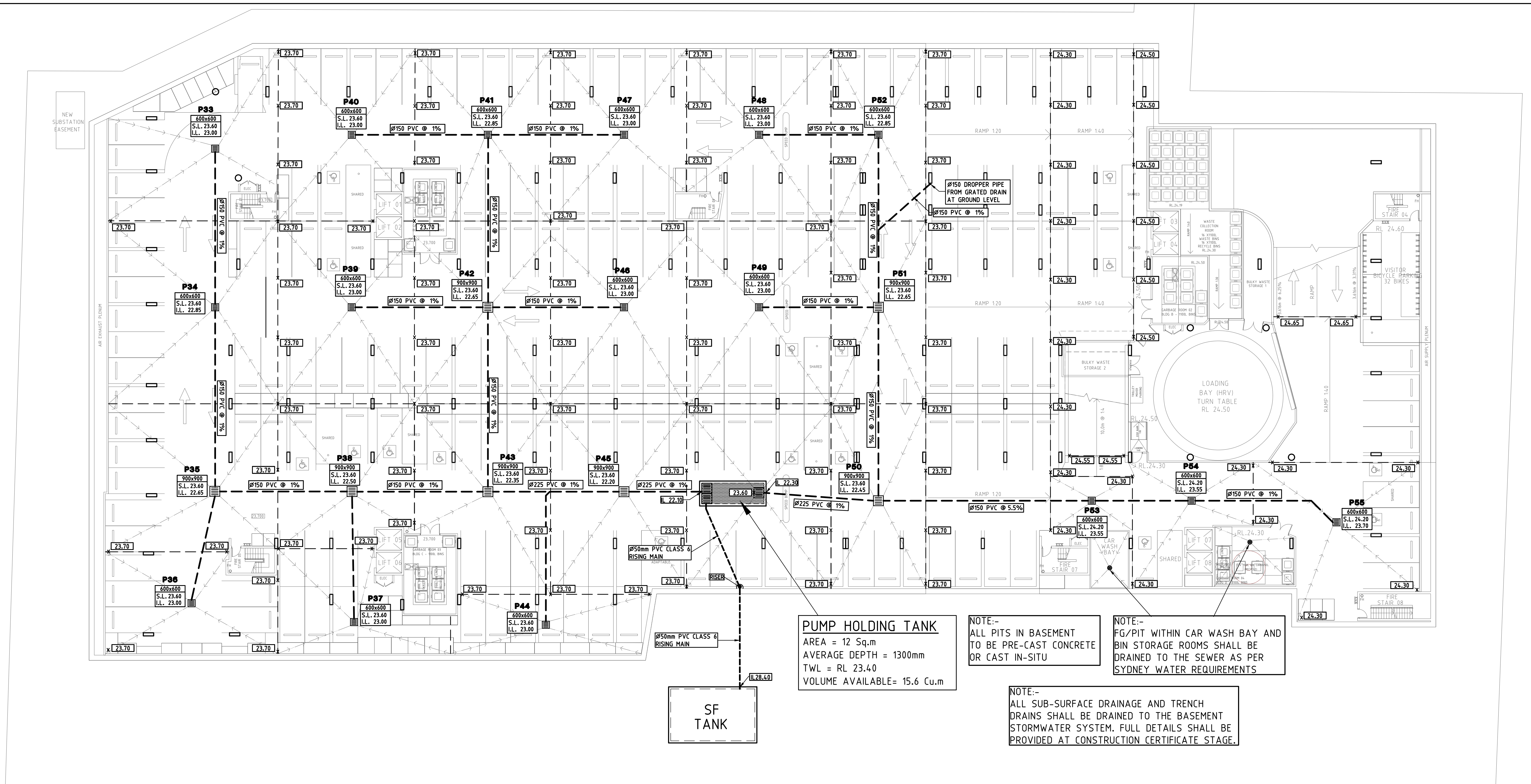
- THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.
- THE BUILDER IS TO VERIFY ALL LEVELS ON SITE PRIOR TO COMMENCING CONSTRUCTION.
- SILT FENCE IS TO BE ERECTED PRIOR TO COMMENCING WORK. FENCE TO BE MAINTAINED IN WORKING ORDER DURING TIME OF CONSTRUCTION.
- W.A.E. DRAWING BY A REGISTERED SURVEYOR IS REQUIRED PRIOR TO CERTIFICATION OF DRAINAGE.
- ALL THE CLEANING EYES (OR INSPECTION EYES) FOR THE UNDER GROUND PIPES HAVE TO BE TAKEN UP TO THE FINISHED GROUND LEVEL FOR EASY IDENTIFICATION AND MAINTENANCE PURPOSES.
- ALL TERRACE FLOOR & PLANTER GRATES TO HAVE FIRE COLLARS FITTED.
- ALL PITS HAVING AN INTERNAL DEPTH THAT EXCEEDS 1.0m SHALL BE PROVIDED WITH GALVANISED STEP IRONS AT 300mm CENTRES PLACED IN A STAGGERED PATTERN AND SHALL BE IN ACCORDANCE WITH THE AUSTRALIAN STANDARDS AS 4198-1994.
- ALL LEVELS SHALL RELATE TO THE ESTABLISHED BENCH MARK.
- THE BASE OF ALL DRAINAGE PITS SHALL BE BENCHED TO THE INVERT OF THE OULET PIPE.
- ALL GUTTERS SHALL BE MINIMUM 100 x 75mm AND DOWNPIPES SHALL BE MINIMUM 100 x 75mm UNLESS NOTED OTHERWISE.
- ALL STORMWATER DRAINAGE PIPES SHALL BE A MINIMUM Ø100mm PVC LAID AT 1% MINIMUM GRADE UNLESS NOTED OTHERWISE ON THE DRAWING. WHERE GROUND COVER OVER THE PIPES IS LESS THAN 300mm THE STORMWATER PIPES SHALL BE SEWER GRADE uPVC.
- THE BUILDER SHALL ENSURE THAT THE STORMWATER ENGINEERING DRAWINGS CORRESPOND TO THE ARCHITECTURAL, STRUCTURAL AND LANDSCAPE DRAWINGS . IF THERE EXISTS ANY DISCREPANCIES BETWEEN THE DRAWINGS THE BUILDER SHALL REPORT THE DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORKS.
