PROPOSED DEVELOPMENT
(No.1-3) REID STREET & (2-4) WOODSIDE AVENUE, LINDFIELD
STORMWATER MANAGEMENT PLANS

LEGEND

- DENOTES ON-SITE DETENTION TANK
- DENOTES ON-SITE RETENTION TANK
- DENOTES DWELLING FOOTPRINT
- SW — DENOTES 100mm DIA. STORMWATER/SURFACE WATER SYSTEM PIPE AT 1% MIN. GRADE U.N.O.
- RW — DENOTES 100mm DIA. FULLY SEALED RAINWATER SYSTEM PIPE U.N.O.
- 150 RW — DENOTES RAINWATER PIPE AND DIA. WHEN PIPE EXCEEDS 100mm DIA.
- 150 SW — DENOTES STORMWATER/SURFACE WATER PIPE AND DIA. WHEN PIPE EXCEEDS 100mm DIA.
- W/RM — DENOTES RISING MAIN AND PIPE DIA. U.N.O.
- 100 SS — DENOTES SUBSOIL DRAINAGE LINE AND DIA. WRAPPED IN GEOFABRIC U.N.O.
- DP — DENOTES DOWNPIPE
- IO — DENOTES INSPECTION OPENING WITH SCREW DOWN LID AT FINISHED SURFACE LEVEL
- CO — DENOTES INSPECTION OPENING WITH SCREW DOWN LID AT FINISHED SURFACE LEVEL FOR SYSTEM FLUSHING PURPOSES
- STORMWATER PIT - SOLID COVER
- STORMWATER PIT - GRATED INLET
- DENOTES GRATED DRAIN
- DENOTES ABSORPTION TRENCH
- NON RETURN VALVE
- PUMP
- STOP VALVE (ISOLATION VALVE)
- 240v REQUIRED
- IL23.31 — DENOTES LEVEL OF INLET /OUTLET OF STORMWATER PIPE. NOTE: UNLESS NOTED OTHERWISE, THE BASE OF THE PIT IS THE SAME AS THE PIPE INLET/OUTLET.

DIAL BEFORE YOU DIG

BEFORE YOU DIG byda.com.au

IMPORTANT: THE CONTRACTOR IS TO MAINTAIN A CURRENT SET OF "DIAL BEFORE YOU DIG" DRAWINGS ON SITE AT ALL TIMES.

GENERAL NOTES

1. THESE PLANS SHALL BE READ IN CONJUNCTION WITH OTHER RELEVANT CONSULTANTS' PLANS, SPECIFICATIONS, CONDITIONS OF DEVELOPMENT CONSENT AND CONSTRUCTION CERTIFICATE REQUIREMENTS. WHERE DISCREPANCIES ARE FOUND HYDRACOR CONSULTING ENGINEERS PTY LTD MUST BE CONTACTED IMMEDIATELY FOR VERIFICATION
2. WHERE THESE PLANS ARE NOTED FOR DEVELOPMENT APPLICATION PURPOSES ONLY, THEY SHALL NOT BE USED FOR OBTAINING A CONSTRUCTION CERTIFICATE NOR USED FOR CONSTRUCTION PURPOSES
3. SUBSOIL DRAINAGE SHALL BE DESIGNED AND DETAILED BY THE STRUCTURAL ENGINEER. SUBSOIL DRAINAGE SHALL NOT BE CONNECTED INTO THE STORMWATER SYSTEM IDENTIFIED ON THESE PLANS UNLESS APPROVED BY HYDRACOR CONSULTING ENGINEERS PTY LTD.

STORMWATER CONSTRUCTION NOTES

1. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500 (CURRENT EDITION) AND THE REQUIREMENTS OF THE LOCAL COUNCIL'S POLICIES AND CODES
2. THE MINIMUM SIZES OF THE STORMWATER DRAINS SHALL NOT BE LESS THAN DN90 FOR CLASS 1 BUILDINGS AND DN100 FOR OTHER CLASSES OF BUILDING OR AS REQUIRED BY THE REGULATORY AUTHORITY
3. THE MINIMUM GRADIENT OF STORMWATER DRAINS SHALL BE 1%, UNLESS NOTED OTHERWISE
4. COUNCIL'S TREE PRESERVATION ORDER IS TO BE STRICTLY ADHERED TO. NO TREES SHALL BE REMOVED UNTIL PERMIT IS OBTAINED
5. PUBLIC UTILITY SERVICES ARE TO BE ADJUSTED AS NECESSARY AT THE CLIENT'S EXPENSE
6. ALL PITS TO BE BENCHED AND STREAMLINED. PROVIDE STEP IRONS FOR ALL PITS OVER 1.2m DEEP
7. MAKE SMOOTH JUNCTION WITH ALL EXISTING WORK
8. VEHICULAR ACCESS AND ALL SERVICES TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION
9. SERVICES SHOWN ON THESE PLANS HAVE BEEN LOCATED FROM INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND FIELD INVESTIGATIONS AND ARE NOT GUARANTEED COMPLETE NOR CORRECT. IT IS THE CLIENT & CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL PRIOR TO CONSTRUCTION
10. ANY VARIATION TO THE WORKS AS SHOWN ON THE APPROVED DRAWINGS ARE TO BE CONFIRMED BY HYDRACOR CONSULTING ENGINEERS PTY LTD PRIOR TO THEIR COMMENCEMENT

RAINWATER RE-USE SYSTEM NOTES

1. RAINWATER SUPPLY PLUMBING TO BE CONNECTED TO OUTLETS WHERE REQUIRED BY BASIX CERTIFICATE (BY OTHERS)
2. TOWN WATER CONNECTION TO RAINWATER TANK TO BE TO THE SATISFACTION OF THE REGULATORY AUTHORITY. THIS MAY REQUIRE PROVISION OF:
   - 2.1. PERMANENT AIR GAP
   - 2.2. BACKFLOW PREVENTION DEVICE
3. NO DIRECT CONNECTION BETWEEN TOWN WATER SUPPLY AND THE RAIN WATER SUPPLY
4. AN APPROVED STOP VALVE AND/OR PRESSURE LIMITING VALVE AT THE RAINWATER TANK
5. PROVIDE APPROPRIATE FLOAT VALVES AND/OR SOLENOID VALVES TO CONTROL TOWN WATER SUPPLY INLET TO TANK IN ORDER TO ACHIEVE THE TOP-UP INDICATED ON THE TYPICAL DETAIL
6. ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED PLUMBERS IN ACCORDANCE WITH AS/NZS3500.1 NATIONAL PLUMBING AND DRAINAGE CODE
7. PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY A LICENSED ELECTRICIAN
8. ONLY ROOF RUN-OFF IS TO BE DIRECTED TO THE RAINWATER TANK . SURFACE WATER INLETS ARE NOT TO BE CONNECTED
9. PIPE MATERIALS FOR RAINWATER SUPPLY PLUMBING ARE TO BE APPROVED MATERIALS TO AS/NZS3500 PART 1 SECTION 2 AND TO BE CLEARLY AND PERMANENTLY IDENTIFIED AS 'RAINWATER'. THIS MAY BE ACHIEVED FOR BELOW GROUND PIPES USING IDENTIFICATION TAPE (MADE IN ACCORDANCE WITH AS2648) OR FOR ABOVE GROUND PIPES BY USING ADHESIVE PIPE MARKERS (MADE IN ACCORDANCE WITH AS1345)
10. EVERY RAINWATER SUPPLY OUTLET POINT AND THE RAINWATER TANK ARE TO BE LABELED 'RAINWATER' ON A METALLIC SIGN IN ACCORDANCE WITH AS1319
11. ALL INLETS AND OUTLETS TO THE RAINWATER TANK ARE TO HAVE SUITABLE MEASURES PROVIDED TO PREVENT MOSQUITO AND VERMIN ENTRY

SHEET INDEX

LOCALITY MAP

DEVELOPMENT APPLICATION ISSUE
NOT FOR CONSTRUCTION

DRAWINGS MUST BE PRINTED IN COLOUR

Issue	Description	Date	Drawn	Approved
B	RE - ISSUED FOR DEVELOPMENT APPROVAL	04.04.25	LW	BK
A	ISSUED FOR DEVELOPMENT APPROVAL	28.03.25	RH	BK

1cm at full size 0 10cm

North

Client: CPDM Pty Ltd
SUITE G02, GROUND FLOOR
22 ATCHINSON ST, ST LEONARDS

Architect: PBD ARCHITECTS

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Project: PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

Drawing Title: COVER SHEET & NOTES

Drawn	Date	Scale A1	Q.A. Check	Date
LW	MARCH 2025	AS SHOWN	-	-

Designed	Project No.	Dwg. No.	Issue
BK	CC240140	C1	B

KU-RING-GAI DCP PART 24 STORMWATER DRAINAGE SUMMARY

SITE AREA ..... 3852 m²

PRE-DEVELOPED IMPERVIOUS AREA ..... N/A m²

POST DEVELOPED IMPERVIOUS AREA ..... 2622 m²

DESIGN SUMMARY IN RESPONSE TO THE KU-RING-GAI DCP PART 24 - WATER MANAGEMENT:

- STORMWATER DISCHARGE (24B.5)

  ON-SITE DETENTION / RAINWATER TANK OVERFLOW AND SURFACE

  PITS TO DISCHARGE TO WOODSIDE AVENUE

- STREAM FLOW CONTROLS PART 24 CLAUSE 24.C3

  PROPOSAL

  PROVISION OF 39,000 LITRE RAINWATER TANK.

