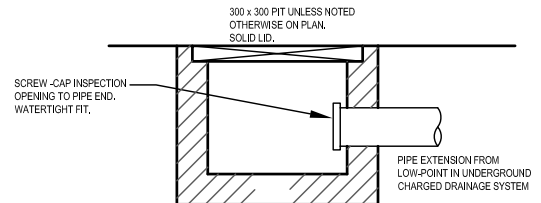


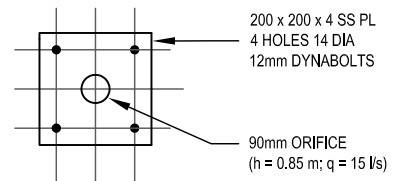
STORMWATER MANAGEMENT PLAN

PROPOSED RESIDENTIAL DEVELOPMENT

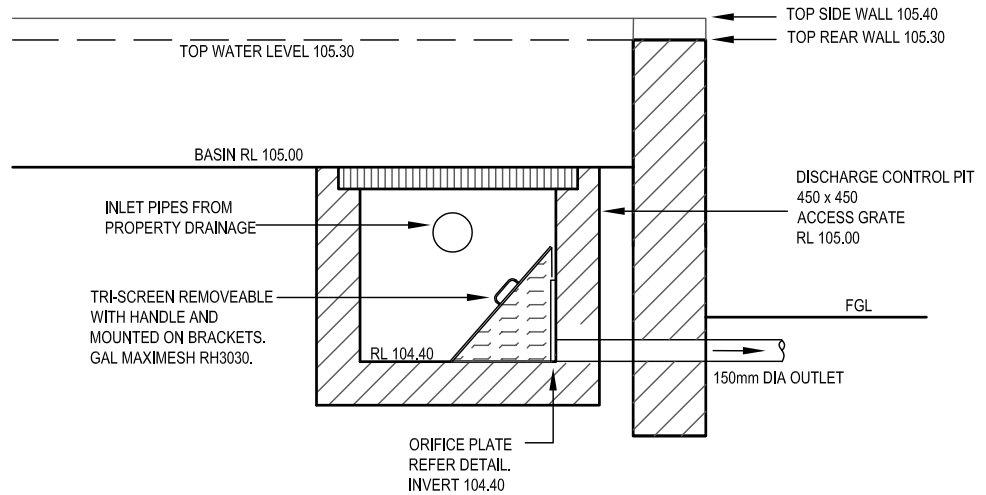
Lot 80, No 12 INGLESIDE ROAD, INGLESIDE



TYPICAL DETAIL - CHARGED SYSTEM CLEANOUT PIT

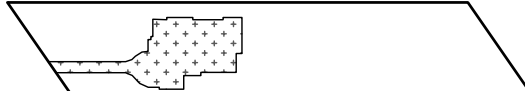


TYPICAL DETAIL - ORIFICE PLATE



TYPICAL DETAIL - DETENTION BASIN

PITTWATER DETENTION (OSD) CALCULATIONS
RELEVANT DESIGN CODE : PITTWATER DCP PART B5.7 : ON-SITE STORMWATER DETENTION
SITE AREA = 3053 m2.
PRE-DEVT HARD SURFACE = 0 m2
POST-DEVT HARD SURFACE = 478 m2 (REFER DIAGRAM)
INCREASE HARD SURFACE = 478 m2 > 50 m2 THEREFORE OSD REQUIRED
REQUIRED OSD : 30,000 litres; 15 l/s (TABLE PART B5.7)



