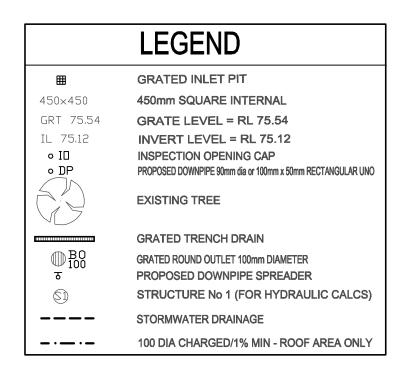
STORMWATER MANAGEMENT PLANS PROPOSED NEW RESIDENTIAL DEVELOPMENT No.114 BANTRY BAY ROAD, FRENCHS FOREST NSW 2086



NORTHERN BEACHES DRAINAGE CALCULATIONS RELEVANT DESIGN CODE: WARRINGAH COUNCIL "ON-SITE STORMWATER DETENTION TECHNICAL SPECIFICATION", REVISED AUGUST 2012.

SITE AREA = 919.70 m2

DETENTION REQUIREMENT:

YES: CHECKLIST UNDERTAKEN AND CONFIRMED SO AS SITE COVERAGE EXCEEDS 40% TABLE 1: MINIMUM SITE STORAGE REQUIRED AND MAXIMUM PERMISSIBLE SITE DISCHARGE SSR: 200m3/Ha PSD: 400 L/s per Ha

SITE AREA= 919.70 m2 , THEREFORE OSD VOLUME = 0.0919 x 200 = 18.40 m3 PSD = .0919 x 400 = 36.76 L/s

BASIX APPLICABLE AND 3000 LITRE ABOVE GROUND TANK PROPOSED . ABOVE GROUND DETENTION BASIN PROPOSED THEREFORE 20% ADDITIONAL VOLUME APPLIED.

OSD = 18.40 x 1.20 = 22.00m3 PSD = 36.70 L/s ORIFICE PLATE DIA = 100mm

STORMWATER MANAGEMENT METHODOLOGY

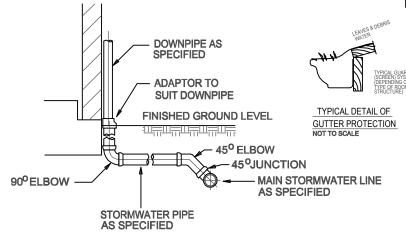
COLLECT ALL OF THE ROOF AREA OF THE PROPOSED DWELLING AND DISCHARGE INTO ABOVE GROUND 3000 LITRE RAINWATER TANK LOCATED ON THE NORTHERN SIDE OF THE DWELLING WITH THE OVERFLOW AND PART OF THE IMPERVIOUS & PERVIOUS SURFACES DRAINING INTO THE ABOVE GROUND DETENTION BASIN LOCATED WITHIN THE FRONT SETBACK OF THE PROPERTY.

REFER TO SHEET D2 FOR DESIGN

DESIGN BASED ON AR & R, AS 3500 AND RELEVANT COUNCIL STORMWATER MANAGEMENT GUIDELINES

GENERAL NOTES

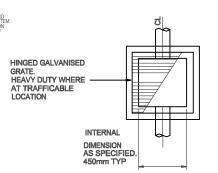
- FINAL LOCATION OF NEW DOWNPIPES TO BE DETERMINED BY BUILDER/ARCHITECT AT TIME OF CONSTRUCTION.
- THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS AND OTHER CONSULTANTS DRAWINGS.
 ANY DISCREPANCIES TO BE REFERRED TO THE ENGINEER
 BEFORE PROCEEDING WITH WORK
- 3. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH AS/NZS 3500.3:2003 STORMWATER DRAINAGE, BCA AND LOCAL COUNCIL POLICY/CONSENT/REQUIREMENTS.
- 4. ALL DIMENSIONS AND LEVELS TO BE VERIFIED BY BUILDER ON-SITE PRIOR TO COMMENCEMENT OF WORKS. THESE DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS NOR TO BE USED FOR SETOUT PURPOSES.
- ALL SURVEY INFORMATION AND PROPOSED BUILDING AND FINISHED SURFACE LEVELS SHOWN IN THESE DRAWINGS ARE BASED ON LEVELS OBTAINED FROM DRAWINGS BY OTHERS.
- 6. THESE DRAWINGS DEPICT THE DESIGN OF SURFACE STORMWATER RUNOFF DRAINAGE SYSTEMS ONLY AND DO NOT DEPICT ROOF DRAINAGE OR SUBSOIL DRAINAGE SYSTEMS UNLESS NOTED OTHERWISE. THE DESIGN OF ROOF AND SUBSOIL DRAINAGE SYSTEMS IS THE RESPONSIBILITY OF OTHERS.
- ALL STORMWATER DRAINAGE PIPES ARE TO BE 100mm DIAMETER uPVC AT MINIMUM 1% GRADE UNLESS NOTED OTHERWISE.
- 8. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND LEVEL ALL EXISTING SERVICES OR OTHER STRUCTURES WHICH MAY AFFECT/BE AFFECTED BY THIS DESIGN PRIOR TO COMMENCEMENT OF WORKS
- 9. ALL PITS WITHIN DRIVEWAYS TO BE 150mm THICK CONCRETE OR EQUAL.
- 10. THIS PLAN IS THE PROPERTY OF EZE HYDRAULIC ENGINEERS
 AND MAY NOT BE USED OR REPRODUCED WITHOUT WRITTEN



