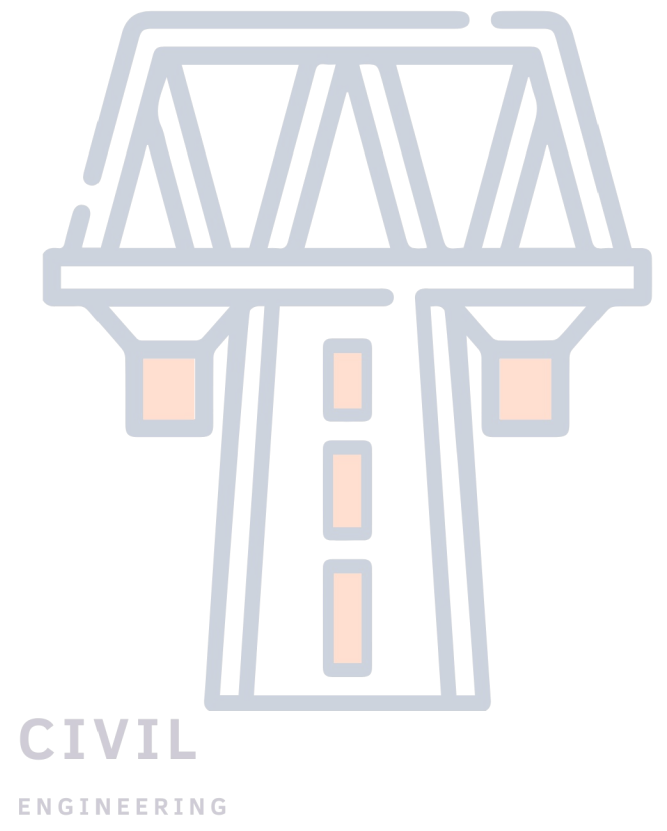
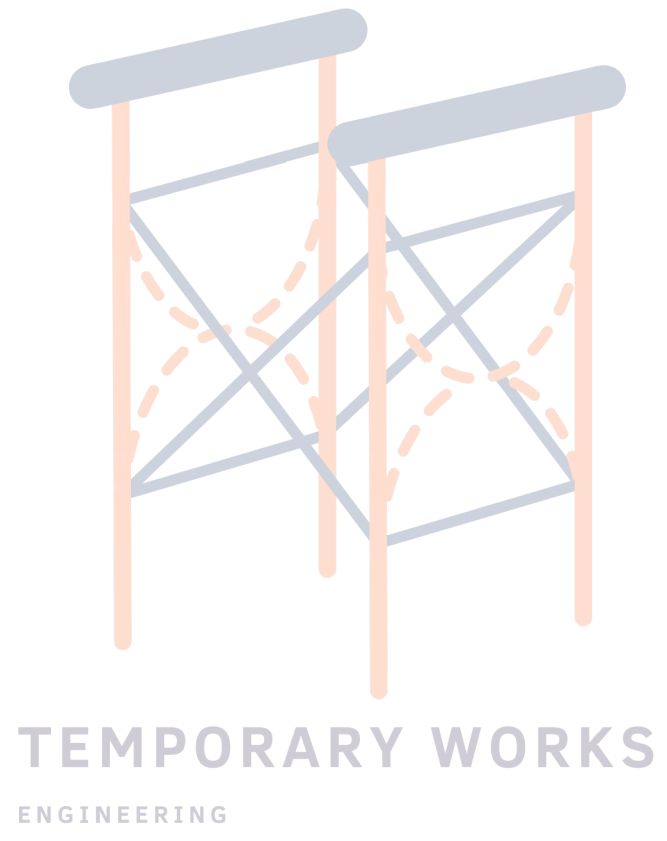
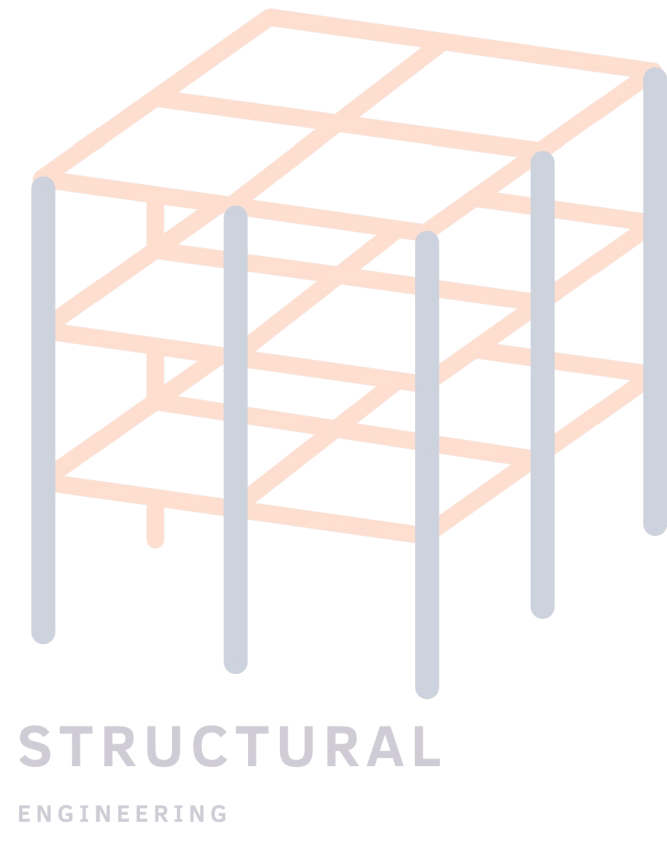