- ALL MULCHING TO BE USED WITHIN THE AREA DESIGNATED AS ON SITE DETENTION STORAGE SHALL BE OF A NON-FLOATABLE MATERIAL SUCH AS DECORATIVE RIVER GRAVEL. PINE BARK MULCHING SHALL NOT BE USED WITHIN THE DETENTION STORAGE AREA.
- ALL WORKS WITHIN THE FOOTPATH AREA SHALL BE SUITABLY BARRICADED AND SIGNPOSTED IN ACCORDANCE WITH A TRAFFIC MANAGEMENT PLAN THAT HAS BEEN PREPARED BY A QUALIFIED AND RTA ACCREDITED TRAFFIC ENGINEER AND APPROVED BY COUNCIL. IT IS THE RESPONSIBILITY OF THE BUILDER OR CONTRACTOR CARRYING OUT THE WORKS WITHIN THE FOOTPATH AREA AND ROAD RESERVE TO OBTAIN THE NECESSARY APPROVED DOCUMENTS AS OUTLINED ABOVE.
- ALL RETAINING WALLS SHALL BE CONSTRUCTED COMPLETELY WITHIN THE PROPERTY BOUNDARY LIMITS TO DETAILS PREPARED BY THE STRUCTURAL ENGINEER. WALLS FORMING THE ON SITE DETENTION SYSTEM SHALL BE OF MASONARY/BRICK CONSTRUCTION AND SHALL BE WATER TIGHT.
- ALL SUB-SOIL DRAINAGE SHALL BE A MINIMUM OF Ø100mm AND SHALL BE PROVIDED WITH A FILTER SOCK. THE SUBSOIL DRAINAGE SHALL BE INSTALLED IN ACCORDANCE WITH DETAILS TO BE PROVIDED BY THE LANDSCAPE ARCHITECT.
- PRIOR TO COMMENCING ANY WORKS ON THE SITE, THE BUILDER SHALL ENSURE THAT THE INVERT LEVELS OF WHERE THE SITES STORMWATER SYSTEM CONNECTS INTO THE COUNCIL'S KERB/DRAINAGE SYSTEM MATCHES THE DESIGN LEVELS. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY.

