Regulated Design Record				
Project Address:	67 PACIFIC PDE, DEE WHY			
Project Title:	PROPOSED RESIDENTIAL DEVELOPMENT			
Consent No:	-	Body Corporate Reg No:		
Drawing Title:	COVER	Drawing No:	C21189 - SW00	

Rev	Date dd.mm.yy	Description	DP Full Name	Reg No
-	-	-	ANDRO CUTUK	DEP0000464
			ANDRO CUTUK	DEP0000464

PROPOSED DEVELOPMENT
67 PACIFIC PARADE, DEE WHY
STORMWATER PLANS

GENERAL NOTES

G1. THE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL DRAWINGS AND SPECIFICATIONS AND OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED.
G2. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM THE DRAWINGS. REFER ARCHITECTS DRAWINGS FOR ALL DIMENSIONS.
G3. REFER ANY DISCREPANCY TO THE ENGINEER/ARCHITECT.
G4. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE APPROPRIATE SAA SPECIFICATIONS OR CODE AND WITH THE REQUIREMENTS OF THE RELEVANT LOCAL AUTHORITY.
G5. 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.
G6. NO WORKS ARE TO COMMENCE UNTIL THE REQUIRED TREE REMOVAL PERMITS HAVE BEEN GRANTED BY RELEVANT LOCAL AUTHORITY, AND THE APPROPRIATE NOTICE OF INTENTION TO COMMENCE GIVEN.
G7. ALL SERVICES, OR CONDUITS FOR SERVICING SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF PAVEMENT CONSTRUCTION.
G8. 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.
G9. NO WORK IS PERMITTED WITHIN ADJOINING PROPERTIES WITHOUT WRITTEN PERMISSION FROM THE OWNERS OR RESPONSIBLE AUTHORITY.

DRAINAGE NOTES

D1. ALL DRAINAGE OUTLET LEVELS SHALL BE CONFIRMED ON SITE, PRIOR TO CONSTRUCTION COMMENCING.
D2. ALL PIPES WITHIN THE PROPERTY TO BE MIN. 100 DIA UPVC @ 1% MIN. 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. PITS WITHIN THE PROPERTY MAY BE CONSTRUCTED AS:
1) PRECAST STORMWATER PITS
2) CAST INSITU 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 100X100 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.
D14. SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM, UNO.

EARTHWORKS NOTES

E1. THE EARTHWORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT.
E2. THE SITE OF THE WORKS SHALL BE PREPARED BY STRIPPING ALL EXISTING TOPSOIL, FILL AND VEGETATION.
E3. SUBGRADE SHALL BE COMPACTED UNTIL A DRY DENSITY HAS BEEN ACHIEVED OF NOT LESS THAN 100% OF THE STANDARD MAXIMUM DRY DENSITY WHEN TESTED IN ACCORDANCE WITH AS 1289 TESTS E.1.1. OR E.1.2.
E4. THE EXPOSED SUBGRADE SHOULD BE PROOF ROLLED TO DETECT ANY SOFT OR WET AREAS WHICH SHOULD BE LOCALLY EXCAVATED AND BACK FILLED WITH SELECTED MATERIAL.
E5. THE BACK FILLING MATERIAL SHALL BE IMPORTED GRANULAR FILL OF LOW PLASTICITY, PREFERABLY CRUSHED SANDSTONE, AND TO BE PLACED IN LAYERS NOT EXCEEDING 150 LOOSE THICKNESS AND COMPACTED TO 98% OF STANDARD DRY DENSITY AT A MOISTURE CONTENT WITHIN 2% OF OPTIMUM.
E6. SITE WORKS ARE TO BE BATTERED TO ADJACENT PROPERTY LEVELS.
E7. STORMWATER MUST NOT BE CONCENTRATED ON TO AN ADJACENT PROPERTY.
E8. AT NO TIME DURING OR AFTER CONSTRUCTION IS STORMWATER TO BE PONDED ON ADJOINING PROPERTIES.
E9. THE SITE SHALL BE GRADED AND DRAINED SO THAT STORMWATER WILL BE DIRECTED AWAY FROM THE BUILDING PLATFORM.
E10. STORMWATER DRAINAGE SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION. ALL STORMWATER RUNOFF SHALL BE GRADED AWAY FROM THE SITE WORKS AND DISPOSED OF VIA SURFACE CATCHDRAINS AND STORMWATER COLLECTION PITS.
E11. ALL SURFACE CATCH DRAINS SHALL BE GRADED AT 1% (1 IN 100) MINIMUM. THE GROUND SHALL GRADE AWAY FROM ANY DWELLING AT 5% (1 IN 20) FOR THE FIRST METRE THEN AT 2.5% (1 IN 40).
E12. WHERE A CUT FILL PLATFORM IS USED THERE SHALL BE A MINIMUM BERM 1000 WIDE TO THE PERIMETER OF THE SITE WORKS WHICH SHALL BE SUPPORTED BY BATTERS OF 3:1 IN FILL.
E13. ANY VERTICAL OR NEAR VERTICAL PERMANENT EXCAVATION (CUT) DEEPER THAN 600 IN MATERIAL OTHER THAN ROCK SHALL BE ADEQUATELY RETAINED OR BATTERED AT A MINIMUM OF 3:1.
E14. WHERE BATTERS CANNOT BE PROVIDED TO SUPPORT THE CUT OR FILL, THEY SHALL BE ADEQUATELY RETAINED.
E15. RETAINING WALLS ARE TO BE CONSTRUCTED WITH ADEQUATE SUBSOIL DRAINAGE.

CONCRETE PAVEMENT

C1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
C2. PROVIDE JOINTING AT MINIMUM 6000 MAX. INTERVALS OR AS OTHERWISE SPECIFIED IN THE DRAWINGS.
C3. CONCRETE SHALL COMPRISE A MIN. COMPRESSIVE STRENGTH OF 32MPa AT 28 DAYS IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY SPECIFICATION, UNO.
C4. ANY SUB-BASE MATERIAL SHALL BE COMPACTED AS OUTLINED IN EARTHWORKS.
C5. CONCRETE KERB AND GUTTER SHALL COMPRISE A MINIMUM COMPRESSIVE STRENGTH OF 25MPa, UNO.
C6. CONCRETE WORKS ARE TO BE CURED BY ONE OF THE FOLLOWING MEANS:
i) WETTING TWICE DAILY FOR THE FIRST THREE DAYS;
ii) USING AN APPROVED CURING COMPOUNDED FOR A MINIMUM OF 7 DAYS COMMENCING IMMEDIATELY AFTER POURING.

FLEXIBLE PAVEMENT NOTES

F1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
F2. PAVEMENT MATERIAL SHALL CONSIST OF APPROVED OR RIPPED SANDSTONE, NATURAL GRAVEL OR FINE CRUSH ROCK AS PER THE RELEVANT COUNCIL AUTHORITY SPECIFICATION.
F3. PAVEMENT MATERIALS SHALL BE SPREAD IN LAYERS NOT EXCEEDING 150 AND NOT LESS 75 COMPACTED THICKNESS.
F4. PAVEMENT MATERIALS SHALL BE SIZED AND OF A STANDARD OUTLINED IN AS1141.
F5. CRUSHED OR RIPPED SANDSTONE SHALL BE MINUS 75 NOMINAL SIZE DERIVED FROM SOUND, CLEAN SANDSTONE FREE FROM OVERBURDEN, CLAY SEAMS, SHALE AND OTHER DELETERIOUS MATERIAL.
F6. PAVEMENT MATERIALS SHALL BE COMPACTED BY SUITABLE MEANS TO SATISFY THE FOLLOWING MINIMUM SPECIFICATIONS (AS PER AS1289.2)

DESCRIPTION	MEDIUM DENSITY RATIO
SUB-BASE	98% MOD
BASE COURSE	98% MOD
ASPHALTIC CONCRETE	97% MOD

AND SUBJECT TO THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.