04/09/2023

ISSUED FOR C&C



PROPOSED STORMWATER DESIGN 185 OCEAN STREET, NARRABEEN, NSW 2101

GENERAL

- G1

These drawings shall be read in conjunction with all architectural and other consultants drawings and specifications and with such other written instructions and sketches as may be issued during the course of the Contract. Any discrepancies shall be referred to the Superintendent before proceeding with any related works. Construction from these drawings, and their associated consultant's drawings is not to commence until approved by the Local Authorities.
- G2

All materials and workmanship shall be in accordance with the relevant and current Standards Australia codes and with the By-Laws and Ordinances of the relevant building authorities except where varied by the project specification.
- G3

All set out dimensions shall be obtained from Architect's and Engineer's details. All discrepancies shall be referred to the Architect and Engineer for decision before proceeding with related work.
- G4

During construction the structure shall be maintained in a stable condition and no part shall be overstressed. Temporary bracing shall be provided by the builder/subcontractor to keep the works and excavations stable at all times.
- G5

Unless noted otherwise levels are in metres and dimensions are in millimetres.
- G6

The alignment and level of all services shown are approximate only. The contractor shall confirm the position and level of all services prior to commencement of construction. Any damage to services shall be rectified at the contractors expense.
- G7

Any substitution of materials shall be approved by the Engineer and included in any tender.
- G8

All services, or conduits for servicing shall be installed prior to commencement of pavement construction.
- G9

Subsoil drainage, comprising 100 agriculture pipe in geo-stocking to be placed as shown and as may be directed by the superintendent. Subsoil drainage shall be constructed in accordance with the relevant local authority construction specification.
- G10

The structural components detailed on these drawings have been designed in accordance with the relevant Standards Australia codes and Local Government Ordinances for the following loadings. Refer to the Architectural drawings for proposed floor usage. Refer to drawings for live loads and superimposed dead loads.

DRAINAGE NOTES

- D1

All drainage levels to be confirmed on site, prior to any construction commencing.
- D2

All pipes within the property to be a minimum of 100 dia upvc @ 1% minimum grade, uno.
- D3

All pits within the property are to be fitted with "weldlok" or approved equivalent grates:
- Light duty for landscaped areas
- Heavy duty where subjected to vehicular traffic
- D4

All pits within the property to be constructed as one of the following:
1) Precast stormwater pits
2) Cast in situ mass concrete
3) Cement rendered 230mm brickwork subject to the relevant local authority construction specification.
- D5

Ensure all grates to pits are set below finished surface level within the property. Top of pit RL's are approximate only and may be varied subject to approval of the engineer. All invert levels are to be achieved.
- D6

Any pipes beneath relevant local authority road to be rubber ring jointed RCP, uno.
- D7

All pits in roadways are to be fitted with heavy duty grates with locking bolts and continuous hinge.
- D8

Provide step irons to stormwater pits greater than 1200 in depth.
- D9

Trench back fill in roadways shall comprise sharp, clean granular back fill in accordance with the relevant local authority specification to non-trafficable areas to be compacted by rodding and tamping using a flat plate vibrator.
- D10

Where a high early discharge (hed) pit is provided all pipes are to be connected to the hed pit, uno.
- D11

Down pipes shall be a minimum of dn100 sw grade upvc or 100 x100 colorbond/zincalume steel, uno.
- D12

Colorbond or zincalume steel box gutters shall be a minimum of 450 wide x 150 deep.
- D13

Eaves gutters shall be a minimum of 125 wide x 100 deep (or of equivalent area) colorbond or zincalume steel, uno.