LEGEND

DRAINAGE LINE	---	SURFACE INLET PIT	☐
DRAINAGE LINE TO RAINWATER TANK	---	SEALED JUNCTION PIT	☒
AG. LINE	— a — a	CLEANING EYE (OR INSPECTION EYE)	CE
SILT FENCE	— X —	DOWN PIPE	• DP
EXISTING LEVEL x 165.00	165.00	SPREADER PIPE	• SP
DESIGN LEVEL x 166.00	166.00	PLANTER GRATE	PG
SILT BARRIER AROUND PIT	☐	RIISING MAIN	• RISER

TOP OF WALL R.L. 166.00 - TOW 166.00

				© Copyright Mance Arraj Engineering Pty. Ltd. as at date of issue.		FOR COUNCIL / CONSTRUCTION CERTIFICATE ISSUE				MANCE ARR AJ CIVIL & STRUCTURAL ENGINEERS First Floor, 278-282 Church Street, Parramatta P.O. Box 2555 North Parramatta NSW 1750 Ph. 02 8897 8800 www.maengineers.com.au	PROJECT RESIDENTIAL FLAT DEVELOPMENT 12 CARSON LANE, ST MARYS	DRAWING TITLE TITLE PAGE, NOTES AND DETAILS DRAWING	DESIGNED GE	PROJECT NUMBER	ISSUE	
				Mance Arraj Engineering Pty Ltd is the owner of the copyright subsisting in this drawing and all related designs and specifications. This drawing and any related designs and specifications must not be reproduced or used in whole or in part nor may the ideas concepts or information contained in this drawing and related designs and specifications be used (in any way whatsoever) except in accordance with the agreement between Mance Arraj Engineering Pty Ltd and the client.		CHECKED SA	2936-DA						B			
B	ISSUED FOR COUNCIL APPROVAL	GE	23/03/22	CHECKED BY Signature	Date	DATUM A.H.D.	DRAWING NUMBER									
A	PRELIMINARY ISSUE	GE	25/02/22	 23.03.22		SCALE 1:200	SW001						A1			
ISSUE		DESCRIPTION		BY	DATE											

