

PROPOSED SINGLE DWELLING AT 237 MCCARS CREEK ROAD, CHURCH POINT NSW

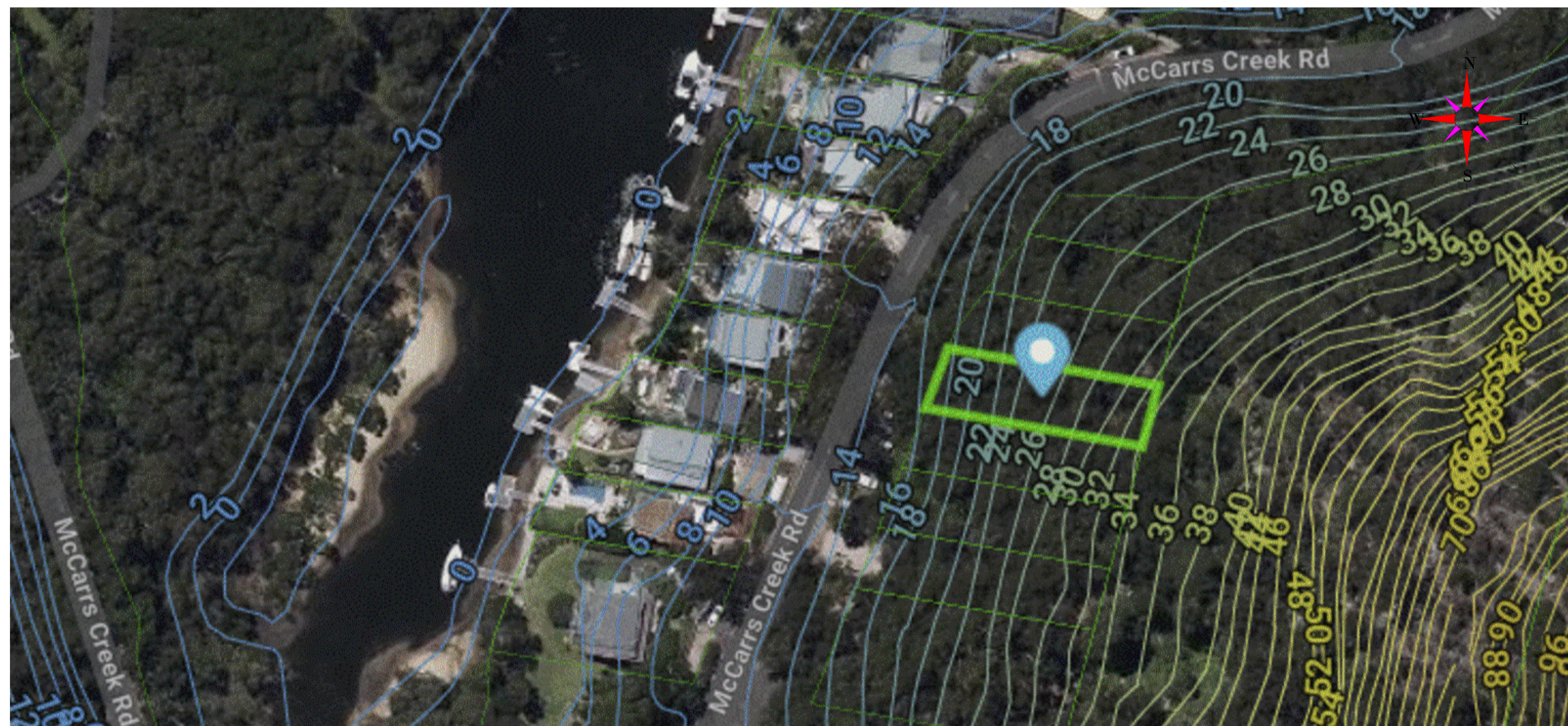
CONCEPT STORMWATER DESIGN

TABLE OF SCHEDULES

SHEET #	DRAWING NAME	REV	DATE
SW-100	COVER PAGE	1	10/23/2024
SW-101	GENERAL NOTES	1	10/23/2024
SW-200	STORMWATER DESIGN - GARAGE FLOOR PLAN	1	10/23/2024
SW-201	STORMWATER PLAN - GROUND FLOOR PLAN	1	10/23/2024
SW-202	STORMWATER DESIGN - FIRST FLOOR & ROOF PLAN	1	10/23/2024
SW-300	SEDIMENT & EROSION CONTROL PLAN	1	10/23/2024
SW-400	OSD DETAILED SECTION & CALCULATION SHEET	1	10/23/2024
SW-500	STANDARD DETAILS	1	10/23/2024

SPECIFICATIONS

THESE PLANS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL DESIGN PLANS AND STRUCTURAL DESIGN PLANS



SITE LOCALITY

PREPARED BY



LEVEL 2, 10 MALLET STREET, CAMPERDOWN, NSW 2050
T: 0491 179 774 - @: ADMIN@CSEGGROUP.COM.AU - W: WWW.CSEGGROUP.COM.AU

ARCHITECT



GREEN MEASURES

CLIENT




MR. NIMA

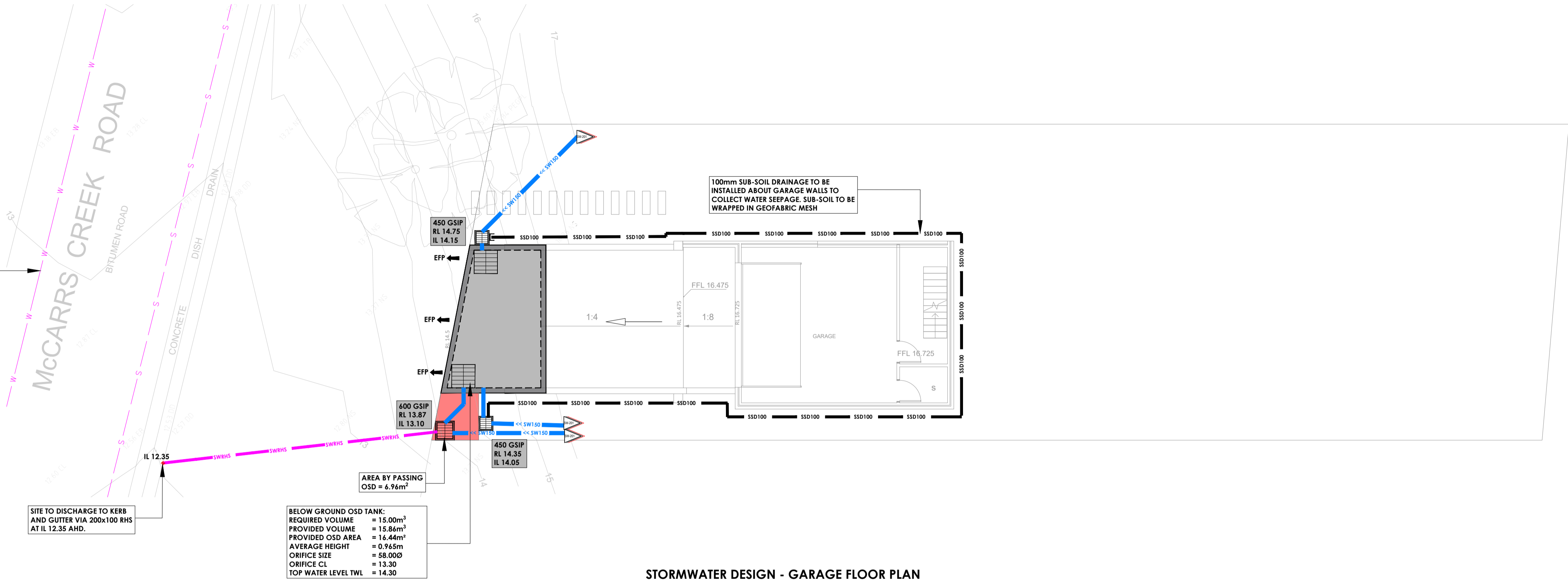
CSEGG REFERENCE # CSW2024.151

REVISION 01

SW-100

LEGEND

-  EMERGENCY FLOW PATH
-  MASONRY RETAINING WALL TO STRUCTURAL ENGINEER'S DETAILS
-  HATCH DENOTES AREA BY PASSING OSD



STORMWATER DESIGN - GARAGE FLOOR PLAN
SCALE 1:100

!ATTENTION!
PLANS ARE COLOR CODED. PRINT IN COLOR

!ATTENTION!
IT'S THE BUILDERS RESPONSIBILITY TO LOCATE ALL SERVICES BEFORE EXCAVATION

!ATTENTION!
PLANS TO BE READ ON CONJUNCTION WITH ARCHITECTURAL & STRUCTURAL PLANS

!NOTES!
CATCHMENT AREA OF EACH DP TO BE ROUGHLY SIMILAR SIZE. LENGTH OF ANY GUTTER DRAINING TO A DOWNPIPE TO BE NOT LONGER THAN 12m.(NCCVOL2).

DESIGN NOTES:

THE SITE IS GOVERNED BY NORTHERN BEACHES COUNCIL DEVELOPMENT CONTROL PLAN
TYPE OF DEVELOPMENT = SINGLE DWELLING DEVELOPMENT

IN ACCORDANCE WITH COUNCIL'S SWMP - SECTION 9.3.1, PROPERTIES WITHIN REGION 1 REQUIRE AN OSD FACILITY TO BE INSTALLED WHERE THE DEVELOPMENT RESULTS IN ADDITIONAL HARD (IMPERVIOUS) SURFACE AREA OF GREATER THAN 50m².

Δ ON SITE DETENTION IS REQUIRED Δ

ADDITIONAL HARD (IMPERVIOUS) SURFACE AREA (SQUARE METRES) > 200 - 250:
MINIMUM CAPACITY OF ON-SITE DETENTION TANK (LITRES) = 15,000 L
DISCHARGE RATE (LITRES/SEC) = 7.0 L/S

ALL DOWNPIPES AND GUTTERING HAVE BEEN DESIGNED TO ACCOMMODATE FOR THE 1 IN 100 YEAR EVENT

LOCATION OF ALL STORMWATER PIPES, PITS & TRENCHES TO BE CO-ORDINATED WITH EXISTING TREES TO BE RETAINED (TYP).

DOWNPIPE LOCATIONS ARE INDICATIVE AND TO BE CONFIRMED DURING CONSTRUCTION.

ALL NEW STORMWATER PIPES TO HAVE A MINIMUM OF 300mm TOPSOIL COVER OR 100mm CONCRETE COVER U.N.O.

