

STORMWATER MANAGEMENT PLAN

TORRENS TITLE DUAL OCCUPANCY

25 AMOURIN STREET NORTH MANLY

GENERAL
1. THIS PLAN IS TO BE USED IN CONJUNCTION WITH ARCHITECTURAL, STRUCTURAL, & LANDSCAPING PLANS. ANY DISCREPANCIES OR OMISSIONS ARE TO BE REFERRED TO THE ENGINEER FOR RESOLUTION PRIOR TO COMMENCING WORK.
2. ALL MATERIALS AND WORKMANSHIP IS TO MEET AS 3500.3:2015 STORMWATER DRAINAGE, BCA AND LOCAL COUNCIL DEVELOPMENT POLICIES, CONSENTS AND REQUIREMENTS.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DRAINAGE LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORKS. THIS INCLUDES EXISTING SERVICES AND/OR OTHER STRUCTURES THAT MAY AFFECT/BE AFFECTED BY THIS DESIGN PRIOR TO CONSTRUCTION.
4. THIS DRAWING IS NOT TO BE USED FOR SET-OUT PURPOSES. ALL SURVEY INFORMATION, PROPOSED BUILDING LEVELS, FINISHED SURFACE LEVELS AND SITE DETAILS SHOWN IN THESE DRAWINGS ARE ESTABLISHED UPON LEVELS/DETAILS SUPPLIED BY OTHERS.
5. FLOOR WASTE & DOWNPIPE LOCATIONS ARE INDICATIVE ONLY. ULTIMATE FLOOR WASTE & DOWNPIPE LOCATION, SIZE, & QUANTITY ARE TO BE DETERMINED BY BUILDER IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
6. IT IS THE BUILDERS RESPONSIBILITY TO LOCATE AND LEVEL ALL EXISTING SERVICES OR OTHER STRUCTURES WHICH MAY AFFECT/BE AFFECTED BY THIS DESIGN PRIOR TO COMMENCEMENT OF WORKS.
7. ANY SUBSTITUTION OF MATERIALS SHALL BE APPROVED BY THE ENGINEER AND INCLUDED IN THE DEVELOPMENT APPLICATION.
8. CONTRACTORS ARE TO INVESTIGATE ALL EXISTING SERVICES AND APPLY FOR "DIAL BEFORE YOU DIG" PRIOR TO COMMENCEMENT OF CONSTRUCTION.

COMPLIANCE
1. THESE PLANS WERE PREPARED IN ACCORDANCE WITH COUNCIL'S POLICIES AND REQUIREMENTS, BASIX REQUIREMENTS, AS 3500:2013, ARR (2016), ARQ (2006), BCA (2015), RELEVANT LEGISLATION, AND NSW MUSIC MODELLING GUIDELINES.
SCOPE OF WORKS
1. DETAILED DESIGN, CALCULATION AND DOCUMENTATION FOR THE FOLLOWING (WHERE APPLICABLE): ROOFED, IMPERVIOUS AND PERVIOUS AREAS; RAINWATER REUSE SYSTEM, WATER QUALITY TREATMENT, ON-SITE DETENTION AND STORMWATER DISPOSAL.
GENERAL
1. ALL GUTTERS TO BE FITTED WITH LEAF GUARDS AND SUBJECT TO REGULAR INSPECTION / CLEAN OUT.
2. MIN. TANK SIZE TO BE THAT SPECIFIED WITHIN DETAIL AND PLAN.
3. TANKS ARE TO BE INSTALLED BY A LICENSED PLUMBER IN ACCORDANCE WITH MANUFACTURES SPECIFICATIONS, AS3500 AND COUNCIL REQUIREMENTS.
4. RAINWATER RETENTION FOR RE-USE AS SPECIFIED BY BASIX CERTIFICATE.
MODELLING AND CALCULATIONS
1. SEE ATTACHED DRAINS MODEL AND OUTPUT DATE (WHERE APPLICABLE; ELECTRONIC COPIES ONLY).

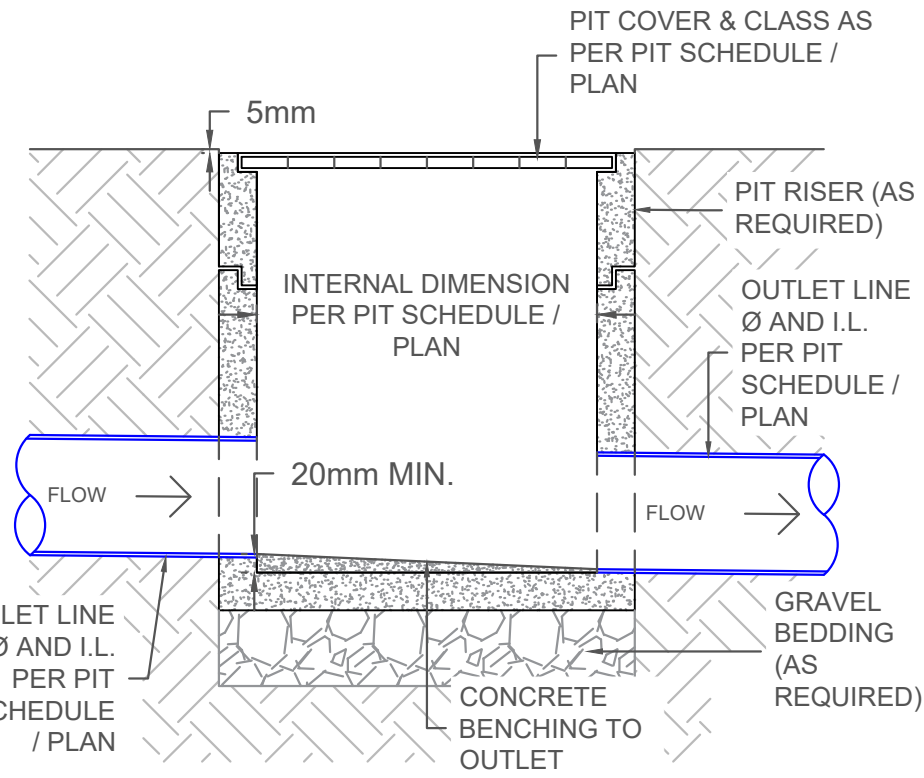
MINIMUM PIPE COVER		
O.L OF PIPE TO F.S.L		
LOCATION	MIN. COVER (mm)	
	CAST IRON, DUCTILE IRON, GALV. STEEL	OTHER AUTHORISED PRODUCTS ⁽¹⁾
1. NOT SUBJECT TO VEHICULAR LOADING: a. WITHOUT PAVEMENT- i. FOR SINGLE DWELLINGS ii. FOR ITEMS OTHER THAN i. b. WITH PAVEMENT OF BRICK OR UNREINFORCED CONCRETE	100 100 100 ⁽²⁾	100 300 100 ⁽²⁾
2. SUBJECT TO VEHICULAR LOADING: a. OTHER THAN ROADS- i. WITHOUT PAVEMENT ii. WITH PAVEMENT OF: - REINFORCED CONCRETE FOR HEAVY VEHICULAR LOADINGS - BRICK/UNREINFORCED CONCRETE FOR LIGHT VEHICULAR LOADING	300 0 ⁽²⁾⁽³⁾ 0 ⁽²⁾⁽³⁾	450 100 ⁽²⁾⁽³⁾ 75 ⁽²⁾⁽³⁾
b. ROADS- i. SEALED ii. UNSEALED	600 600	600 ⁽³⁾ 750 ⁽³⁾
3. SUBJECT TO CONSTRUCTION EQUIPMENT OR IN EMBANKMENT CONDITIONS	600	750 ⁽³⁾
4. LAND ZONE FOR AGRICULTURAL USE	600	600
⁽¹⁾ INCLUDES OVERLAY ABOVE TOP OF THE PIPE NOT LESS THAN 50mm THICK		
⁽²⁾ BELOW THE UNDERSIDE OF THE PAVEMENT		
⁽³⁾ SUBJECT TO COMPLIANCE WITH AS 1762, AS 2033, AS 2566.1, AS 3725, AS 4060		

DRAINAGE LINES
1. MINIMUM PIPE GRADE AS SPECIFIED IN TABLE BELOW. MINIMUM DIAMETER IS TO BE (U.N.O): a. Ø100mm WHERE LINE RECEIVES ROOF WATER. b. Ø150mm WHERE LINE RECEIVES RUN-ON FROM PAVED/UNPAVED EXTERNAL SURFACES
2. PIPE EMBEDMENT IS TO BE IN ACCORDANCE WITH LOCAL AUTHORITY SPEC., AS 3500.3, AS 2032 FOR PVC, & AS 3725 FOR FCR/RCP PIPEWORK.
3. SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS AND EMBANKMENTS WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM.

