

# STORMWATER MANAGEMENT PLAN

## PROPOSED DUAL OCCUPANCY

### No.18 YAMBA STREET, HAWKS NEST

#### GENERAL NOTES:

- THESE PLANS REMAIN THE PROPERTY OF NY CIVIL ENGINEERING PTY LTD AND ARE SUBJECT TO COPYRIGHT
- ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED. ALL REDUCED LEVELS (SURFACE LEVELS, INVERT LEVELS) AND CHAINAGES ARE IN METERS UNLESS OTHERWISE STATED. DO NOT SCALE OFF THE DRAWINGS, SCALES ARE AS SHOWN, USE FIGURED DIMENSIONS.
- THIS PLAN IS TO BE READ IN JUNCTION WITH LATEST ARCHITECTURAL, STRUCTURAL, UTILITY AND LANDSCAPE PLANS IN ADDITION TO ANY RELEVANT GEOTECHNICAL, SOIL CLASSIFICATION OR REF/ENVIRONMENTAL REPORTS. ENGINEER IS TO BE NOTIFIED OF ANY DISCREPANCIES QUOTED ON THIS PLAN.
- ALL WORKS SHALL BE CARRIED OUT TO LOCAL COUNCIL'S DEVELOPMENT CONTROL PLAN AND SPECIFICATIONS, AS/NZS 3500.3 AND B.C.A.
- ALL LEVELS SHALL RELATE TO THE ESTABLISHED BM, PM AND/OR LM. ALL EXISTING SERVICES ARE TO BE VERIFIED FOR LOCATION AND DEPTH PRIOR TO COMMENCEMENT OF ANY WORK. CONTRACTOR TO NOTIFY DESIGNER OF ANY DISCREPANCIES OF SERVICE LEVELS QUOTED ON THIS PLAN. ALL SURVEY INFORMATION, BUILDING AND FINISHED SURFACE LEVELS SHOWN IN THESE DRAWINGS ARE BASED ON LEVELS OBTAINED FROM DRAWINGS BY OTHERS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY PRIOR APPROVAL REQUIRED FROM COUNCIL WITH RESPECT TO POTENTIAL IMPACT ON TREES FOR ANY WORKS SHOWN ON THIS DRAWING PRIOR TO THE COMMENCEMENT OF WORKS. NO TREES SHALL BE REMOVED WITHOUT THE WRITTEN PERMISSION OF COUNCIL.
- THE CONTRACTOR SHALL TAKE ALL DUE CARE TO USE THE ABSOLUTE MINIMUM AREA FOR CONSTRUCTION AND THAT NO UNDUE DAMAGE IS DONE TO THE EXISTING VEGETATION.
- THE CONTRACTOR SHALL COMPLY WITH CONDITIONS, AND SPECIFICATION OF COUNCIL AND ALL ACTS OF THE NSW EPA.
- THE CONTRACTOR SHALL TAKE ALL REASONABLE CARE TO PROTECT EXISTING SERVICES. DAMAGED SERVICES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- ALL NEW WORK IS TO MAKE A SMOOTH JUNCTION WITH EXISTING WORK.
- SUITABLE WARNING SIGNS AND BARRICADES ARE TO BE PROVIDED IN ACCORDANCE WITH THE AUSTRALIAN STANDARDS AND AS DIRECTED BY THE RELEVANT AUTHORITY.
- SERVICES SHOWN ARE INDICATIVE ONLY FROM AVAILABLE INFORMATION AND THE TIME OF SITE INVESTIGATION (IF ANY). THE BUILDER IS TO NOTIFY ENGINEER OF ANY DISCREPANCIES QUOTED ON THIS PLAN.
- RESTORE ALL TRAFFIC AREAS TO PRE EXISTING CONDITION. FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS RESTORE DISTURBED SURFACES TO PRE-EXISTING CONDITION AND COMPACT AS SPECIFIED.
- RESTORE ALL AUTHORITY OWNED AREAS TO COUNCIL AND/OR AUTHORITY STANDARD AND SPECIFICATION.
- THE WORK AS CONSTRUCTED WORKS SHALL BE INSPECTED BY THE ENGINEER, MINIMUM 48 HOURS NOTICE SHALL BE PROVIDED FOR ALL INSPECTION REQUESTS.
- THE DESIGN PLANS HEREIN ARE SUBJECT TO COUNCIL APPROVAL PRIOR TO CONSTRUCTION.
- WORK AS CONSTRUCTED DRAWINGS TO BE REQUESTED AND RECEIVED IN CAD/DWG FILE TYPE AND HARD COPY 'RED LINE' MARKUP FROM CONSTRUCTOR FOR VERIFICATION AND CERTIFICATION.