MINIMUM PIPE COVER - FINISHED SURFACE TO TOP OF PIPE AS3500		
LOCATION	DUCTILE IRON GALVANIZED STEEL	PLASTICS
NOT SUBJECT TO VEHICULAR LOADINGS FOR ENGINE DRIVEWAYS	150mm	150mm
NOT SUBJECT TO VEHICULAR LOADINGS FOR GORE TANK SINGLE DRIVEWAYS	150mm	150mm
NOT SUBJECT TO VEHICULAR LOADINGS WITH FINISHES OF BLOCK OR UNFINISHED CONCRETE	150mm	150mm
SUBJECT TO VEHICULAR LOADINGS WITHOUT FINISHES	300mm	450mm
SUBJECT TO VEHICULAR LOADINGS WITH FINISHES	150*	150*
SUBJECT TO VEHICULAR LOADINGS WITH FINISHES	150*	150*
UNGRADED ROADS	450mm	450mm
GRADED ROADS	450mm	450mm
UNGRADED ROADS	450mm	450mm
GRADED ROADS	450mm	450mm
UNGRADED ROADS	450mm	450mm
GRADED ROADS	450mm	450mm

REV	01												
DATE	23-Oct-24												
DESIGNED	CS												
APPROVED	SCH												
DETAILS	FOR APPROVAL												
PROJECT ADDRESS: 237 MCCARRS CREEK ROAD, CHURCH POINT													

SAMIR C HAKIM
B.E., M.E. (civil/construction), ADV. DIPLOMA (civil design), M.I.E. Aust, Peng MIE Aust # 3491570

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ARCHITECT
GREEN MEASURES

COUNCIL
northern beaches council

CLIENT
MR. NIMA

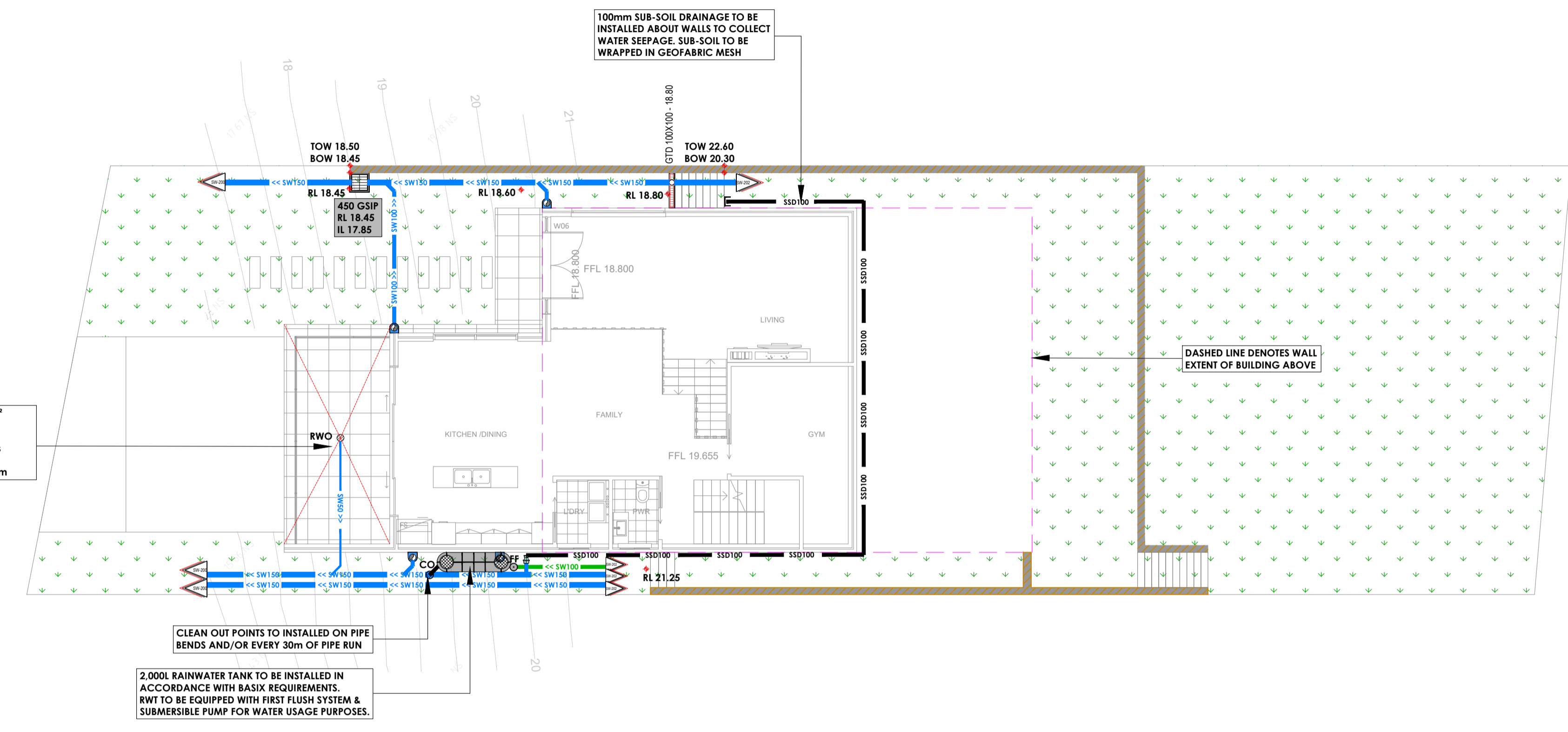
ENGINEER
CIVIL STORMWATER ENGINEERING GROUP
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SCALE: 1:100 (A3 1:200)	01
PROJECT No: CSW2024.151	REVISION
APPLICATION	DEVELOPMENT APPLICATION (DA)
SUPERSEDES:	
DRAWING TITLE	
SW-200	03
	SHEET

LEGEND

- MASONRY RETAINING WALL TO STRUCTURAL ENGINEER'S DETAILS
- DASHED LINE DENOTES WALL EXTENT OF BUILDING ABOVE

AREA PER RWO = 10.0m²
 DEPTH OF PONDING = 30mm
 BLOCKAGE FACTOR = 0.5
 FLOW = 0.78l/s
 CIRCULAR GRATE = 79mm
 SQUARE GRATE = 59x59mm



STORMWATER DESIGN - GROUND FLOOR PLAN
 SCALE 1:100

!ATTENTION!
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!NOTES!
 CATCHMENT AREA OF EACH DP TO BE ROUGHLY SIMILAR SIZE. LENGTH OF ANY GUTTER DRAINING TO A DOWNPIPE TO BE NOT LONGER THAN 12m.(NCCVOL2).

MINIMUM PIPE COVER - FINISHED SURFACE TO TOP OF PIPE AS3500		
LOCATION	DUCTILE IRON GALVANIZED STEEL	PLASTICS
NOT SUBJECT TO VEHICULAR LOADS AND NOT ENGINE DRIVEN	150mm	150mm
NOT SUBJECT TO VEHICULAR LOADS FOR CODE TRAIL	150mm	150mm
SINGLE ENDS ONLY	150mm	150mm
NOT SUBJECT TO VEHICULAR LOADS WITH FINISHES OF BLOCK OR UNREINFORCED CONCRETE	150mm	150mm
SUBJECT TO VEHICULAR LOADS WITHOUT FINISHES	200mm	450mm
SUBJECT TO VEHICULAR LOADS WITH FINISHES	450mm	100*
SUBJECT TO VEHICULAR LOADS WITH FINISHES	450mm	150*
DUCTILE IRON PIPE WITH 150mm COVER	150mm	150mm
DUCTILE IRON PIPE WITH 150mm COVER	150mm	150mm
DUCTILE IRON PIPE WITH 150mm COVER	150mm	150mm
DUCTILE IRON PIPE WITH 150mm COVER	150mm	150mm
DUCTILE IRON PIPE WITH 150mm COVER	150mm	150mm
DUCTILE IRON PIPE WITH 150mm COVER	150mm	150mm
DUCTILE IRON PIPE WITH 150mm COVER	150mm	150mm
DUCTILE IRON PIPE WITH 150mm COVER	150mm	150mm

* BELOW THE UNDERSIDE OF THE FAVOURITE

REV	01						
DATE	23-Oct-24						
DRAWN	CS						
DESIGNED	CS						
APPROVED	SCH						
DETAILS	FOR APPROVAL						

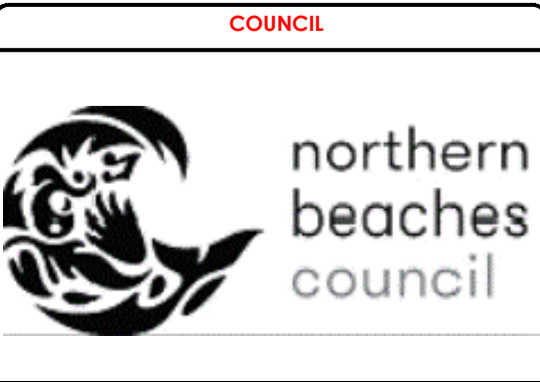
PROJECT ADDRESS: 237 MCCARS CREEK ROAD, CHURCH POINT

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ARCHITECT

DIAL 1100 BEFORE YOU DIG

REVIEWED: SAMIR C HAKIM
 SIGNATURE: SAMIR C HAKIM



CLIENT

MR. NIMA

ENGINEER

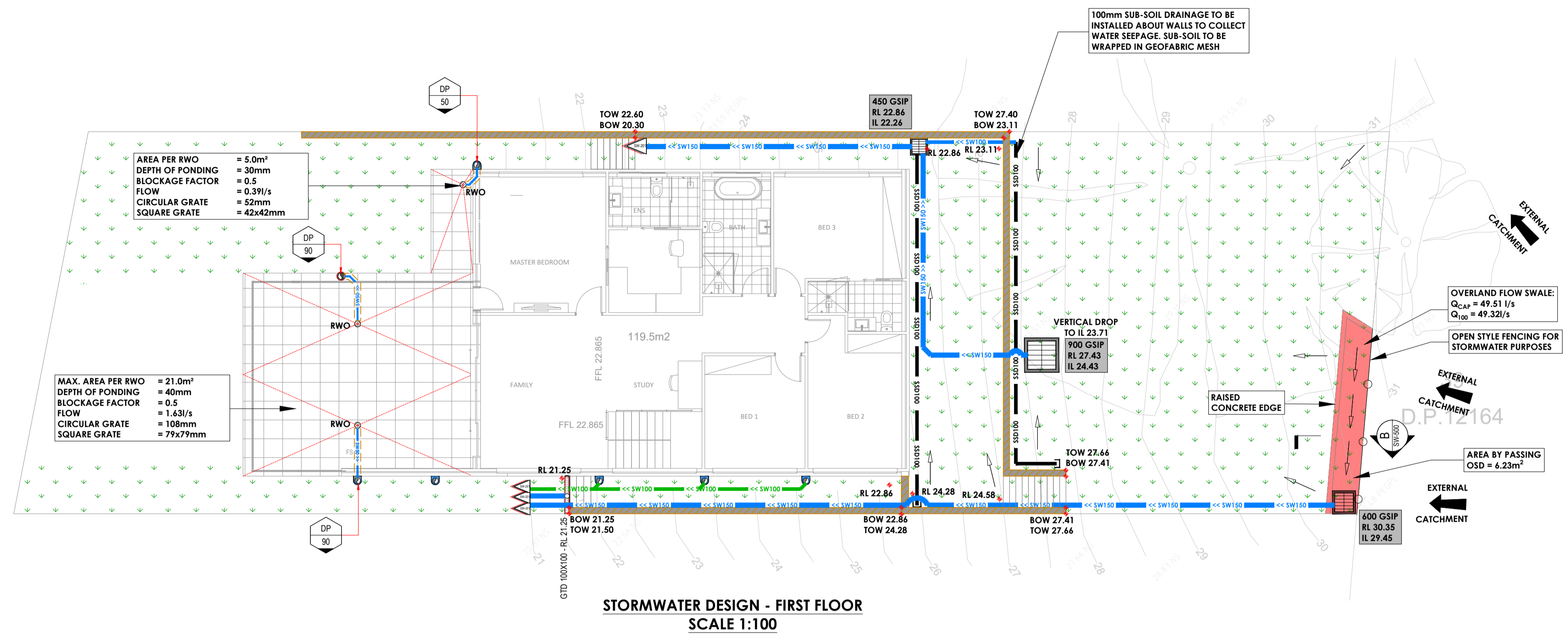
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STORMWATER DESIGN - GROUND FLOOR PLAN

A1	SCALE: 1:100 (A3 1:200)	01
SHEET SIZE	PROJECT No: CSW2024.151	REVISION
APPLICATION	DEVELOPMENT APPLICATION (DA)	
SUPERSEDES:		
DRAWING TITLE		
SW-201		04 SHEET

LEGEND

- ○ OPEN STYLE FENCING FOR STORMWATER PURPOSES
- RAISED CONCRETE EDGE
- MASONRY RETAINING WALL TO STRUCTURAL ENGINEER'S DETAILS
- HATCH DENOTES AREA BY PASSING OSD
- - - DASHED LINE DENOTES PIPE TO BE CAST IN SLAB