EROSION AND SEDIMENT CONTROL NOTES

- E1

These notes are to be read in conjunction with erosion and sediment control details in this drawing set.
- E2

The contractor shall implement all soil erosion and sediment control measures as necessary and to the satisfaction of the relevant local authority prior to the commencement of and during construction. No disturbance to the site shall be permitted other than in the immediate area of the works and no material shall be removed from the site without the relevant local authority approval. All erosion and sediment control devices to be installed and maintained in accordance with standards outlined in nsw department of housing's "managing urban stormwater - soils and constructions".
- E3

Place straw bales length wise in a row as parallel as possible to the site contours, uno. Bale ends to be tightly butted. Bales are to be placed so that straws are parallel to the row. Bales are to be placed 1.5m to 2m downslope from the toe of the disturbed batter, uno.
- E4

Council approved filter fabric to be entrenched 150mm deep upslope towards disturbed surface. Fabric to be a minimum SF2000 or better. Fix fabric to posts with wire ties or as recommended with manufacturer's specifications. Fabric joints to have a minimum of 150mm overlap. Wire to be strung between posts with filter fabric overlap to prevent sagging.
- E5

Stabalised entry/exit points to remain intact until finished driveway is complete. Construction of entry/exit points to be maintained and repaired as required so that it's function is not compromised. Construction of entry/exit point to be in accordance with the detail contained within this drawing set.
- E6

All drainage pipe inlets to be capped until:
- downpipes connected
- pits constructed and protected with silt barrier
- E6

Provide and maintain silt traps around all surface inlet pits until catchment is revegetated or paved.
- E7

The contractor shall regularly maintain all erosion and sediment control devices and remove accumulated silt from such devices such that more than 60% of their capacity is lost. All the silt is to be placed outside the limit of works. The period for maintaining these devices shall be at least until all disturbed areas are revegetated and further as may be directed by the superintendent or council.
- E8

The contractor shall implement dust control by regularly wetting down (but not saturating) disturbed area.
- E9

Topsoil shall be stripped and stockpiled outside hazard areas such as drainage lines. This topsoil shall be respread later on areas to be revegetated and stabilised only, (i.e. all footpaths, batters, site regarding areas, basins and catchdrains). Topsoil shall not be respread on any other areas unless specifically instructed by the superintendent. If they are to remain for longer than one month stockpiles shall be protected from erosion by covering them with a mulch and hydroseeding and, if necessary, by locating banks or drains downstream of a stockpile to retard silt laden runoff.
- E10

Lay 300 wide minimum turf strip on 100 topsoil behind all kerb and gutter with 1000 long returns every 6000 and around structures immediately after backfilling as per the relevant local authority specification.
- E11

The contractor shall grass seed all disturbed areas with an approved mix as soon as practicable after completion of earthworks and regrading.
- E12

Revegetate all trenches immediately upon completion of backfilling.
- E13

When any devices are to be handed over to council they shall be in clean and stable condition.