#### ROOF STORMWATER DRAINAGE NOTES:

- ALL DOWN PIPES TO BE MINIMUM DN90 OR 100x50mm FOR GUTTERS SLOPE 1:500 AND STEEPER AS PER AS 3500.3 - 3.7.8
- ALL ROOF GUTTERS TO HAVE OVERFLOW PROVISION IN ACCORDANCE WITH AS 3500.3 AND SECTIONS 3.5.3, 3.7.5 AND APPENDIX G OF AS 3500.3.
- ALL DOWNPIPES TO BE FITTED VERTICALLY TO THE SOLE OF EAVES GUTTERS, RAINHEAD AND/OR SUMP.
- ALL DOWNPIPES TO DRAIN INTO RAINWATER TANK AND OR PIT PRIOR TO DISCHARGE OFFSITE UNLESS PRIOR APPROVAL IS OBTAINED FROM COUNCIL IN WRITING OR NOTED OTHERWISE ON THIS PLAN.
- ALL EAVES GUTTERS TO BE SIZED FOR ARI 20 - AS PER AS 3500.3 - 3.5 AND APPENDIX H.
- ROOF DRAINAGE INSTALLATION TO BE IN ACCORDANCE TO AS 3500.3 SECTION 4.
- INTERNAL DOWNPIPES TO BE PROVIDED WITH ACOUSTIC LAGGING TO MANUFACTURERS SPECIFICATIONS

#### STORMWATER DRAINAGE NOTES:

##### PIPE SIZE:

- THE MINIMUM PIPE SIZE SHALL BE:
  - DN90 FOR ALL DOWNPIPES;
  - DN100 WHERE THE LINE ONLY RECEIVES ROOF STORMWATER RUNOFF, OR;
  - DN100 WHERE THE LINE RECEIVES RUNOFF FROM PAVED OR UNPAVED AREAS.

##### PIPE GRADE:

- THE MINIMUM PIPE GRADE SHALL BE:
  - FOR DN100 - DN150 - 1.00%
  - FOR DN225 - 0.50%
  - FOR DN300 - 0.45%
  - FOR DN375 - 0.35%

##### STANDARD COVER:

- MINIMUM PIPE COVER FOR PVC PIPES SHALL BE AS PER AS 3500.3 TABLE 6.2.5:
  - NOT SUBJECT TO VEHICULAR LOADING:
    - WITHOUT PAVEMENT SINGLE DWELLINGS - 100mm
    - WITHOUT PAVEMENT OTHER THAN SINGLE DWELLINGS - 300mm
    - WITH PAVEMENT (BRICK/PAVERS) AND/OR UNREINFORCED CONCRETE - 100mm
  - SUBJECT TO VEHICULAR LOADING:
    - ROADS (SEALED) - 600mm
    - ROADS (UNSEALED) - 750mm
    - OTHER THAN ROADS (WITH PAVEMENT) - 100mm
    - OTHER THAN ROADS (WITHOUT PAVEMENT) - 450mm

##### PIPE INSTALLATION

- PIPES AND FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS:
  - FOR PIPE SIZES UP TO DN225 - PVC WITH SOLVENT WELDED JOINTS (IN GROUND).
  - FOR PIPE SIZES GREATER THAN DN225 - RCP WITH RUBBER RING JOINTS.
  - FOR LARGER PIPE DEPTHS AS SPECIFIED IN AS 3500.3 - RCP WITH RUBBER RING JOINTS.
  - FOR PIPES AND FITTINGS FOR SUBSOIL DRAINAGE SHALL BE SLOTTED PVC WITH SOLVENT WELDED JOINTS MINIMUM DN150.
  - INSPECTION RISERS TO BE PROVIDED AT 30m (MAXIMUM) INTERVALS TO ALL LENGTHS OF PIPE GREATER THAN 30m.
- FOR GRATED DRAINS SHALL BE MINIMUM DN150 IN NON-TRAFFICABLE ZONES AND DN225 IN TRAFFICABLE ZONES.
- LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURING RECOMMENDATIONS AND:
  - AS 3725-1989 - LOADS ON BURIED CONCRETE PIPES
  - AS 2566 - 1988 - BURIED FLEXIBLE PIPELINES
  - AS 1597.2 - 1996 - PRECAST REINFORCED CONCRETE BOX CULVERTS
  - AS 3500 - 1990 NATIONAL PLUMBING AND DRAINAGE CODE - PART 2 SANITARY PLUMBING AND SANITARY DRAINAGE - SYDNEY WATER REQUIREMENTS.
- ALLOW TO TEST ALL PIPES AND PITS TO MANUFACTURERS REQUIREMENTS.

##### CONNECTIONS TO STORMWATER SYSTEMS UNDER BUILDINGS:

IN ACCORDANCE WITH AS 3500.3 SECTION 6. TESTING IN ACCORDANCE WITH AS 3500.3 SECTION 9.2











##### CONNECTIONS TO COUNCIL STORMWATER SYSTEMS:

CONNECTION TO COUNCIL STORMWATER SYSTEM TO BE IN ACCORDANCE TO LOCAL COUNCIL DCP AND STANDARDS. NO CONNECTIONS TO BE MADE UNTIL PERMIT/APPROVALS ARE OBTAINED FROM LOCAL COUNCIL IN WRITING.