  REFER TO SHEET C3, C7 & C8

- ON-SITE DETENTION PART 24 CLAUSE 24.C5

  REFER TO CALCULATION SHEET.

  PROPOSAL

  PROVISION OF 75,000 LITRE MIN. ON-SITE DETENTION TANK

  REFER TO SHEET C3, C7 & C8

- WATER QUALITY PART 24 CLAUSE 24.C6

  PROPOSAL

  PROVISION OF: 39,000 LITRE RAINWATER TANK

  7 x OCEANPROTECT FILTERS

  2 x OCEANGUARD

  REFER TO SHEETS C10 - C12

CATCHMENT DETAIL ON-SITE DETENTION CALCULATION SHEET - 24R.4

1. CATCHMENT NAME GC1
2. CATCHMENT DISCHARGE RATE 0.0128 l/sec/m² **A**
3. CATCHMENT STORAGE RATE 0.0336 m³/m² **B**

SITE DETAILS

4. SITE AREA (m²) 3852 60% OF SITE AREA m² 2311 **C**
5. AREA(S) NOT DRAINING TO THE DETENTION SYSTEM N/A m²
6. TOTAL IMPERVIOUS AREA (ROOFS, DRIVEWAYS, PAVING, FUTURE DEV.) 2582 m² **D**
7. IMPERVIOUS AREA BYPASSING DETENTION SYSTEM 496 m² **E**

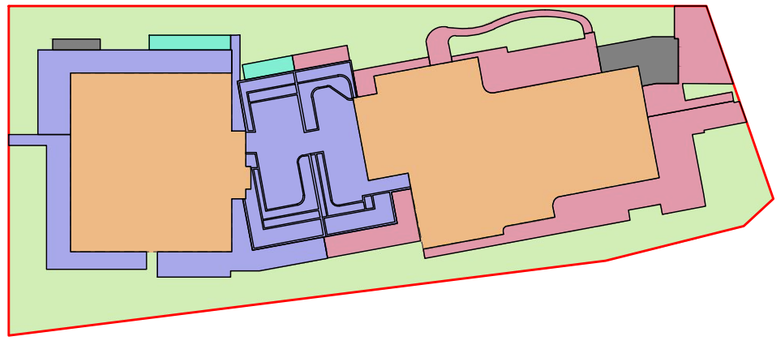
PERMITTED SITE DISCHARGE

8. C[2311 m²] x A [0.0128 l/sec/m²] = 29.5 l/sec **Flow 1**
9. ADJUSTMENT FOR ANY UNCONTROLLED IMPERVIOUS FLOW E / D= 0.22 (<0.25) **F**
10. FLOW 1 [29.5 l/sec x F [0.22] = 6.49 l/sec **Flow 2**
11. FLOW 1 [29.5] - FLOW 2 [6.49] = 23 l/sec **PSD**

SITE STORAGE REQUIREMENT

12. C [2311 m²] x B [0.0336 m³/m²] = 77.6 m³ **SSR1**
13. IF THE STORAGE IS IN A LANDSCAPED BASIN, SSR1 x 1.2 = m³ N/A **SSR2**

- RAINWATER TANK OFFSET APPLIED (10% OF THE ON SITE RETENTION TO BE DISCOUNTED)
- ADJUSTED ON SITE DETENTION VOLUME = 73.6m³ REQUIRED
- 75m³ PROVIDED



IMPERVIOUS PAVEMENT AREAS DIRECTED TO OSD TANK INCLUDING **LANDSCAPE PLANTERS OVER SLABS** (AREA = 715m²)

BASEMENT PUMP-OUT AREA DIRECTED TO OSD TANK (AREA = 63m²)

ROOF AREA DIRECTED TO OSD TANK VIA OSR (RAINWATER) TANK (AREA = 1272m²)

PLANTERS TO OSD TANK (AREA = 36m²)

TOTAL CATCHMENT DIRECTED TO OSD TANK = 2086m² (54%)

LANDSCAPE AREA BYPASSING OSD SYSTEM (AREA = 1269m²)

IMPERVIOUS AREA BYPASSING OSD SYSTEM PATHS / COURTYARDS (AREA = 496m²)

SUMMARY

SITE AREA = 3852 (54%)

TOTAL IMPERVIOUS AREA = 2582m² (67%)

TOTAL AREA BEING DIRECTED TO OSD SYSTEM = 2086m² (54% OF SITE)

TOTAL IMPERVIOUS CATCHMENT AREA BYPASSING OSD SYSTEM = 496m² (13%)

Issue	Description	Date	Drawn	Approved
B	RE - ISSUED FOR DEVELOPMENT APPROVAL	04.04.25	LW	BK
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1cm at full size

North

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Project: PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

Drawing Title: STORMWATER DRAINAGE SUMMARY

Drawn	Date	Scale A1	Q.A. Check	Date
LW	MARCH 2025	AS SHOWN	-	-
Designed	Project No.		Dwg. No.	Issue
BK	CC240140		C2	B

DESIGN NOTES:

1. TOP OF GRATE LEVELS HAVE BEEN DETERMINED FROM THE SURVEY DETAIL PROVIDED. FOLLOWING EARTHWORKS AND BENCHING, VALIDITY OF GRATE LEVELS SHOULD BE ASSESSED AND ADJUSTED AS REQUIRED TO MEET THE INTENT OF THE DESIGN. WHERE IN DOUBT CONTACT THE DESIGN ENGINEER.

2. DOWNPIPES CONVEYING ROOF WATER TO DISCHARGE TO RAINWATER TANK INDEPENDANT OF ANY OTHER STORMWATER SYSTEM ON SITE. REFER TO HYDRAULIC SERVICES PLANS AT CC STAGE FOR LOCATION OF ALL BUILDING DOWNPIPES. THE HYDRAULIC ENGINEER SHOULD ALLOW TO TIE IN AS REQUIRED TO THE STORMWATER CONCEPT SHOWN ON THESE PLANS. TYP UNO.

3. FULLY SEALED ROOF DRAINAGE SYSTEM SHOWN THUS:
   ARW OR RW
   DENOTES DRAINAGE SYSTEM TO BE FULLY SEALED FROM ROOF GUTTERS TO OSR TANK. SEAL ALL PIPEWORK FROM TANK TO ROOF USING SOLVENT WELDED JOINTS. RAINWATER SYSTEM SHALL COLLECT ROOF WATER ONLY. NO ADDITIONAL PITS FOR COLLECTION OF SURFACE WATER WILL BE PERMITTED FOR THE ROOF WATER SYSTEM TYP.

4. DOWNPIPES, PIPES & STORMWATER FEATURES LOCATED WITHIN THE BUILDING ENVELOPE ARE SHOWN ON THIS PLAN FOR APPROVAL PURPOSES ONLY. FINAL PIPE ALIGNMENTS LOCATED WITHIN THE BUILDING ENVELOPE WITH THE EXCEPTION OF THE BASEMENT DRAINAGE IS TO BE COORDINATED & DOCUMENTED AT CC STAGE BY THE BUILDING SERVICES HYDRAULIC ENGINEER AND SHOULD ALLOW TO TIE IN WITH THE STORMWATER CONCEPT SHOWN ON THESE PLANS.

5. CONSTRUCT PIPES AS CLOSE AS PRACTICABLE TO BUILDING TO MINIMISE DISTURBANE ON EXISTING TREE ROOTS. HAND DIG TRENCH UNDER THE SUPERVISION OF THE CONSULTING ARBORIST. DO NOT SEVER ROOTS >30mm WITHIN CANOPY OF TREES TO BE RETAINED. TREE PROTECTION MEASURES TO BE CARRIED OUT IN ACCORDANCE WITH KU-RING-GAI COUNCIL SPECIFICATIONS. FINAL ALIGNMENT TO BE CONFIRMED ON SITE BY ARBORIST.

NOTE: REFER TO ARCHITECTS DRAWINGS FOR TREES TO BE REMOVED & RETAINED. TREES SHOWN IN GREEN ARE TO BE RETAINED

SURFACE STORMWATER LINE TO OSD TANK. REFER TO NOTE 4

SURFACE STORMWATER LINE TO OSD TANK. REFER TO NOTE 4

EXTERNAL SURFACE WATER DRAINAGE SYSTEM. FINALI PIPE ALIGNMENT TO BE DETERMINED AT CC STAGE

ROOF WATER LINE TO OSR TANK. REFER TO NOTE 2 & 3 TYP UNO

OUTLINE OF BASEMENT WALL UNDER SHOWN THUS: - - - - -

NOTE: ANY OUTLETS / PITS OR GRATED DRAINS CONSTRUCTED AT A FINISHED SURFACE LEVEL EQUAL OR LOWER THAN RL 90.25 SHOULD BE DESIGNED AND CONSTRUCTED TO BYPASS THE ON SITE DETENTION.