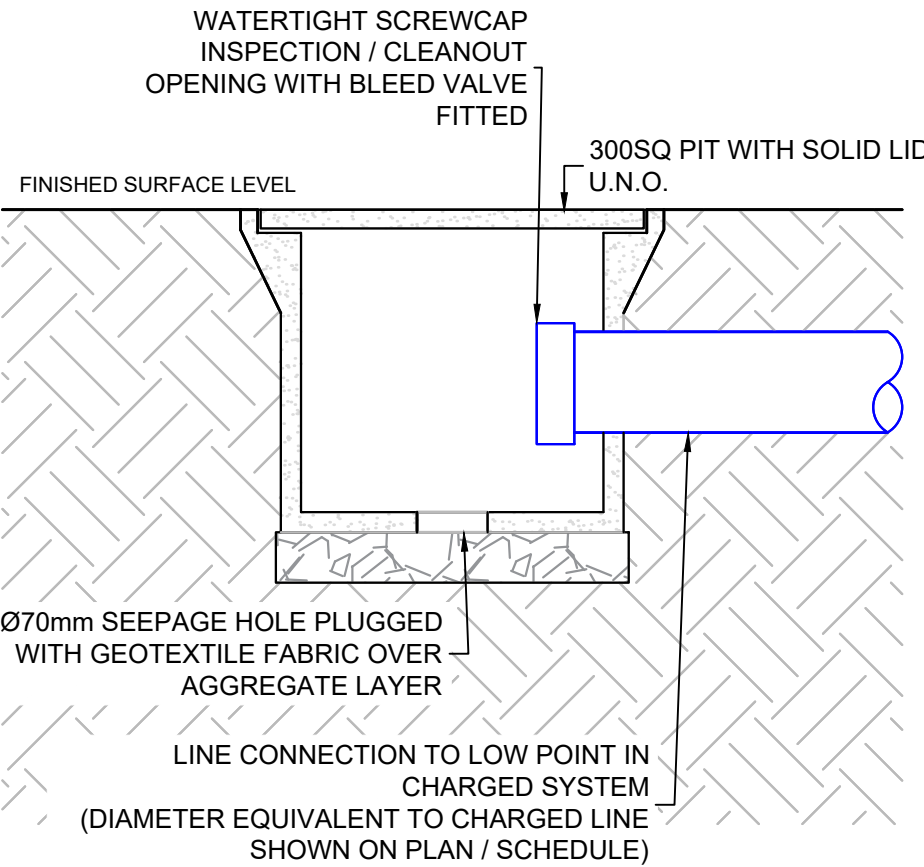
MINIMUM SITE PIPE GRADIENT (U.N.O)			MINIMUM INTERNAL DIMENSIONS FOR STORMWATER PITS		
DIAMETER Ø (mm)	MIN. GRADE	MIN. % SLOPE	DEPTH TO I.L OF OUTLET(mm)		MIN. INTERNAL DIMENSIONS (mm)
					WIDTH
					LENGTH
≤ Ø150	1:100	1%	≤ 600	450	450
225	1:200	0.5%	> 600 TO ≤ 900	600	600
300	1:250	0.4%	> 900 TO ≤ 1200	600	900
375	1:300	0.33%	> 1200	900	900

PITS
1. ALL PITS TO BE FITTED WITH APPROVED GALAVANISED STEEL GRATES AND TO BE SUITABLE FOR THE FOLLOWING LOAD RATING (U.N.O): a. CLASS-B MIN. FOR LANDSCAPED AREAS b. CLASS-C WHERE SUBJECT TO VEHICULAR TRAFFIC
2. ALL PITS FITTED WITH CHILDPROOF SPRING LOCKING J-BOLTS.
3. GRATED COVERS OF PITS > 600SQ mm ARE TO BE HINGED & OFFSET FROM OBSTRUCTIONS TO ALLOW FOR FULL OPENING.
4. PROVIDE STEP IRONS TO STORMWATER PITS > 1200mm IN DEPTH.
5. PIT BASES ARE TO BE BENCHED LEVEL TO THE I.L OF THE OUTLET PIPE (NO SUMP U.N.O), WITH A MIN. FALL OF 20mm BETWEEN THE INLET AND OUTLET PIPE I.Ls. ALL PIPES SHOULD BE CUT FLUSH WITH THE WALL OF THE PITS.
6. PRECAST PITS ARE TO BE SET ON A 75mm CONCRETE BASE AND BACKFILLED WITH CONCRETE TO HALF THE PIT'S HEIGHT.
7. WATER SHOULD NOT BE PERMITTED TO POND WITHIN THE DRAINAGE SYSTEM.

ABBREVIATIONS	ABBREVIATIONS	ABBREVIATIONS
A.H.D AUSTRALIAN HEIGHT DATUM	FW FLOOR WASTE	R.C.P REINFORCED CONCRETE PIPE
A.R.I AVERAGE RECURRENCE INTERVAL	G.S.I. GRATED SURFACE INLET PIT	R.H.S RECTANGULAR HOLLOW SECTION
A.E.P ANNUAL EXCEEDANCE PROBABILITY	HGL HYDRAULIC GRADE LINE	R.L REDUCED LEVEL
C.O CLEAN-OUT PIT	I.L. INVERT LEVEL	R.W. RAINWATER TANK
DP DOWNPIPE	I.O INSPECTION OPENING	T SURFACE LEVEL
D/S DOWNSTREAM	N.S.L NATURAL SURFACE LEVEL	SQ SQUARE
FF FIRST FLUSH DEVICE	N.T.S NOT TO SCALE	TYP. TYPICAL
F.F.L FINISHED FLOOR LEVEL	O.F OVERFLOW	T.W.L TOP WATER LEVEL
F.G.L FINISHED GROUND LEVEL	O.L OBVERT LEVEL	U/S UPSTREAM
	O.S.D ON-SITE DETENTION	U.N.O UNLESS NOTED OTHERWISE
		w/ WITH



GRATED SURFACE INLET PIT (GSIP) - TYPICAL SECTION DETAIL
SCALE: N.T.S.



CHARGED LINE CLEAN-OUT PIT (CO) - TYPICAL SECTION DETAIL
SCALE: N.T.S.

KEY	
	SITE BOUNDARY
	EXISTING DRAINAGE LINE
	ROOF DRAINAGE LINE
	SURFACE DRAINAGE LINE
	GRATED SURFACE INLET PIT
	FLOW DIRECTION
	DOWNPIPE TYPE 1
	SPREADER TO LWR ROOF TYPE 1
	INSPECTION OPENING
	VERTICAL DROPPER / VERTICAL RISER
	RAINWATER OUTLET
	TANK OVERFLOW TO PIT / PIPE BELOW
	VERTICAL RISER OUTLET INTO TANK
	CHARGED LINE CLEAN-OUT POINT WITHIN PIT

ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.

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A-02	25/06/25	LS	LS	RS	UPDATE TO ARCH REV-H
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ENVIRONMENTAL FLOOD STORMWATER GEOTECHNICAL ACOUSTICS WASTEWATER

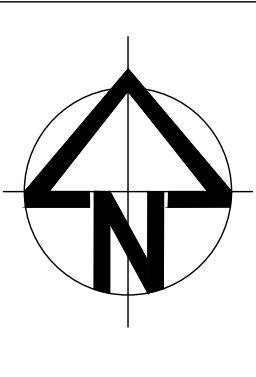
PROJECT DESCRIPTION	TORRENS TITLE DUAL OCCUPANCY	SHEET	TITLE PAGE & GENERAL NOTES
PROJECT SITE	25 AMOURIN STREET NORTH MANLY	PLAN	STORMWATER MANAGEMENT PLAN
LGA	NORTHERN BEACHES COUNCIL	CLIENT	ZAC HOMES

PROJECT ID
4496-SW

SCALE
NTS @ A3

NTS @ A1

SHEET NO.
1 of 5



LGA OSD WARRANT & DESIGN NOTES

1.

SITE LOCATED WITHIN REGION 2 FORMER WARINGAH LGA PER NBC (2020) WMDP, PER WMDP APPENDIX 16 4.2.1, OSD REQUIRED FOR MULTIPLE OCCUPANCY / SUBDIVISION. >30m2 OF SITE CATCHMENT REQUIRED TO BYPASS OSD TO ACHIEVE OSD INSTALLATION, THEREFORE 'FULL COMPUTATIONAL METHOD' EMPLOYED PER 9.3.2.5.
2.

PER 9.3.2.6 POST-DEVELOPMENT DISCHARGE TO BE LIMITED TO LESS THAN OR EQUAL TO 'STATE-OF-NATURE' (SON) FOR 20%, 5%, AND 1% AEP DESIGN STORMS. OSD COMPLETED TO THIS DISCHARGE TARGET VIA 2x5kL BELOW GROUND OSD TANKS; DRAINS MODELLING SUMMARY PER DISCHARGE SCHEDULE (SH02), DRAINS HYDRAULIC FILE AVAILABLE UPON REQUEST.
3.

OSD TANKS PROVIDED WITH MINIMUM 0.5m INTERNAL DEPTH PER APPENDIX 15 NBC (2020) WMDP; 0.3m HABITABLE FLOOR AND 0.15m GARAGE FLOOR CLEARANCE ABOVE THE DESIGN OSD STORAGE LEVEL PER 9.4.

