

# ALTERATIONS & ADDITIONS

at: 29-33 PITTWATER ROAD, MANLY

for: JSALT PTY LTD

Architect: ALASTAIR ROBB CHARTERED ARCHITECTS

Prepared By:

**NB Consulting Engineers**  
STRUCTURAL - CIVIL - STORMWATER - REMEDIAL  
A.C.N. 076 121 616 A.B.N. 24 076 121 616

**Sydney:** Ph: (02) 9984 7000 Fax: (02) 9984 7444  
Suite 207, 30 Fisher Road Dee Why N.S.W. 2099

**Gold Coast:** Ph: (07) 5631 4744  
Unit 8, 1726 Gold Coast Highway Burleigh Heads QLD 4220  
E : nb@nbconsulting.com.au W : www.nbconsulting.com.au

The copyright of these drawings remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers

## DRAWING SCHEDULE:

### STORMWATER DRAWINGS

D01 - STORMWATER MANAGEMENT DRAINAGE PLAN - SHEET 1  
D02 - STORMWATER MANAGEMENT DRAINAGE PLAN - SHEET 2  
D03 - STORMWATER MANAGEMENT DRAINAGE PLAN - SHEET 3  
D04 - SECTIONS & DETAILS - SHEET 1

ISSUED FOR D.A.  
SUBMISSION ONLY  
NOT FOR  
CONSTRUCTION

NB Consulting Engineers

180313

REV A - 04/06/2018

STORMWATER NOTES:

- 1 - ALL PIPES TO BE 100mm  $\phi$  UNLESS NOTED OTHERWISE.
- 2 - ALL PIPES TO BE uPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
- 3 - ALL PIPES TO BE LAYED AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
- 4 - ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS.  
( NO COMPACTION REQUIRED BELOW LANDSCAPING )  
COVER TO SURFACE FROM TOP OF PIPE TO BE 300mm MINIMUM.  
BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH GRANULAR MATERIAL AS SPECIFIED.
- 5 - ALL DOWN PIPES TO BE 100mm  $\phi$  UNLESS NOTED OTHERWISE.
- 6 - DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT WITH WORK.
- 7 - PROVIDE CLEANING EYES AT ALL DOWNPIPES.
- 8 - ALL PITS TO BE CAST INSITU OR, IF PRECAST, APPROVED BY ENGINEER.  
CAST INSITU PITS TO HAVE 150mm THICK CONCRETE WALLS AND BASE.  
WALLS TO BE REINFORCED WITH 1 N12 TOP TIE UNLESS NOTED OTHERWISE.  
CAST INSITU PITS GREATER THAN 1000 DEEP TO BE MINIMUM 900x600 AND TO HAVE 150mm THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH N12 AT 300 EACH WAY UNLESS NOTED OTHERWISE.
- 9 - ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
- 10 - ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
- 11 - PRIOR TO COMMENCING ANY SITE WORKS THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL MEASURES TO APPROVED SEDIMENT AND EROSION CONTROL PLAN, EPA GUIDELINES AND COUNCIL SPECIFICATIONS.  
ALL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION AND STABILIZATION OF THE SITE TO COUNCIL SATISFACTION.
- 12 - ALL LEVELS SHOWN ARE TO AHD
- 13 - ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
- 14 - ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO uPVC.
- 15 - ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2003 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE.
- 16 - UNLESS NOTED OTHERWISE, SUB-SOIL DRAINS ARE TO BE INSTALLED IN ACCORDANCE WITH AS3500.3 ALONGSIDE WALLS THAT IMPEDE THE NATURAL FLOW OF GROUNDWATER. THIS MAY ALSO INVOLVE TRENCHING INTO THE CLAY OR ROCK SUBGRADE TO DIRECT GROUNDWATER AWAY FROM STRUCTURES.
- 17 - IF NOT INDICATED ON PLANS, PROVIDE LEAF CATCHERS TO ALL DOWNPIPES.
- 18 - ORIFICE PLATE MUST BE INSTALLED PRIOR TO INSTALLATION OF THE ROOF DRAINAGE SYSTEM AND CONNECTION OF THE SITE STORMWATER SYSTEM TO THE ONSITE DETENTION TANK.
- 19 - 100mm  $\phi$  x 3000 LONG TAIL OUT SUBSOIL LINE TO BE PROVIDED ON THE UPSTREAM SIDE OF ALL PITS. SUBSOIL LINE TO BE COVERED WITH GEOTEXTILE FILTER SOCK FOR THE FULL LENGTH AND END COVERED.

RAINWATER RE-USE TANKS:

1. CONSIDERING THE ROOF CATCHMENT AREA, LOCATION OF PROPERTY, INTENDED USE OF RAINWATER AND GARDEN SIZE WE RECOMMEND PROVIDING A RAINWATER TANK FOR USE AS PER BASIX REQUIREMENTS, SYDNEY WATER AND NSW HEALTH REQUIREMENTS FOR NON DRINKING USE ONLY AS FOLLOWS:  
a) TO WATER GARDEN AREAS b) WASHING CARS c) CONNECT TO W.C.  
d) CONNECT TO WASHING MACHINE. e) USED IN HOT WATER SYSTEMS.  
f) FILLING SWIMMING POOLS, SPAS AND ORNAMENTAL PONDS.
2. THE TANKS PROVIDED WILL REDUCE PRESSURE ON COUNCIL'S STORMWATER INFRASTRUCTURE.
3. REFERENCES:  
COOMBS P.J. & KUCZERA G. (2001), "RAINWATER TANK DESIGN FOR WATER SUPPLY & STORMWATER MANAGEMENT." STORMWATER INDUSTRY ASSOCIATION REGIONAL CONFERENCE.  
PATRICK DUPONT & STEVE SHACKEL, "RAINWATER"  
AUSTRALIAN GOVERNMENT (2004), "GUIDANCE ON USE OF RAINWATER TANKS"
4. ALL CONNECTIONS TO PLUMBING AND RAINWATER TANKS TO BE IN ACCORDANCE WITH SYDNEY WATERS' GUIDE "INSTALLING A RAINWATER TANK" AVAILABLE AT [www.sydneywater.com.au](http://www.sydneywater.com.au)
5. PROVIDE A DUAL SUPPLY SYSTEM AND BACKFLOW PREVENTION SYSTEM IN ACCORDANCE WITH 'BASIX-DESIGN GUIDE FOR SINGLE DWELLINGS' BY NSW DEPARTMENT OF INFRASTRUCTURE, PLANNING AND NATURAL RESOURCES.
6. IF NOT SPECIFIED ON PLANS, THE FIRST FLUSH SYSTEM IS TO HAVE A MINIMUM SIZE OF 20L PER 100m<sup>2</sup> OF ROOF CATCHMENT AREA PRIOR TO ENTERING THE RAINWATER TANK. INDIVIDUAL SITE ANALYSIS IS REQUIRED IN HEAVILY POLLUTED AREAS TO DETERMINE IF LARGER VOLUMES OF FIRST FLUSH RAINWATER ARE TO BE DIVERTED. IF IN DOUBT, CHECK WITH LOCAL HEALTH AUTHORITIES.
7. SCREENED DOWNPIPE RAINWATER HEAD OR OTHER SUITABLE LEAF AND DEBRIS DEVICE TO BE INSTALLED ON EACH DOWNPIPE. SCREEN MESH TO BE 4-6mm AND DESIGNED TO BE SELF-CLEANING.
8. FIRST FLUSH DEVICES, OR APPROVED ALTERNATIVE, TO BE INSTALLED WITH AN AUTOMATED DIVERSION AND DRAINAGE SYSTEM, THAT IS, NO MANUAL DIVERSION AND DRAINAGE VALVES. REFER TYPICAL FLUSH OUT PIT FOR DETAILS.
9. BEFORE PURCHASING MATERIALS OR PAINT TO BE USED ON ROOF CATCHMENT AREAS, THE MANUFACTURER'S RECOMMENDATIONS ON LABELS AND BROCHURES FOR RAINWATER TANK SUITABILITY TO BE READ AND ADHERED TO.
10. PRE-STORAGE PITS FOR UNDERGROUND RAINWATER STORAGE TANKS AND FLUSH OUT PITS MAY ASSIST IN LIMITING SILT, AND PREVENT VERMIN, INSECTS (INCLUDING MOSQUITOES) AND DEBRIS FROM ENTERING THE RAINWATER STORAGE AREA.
11. BUILDER/PLUMBER TO ENSURE THE INSTALLATION OF THE RAINWATER TANK SYSTEM IS IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND THE RAINWATER TANK DESIGN AND INSTALLATION HANDBOOK - HB 230-2008. IF IN DOUBT CONTACT ENGINEER.
12. RAINWATER TANK TO BE WATER PROOFED IN ACCORDANCE WITH HB 230-2008

LEGEND

- DP1 • 150mm  $\phi$  uPVC DOWNPIPE, TO BE DIRECTED TO OSD 1 ON THIRD LEVEL
- DP2 • 100mm  $\phi$  uPVC DOWNPIPE
- DP3 • 150mm  $\phi$  uPVC OSD OUTLET, DIRECTED TO BOUNDARY PIT
- DP4 • 50mm  $\phi$  EMERGENCY OVERFLOW DOWNPIPE RAISED MIN 20mm ABOVE GRATED DRAIN LEVEL
- OF1 • 150mm  $\phi$  uPVC OSD OVERFLOW
- SPI — 50mm  $\phi$  MINEMERGENCY OVERFLOW SPITTER
- (o) DENOTES OVER
- (u) DENOTES UNDER
- DIRECTION OF FLOW
- ===== EXISTING STORMWATER PIPE
- STORMWATER PIPE FALL DIRECTION IN CHARGED SYSTEMS
- STORMWATER PIPE FLOW DIRECTION
- PIT STORMWATER PIT
- FD 200x200 FLOOR DRAIN
- GDI GRATED DRAIN  
GDI - 150 MIN DEPTH x 150 WIDE GRATED DRAIN
- OSD 1 (A & B) OSD BASIN PARTS (A & B), TOTAL 8800L
- OSD 2 OSD BASIN 2200L

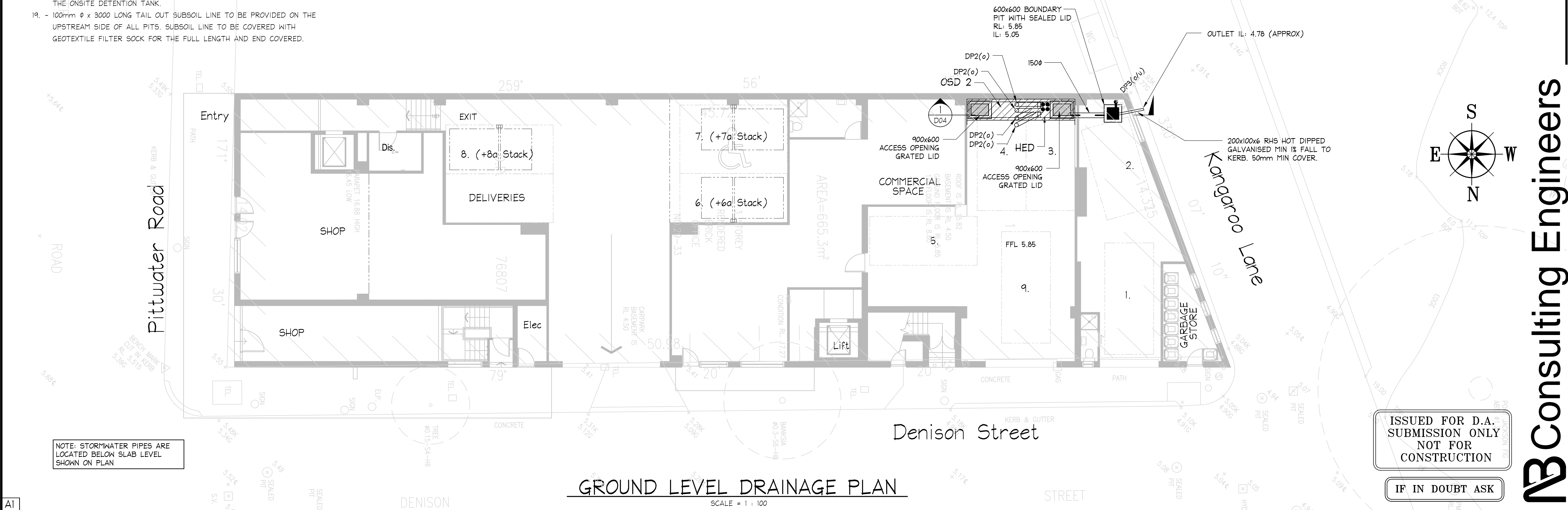
NOTE: ALL DRAINAGE LINES ARE INDICATIVE ONLY.  
LOCATION MAY VARY DUE TO CONSTRAINTS.