LEGEND

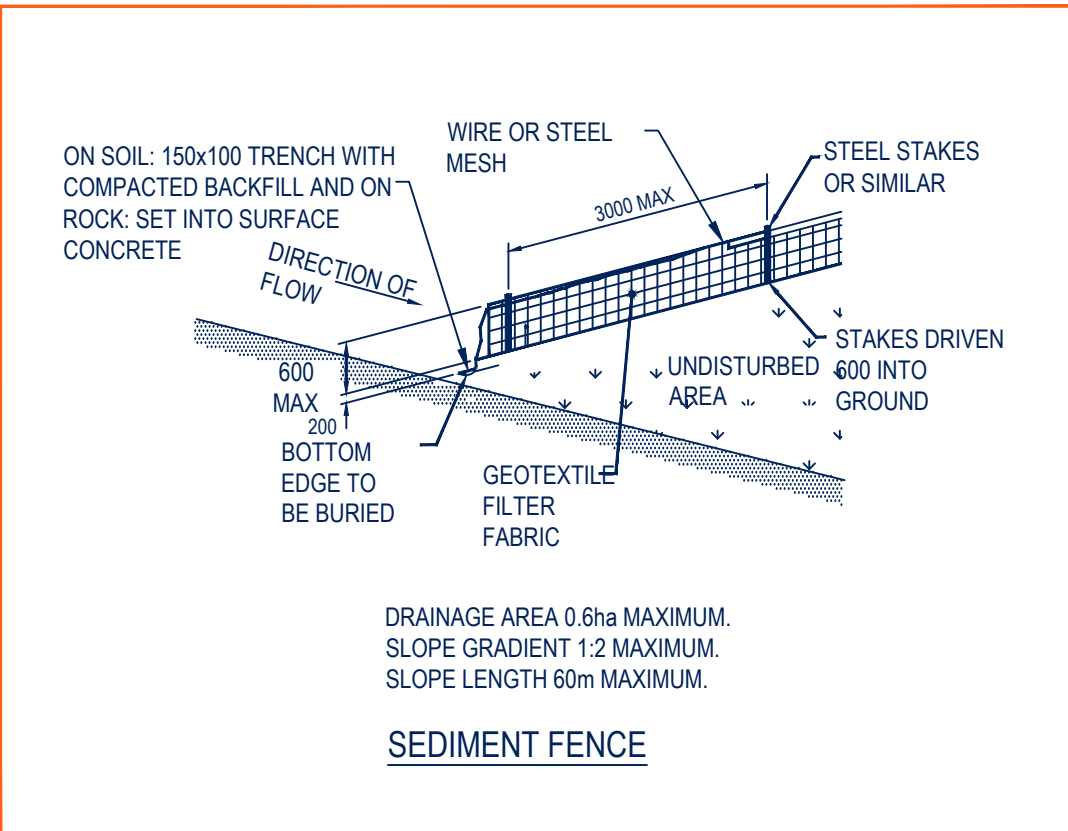
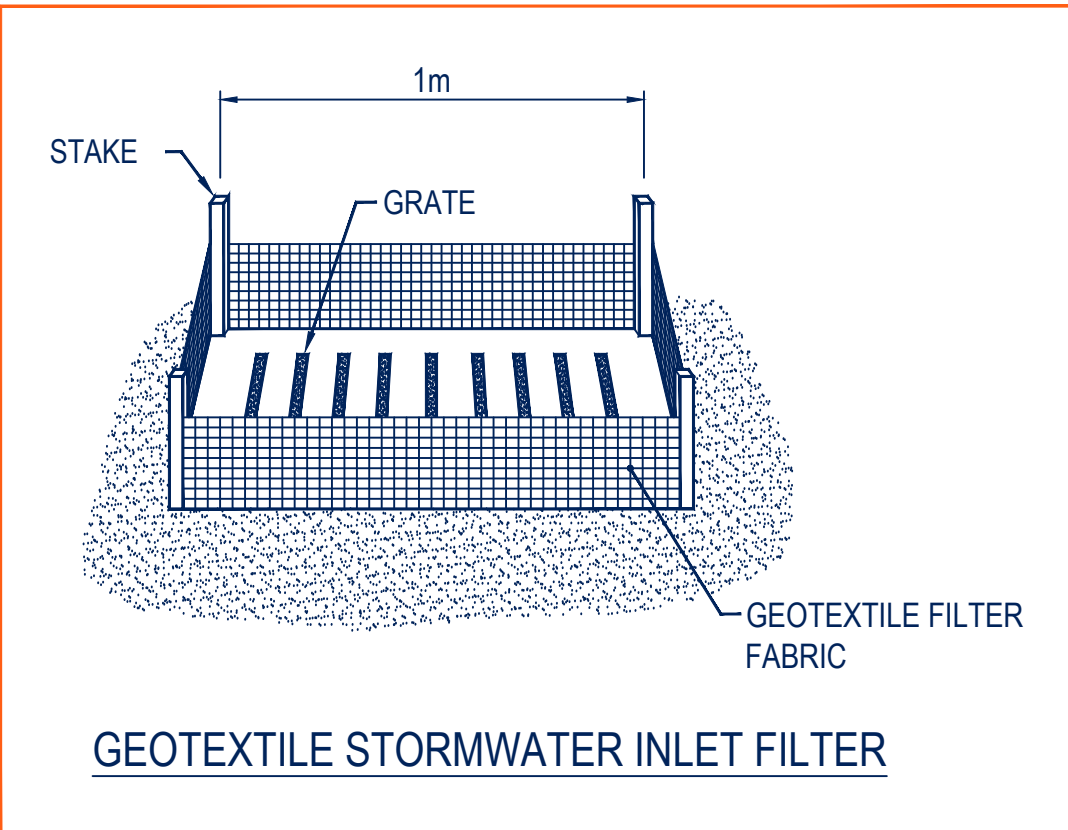
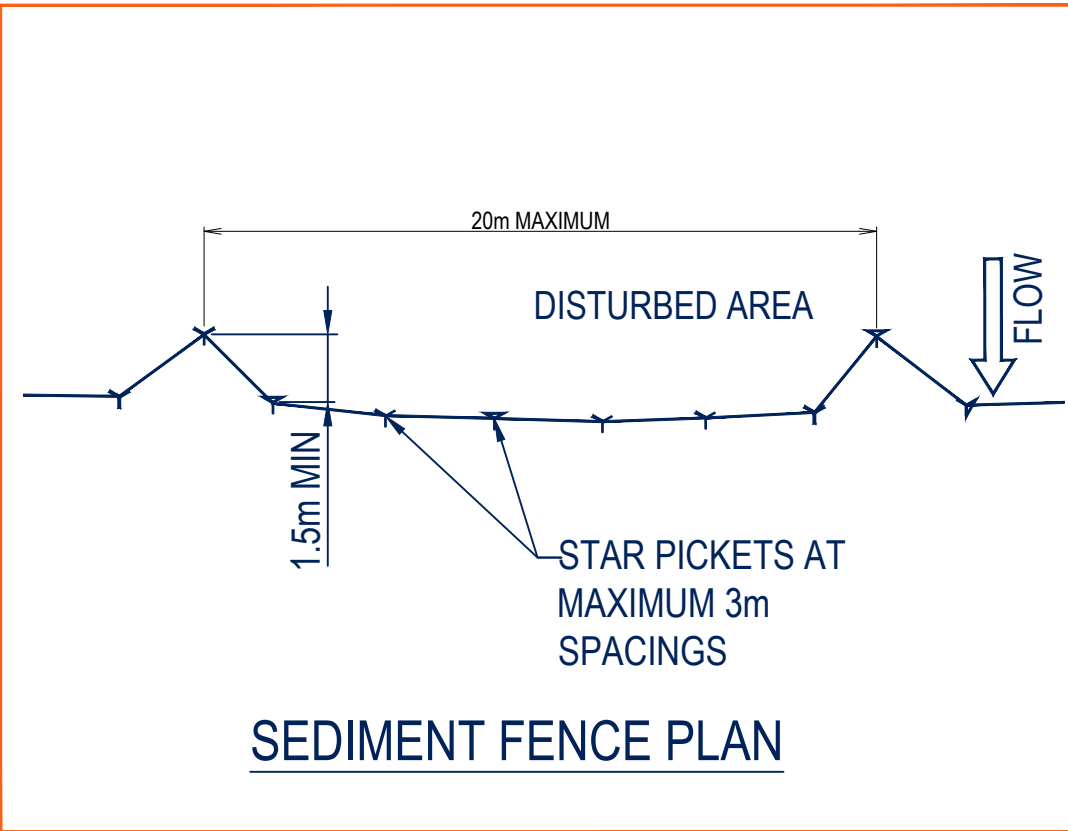
PRESSURE PIPE (CHARGED LINE)	
GRAVITY PIPE AT MIN. 1% SLOPE U.N.O.	
AG. LINE AT MIN. 1% SLOPE	
DOWNPIPE MIN. Ø100 U.N.O.	
GRATED PIT SL: SURFACE LEVEL IL: INVERT LEVEL	
CLEANING EYE (INSPECTION EYE)	
OVERLAND FLOW PATH	
GRATED TRENCH	
EXISTING RL	
DESIGN RL	