PIPE SCHEDULE (GENERAL)				
ID	TYPE	DN (Ø)	PIPE GRADIENT	NOTES
		(m)	(%)	
SW.1	uPVC DWV	100	1% MIN.	GRAVITY STORMWATER LINES.
RW.1	uPVC DWV	100	1% MIN.	CHARGED ROOF LINE TO TANK

DEV. DISCHARGE 'Q' [L/s]¹

DESIGN STORM [A.E.P.]		20%	10%	5%	2%	1%
DEVELOPMENT CONDITION	STATE OF NATURE	7	12	17	23	28
	POST-DEV. ^[2]	7	9	11	13	14

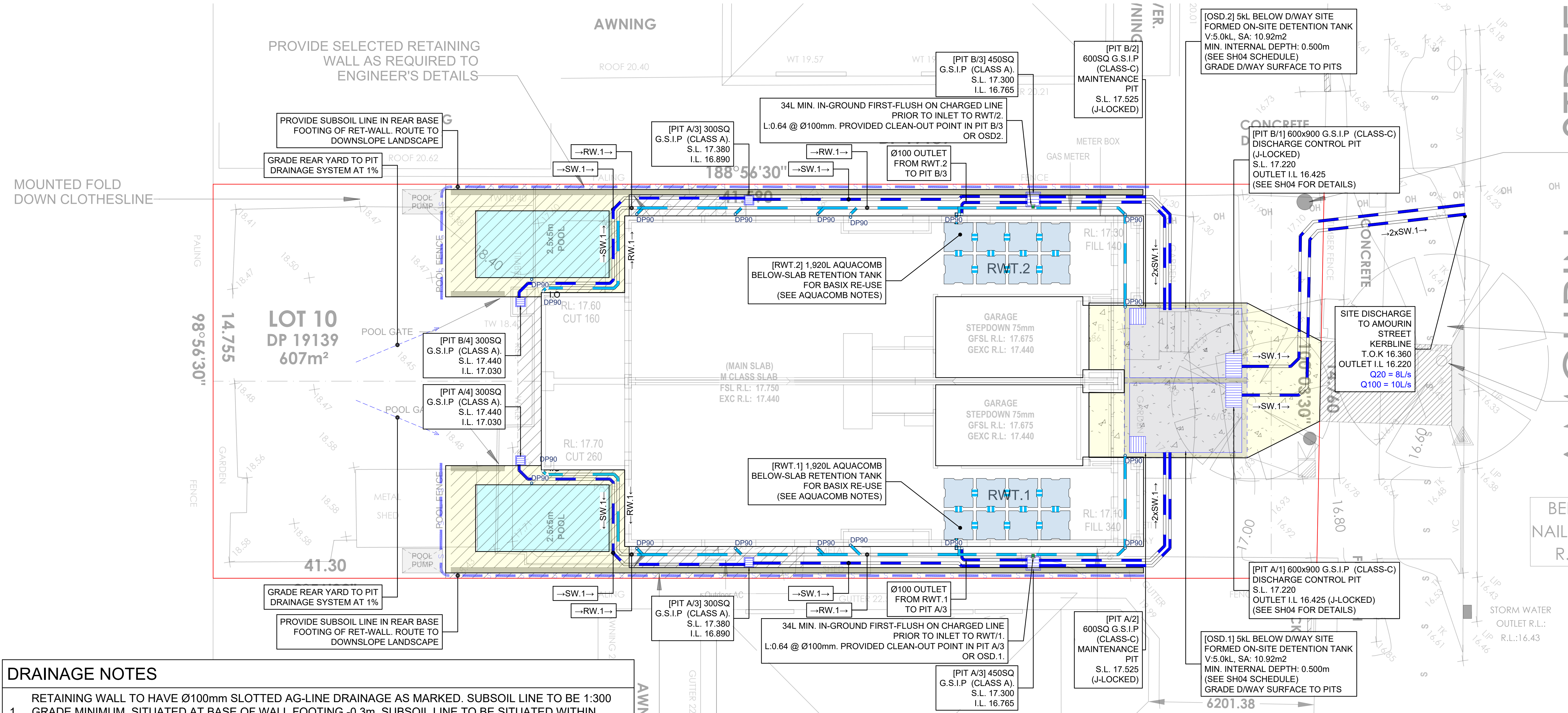
NOTES

1.

MAXIMUM DISCHARGE FOR ALL STORM DURATIONS SIMULATED (5min to 6hr)

2.

POSTDEV DISCHARGE REDUCED TO PREDEV FOR ALL STORM DURATIONS VIA OSD.



DRAINAGE NOTES

- RETAINING WALL TO HAVE Ø100mm SLOTTED AG-LINE DRAINAGE AS MARKED. SUBSOIL LINE TO BE 1:300 GRADE MINIMUM, SITUATED AT BASE OF WALL FOOTING -0.3m. SUBSOIL LINE TO BE SITUATED WITHIN GEOTEXTILE WRAPPED GRAVEL BACKFILL. PROVIDE I.O + RISERS AT 15m INTERVALS & ENDS AT MINIMUM.
- ENSURE AREA IN CUT ACHIEVES A 0.5% CONTINUOUS GRADE AROUND STRUCTURE TO SURFACE DRAINAGE COMPONENTS.
- LOW POINT IN CHARGED ROOF LINES TO BE AT CLEAN-OUT POINT FOR SILT / DEBRIS PURGING.

AQUACOMB NOTES

- AQUACOMB SYSTEM DETAIL HEREIN INDICATES REQUIRED SYSTEM VOLUME FOR BASIX AND SUGGESTED LOCATION. CONFIRMATION BY STRUCTURAL ENGINEER & AQUACOMB PROPRIETOR REQUIRED FOR CONSTRUCTION WITH SITE-SPECIFIC AQUACOMB PLANS REQUIRED FOR CONSTRUCTION.
- AQUACOMB SYSTEM INSTALL & COMMISSIONING TESTING TO BE COMPLETED PER AQUACOMB TECHNICAL MANUAL & PLUMBERS GUIDE.

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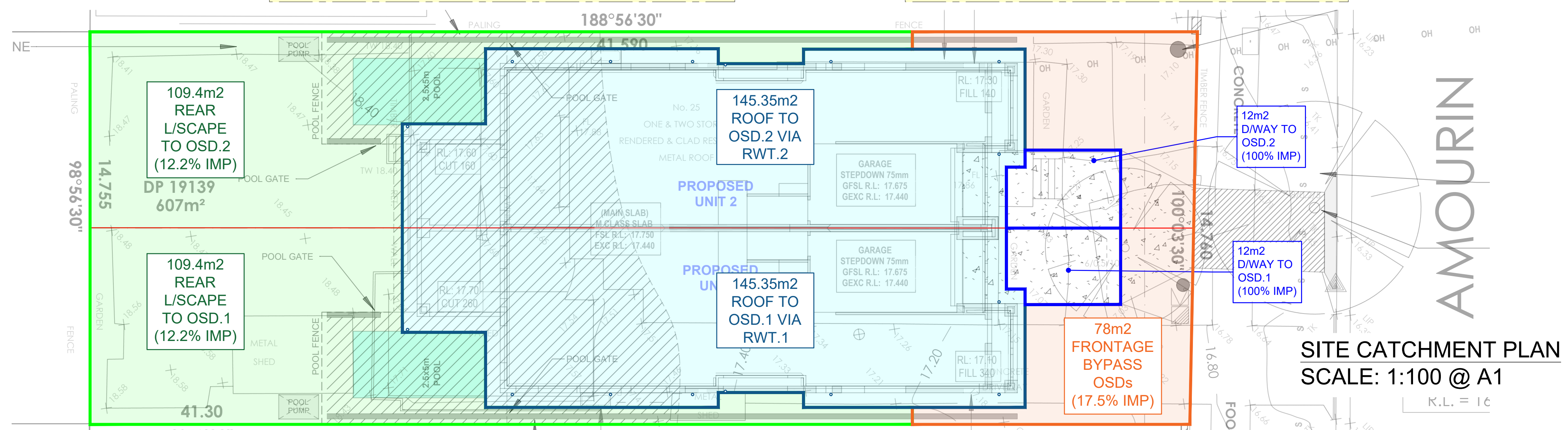
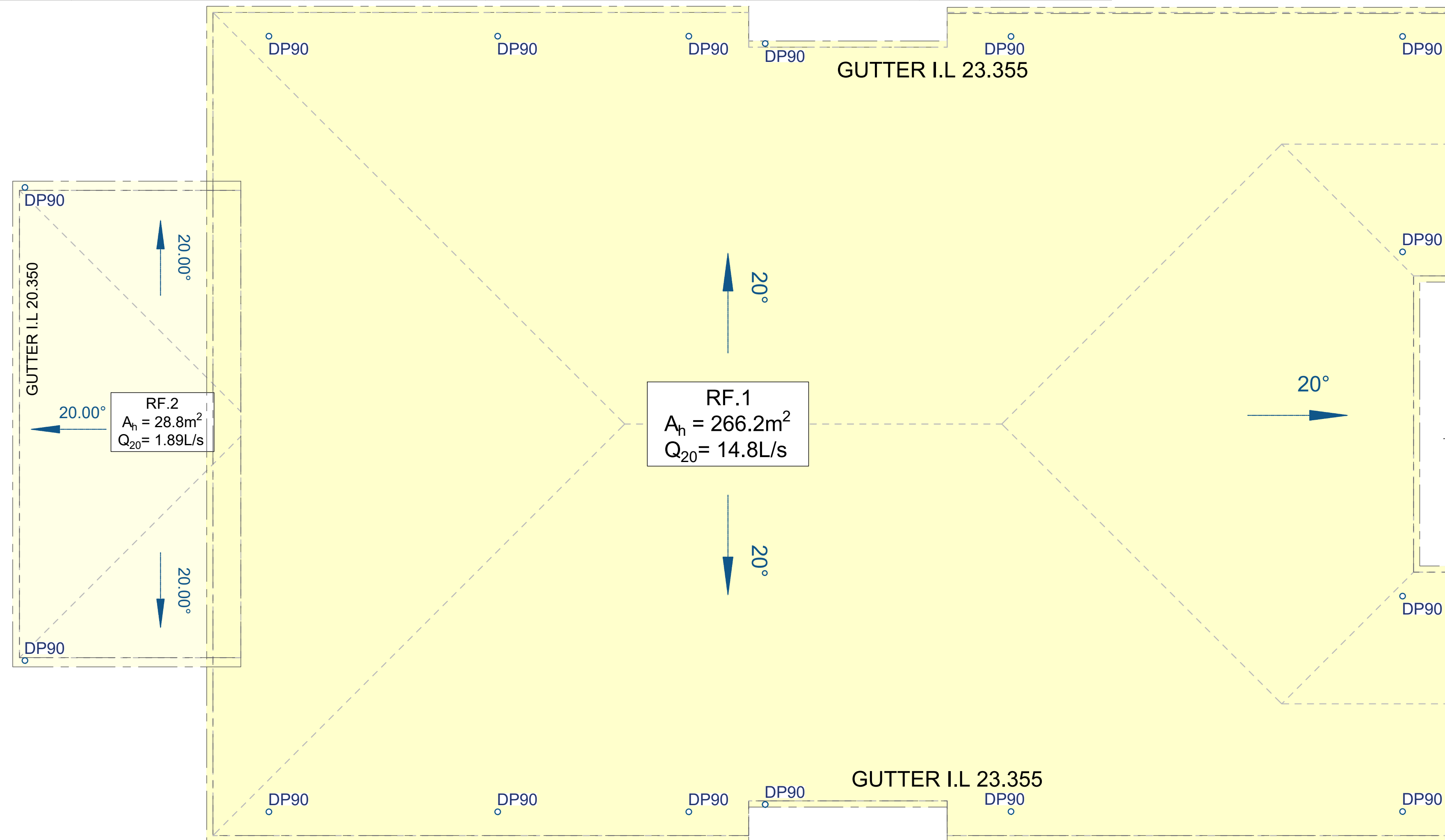
ENVIRONMENTAL FLOOD STORMWATER GEOTECHNICAL ACOUSTICS WASTEWATER