NORTHERN BEACHES COUNCIL - MANLY  
ON SITE DETENTION SYSTEM SUMMARY NOTES

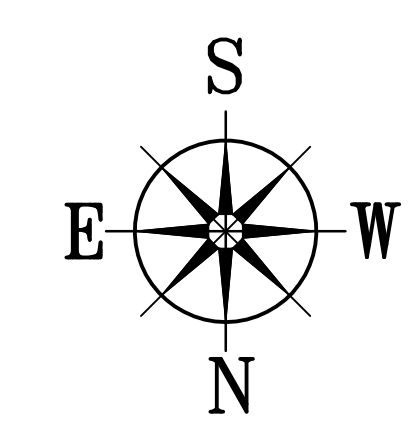
TOTAL SITE AREA	665.3 m <sup>2</sup>	
DESIGN METHOD USED	DRAINS	( REFER TO DISK )
PRE DEVELOPMENT IMPERVIOUS AREA	665.3 m <sup>2</sup>	
POST DEVELOPMENT IMPERVIOUS AREA	665.3 m <sup>2</sup>	
PRE DEVELOPMENT SITE DISCHARGE		
5 YR	20 l/s	
100 YR	38 l/s	
POST DEVELOPMENT SITE DISCHARGE		
5 YR	17 l/s	
100 YR	19 l/s	
OSD REQUIREMENT:		
VOLUME OF OSD REQUIRED	9.8 m <sup>3</sup>	(9800L)
NOTE: OSD STORAGE PROVIDED VIA 2 SEPERATE STORAGE LOCATIONS		
OSD 1 (A & B) BASIN STORAGE VOLUME PROVIDED	8.8 m <sup>3</sup>	(8800L)
OSD 1 (A & B) BASIN DIMENSIONS:	16.41m <sup>2</sup> x 0.54m	(AVG DEPTH)
OSD 2 TANK STORAGE VOLUME PROVIDED	2.2 m <sup>3</sup>	(2200L)
OSD 2 TANK DIMENSIONS:	4.19m <sup>2</sup> x 0.715m	(AVG DEPTH)
TOTAL VOLUME OF OSD STORAGE PROVIDED	11.0 m <sup>3</sup>	(11000L)
RWT REQUIREMENT	N/A	
MAXIMUM CONCENTRATED DISCHARGE TO KERB	19 L/s	

NOTES:

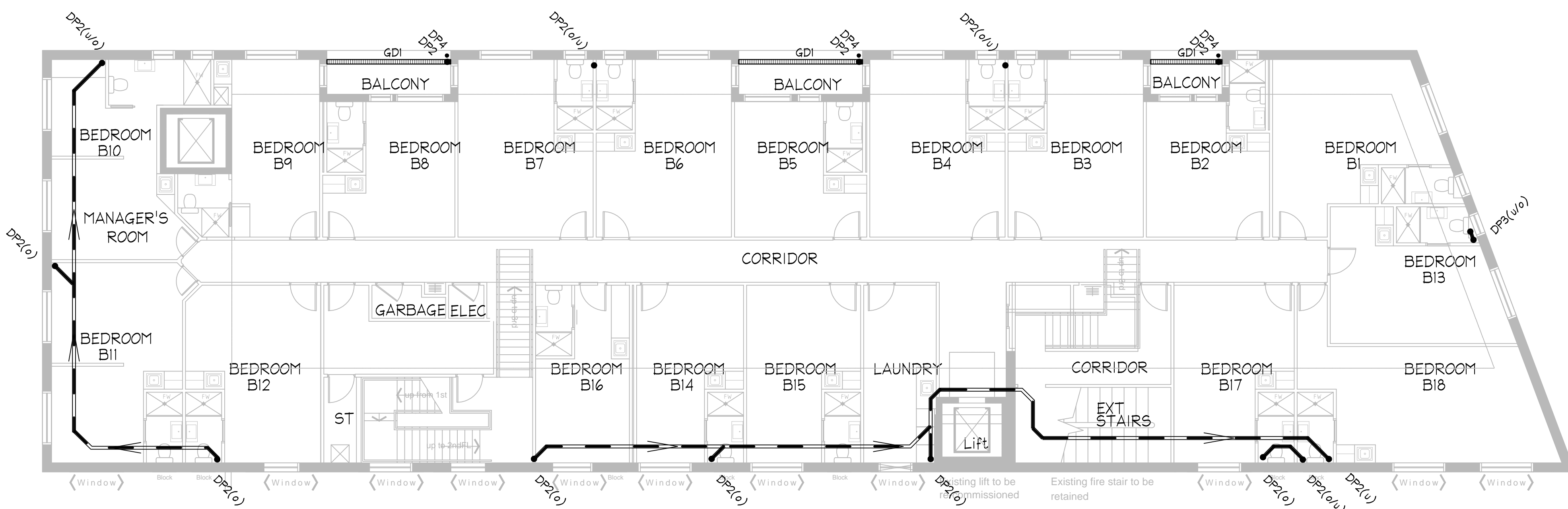
1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
2. FOR GENERAL NOTES REFER TO DRAWING NUMBER: D01.



DOCUMENT CERTIFICATION				Architect:		Project:		Date:		Design:		Drawn:	
Date : Rick G Wray BE(Civil), CPEng, MIEAust., NER., RPEQ. 08293. (Director NB Consulting Engineers)				ALASTAIR ROBB CHARTERED ARCHITECTS		ALTERATIONS & ADDITIONS AT 29-33 PITTWATER ROAD, MANLY		APR 2018		CJ		DK	
By: Review:				Client:		Drawing Title:		Job No:		Drawing No:		Issue:	
The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers				JSALT PTY LTD		STORMWATER MANAGEMENT DRAINAGE PLAN - SHEET 1		180313		D01		A	



- NOTES:
- ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
  - FOR GENERAL NOTES REFER TO DRAWING NUMBER: D01.