F7. TESTING FOR EACH LAYER SHALL BE UNDERTAKEN BY A N.A.T.A. REGISTERED LABORATORY IN ACCORDANCE WITH AS1289, AT NOT MORE THAN 50m INTERVALS AND A MINIMUM OF TWO PER LAYER. FURTHER FREQUENCY OF TESTING SHALL BE NO LESS THAN THAT REQUIRED BY AS3978.

PAVED AREAS NOTES

A1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
A2. ALL PAVERS ARE TO BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
A3. TRAFFICABLE AREAS:
SUB-BASE TO BE 150 COMPACTED THICKNESS DGS75.
SUB-BASE TO BE SUITABLY COMPACTED TO MEDIUM DENSITY 98% MOD.
SUB-BASE TO EXTEND AT LEAST 200 BEYOND PAVED SURFACE.
PAVERS TO BE 80 THICK INTERLOCKING PAVERS ON 50 SAND BEDDING.
A4. NON TRAFFICABLE AREAS:
SUB BASE AS PER TRAFFICABLE AREAS
PAVERS TO BE 60 INTERLOCKING PAVERS ON 50 SAND BEDDING (UNO).

EROSION AND SEDIMENT NOTES

B1. THIS PLAN TO BE READ IN CONJUNCTION WITH EROSION AND SEDIMENT CONTROL DETAILS AS ATTACHED.
B2. 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".
B3. 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.
B4. 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.
B5. LAY TURF STRIP (MIN 300 WIDE) ON 100 TOPSOIL BEHIND ALL KERB WITH 1000 LONG RETURNS EVERY 6000 AND AROUND STRUCTURES IMMEDIATELY AFTER BACKFILLING AS PER THE RELEVANT LOCAL AUTHORITY SPECIFICATION.
B6. THE CONTRACTOR SHALL GRASS SEED ALL DISTURBED AREAS WITH AN APPROVED MIX AS SOON AS PRACTICABLE AFTER COMPLETION OF EARTHWORKS AND REGRADING.
B7. VEHICULAR TRAFFIC SHALL BE CONTROLLED DURING CONSTRUCTION CONFINING ACCESS WHERE POSSIBLE TO NOMINATED STABILISED ACCESS POINTS.
B8. WHEN ANY DEVICES ARE TO BE HANDED OVER TO COUNCIL THEY SHALL BE IN CLEAN AND STABLE CONDITION.
B9. THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL BY REGULAR WETTING DOWN (BUT NOT SATURATING) DISTURBED AREA.
B10. PROVIDE AND MAINTAIN SILT TRAPS AROUND ALL SURFACE INLET PITS UNTIL CATCHMENT IS REVEGETATED OR PAVED.
B11. REVEGETATE ALL TRENCHES IMMEDIATELY UPON COMPLETION OF BACKFILLING.
B12. ALL DRAINAGE PIPE INLETS TO BE CAPPED UNTIL:
- DOWNPIPES CONNECTED
- PITS CONSTRUCTED AND PROTECTED WITH SILT BARRIER

MINIMUM PIPE COVER SHALL BE AS FOLLOWS

LOCATION	MINIMUM COVER
NO SUBJECT TO VEHICLE LOADING	100mm SINGLE RESIDENTAL
SUBJECT TO VEHICLE LOADING	450mm WHERE NOT IN A ROAD
UNDER A SEALED ROAD	600mm
UNSEALED ROAD	750mm
PAVED DRIVEWAY	100mm PLUS DEPTH OF CONCRETE

SEE AS2032 INSTALLATION OF UPVC PIPES FOR FURTHER INFORMATION.

CONCRETE PIPE COVER SHALL BE IN ACCORDANCE WITH AS3725-1989 LOADS ON BURIED CONCRETE PIPES, HOWEVER A MINIMUM COVER OF 450mm WILL APPLY.

WHERE INSUFFICIENT COVER IS PROVIDED, THE PIPE SHALL BE COVERED AT LEAST 50mm THICK OVERLAY AND SHALL BE PAVED WITH AT LEAST:
- 150mm REINFORCED CONCRETE WHERE SUBJECT TO HEAVY VEHICLE TRAFFIC
- 75mm THICKNESS OF BRICK OR 100mm OF CONCRETE PAVING WHERE SUBJECT TO LIGHT VEHICLE TRAFFIC; OR
- 50mm THICK BRICK OR CONCRETE PAVING WHERE NOT SUBJECT TO VEHICLE TRAFFIC.

PIT SIZES AND DESIGN

DEPTH (mm)	MINIMUM PIT SIZE (mm)
UP TO 600mm	450 x 450
600mm TO 900mm	600 x 600 U.N.O
900mm TO 1200mm	900 x 900
1200mm +	900 x 900 (WITH STEP IRON)

SYMBOLS

DESCRIPTION	
	DENOTE ON-SITE DETENTION TANK OR PUMP OUT TANK
	DENOTE ON-SITE DETENTION BASIN
	DENOTE ABSORPTION TRENCH
DP	DENOTES DOWNPIPE
Ø100	DENOTES 100mm DIA PVC (SEWER GRADE) AT 1% MIN. GRADE U.N.O
Ø100	DENOTES 100mm DIA PVC TO BE CONNECTED DIRECTLY TO RAINWATER TANK
Ø225	DENOTES 225mm DIA PVC (SEWER GRADE) AT 0.5% MIN. GRADE U.N.O
S S	DENOTES AGG LINE
S S	DENOTES SEDIMENT FENCE
IP	DENOTES INSPECTION OPENING WITH SCREW DOWN LID AT FINISH SURFACE LEVEL
	DENOTES CLEANING EYE
	STORMWATER PIT - GRATED INLET
	STORMWATER PIT - SOLID COVER
	MAINTENANCE PIT
	NON RETURN VALVE
FD	DENOTE ROUND FLOOR DRAINS
FD	DENOTE SQUARE FLOOR DRAINS
PB	DENOTE PLANTER BOX DRAINS
	DENOTE GRATED DRAIN
RL 6.20	PROPOSED FINISH FLOOR LEVEL
	DENOTE EXISTING OVERLAND FLOW PATH
	DENOTE RAINWATER TANK
O/F	DENOTE WATER OUTLET
RL	REDUCED LEVEL/SURFACE LEVELL
IL	INVERT LEVEL
TK	TOP OF KERB

SCHEDULE OF DRAWINGS

HOLD POINTS FOR STORMWATER INSPECTIONS

THE FOLLOWING HOLD POINTS MUST BE INSPECTED BY A PROFESSIONAL CIVIL ENGINEER OR COUNCIL ENGINEER AT THE NOMINATED STAGES:

1. INITIAL INSPECTION TO DISCUSS CONCEPT AND SITE CONDITIONS/CONSTRAINTS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION OF OSD TANK.
2. AFTER FORMING UP OF OSD TANK & PRIOR TO POURING CONCRETE .
3. AFTER COMPLETION OF STORAGE BUT PRIOR TO INSTALLATION OF FITTINGS (E.G ORIFICE PLATE, TRASH SCREEN, NON RETURN FLAP VALVE ETC)
4. FINAL INSPECTION ON COMPLETION OF STORMWATER COMPONENTS

STORMWATER PLAN COMPLIES WITH DA CONDITIONS:
DA CONDITION 1
DA CONDITION 13
DA CONDITION 19

Revision	Amendment	Issue date	Issue	Issued to	Issue date
A	ISSUED FOR DA SUBMISSION	08/07/24			

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Project: PROPOSED DEVELOPMENT 67 PACIFIC PARADE, DEE WHY
Client: ADJANI
Architect / Project Manager: –

Drawing Title: STORMWATER NOTES & COVER PAGE
Scales: A1 – 1:100
Designed: AP
Drafted: AP
Drawing No.: C23181 – SW 100
Approved: AC
Revision: A