TYPICAL DETAIL - DOWNPIPE CONNECTION

NOT TO SCALE

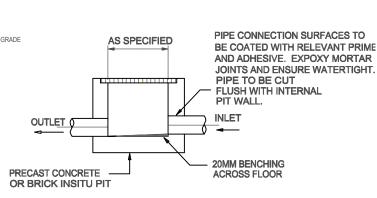
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TYPICAL DETAIL - STANDARD PIT NOT TO SCALE

TYPICAL DETAIL - CLEANING E

GEOFABRIC MATERIAL



TYPICAL DETAIL - CLEANING EYE PIT
NOT TO SCALE

Α	19.02.19	DA ISSUE	

AMENDMENT

ARCHITECT/BUILDER
WINCREST HOMES
CLIENT
MR. & MRS. ROSSER

EZE DRAINAGE SOLUTIONS

Pty Ltd ACN 619 135 198

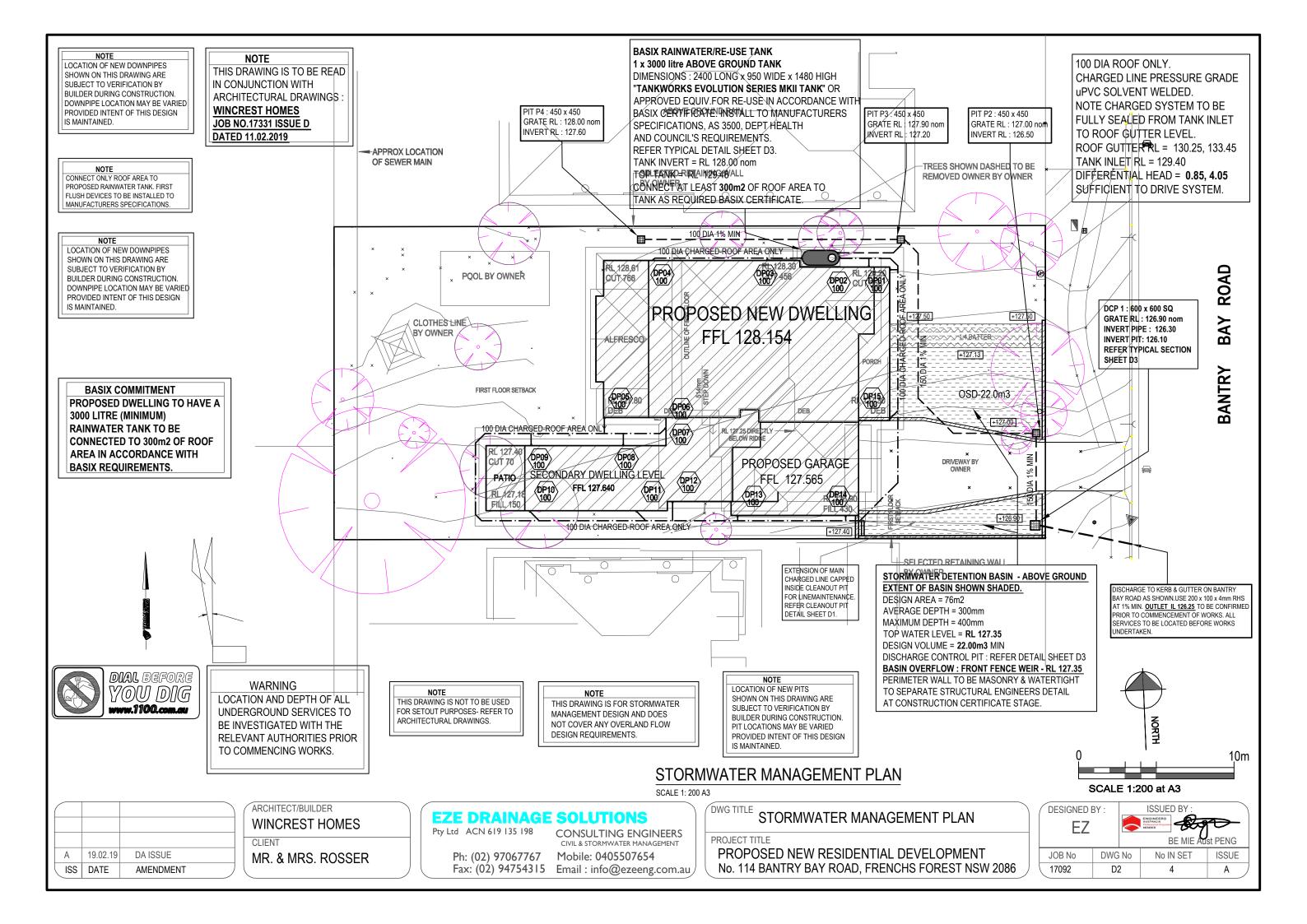