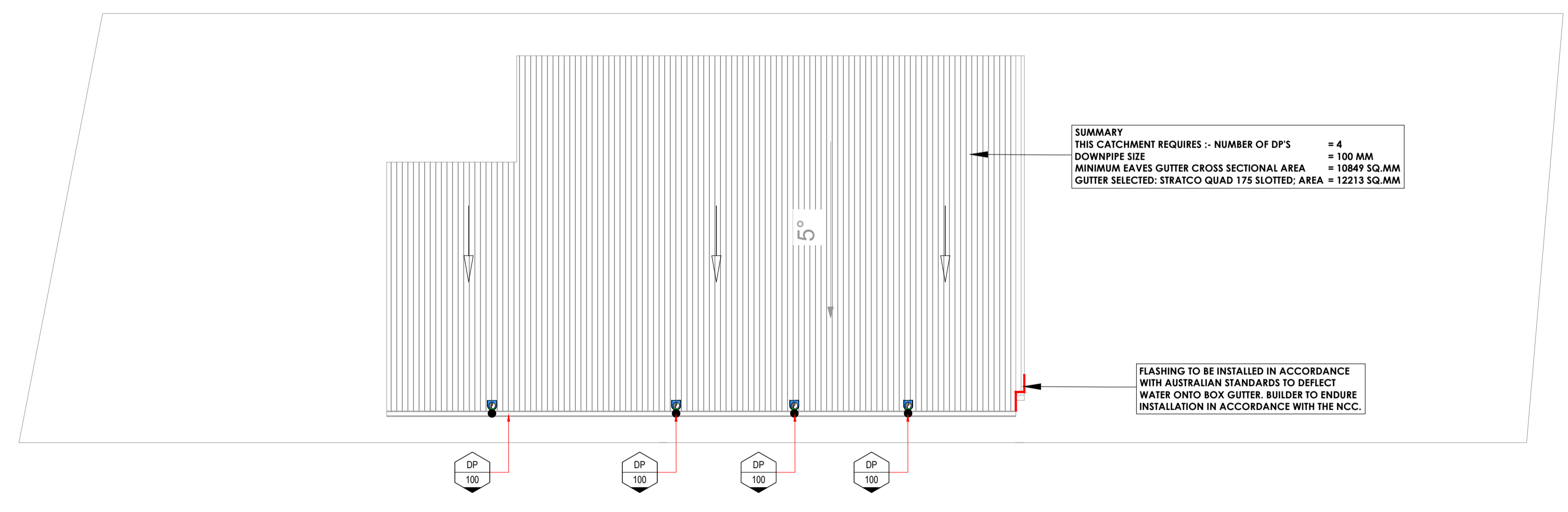


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REV	01																			
DATE	23-Oct-24																			
DRN	CS																			
DESIGNED	CS																			
APPROV	SCH																			
DETAILS	FOR APPROVAL																			

PROJECT ADDRESS: 237 MCCARS CREEK ROAD, CHURCH POINT

SCALE BAR 1:100

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COUNCIL

CLIENT

MR. NIMA

ENGINEER

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GREEN MEASURES

DIAL 1100 BEFORE YOU DIG

REVIEWED

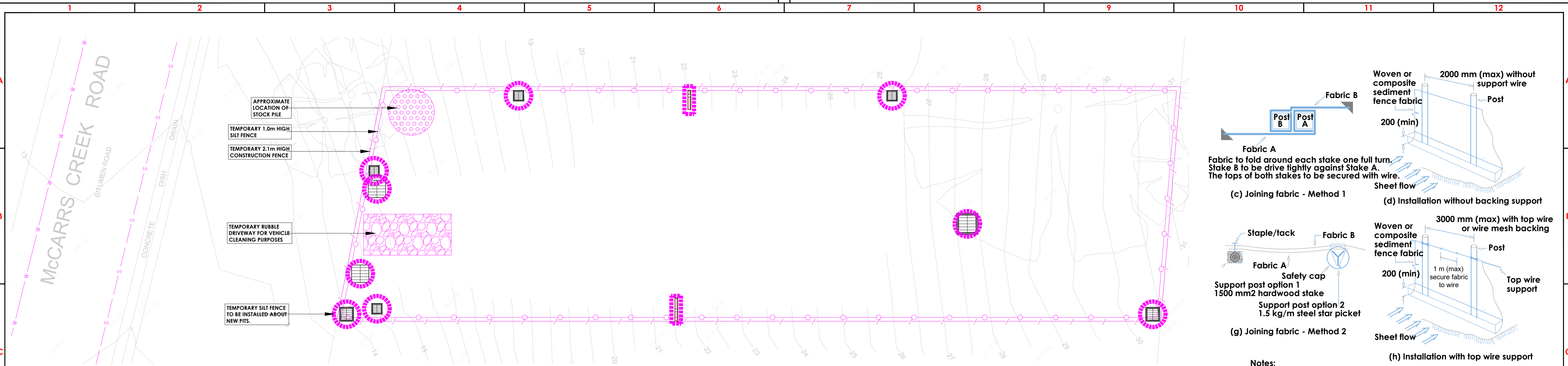
SAMIR C HAKIM

northern beaches council

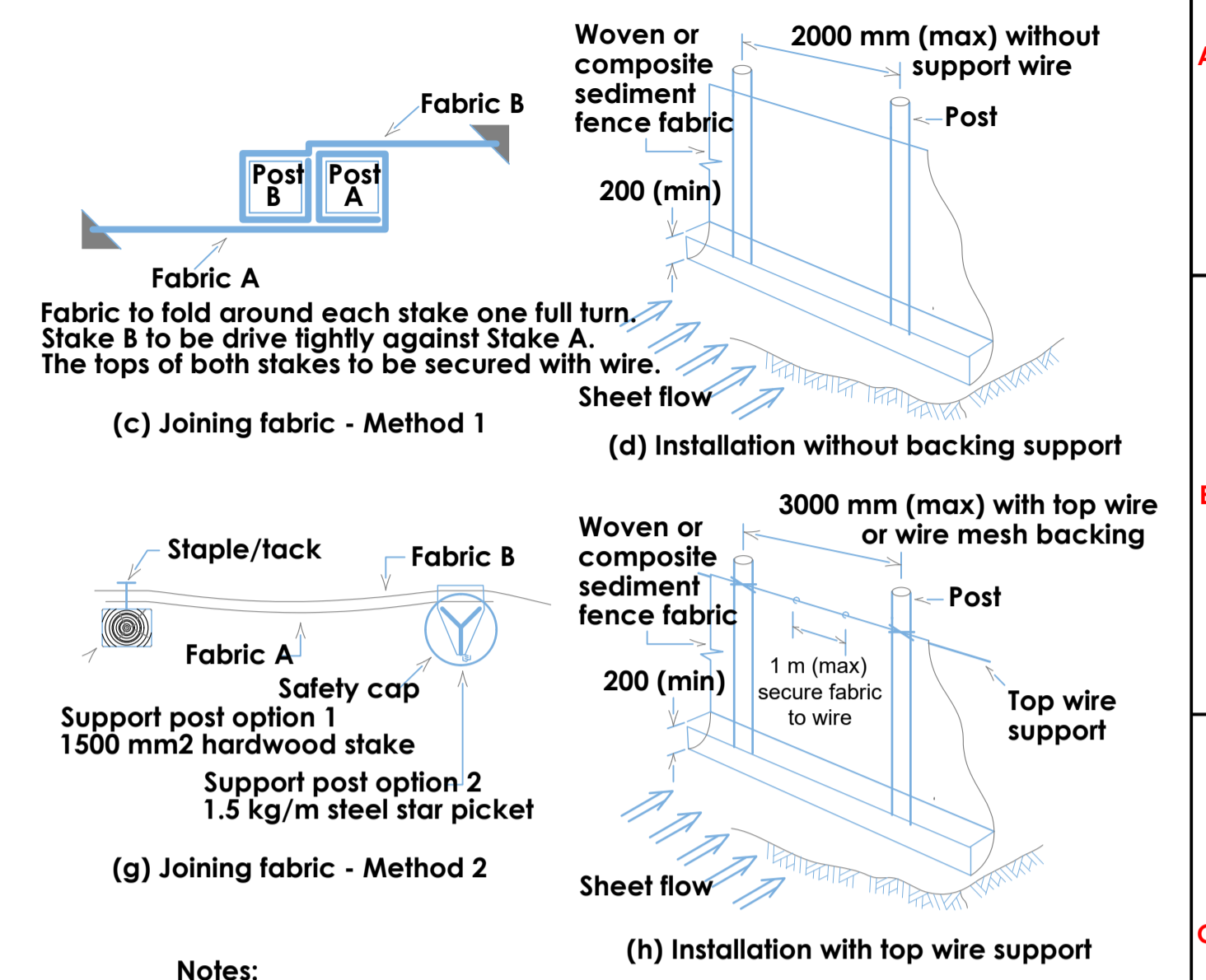
CIVIL STORMWATER ENGINEERING GROUP

STORMWATER DESIGN - FIRST FLOOR & ROOF PLAN

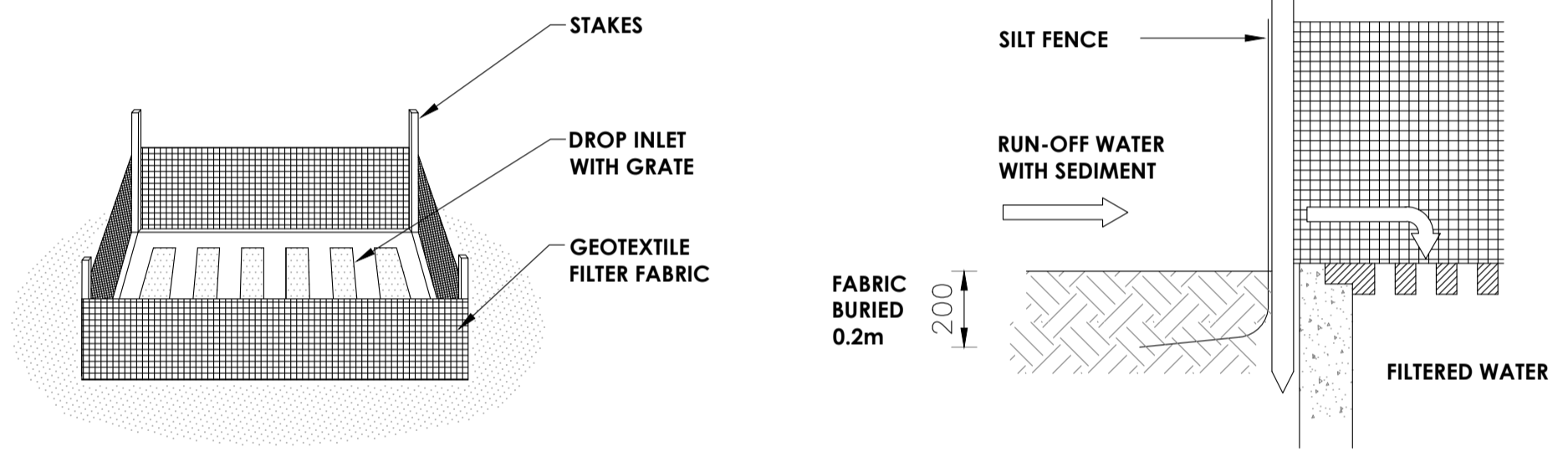
A1	SCALE: 1:100 (A3 1:200)	01
SHT SIZE	PROJECT No: CSW2024.151	REVISION
APPLICATION	DEVELOPMENT APPLICATION (DA)	
SUPERSEDES:		
DRAWING TITLE	SW-202	05 SHEET



