




67 WOOLGOOLGA STREET, NORTH BALGOWLAH

STORMWATER MANAGEMENT PLAN

DRAWING INDEX:

- DR-000 LEGEND
- DR-001 PIPE LAYOUT –LOWER GROUND FLOOR
- DR-002 PIPE LAYOUT – GROUND FLOOR
- DR-003 PIPE LAYOUT – FIRST FLOOR
- DR-004 PIPE LAYOUT – ROOF
- DR-005 DETAILS
- DR-006 SITE AREAS


LEGEND:

-  DOWNPIPE
-  SW STORMWATER PIPE
-  DRAINAGE PIT

NOTES:

- ALL DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.
- SITE LAYOUT BASED ON ARCHITECTURAL PLANS BY RAMA ARCHITECTS (JUNE 2023) AND SURVEY PLANS BY TSS TOTAL SURVEYING SOLUTIONS (MARCH 2023).
- LOCATION OF ALL SERVICES MUST BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.
- ALL STORMWATER DRAINAGE PIPES AND ASSOCIATED DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE RELEVANT STANDARDS, THE BUILDING CODE OF AUSTRALIA, MANUFACTURER’S RECOMMENDATIONS, SYDNEY CATCHMENT AUTHORITY RECOMMENDED PRACTICE, AND LOCAL COUNCIL, AS APPLICABLE.
- ALL INVERT LEVELS PROVIDED ON THIS DRAWING ARE REDUCED TO AHD AND BASED ON INTERPOLATED SURFACE LEVELS AND SYSTEM REQUIREMENTS.
- WHERE POSSIBLE, PIPEWORK SHALL BE LOCATED EXTERNAL TO THE BUILDING.
- DOWNPipes AND STORMWATER LINES TO BE SEALED DN100 uPVC UNLESS OTHERWISE NOTED.
- STORMWATER PIPES TO BE GRADED AT A MINIMUM 1% UNLESS NOTED OTHERWISE.
- ALTERNATIVE GUTTER AND DOWNPIPE CONFIGURATION MAY BE INSTALLED PROVIDED IT COMPLIES WITH AS3500.
- ALL PIPE AND CONDUITS TO BE MARKED IN ACCORDANCE WITH AS1345 – 1995.
- TRENCHES AND SERVICE SEPARATIONS IN ACCORDANCE WITH AS/NZS 5601, AS/NZS 3500, AND AS/CA S009.

NOT FOR CONSTRUCTION

This drawing is confidential and shall only be used for the purposes of this project.					<div>Scale</div> <div>NA</div> <div>DO NOT SCALE. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED</div>	THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE STELLEN QUALITY ASSURANCE SYSTEM				<div> Stellen</div> <div>Stellen Consulting ABN 61 149 095 189</div>	This design complies with: AS3500.3:2021	67 WOOLGOOLGA STREET, NORTH BALGOWLAH								
												LEGEND								
												Size A3		Status FOR DA SUBMISSION		Dwg No. DR-000		Rev. 2		
									DESIGNED				NTM		CHECKED		SHA			
									DRAWN				NTM		CHECKED		SHA			
									APPROVED				FRM		DATE		17/03/2023			



PLAN
1

PIPE LAYOUT-LOWER GROUND FLOOR

1:150

NOT FOR CONSTRUCTION

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS	No.	BY	DATE	DESCRIPTION	APPD
	3	LES	05/07/2023	RFI RESPONSE	LES
	2	LES	22/6/2023	RFI RESPONSE	LES
	1	FRM	06/6/2023	RFI RESPONSE	LES
	0	NTM	16/03/2023	FOR DA SUBMISSION	FRM

Scale
1:150

DO NOT SCALE. ALL DIMENSIONS ARE IN
MILLIMETRES UNLESS OTHERWISE SPECIFIED

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF
THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH
THE STELLEN QUALITY ASSURANCE SYSTEM