CONSULTING ENGINEERS CIVIL & STORMWATER MANAGEMENT

Ph: (02) 97067767 Mobile: 0405507654 Fax: (02) 94754315 Email : info@ezeeng.com.au DWG TITLE COVER SHEET & CALCULATION TABLE

PROJECT TITLE

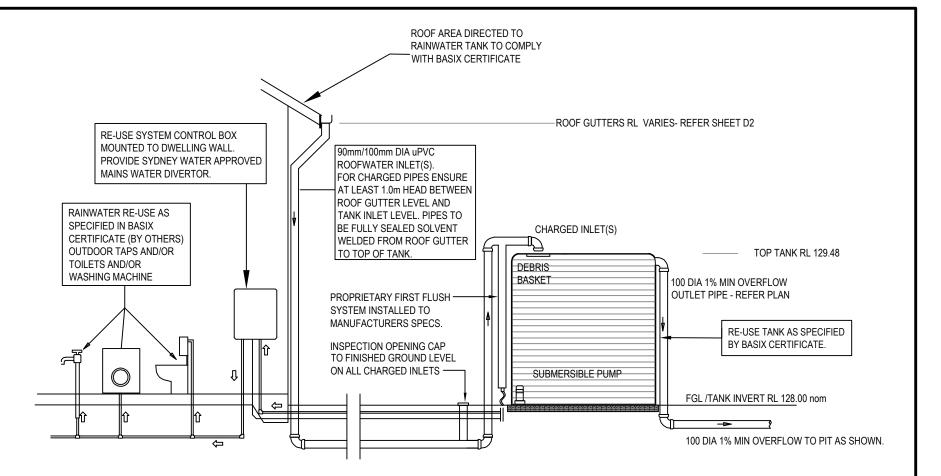
PROPOSED NEW RESIDENTIAL DEVELOPMENT No. 114 BANTRY BAY ROAD, FRENCHS FOREST NSW 2086

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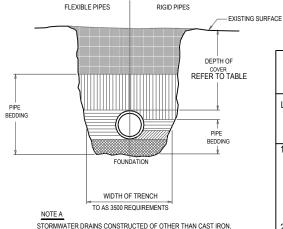
RAINWATER RE-USE SYSTEM NOTES