LEGEND

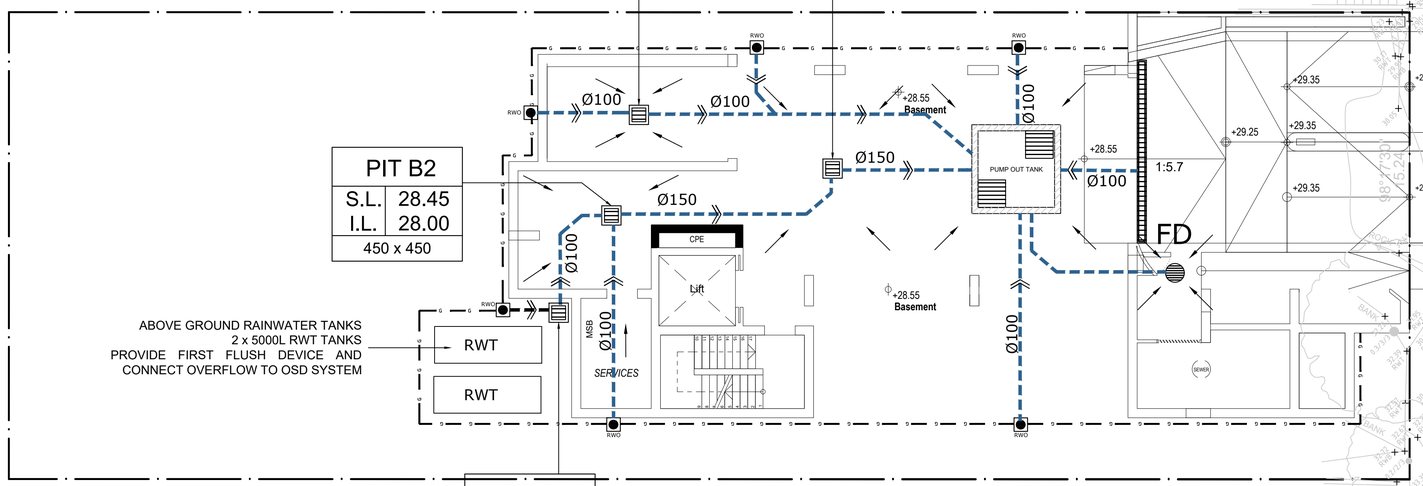
UPVC PIPE TO PIT/OSD	
UPVC AERIAL PIPE TO OSD	
65Ø UPVC AERIAL PIPE IN SLAB	

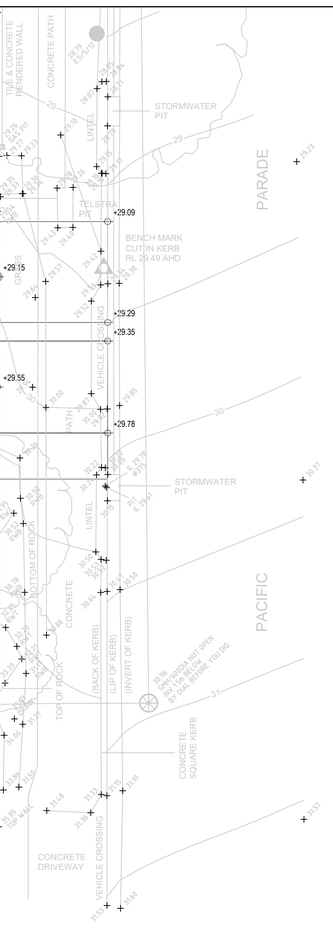
PIT B3	
S.L.	28.45
I.L.	28.00
450 x 450	

PIT B4	
S.L.	28.45
I.L.	27.90
450 x 450	

PIT B2	
S.L.	28.45
I.L.	28.00
450 x 450	

PIT B1	
S.L.	28.35
I.L.	28.05
450 x 450	





BASEMENT DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER SIZE = 6700 mm²
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

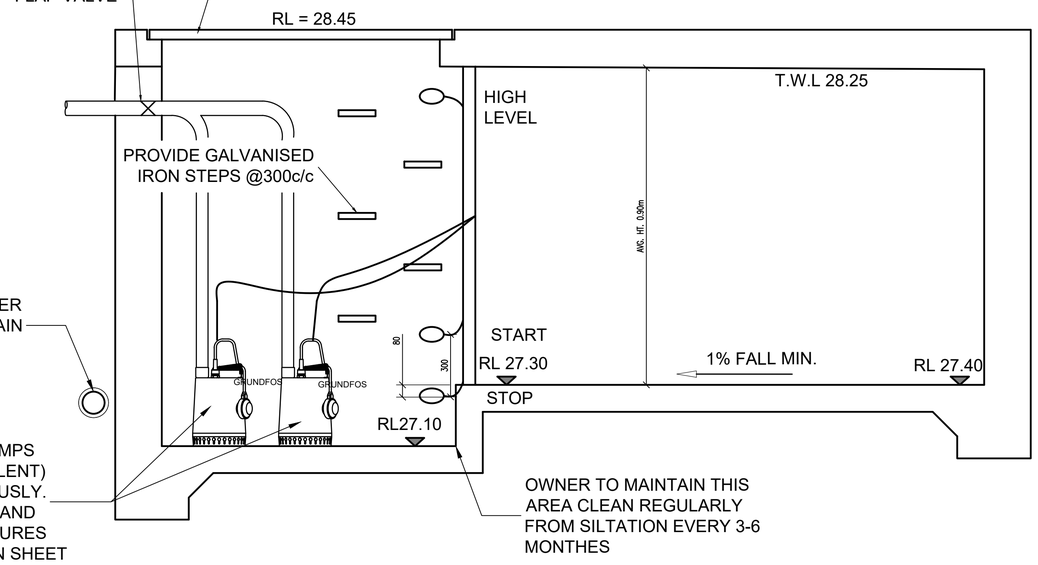
- DP = Ø100, UNO.
- FD = FLOOR OUTLET , REFER TO DETAIL
- SIP = SURFACE INLET PIT (NO LINTEL)
- 100Ø = Ø100 CHARGED LINE
- IP = Ø150 INSPECTION POINT
- RWH = RAIN WATER HEAD
- RWO = RAIN WATER OUTLET (300 x 300)
- FG = FLOOR GULLY Ø150
- S DP = RAINWATER SPREADER
- RL 6.20 = PROPOSED FINISHED SURFACE LEVEL

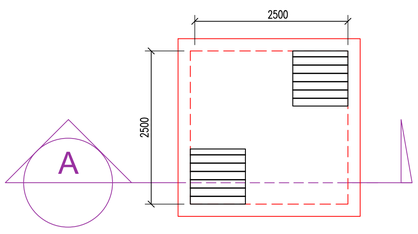
BASEMENT DRAINAGE PLAN

SCALE 1:100

NOTES:

- ALL STORMWATER PIPES TO BE MINIMUM 1% SLOPE UNO.
- GRATED DRAIN IN DRIVEWAY TO BE CLASS C HEAVY DUTY.
- ALL ACCESS GRATE BE BE MINIMUM CLASS C.





