

STORMWATER MANAGEMENT PLAN

PROPOSED RESIDENTIAL DEVELOPMENT

Lot 24, No 30 WINDRUSH AVENUE, BELROSE

LEGEND			
	GRATED INLET PIT		GRATED TRENCH DRAIN 100mm WIDE
450x450	450 SQUARE INTERNAL	GTD100	
GRT 75.54	GRATE LEVEL = RL 75.54	SP3	PROPOSED ROOF GUTTER FALL
IL 75.12	INVERT LEVEL = 75.12		PROPOSED STANDARD DOWNPIPE SPREADER
DP05	DOWNPIPE : 90 DIA ROUND OR 100 x 50 RECTANGULAR		STRUCTURE No 1
RWH	RAINWATER HEAD	---	STORMWATER DRAINAGE
	EXISTING TREE	BD2	BALCONY DRAIN - 150mm SQUARE WITH 90mm DIA OUTLET
CO	SUBSOIL DRAINAGE CLEANOUT CAPPED & MARKED "SW"	IO	SCREW-CAPPED INSPECTION OPENING
		RO	GRATED ROUND OUTLET 100mm DIA.

WARRINGAH DETENTION (OSD) CALCULATIONS

RELEVANT DESIGN CODE : WARRINGAH COUNCIL "ON-SITE STORMWATER DETENTION TECHNICAL SPECIFICATION", 2012.

SITE AREA = 697 m².
PROPOSED HARD SURFACE = ROOF + DWY = 252.3 + 48.0 = 300.3 = 43.0% > 40%
AND SITE AREA > 450 m². NEED OSD.

DETENTION DESIGN METHOD : STREAMLINED METHOD

SITE AREA = 697 m²
SSR = 200 x 0.0697 = 14.0 m³
PSD = 400 x 0.0697 = 28.0 l/s

RAINWATER TANK CONCESSION

PROPOSED BASIX RAINWATER TANK REQUIREMENT = 7000 litres
ALLOWED OSD REDUCTION IS FULL BASIX VOLUME UP TO MAXIMUM 50% OF OSD
THEREFORE OSD STORAGE MAY BE REDUCED 14,000 - 7000 = 7000 litres

PERMISSIBLE SITE DISCHARGE

ROOF TO OSD = 252 m²
BALANCE SITE BYPASS = 697 - 252 = 445 m² at 25% Impervious.
C100 = 0.74; 100 year, 10 min I = 230 mm/hr; A = 0.0445 ha THEN Q100 = 21.0 l/s.
THEREFORE OSD PSD = 28.0 - 21.0 = 7.0 l/s

CONCLUSION

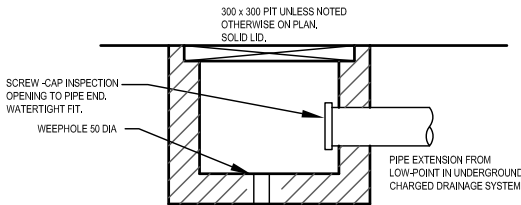
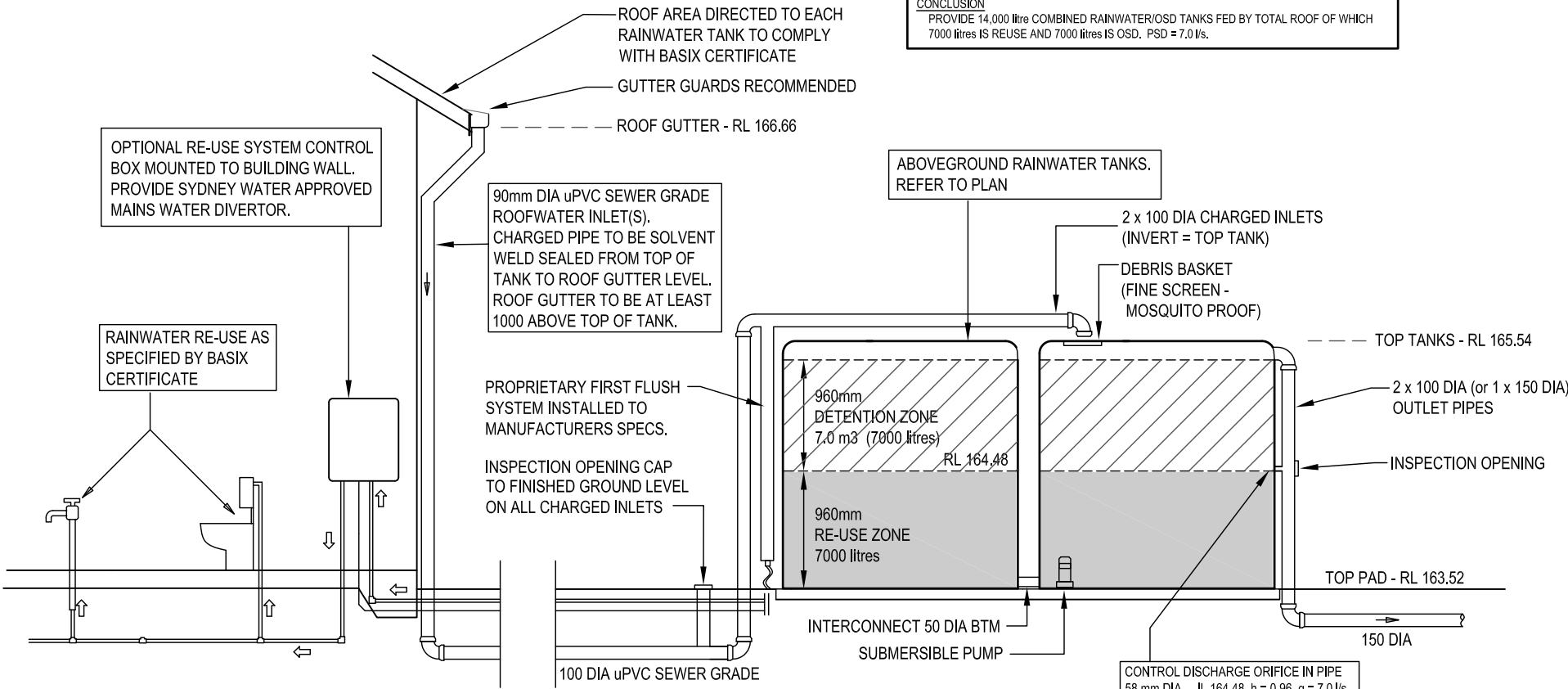
PROVIDE 14,000 litre COMBINED RAINWATER/OSD TANKS FED BY TOTAL ROOF OF WHICH 7000 litres IS REUSE AND 7000 litres IS OSD. PSD = 7.0 l/s.