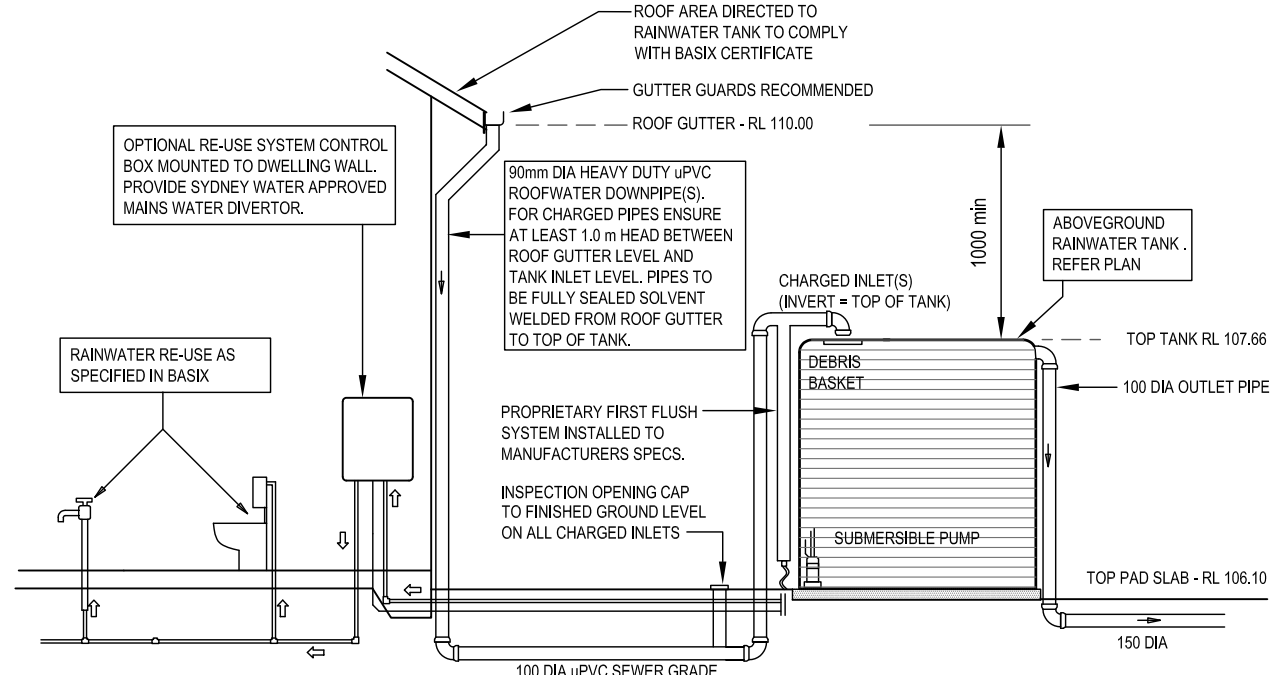
POST - DEVT HARD SURFACE = 478 m2

HARD SURFACES DIAGRAM

SCALE 1: 1000 at A3







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 - RAINWATER RE-USE TANK

MINIMUM PIPE COVER (FROM FINISHED SURFACE TO TOP OF PIPE)		
LOCATION	MINIMUM COVER (mm)	
	CAST/DUCTILE IRON GAL. STEEL	OTHER AUTHORISED PRODUCTS (1)
1. NOT SUBJECT TO VEHICULAR LOADS:		
A. WITHOUT PAVEMENT:		
I. FOR SINGLE DWELLINGS -	0	100
II. OTHER THAN SINGLE DWELLINGS -	0	300
B. WITH PAVEMENT OF BRICK/UNREINFORCED CONCRETE -	0 (1)	50 (1)
2. SUBJECT TO VEHICULAR LOADS:		
A. OTHER THAN ROADS:		
I. WITHOUT PAVEMENT -	300	450
II. WITH PAVEMENT OF:		
- REINF. CONC. FOR HEAVY VEHICLES -	0 (1) (2)	100 (1) (2)
- BRICK/UNREINF. CONC LIGHT VEHICLES -	0 (1) (2)	75 (1) (2)
B. ROADS:		
I. SEALED	300	500 (2)
II. UNSEALED	300	500 (2)
3. SUBJECT TO CONSTRUCTION VEHICLES OR IN EMBANKMENT CONDITIONS	300	500 (2)
(1) INCLUDES OVERLAY ABOVE THE TOP OF THE PIPE OF NOT LESS THAN 50mm THICK		
(2) BELOW THE UNDERSIDE OF THE PAVEMENT		
(3) SUBJECT TO COMPLIANCE WITH AS1702, AS2033, AS2033, AS2033, AS2033, AS2033 OR AS 4090		

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

ISS	DATE	AMENDMENT
B	02.07.2020	DP + DWY - DA ISSUE
A	30.06.2020	DA ISSUE

ARCHITECT/BUILDER	ARCH. REF : 29914187
CLARENDON HOMES	
OWNER	
SABENA	
LGA	NORTHERN BEACHES (PITTWATER)

Consulting Engineers
Civil & Environmental,
Stormwater Management.

3 Gresham Street,
Cowan NSW 2081
ph/fax (02) 9456 7233
mobile : 0424023047
mark@stormcivil.com.au

Pty Ltd. ABN 71 612 151 461

DWG TITLE	LEGEND, NOTES, DETAILS, CALCULATIONS
PROJECT TITLE	PROPOSED RESIDENTIAL DEVELOPMENT Lot 80, No 12 INGLESIDE ROAD, INGLESIDE

StormCivil		APPROVED ON BEHALF OF STORMCIVIL PTY LTD	
JOB No	DWG No	No IN SET	ISSUE
305001	D1	2	B

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

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
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.