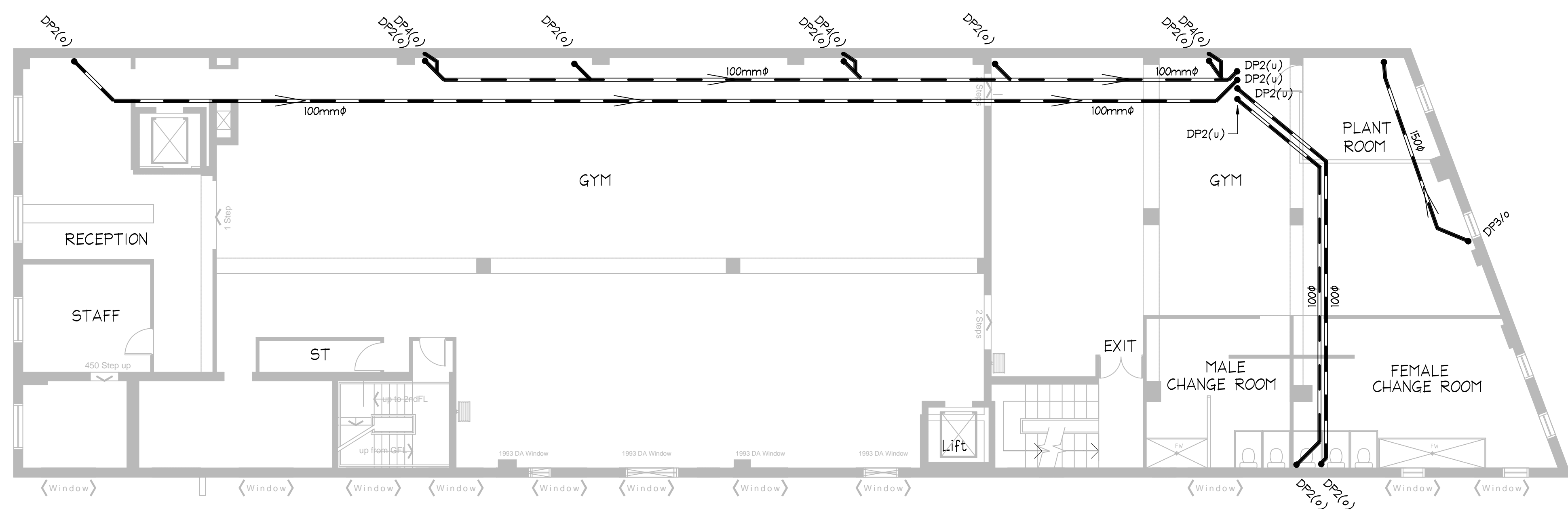


SECOND LEVEL DRAINAGE PLAN  
SCALE = 1 : 100

**LEGEND**

- DP1 • 150mm  $\phi$  uPVC DOWNPIPE, TO BE DIRECTED TO OSD 1 ON THIRD LEVEL
- DP2 • 100mm  $\phi$  uPVC DOWNPIPE
- DP3 • 150mm  $\phi$  uPVC OSD OUTLET, DIRECTED TO BOUNDARY PIT
- DP4 • 50mm  $\phi$  EMERGENCY OVERFLOW DOWNPIPE RAISED MIN 20mm ABOVE GRATED DRAIN LEVEL
- OF1 • 150mm  $\phi$  uPVC OSD OVERFLOW
- SP1 • 50mm  $\phi$  MINEMERGENCY OVERFLOW SPITTER
- (o) DENOTES OVER
- (u) DENOTES UNDER
- DIRECTION OF FLOW
- NEW STORMWATER PIPE
- EXISTING STORMWATER PIPE
- STORMWATER PIPE FALL DIRECTION IN CHARGED SYSTEMS
- STORMWATER PIPE FLOW DIRECTION
- PIT STORMWATER PIT
- FD 200x200 FLOOR DRAIN
- GDI GRATED DRAIN  
GDI - 150 MIN DEPTH x 150 WIDE GRATED DRAIN
- OSD 1 (A & B) OSD BASIN PARTS (A & B), TOTAL 8800L
- OSD 2 OSD BASIN 2200L

**NOTE:** ALL DRAINAGE LINES ARE INDICATIVE ONLY. LOCATION MAY VARY DUE TO CONSTRAINTS.



FIRST LEVEL DRAINAGE PLAN  
SCALE = 1 : 100

NOTE: STORMWATER PIPES ARE LOCATED BELOW SLAB LEVEL SHOWN ON PLAN



NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE.

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN:

- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC.
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES
- WHILE THE DAMAGE IS REPAIRED

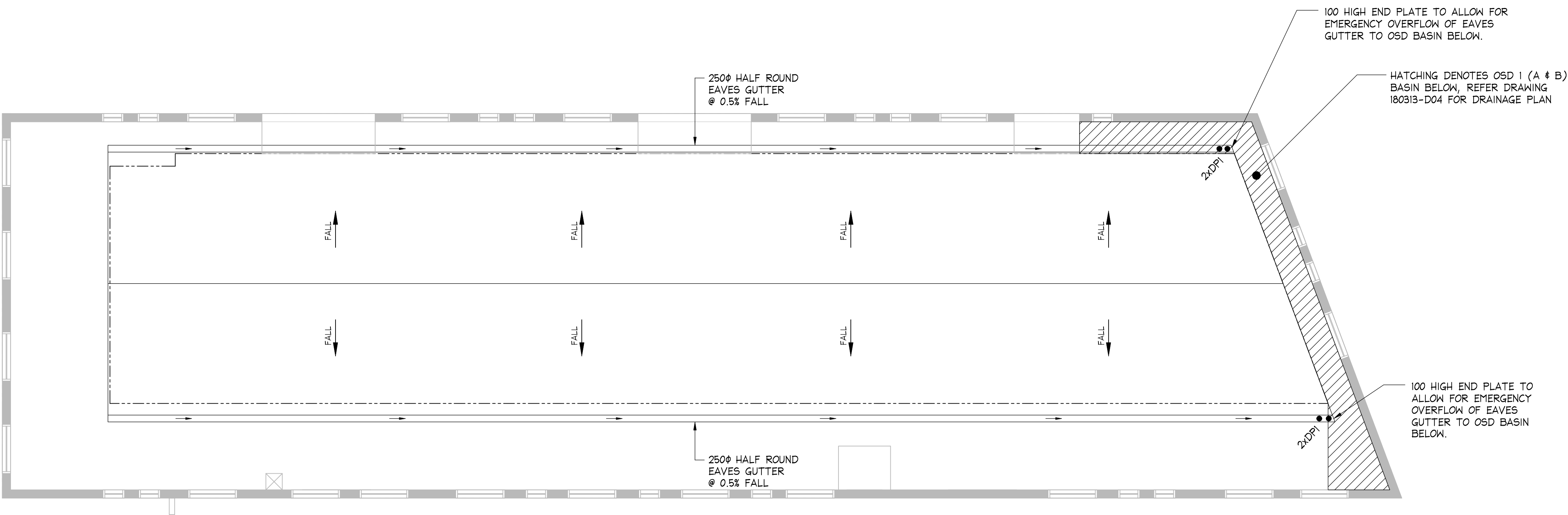
MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG.  
TEL. 1100