##### WARNING:

EXISTING SERVICES SHOWN ON THESE PLANS ARE NOT GUARANTEED COMPLETE OR CORRECT AND FURTHER INFORMATION IS REQUIRED FROM THE RELEVANT AUTHORITY AND FIELD INVESTIGATION AND ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

#### LEGEND

SURFACE INLET PIT		GRATED TRENCH DRAIN	
SURFACE INLET PIT (WITH ENVIROPOD 200 MICRON)		ABSORPTION TRENCH	
ACCESS GRATE (WITH GROSS POLLUTANT TRAP)		PROPOSED ROOF GUTTER FALL	
450 SQUARE INTERNAL	450 X 450	PROPOSED DOWNPIPE SPREADER	
GRATE LEVEL = RL 75.50	SL 75.50	PROPOSED DOWNPIPE 90mm DIA. OR 100mm x 50mm MIN.	
INVERT LEVEL = RL 75.20	IL 75.20	INSPECTION RISER	
NATURAL GROUND FINISHED DESIGN LEVEL	× <span style="border: 1px solid black; padding: 2px;">10.00</span>	RAINWATER HEAD	

#### STORMWATER PIT/STRUCTURES NOTES:

##### PIT SIZES AND DEPTHS:

- PIT SIZES WILL BE AS FOLLOWS:

DEPTH (mm)	MIN. PIT SIZE (mm)
UP TO 450	350x350
450 – 600	450x450
600 – 900	600x600
900 – 1200	600x900
1200+	900x900 (WITH STEP IRONS)

##### PIT DESIGNS:

- TRENCH DRAINS: CONTINUOUS TRENCH DRAINS ARE TO BE MIN. DN150 AND MIN. 100mm DEPTH. THE BARS OF THE GRATE ARE TO BE PARALLEL TO THE DIRECTION OF SURFACE FLOW.
- STEP IRONS: PITS BETWEEN 1.2m AND 6m ARE TO HAVE STEP IRONS IN ACCORDANCE WITH AS 1657. FOR PITS GREATER THAN 6m OTHER MEANS OF ACCESS MUST BE PROVIDED.
- PLASTIC/PVC PITS: PVC PITS WILL ONLY BE PERMITTED IF THEY ARE MAX. 450x450 AND MAX. 450mm DEPTH AS WELL AS BEING HEAVY DUTY.
- IN-SITU PITS: IN-SITU PITS ARE TO BE CONSTRUCTED ON A CONCRETE BED OF AT LEAST 150mm THICK. THE WALLS ARE TO BE DESIGNED TO MEET THE MINIMUM REQUIREMENTS OF CLAUSE 4.6.3 OF AS 3500.4. PITS DEEPER THAN 1.8m SHALL BE CONSTRUCTED WITH REINFORCED CONCRETE.
- GRATES: GRATES ARE TO BE GALVANIZED STEEL GRID TYPE. GRATES ARE TO BE OF HEAVY-DUTY TYPE IN AREAS WHERE THEY MAY BE SUBJECT TO VEHICLE LOADING.

##### INSTALLATION NOTES:

- ALL PIPES INTO PITS TO BE CUT FLUSH WITH PIT WALL.
- GRATED COVERS ON PITS GREATER THAN 600mm TO BE HINGED.
- MINIMUM 20mm FALL TO BE PROVIDED ACROSS BASE OF PIT



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NADER ZAKI MIEAust CPEng NER 3894863 	A	EM	ISSUED FOR DA	10.04.2025
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admin@nycivilengineering.com.au				
www.nycivilengineering.com.au				

REVISION	DRAWN	DESCRIPTION	DATE
A	EM	ISSUED FOR DA	10.04.2025

DRAWING TITLE	SHEET SIZE A3	JOB REFERENCE
DETAILS, NOTES & LEGEND	DESIGNED EM	E250137
PROJECT TITLE	CHECKED NZ	DRAWING No. D1
PROPOSED DUAL OCCUPANCY No.18 YAMBA STREET HAWKS NEST	ISSUE A	No. IN SET 13
	SCALE -	

AREA CALCULATIONS		
TOTAL SITE AREA	1014.7	m <sup>2</sup>
EXISTING DEVELOPMENT		
ROOF AREA	0.0	m <sup>2</sup>
PAVED AREA	0.0	m <sup>2</sup>
DRIVEWAY AREA	0.0	m <sup>2</sup>
IMPERVIOUS AREA	0.0	m <sup>2</sup>
TOTAL IMPERVIOUS AREA PERCENTAGE	0.0	%
PROPOSED DEVELOPMENT		
PROPOSED ROOF AREA	502.8	m <sup>2</sup>
PROPOSED PAVED AREA	0.0	m <sup>2</sup>
PROPOSED DRIVEWAY AREA	168.4	m <sup>2</sup>
TOTAL IMPERVIOUS AREA	671.2	m <sup>2</sup>
TOTAL IMPERVIOUS AREA PERCENTAGE	66.1	%

RAINWATER RE-USE TANK - RWT/OSD A

(AS PER BASIX REQUIREMENTS)

SIZE: 5,400 LITRES

SLIMLINE TANK BY "KINGSPAN" OR SIMILAR

(3300L x 950W x 1860H)