PUMP DESIGN SUMMARY

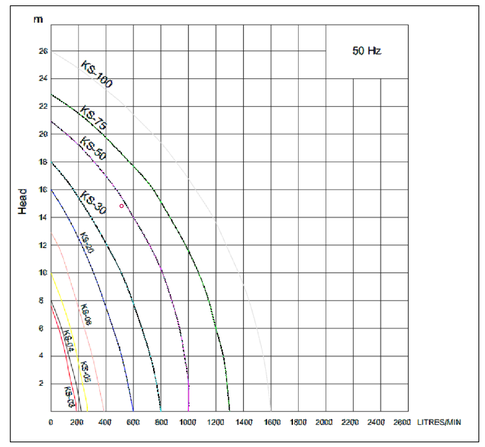
CATCHMENT AREA = 50 m² (DRIVEWAY RAMP)
100 YEAR ARI 2 HOUR STORM = 42.80 mm/hr
TOTAL WATER = 2 x 42.80 mm = 85.60 mm
TOTAL STORAGE VOLUME REQUIRED = 50 x 0.085 = 4.25m³

SEEPAGE = 2.5ML/YEAR/Ha = 6.85 m^3/Ha
SEEPAGE = AREA x 6.85m^3 = 0.025 x 6.85 = 0.17 m^3

TOTAL PUMP-OUT TANK REQUIRED = 4.25 + 0.17= 4.4 m^3
PUMP OUT TANK VOLUME PROVIDED = 5.00 m^3 (MINIMUM)

PUMP HEAD = 2 m
RAINFALL INTENSITY FOR CALCULATIONS = 100 YEAR ARI
STORM DURATION 5 MINUTE = 224 mm/h
PUMP RATE REQUIRED =224 x 50 / 3600 = 3.11 l/s = 186 l/min

2 x SABER KS-05 SUBMERSIBLE PUMPS (OR APPROVED EQUIVALENT) PUMPS TO BE USED



PUMP DESIGN POINT
HEAD = 2.00m
DISCAHRGE RATE =186L/Min.
PUMP MODEL REQ = KS-05

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 ALTERNATIVELY 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.

BASEMENT PUMP OUT TANK PLAN

1:50 @ A1

SECTION - SUBSOIL DRAINAGE PUMPOUT PIT

1:20

Revision	Amendment	Issue date	Issue	Issued to	Issue date
A	ISSUED FOR DA SUBMISSION	08/07/24			

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Project: PROPOSED DEVELOPMENT
67 PACIFIC PARADE,
DEE WHY

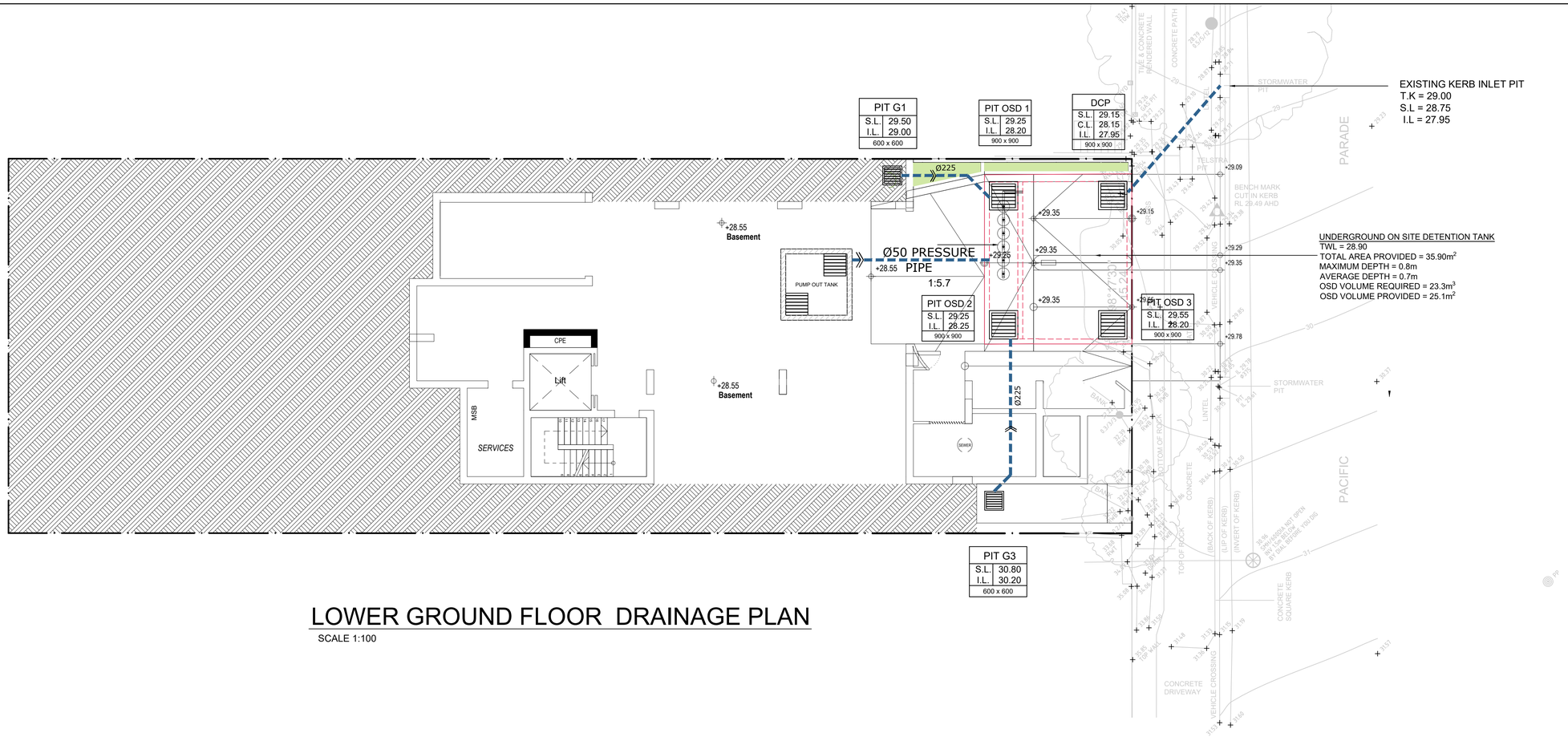
Client: ADJANI

Architect / Project Manager: –

Drawing Title: BASEMENT DRAINAGE PLAN, SECTIONS & DETAILS

Scales	Designed	Drafted
A1 – 1:100	AP	AP

Drawing No.	Approved	Revision
C23181 – SW 101	AC	A



LOWER GROUND FLOOR DRAINAGE PLAN

SCALE 1:100

LOWER GROUND FLOOR DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)
STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER SIZE = 6700 mm²
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- RWO = RAIN WATER OUTLET (300 x 300)
- FG = FLOOR GULLY Ø150
- = RAINWATER SPREADER
- = PROPOSED FINISHED SURFACE LEVEL