NOTE: GROUND FLOOR STEPS DOWN TO RL 89.30 ALL SURFACE OUTLETS LOCATED AT THIS LEVEL MUST BYPASS THE OSD TANK

DENOTES EXTENT OF SLAB FOLD. REFER TO ARCHITECTURAL PLANS

IL 90.15 nom

IL 88.10 nom

IL 89.70 nom

IL 87.85 nom

900 SQ SW PIT WITH GRATED INLET RL 90.15 IL 87.80

900 SQ SW PIT WITH GRATED INLET RL 89.50 IL 87.60

IL U/S 87.80
375Ø
1.0% MIN
14m
IL D/S 87.66

225 DIA MIN.

150 DIA MIN.

GROUND FLOOR
FFL RL.90.800

ON SITE RETENTION
PROVIDE OSR WITH :-
OSR STORAGE VOLUME: 39m³
TOP STORED WATER LEVEL - RL 90.15
REFER TO SHEET C7 & C8 FOR DETAILS

ON-SITE DETENTION (OSD) & WATER QUALITY TANK
PROVIDE OSD WITH :-
OSD STORAGE VOLUME: 75m³
TOP STORED WATER LEVEL - 89.95
REFER TO SHEET C7 & C8 FOR DETAILS

DENOTES DIRECTIONAL DRILLING.

BENCHMARK NAIL IN KERB RL 89.44 AHD

REID STREET

LINDFIELD AVENUE

WARNING
LOCATION AND DEPTH OF ALL UNDERGROUND SERVICES TO BE INVESTIGATED WITH THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK

STORMWATER MANAGEMENT PLAN
SCALE - 1:100/A1, 1:200/A3

0 1 2 4 6 8 10m

FOR CONTINUATION REFER TO SHEET C4

Issue	Description	Date	Drawn	Approved
B	RE - ISSUED FOR DEVELOPMENT APPROVAL	04.04.25	LW	BK
A	ISSUED FOR DEVELOPMENT APPROVAL	28.03.25	RH	BK

North

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Project: PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

Drawing Title: STORMWATER MANAGEMENT PLAN - GROUND (PART 1)

Drawn	Date	Scale A1	Q.A. Check	Date
LW	MARCH 2025	AS SHOWN	-	-
Designed	Project No.		Dwg. No.	Issue
BK	CC240140		C3	B

EXTERNAL SURFACE WATER DRAINAGE SYSTEM. FINALI PIPE ALIGNMENT TO BE DETERMINED AT CC STAGE

NOTE: REFER TO ARCHITECTS DRAWINGS FOR TREES TO BE REMOVED & RETAINED. TREES SHOWN IN GREEN ARE TO BE RETAINED

CROSSOVER AND DRIVEWAY TO BE IN ACCORDANCE WITH COUNCIL REQUIREMENTS. THE LEVELS AND DESIGN OF THE CROSSOVER AND DRIVEWAY SHALL BE BY OTHERS.

CONSTRUCT 200 WIDE GRATED BOX DRAIN MIN 150 DEEP.
GRADE FROM INVERT TO OUTLET AT A MINIMUM GRADE OF 2%.
TOP OF GRATE 88.03 (VARIES)
GRATE LEVELS TO BE CONFIRMED FROM CROSS OVER LEVELS PROVIDED BY COUNCIL.

DISCHARGE STORMWATER TO EXISTING PIT TO THE SATISFACTION OF COUNCIL. MAKE GOOD EXISTING CONSTRUCTION.
INVERT LEVEL OF OUTLET SHALL BE SITE CONFIRMED PRIOR TO COMMENCEMENT OF WORK.
DESIGN INVERT: IL 86.85 NOM.

NOTE: ANY OUTLETS / PITS OR GRATED DRAINS CONSTRUCTED AT A FINISHED SURFACE LEVEL EQUAL OR LOWER THAN RL 90.25 SHOULD BE DESIGNED AND CONSTRUCTED TO BYPASS THE ON SITE DETENTION.

NOTE: GROUND FLOOR STEPS DOWN TO RL 89.30 ALL SURFACE OUTLETS LOCATED AT THIS LEVEL MUST BYPASS THE OSD TANK

FOR CONTINUATION REFER TO SHEET C4

DENOTES EXTENT OF SLAB FOLD. REFER TO ARCHITECTURAL PLANS

IL 88.10 nom

GROUND FLOOR
FFL RL.89.300

IL 88.55 nom

225 DIA MIN.

NEW DRIVEWAY
BY OTHERS

WOODSIDE AVENUE

IL U/S 87.08
375Ø
2.3% MIN
10m
IL D/S 86.85

IL U/S 87.80
375Ø
1.0% MIN
14m
IL D/S 87.66

900 SQ SW PIT
WITH GRATED INLET
RL 89.50
IL 87.60

IL U/S 87.60
375Ø
1.0% MIN
50m
IL D/S 87.10

PIT P1 BOUNDARY PIT
900 SQUARE PIT WITH
LIGHT DUTY GRATED INLET
TOP OF GRATE - 88.00 nom
INVERT OF OUTLET - IL 87.08

DENOTES DIRECTIONAL DRILLING.

DENOTES DIRECTIONAL DRILLING.

BENCHMARK
NAIL IN KERB
RL 89.44 AHD

WARNING
LOCATION AND DEPTH OF ALL UNDERGROUND SERVICES TO BE INVESTIGATED WITH THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK

LINDFIELD AVENUE

STORMWATER MANAGEMENT PLAN

SCALE - 1:100/A1, 1:200/A3

0 1 2 4 6 8 10m

Issue	Description	Date	Drawn	Approved
B	RE - ISSUED FOR DEVELOPMENT APPROVAL	04.04.25	LW	BK
A	ISSUED FOR DEVELOPMENT APPROVAL	28.03.25	RH	BK

0 1cm at full size 10cm

North

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Project: PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

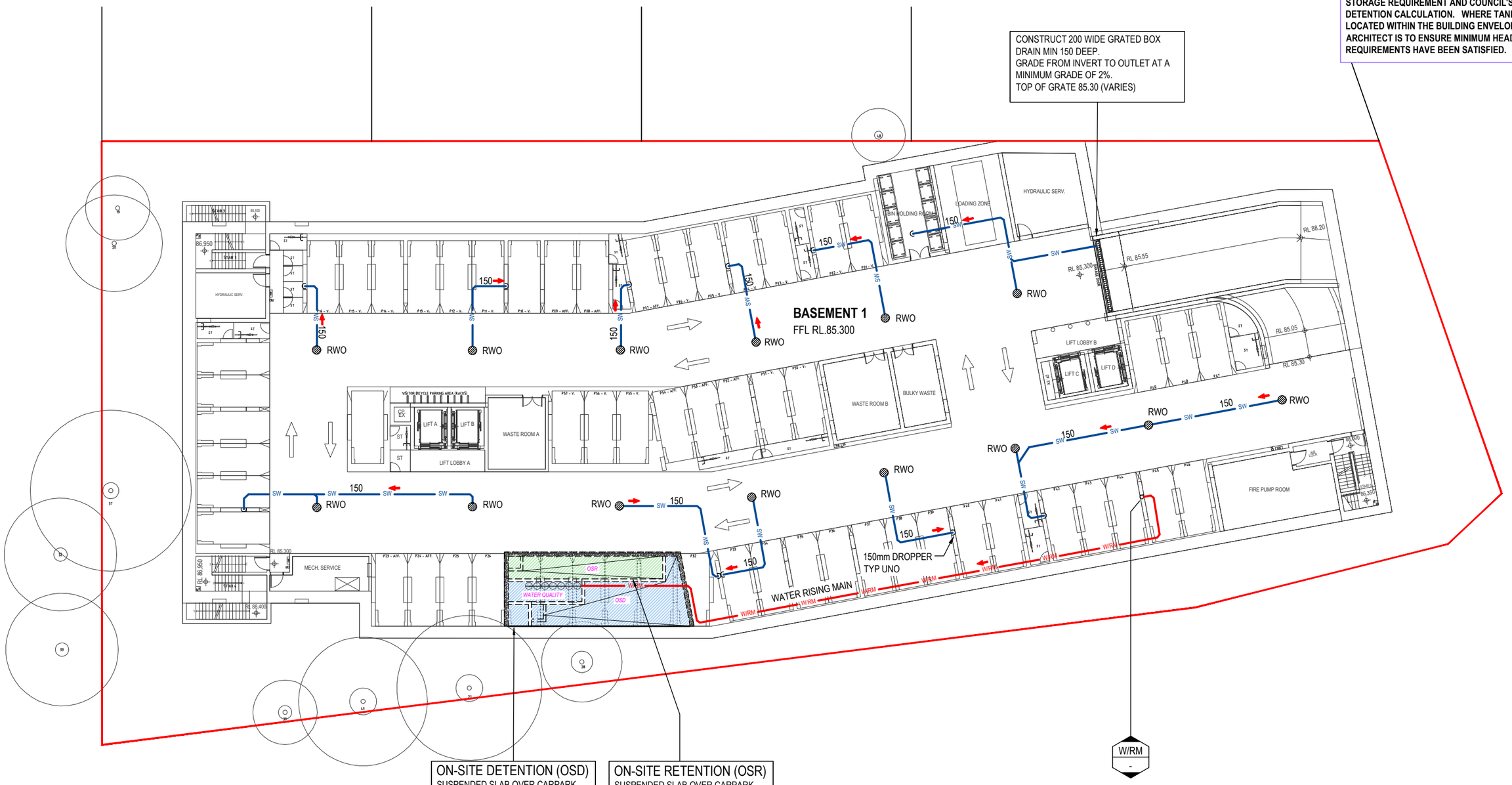
Drawing Title: STORMWATER MANAGEMENT PLAN - GROUND (PART 2)

Drawn	Date	Scale A1	Q.A. Check	Date
LW	MARCH 2025	AS SHOWN	-	-
Designed	Project No.		Dwg. No.	Issue
BK	CC240140		C4	B

WARNING
LOCATION AND DEPTH OF ALL UNDERGROUND SERVICES TO BE INVESTIGATED WITH THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK

TANK NOTE
THE ON SITE DETENTION / RETENTION TANK IS SHOWN BASED ON FINISHED SURFACE LEVELS AND A STRUCTURAL SLAB THICKNESS OF 500mm AS DETAILED BY THE ARCHITECT. SHOULD ANY OF THESE PARAMETERS CHANGE, THE OSD TANK SHOULD BE RE-ASSESSED TO ENSURE SITE STORAGE VOLUMES ARE ACHIEVED. REFER TO SHEET C2 FOR SITE STORAGE REQUIREMENT AND COUNCIL'S ON SITE DETENTION CALCULATION. WHERE TANKS ARE LOCATED WITHIN THE BUILDING ENVELOPE THE ARCHITECT IS TO ENSURE MINIMUM HEAD HEIGHT REQUIREMENTS HAVE BEEN SATISFIED.