DESIGNED	LES	CHECKED	FRM
DRAWN	LES	CHECKED	FRM
APPROVED	FRM	DATE	05/07/2023



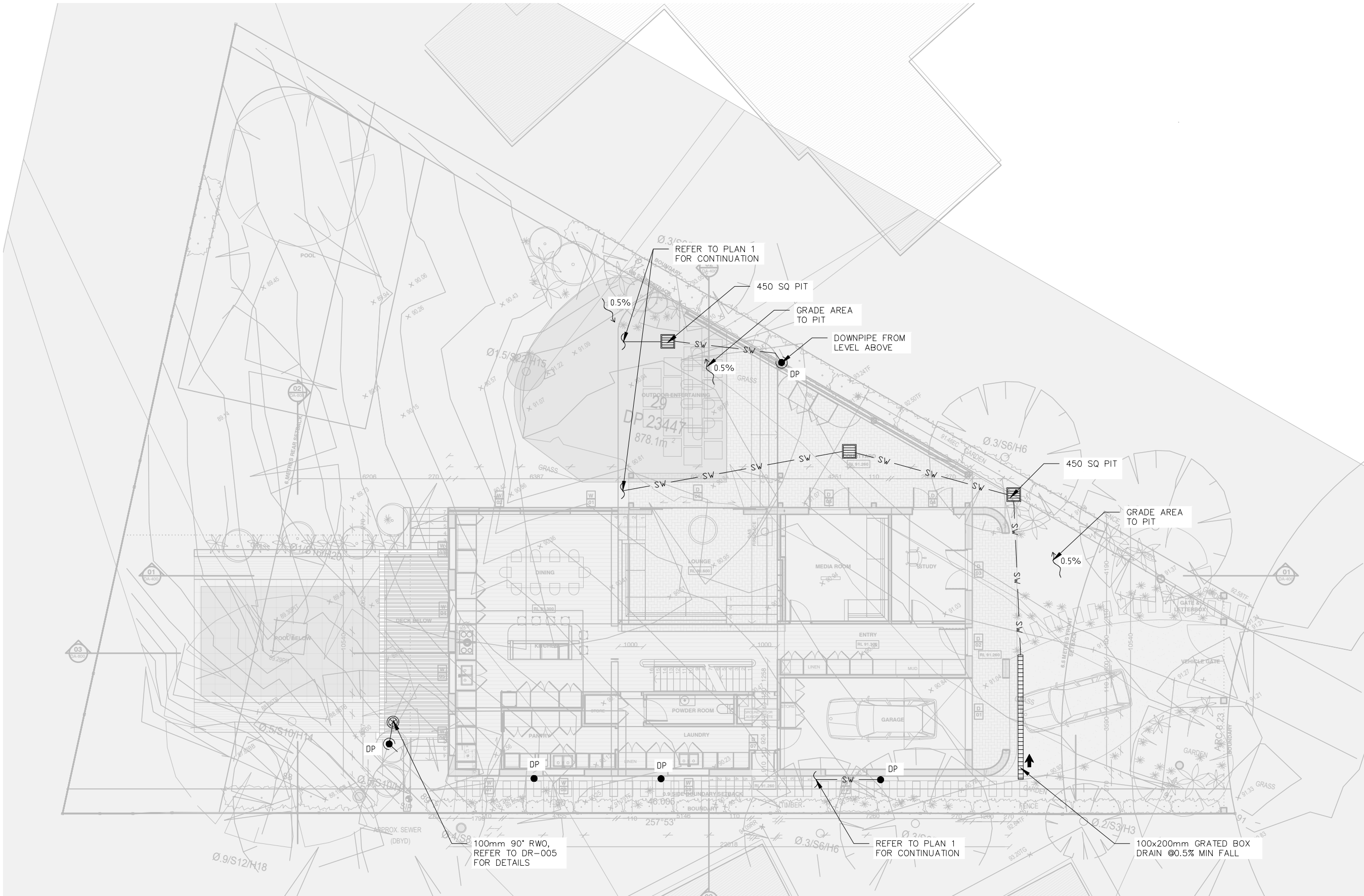
Stellen Consulting ABN 61 149 095 189

This design complies with:
AS3500.3:2021

67 WOOLGOOLGA STREET, NORTH BALGOWLAH

PIPE LAYOUT - LOWER GROUND LEVEL

Size	Status	Drg No.	Rev.
A3	FOR DA SUBMISSION	DR-001	3



PLAN
2

PIPE LAYOUT-GROUND FLOOR
1:150

NOT FOR CONSTRUCTION

This drawing is confidential and shall only be used for the purposes of this project.