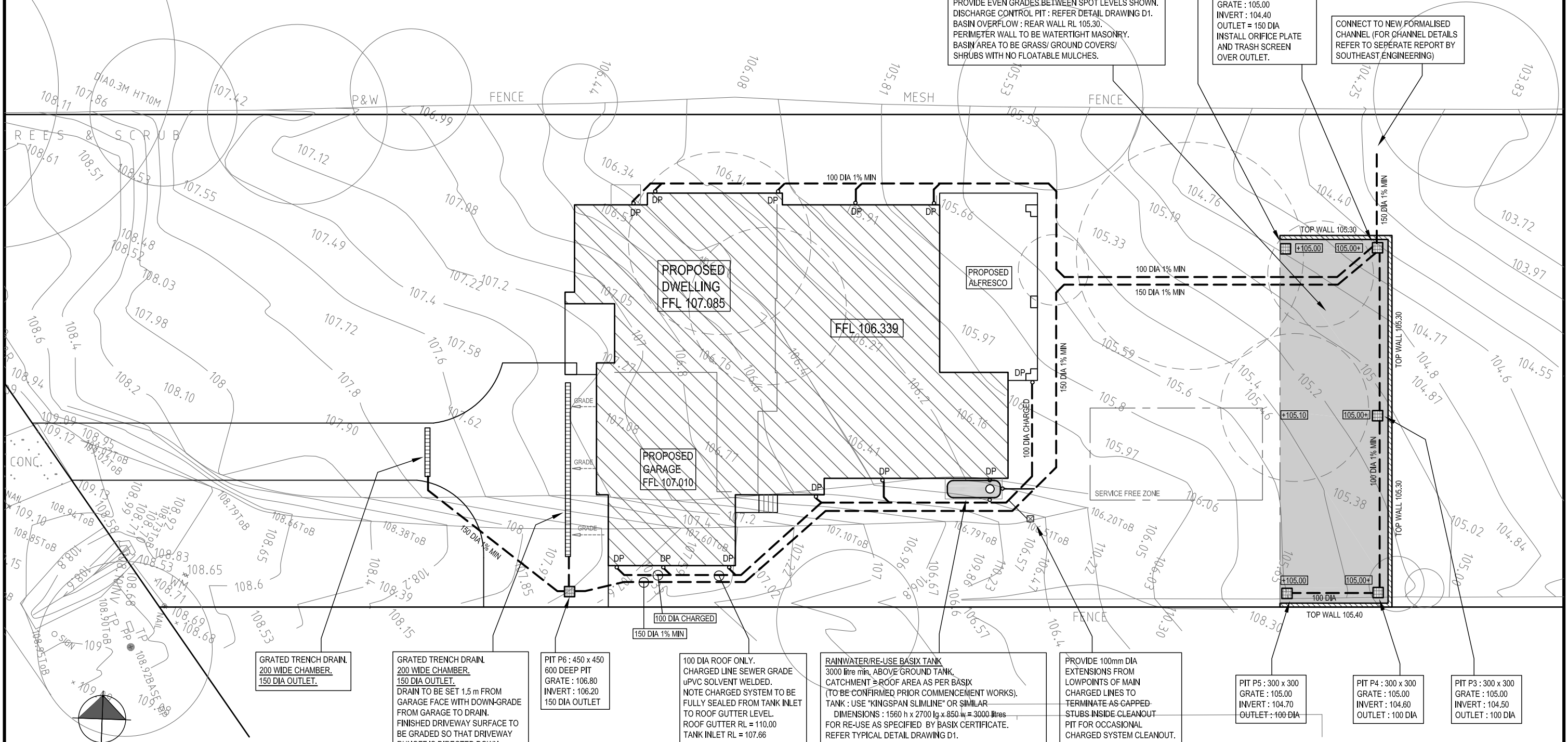
TREE PRESERVATION NOTE
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY PRIOR APPROVAL REQUIRED FROM COUNCIL WITH RESPECT TO POTENTIAL IMPACT ON TREES FOR ANY WORKS SHOWN ON THIS DRAWING PRIOR TO THE COMMENCEMENT OF THOSE WORKS.

STORMWATER DETENTION BASIN - ABOVE GROUND
EXTENT OF BASIN SHOWN SHADED.
DESIGN AREA = 110 m²
AVERAGE DEPTH = 280 mm
MAXIMUM DEPTH = 300 mm
TOP WATER LEVEL = RL 105.30
DESIGN VOLUME = 110 x 0.28 = 30.0 m³
(REQUIRED VOLUME = 30 m³ - REFER OSD CALCULATIONS ON DRAWING D1)
PROVIDE EVEN GRADES BETWEEN SPOT LEVELS SHOWN.
DISCHARGE CONTROL PIT: REFER DETAIL DRAWING D1.
BASIN OVERFLOW: REAR WALL RL 105.30.
PERIMETER WALL TO BE WATERTIGHT MASONRY.
BASIN AREA TO BE GRASS/ GROUND COVERS/ SHRUBS WITH NO FLOATABLE MULCHES.