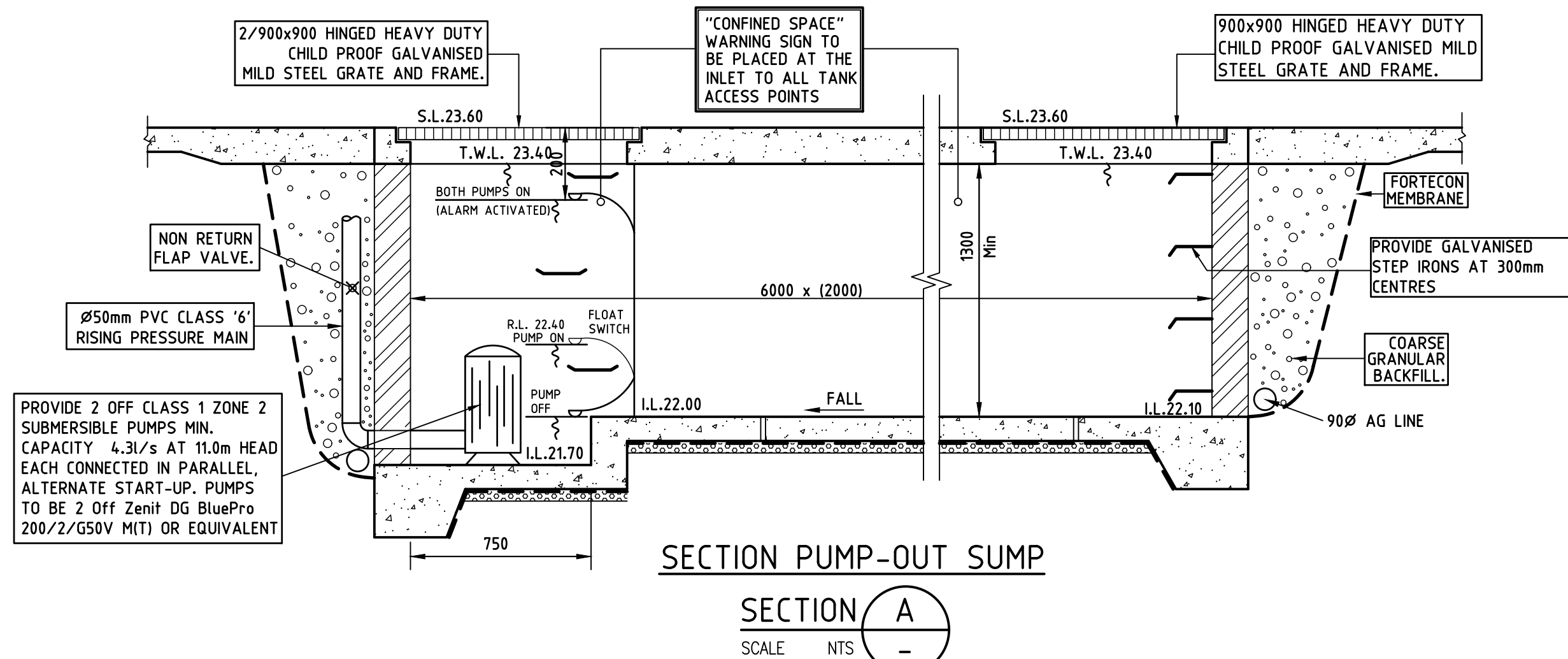
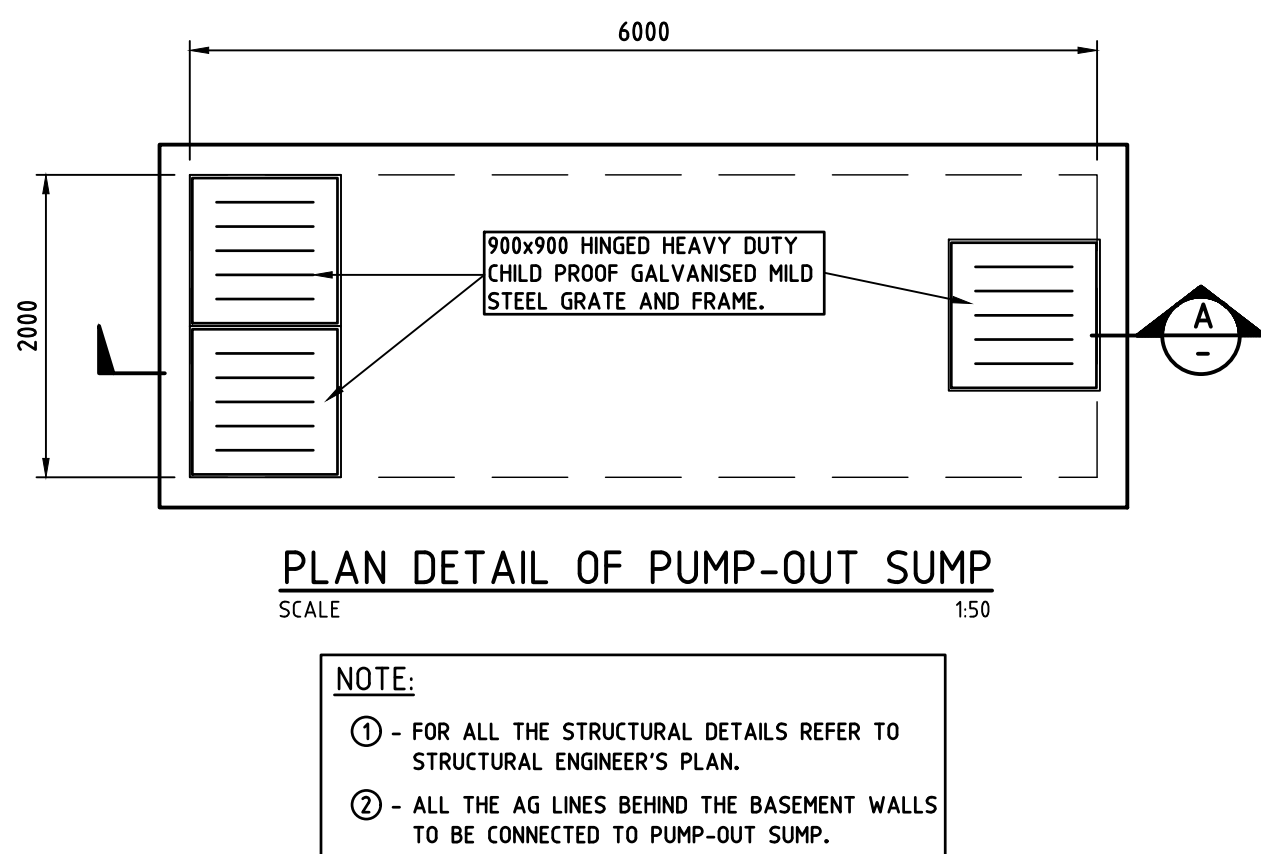