Scale

1:150

DO NOT SCALE. ALL DIMENSIONS ARE IN
MILLIMETRES UNLESS OTHERWISE SPECIFIED

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF
THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH
THE STELLEN QUALITY ASSURANCE SYSTEM

DESIGNED	LES	CHECKED	FRM
DRAWN	LES	CHECKED	FRM
APPROVED	FRM	DATE	22/06/2023



Stellen Consulting ABN 61 149 095 189

This design complies with:
AS3500.3:2021

67 WOOLGOOLGA STREET, NORTH BALGOWLAH

PIPE LAYOUT - GROUND LEVEL

Size	A3	Status	FOR DA SUBMISSION	Dwg No.	DR-002	Rev.	2
------	----	--------	-------------------	---------	--------	------	---



PLAN
3

PIPE LAYOUT—FIRST FLOOR
1:150

NOT FOR CONSTRUCTION

This drawing is confidential and shall only be used for the purposes of this project.

REVISIONS	No.	BY	DATE	DESCRIPTION	APPD
	1	FRM	6/6/2023	RFI RESPONSE	LES
	0	NTM	16/03/2023	FOR DA SUBMISSION	FRM

Scale

1:150

DO NOT SCALE. ALL DIMENSIONS ARE IN
MILLIMETRES UNLESS OTHERWISE SPECIFIED

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF
THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH
THE STELLEN QUALITY ASSURANCE SYSTEM

DESIGNED	NTM	CHECKED	SHA
DRAWN	NTM	CHECKED	SHA
APPROVED	FRM	DATE	16/03/2023



Stellen Consulting ABN 61 149 095 189

This design complies with:
AS3500.3:2021

67 WOOLGOOLGA STREET, NORTH BALGOWLAH

PIPE LAYOUT - FIRST FLOOR LEVEL

Size	Status	Drwg No.	Rev.
A3	FOR DA SUBMISSION	DR-003	1

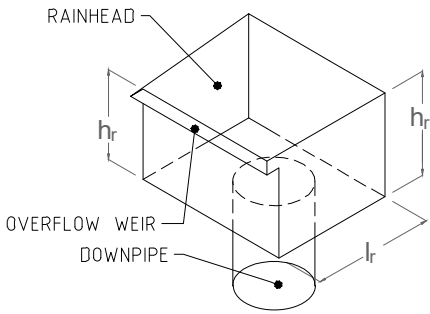


TABLE 1 – RAINWATER HEAD DESIGN
(100 YEAR ARI, 1:200 FALL)

		TYPE 1	TYPE 2
ROOF SERVICE AREA	–	27.75m ²	67.75m ²
DOWNPIPE DIAMETER	DP	90mm	100mm
LENGTH OF RAINWATER HEAD	L _r	110mm	135mm
RAINWATER HEAD DEPTH	h _r	115mm	125mm
RAINWATER HEAD WIDTH (MIN)	W _{rh}	200mm	200mm