- 1. TOWNWATER CONNECTION TO RAINWATER TANK TO BE TO THE SATISFACTION OF SYDNEY WATER. THIS MAY REQUIRE PROVISION OF:
 - a. PERMANENT AIR GAP.
 - b. A BACKFLOW PREVENTION DEVICE.
 - c. NO DIRECT CONNECTION BETWEEN TOWN WATER SUPPLY AND THE RAIN WATER SUPPLY.
 - d. AN APPROVED STOP VALVE AND/OR PRESSURE LIMITING VALVE AT THE RAINWATER TANK.
- 2. PROVIDE AT LEAST ONE (1) EXTERNAL HOSE COCK ON THE TOWN WATER SUPPLY FOR FIRE FIGHTING.
- 3. PROVIDE APPROPRIATE FLOAT VALVES AND/OR SOLENOID VALVES
- 4. ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED PLUMBERS IN ACCORDANCE WITH AS3500.1 NATIONAL PLUMBING AND DRAINAGE CODE.
- 5. PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY LICENSED ELECTRICIAN.
- 6. ONLY ROOF RUN-OFF IS TO BE DIRECTED TO THE RAINWATER TANK. SURFACE WATER INLETS ARE NOT TO BE CONNECTED.
- 7. PIPE MATERIALS FOR RAINWATER SUPPLY PLUMBING ARE TO BE APPROVED MATERIALS TO AS 3500 PART 1 SECTION 2 AND TO BE CLEARLY AND PERMANENTLY IDENTIFIED "RAINWATER". THIS MAY BE ACHIEVED FOR BELOW GROUND PIPES USING IDENTIFICATION TAPE (MADE IN ACCORDANCE WITH AS 2648) OR FOR ABOVE GROUND PIPES BY USING ADHESIVE PIPE MARKERS (MADE IN ACCORDANCE WITH AS1345).
- 8. EVERY RAINWATER SUPPLY OUTLET POINT AND THE RAINWATER TANK ARE TO BE LABELLED "RAINWATER" ON A METALLIC SIGN IN ACCORDANCE WITH AS 1319.
- ALL INLETS AND OUTLETS TO THE RAINWATER TANK ARE TO HAVE SUITABLE MEASURES PROVIDED TO PREVENT MOSQUITO AND VERMIN ENTRY.
- 10. SYSTEM TO COMPLY WITH SYDNEY WATER REQUIREMENTS AND ANY CONDITIONS OF LOCAL COUNCIL DEVELOPMENT CONSENT.



TYPICAL DETAIL - RAINWATER RE-USE TANK

NOT TO SCALE



NOTE A
STORMWATER DRAINS CONSTRUCTED OF OTHER THAN CAST IRON,
DUCTILE IRON OR GALVANISED STEEL HAVING COVER LESS THAN
THAT SPECIFIED IN TABLE SHALL BE COVERED WITH AT LEAST 50mm
OVERLAY AND SHALL BE PAVED WITH AT LEAST.

(a) 100mm THICKNESS OF REINFORCED CONCRETE WHERE SUBJECT TO HEAVY VEHICULAR LOADING

LEGEND - TRENCH BACKFILL

SYMBOL	FLEXIBLE PIPES	RIGID PIPES	
	BACH	KFILL	
	PIPE (OVERLAY	
	PIPE SIDE SUPPORT	SIDE ZONE	
	_	HAUNCH ZONE	
*****	PIPE UNDERLAY	BED ZONE	

MINIMUM PIPE COVER (FROM FINISHED SURFACE TO TOP OF PIPE)				
LOCATION	MINIMUM COVE	R (mm)		
	CAST/DUCTILE IRON GAL STEEL	OTHER AUTHORISED PRODUCTS (*)		
1. NOT SUBJECT TO VEHICULAR LOADING:				
A. WITHOUT PAVEMENT: i. FOR SINGLE DWELLINGS - ii. OTHER THAN SINGLE DWELLINGS - B. WITH PAVEMENT OF	0 0	100 300		
BRICK/UNREINFORCED CONCRETE -	0 (**)	50 (**)		
2. SUBJECT TO VEHICULAR LOADING: A. OTHER THAN ROADS: i. WITHOUT PAVEMENT - ii. WITH PAVEMENT OF:	300	450		
REINF. CONC. FOR HEAVY VEHICLES - BRICK/UNREINF. CONC LIGHT VEHICLES - B. ROADS	0 (** #) 0 (** #)	100 (** #) 75 (** #)		
i. SEALED ii. UNSEALED	300 300	500 (#) 500 (#)		
3. SUBJECT TO CONSTRUCTION VEHICLES OR IN EMBANKMENT CONDITIONS	300	500 (#)		

- *) INCLUDES OVERLAY ABOVE THE TOP OF THE PIPE OF NOT LESS THAN 50mm THICK
- (**) BELOW THE UNDERSIDE OF THE PAVEMENT
- (#) SUBJECT TO COMPLIANCE WITH AS1762, AS2033, AS/NZS 2566.1, AS3725 OR AS 4060