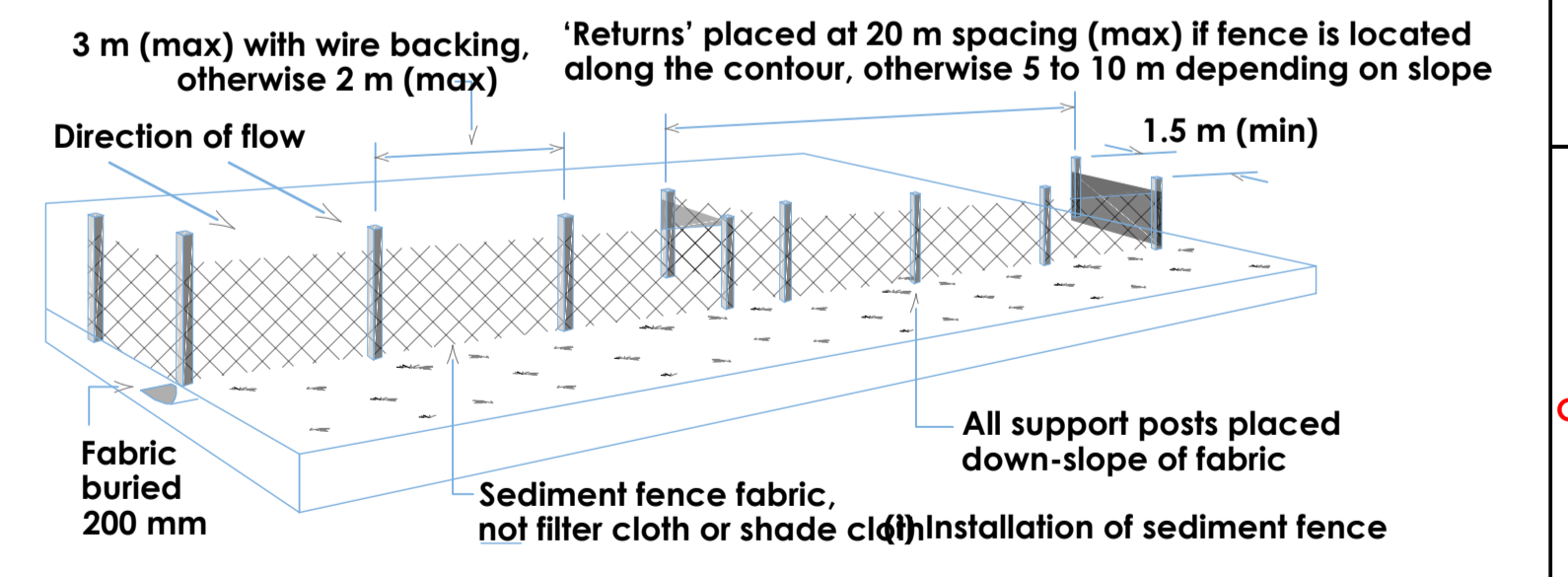
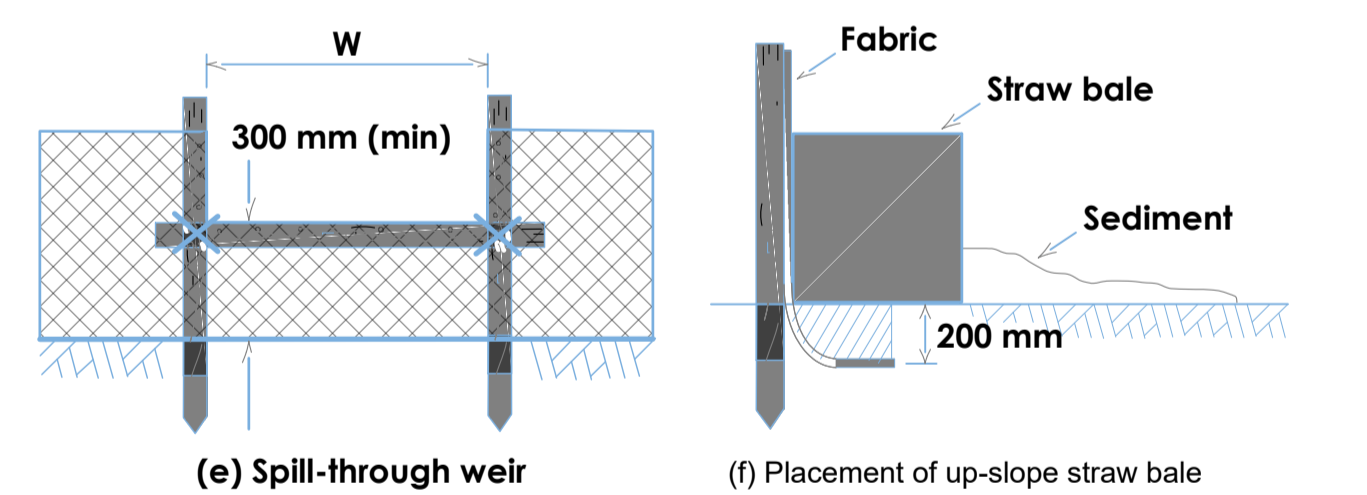
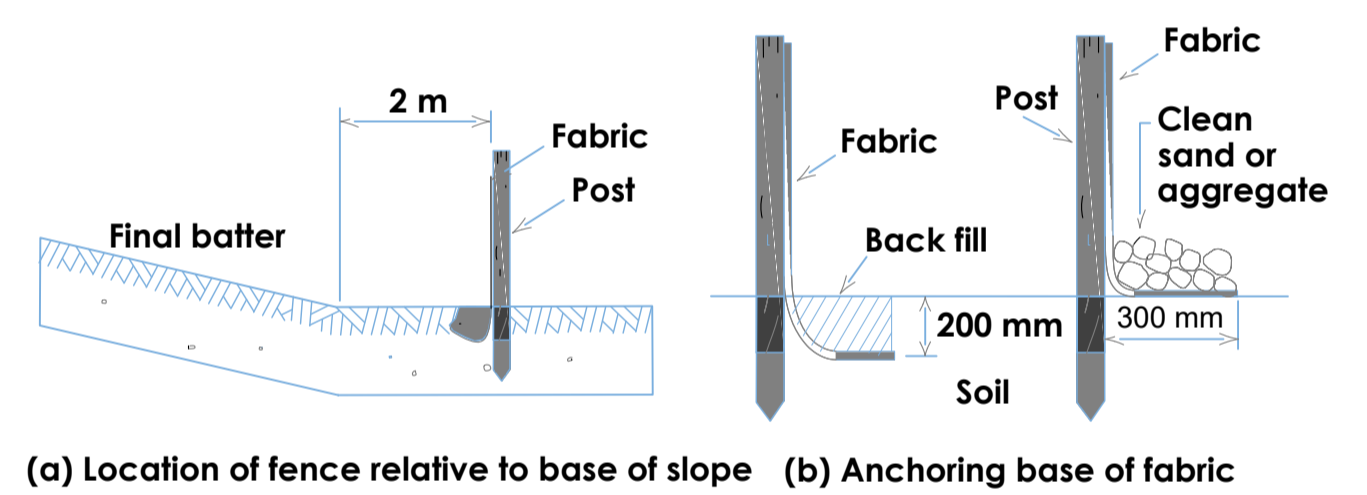
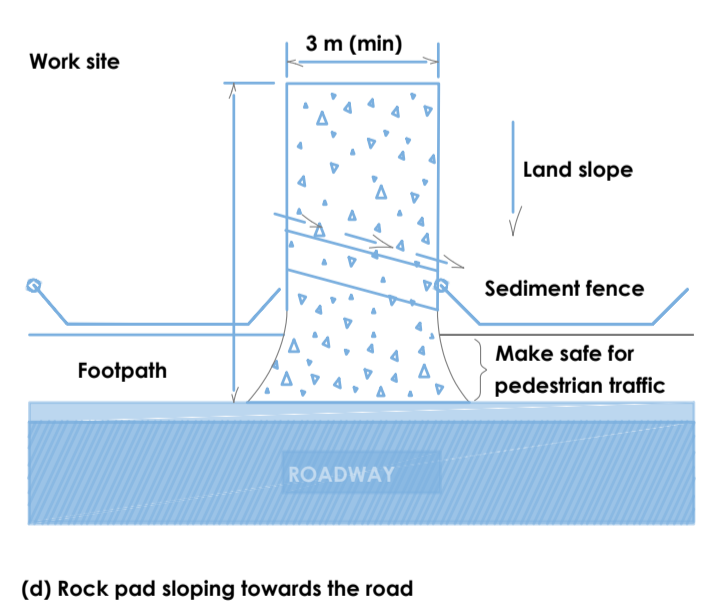
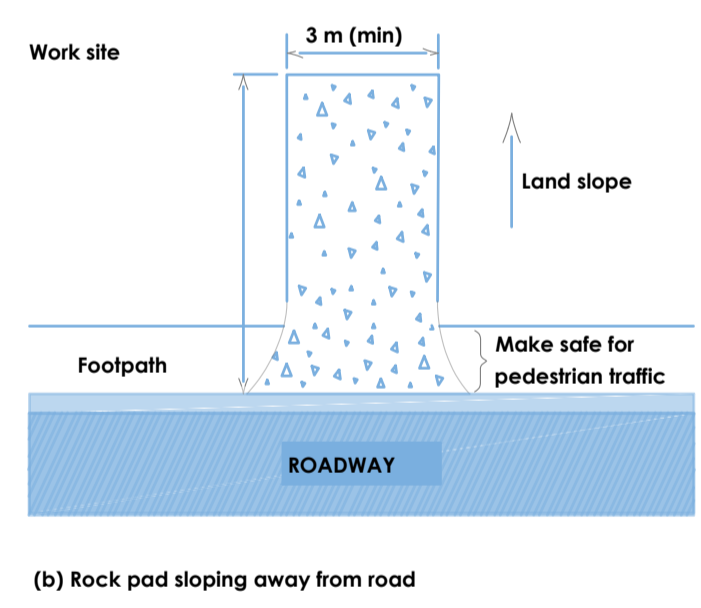
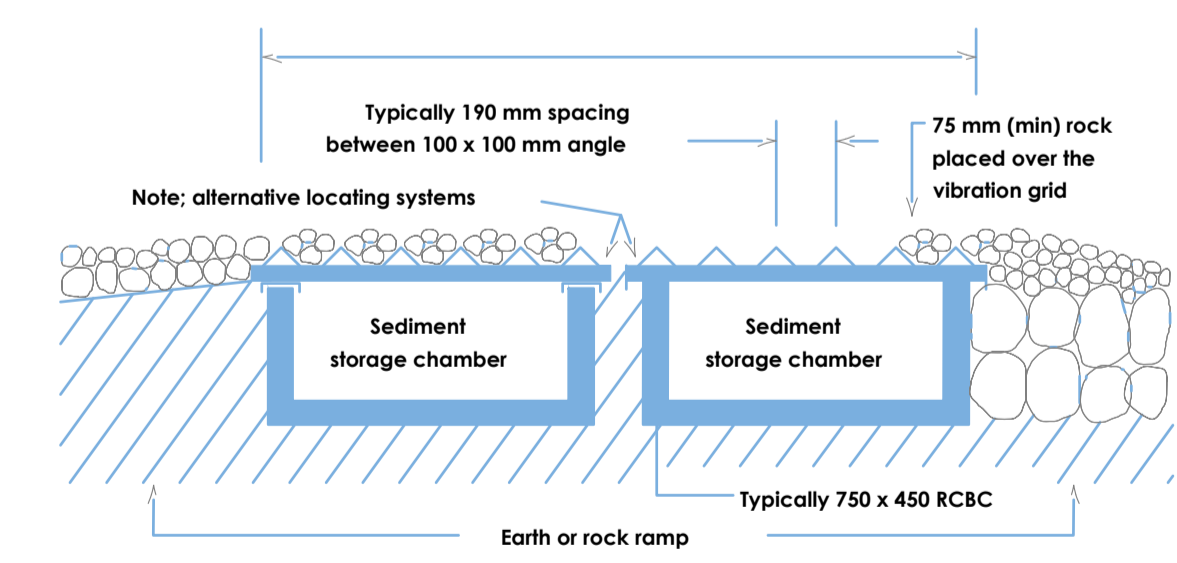
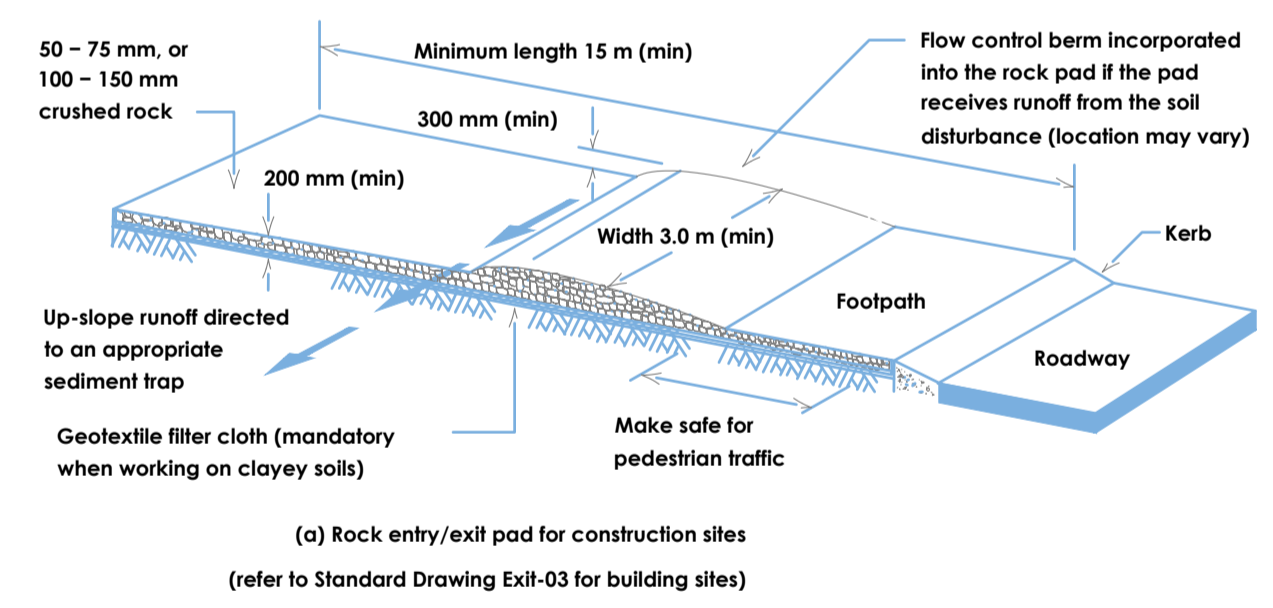
SEDIMENT & EROSION CONTROL PLAN
SCALE 1:100