LEGEND

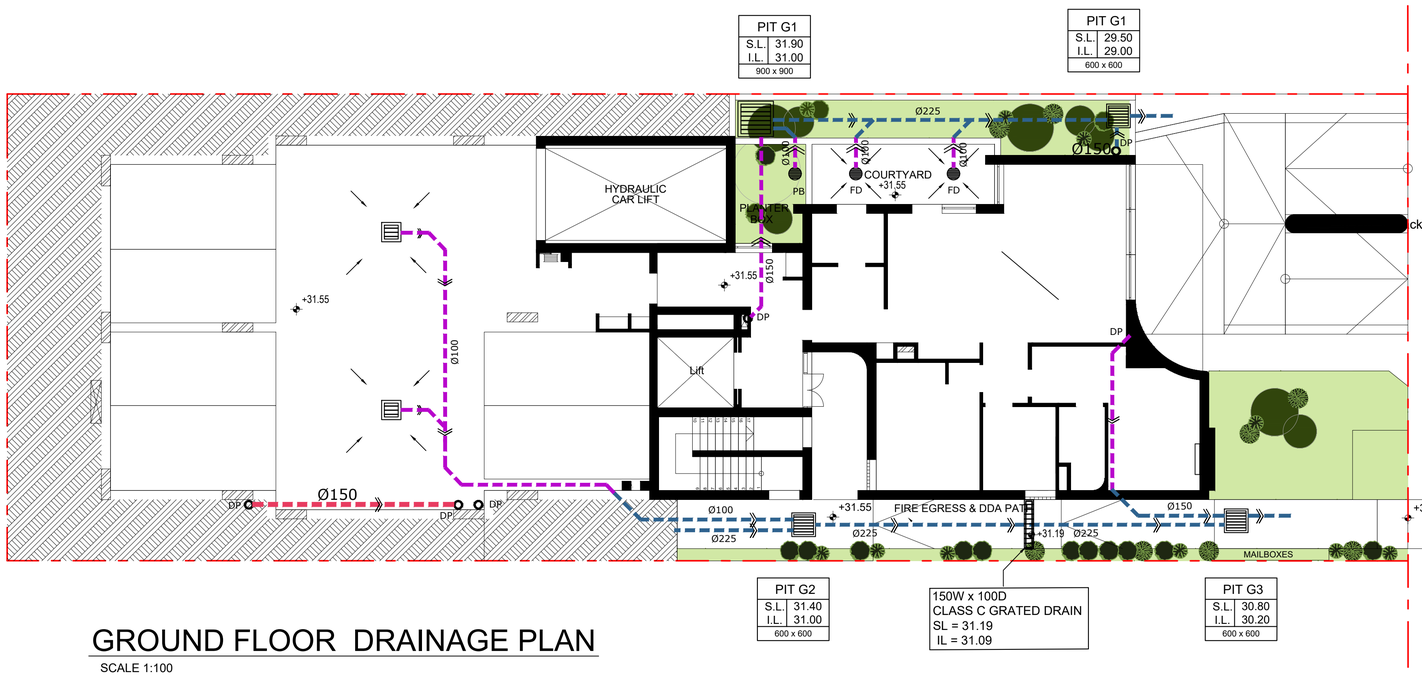
	UPVC PIPE TO PIT/OSD
	UPVC AERIAL PIPE TO OSD
	65Ø UPVC AERIAL PIPE IN SLAB

OSD NOTES:

OSD SIZING AS PER NORTHERN BEACHES COUNCIL WATER MANAGEMENT FOR DEVELOPMENT POLICY.

SITE LOCATION - 67 PACIFIC PDE, DEE WHY = REGION 2 - CENTRAL STORMWATER REGION.

SITE AREA: 695.6m²
IMPERVIOUS AREA (APPROX.) = 430m²
% IMPERVIOUS AREA (APPROX.) = 62% (>60%)
MIN SIZE OF BASIN (SSR) = 23.3m³
SIZE OF BASIN PROVIDED = 25.0m³



GROUND FLOOR DRAINAGE PLAN

SCALE 1:100

GROUND FLOOR DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)
STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER SIZE = 6700 mm²
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

- DP = Ø100, UNO.
- FD = FLOOR OUTLET , REFER TO DETAIL
- SIP = SURFACE INLET PIT (NO LINTEL)
- 100Ø = Ø100 CHARGED LINE
- IP = Ø150 INSPECTION POINT
- RWH = RAIN WATER HEAD
- RWO = RAIN WATER OUTLET (300 x 300)
- FG = FLOOR GULLY Ø150
- = RAINWATER SPREADER
- = PROPOSED FINISHED SURFACE LEVEL

LEGEND

	UPVC PIPE TO PIT/OSD
	UPVC AERIAL PIPE TO OSD
	65Ø UPVC AERIAL PIPE IN SLAB

Revision	Amendment	Issue date	Issue	Issued to	Issue date
A	ISSUED FOR DA SUBMISSION	08/07/24			

CAM CONSULTING
STRUCTURAL & CIVIL ENGINEERS

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Project
PROPOSED DEVELOPMENT
67 PACIFIC PARADE,
DEE WHY

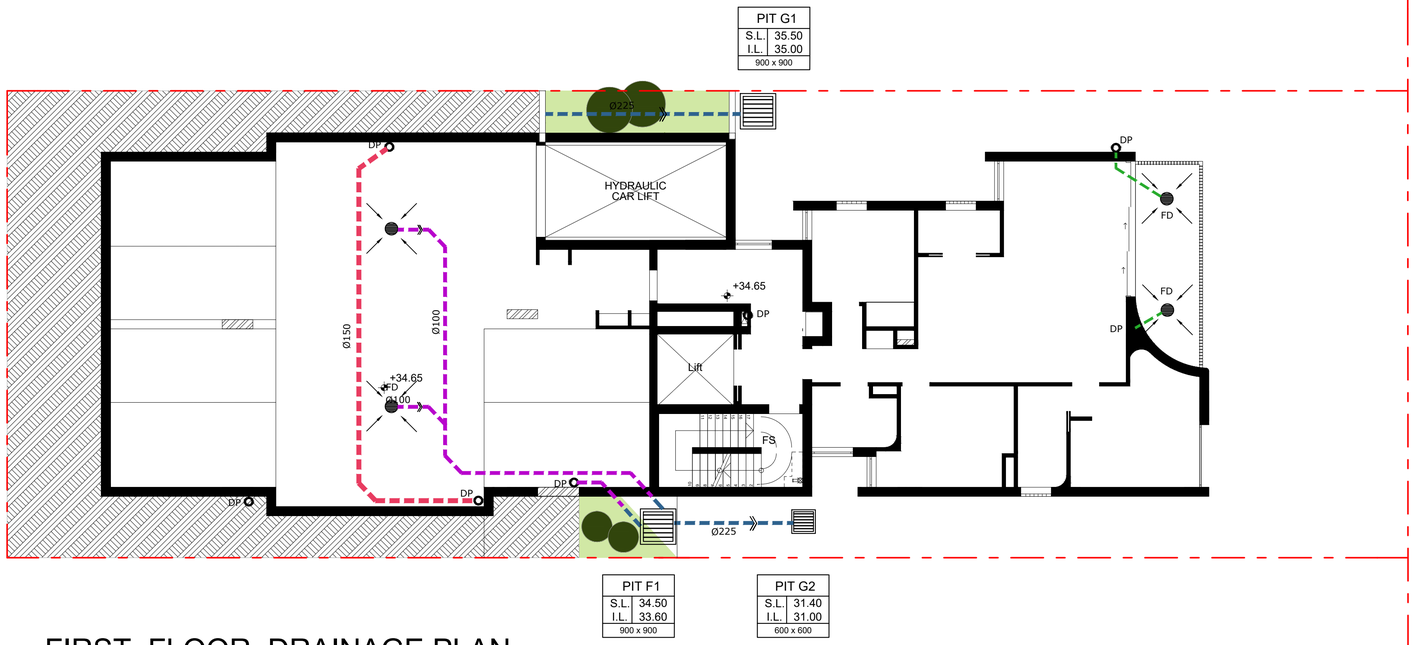
Client
ADJANI

Architect / Project Manager
—

Drawing Title
LOWER GROUND FLOOR & GROUND FLOOR STORMWATER LAYOUT

Scales	Designed	Drafted
A1 — 1:100	AP	AP

Drawing No.	Approved	Revision
C23181 — SW 102	AC	A



FIRST FLOOR DRAINAGE PLAN

SCALE 1:100

LEVEL 01 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)
STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES
TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER
SIZE = 6700 mm²
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