PROJECT DESCRIPTION	TORRENS TITLE DUAL OCCUPANCY	SHEET	SITE DRAINAGE PLAN
PROJECT SITE	25 AMOURIN STREET NORTH MANLY	PLAN	STORMWATER MANAGEMENT PLAN
LGA	NORTHERN BEACHES COUNCIL	CLIENT	ZAC HOMES

PROJECT ID	4496-SW	
SCALE	1:150 @ A3	
SHEET NO.	2 of 5	

ROOF & EAVES GUTTER SCHEDULE								
ROOF I.D.	DESCRIPTION	MATERIAL	PITCH	DOWNPIPE / SPREADER I.D.	MIN. NO. OF DPs / SPs	MIN. GUTTER CROSS-SECTIONAL AREA (A _e)(mm ²)	GUTTER GRADE	DESIGN STORM
RF.1	1ST FLOOR GABLE ROOF	KLIPOK	3°	DP.90	14	5,500mm ²	≥1:500	5% AEP
RF.2	HIPPED ALFRESCO ROOF	COLORBOND	18°	DP.90	2	4,000mm ²	≥1:500	5% AEP

DOWNPIPE & SPREADER SCHEDULE			
I.D.	MINIMUM DIMENSIONS (INTERNAL) (mm)		DESIGN STORM
	CIRCULAR	RECTANGULAR / SQUARE	
DP/SP.90	Ø90	75x50	5%AEP




ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.

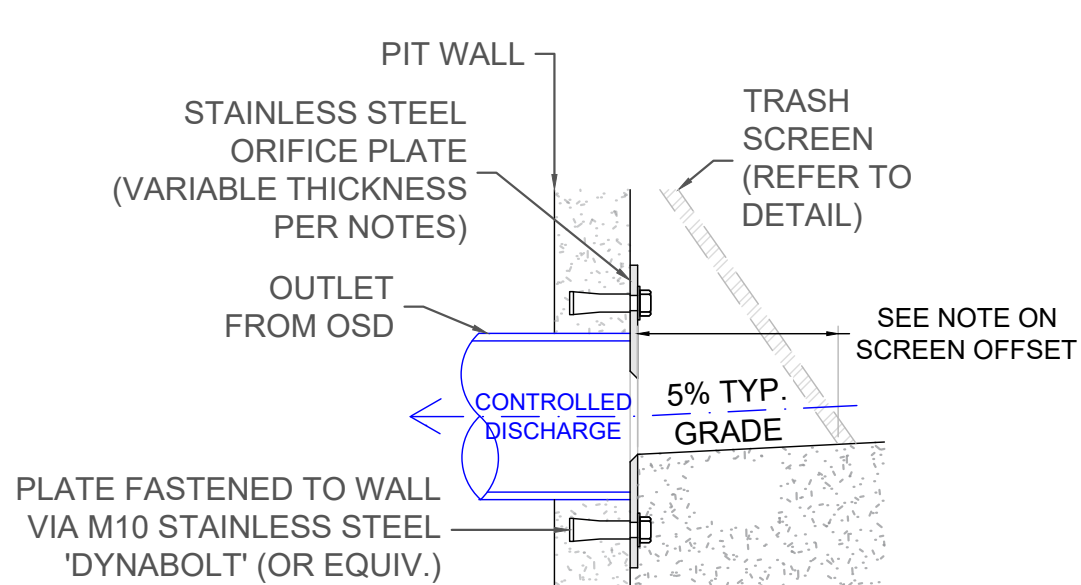
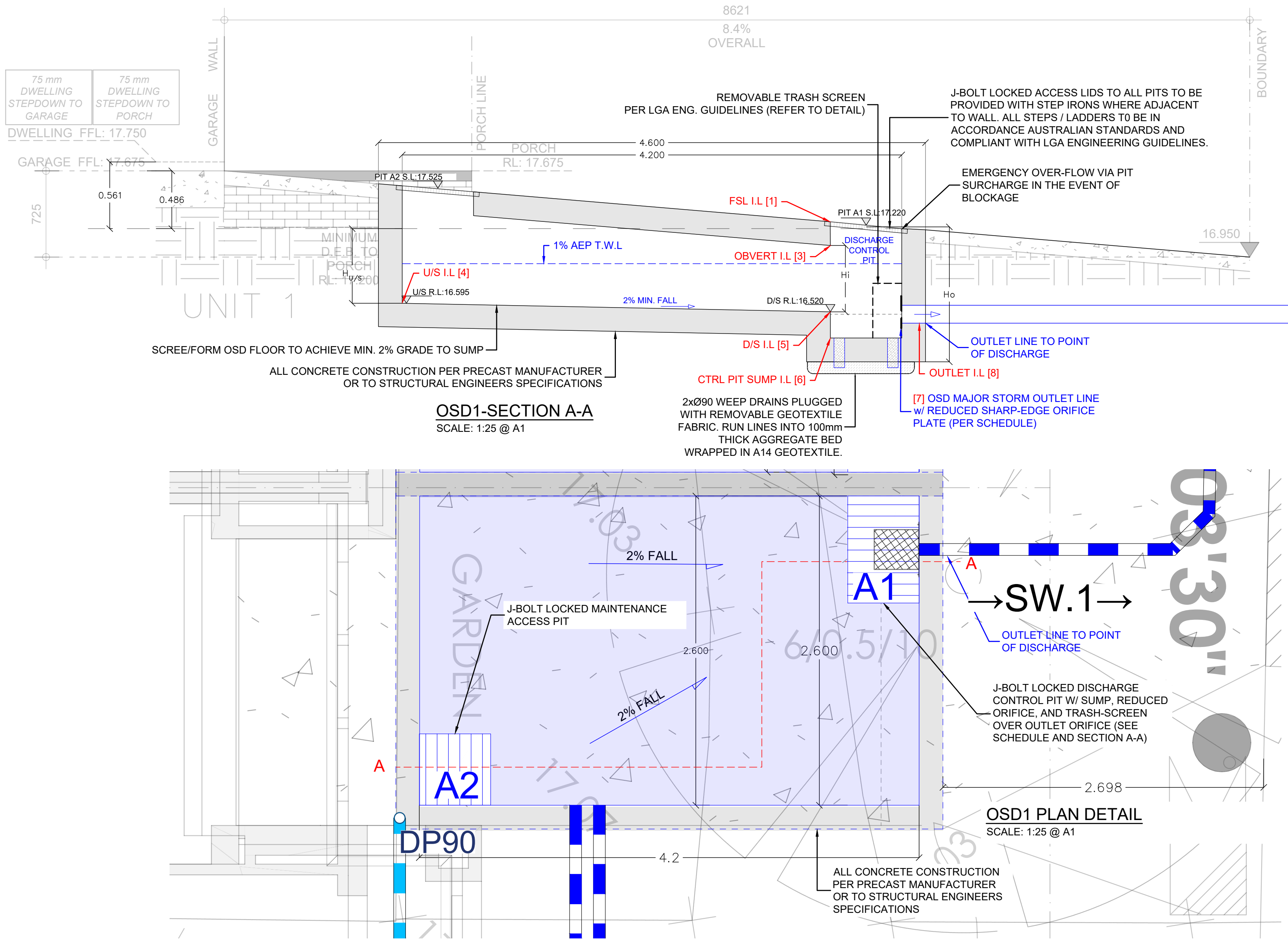
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ENVIRONMENTAL FLOOD STORMWATER GEOTECHNICAL ACOUSTICS WASTEWATER