ISSUED FOR D.A. SUBMISSION ONLY  
NOT FOR CONSTRUCTION

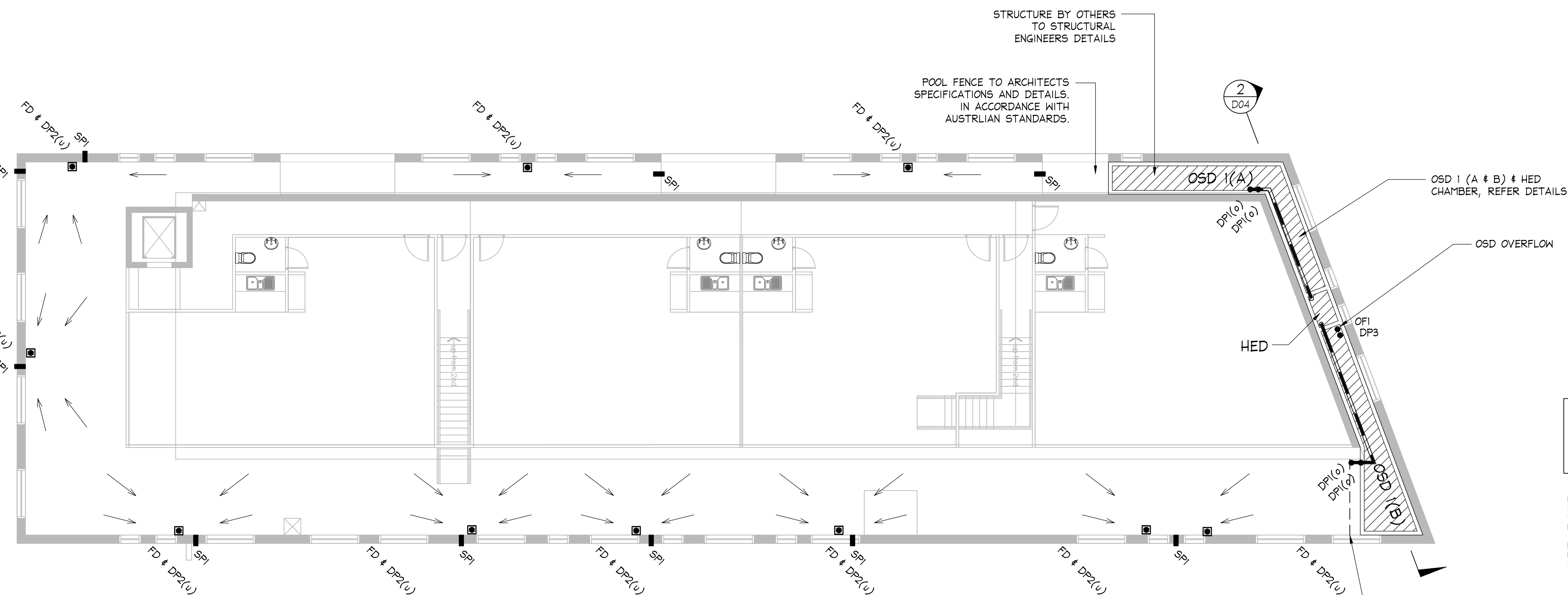
IF IN DOUBT ASK

DOCUMENT CERTIFICATION				Architect:		Project:		Date:	Design:	Drawn:
Date : Rick G Wray BE(Civil), CPEng, MIEAust., NER, RPEQ: 08293. (Director NB Consulting Engineers)				ALASTAIR ROBB CHARTERED ARCHITECTS		ALTERATIONS & ADDITIONS AT 29-33 PITTWATER ROAD, MANLY		APR 2018	CJ	DK
By: Review:				Client:		Drawing Title:		Job No:	Drawing No:	Issue:
The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers				JSALT PTY LTD		STORMWATER MANAGEMENT DRAINAGE PLAN - SHEET 2		180313	D02	A
04/06/2018	A	ISSUED FOR DA SUBMISSION ONLY - NOT FOR CONSTRUCTION		DK	MJA					

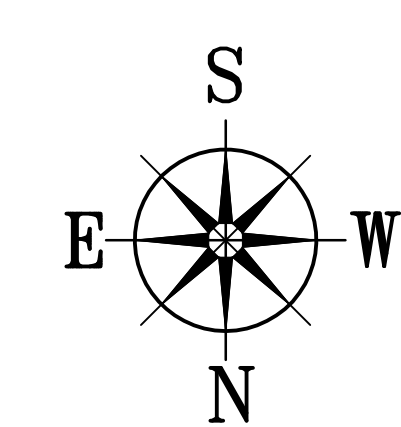
NB Consulting Engineers



**ROOF LEVEL DRAINAGE PLAN**  
SCALE = 1 : 100



**THIRD LEVEL DRAINAGE PLAN**  
SCALE = 1 : 100



- NOTES:**
- ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
  - FOR GENERAL NOTES REFER TO DRAWING NUMBER: D01.

**LEGEND**

- DP1 • 150mm Ø uPVC DOWNPIPE, TO BE DIRECTED TO OSD 1 ON THIRD LEVEL
- DP2 • 100mm Ø uPVC DOWNPIPE
- DP3 • 150mm Ø uPVC OSD OUTLET, DIRECTED TO BOUNDARY PIT
- DP4 • 50mm Ø EMERGENCY OVERFLOW DOWNPIPE RAISED MIN 20mm ABOVE GRATED DRAIN LEVEL
- OF1 • 150mm Ø uPVC OSD OVERFLOW
- SP1 • 50mm Ø MINEMERGENCY OVERFLOW SPITTER
- (o) DENOTES OVER
- (u) DENOTES UNDER
- DIRECTION OF FLOW
- ===== NEW STORMWATER PIPE
- ===== EXISTING STORMWATER PIPE
- ===== STORMWATER PIPE FALL DIRECTION IN CHARGED SYSTEMS
- ===== STORMWATER PIPE FLOW DIRECTION
- PIT STORMWATER PIT
- FD 200x200 FLOOR DRAIN
- GDI GRATED DRAIN  
GDI - 150 MIN DEPTH x 150 WIDE GRATED DRAIN
- OSD 1 (A & B) OSD BASIN PARTS (A & B), TOTAL 8800L
- OSD 2 OSD BASIN 2200L

**NOTE:** ALL DRAINAGE LINES ARE INDICATIVE ONLY. LOCATION MAY VARY DUE TO CONSTRAINTS.

NOTE: STORMWATER PIPES ARE LOCATED BELOW SLAB LEVEL SHOWN ON PLAN



NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE.