PIT P2: 300 x 300
GRATE: 105.00
INVERT: 104.70
OUTLET: 100 DIA

PIT P1: 450 x 450
DISCHARGE CONTROL PIT.
REFER DETAIL SHEET D1.
GRATE: 105.00
INVERT: 104.40
OUTLET = 150 DIA
INSTALL ORIFICE PLATE
AND TRASH SCREEN
OVER OUTLET.

CONNECT TO NEW FORMALISED
CHANNEL (FOR CHANNEL DETAILS
REFER TO SEPARATE REPORT BY
SOUTHEAST ENGINEERING)



GRATED TRENCH DRAIN.
200 WIDE CHAMBER.
150 DIA OUTLET.

GRATED TRENCH DRAIN.
200 WIDE CHAMBER.
150 DIA OUTLET.
DRAIN TO BE SET 1.5 m FROM
GARAGE FACE WITH DOWN-GRADE
FROM GARAGE TO DRAIN.
FINISHED DRIVEWAY SURFACE TO
BE GRADED SO THAT DRIVEWAY
RUNOFF IS DIRECTED DOWN
SIDE PASSAGEWAY AND NOT
INTO GARAGE SHOULD GRATED
TRENCH DRAIN BLOCK.

PIT P6: 450 x 450
600 DEEP PIT
GRATE: 106.80
INVERT: 106.20
150 DIA OUTLET

100 DIA ROOF ONLY.
CHARGED LINE SEWER GRADE
uPVC SOLVENT WELDED.
NOTE CHARGED SYSTEM TO BE
FULLY SEALED FROM TANK INLET
TO ROOF GUTTER LEVEL.
ROOF GUTTER RL = 110.00
TANK INLET RL = 107.66
DIFFERENTIAL HEAD = 2.34 m

RAINWATER/RE-USE BASIX TANK
3000 litre min. ABOVE GROUND TANK.
CATCHMENT = ROOF AREA AS PER BASIX
(TO BE CONFIRMED PRIOR COMMENCEMENT WORKS).
TANK: USE "KINGSPAN SLIMLINE" OR SIMILAR.
DIMENSIONS: 1560 h x 2700 lg x 850 wd = 3000 litres
FOR RE-USE AS SPECIFIED BY BASIX CERTIFICATE.
REFER TYPICAL DETAIL DRAWING D1.
TANK INVERT = TOP OF PAD = RL 106.10
TANK TOP = RL 107.66
ROOF GUTTER = RL 110.00

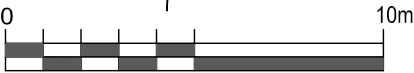
PROVIDE 100mm DIA
EXTENSIONS FROM
LOWPOINTS OF MAIN
CHARGED LINES TO
TERMINATE AS CAPPED
STUBS INSIDE CLEANOUT
PIT FOR OCCASIONAL
CHARGED SYSTEM CLEANOUT.
REFER CLEANOUT PIT
DETAIL DRAWING D1.

PIT P5: 300 x 300
GRATE: 105.00
INVERT: 104.70
OUTLET: 100 DIA

PIT P4: 300 x 300
GRATE: 105.00
INVERT: 104.60
OUTLET: 100 DIA

PIT P3: 300 x 300
GRATE: 105.00
INVERT: 104.50
OUTLET: 100 DIA

OVERLAND FLOW NOTE
REFER TO SEPARATE REPORT BY SOUTHEAST ENGINEERING
FOR MANAGEMENT OF OVERLAND FLOW DERIVED FROM
UPSTREAM CATCHMENT AND INGLESIDE ROAD. THIS
STORMWATER PLAN IS DESIGNED TO MANAGE STORMWATER
RUNOFF DERIVED FROM PROPOSED NEW ROOF AND DRIVEWAY
AREAS ON THE SUBJECT PROPERTY ONLY.



SCALE 1:200 at A3

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

STORMWATER MANAGEMENT PLAN

SCALE 1:200 at A3

ISS	DATE	AMENDMENT
B	02.07.2020	DP + DWY - DA ISSUE
A	30.06.2020	DA ISSUE

ARCHITECT/BUILDER	ARCH. REF : 29914187
CLARENDON HOMES	
OWNER	
SABENA	
LGA	NORTHERN BEACHES (PITWATER)

Consulting Engineers
Civil & Environmental,
Stormwater Management.
3 Gresham Street,
Cowan NSW 2081
ph/fax (02) 9456 7233
mobile: 0424023047
mark@stormcivil.com.au

Pty Ltd. ABN 71 612 151 461

DWG TITLE	STORMWATER MANAGEMENT PLAN
PROJECT TITLE	PROPOSED RESIDENTIAL DEVELOPMENT Lot 80, No 12 INGLESIDE ROAD, INGLESIDE

StormCivil		APPROVED ON BEHALF OF STORMCIVIL PTY LTD	
Mark Taylor MIE Aust CP Eng NER 173333			
JOB No	DWG No	No IN SET	ISSUE
305001	D2	2	B