MINIMUM PIPE COVER (FROM FINISHED SURFACE TO TOP OF PIPE)		
LOCATION	MINIMUM COVER (mm)	
	CAST/DUCTILE IRON	OTHER AUTHORIZED PRODUCTS (*)
1. NOT SUBJECT TO VEHICULAR LOADING:		
A. WITHOUT PAVEMENT:	0	100
I. FOR SINGLE DWELLINGS -	0	300
II. OTHER THAN SINGLE DWELLINGS -		
B. WITH PAVEMENT OF BRICK/UNREINFORCED CONCRETE -	0 (*)	50 (*)
2. SUBJECT TO VEHICULAR LOADING:		
A. OTHER THAN ROADS:	300	450
I. WITHOUT PAVEMENT -		
II. WITH PAVEMENT OF -		
- REINF. CONC. FOR HEAVY VEHICLES -	0 (**) #	100 (**) #
- BRICK/UNREINF. CONC LIGHT VEHICLES -	0 (**) #	75 (**) #
B. ROADS:		
I. SEALED	300	500 (#)
II. UNSEALED	300	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 4090

GENERAL NOTES

1. FINAL LOCATION OF NEW DOWNPIPES TO BE DETERMINED BY BUILDER/ARCHITECT AT TIME OF CONSTRUCTION.
2. 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.
5. 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.
7. 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 STORMCIVIL AND MAY NOT BE USED OR REPRODUCED WITHOUT WRITTEN PERMISSION FROM STORMCIVIL.



TYPICAL DETAIL - COMBINED DETENTION/RAINWATER RE-USE TANK

NTS

A	13.10.2020	DA ISSUE
ISS	DATE	AMENDMENT

ARCHITECT/BUILDER	ARCH. REF : 29914524
CLARENDON HOMES	
OWNER	
NICHOLS	
LGA	NORTHERN BEACHES (WARRINGAH)

StormCivl

Consulting Engineers
Civil & Environmental,
Stormwater Management.