INSTALL TO MANUFACTURES SPECIFICATIONS, AS3500 AND COUNCIL REQUIREMENTS

- FOR RE-USE AS SPECIFIED BY BASIX CERTIFICATE
- ENSURE TOP OF TANK IS MIN 0.5m BELOW ROOF GUTTERS TO ENSURE SUFFICIENT HEAD FOR THE SYSTEM
- TANK TO BE INSTALLED BY LICENSED PLUMBER IN ACCORDANCE WITH AS/NZS 3500.3.2021 AND NSW CODE OF PRACTICE PLUMBING AND DRAINAGE 2006

RAINWATER RE-USE TANK - RWT/OSD B

(AS PER BASIX REQUIREMENTS)

SIZE: 3,000 + 5,000 LITRES (DWELLING B)

SLIMLINE TANK BY "KINGSPAN" OR SIMILAR

(2300L x 700W x 1860H) + (2600L x 1150W x 1860H)

INSTALL TO MANUFACTURES SPECIFICATIONS, AS3500 AND COUNCIL REQUIREMENTS

- FOR RE-USE AS SPECIFIED BY BASIX CERTIFICATE
- ENSURE TOP OF TANK IS MIN 0.5m BELOW ROOF GUTTERS TO ENSURE SUFFICIENT HEAD FOR THE SYSTEM
- TANK TO BE INSTALLED BY LICENSED PLUMBER IN ACCORDANCE WITH AS/NZS 3500.3.2021 AND NSW CODE OF PRACTICE PLUMBING AND DRAINAGE 2006

OSD CALCULATION SUMMARY (DWELLING A)		
STORM (AEP) SITE AREA	1%	20%
PREDEVELOPED PSD (L/s)	32	12
POSTDEVELOPED OSD DISCHARGE (L/s)	12	6
POSTDEVELOPED BYPASS (L/s)	16	6
OSD VOLUME (m <sup>3</sup> )	2.3	0.8
THEREFORE POST DEVELOPMENT DISCHARGE LIMITED TO PREDEVELOPED STATE IN ANY STORM EVENT UP TO AND INCLUDING 1% AEP		

OSD CALCULATION SUMMARY (DWELLING B)		
STORM (AEP) SITE AREA	1%	20%
PREDEVELOPED PSD (L/s)	46	18
POSTDEVELOPED OSD DISCHARGE (L/s)	14	8
POSTDEVELOPED BYPASS (L/s)	24	10
OSD VOLUME (m <sup>3</sup> )	4.6	1.6
THEREFORE POST DEVELOPMENT DISCHARGE LIMITED TO PREDEVELOPED STATE IN ANY STORM EVENT UP TO AND INCLUDING 1% AEP		

INSPECTION RISER (IR)

PROVIDE 'SCREW CAP' INSPECTION RISER AT LOWEST POINT OF 'CHARGED LINES'

NOTE: ENSURE ANY PROPOSED PAVING IS GRADED SO THAT IT IS NOT IMPACTING ADJOINING PROPERTIES.

GRADED DRAIN

PROVIDE 150mm WIDE GRADED DRAINS UNO

OSD WARRANT

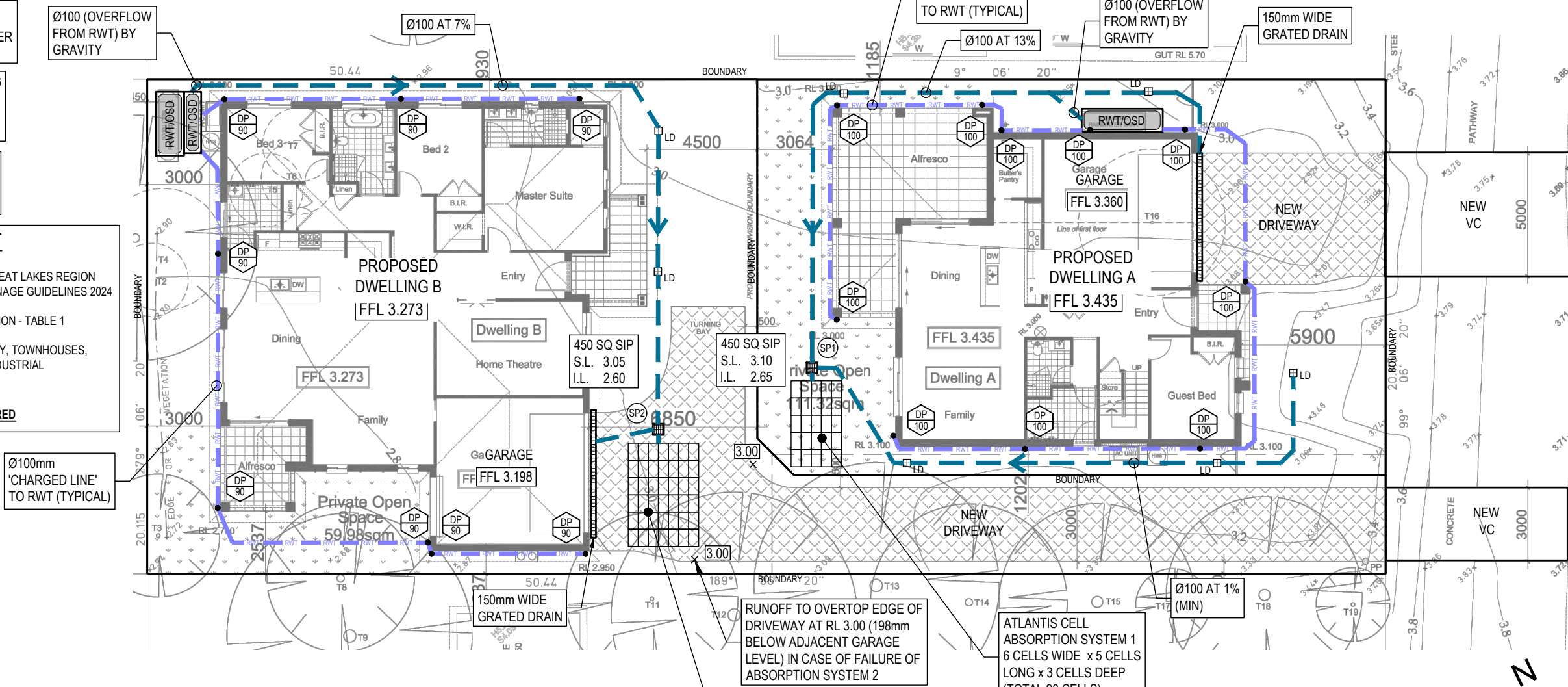
LGA: MID COAST COUNCIL - GREAT LAKES REGION