CONSTRUCT 200 WIDE GRATED BOX DRAIN MIN 150 DEEP.
GRADE FROM INVERT TO OUTLET AT A MINIMUM GRADE OF 2%.
TOP OF GRATE 85.30 (VARIES)



ON-SITE DETENTION (OSD)
SUSPENDED SLAB OVER CARPARK
REFER TO DETAILS ON SHEET C7 & C8.
REFER TO TANK NOTE THIS SHEET.

ON-SITE RETENTION (OSR)
SUSPENDED SLAB OVER CARPARK
REFER TO DETAILS ON SHEET C7 & C8.
REFER TO TANK NOTE THIS SHEET.

W/RM
-

STORMWATER MANAGEMENT PLAN
SCALE - 1:150/A1, 1:300/A3
0 1 2 4 6 8 10m

Issue	Description	Date	Drawn	Approved
B	RE - ISSUED FOR DEVELOPMENT APPROVAL	04.04.25	LW	BK
A	ISSUED FOR DEVELOPMENT APPROVAL	28.03.25	RH	BK

1cm at full_size

North

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Project
PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

Drawing Title
STORMWATER MANAGEMENT PLAN - BASEMENT 1

Drawn	Date	Scale A1	Q.A. Check	Date
RH	MARCH 2025	AS SHOWN	-	-
Designed	Project No.		Dwg. No.	Issue
BK	CC240140		C5	B

PIT BP1 - 450 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 81.45 nom

PIT BP2 - 450 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 81.30 nom

PIT BP3 - 600 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 81.18 nom

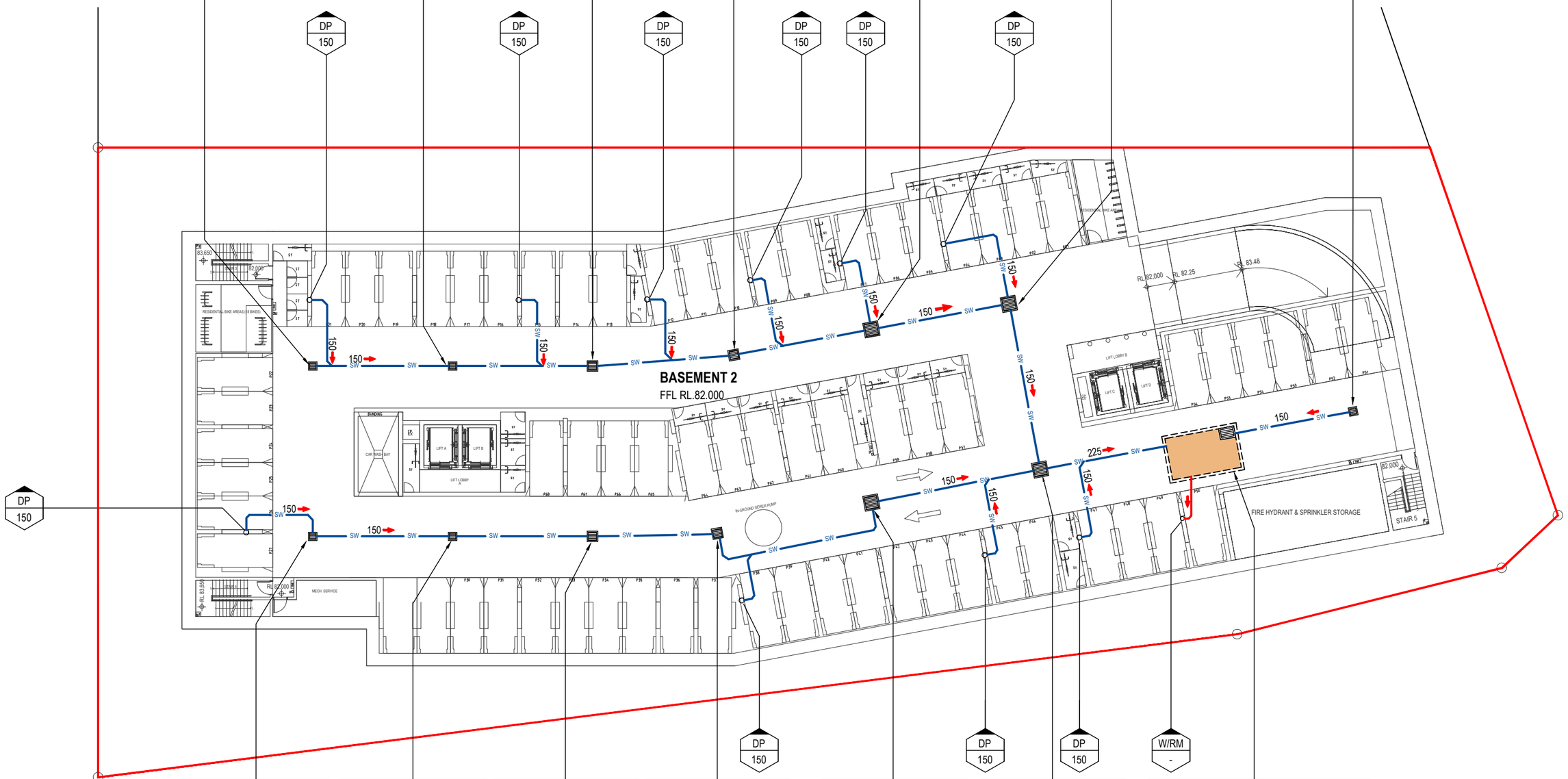
PIT BP4 - 600 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 81.05 nom

PIT BP5 - 900 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 80.95 nom

PIT BP6 - 900 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 80.85 nom

PIT BP13 - 450 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 81.45 nom

WARNING
LOCATION AND DEPTH OF ALL UNDERGROUND SERVICES TO BE INVESTIGATED WITH THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK



PIT BP7 - 450 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 81.45 nom

PIT BP8 - 450 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 81.30 nom

PIT BP9- 600 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 81.18 nom

PIT BP10 - 600 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 81.05 nom

PIT BP11 - 900 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 80.95 nom

PIT BP12 - 900 SQUARE PIT WITH MEDIUM DUTY GRATED INLET
TOP OF GRATE - 81.90 nom
INVERT OF OUTLET - IL 80.70 nom

W/RM -

PUMPOUT TANK

MINIMUM STORAGE CAPACITY BASED ON DRIVEWAY CATCHMENT AREA OF 105m²
DESIGN RAINFALL DEPTH = 62mm/m²
(100 YR 2 HOUR STORM EVENT)
MINIMUM STORAGE VOLUME = 13m³
STORAGE PROVIDED = 25m³
NOTE: FINAL VOLUME WILL BE SUBJECT TO GEOTECHNICAL ENGINEERS ADVICE IN RELATION GROUND WATER SEEPAGE

STORMWATER MANAGEMENT PLAN

SCALE - 1:150/A1, 1:300/A3

0 1 2 4 6 8 10m

Issue	Description	Date	Drawn	Approved
B	RE - ISSUED FOR DEVELOPMENT APPROVAL	04.04.25	LW	BK
A	ISSUED FOR DEVELOPMENT APPROVAL	28.03.25	RH	BK