PROJECT DESCRIPTION	SHEET
TORRENS TITLE DUAL OCCUPANCY	ROOF DRAINAGE & CATCHMENT PLAN
PROJECT SITE	PLAN
25 AMOURIN STREET NORTH MANLY	STORMWATER MANAGEMENT PLAN
LGA	CLIENT
NORTHERN BEACHES COUNCIL	ZAC HOMES

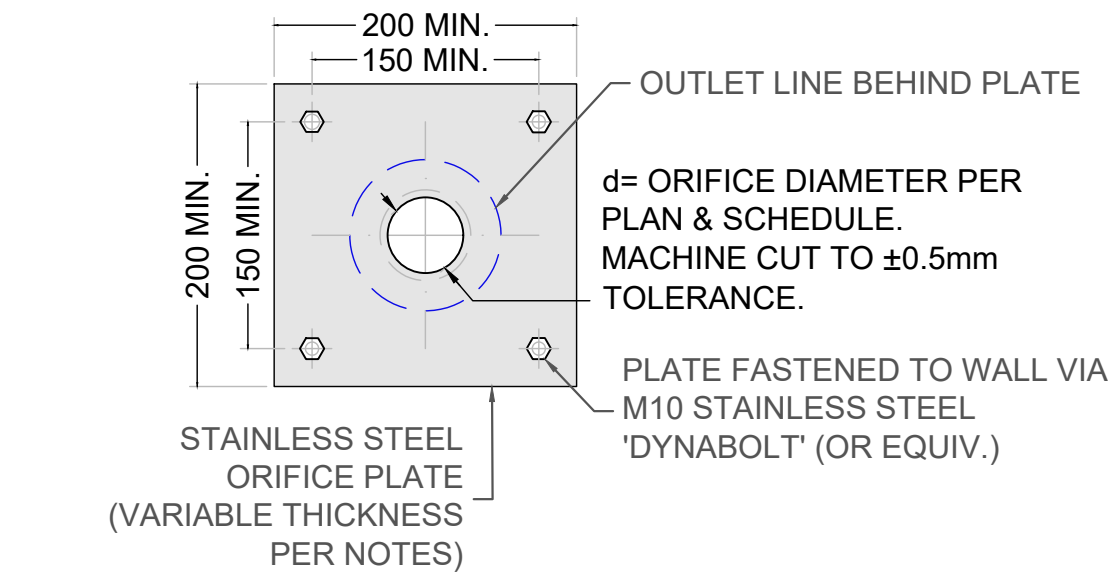
PROJECT ID 4496-SW	
SCALE - @ A3 - @ A1	
SHEET NO. 3 OF 4	

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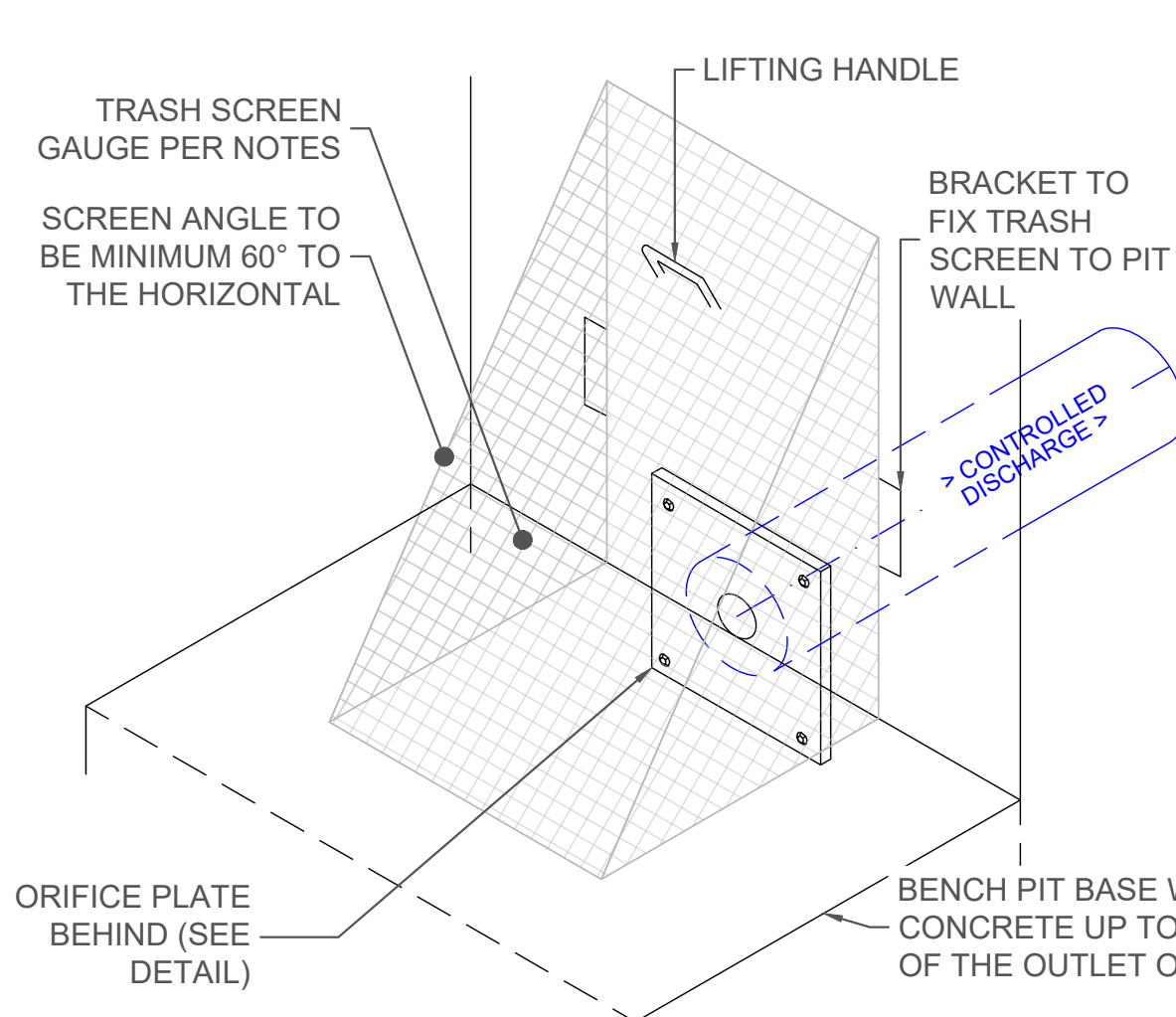
REDUCED ORIFICE ASSEMBLY- TYP. SECTION
SCALE: 1:5 @ A1

- NOTES:
- SCREEN LOCATED THE MINIMUM OF EITHER 1.5 x ORIFICE Ø OR 200mm



REDUCED ORIFICE PLATE- TYP. DETAIL
SCALE: 1:5 @ A1

- NOTES:
- ORIFICE TO BE SHARP-EDGE MACHINED INTO THE STAINLESS STEEL PLATE WITH A ±0.5mm DIAMETER TOLERANCE.
 - ORIFICE PLATE TO BE 3mm THICK WHERE ORIFICE DIAMETER IS <150mm; OTHERWISE PLATE IS TO BE 5mm THICK.



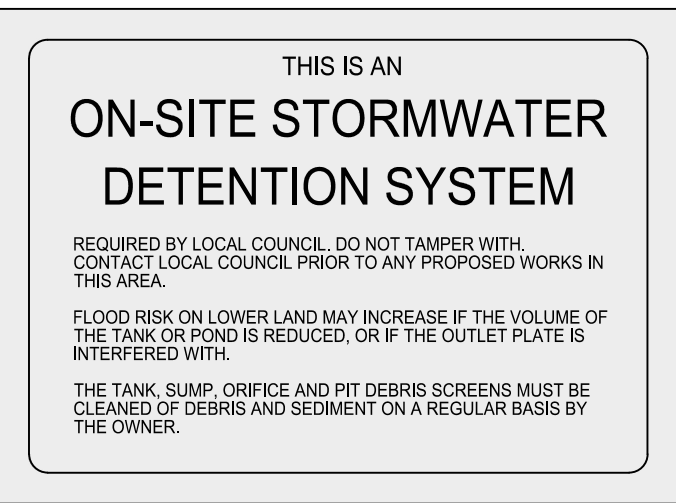
ORIFICE TRASH SCREEN- TYP. DETAIL
SCALE: 1:12.5 @ A1

- TRASH SCREEN NOTES:
- FOLLOWING FIXTURE OF ORIFICE PLATE, BENCH PIT BASE WITH CONCRETE IN-FILL TO UNDERSIDE OF ORIFICE OUTLET.
 - TRASH SCREEN TO BE OF HOT-DIPPED GALVANISED MESH. WHERE ORIFICE DIA. <150mm, TRASH SCREEN OF MAXI-MESH RH3030; OTHERWISE WELDLCK F40/203.