RELEVANT CODE: SITE STORMWATER DRAINAGE GUIDELINES 2024

RELEVANT SECTION: CHAPTER 1.1 INTRODUCTION - TABLE 1

OSD WILL BE REQUIRED FOR DUAL OCCUPANCY, TOWNHOUSES, MULTI-UNIT DWELLINGS, COMMERCIAL AND INDUSTRIAL DEVELOPMENTS.

THEREFORE, OSD REQUIRED



DRAINAGE PIPE LEGEND

- EXISTING STORMWATER PIPE
- DRAINAGE PIPES TO RAINWATER TANK
- IN-GROUND DRAINAGE PIPES VIA GRAVITY
- CHARGED DRAINAGE PIPES
- PIPES STRAPPED TO UNDERSIDE OF SLAB

NOTE: ALL IN GROUND PIPES TO BE Ø100 PVC AT 1% (MIN) UNO



PLANS ARE FOR CONCEPT ONLY  
AND NOT FOR CONSTRUCTION



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NADER ZAKI MIEAust CPEng NER 3894863	A	EM	ISSUED FOR DA	10.04.2025

DRAWING TITLE	
STORMWATER MANAGEMENT PLAN	
PROJECT TITLE	
PROPOSED DUAL OCCUPANCY No.18 YAMBA STREET HAWKS NEST	

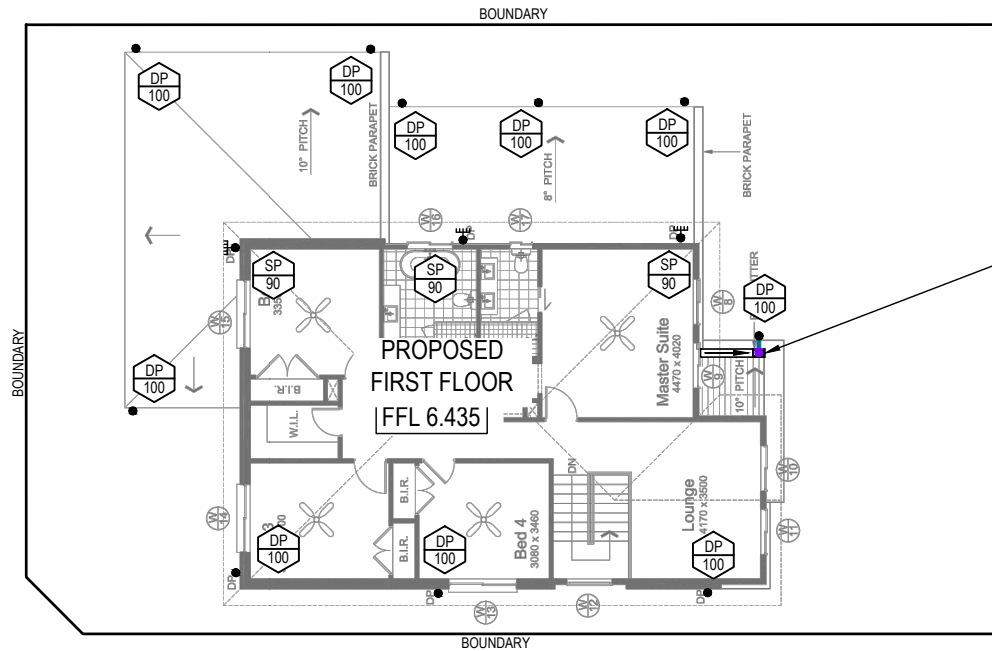
SHEET SIZE A3	JOB REFERENCE
DESIGNED EM	E250137
CHECKED NZ	DRAWING No.
ISSUE A	D2
SCALE 1:200	No. IN SET
	13