1cm at full size

North

Client
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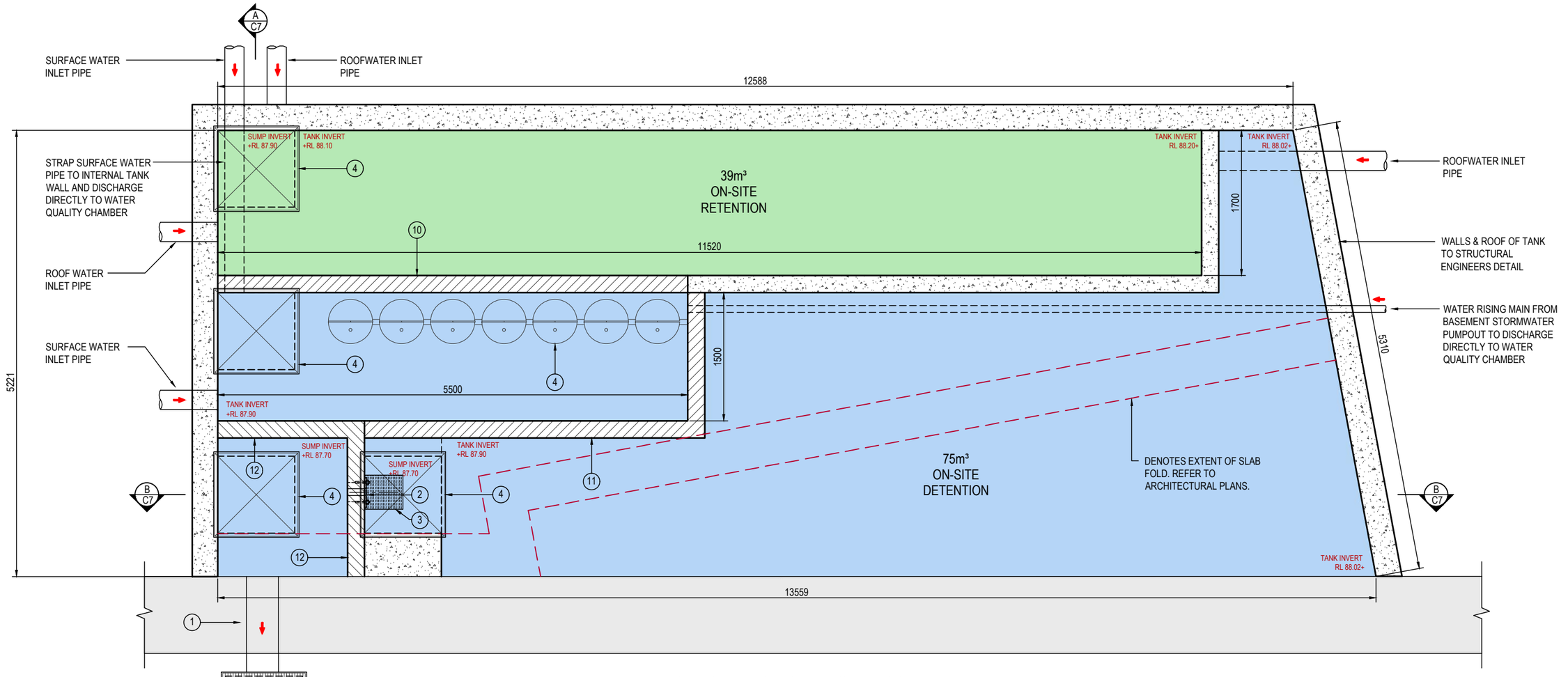
Project
PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

Drawing Title
STORMWATER MANAGEMENT PLAN - BASEMENT 2

Drawn	Date	Scale A1	Q.A. Check	Date
RH	MARCH 2025	AS SHOWN	-	-
Designed	Project No.		Dwg. No.	Issue
BK	CC240140		C6	B

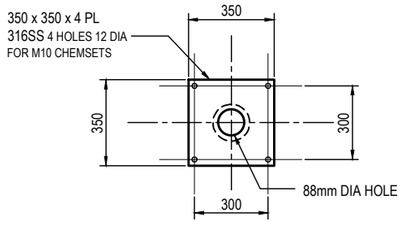


ON-SITE RETENTION / DETENTION TANK PLAN

SCALE - 1:25/A1, 1:50/A3

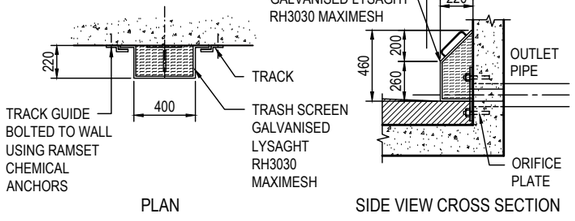
LEGEND

1	375 DIA OUTLET PIPE	8	PROVIDE GALVANISED STEP IRONS AT 300mm CENTRES WHERE DEPTH EXCEEDS 1100mm IN ACCORDANCE WITH THE AUST. STANDARDS AT ALL ACCESS POINTS OF THE TANK, TYP.
2	350 x 350 x 4 PL 316SS 4 HOLES 12 DIA FOR M10 CHEMSETS	9	7 x 690 HIGH OCEAN PROTECT FILTERS
3	TRASH SCREEN LYSAGHT RH3030 GALV. REMOVABLE WITH HANDLE	10	5.5m LONG OSR OVERFLOW WEIR
4	900 x 900 SOLID COVER BOLTED DOWN	11	WATER QUALITY CHAMBER WEIR
5	RE-USE PUMP TO MANUFACTURERS SPECIFICATIONS	12	OSD OVERFLOW CHAMBER WEIR
6	NON-RETURN VALVE		
7	PVC PIPE CLASS '16' RISING MAIN BY OTHERS		



ORIFICE PLATE DETAIL
NTS

PROVIDE CONFINED SPACE SIGNAGE AT ENTRY POINTS INTO TANK.



PLAN

SIDE VIEW CROSS SECTION

TRASH SCREEN
SCALE NTS

Issue	Description	Date	Drawn	Approved
B	RE - ISSUED FOR DEVELOPMENT APPROVAL	04.04.25	LW	BK
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Project: PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

Drawing Title: STORMWATER MANAGEMENT DETAIL SHEET No. 1

Drawn	Date	Scale A1	Q.A. Check	Date
RH	MARCH 2025	AS SHOWN	-	-
Designed	Project No.	Dwg. No.	Issue	
BK	CC240140	C7	B	

LEGEND

1	375 DIA OUTLET PIPE	8	PROVIDE GALVANISED STEP IRONS AT 300mm CENTRES WHERE DEPTH EXCEEDS 1100mm IN ACCORDANCE WITH THE AUST. STANDARDS AT ALL ACCESS POINTS OF THE TANK, TYP.
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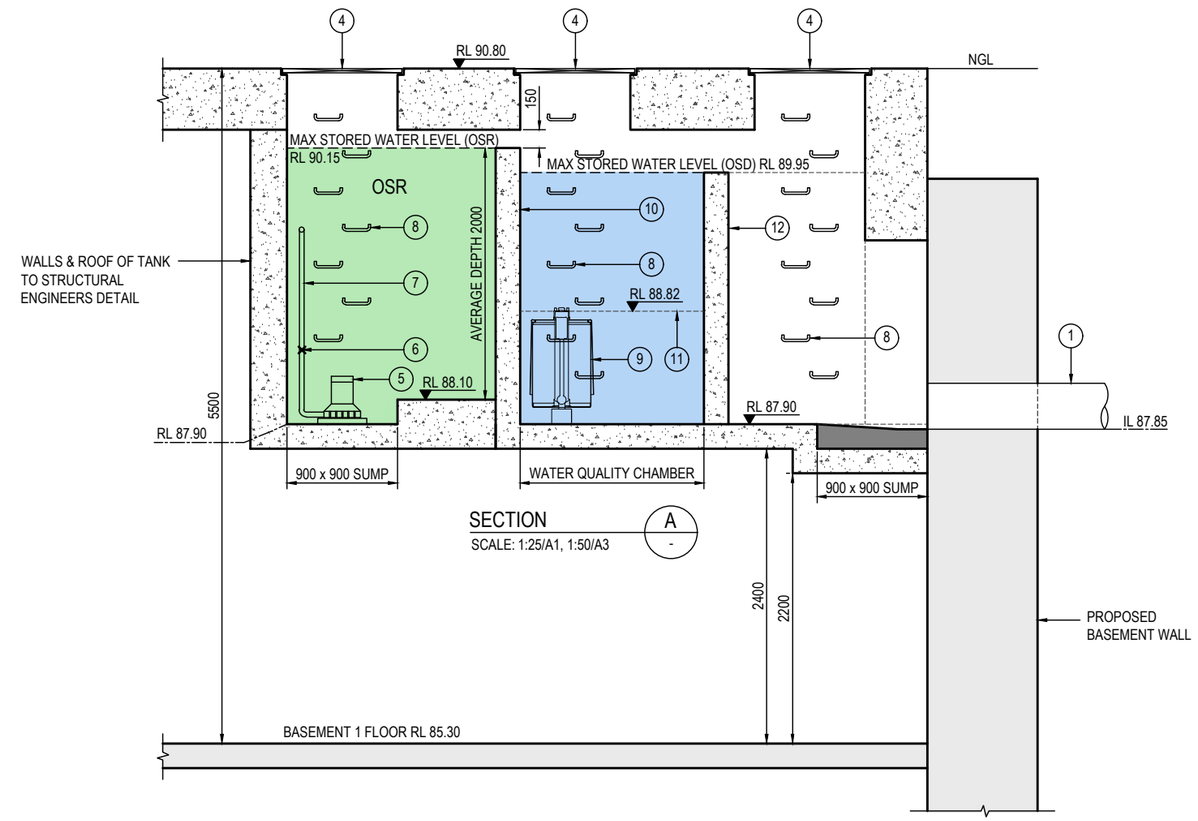
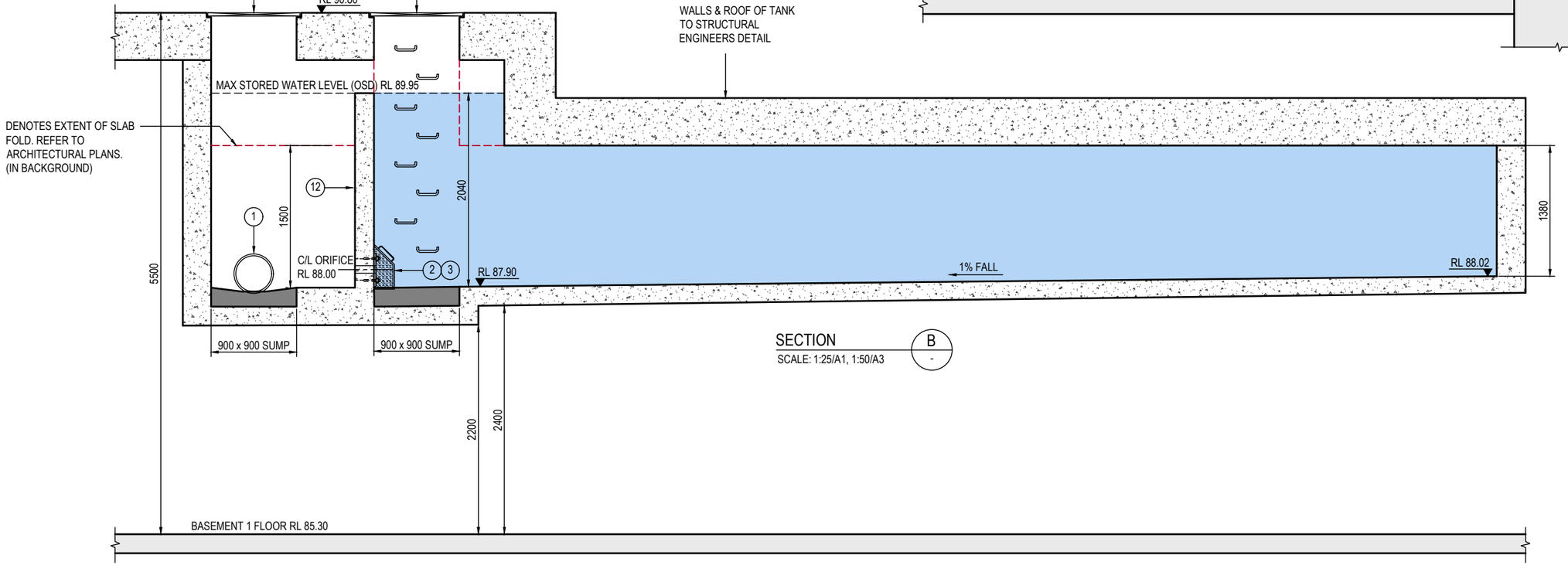
6	NON-RETURN VALVE		
7	PVC PIPE CLASS '16' RISING MAIN BY OTHERS		