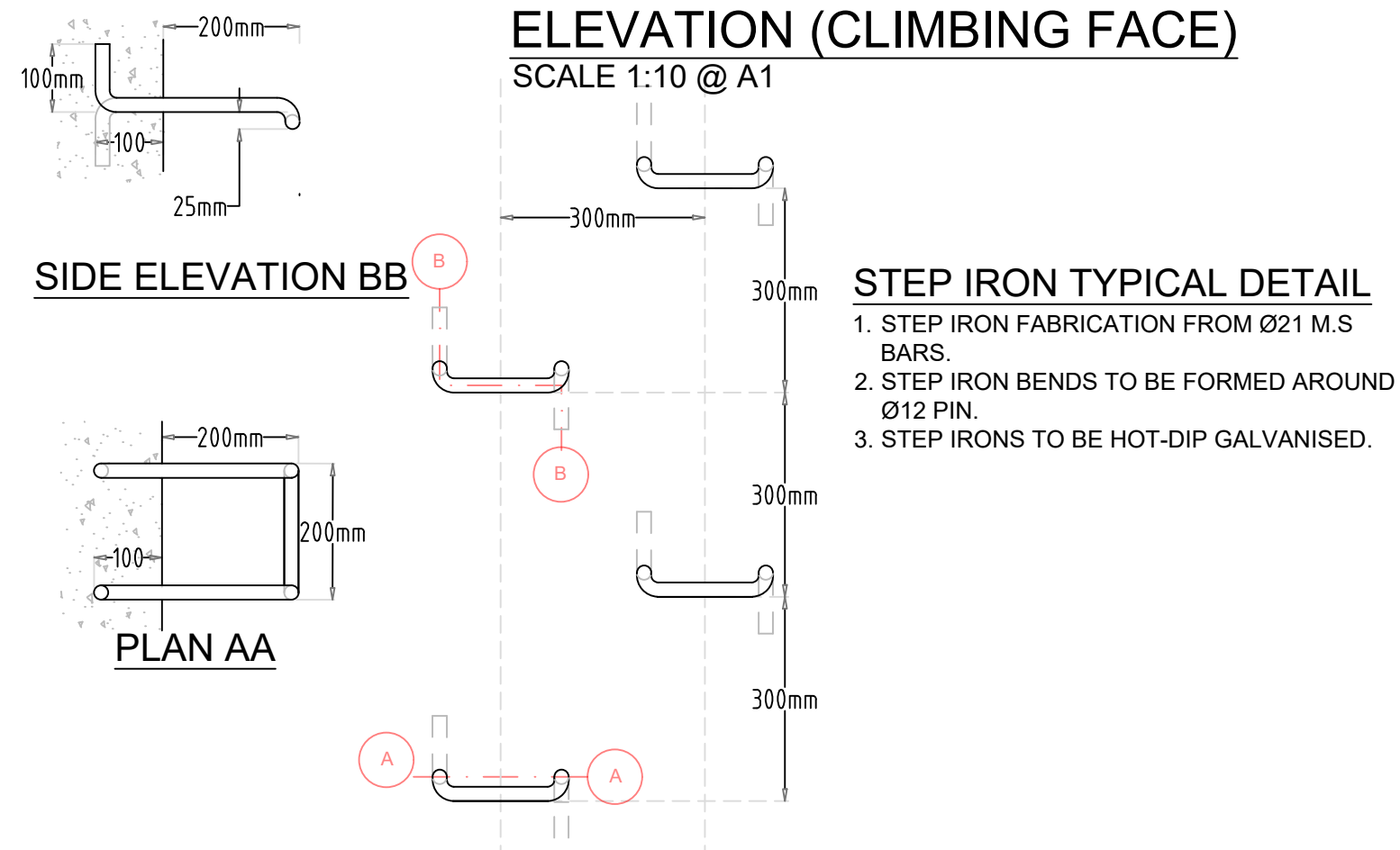
TYPICAL CONFINED SPACE DANGER SIGN
SCALE: 1:5 @A1

- 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.
 - MINIMUM SIGN DIMENSIONS:
 - LARGE ENTRIES: 300mm x 450mm
 - SMALL ENTRIES: 250mm x 180mm
 - SIGN SHALL BE MADE FROM COLOUR BONDED ALUMINUM OR POLYPROPYLENE.
 - SIGN TO BE FIXED USING CHEMSET OR EPOXY.



TYPICAL O.S.D. MARKER PLATE DETAIL
SCALE: -

- NOTES
- TO BE ETCHED 0.9mm ALUMINUM PLATE.
 - SIGN TO BE PLACED IN A VISIBLE LOCATION NEAR DISCHARGE CONTROL PIT.
 - SIGN TO BE FIXED USING CHEMSET OR EPOXY.



ELEVATION (CLIMBING FACE)
SCALE 1:10 @ A1

- STEP IRON TYPICAL DETAIL
- STEP IRON FABRICATION FROM Ø21 M.S. BARS.
 - STEP IRON BENDS TO BE FORMED AROUND Ø12 PIN.
 - STEP IRONS TO BE HOT-DIP GALVANISED.

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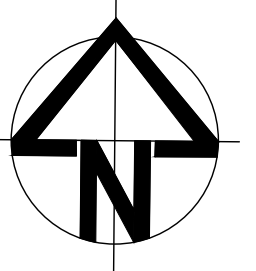
ENVIRONMENTAL FLOOD STORMWATER GEOTECHNICAL ACOUSTICS WASTEWATER

PROJECT DESCRIPTION	TORRENS TITLE DUAL OCCUPANCY	SHEET	OSD.1 DETAILS
PROJECT SITE	25 AMOURIN STREET NORTH MANLY	PLAN	STORMWATER MANAGEMENT PLAN
LGA	NORTHERN BEACHES COUNCIL	CLIENT	ZAC HOMES