- Notes:
- Sediment fence to be installed along a line of constant ground elevation wherever practical.
 - Both end of the sediment fence to extend up the slope at least 1m.
 - Support post to be spaced a maximum 2m unless the fence is supported by a top wire or wire mesh backing, in which case 3m maximum spacing.
 - Fence 'returns' shall be installed at maximum 20m spacing if fence is installed along the contour, otherwise 5 to 10m maximum spacing.
 - Minimum 4 staples or tie wires per stake.



DETAIL
SUMP SEDIMENT TRAP
NOT TO SCALE



REV	01				
DATE	23-Oct-24				
DRN	CS				
DESIGNED	CS				
APPROV	SCH				
DETAILS	FOR APPROVAL				

PROJECT ADDRESS: 237 MCCARRS CREEK ROAD, CHURCH POINT

SCALE BAR 1:100
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ARCHITECT
COUNCIL
CLIENT

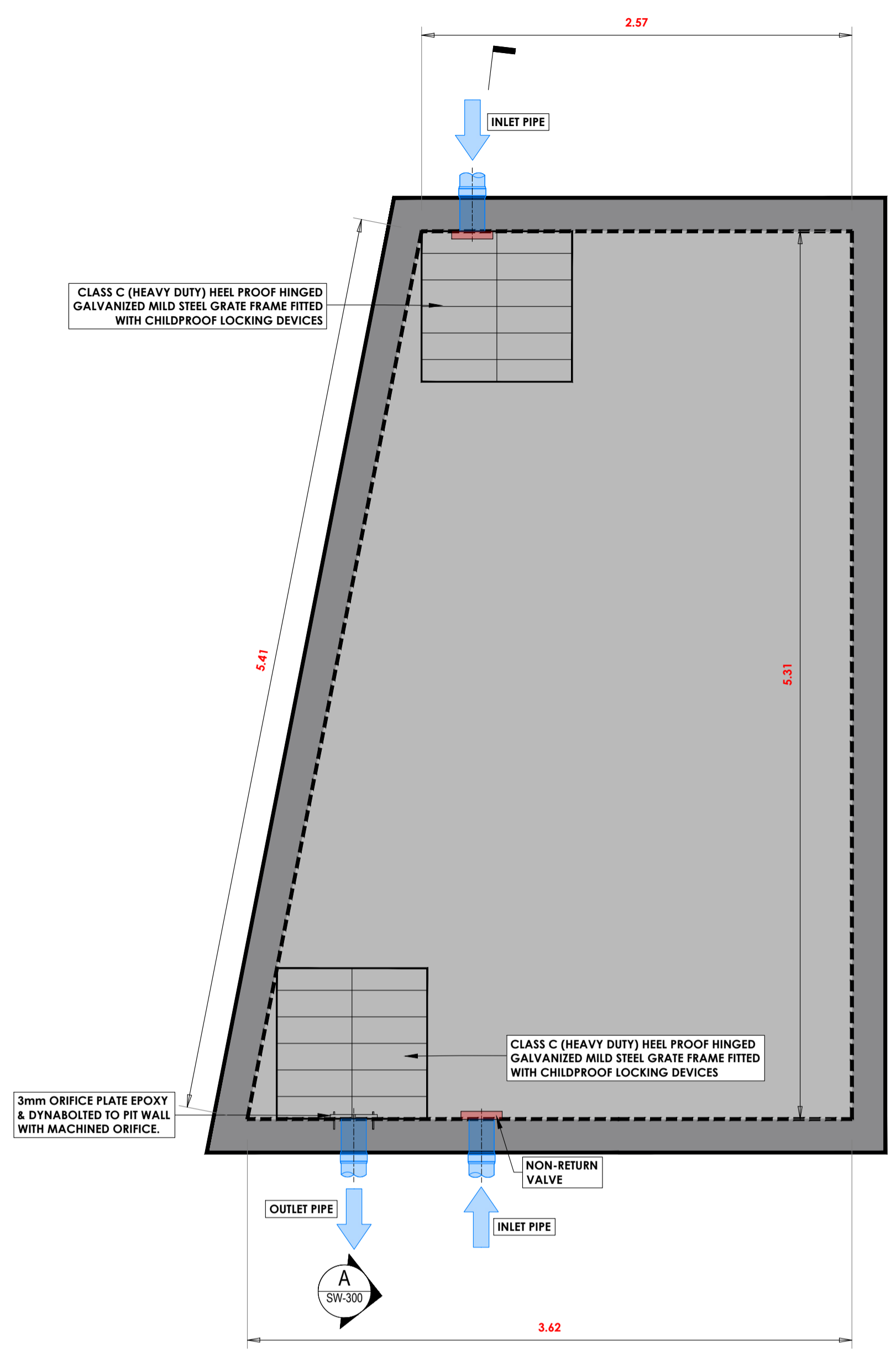
ARCHITECT: GREEN MEASURES
COUNCIL: northern beaches council
CLIENT: MR. NIMA

ENGINEER: CIVIL STORMWATER ENGINEERING GROUP
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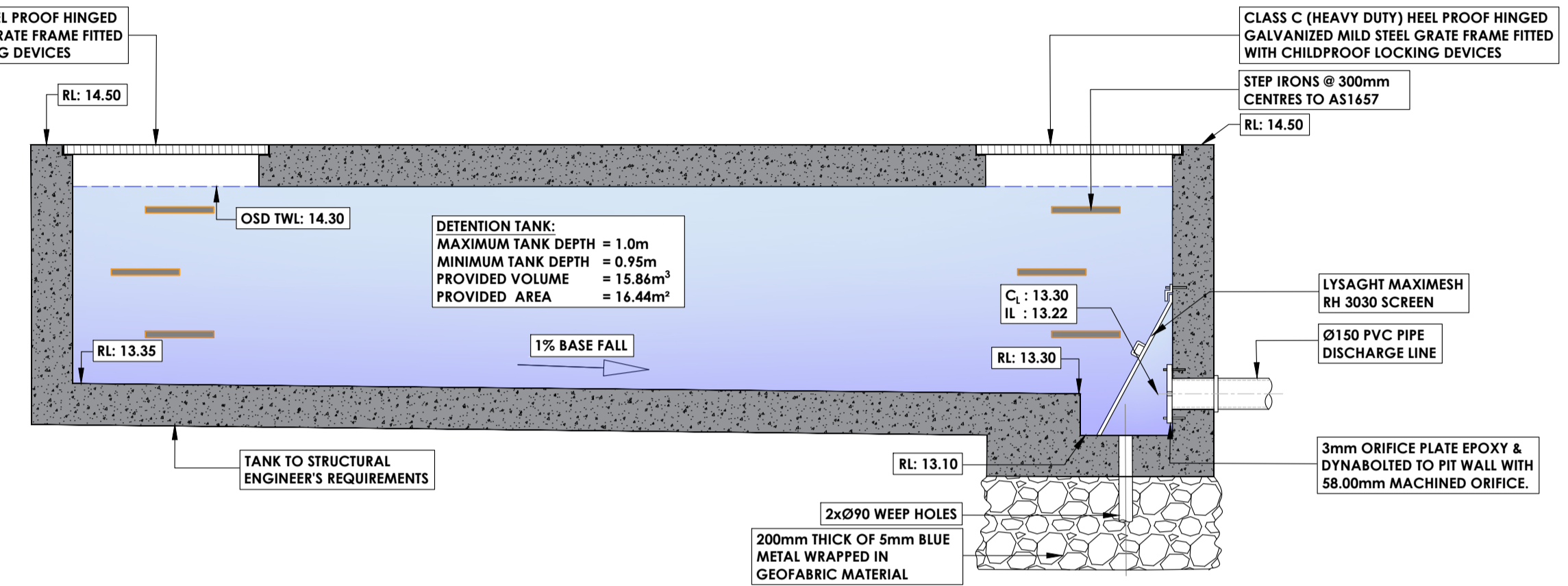
ARCHITECT: GREEN MEASURES
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SEDIMENT & EROSION CONTROL PLAN

A1	SCALE: 1:100 (A3 1:200)	01
SHT SIZE	PROJECT No: CSW2024.151	REVISION
APPLICATION	DEVELOPMENT APPLICATION (DA)	
SUPERSEDES:		
DRAWING TITLE	SW-300	06 SHEET



**OSD PLAN VIEW
SCALE 1:25**



**OSD SECTION A-A
SCALE 1:25**

OSD CALCULATION:

TOTAL SITE AREA = 514.49 m²

ADDITIONAL HARD (IMPERVIOUS) SURFACE AREA = 234.55m²:

MINIMUM CAPACITY OF ON-SITE DETENTION TANK (LITRES) = 15,000 L

DISCHARGE RATE (LITRES/SEC) = 7.0 L/S

AREA BYPASSING OSD = 13.19 m² (2.56%)

PROVIDED VOLUME = 15.86 m³

ORIFICE CALCULATION:

AS PER APPENDIX 9 - TABLE 3:

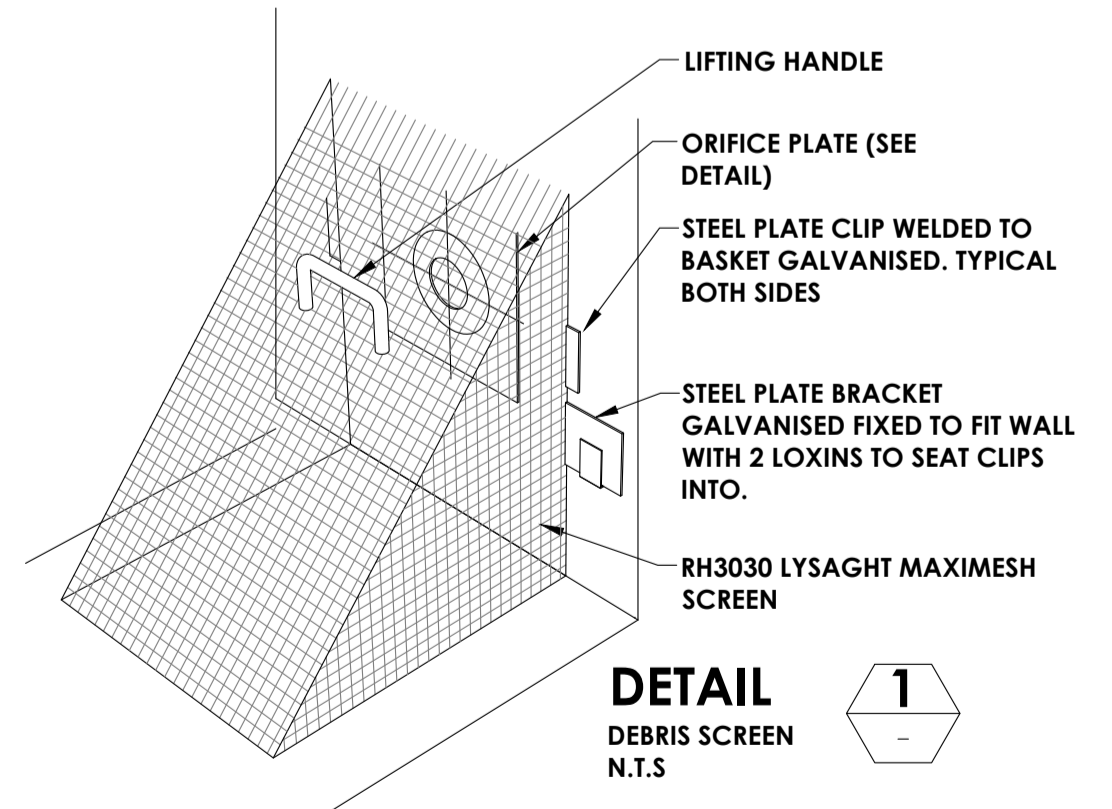
PSD = 7.0 l/s

DEPTH OF TANK ABOVE CENTRELINE OF ORIFICE = 1.0m

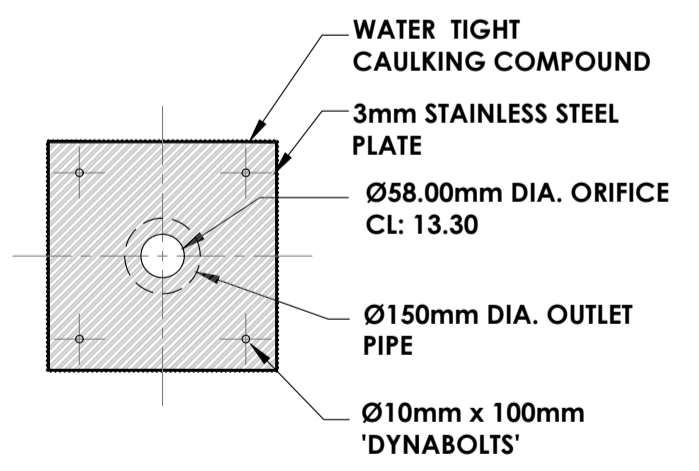
=> ORIFICE DIAMETER = 58.0 mm
& MINIMUM Ø150mm OUTLET PIPE

**UNDERGROUND OSD
TANK CALCULATIONS**

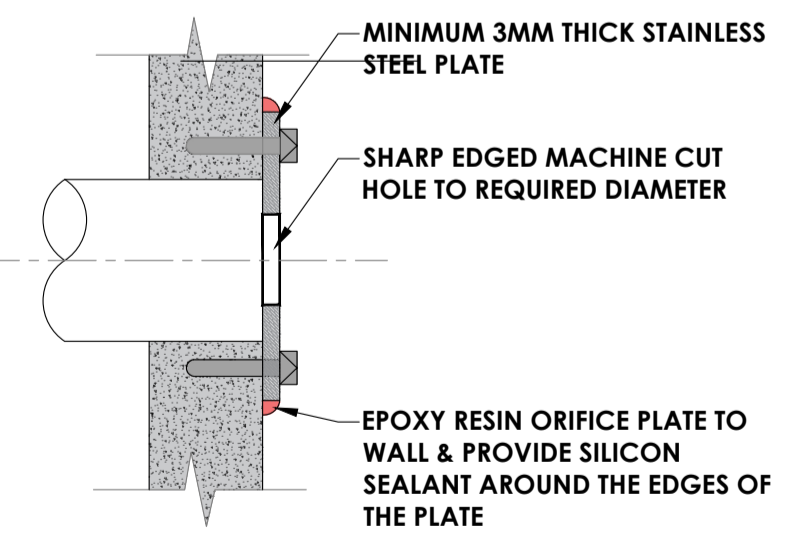
AVERAGE DEPTH (mm)	AREA (m ²)	PROVIDED VOLUME (m ³)
965.0	16.44	15.86



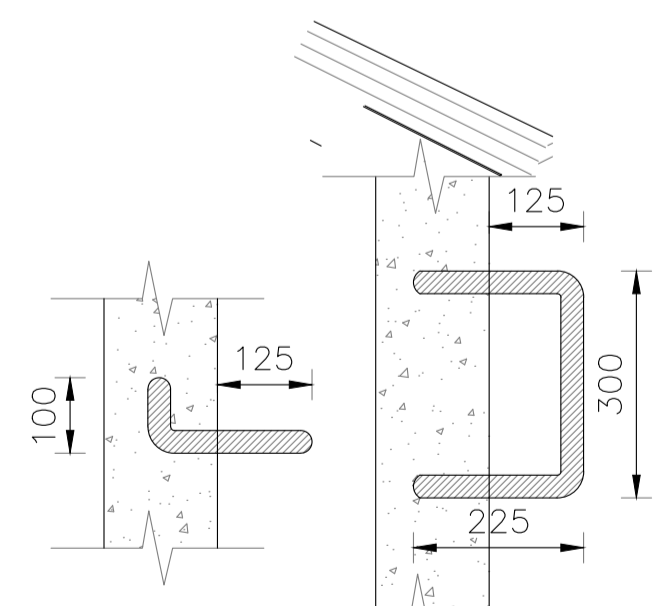
**DETAIL 1
DEBRIS SCREEN
N.T.S.**



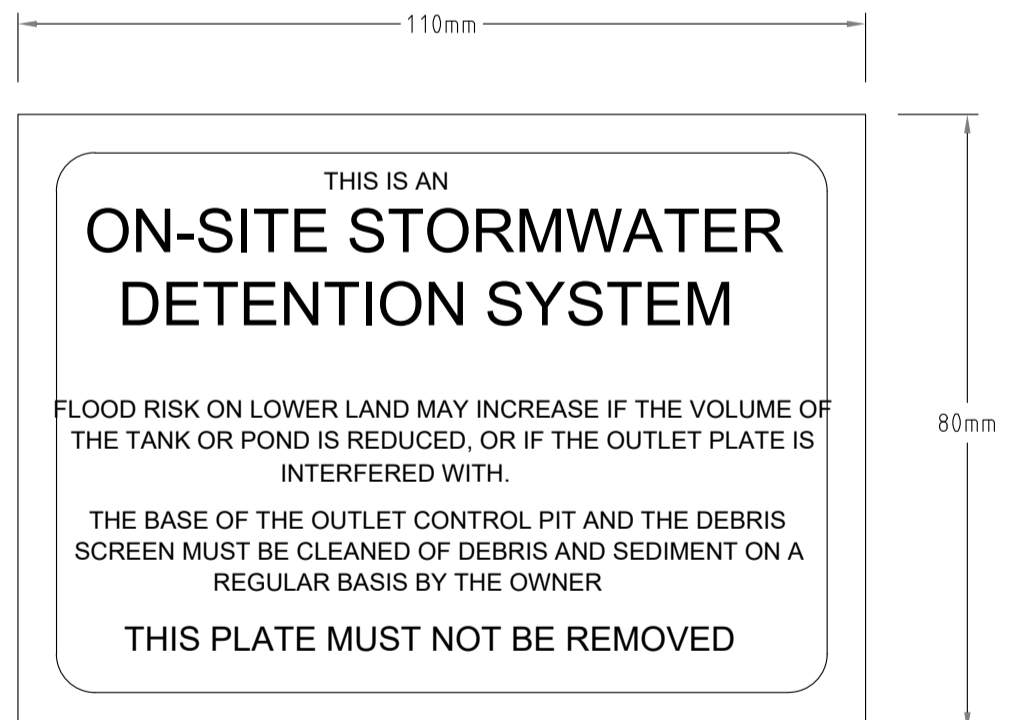
**DETAIL 2
ORIFICE PLATE
N.T.S.**



**DETAIL 3
ORIFICE
N.T.S.**



**DETAIL 4
STEP IRON
SCALE 1:10**



**ON SITE STORMWATER
DETENTION SYSTEM SIGN**

- NOTES:**
- CORNERS SQUARE
 - COLOURS: ETCHED AND FILLED BLACK LEGEND ON A NATURAL SILVER BACKGROUND.
 - CONSTRUCTED FROM ALUMINIUM 0.9mm MILL.
 - THIS SIGN SHALL BE PLACED IN A VISIBLE LOCATION NEAR A DISCHARGE CONTROL PIT OR AT THE ACCESS TO ONE.
 - SIGN FIXED USING HIL TI CHEMSETS OR EPOXY.



CONFINED SPACE DANGER SIGN

- NOTES:**
- A CONFINED SPACE DANGER SIGN SHALL BE PLACED NEXT TO EACH AND EVERY ACCESS POINT SO THAT THEY ARE VISIBLE TO PERSONS ENTERING ANY BELOW GROUND TANK OR PIT.
 - COLOURS: "DANGER" AND BACKGROUND - WHITE
ELLIPTICAL AREA - RED
RECTANGLE CONTAINING ELLIPSE - BLACK
LETTERING AND BORDER - BLACK
 - MINIMUM DIMENSIONS OF THE SIGN:
LARGER ENTRIES: 300mm x 450mm
SMALL ENTRIES: 250mm x 180mm
 - SIGN TO BE MADE FROM COLOUR BONDED ALUMINIUM OR POLYPROPYLENE.
 - SIGN FIXED USING HIL TI CHEMSETS OR EPOXY.