NOMENCLATURE

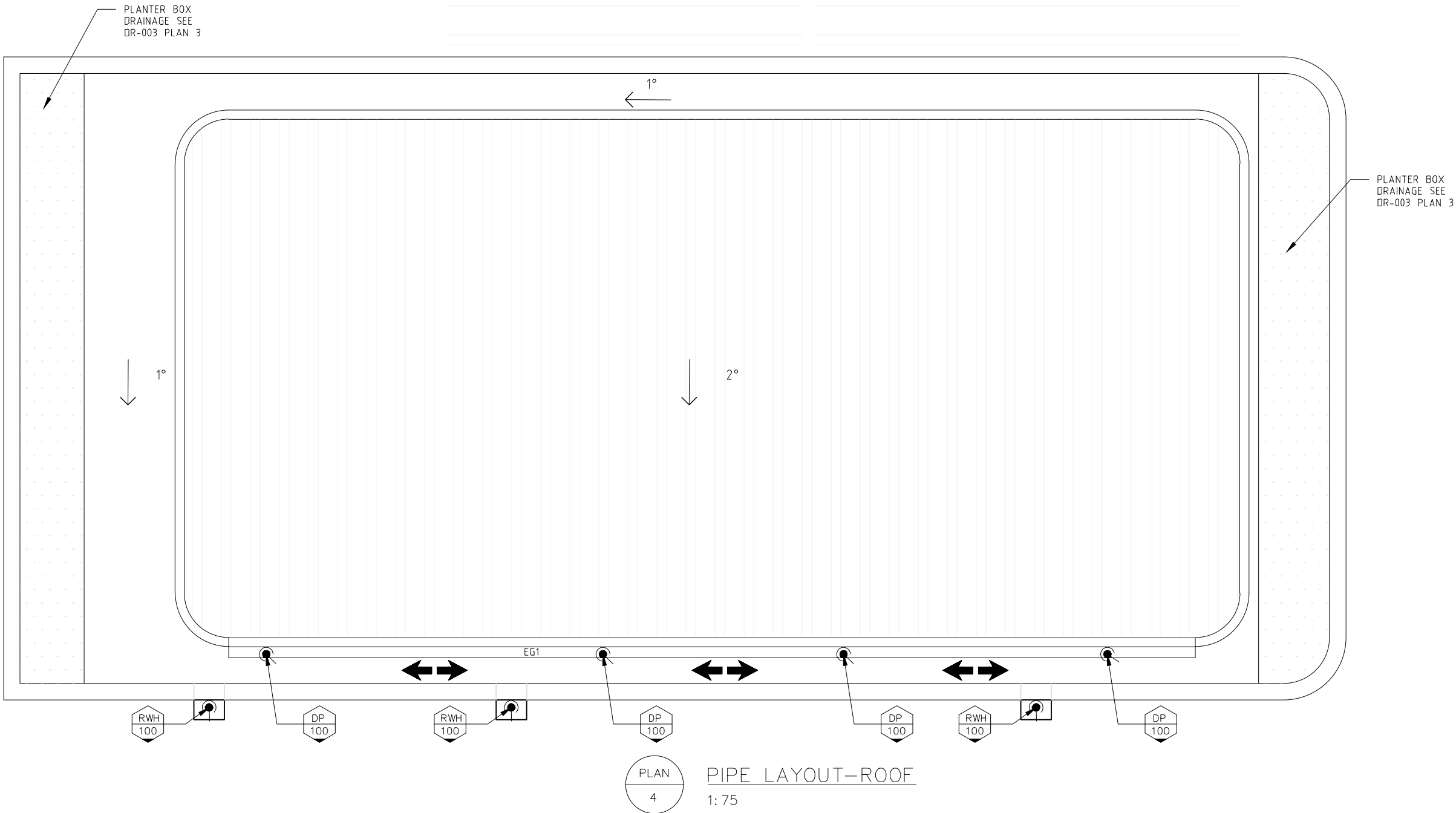
DP – DOWNPIPE
EG – EAVES GUTTER
BG – BOX GUTTER
RWH – RAINWATER HEAD

GUTTER SIZING

BOX GUTTER DESIGNED TO ARI (100YR:247mm/hr)
EAVES GUTTER DESIGNED TO ARI (20YR:206mm/hr)
BG1 – 200x95mm
EG1 – MIN CSA 9,200 mm²

LEGEND

DOWNPIPE TYPE AND DIAMETER
 DIRECTION OF FALL



NOT FOR CONSTRUCTION

This drawing is confidential and shall only be used for the purposes of this project.