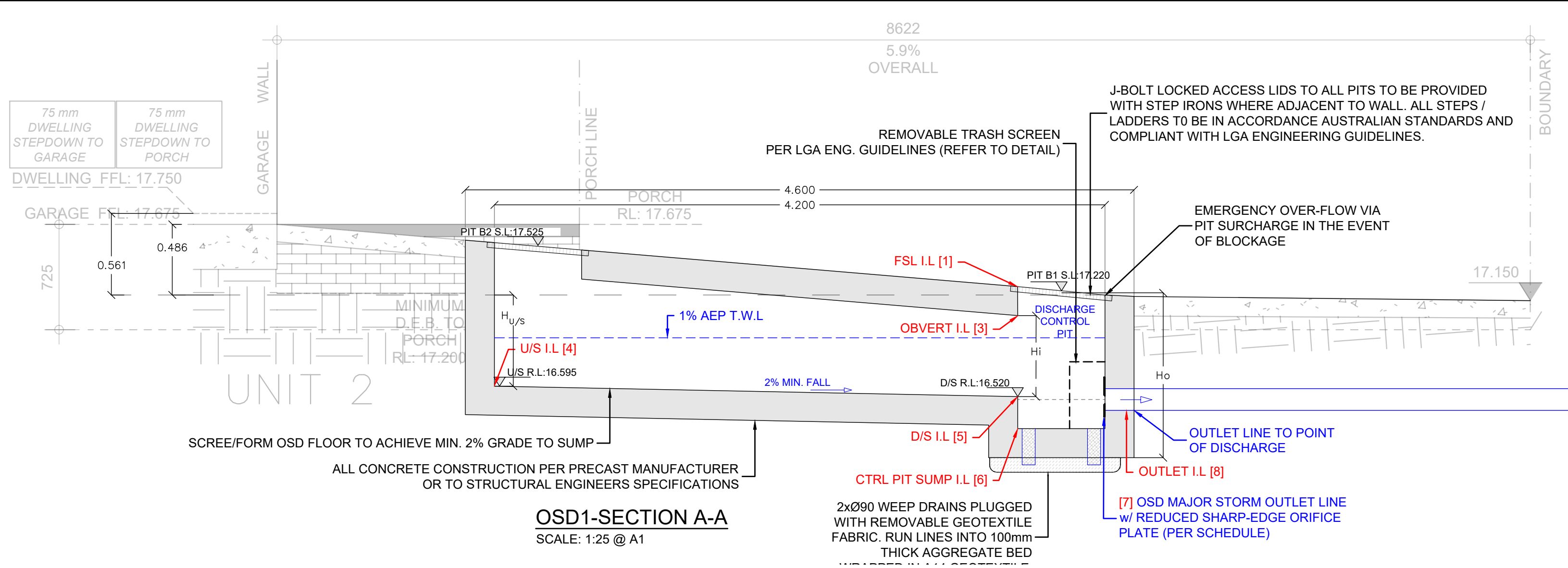
PROJECT ID
4496-SW

SCALE
-@ A3
-@ A1

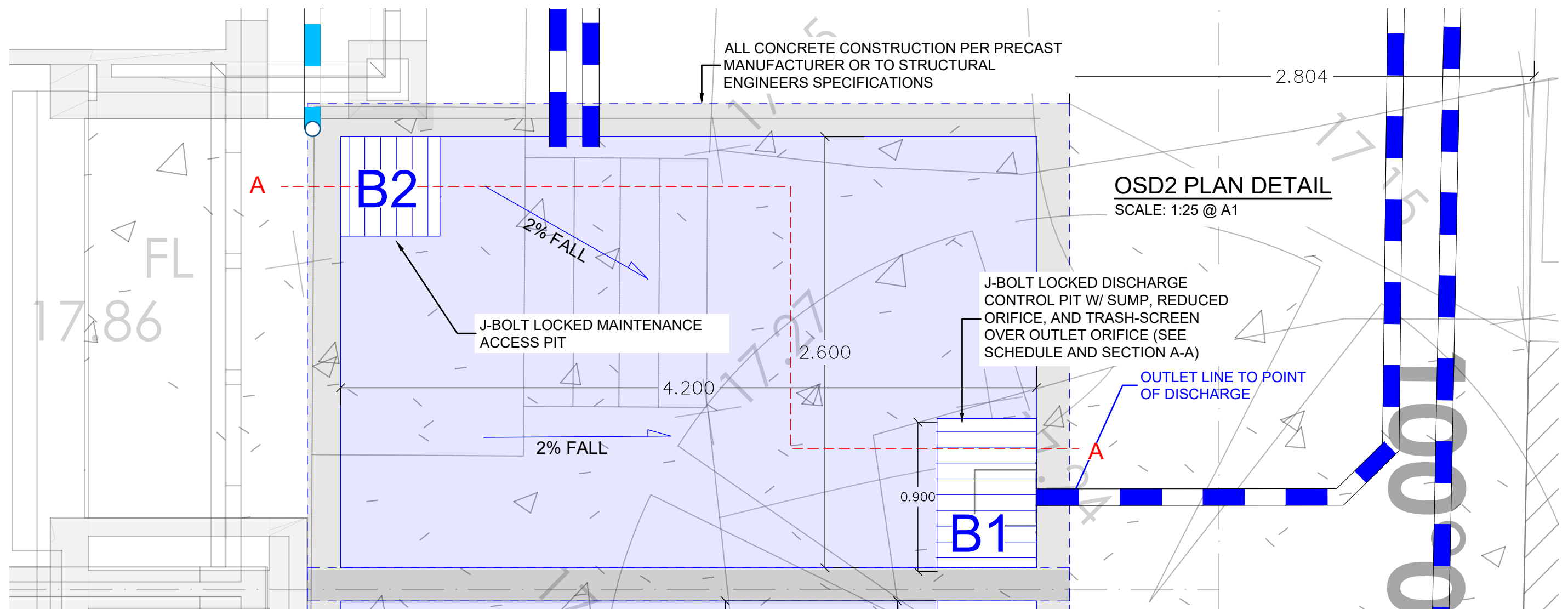
SHEET NO.
4 of 5



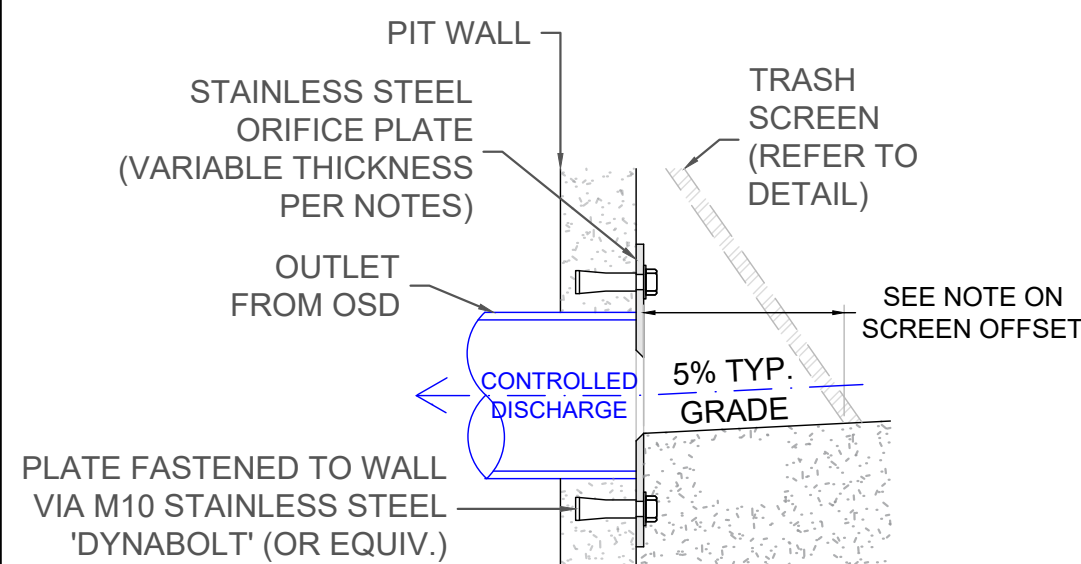
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OSD1-SECTION A-A
SCALE: 1:25 @ A1



OSD2 PLAN DETAIL
SCALE: 1:25 @ A1

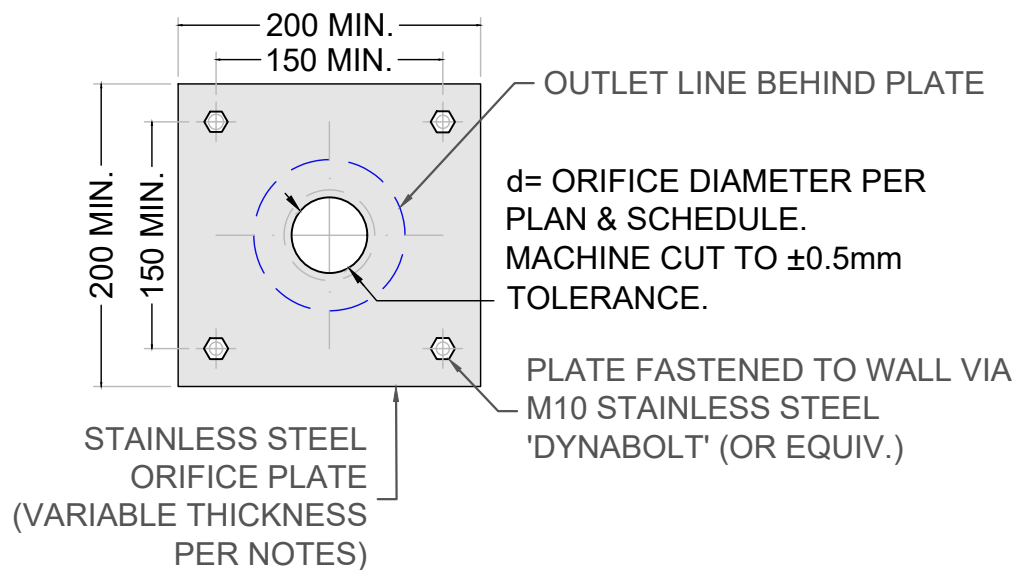


REDUCED ORIFICE
ASSEMBLY- TYP. SECTION
SCALE: 1:5 @ A1

- NOTES:
1. SCREEN LOCATED THE MINIMUM OF EITHER 1.5 x ORIFICE Ø OR 200mm

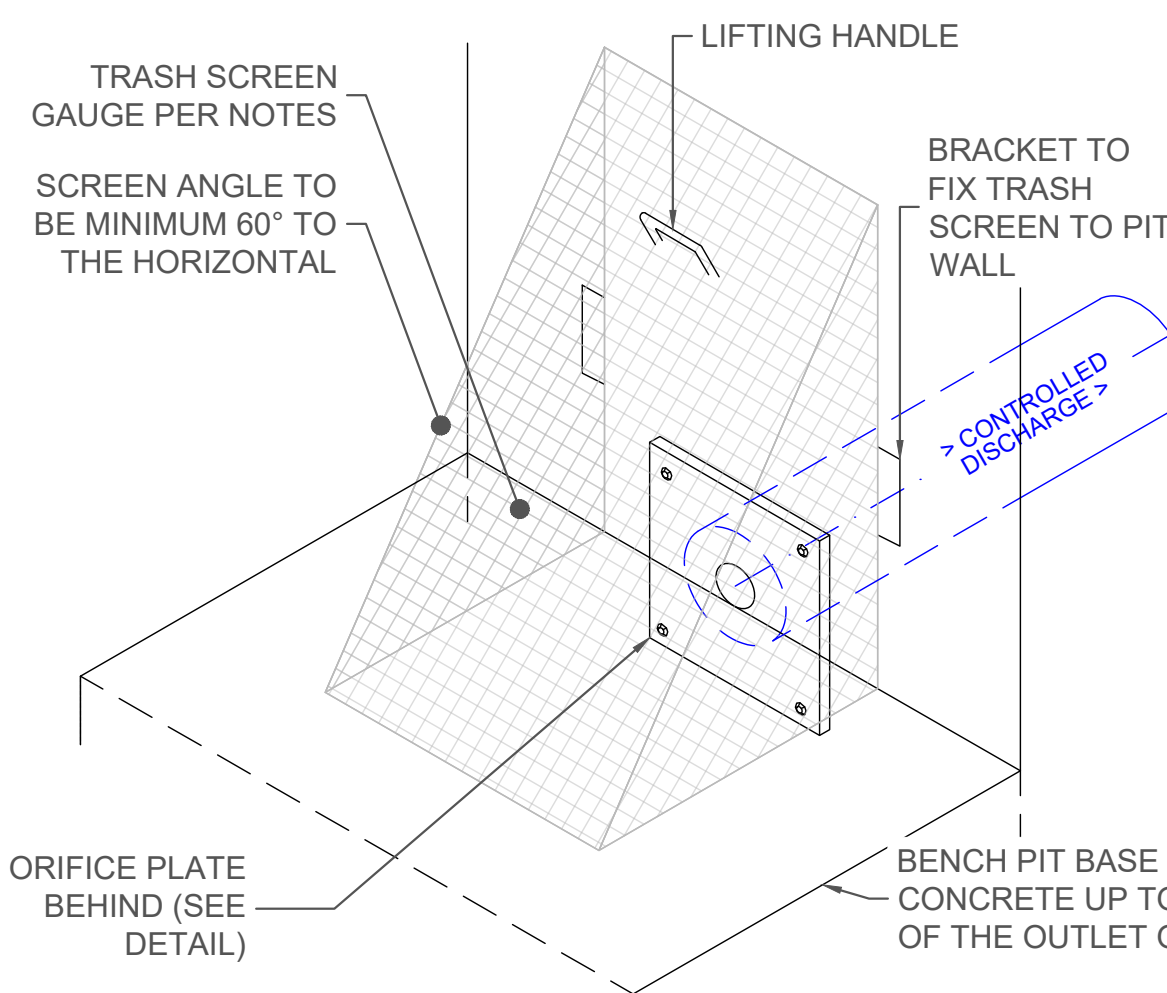
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REDUCED ORIFICE PLATE- TYP. DETAIL
SCALE: 1:5 @ A1

- NOTES:
1. ORIFICE TO BE SHARP-EDGE MACHINED INTO THE STAINLESS STEEL PLATE WITH A ±0.5mm DIAMETER TOLERANCE.
 2. ORIFICE PLATE TO BE 3mm THICK WHERE ORIFICE DIAMETER IS <150mm; OTHERWISE PLATE IS TO BE 5mm THICK.