- ROOF DRAINAGE
- GUTTERING

• DOWN PIPES

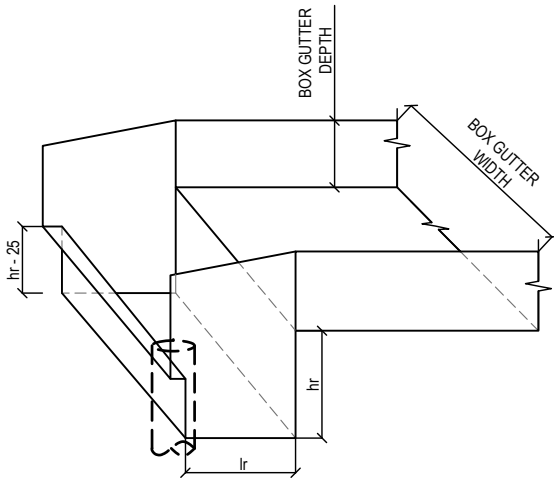
- STRATCO HALF ROUND UNSLOTTED OR EQUIVALENT GUTTER WITH CROSS SECTIONAL AREA GREATER THAN 7700mm<sup>2</sup>

- 100mm DIA PVC OR COLORBOND
- NOTE: ROOF DESIGNED TO 1% AEP INTENSITY 339 mm/hr



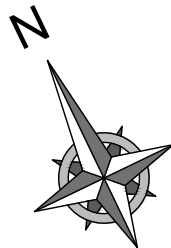
DWELLING A FIRST FLOOR PLAN  
1:200

BOX GUTTER #1



RAINHEAD DETAIL  
NTS

DIMENSIONS (mm)	
	BOX GUTTER #1
CATCHMENT AREA TO DOWNPIPE	22m <sup>2</sup>
RUNOFF (L/s)	2.3
BOX GUTTER WIDTH	200
DEPTH OF BOX GUTTER (AT HP)	100
DEPTH OF BOX GUTTER (AT RAIN HEAD)	110
SLOPE OF BOX GUTTER	1:200
DEPTH OF RAINHEAD (hr)	125
LENGTH OF RAINHEAD (lr)	120
DOWNPIPE DIA	100
ROOF DRAINAGE DESIGNED FOR 100 YEAR ARI STORM EVENT (I = 339 mm/hr)	



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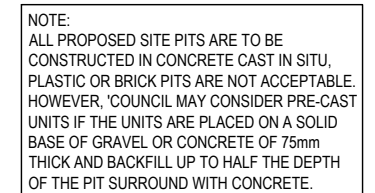