PUMP HOLDING TANK
 AREA = 12 Sq.m
 AVERAGE DEPTH = 1300mm
 TWL = RL 23.40
 VOLUME AVAILABLE= 15.6 Cu.m

NOTE:-
 ALL PITS IN BASEMENT
 TO BE PRE-CAST CONCRETE
 OR CAST IN-SITU

NOTE:-
 FG/PIT WITHIN CAR WASH BAY AND
 BIN STORAGE ROOMS SHALL BE
 DRAINED TO THE SEWER AS PER
 SYDNEY WATER REQUIREMENTS

NOTE:-
 ALL SUB-SURFACE DRAINAGE AND TRENCH
 DRAINS SHALL BE DRAINED TO THE BASEMENT
 STORMWATER SYSTEM. FULL DETAILS SHALL BE
 PROVIDED AT CONSTRUCTION CERTIFICATE STAGE.

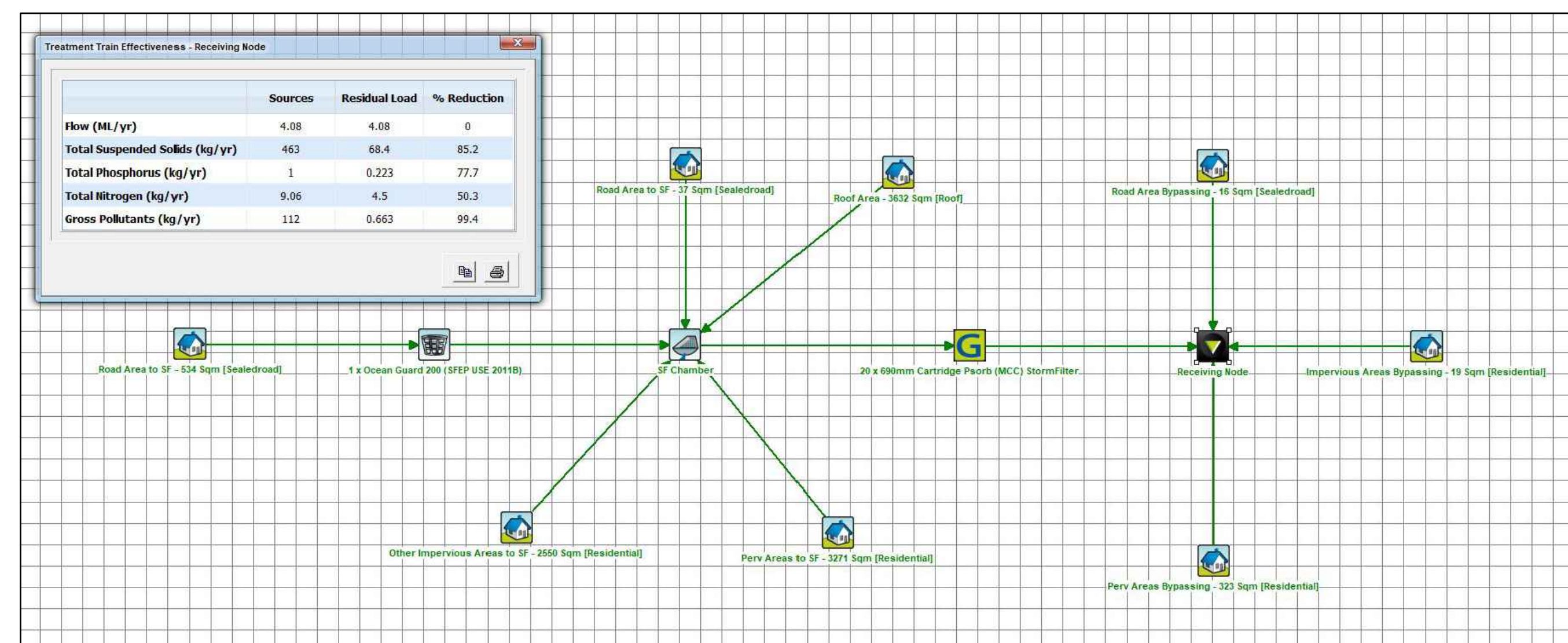


STANDARD PUMP OUT DESIGN NOTES

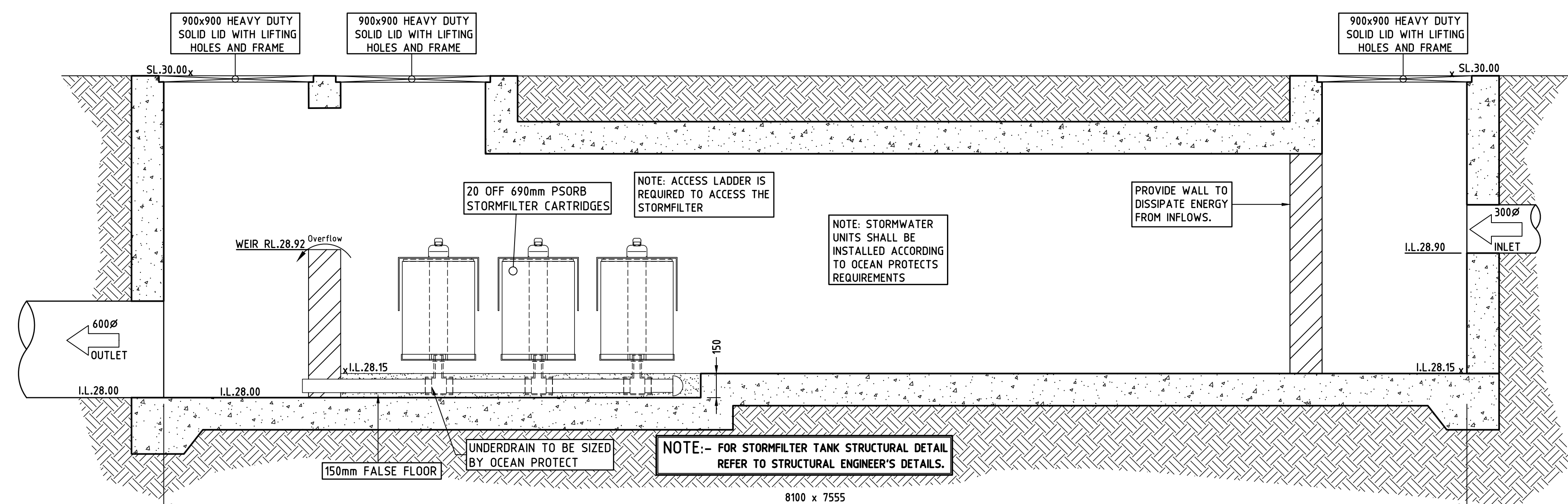
- The pump out system shall be designed to be operated in the following manner:-
- The pumps shall be programmed to work alternately so as to allow both pumps to have an equal operation load and pump life.
 - A low level float shall be provided to ensure that the minimum required water level is maintained within the sump area of the below ground tank. In this regard this float will function as an off switch for the pumps.
 - A second float shall be provided at a higher level, approximately 300mm above the minimum water level, whereby one of the pumps will operate and drain the tank to the level of the low-level float.
 - A third float shall be provided at a high level, which is approximately the roof level of the below ground tank. This float should start the other pump that is not operating and activate the alarm.
 - An alarm system shall be provided with a flashing strobe light and a pump failure warning sign which are to be located at the driveway entrance to the basement level. The alarm system shall be provided with a battery back-up in case of power failure.