ORIFICE TRASH
SCREEN- TYP. DETAIL
SCALE: 1:12.5 @ A1

- TRASH SCREEN NOTES:
1. FOLLOWING FIXTURE OF ORIFICE PLATE, BENCH PIT BASE WITH CONCRETE IN-FILL TO UNDERSIDE OF ORIFICE OUTLET.
 2. TRASH SCREEN TO BE OF HOT-DIPPED GALVANISED MESH. WHERE ORIFICE DIA. <150mm, TRASH SCREEN OF MAXI-MESH RH3030; OTHERWISE WELDLCK F40/203.

ON-SITE DETENTION (OSD) TANK SCHEDULE

REF	SYSTEM ID	TYPE	OSD.2 (SERVICES UNIT 2)			
-			CONCRETE FORMED BELOW-GROUND OSD			
-		TOTAL VOLUME (kL) [SSR _T]	5.0			
-	TANK DIMENSIONS (m)	LENGTH:	Li:	4.2	Lo:	4.6
		WIDTH:	Wi:	2.6	Wo:	3.0
		HEIGHT:	Hi:	0.5	Ho:	1.12 (APPROX)
[1]	SURFACE LEVEL S.L. (m, AHD)		17.220-17.525			
[2]	SURFACE COVERAGE	H _{COVER} (m):	-			
		I.L _{COVER} (m, AHD):	-			
[3]	OSD LID	H _{LID} (m):	0.200			
		I.L _{LID} (m, AHD):	17.020			
[4]	UPSTREAM STORAGE LEVELS (AT EX. WALLS)	H _{U/S} (m):	0.625	I.L _{U/S} (m, AHD):	16.595	
[5]	DOWNSTREAM STORAGE LEVELS (AT SUMP)	H _{D/S} (m):	0.500	I.L _{D/S} (m, AHD):	16.520	
[6]	CONTROL PIT	DIMENSIONS (m):	L _{CTRL PIT} :	0.900	W _{CTRL PIT} :	0.600
		LID DETAIL:	[PIT B/1] CLASS-C GRATE w/ J-BOLTS			
		SUMP DETAIL:	H _{SUMP} (m):	0.920	I.L _{SUMP} (m, AHD):	16.300
[7-8]	MAJOR STORM ORIFICE CONTROL DETAILS (SRD _H)	MAJOR OSD OUTLET	Ø (mm):	Ø100	I.L _{OUT_SRDH} (m, AHD):	16.425
		REDUCED ORIFICE (mm):	Ø (mm):	Ø60	C.L _{ORF_SRDH} (m, AHD):	16.455
-	MAJOR STORM PEAK CONTROLLED DISCHARGE SRD _H (L/S):		5.0			
-	1%AEP TOP WATER LEVEL [T.W.L.] (m, AHD)		16.925			

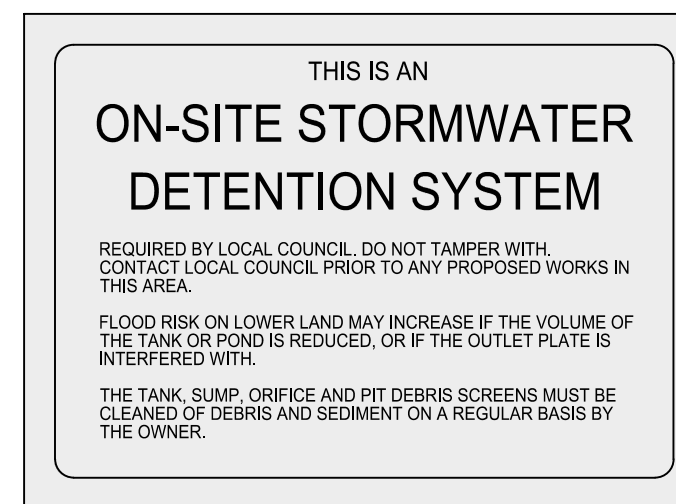
COMMENTS: IN-GROUND OSD w/ 5KL DETENTION STORAGE CONFIRMED VIA DRAINS HYDRAULIC MODELLING SOFTWARE. PIT B2 600SQ ACCESS GRATES. ALL GRATES TO BE J-LOCKED TO RESTRICT ACCESS.



TYPICAL CONFINED SPACE DANGER SIGN
DETAIL
SCALE: 1:5 @ A1

NOTES

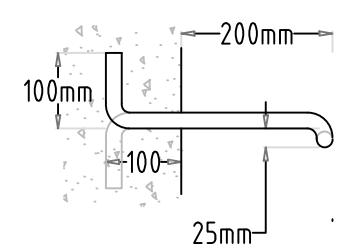
1. A CONFINED SPACE DANGER SIGN SHALL BE PLACED NEXT TO EACH AND EVERY ACCESS POINT SO THAT THEY ARE VISIBLE TO PERSONS ENTERING ANY BELOW GROUND TANK OR PIT.
2. MINIMUM SIGN DIMENSIONS:
 - 2.1. LARGE ENTRIES: 300mm x 450mm
 - 2.2. SMALL ENTRIES: 250mm x 180mm
3. SIGN SHALL BE MADE FROM COLOUR BONDED ALUMINUM OR POLYPROPYLENE.
4. SIGN TO BE FIXED USING CHEMSET OR EPOXY.



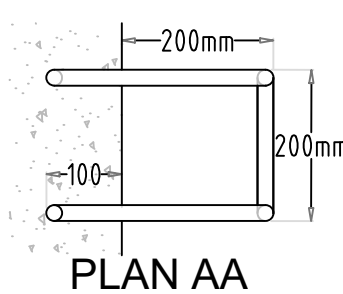
TYPICAL O.S.D. MARKER PLATE DETAIL
SCALE: -

NOTES

1. TO BE ETCHED 0.9mm ALUMINUM PLATE.
2. SIGN TO BE PLACED IN A VISIBLE LOCATION NEAR DISCHARGE CONTROL PIT.
3. SIGN TO BE FIXED USING CHEMSET OR EPOXY.

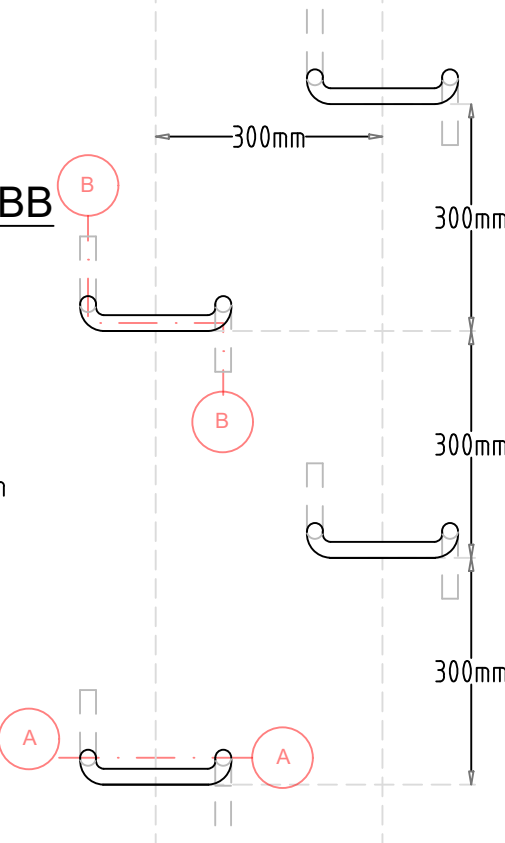


SIDE ELEVATION BB



PLAN AA

ELEVATION (CLIMBING FACE)
SCALE 1:10 @ A1



STEP IRON TYPICAL DETAIL

1. STEP IRON FABRICATION FROM Ø21 M.S BARS.
2. STEP IRON BENDS TO BE FORMED AROUND Ø12 PIN.
3. STEP IRONS TO BE HOT-DIP GALVANISED.

PROJECT DESCRIPTION	TORRENS TITLE DUAL OCCUPANCY	SHEET	OSD.2 DETAILS
PROJECT SITE	25 AMOURIN STREET NORTH MANLY	PLAN	STORMWATER MANAGEMENT PLAN
LGA	NORTHERN BEACHES COUNCIL	CLIENT	ZAC HOMES

PROJECT ID	4496-SW	
SCALE	-@ A3 -@ A1	
SHEET NO.	5 of 5	