STANDARD LINE TYPES AND SYMBOLS

	OVERLAND FLOW PATH
	GUTTER DRAINAGE DIRECTION
	DOWNPIPE
	DOWNPIPE WITH SIDE OVERFLOW
	PERVIOUS (GRASSED) AREAS
	EXISTING (PRE-DEVELOPMENT) RL
	POST DEVELOPMENT RL
	GRADED IMPERVIOUS AREA (ROOF, CONC SLABS ETC)
	SEDIMENT FENCE
	CROSSING PIPES
	NODE POINT

LEGEND

AHD	Australian height datum	SS	Stainless steel
AG	Ag-pipe (Sub soil drainage)	SU	Box gutter sump
ARI	Average recurrence interval	TW	Top of wall
BG	Box Gutter	TWL	Top water level
BWL	Bottom water level	US	Underside of slab
CL	Cover level	YG	Vally gutter
CO	Clean out inspection opening	UNO	Unless noted otherwise
DCP	Discharge control pit		
DP	Down pipe		
DRP	Dropper pipe		
EBG	Existing box gutter		
EDP	Existing down pipe		
EEG	Existing eaves gutter		
EG	Eaves gutter		
FRC	Fiber reinforced concrete		
FW	Floor waste		
GD	Grated drain		
GSIP	Grated surface inlet pit		
HED	High early discharge		
HP	High point of gutter		
IL	Invert level		
IO	Inspection opening		
O/F	Overflow		
OSD	On-site detention		
PSD	Permissible site discharge		
P1	Pipe 1		
RCP	Reinforced concrete pipe		
RHS	Rectangular hollow section		
RL	Reduced level		
RRJ	Rubber ring joint		
RRT	Rainwater re-use tank		
RWH	Rain water head		
RWO	Rain water outlet		
SLAP	Sealed lid access pit		
SP	Spreader pipe		
SPR	Spreader		