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN:

- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC.
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES
- WHILE THE DAMAGE IS REPAIRED

MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG.  
TEL. 1100

**ISSUED FOR D.A. SUBMISSION ONLY  
NOT FOR CONSTRUCTION**

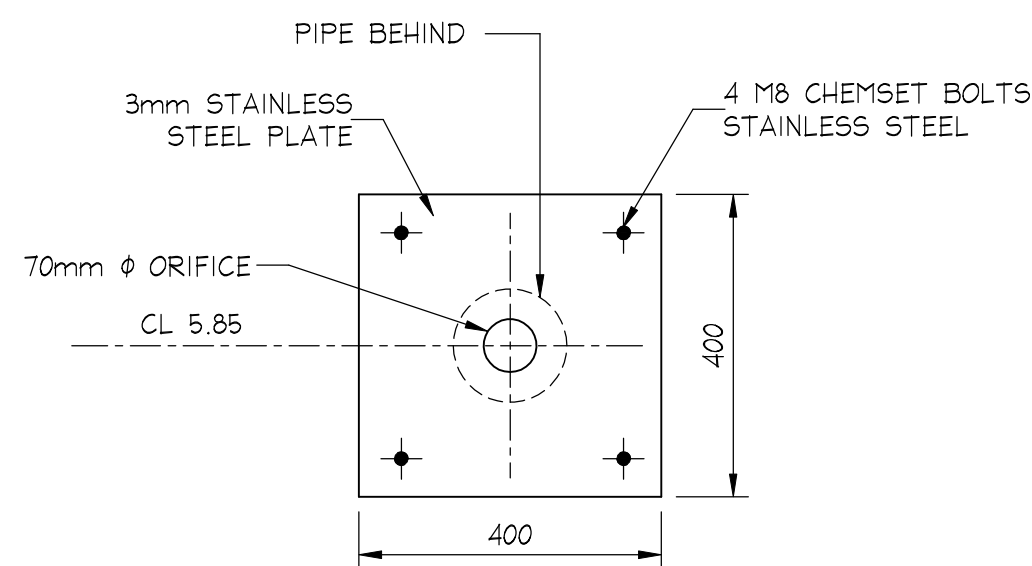
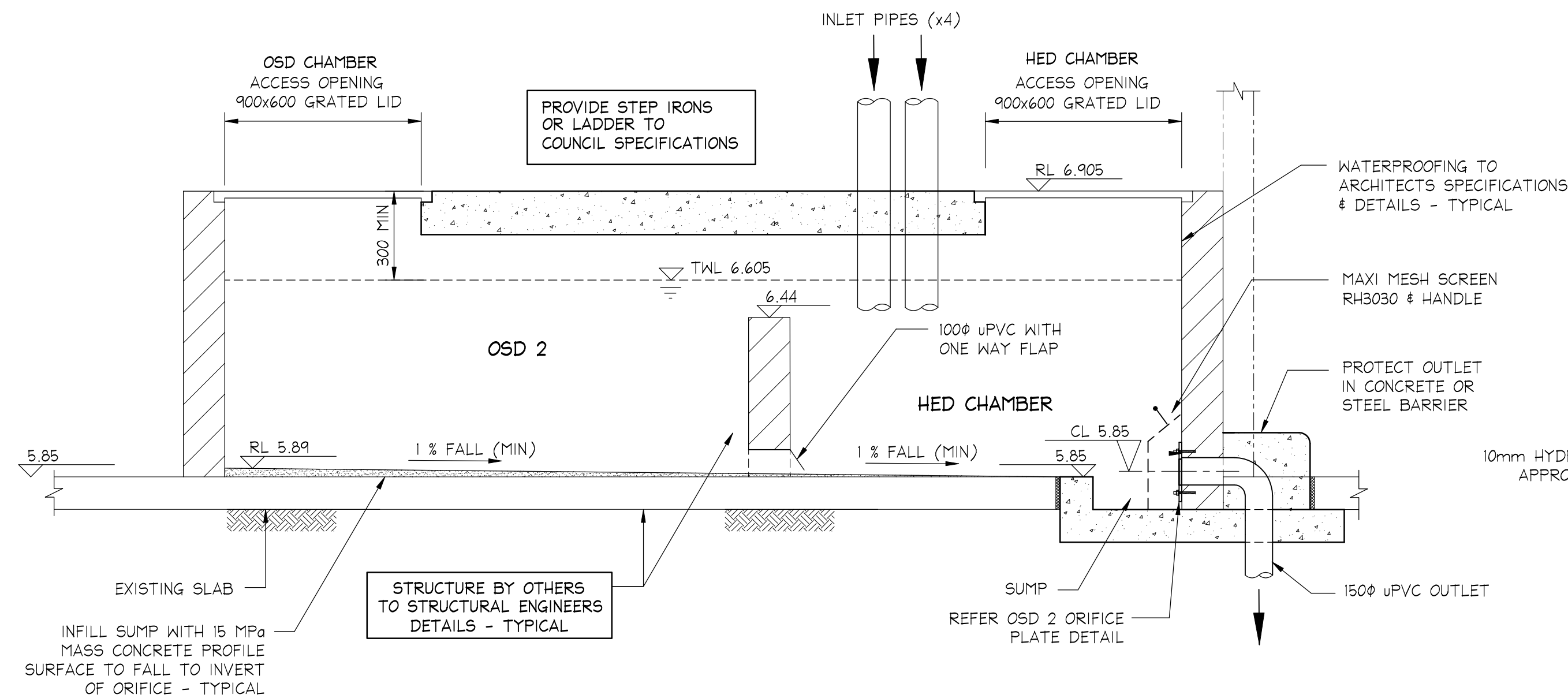
**IF IN DOUBT ASK**

DOCUMENT CERTIFICATION			NB Consulting Engineers			Architect:			Project:			Date:	Design:	Drawn:
Date : Rick G Wray			STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616			ALASTAIR ROBB CHARTERED ARCHITECTS			ALTERATIONS & ADDITIONS AT 29-33 PITTWATER ROAD, MANLY			APR 2018	CJ	DK
By: Review:			Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444 Suite 207, 30 Fisher Road Dee Why N.S.W. 2099 Gold Coast: Ph: (07) 5631 4744 Unit 8, 1726 Gold Coast Highway Burleigh Heads QLD 4220 E : nb@nbconsulting.com.au W : www.nbconsulting.com.au			Client:			Drawing Title:			Job No:	Drawing No:	Issue:
04/06/2018 A ISSUED FOR DA SUBMISSION ONLY - NOT FOR CONSTRUCTION			CJ MJW			JSALT PTY LTD			STORMWATER MANAGEMENT DRAINAGE PLAN - SHEET 3			180313	D03	A
Date:	Issue:	Description:	By:	Review:										