- DP = Ø100, UNO.
- FD = FLOOR OUTLET , REFER TO DETAIL
- SIP = SURFACE INLET PIT (NO LINTEL)
- 100Ø = Ø100 CHARGED LINE
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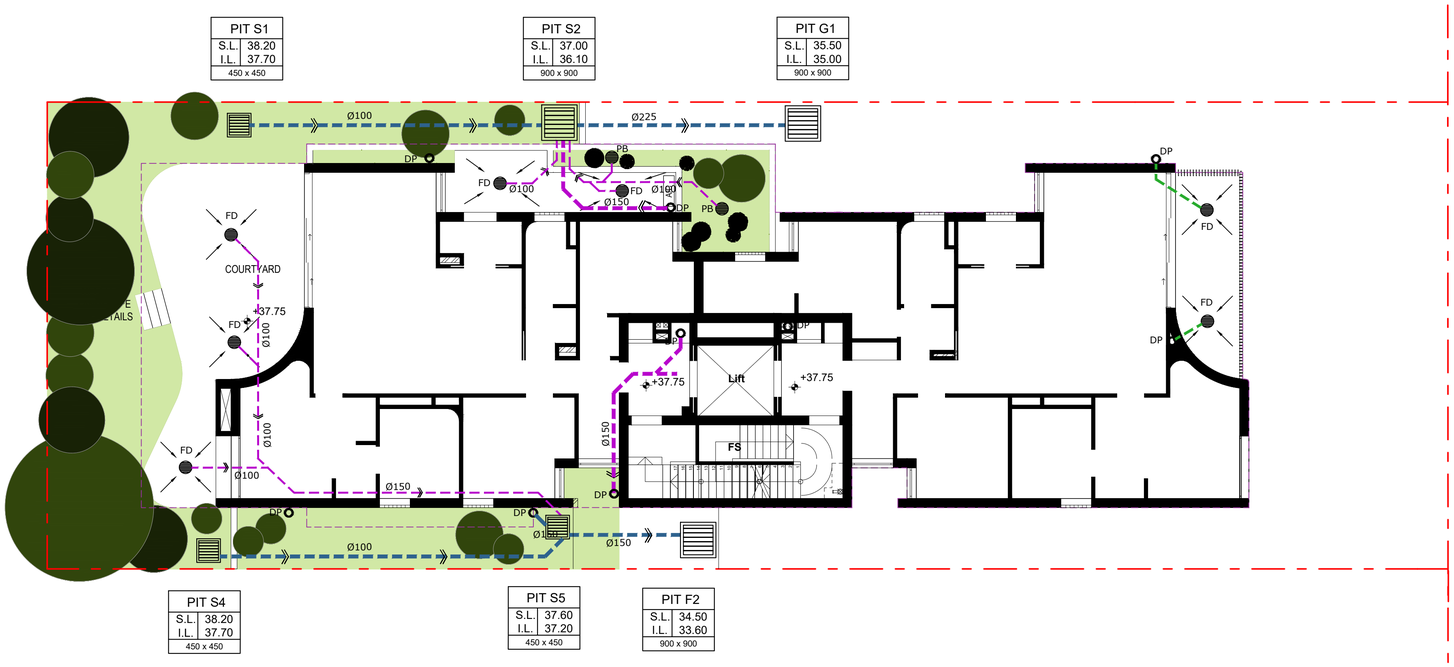
- RWH = RAIN WATER HEAD
- RWO = RAIN WATER OUTLET (300 x 300)
- FG = FLOOR GULLY Ø150
- = RAINWATER SPREADER
- = PROPOSED FINISHED SURFACE LEVEL

LEGEND	
	UPVC PIPE TO PIT/OSD
	UPVC AERIAL PIPE TO OSD
	65Ø UPVC AERIAL PIPE IN SLAB
	UPVC AERIAL PIPE TO RWT



SECOND FLOOR DRAINAGE PLAN

SCALE 1:100

LEVEL 02 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)
STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES
TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER
SIZE = 6700 mm²
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

- DP = Ø100, UNO.
- FD = FLOOR OUTLET , REFER TO DETAIL
- SIP = SURFACE INLET PIT (NO LINTEL)
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- IP = Ø150 INSPECTION POINT
- RWH = RAIN WATER HEAD
- RWO = RAIN WATER OUTLET (300 x 300)
- FG = FLOOR GULLY Ø150
- = RAINWATER SPREADER
- = PROPOSED FINISHED SURFACE LEVEL

LEGEND	
	UPVC PIPE TO PIT/OSD
	UPVC AERIAL PIPE TO OSD
	65Ø UPVC AERIAL PIPE IN SLAB

Revision	Amendment	Issue date	Issue	Issued to	Issue date
A	ISSUED FOR DA SUBMISSION	08/07/24			

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Project
PROPOSED DEVELOPMENT
67 PACIFIC PARADE,
DEE WHY

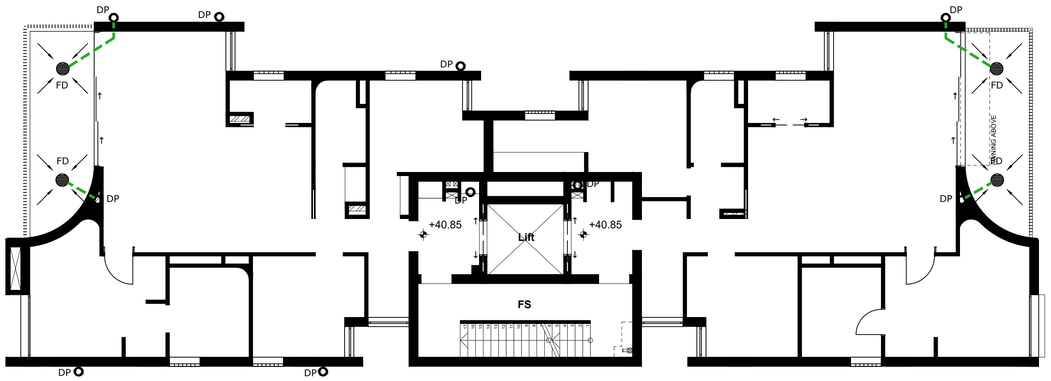
Client
ADJANI

Architect / Project Manager
—

Drawing Title
FIRST FLOOR & SECOND FLOOR STORMWATER LAYOUT

Scales	Designed	Drafted
A1 — 1:100	AP	AP

Drawing No.	Approved	Revision
C23181 — SW 103	AC	A



THIRD FLOOR DRAINAGE PLAN

SCALE 1:100

LEVEL 03 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.

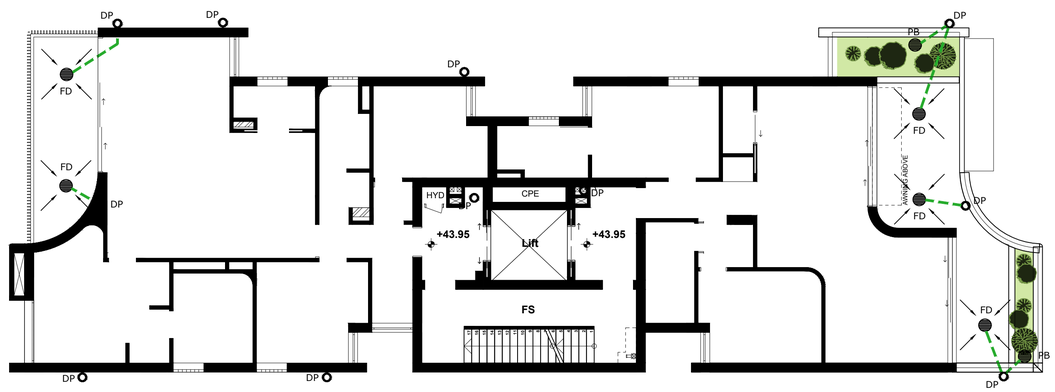
ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER SIZE = 6700 mm²
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

DP	= Ø100, UNO.
FD	= FLOOR OUTLET , REFER TO DETAIL
SIP	= SURFACE INLET PIT (NO LINTEL)
100Ø	= Ø100 CHARGED LINE
IP	= Ø150 INSPECTION POINT
RWH	= RAIN WATER HEAD
RWO	= RAIN WATER OUTLET (300 x 300)
FG	= FLOOR GULLY Ø150
	= RAINWATER SPREADER
	= PROPOSED FINISHED SURFACE LEVEL

LEGEND

	UPVC PIPE TO PIT/OSD
	UPVC AERIAL PIPE TO OSD
	65Ø UPVC AERIAL PIPE IN SLAB



FOURTH FLOOR DRAINAGE PLAN

SCALE 1:100

LEVEL 04 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER SIZE = 6700 mm²
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