PROVIDE CONFINED SPACE SIGNAGE AT ENTRY POINTS INTO TANK.





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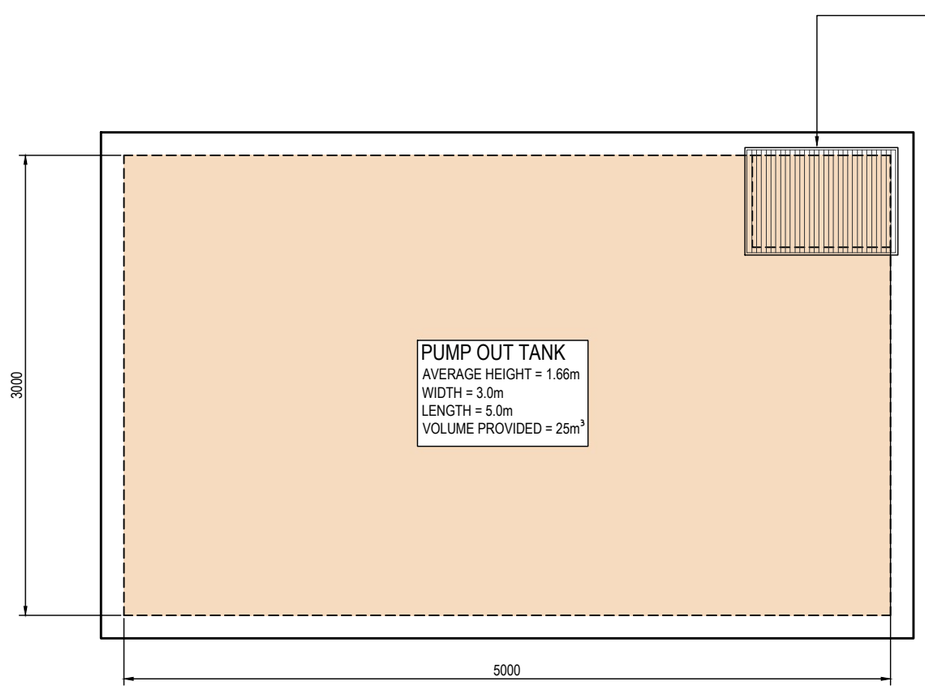
Project: PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

Drawing Title: STORMWATER MANAGEMENT DETAIL SHEET No. 2

Drawn	Date	Scale A1	Q.A. Check	Date
RH	MARCH 2025	AS SHOWN	-	-
Designed	Project No.		Dwg. No.	Issue
BK	CC240140		C8	B



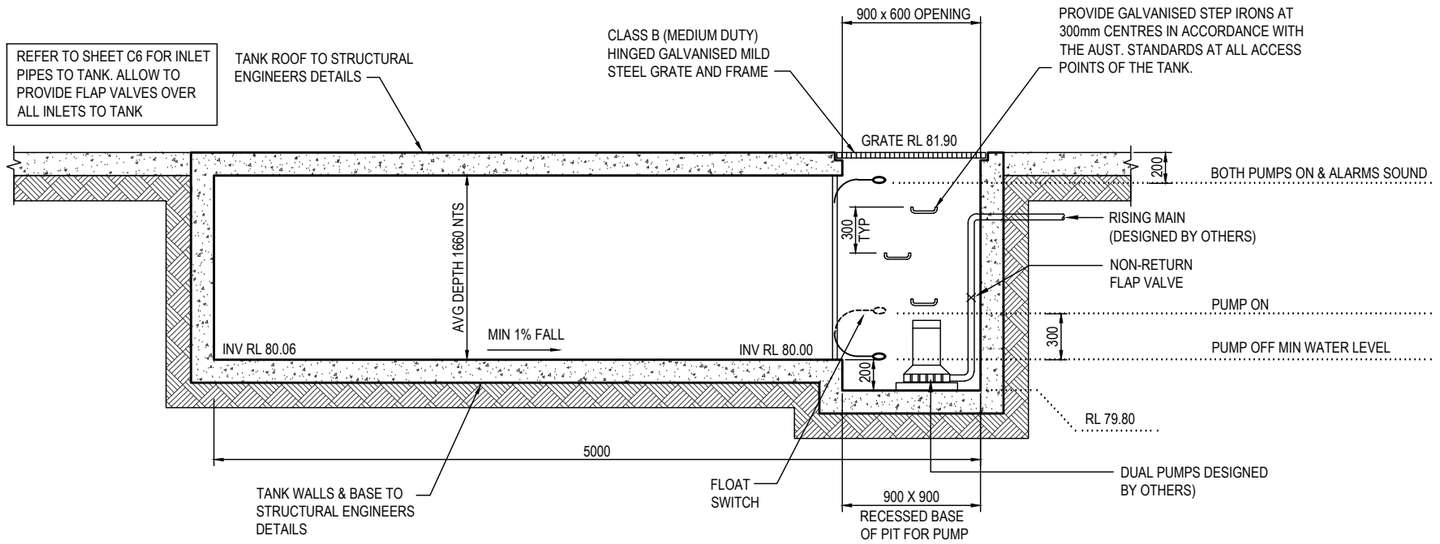
PUMP OUT TANK PLAN
SCALE 1:20/A1, 1:40/A3

PROVIDE CONFINED SPACE SIGNAGE AT ENTRY POINTS INTO TANK.

STANDARD PUMP OUT DESIGN NOTES

THE PUMP SYSTEM SHALL BE OPERATED IN THE FOLLOWING MANNER:-

1. THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATELY TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE
2. A 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 AT THE MINIMUM WATER LEVEL. THE SAME FLOAT SHALL BE SET TO TURN ONE OF THE PUMPS ON UPON WATER LEVEL IN THE TANK RISING TO APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL. THE PUMP SHALL OPERATE UNTIL THE TANK IS DRAINED TO THE MINIMUM WATER LEVEL.
3. A SECOND FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHALL START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.
4. 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.
5. A CONFINED SPACE DANGER SIGN SHALL BE PROVIDED AT ALL ACCESS POINTS TO THE PUMP OUT STORAGE TANK.



TYPICAL SECTION THROUGH PUMP OUT TANK
SCALE 1:20/A1, 1:40/A3

PUMP-OUT TANK MAINTENANCE SCHEDULE

MAINTENANCE CONTRACT

NOTE: A 24 HOUR X 12 MONTHLY EMERGENCY AND MAINTENANCE CONTRACT SHALL BE OBTAINED FROM A COMPANY CAPABLE OF EXECUTING THE WORK AND SHALL BE KEPT IN FORCE BY THE PROPERTY OWNER(S) FOR THE LIFE OF THE BUILDING.

THE MAINTENANCE CONTRACT SHALL BE CARRIED OUT EVERY THREE (3) MONTHS AND SHALL INCLUDE THE FOLLOWING ACTIVITIES:

1. CLEAN OUT ALL PITS OF SILT AND DEBRIS.
2. CHECK AND CLEAN OUT, IF NECESSARY, ALL PIPELINES.
3. CHECK:
   - 3.1. PUMPS FOR WEAR
   - 3.2. PUMP OIL SEALS
   - 3.3. PUMP STRAINER AND CLEAN
4. CARRY OUT ROUTINE MAINTENANCE TO PUMPS AS RECOMMENDED BY THE MANUFACTURER.
5. CHECK OPERATIONAL SEQUENCE OF LEVEL SWITCHES, PUMPS AND CONTROL PANEL.
6. THE EMERGENCY CONTRACT SHALL PROVIDE FOR A 24 HOUR X 7 DAY PER WEEK SERVICE.