Scale

1:75

DO NOT SCALE. ALL DIMENSIONS ARE IN
MILLIMETRES UNLESS OTHERWISE SPECIFIED

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF
THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH
THE STELLEN QUALITY ASSURANCE SYSTEM

DESIGNED	NTM	CHECKED	SHA
DRAWN	NTM	CHECKED	SHA
APPROVED	FRM	DATE	16/03/2023



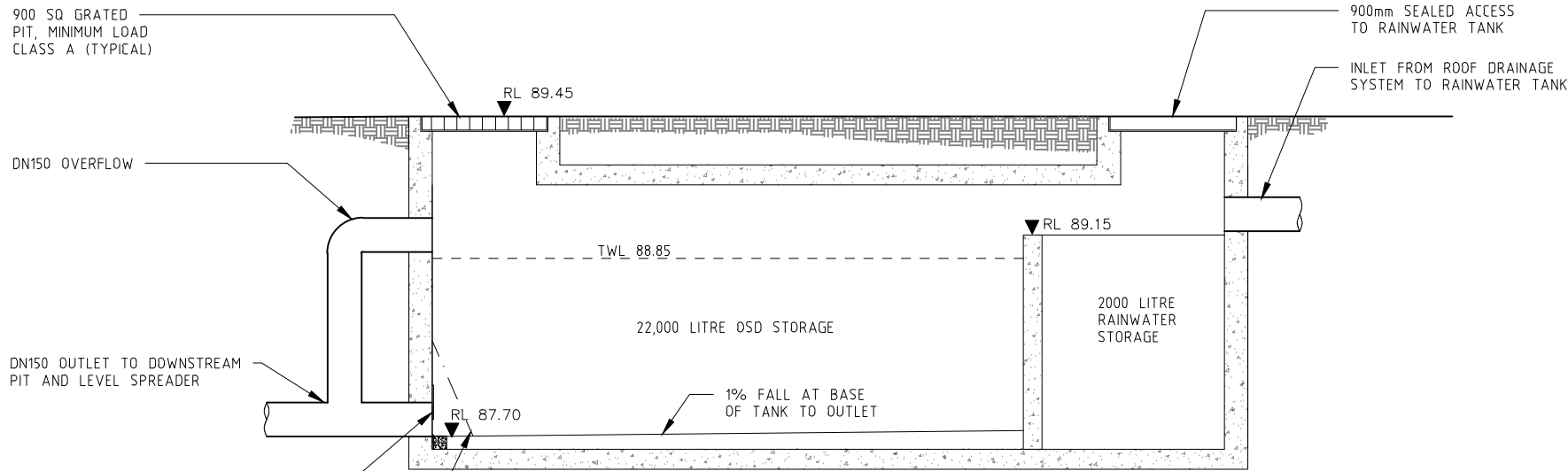
Stellen Consulting ABN 61 149 095 189

This design complies with:
AS3500.3:2021

67 WOOLGOOLGA STREET, NORTH BALGOWLAH

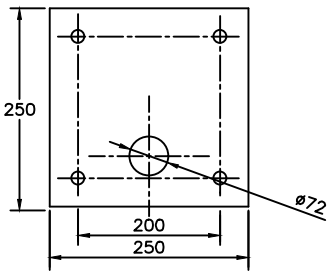
PIPE LAYOUT - ROOF

Size	A3	Status	FOR DA SUBMISSION	Drng No.	DR-004	Rev.	1
------	----	--------	-------------------	----------	--------	------	---