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Project No. ME23-S0342

Architect

NA

Client

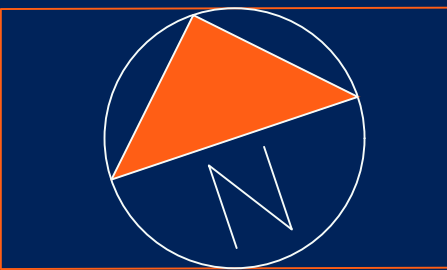
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Designed By: MY

Approved By: YE

Internal Revisions:

YE 04/09/23 ISSUED FOR CDC



GENERAL NOTES

- DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL SETOUT LEVELS.
- DO NOT SCALE ANY DIMENSIONS FROM STORMWATER DRAWINGS FOR SETTING OUT PURPOSES.
- DRAWINGS TO BE READ & PRINTED IN COLOUR.
- REFER TO S01 FOR STORMWATER NOTES & GENERAL DETAILS

Scale AS SHOWN

Sheet Name:

GENERAL NOTES

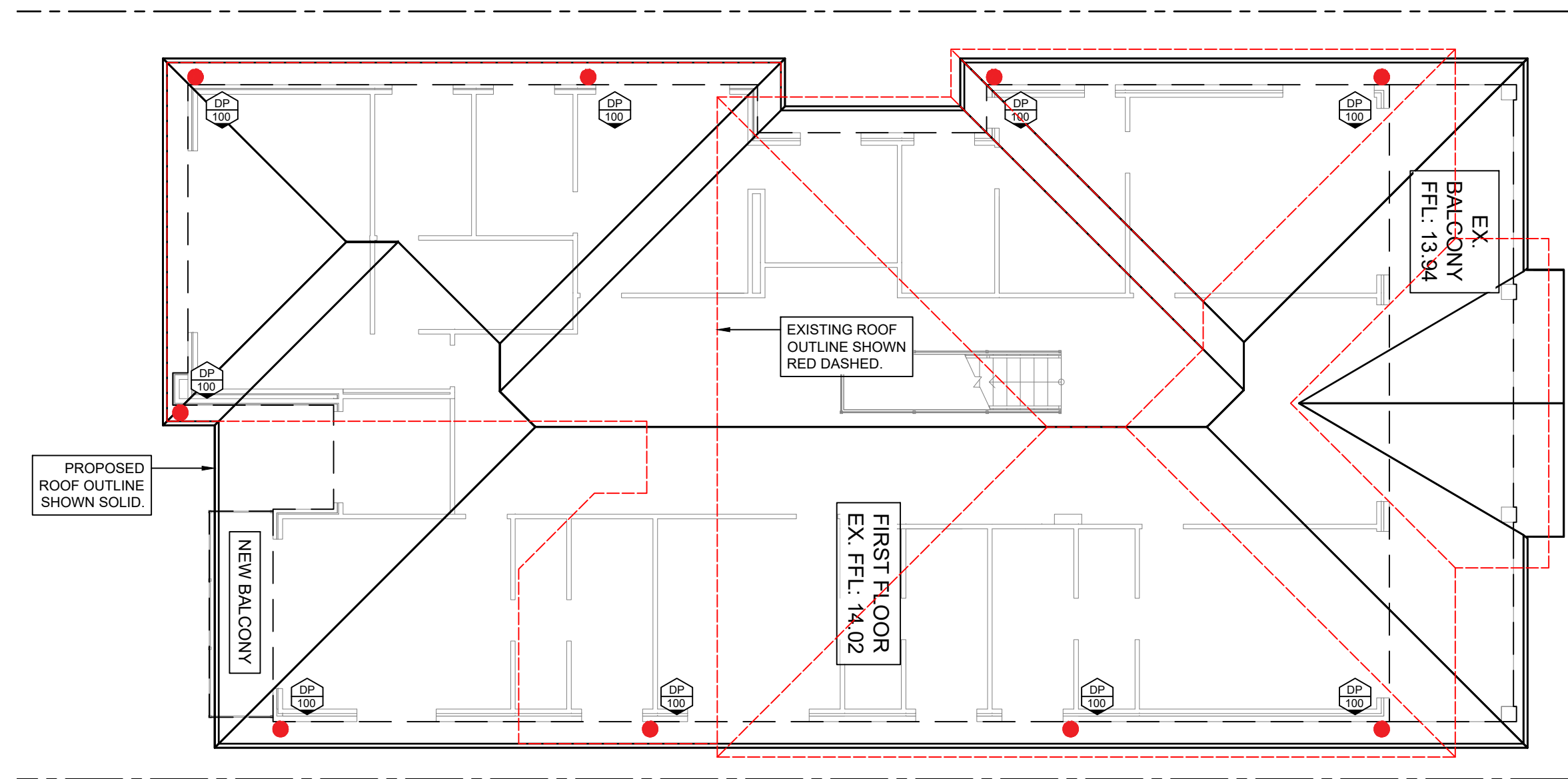
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Revision:

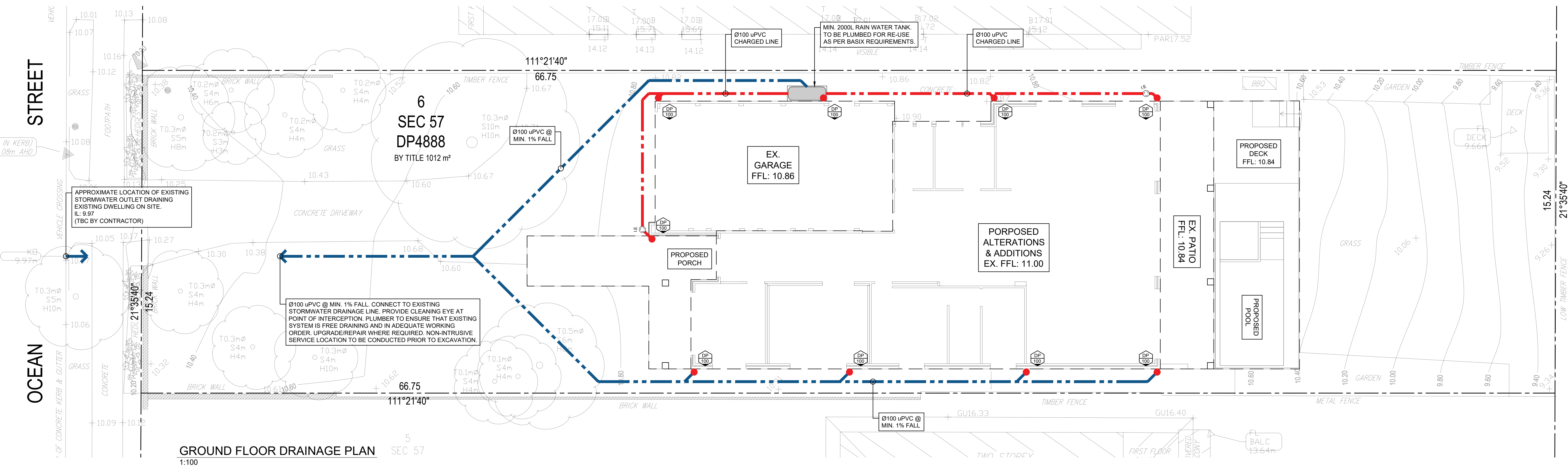
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IN ACCORDANCE WITH CLAUSE 9.3.2 (ONSITE STORMWATER DISPOSAL REQUIREMENTS REGION 2 - CENTRAL CATCHMENTS) OF NORTHERN BEACHES COUNCILS WATER MANAGEMENT FOR DEVELOPMENT POLICY, OSD IS NOT REQUIRED FOR ALTERATIONS AND ADDITIONS TO SINGLE RESIDENTIAL DWELLINGS.