REV	DATE	BY	CHKD	APPD	DETAILS
01	23-Oct-24	CS	SCH		

PROJECT ADDRESS: 237 MCCARS CREEK ROAD, CHURCH POINT

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COUNCIL

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MR. NIMA

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ARCHITECT

COUNCIL

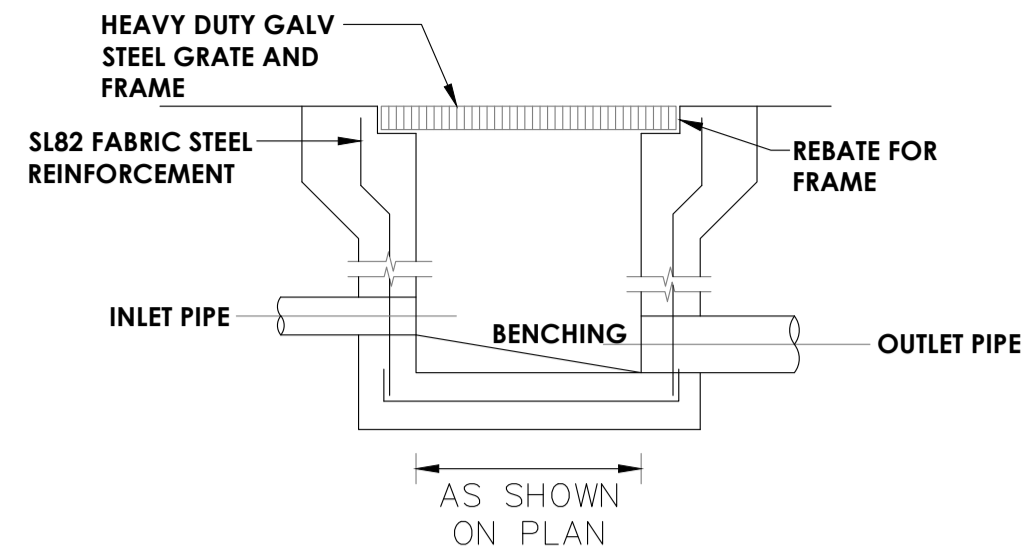
CLIENT

MR. NIMA

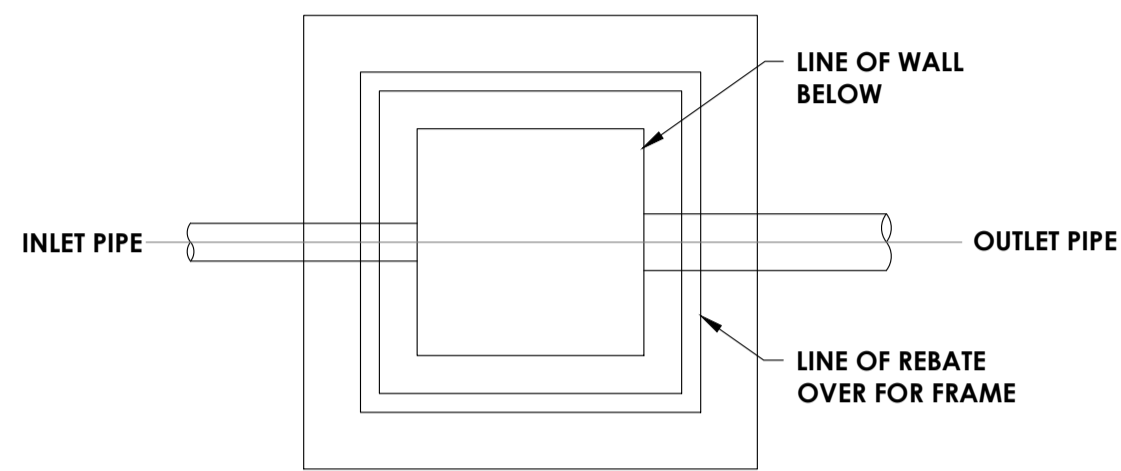
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OSD DETAILED SECTION & CALCULATION SHEET

A1	SCALE: 1:100 (A3 1:200)	01
PROJECT No:	CSW2024.151	REVISION
APPLICATION	DEVELOPMENT APPLICATION (DA)	
SUPERSEDES:		
DRAWING TITLE	SW-400	07 SHEET