DP	= Ø100, UNO.
FD	= FLOOR OUTLET , REFER TO DETAIL
SIP	= SURFACE INLET PIT (NO LINTEL)
100Ø	= Ø100 CHARGED LINE
IP	= Ø150 INSPECTION POINT
RWH	= RAIN WATER HEAD
RWO	= RAIN WATER OUTLET (300 x 300)
FG	= FLOOR GULLY Ø150
	= RAINWATER SPREADER
	= PROPOSED FINISHED SURFACE LEVEL

LEGEND

	UPVC PIPE TO PIT/OSD
	UPVC AERIAL PIPE TO OSD
	65Ø UPVC AERIAL PIPE IN SLAB

Revision	Amendment	Issue date	Issue	Issued to	Issue date
A	ISSUED FOR DA SUBMISSION	08/07/24			

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STRUCTURAL & CIVIL ENGINEERS

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Project
PROPOSED DEVELOPMENT
67 PACIFIC PARADE,
DEE WHY

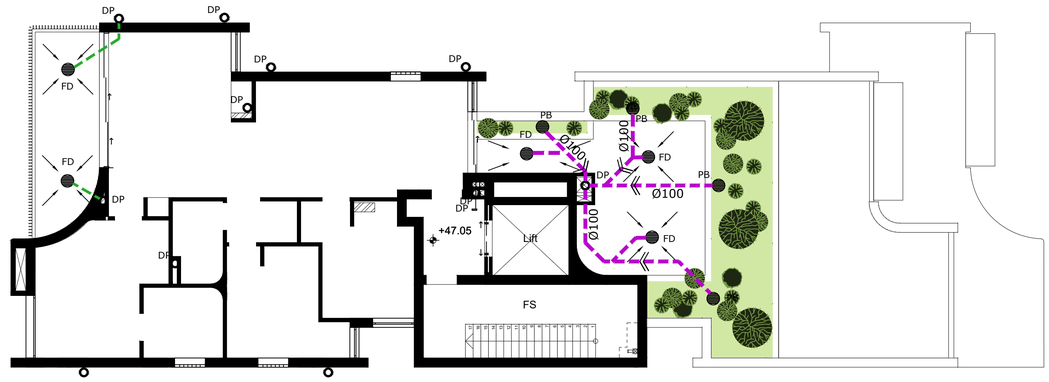
Client
ADJANI

Architect / Project Manager
–

Drawing Title
THIRD FLOOR & FOURTH FLOOR STORMWATER LAYOUT

Scales	Designed	Drafted
A1 – 1:100	AP	AP

Drawing No.	Approved	Revision
C23181 – SW 104	AC	A



FIFTH FLOOR DRAINAGE PLAN

SCALE 1:100

LEVEL 05 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)
STORMWATER DRAINAGE PIPE, UNO.

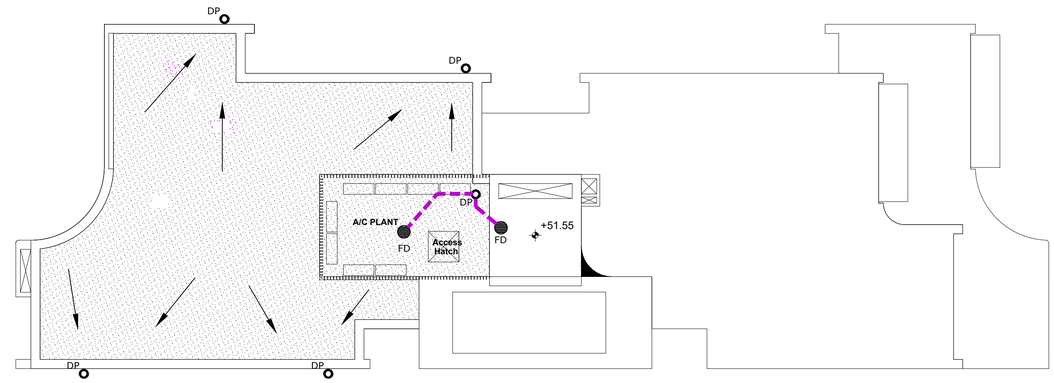
ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES
TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER
SIZE = 6700 mm²
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

DP	= Ø100, UNO.
FD	= FLOOR OUTLET , REFER TO DETAIL
SIP	= SURFACE INLET PIT (NO LINTEL)
100Ø	= Ø100 CHARGED LINE
IP	= Ø150 INSPECTION POINT
RWH	= RAIN WATER HEAD
RWO	= RAIN WATER OUTLET (300 x 300)
FG	= FLOOR GULLY Ø150
	= RAINWATER SPREADER
	= PROPOSED FINISHED SURFACE LEVEL

LEGEND

	UPVC PIPE TO PIT/OSD
	UPVC AERIAL PIPE TO OSD
	65Ø UPVC AERIAL PIPE IN SLAB



ROOF DRAINAGE PLAN

SCALE 1:100

ROOF DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)
STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES
TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER
SIZE = 6700 mm²
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

DP	= Ø100, UNO.
FD	= FLOOR OUTLET , REFER TO DETAIL
SIP	= SURFACE INLET PIT (NO LINTEL)
100Ø	= Ø100 CHARGED LINE
IP	= Ø150 INSPECTION POINT
RWH	= RAIN WATER HEAD
RWO	= RAIN WATER OUTLET (300 x 300)
FG	= FLOOR GULLY Ø150
	= RAINWATER SPREADER
	= PROPOSED FINISHED SURFACE LEVEL

LEGEND

	UPVC PIPE TO PIT/OSD
	UPVC AERIAL PIPE TO OSD
	65Ø UPVC AERIAL PIPE IN SLAB

Revision	Amendment	Issue date	Issue	Issued to	Issue date
A	ISSUED FOR DA SUBMISSION	08/07/24			

CAM CONSULTING
STRUCTURAL & CIVIL ENGINEERS

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Project
PROPOSED DEVELOPMENT
67 PACIFIC PARADE,
DEE WHY