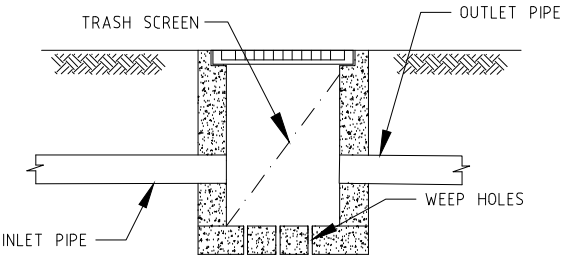


OSD/RAINWATER SYSTEM ELEVATION
NOT TO SCALE

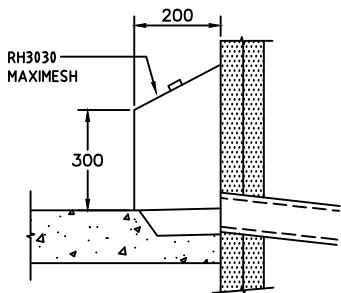
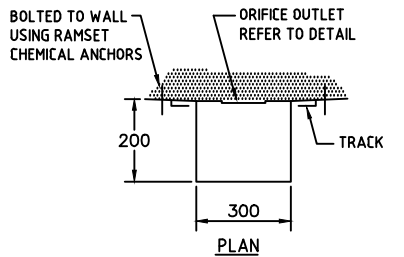
- NOTES:
1. OSD TANK TANK AND DISCHARGE CONTROL PIT TO BE FITTED WITH STEP IRONS AT 300 CENTRES.
 2. FLOWS LEAVING THE SITE ARE RESTRICTED TO 0.2EY "STATE OF NATURE" (100% PERVIOUS) FOR ALL STORMS UP TO AN INCLUDING THE 1% AEP RAIN EVENT.
 3. OSD DESIGNED USING HYDRAULIC MODELING SOFTWARE "DRAINS" BY WATERCOM, REFER TO DR-006 FOR A CATCHMENT PLAN
 4. STEP IRONS AT 300 CENTRES TO BE PROVIDE WITHIN OSD AND RAINWATER TANK BELOW ACCESS PITS.



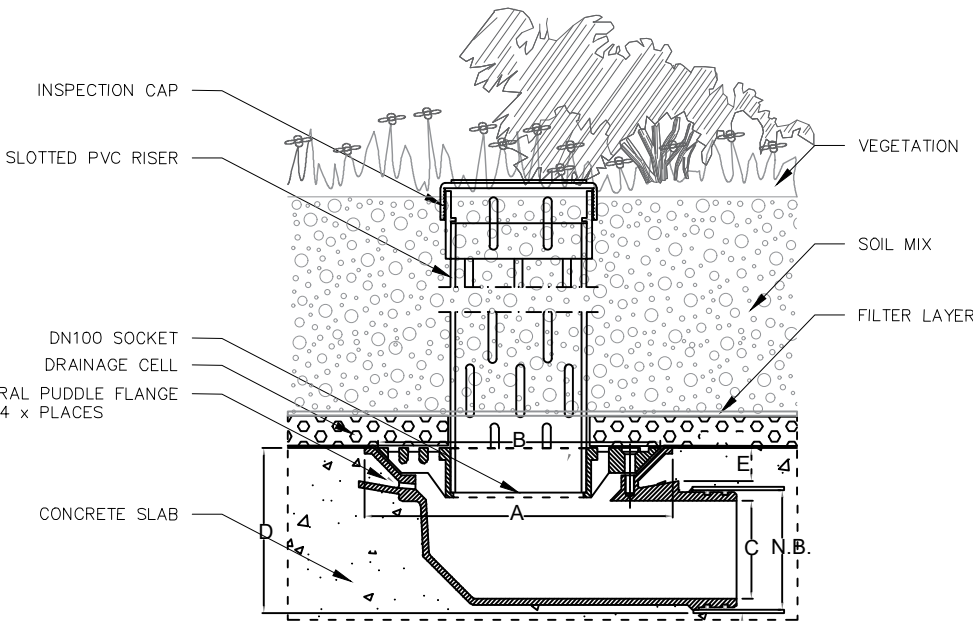
ORIFICE PLATE DETAIL
NOT TO SCALE
3mm THICK STAINLESS STEEL SECURELY
FIXED TO OSD WALL WITH 4 OFF 12mm
DYNA BOLTS