THE CONTRACTOR SHALL PROVIDE A NAME PLATE STATING NAME, WORKING HOURS, TELEPHONE NUMBER AND OUT OF HOURS NUMBER AND SUCH NAME PLATE SHALL BE FIXED TO THE FRONT OF THE CONTROL PANEL.

Issue	Description	Date	Drawn	Approved
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A	ISSUED FOR DEVELOPMENT APPROVAL	28.03.25	RH	BK

North

1cm at full size

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SUITE G02, GROUND FLOOR
22 ATCHINSON ST, ST LEONARDS

Architect: PBD ARCHITECTS

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Project: PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

Drawing Title: STORMWATER MANAGEMENT DETAIL SHEET No. 3

Drawn	Date	Scale A1	Q.A. Check	Date
RH	MARCH 2025	AS SHOWN	-	-

Designed	Project No.	Dwg. No.	Issue
BK	CC240140	C9	B

STREAM FLOW CONTROL REPORT

INTRODUCTION & METHODOLOGY

WE REFER TO KU-RING-GAI COUNCIL DEVELOPMENT CONTROL PLAN AND SPECIFICALLY CLAUSE 24C.3 SECTION 4 WHICH REQUIRES THE ASSESSMENT OF A RAINWATER TANK SYSTEM WHICH PROVIDES A 50% REDUCTION IN RUNOFF DAYS. IN ORDER TO DETERMINE THE RAINWATER TANK VOLUME REQUIRED TO MEET THE 50% REDUCTION TARGET A WATER BALANCE MODEL WAS DEVELOPED TO REPRESENT THE WATER TRANSPORTATION PROCESS IDENTIFIED IN FIGURE 1 BELOW.

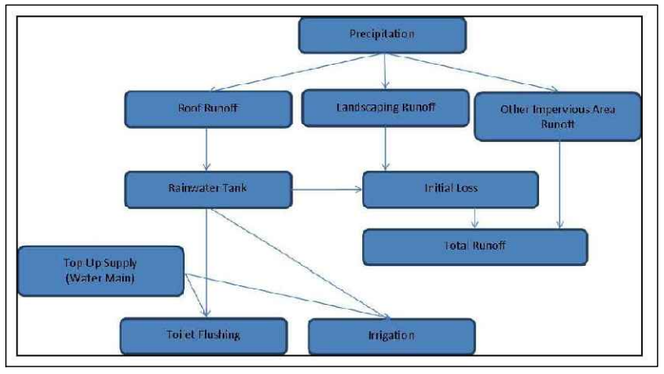

FIGURE 1. WATER BALANCE MODEL SUMMARY

THE METHODOLOGY ADOPTED, ASSESSES THE STORMWATER RUNOFF DIRECTED TO THE TANK ON A DAILY BASIS AND THE DAILY DRAWDOWN ASSOCIATED WITH DOMESTIC USAGE. THE MODELLING PRODUCES A DAILY TIME SERIES FOR THE AVAILABLE STORAGE IN THE TANK, DAILY MAINS WATER TOP UP, SPILL DURING STORMS, AND THE STORAGE LEVEL IN THE TANK.

WATER BALANCE SUMMARY

Post-development site (no management measures)	
areas	
total area	3852 m^2
impervious area draining to re-use	0 m^2
pervious area	1230 m^2
impervious area graded to landscaping	0 m^2
impervious area bypassing reuse & landscapin	2622 m^2
reuse	
reuse tank volume	0 m^3
initial fraction full of reuse tanks	1
daily reuse	0 m^3
irrgiation use per week	0 m
losses	
pervious area loss (mm)	13 mm
impervious area loss (mm) **	0.5 mm
area to re-use loss (mm) *	0.5 mm
statistics	
Number of runoff days	3552
number of tank spill days	0
total runoff volume	119,993.36
number of simulated days	11323
number of rain events	4595
days reuse demand met	0
number of irrigation days	0

Post-development site (with management measures)	
areas	
total area	3852 m^2
impervious area draining to re-use	1272 m^2
pervious area	1230 m^2
impervious area graded to landscaping	1350 m^2
impervious area bypassing reuse & landscapir	0 m^2
reuse	
reuse tank volume	39 m^3
initial fraction full of reuse tanks	0.5
daily reuse	0 m^3
irrgiation use per week	0.02 m
losses	
pervious area loss (mm)	13 mm
impervious area loss (mm) **	0.5 mm
area to re-use loss (mm) *	0.5 mm
statistics	
Number of runoff days	1754
number of tank spill days	1049
total runoff volume	87,750.19
number of simulated days	11323
number of rain events	4595
days reuse demand met	10344
number of irrigation days	1618
reduction in runoff days	**50.6%**
reduction in runoff volume	**26.9%**

WATER BALANCE DATA SUMMARY

AS SHOWN ABOVE REUSE IS ONLY REQUIRED TO CONNECT TO IRRIGATION ONLY TO ACHIEVE COMPLIANCE WITH COUNCIL'S REQUIREMENTS FOR RUNOFF REDUCTION.

CONCLUSION

BASED ON THE FOREGOING A MINIMUM TOTAL RAINWATER TANK VOLUME OF 39kL IS REQUIRED TO REDUCE RUNOFF DAYS BY 50.6%.

Issue	Description	Date	Drawn	Approved
B	RE - ISSUED FOR DEVELOPMENT APPROVAL	04.04.25	LW	BK
A	ISSUED FOR DEVELOPMENT APPROVAL	28.03.25	RH	BK

North

1cm at full size

Client: CPDM Pty Ltd
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Project: PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

Drawing Title: STORMWATER QUALITY REPORT SHEET 1 OF 3

Drawn	Date	Scale A1	Q.A. Check	Date
RH	MARCH 2025	AS SHOWN	-	-

Designed	Project No.	Dwg. No.	Issue
BK	CC240140	C10	B

STORMWATER QUALITY REPORT

1 INTRODUCTION

A CATCHMENT BASED WATER QUALITY MODEL WAS DEVELOPED TO ASSESS THE STORMWATER RUNOFF QUALITY IN ACCORDANCE WITH THE REQUIREMENTS OF KU-RING-GAI DEVELOPMENT CONTROL PLAN PART 24 CLAUSE 24C.6 'STORMWATER QUALITY CONTROL.' IN THIS REGARD WE REFER TO THE PRESCRIBED TARGETS TABLED FOLLOWING:

TABLE 1 - STORMWATER POLUTANT REDUCTION TARGETS (MUSIC v6.3.0)

STORMWATER POLLUTANT	REDUCTION TARGETS
GROSS POLLUTANT	70%
TOTAL SUSPENDED SOLIDS (TSS)	85%
TOTAL PHOSPHORUS (TP)	65%
TOTAL NITROGEN (TN)	45%

2 STUDY METHODOLOGY

THE OBJECTIVES OF THIS REPORT ARE TO:

- ASSESS THE RUNOFF QUALITY FOR THE UNTREATED POST DEVELOPED SCENARIO AND IDENTIFY STORMWATER QUALITY CONTROLS LIKELY TO IMPACT ON RUNOFF QUALITY.
- ASSESS THE STORMWATER QUALITY FOR THE POST DEVELOPED SCENARIO INCLUDING THE MEASURES PROPOSED TO MEET THE POLLUTANT REMOVAL TARGETS .

THE REPORT IS BASED ON THE APPLICATION OF MUSIC SOFTWARE (MODEL FOR URBAN STORMWATER IMPROVEMENT CONCEPTUALISATION). IN THIS REGARD THE MODEL IS DEFINED AS FOLLOWS:

- A STORMWATER QUALITY MODEL TO CONVERT RAINFALL AND EVAPOTRANSPIRATION INTO RUNOFF.
- ESTIMATION OF STORMWATER FLOW AND POLLUTION GENERATION BY SIMULATING THE PERFORMANCE OF STORMWATER TREATMENT DEVICES INDIVIDUALLY AND AS PART OF A TREATMENT TRAIN.

THE MODEL DEFINES WATER QUALITY PROFILES FOR BOTH TREATED AND UNTREATED POST DEVELOPED SCENARIOS. THE TREATED POST DEVELOPED MODEL INCLUDES PARAMETERS WHICH REPRESENT THE WATER QUALITY MEASURES.

3 STORMWATER QUALITY MODELLING

3.1 GENERAL

THE FOLLOWING PARAMETERS WERE ASSESSED FOR THE HYDROLOGICAL MODELLING ASSOCIATED WITH THE CATCHMENT.

- RAINFALL/RUNOFF AND EVAPOTRANSPIRATION.
- SUB CATCHMENT DIVERSIONS.
- LAND USE (PERVIOUS AND IMPERVIOUS)

3.2 RAINFALL/RUNOFF AND EVAPOTRANSPIRATION

COUNCIL'S MUSIC-LINK DATA VERSION 6.35 WAS UTILISED IN THIS STUDY. THEREFORE DAILY RAINFALL DATA WAS OBTAINED FROM THE SYDNEY OBSERVATORY HILL RAINFALL STATION WITH 6 min TIMESTEP, STATION NO. 066062. THE DEFAULT KU-RING-GAI COUNCIL MUSIC LINK MONTHLY AVERAGE POTENTIAL EVAPOTRANSPIRATION DATA WAS ALSO UTILISED IN THIS STUDY.
THE DETAILS ARE SUMMARISED IN TABLE 3.1 AND 3.2

TABLE 3.1 - DETAILS OF DAILY RAINFALL DATA			
STATION	NAME	PERIOD	TIMESTEP
066062	SYDNEY OBSERVATORY HILL	01/01/1963-31/12/1993	6 min

TABLE 3.2 - SUMMARY OF POTENTIAL EVAPOTRANSPIRATION (PET)

JAN	FEB	MAR	APR	MAY	JUN
180	135	128	85	58	43
JUL	AUG	SEP	OCT	NOV	DEC
43	58	88	127	152	163

3.3 CATCHMENT DEFINITION

THE POST DEVELOPED CATCHMENT CHARACTERISTICS ARE IDENTIFIED IN TABLE 3.3.