**NB Consulting Engineers**



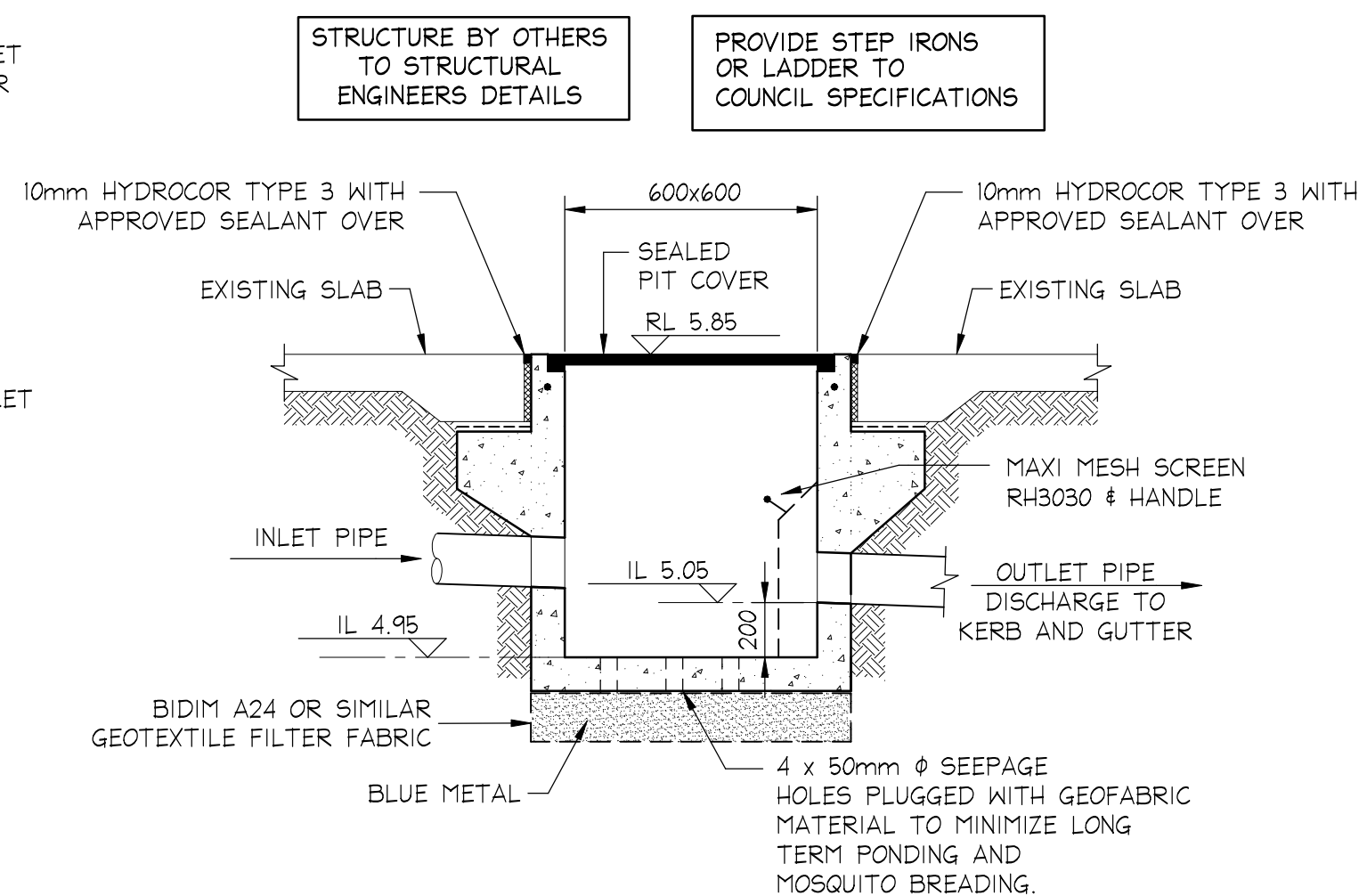
- NOTES:
1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
  2. FOR GENERAL NOTES REFER TO DRAWING NUMBER: D01.