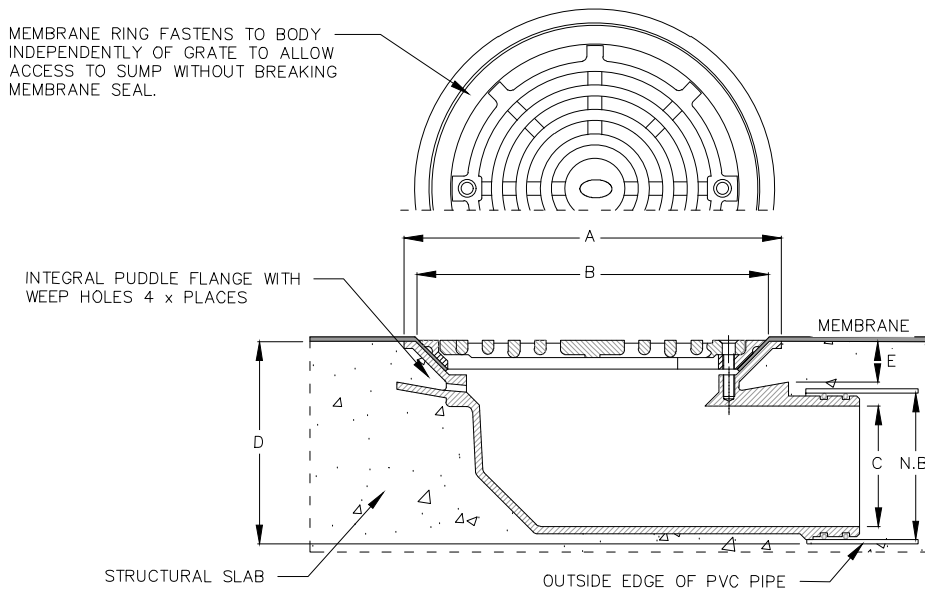
DETAIL 3
600/900 SQUARE MEDIUM DUTY PIT
NOT TO SCALE
NOTES:
1. 'LYSAGHT' MAXIMESH RH3030 (HOT DIPPED GALVANISED) OR EQUIVALENT.
2. MAXI MESH SCREENS MUST BE PLACED SUCH THAT THE LONG AXIS OF THE OVAL SHAPED HOLES ARE ORIENTATED HORIZONTALLY WITH THE PROTRUDING LIP ANGLED UPWARDS AND FACING TOWARDS THE OUTLET
3. 20DIA AT 150 SPACING AT BASE OF SUMP. BEDDING TO BE 100 THICK SAND/GRAVEL MATERIAL.



SIDE VIEW CROSS SECTION
TRASH SCREEN DETAIL
NOT TO SCALE



DETAIL 5
PLANTER BOX OUTLET (SPS TIA80PB OR APPROVED OTHER)
NOT TO SCALE



DETAIL 4
TYPICAL 100 SS GRATED RAINWATER OUTLET
NOT TO SCALE
NOTE:
1. INSTALLATION AS PER MANUFACTURER'S RECOMMENDATIONS

NOT FOR CONSTRUCTION

REVISIONS				
No.	BY	DATE	DESCRIPTION	APPD
3	LES	05/07/2023	RFI RESPONSE	LES
2	LES	22/6/2023	RFI RESPONSE	LES
1	FRM	06/6/2023	RFI RESPONSE	LES
0	NTM	16/03/2023	FOR DA SUBMISSION	FRM

Scale
1:150
DO NOT SCALE. ALL DIMENSIONS ARE IN
MILLIMETRES UNLESS OTHERWISE SPECIFIED

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE STELLEN QUALITY ASSURANCE SYSTEM			
DESIGNED	LES	CHECKED	FRM
DRAWN	LES	CHECKED	FRM
APPROVED	FRM	DATE	05/07/2023