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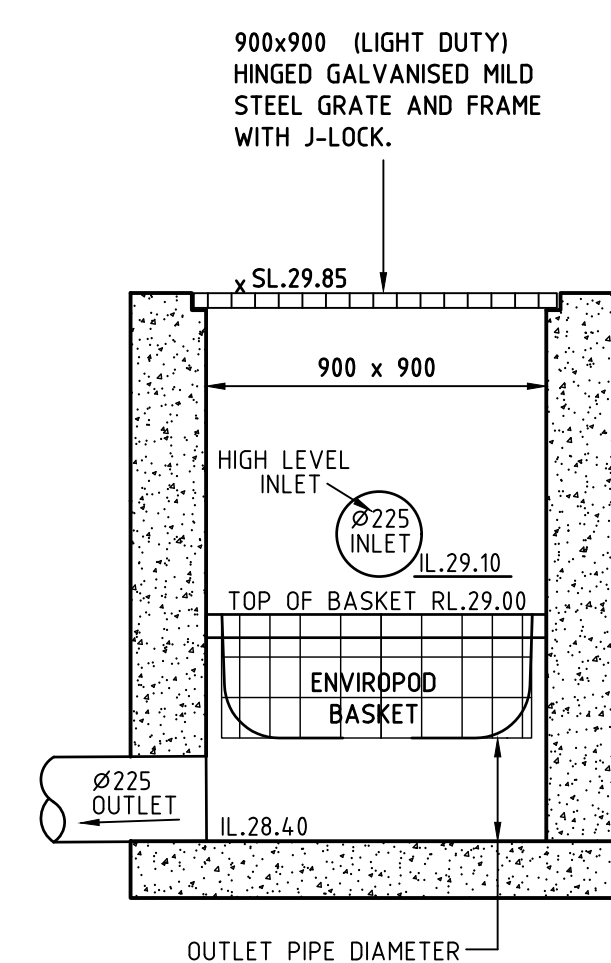




WSUD RESULTS



SECTION B
SCALE 1:20 —



SECTION C
SCALE 1:20

1. INLET AND OUTLET PIPING SHALL BE SPECIFIED BY SITE CIVIL ENGINEER (SEE PLANS) AND PROVIDED BY CONTRACTOR. STORMLISTER IS PROVIDED WITH OPENINGS AT INLET AND OUTLET LOCATIONS.
2. IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CIVIL ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE PRODUCT, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. PLEASE CONTACT OCEAN PROTECT FOR OPTIONS.
3. THE FILTER (CARTRIDGE)S ARE SIPHON-ACTUATED AND SELF-CLEANING. THE STANDARD DETAIL DRAWING SHOWS THE NUMBER, NUMBER OF CARTRIDGES PER UNIT, AND THE NUMBER OF UNITS PER UNIT. NUMBER OF CARTRIDGES PER UNIT OR IN DATA TABLE BELOW. PRECAST STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH AS5360.
4. SEE STORMLISTER DESIGN TABLE FOR REQUIRED HYDRAULIC DROP. FOR SHALLOW, LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT OCEAN PROTECT FOR DESIGN OPTIONS.
5. ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE AS OUTLINED IN THE O&M GUIDELINES. PROVIDE MINOR CLEARANCE FOR MAINTENANCE ACCESS.
6. STRUCTURE AND ACCESS COVERS DESIGNED TO MEET AUSTRADOTS T4.4 LOAD RATING WITH 0.2m FLIP MAXIMUM.
7. THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES AND VARY REGIONALLY.
8. ANY BACKFILL DEPTH, SUB-BASE, AND OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY SITE CIVIL ENGINEER.
9. CARTRIDGE HEIGHT ARE A COMBINATION OF BOTH 490mm (AS 1300S) AND 530mm (AS 1300S) VARIANTS.
10. STORMLISTER BY OCEAN PROTECT, SYDNEY & BRISBANE (AS 1300S)4722.

[illegible]