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ARCHITECT/BUILDER

WINCREST HOMES

CLIENT

MR. & MRS. ROSSER

EZE DRAINAGE SOLUTIONS

Pty Ltd ACN 619 135 198

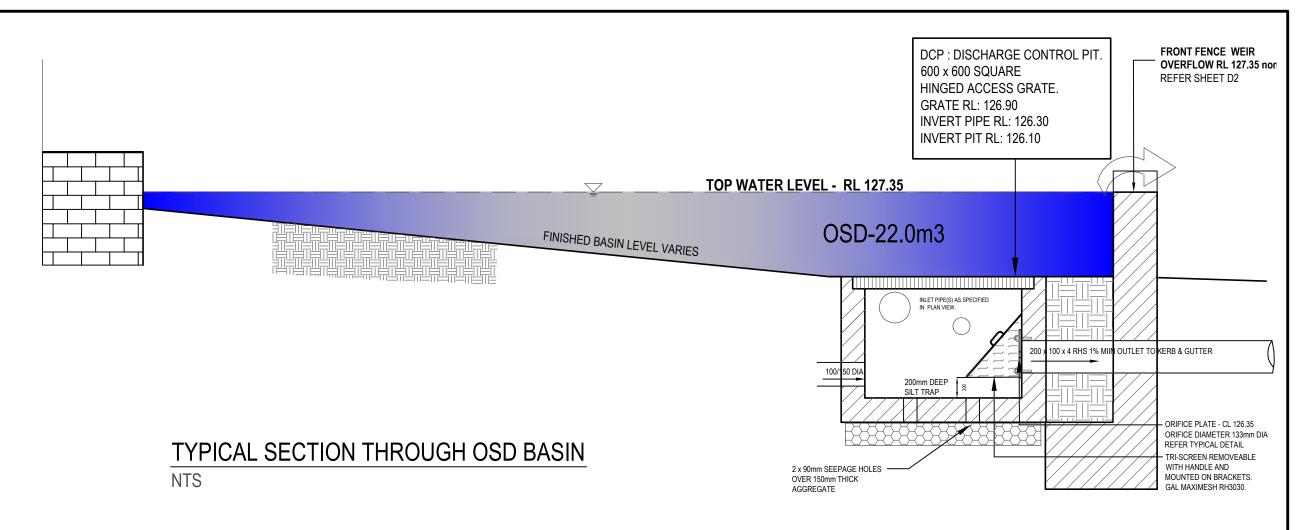
CONSULTING ENGINEERS
CIVIL & STORMWATER MANAGEMENT

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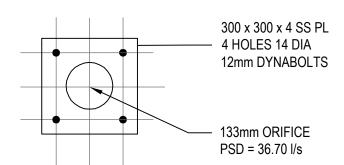
PROJECT TITLE

PROPOSED NEW RESIDENTIAL DEVELOPMENT No. 114 BANTRY BAY ROAD, FRENCHS FOREST NSW 2086

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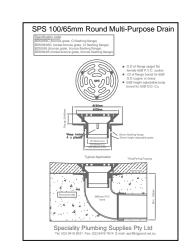


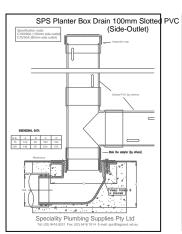
To Calculate Orifice Size Plate		
	D=21.9*(PSD/(h^.5))^.5
D(Orifica Size)mm	132.6713496	
PSD(Permitted Site Discharge) L/s	36.7	
h(Pressure Head)	1	



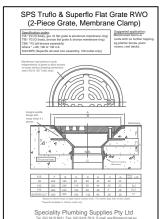
TYPICAL DETAIL - ORIFICE PLATE

NTS





TYPICAL DETAILS- PLANTER BOX, BALCONY & TERRACE GRATE



19.02.19 DA ISSUE

AMENDMENT

ISS DATE

ARCHITECT/BUILDER **WINCREST HOMES** CLIENT MR. & MRS. ROSSER

EZE DRAINAGE SOLUTIONS

Pty Ltd ACN 619 135 198

CONSULTING ENGINEERS CIVIL & STORMWATER MANAGEMENT

Mobile: 0405507654 Ph: (02) 97067767 Fax: (02) 94754315 Email: info@ezeeng.com.au/

PROPOSED OSD BASIN DESIGN DETAILS

PROJECT TITLE

NTS

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