OSD 2 ORIFICE PLATE DETAIL

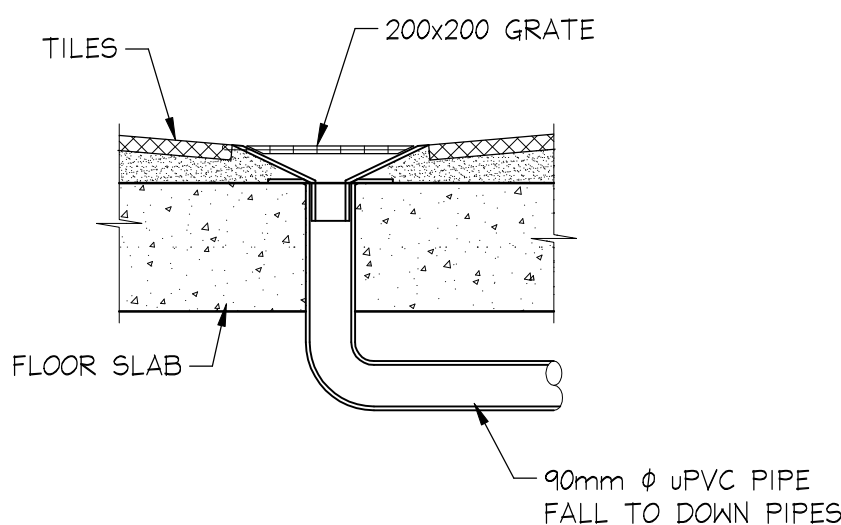
SCALE = 1:10

NOTE: FINAL ORIFICE SIZE TO BE DETERMINED FROM AS BUILT DIMENSIONS



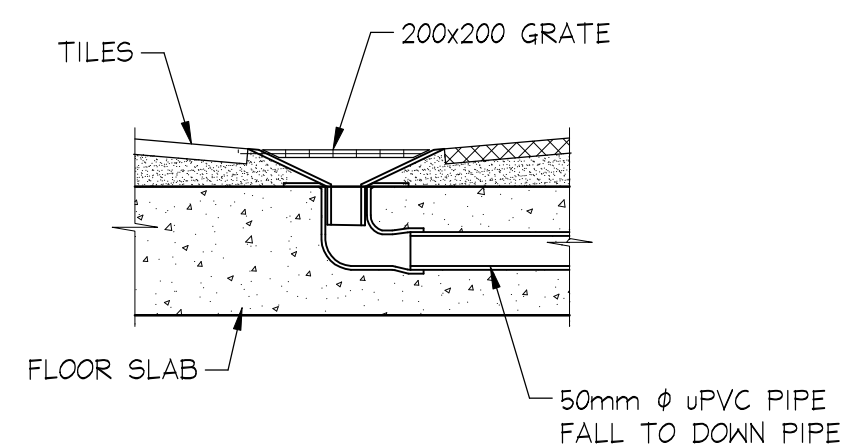
600x600 BOUNDARY PIT DETAIL

SCALE = 1:20



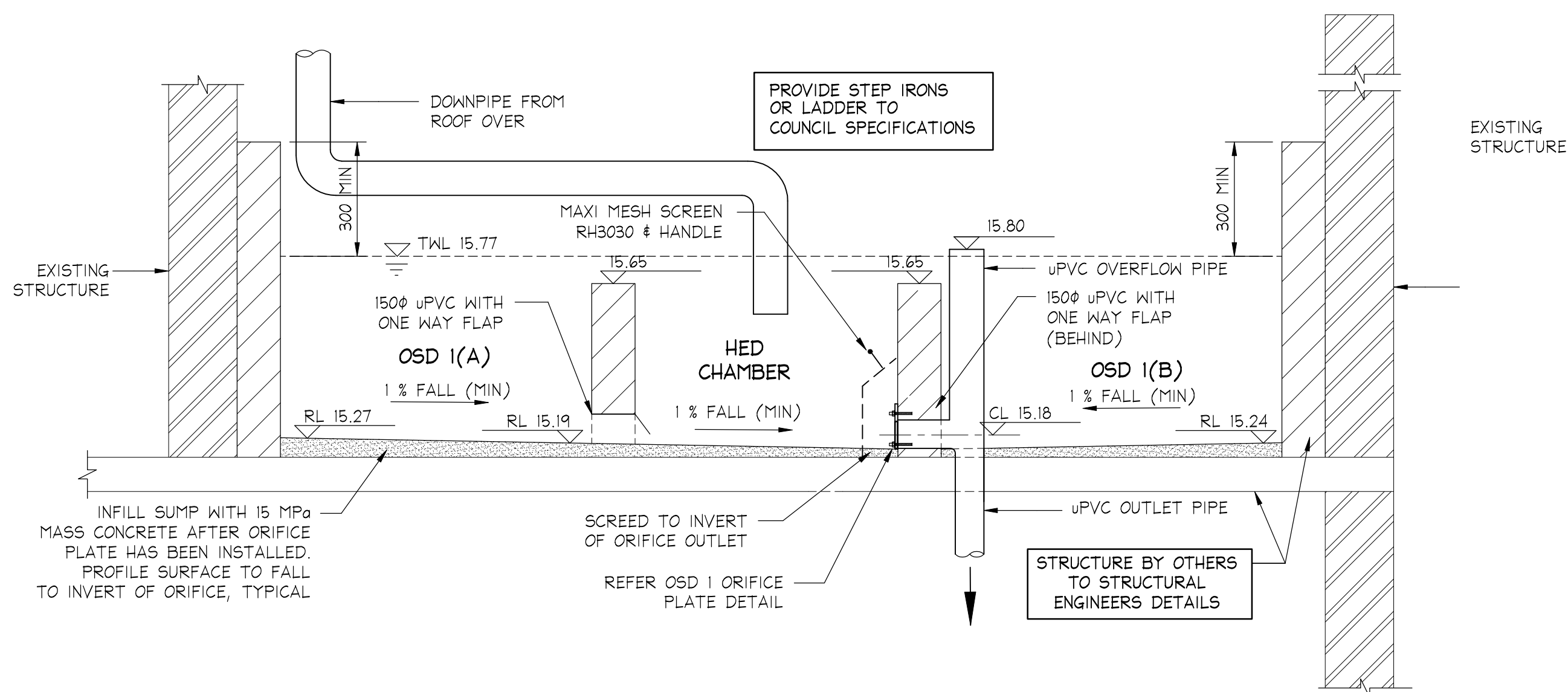
STANDARD FLOOR DRAIN - 'FD'

SCALE = 1:10



ALTERNATIVE STANDARD FLOOR DRAIN - 'FD'

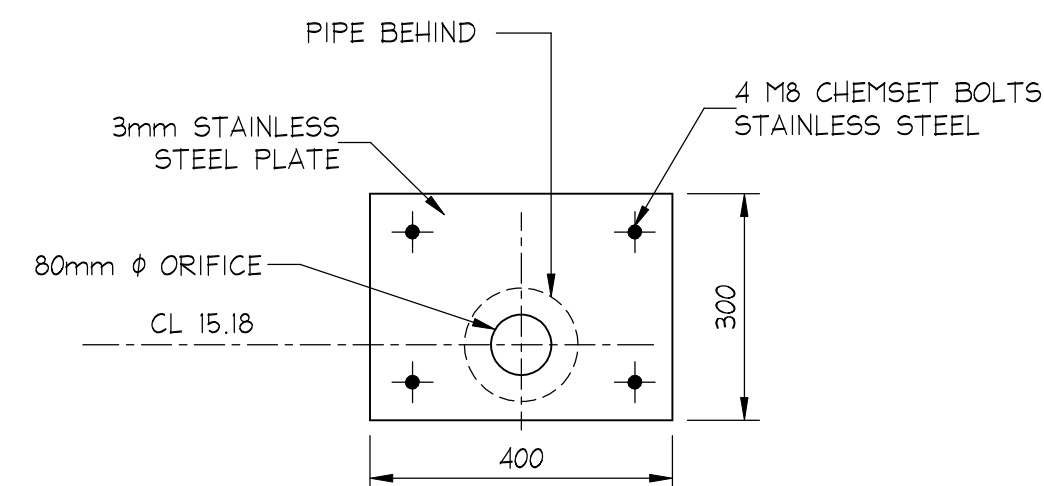
SCALE = 1:10



SECTION 2

NOT TO SCALE

D03



OSD 1 ORIFICE PLATE DETAIL

SCALE = 1:10

NOTE: FINAL ORIFICE SIZE TO BE DETERMINED FROM AS BUILT DIMENSIONS

ISSUED FOR D.A. SUBMISSION ONLY  
NOT FOR CONSTRUCTION

IF IN DOUBT ASK

A1

DOCUMENT CERTIFICATION				NB Consulting Engineers		Architect:	Project:	Date:	Design:	Drawn:
Date: 13/06/2018				STRUCTURAL - CIVIL - STORMWATER - REMEDIAL		ALASTAIR ROBB	ALTERATIONS & ADDITIONS	APR 2018	CJ	DK
Revised: 04/06/2018				A.C.N. 076 121 616 A.B.N. 24 076 121 616		CHARTERED ARCHITECTS	AT 29-33 PITTWATER ROAD, MANLY			
Description: ISSUED FOR DA SUBMISSION ONLY - NOT FOR CONSTRUCTION				Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444		JSALT PTY LTD	SECTIONS & DETAILS	Job No: 180313		Issue: B
By: CJ				Suite 207, 30 Fisher Road Dee Why N.S.W. 2099			- SHEET 1	Drawing No: D04		
Review: CJ				Gold Coast: Ph: (07) 5631 4744						
				Unit 8, 1726 Gold Coast Highway Burleigh Heads QLD 4220						
				E : nb@nbconsulting.com.au W : www.nbconsulting.com.au						

NB Consulting Engineers