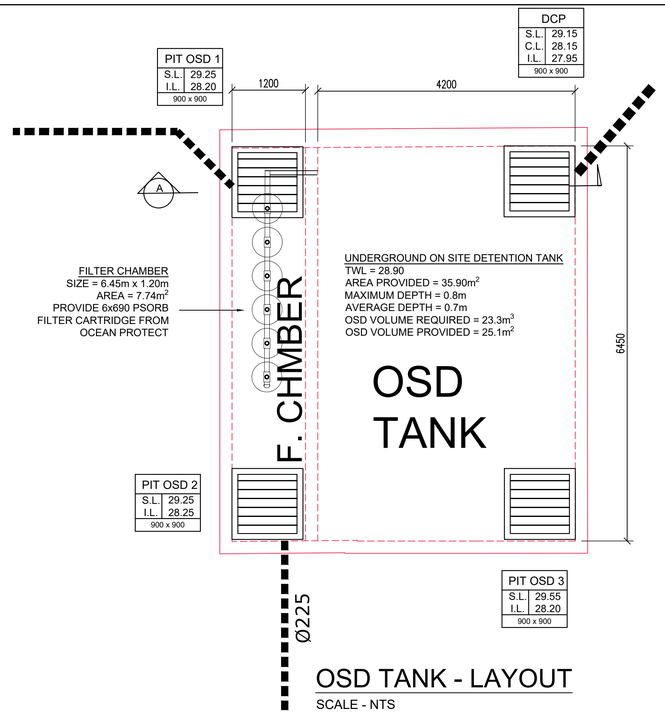
Client
ADJANI

Architect / Project Manager
—

Drawing Title
FIFTH FLOOR & ROOF STORMWATER LAYOUT

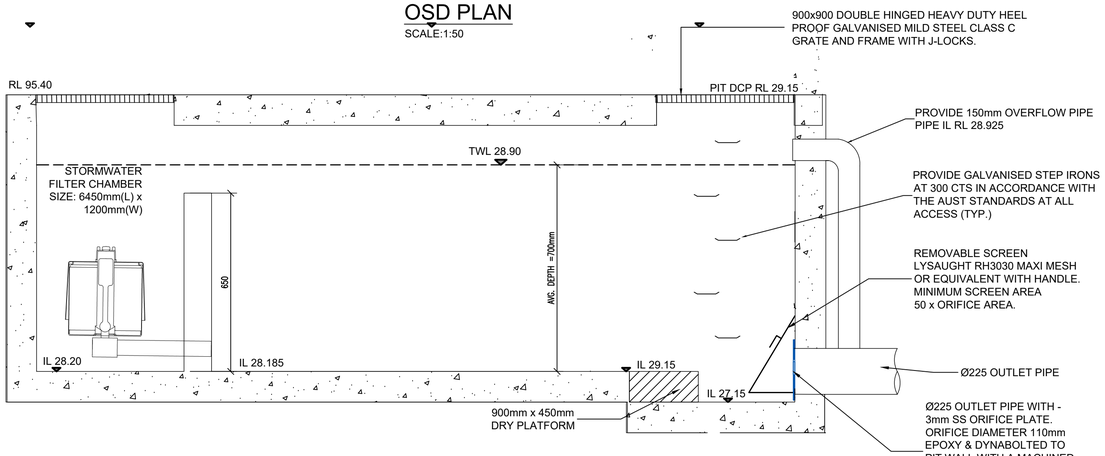
Scales	Designed	Drafted
A1 — 1:100	AP	AP

Drawing No.	Approved	Revision
C23181 — SW 105	AC	A



OSD TANK - LAYOUT

SCALE - NTS

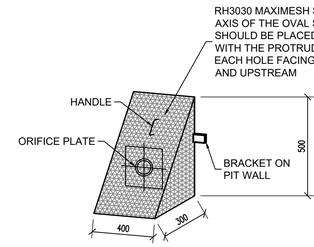


OSD PLAN

SCALE:1:50

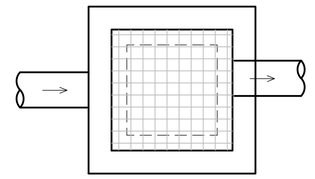
OSD TANK - SECTION A

SCALE - NTS



DETAIL - STANDARD TRASH SCREEN

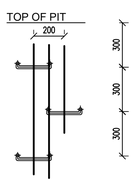
1:20



PLAN

PLACEMENT-PLAN

PLAN

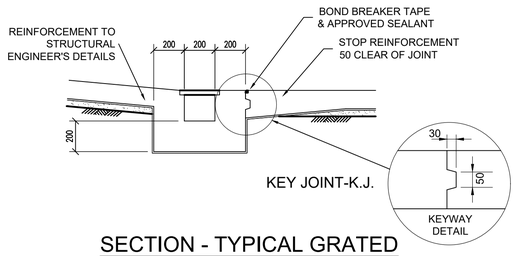


PLACEMENT ELEVATION

SIDE-ELEVATION

TYPICAL STEP IRONS

1:20



SECTION - TYPICAL GRATED DRAIN

1:20

THIS IS AN

ON-SITE STORMWATER DETENTION SYSTEM

REQUIRED BY YOUR LOCAL COUNCIL

IT IS AN OFFENCE TO REDUCE THE VOLUME OF THE TANK OR BASIN OR TO INTERFERE WITH THE ORIFICE PLATE THAT CONTROLS THE OUTFLOW

THE BASE OF THE OUTLET CONTROL PIT AND THE DEBRIS SCREEN MUST BE CLEANED OF DEBRIS AND SEDIMENT ON A REGULAR BASIS BY THE OWNER

THIS PLATE MUST NOT BE REMOVED

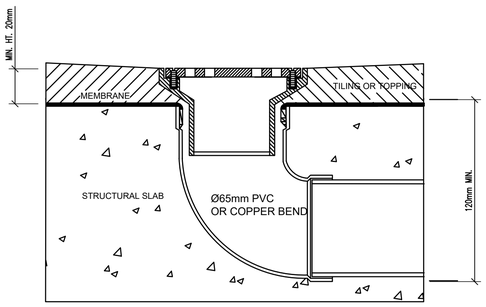
DETAIL - OSD SIGN

NOTES:
- PROVIDE OSD SIGNAGE ON VISIBLE SPOT NEXT TO OR OUTSIDE DCP OF OSD TANK

DETAIL - CONFINED SPACE SIGN

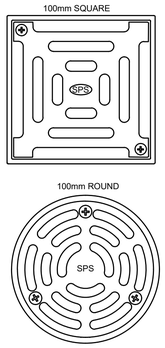
NTS

NOTE: CONFINED SPACE SIGN TO BE AFFIXED UNDER EACH ACCESS GRATE AT VISIBLE SPOT

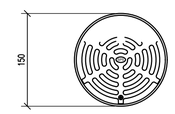


SPS 100x50mm SPECIAL DROP-IN BALCONY DRAIN (BD)

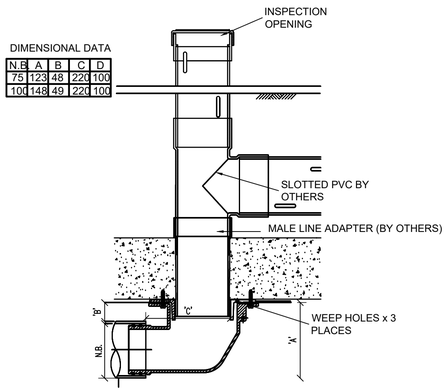
NTS @ A1
SPECIFICATION CODE:
R100S2(ROUND 316 STAINLESS STEEL GRATE)
Q100S2(SQUARE 316 STAINLESS STEEL GRATE)



TYPICAL APPLICATION

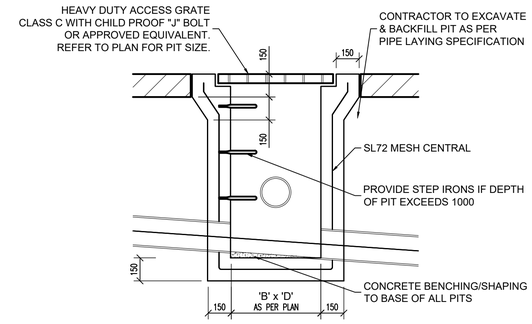


PLAN



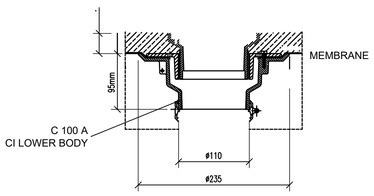
SECTION - SPS TRUFLO 100SQ OR EQUIVALENT PLANTER BOX DRAIN

1:5
SPECIFICATION CODE:
C100/90 A 100mm SIDE OUTLET



SECTION - TYPICAL SURFACE INLET PIT

1:5 @ A1
TYPICAL FOR ALL PITS IN DRIVEWAY/CARPARK AREAS



SECTION - SPS TRUFLO Ø150 OR EQUIVALENT FLOOR DRAIN (FD) INLET

1:5 @ A1
SPECIFICATION CODE:
R150 G/C (BRONZE GRATE, CI LOWER BODY)
R150N/C (NICKEL - BRONZE GRATE, CI LOWER BODY)
R150 S/C (316 STAINLESS STEEL GRATE, CI LOWER BODY)

Revision	Amendment	Issue date	Issue	Issued to	Issue date
A	ISSUED FOR DA SUBMISSION	08/07/24			

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Project
PROPOSED DEVELOPMENT
67 PACIFIC PARADE,
DEE WHY

Client
ADJANI

Architect / Project Manager
—

Drawing Title
STORMWATER SECTIONS & DETAILS

Scales	Designed	Drafted
A1 — 1:100	AP	AP

Drawing No.	Approved	Revision
C23181 — SW 106	AC	A