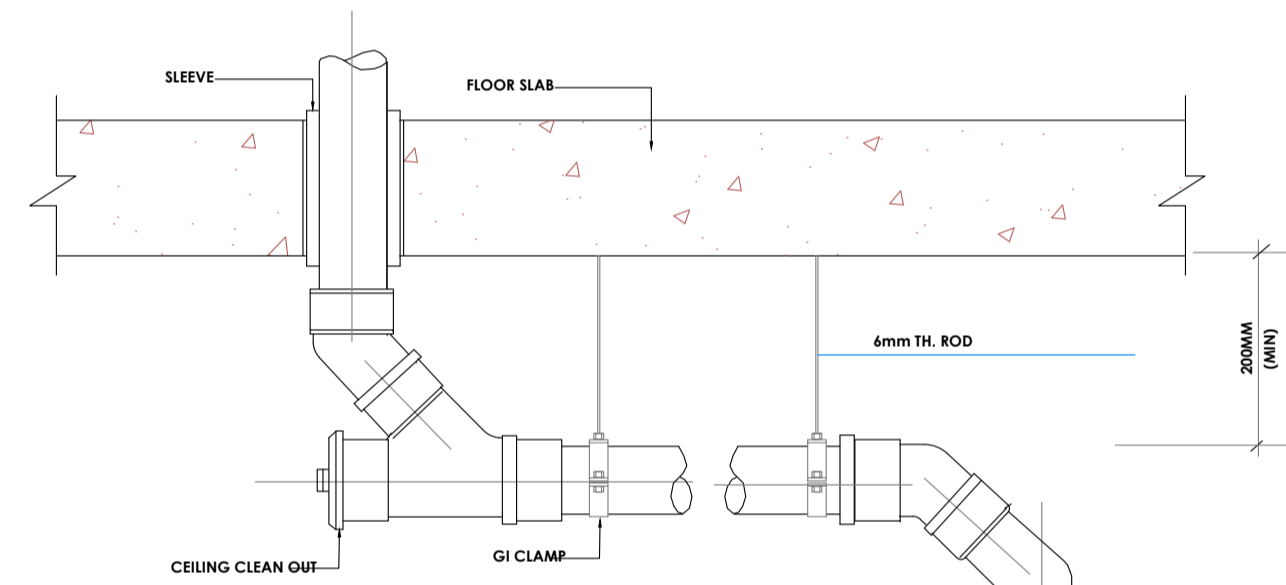


SECTION

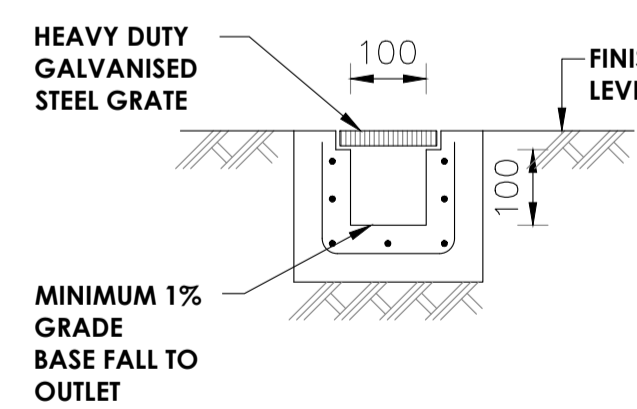


PLAN WITHOUT GRATE

DETAIL 1
STORMWATER PIT
SCALE 1:20



DETAIL 5
PIPE PENETRATION THROUGH CONCRETE SLAB
NOT TO SCALE

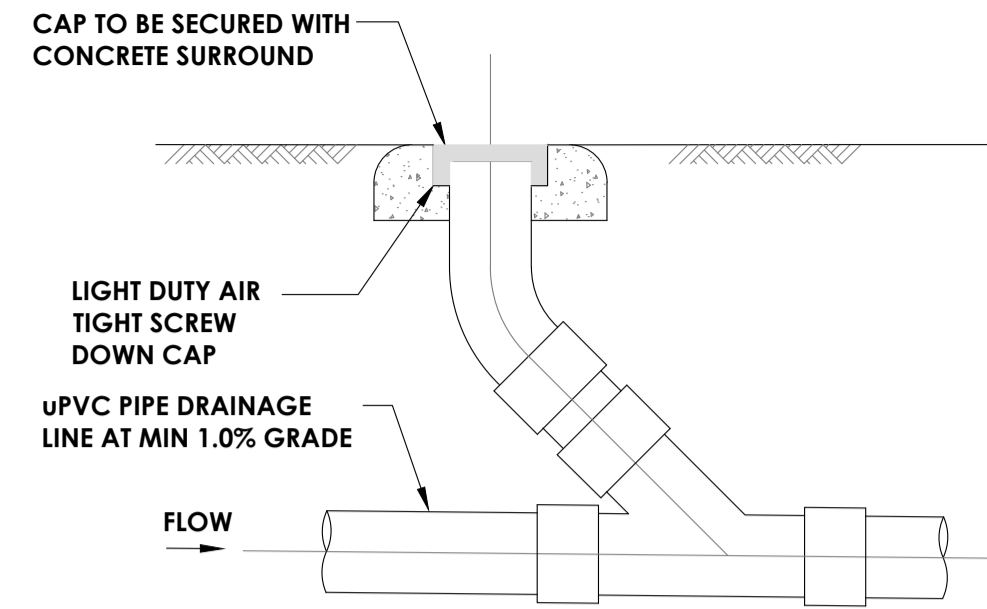


DETAIL 8
GRADED TRENCH DRAIN
NOT TO SCALE

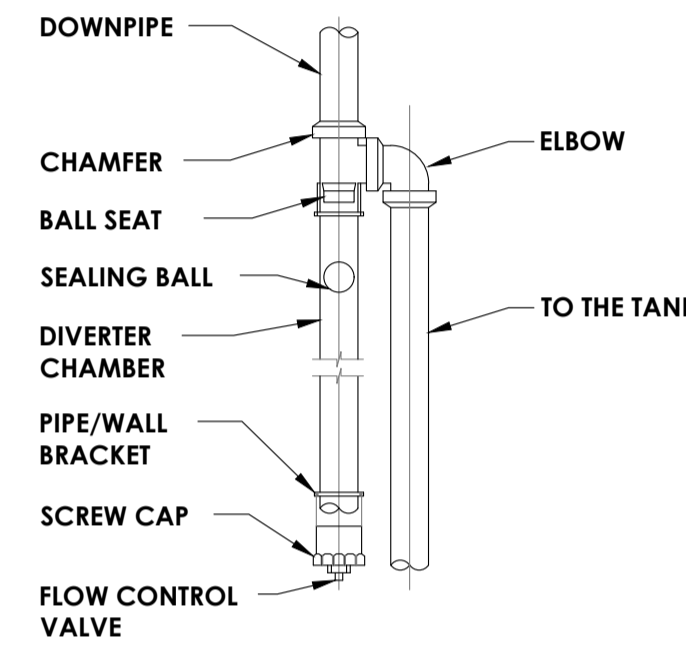


LEGEND:
BACKGROUND IS YELLOW
TEXT IS WHITE ON BLACK
BACKGROUND

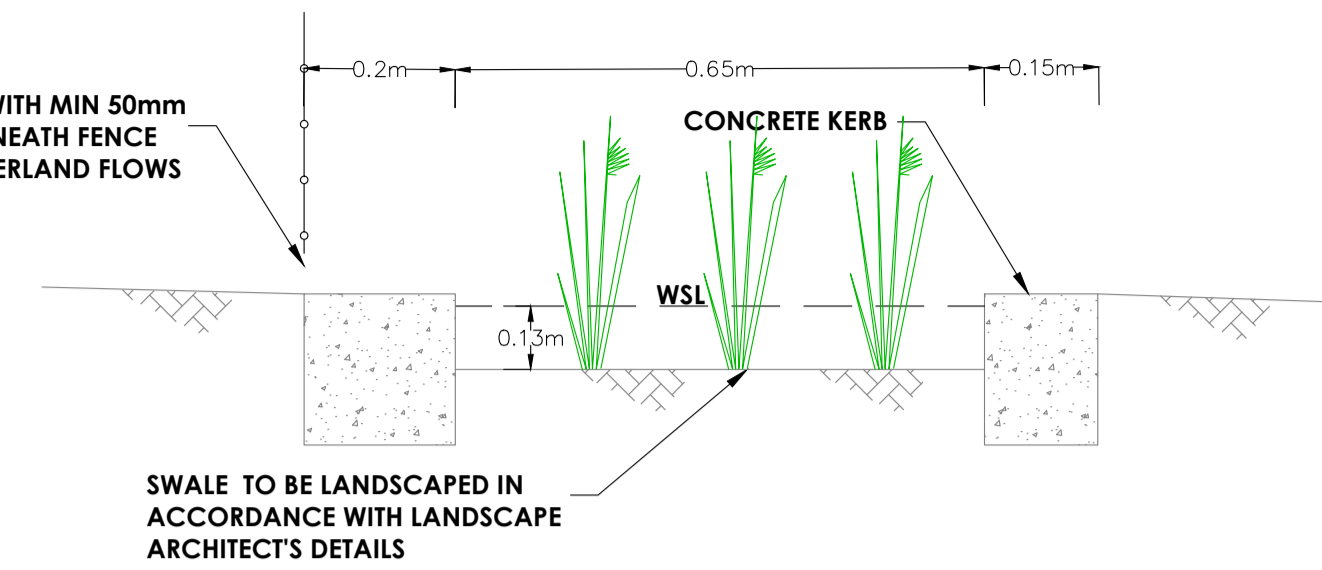
DETAIL 2
RAINWATER SIGN
SCALE 1:10



DETAIL 3
CLEANING EYE
SCALE 1:20



DETAIL 6
FIRST FLUSH DIVERTER
SCALE 1:20



SECTION B

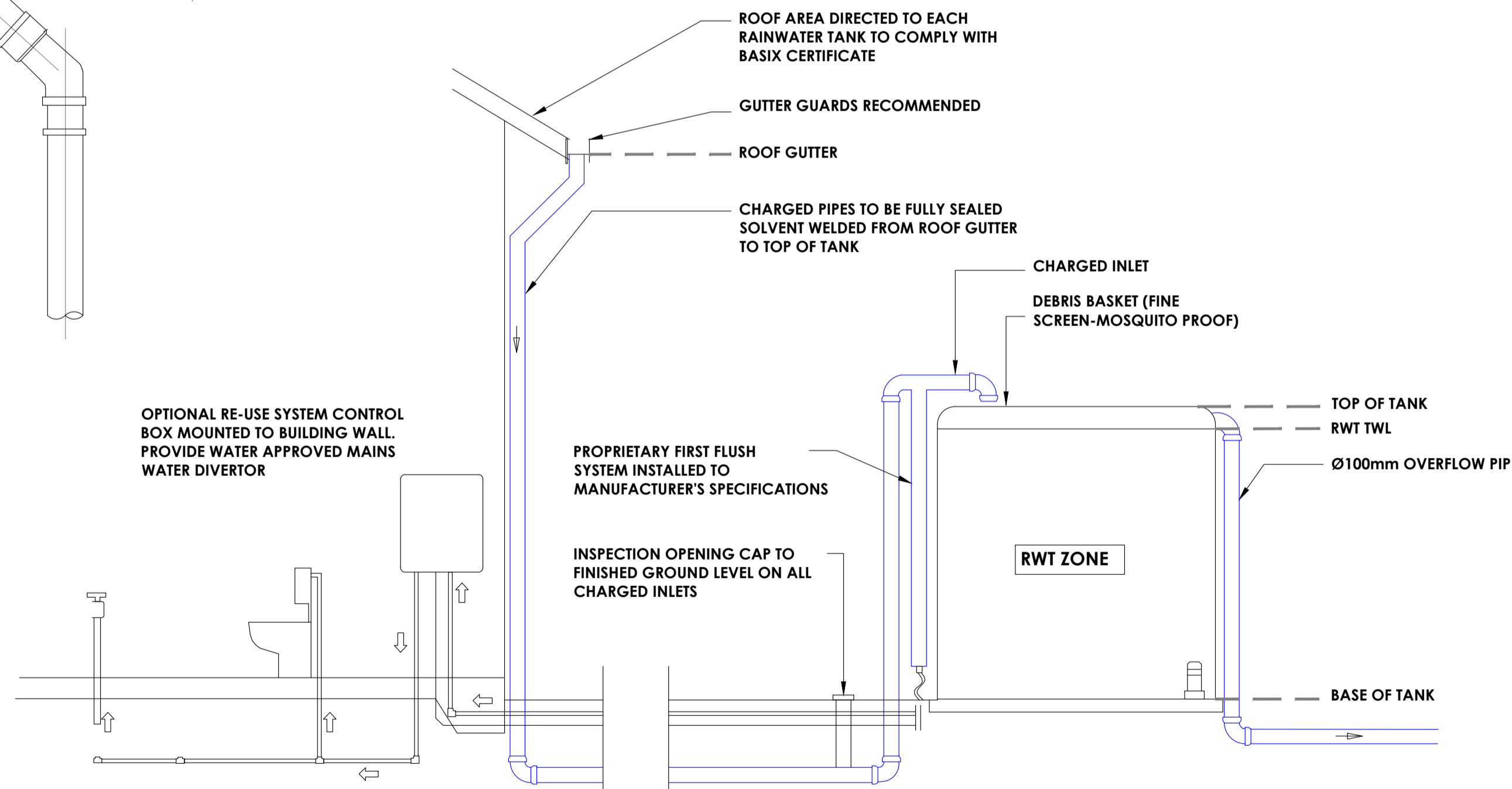
DETAIL 4
TYPICAL SWALE DRAIN DETAIL
NOT TO SCALE

RATIONAL METHOD:

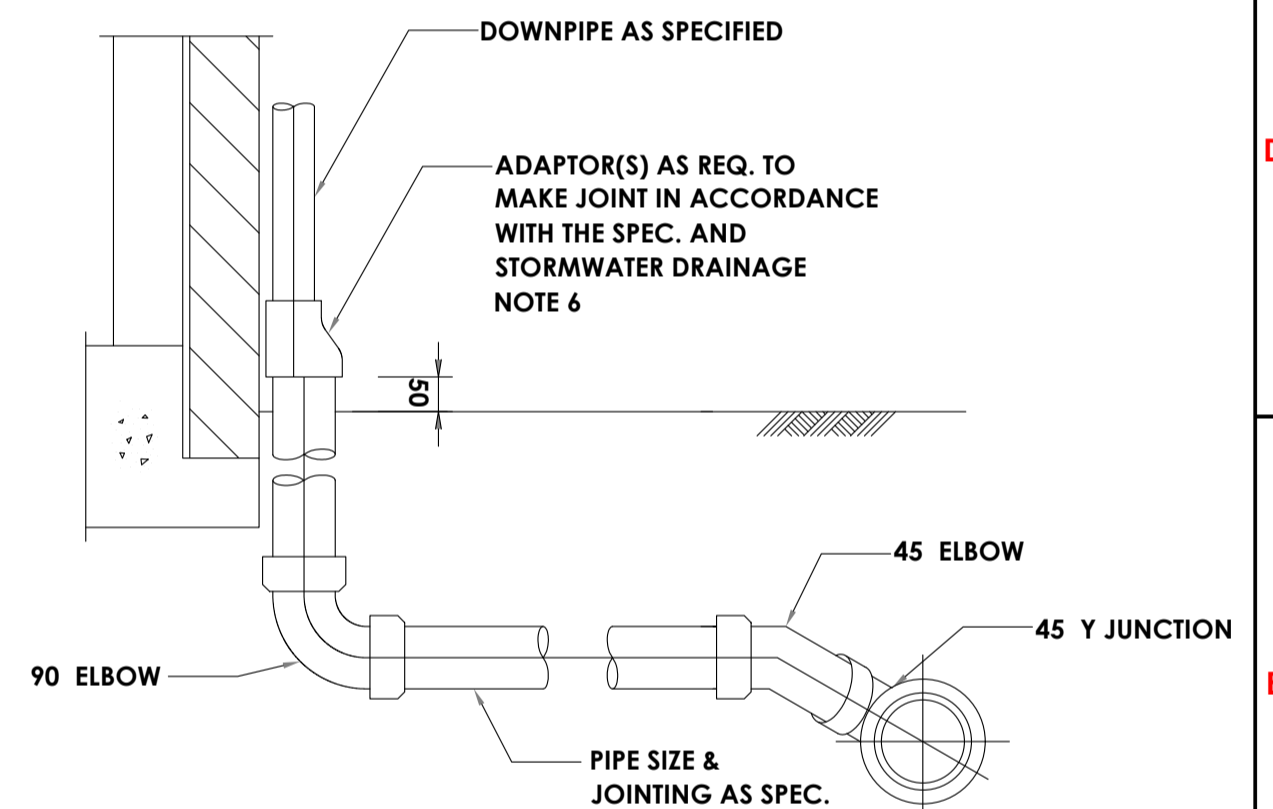
$C = 0.9$
 $I_{10mins,100yr} = 226mm/hr$
 $A = 873.00m^2$
 $Q = C \times I_{10mins,100yr} \times A$
 $Q = (0.9 \times 0.226 \times 873.00) / 3600$
 $Q = 0.049m^3/s = 49.32 L/S$

OPEN RECTANGULAR CHANNEL:

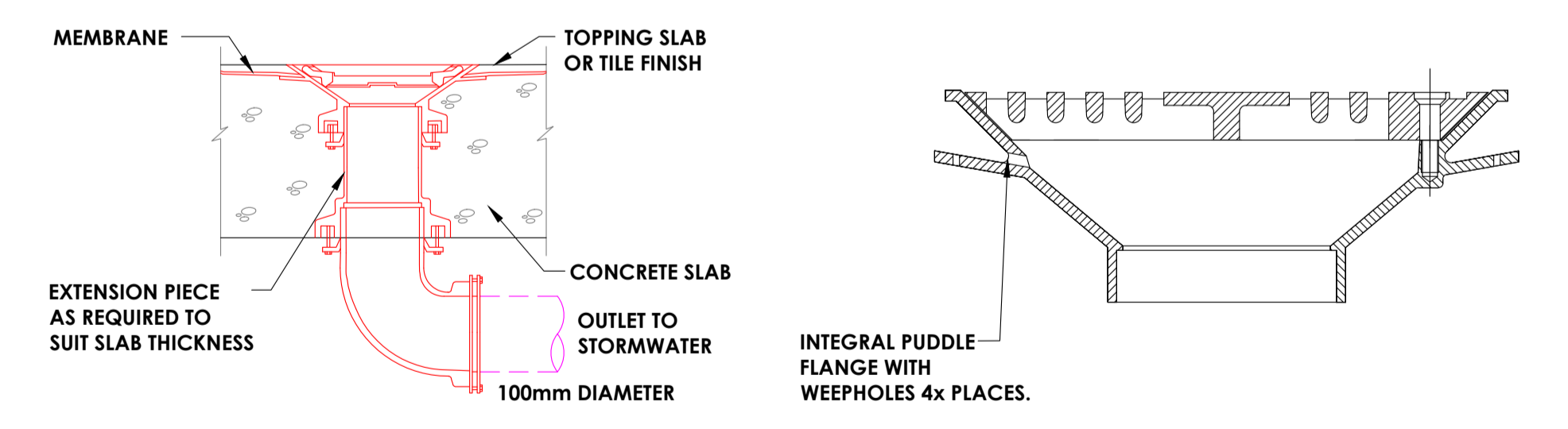
MANNING COEFFICIENT = 0.035
 WATER FLOW DEPTH = 0.13m
 TOP WIDTH = 0.65m
 MASS FLOW RATE = 0.59m³/s
 VOLUMETRIC FLOW RATE = 49.51L/S



DETAIL 9
RAINWATER TANK (ABOVE GROUND)
NOT TO SCALE



DETAIL 7
DOWNPIPE CONNECTION TO uPVC STORMWATER
NOT TO SCALE



DETAIL 10
TYPE SPS RAINWATER OUTLET
NOT TO SCALE

REV	01																			
DATE	23-Oct-24																			
DEN	CS																			
DESIGNED	CS																			
APPROV	SCH																			
DETAILS	FOR APPROVAL																			

PROJECT ADDRESS: 237 MCCARS CREEK ROAD, CHURCH POINT

SCALE BAR 1:100

SAMIR C HAKIM
B.E., M.E. (civil/construction), ADV. DIPLOMA (civil design), M.I.E. Aust, Peng MIE Aust # 3491570

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ARCHITECT: GREEN MEASURES

COUNCIL: northern beaches council

CLIENT: MR. NIMA

ENGINEER: CIVIL STORMWATER ENGINEERING GROUP

INNOVATE. ENGINEER. TRANSFORM.

STANDARD DETAILS

SW-500

A1	SCALE: 1:100 (A3 1:200)	01
SHT SIZE	PROJECT No: CSW2024.151	REVISION
APPLICATION	DEVELOPMENT APPLICATION (DA)	
SUPERSEDES:		
DRAWING TITLE		08
		SHEET