TABLE 3.3 - POST DEVELOPMENT SUB CATCHMENT DETAILS			
SUB CATCHMENT ID	SUB CATCHMENT AREA (ha)	% IMPERVIOUS AREA	% PERVIOUS AREA
ROOF TO OSR	0.127	100	0
DRIVEWAY TO OSD	0.005	100	0
PLANTERS TO OSD	0.004	0	100
IMPERVIOUS TO OSD AND TREATMENT	0.071	100	0
IMPERVIOUS AREA BYPASSING TREATMENT AND OSD	0.059	100	0

4 MUSIC MODEL

THE MUSIC MODEL IS BASED ON A 6 min RAINFALL-RUNOFF MODEL IN CONJUNCTION WITH REPRESENTATIVE BASEFLOW AND STORMFLOW EVENT MEAN CONCENTRATIONS (EMCs).

4.1 WATER QUALITY PARAMETERS

THE ADOPTED VALUES OF VARIOUS MUSIC RAINFALL AND RUNOFF PARAMETERS ARE SUMMARISED IN TABLE 4.1 AS PER THE DEFAULT NODE VALUES WHEN ADOPTING THE KU-RING-GAI COUNCIL MUSIC LINK.

TABLE 4.1 - ADOPTED MUSIC RAINFALL/RUNOFF PARAMETERS	
PARAMETER	VALUE
IMPERVIOUS AREA PROPERTIES	
RAINFALL THRESHOLD (mm/DAY)	1.0 (0.3 ROOFS)
PERVIOUS AREA PROPERTIES	
SOIL STORAGE CAPACITY (mm)	170
SOIL INITIAL STORAGE (% OF CAPACITY)	30
FIELD CAPACITY (mm)	70
INFILTRATION CAPACITY COEFFICIENT - a	210
INFILTRATION CAPACITY EXPONENT - b	4.70
GROUNDWATER PROPERTIES	
INITIAL DEPTH (mm)	10
DAILY RECHARGE RATE (%)	50
DAILY BASEFLOW RATE (%)	5
DAILY DEEP SEEPAGE RATE (%)	0

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Project: PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
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LINDFEILD

Drawing Title: STORMWATER QUALITY REPORT SHEET 2 OF 3

Drawn	Date	Scale A1	Q.A. Check	Date
RH	MARCH 2025	AS SHOWN	-	-
Designed	Project No.	Dwg. No.	Issue	
BK	CC240140	C11	B	

4.1 WATER QUALITY PARAMETERS CONT.

STORMWATER QUALITY IS CHARACTERISED USING EVENT MEAN CONCENTRATION (EMCs) UNDER STORM AND BASE FLOW CONDITIONS. THE VALUE OF WATER QUALITY PARAMETERS ADOPTED IN THIS STUDY IS SUMMARISED IN TABLE 4.2

TABLE 4.2 - ADOPTED MUSIC WATER QUALITY PARAMETERS

LAND-USE CATEGORY		Log_{10} TSS (mg/L)		Log_{10} TP (mg/L)		Log_{10} TN (mg/L)	
		STORM FLOW	BASE FLOW	STORM FLOW	BASE FLOW	STORM FLOW	BASE FLOW
GENERAL URBAN	MEAN	2.15	1.20	-0.60	-0.85	0.30	0.11
	STD DEV	0.32	0.17	0.25	0.19	0.19	0.12
ROADS	MEAN	2.43	1.20	-0.3	-0.85	0.34	0.11
	STD DEV	0.32	0.17	0.25	0.19	0.19	0.12
ROOFS	MEAN	1.30	1.10	-0.89	-0.82	0.30	0.32
	STD DEV	0.32	0.17	0.25	0.19	0.19	0.12

4.2 STORMWATER TREATMENT MEASURES

THE PROPOSED STORMWATER TREATMENT MEASURES INCLUDED IN THE POST DEVELOPED MODEL ARE AS FOLLOWS:

- 39,000 LITRE OSR TANK (FOR IRRIGATION ONLY)
- 7 X OCEAN PROTECT STORMFILTERS (PSORB 690)
- 2 X OCEANGUARDS
- THE SCHEMATIC LAYOUT FOR THE POST DEVELOPED MUSIC MODEL IS DEPICTED IN FOLLOWING FIGURE 1

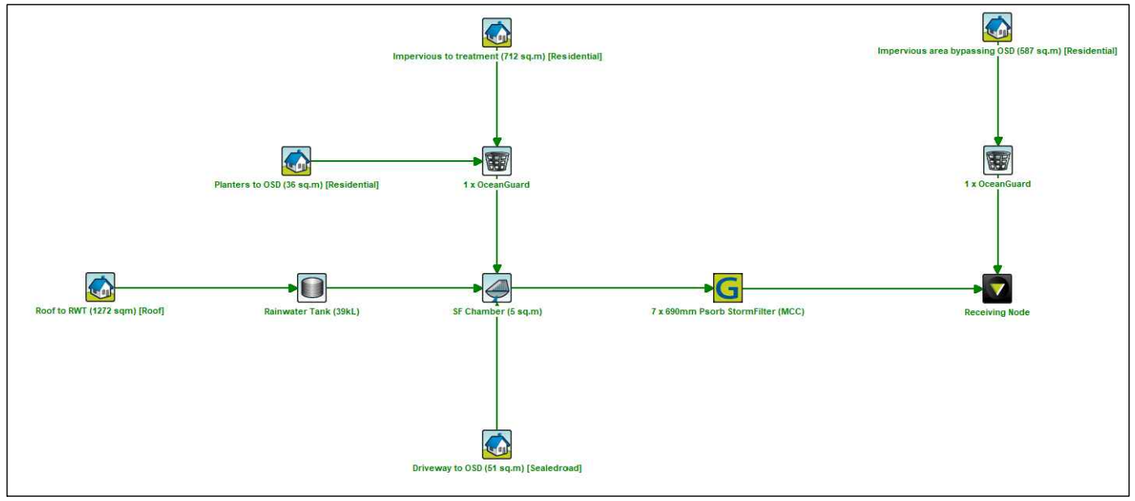


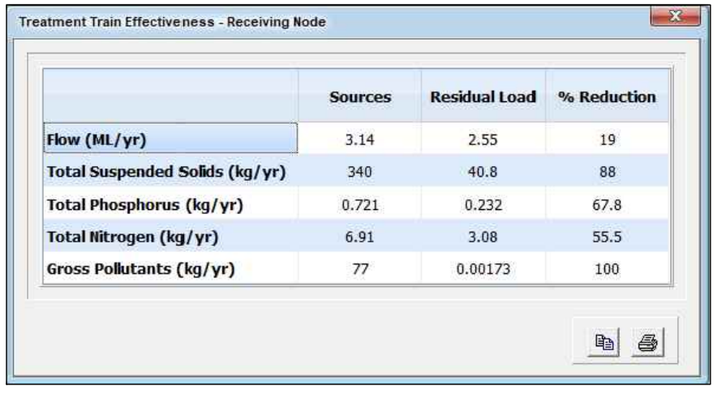
FIGURE 1 - MUSIC MODEL SCHEMATIC

5 RESULTS & CONCLUSION

BASED ON THE FOREGOING THE PROPOSED STORMWATER QUALITY TREATMENT MEASURES MEET THE REQUIRED TARGETS OF KU-RING-GAI COUNCIL.

REFER TO THE ASSOCIATED MUSIC LINK REPORT: 'CC240140 musicLink Report.pdf' AS PREPARED BY HYDRACOR CONSULTING ENGINEERS PTY LTD FOR FURTHER INFORMATION.

TABLE 5.1 - TREATMENT TRAIN EFFECTIVENESS



	Sources	Residual Load	% Reduction
Flow (ML/yr)	3.14	2.55	19
Total Suspended Solids (kg/yr)	340	40.8	88
Total Phosphorus (kg/yr)	0.721	0.232	67.8
Total Nitrogen (kg/yr)	6.91	3.08	55.5
Gross Pollutants (kg/yr)	77	0.00173	100

Issue	Description	Date	Drawn	Approved
B	RE - ISSUED FOR DEVELOPMENT APPROVAL	04.04.25	LW	BK
A	ISSUED FOR DEVELOPMENT APPROVAL	28.03.25	RH	BK

North

Client: CPDM Pty Ltd
SUITE G02, GROUND FLOOR
22 ATCHINSON ST, ST LEONARDS

Architect: PBD ARCHITECTS

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Project: PROPOSED RESIDNETIAL DEVLOPMENT
No.1 - 3 REID STREET
No.2 - 4 WOODSIDE AVENUE
LINDFEILD

Drawing Title: STORMWATER QUALITY REPORT SHEET 3 OF 3

Drawn	Date	Scale A1	Q.A. Check	Date
RH	MARCH 2025	AS SHOWN	-	-
Designed	Project No.		Dwg. No.	Issue
BK	CC240140		C12	B