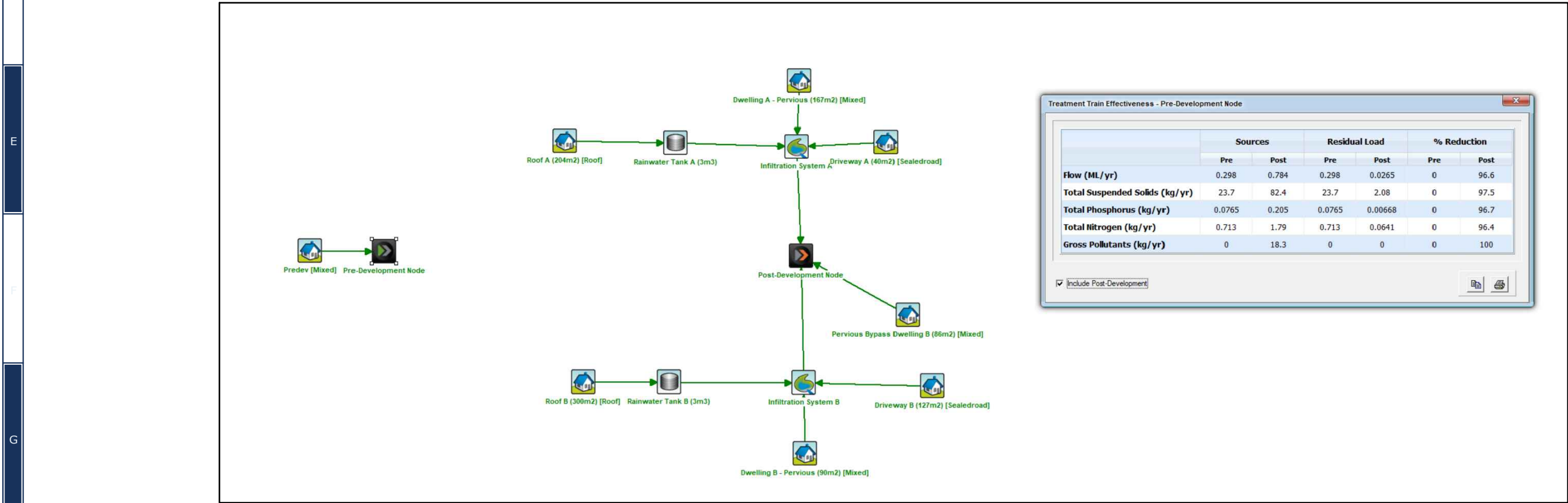
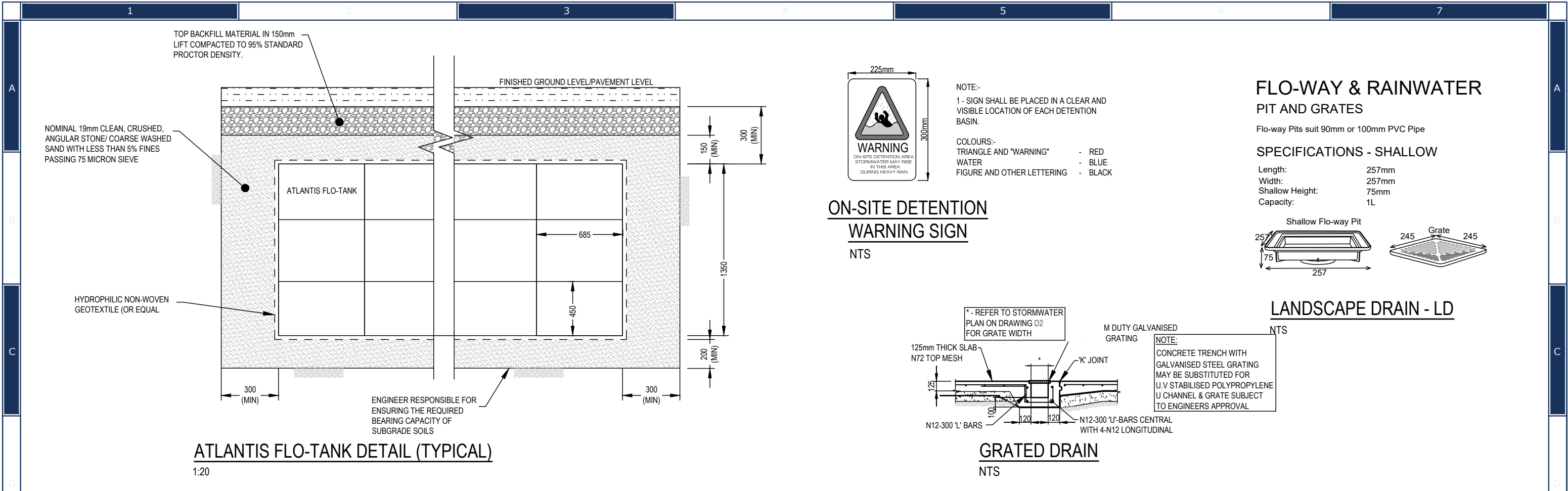
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NADER ZAKI MIEAust CPEng NER 3894863  (02) 4610 5262 admin@nycivilengineering.com.au www.nycivilengineering.com.au	A	EM	ISSUED FOR DA	10.04.2025

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STORMWATER MANAGEMENT FIRST FLOOR/ROOF PLAN
PROJECT TITLE
PROPOSED DUAL OCCUPANCY No.18 YAMBA STREET HAWKS NEST

SHEET SIZE A3	JOB REFERENCE E250137
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ISSUE A	
SCALE 1:200	







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STORMWATER DETAILS	
PROJECT TITLE	
PROPOSED DUAL OCCUPANCY No.18 YAMBA STREET HAWKS NEST	