ROOF DRAINAGE PLAN

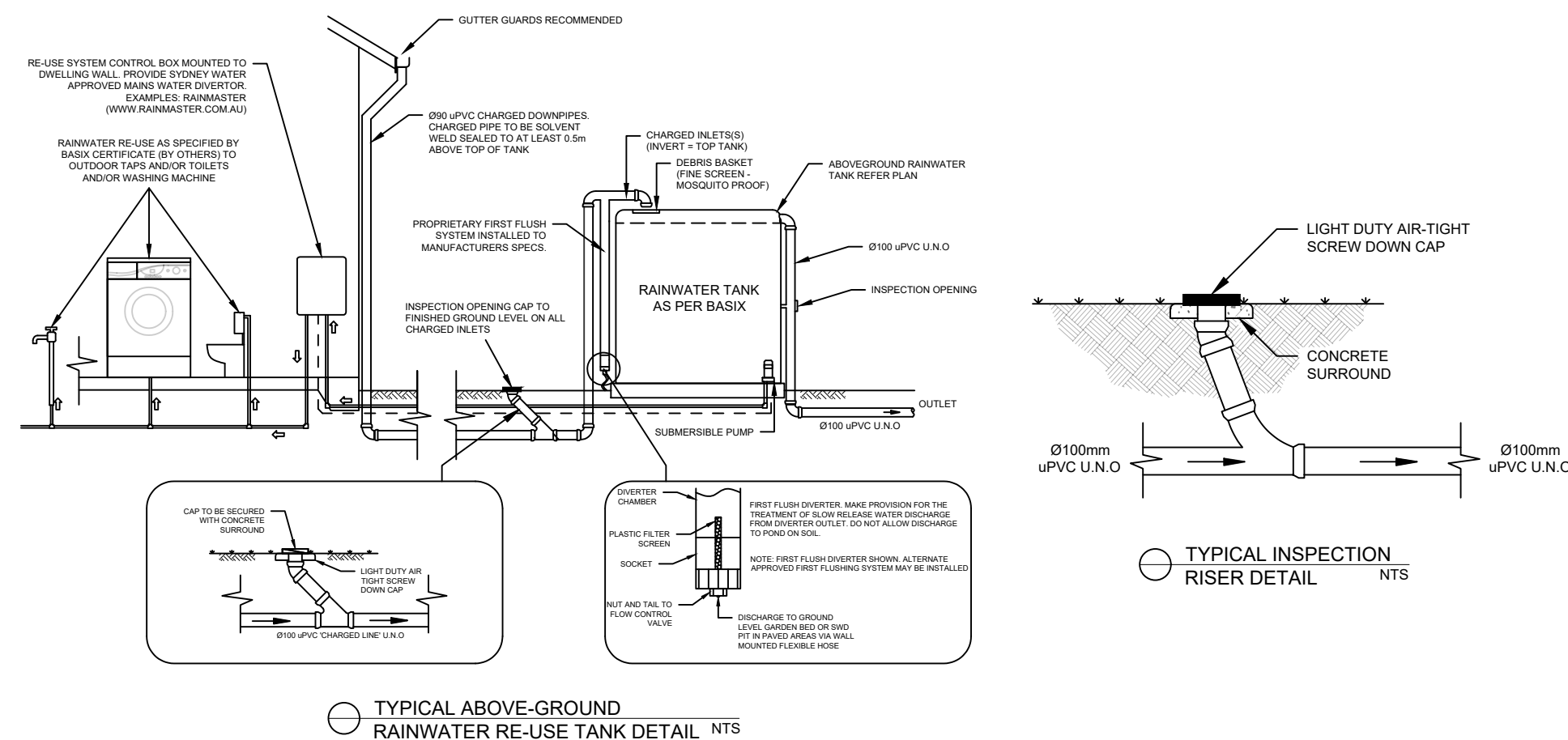
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GROUND FLOOR DRAINAGE PLAN
1:100

NOTE:
STORMWATER DRAINING CONSTRUCTED OF OTHER THAN CAST IRON, DUCTILE IRON OR GALVANEIZED STEEL HAVING COVER LESS THAN THAT SPECIFIED IN THE TABLE SHALL BE COVERED WITH AT LEAST 25mm OVERLAY AND SHALL BE PAVED WITHIN 10m OF EXISTING SURFACE DRAINING.

- a. 10mm THICKNESS OF REINFORCED CONCRETE WHERE SUBJECT TO DEBRIS-VEHICLE DRAINING.



address
185 OCEAN STREET,
NARRABEEN, NSW 2101

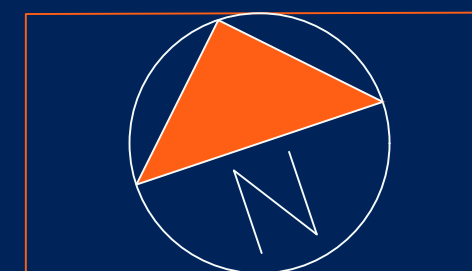
Project No. **ME23-S0342**

Architect
NA
Client
NA

Designed By: MY
Approved By: YE

Internal Revisions:

 YE 04/09/23 ISSUED FOR CDC



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Scale AS SHOWN

Sheet Name:

**STORMWATER DRAINAGE
PLAN/DETAILS**

Sheet No:

02

Revision:

1