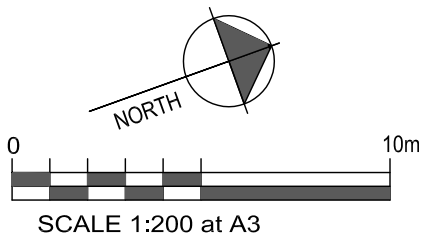
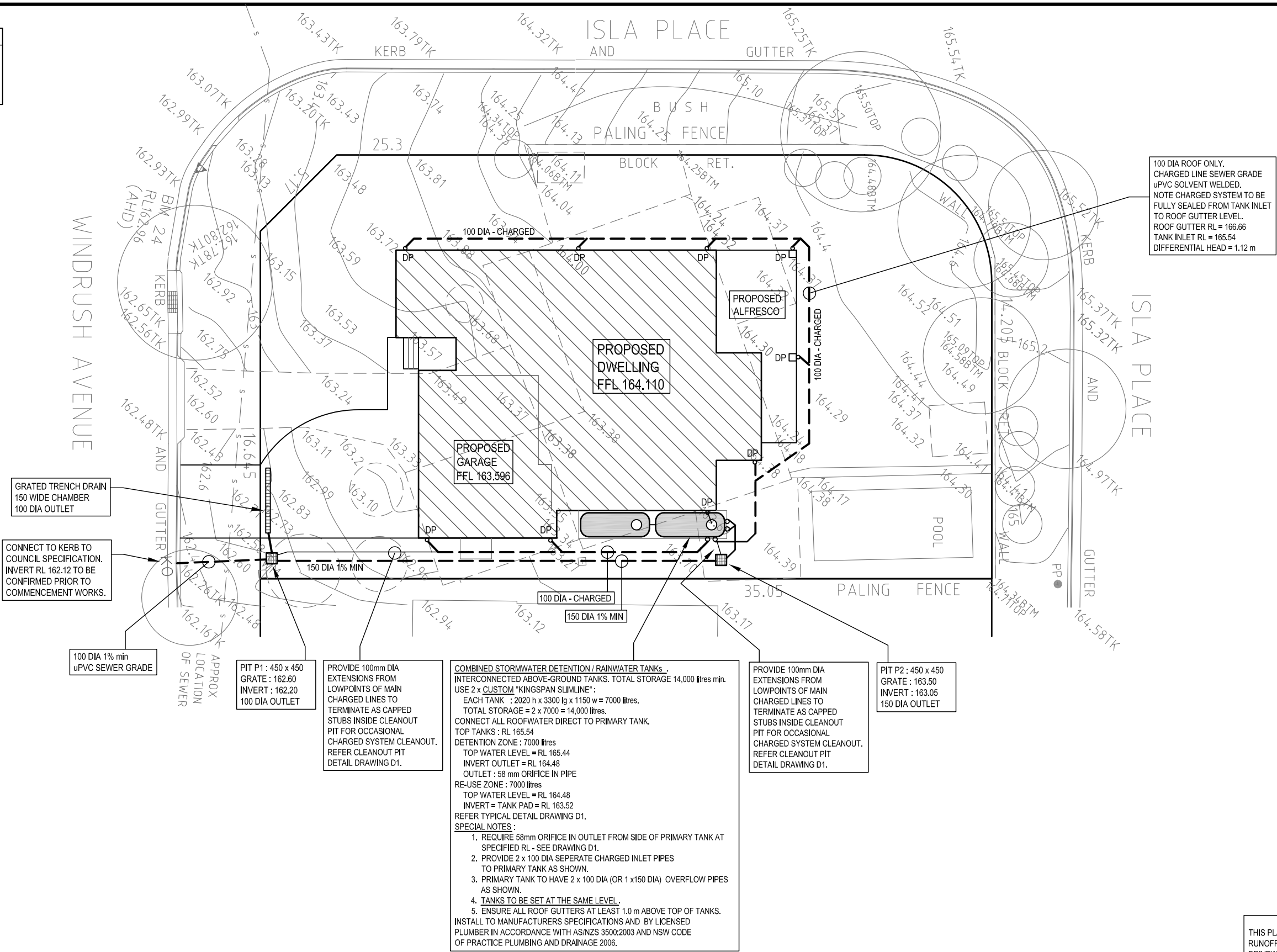
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Cowan NSW 2081
ph/fax (02) 9456 7233
mobile : 0424023047
mark@stormcivl.com.au

Pty Ltd. ABN 71 612 151 461

DWG TITLE	LEGEND, NOTES, DETAILS, CALCULATIONS
PROJECT TITLE	PROPOSED RESIDENTIAL DEVELOPMENT Lot 24, No 30 WINDRUSH AVENUE, BELROSE

StormCivl		APPROVED ON BEHALF OF STORMCIVIL PTY LTD	
JOB No	DWG No	No IN SET	ISSUE
305085	D1	2	A

TREE PRESERVATION NOTE
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 THOSE WORKS.



NOTE
THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS BY: CLARENDON HOMES REF: 29914524

NOTE
THIS DRAWING IS NOT TO BE USED FOR SETOUT PURPOSES - REFER TO ARCHITECTURAL DRAWINGS

STORMWATER MANAGEMENT PLAN

SCALE 1:200 at A3

NOTE
ALL ROOF GUTTERS TO HAVE OVERFLOW PROVISION IN ACCORDANCE WITH AS 3500.3:2003 AND SECTIONS 3.5.3, 3.7.5 AND APPENDIX G OF AS 3500.3:2003.

NOTE
THIS DRAWING DOES NOT INCLUDE ROOF GUTTER/DOWNSPIPE OR SUBSOIL DRAINAGE DESIGN UNLESS NOTED OTHERWISE. THE DESIGN OF ROOF AND SUBSOIL DRAINAGE SYSTEMS IS THE RESPONSIBILITY OF OTHERS.

NOTE
THIS PLAN MANAGES STORMWATER RUNOFF DERIVED FROM ROOF AND DRIVEWAY SURFACES ONLY AS SHOWN ON ARCHITECTURAL DRAWINGS. ANY OTHER SURFACE RUNOFF WATER INCLUDING REAR/FRONT YARD OR NEIGHBOURING PROPERTY RUNOFF TO BE MANAGED BY SEPARATE SYSTEM BY OWNER IN ACCORDANCE WITH AS 3500.3 AND BCA PART 3.1.2

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CLARENDON HOMES	
OWNER	
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LGA	NORTHERN BEACHES (WARRINGAH)

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JOB No	DWG No	No IN SET	ISSUE
305085	D2	2	A