SHEET SIZE A3	JOB REFERENCE
DESIGNED EM	E250137
CHECKED NZ	DRAWING No.
ISSUE A	D5
SCALE AS NOTED	No. IN SET
	13

A

B

C

D

E

F

G

ABSORPTION SYSTEM CALCULATIONS					
Project: Proposed Dual Occupancy (Dwelling A)					
Job Number: E250137					
Location: 18 Yamba Street, Hawks Nest Absorption System					
Site Details					
Site Area		411.3 m <sup>2</sup>		Taken From	
Impervious Area to Absorption Trench		243.9 m <sup>2</sup>		Geotechnical Report	
Nominal Absorption Rate (AR <sub>N</sub> )		0.4 l/m <sup>2</sup> /sec		Dated 25.03.2025	
Reduction Factor (F <sub>R</sub> )		1			
Design Details					
Design Impervious Area (DA)				243.9 m <sup>2</sup>	
Design Absorption Rate (AR <sub>d</sub> )		= AR <sub>N</sub> x F <sub>R</sub>		0.4 l/m <sup>2</sup> /sec	
Base Area of Absorption Pit (BA)		(to be calculated)		12.4 m2	
Required Absorption System Volume Calculation for 100 year ARI Storm (Mid Coast Council)					
Time (min) T	Rainfall Intensity (mm/hr) I	Runoff (l/s) R = I x DA/3600	Runoff Volume (m <sup>3</sup> ) RV = R x T x 60/1000	Infiltration Vol (m <sup>3</sup> ) IV = BA x AR <sub>d</sub> x T x 60/1000	Required Absorption System Volume (m <sup>3</sup> ) RV - IV
5	339.0	22.97	6.89	1.49	5.40
10	270.0	18.29	10.98	2.97	8.00
20	197.0	13.35	16.02	5.95	10.07
30	157.0	10.64	19.15	8.92	10.22
60	102.0	6.91	24.88	17.85	7.03
120	64.2	4.35	31.32	35.69	-4.38
180	48.8	3.31	35.71	53.54	-17.83
360	30.6	2.07	44.78	107.08	-62.30
540	23.4	1.59	51.37	160.61	-109.25
1080	15.0	1.02	65.85	321.23	-255.37
1440	12.4	0.84	72.58	428.30	-355.72
Maximum Required Absorption System Volume (MRASV) (m <sup>3</sup> )					10.22
Proposed Absorption System Volume Calculation Sheet					
Total Volume of pits (above top of base level) (m <sup>3</sup> )			(1*0.45 x 0.45 x 0.45m)		0.091
Volume of Atlantic Cells (m <sup>3</sup> )			(90 cells x 0.126m3)		11.34
Gravel void Volume (30% of gravel volume) (m <sup>3</sup> )			(0.3 x 0.2 x 11.9m2)		0.74
Above Ground Storage (m <sup>3</sup> )					0.00
Subtotal Proposed Absorption System Volume (m <sup>3</sup> )					13.17
Total Proposed Absorption System Volume (TPASV) (m <sup>3</sup> )					13.17
TPASV must be greater than MRASV					Satisfactory

ABSORPTION SYSTEM CALCULATIONS

Project: Proposed Dual Occupancy (Dwelling B)

Job Number: E250137

Location: 18 Yamba Street, Hawks Nest Absorption System

Site Details

Site Area	603.4 m <sup>2</sup>	Taken From
Impervious Area to Absorption Trench	427.3 m <sup>2</sup>	Geotechnical Report
Nominal Absorption Rate (AR <sub>N</sub> )	0.4 l/m <sup>2</sup> /sec	Dated 25.03.2025
Reduction Factor (F <sub>R</sub> )	1	

Design Details

Design Impervious Area (DA)		427.3 m <sup>2</sup>
Design Absorption Rate (AR <sub>d</sub> )	= AR <sub>N</sub> x F <sub>R</sub>	0.4 l/m <sup>2</sup> /sec
Base Area of Absorption Pit (BA)	(to be calculated)	18.8 m2

Required Absorption System Volume Calculation for 100 year ARI Storm (Mid Coast Council)

Time (min) T	Rainfall Intensity (mm/hr) I	Runoff (l/s) R = I x DA/3600	Runoff Volume (m <sup>3</sup> ) RV = R x T x 60/1000	Infiltration Vol (m <sup>3</sup> ) IV = BA x AR <sub>d</sub> x T x 60/1000	Required Absorption System Volume (m <sup>3</sup> ) RV - IV
5	339.0	40.24	12.07	2.26	9.81
10	270.0	32.05	19.23	4.52	14.71
20	197.0	23.38	28.06	9.04	19.02
30	157.0	18.64	33.54	13.57	19.98
60	102.0	12.11	43.58	27.13	16.45
120	64.2	7.62	54.87	54.27	0.60
180	48.8	5.79	62.56	81.40	-18.84
360	30.6	3.63	78.45	162.80	-84.34
540	23.4	2.78	89.99	244.19	-154.20
1080	15.0	1.78	115.37	488.39	-373.02
1440	12.4	1.47	127.16	651.18	-524.02

Maximum Required Absorption System Volume (MRASV) (m<sup>3</sup>)

19.98

Proposed Absorption System Volume Calculation Sheet

Total Volume of pits (above top of base level) (m <sup>3</sup> )			(1*0.45 x 0.45 x 0.45m)		0.091
Volume of Atlantic Cells (m <sup>3</sup> )			(147 cells x 0.126m3)		18.52
Gravel void Volume (30% of gravel volume) (m <sup>3</sup> )			(0.3 x 0.2 x 18.8m2)		1.13
Above Ground Storage (m <sup>3</sup> )					0.00
Subtotal Proposed Absorption System Volume (m <sup>3</sup> )					20.74

Total Proposed Absorption System Volume (TPASV) (m<sup>3</sup>)

20.74

TPASV must be greater than MRASV

Satisfactory



APPROVED BY	REVISION	DRAWN	DESCRIPTION	DATE
NADER ZAKI MIEAust CPEng NER 3894863	A	EM	ISSUED FOR DA	10.04.2025
(02) 4610 5262				
admin@nycivilengineering.com.au				
www.nycivilengineering.com.au				

STORMWATER DETAILS

PROPOSED DUAL OCCUPANCY  
No.18 YAMBA STREET  
HAWKS NEST

SHEET SIZE A3

DESIGNED EM

CHECKED NZ

ISSUE A

SCALE AS NOTED

JOB REFERENCE

E250137

DRAWING No.

D6

No. IN SET

13