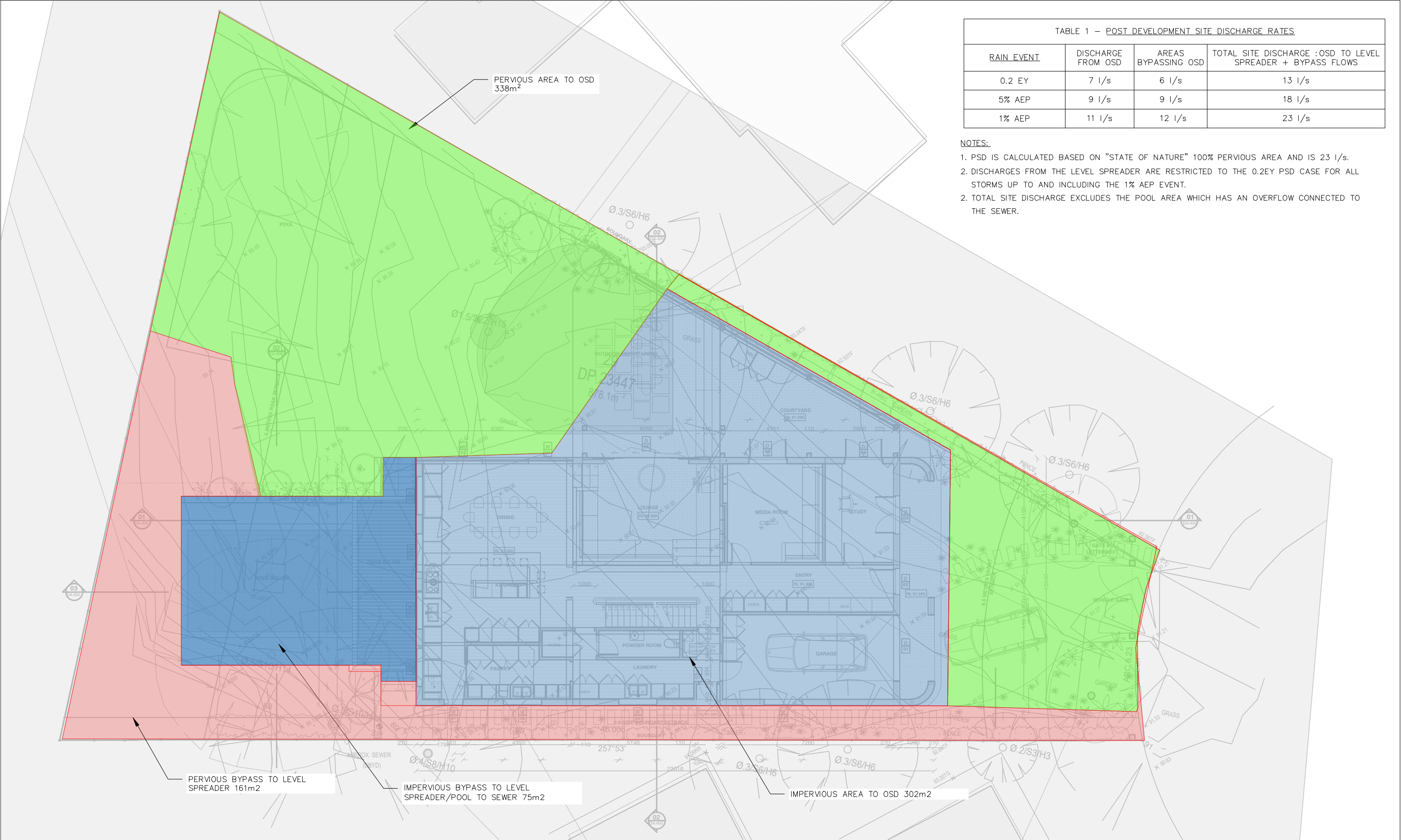


This design complies with:
AS3500.3:2021

67 WOOLGOOLGA STREET, NORTH BALGOWLAH			
DETAILS			
Size	Status	Drng No.	Rev.
A3	FOR DA SUBMISSION	DR-005	3

TABLE 1 – POST DEVELOPMENT SITE DISCHARGE RATES			
RAIN EVENT	DISCHARGE FROM OSD	AREAS BYPASSING OSD	TOTAL SITE DISCHARGE : OSD TO LEVEL SPREADER + BYPASS FLOWS
0.2 EY	7 l/s	6 l/s	13 l/s
5% AEP	9 l/s	9 l/s	18 l/s
1% AEP	11 l/s	12 l/s	23 l/s

- NOTES:
- PSD IS CALCULATED BASED ON "STATE OF NATURE" 100% PERVIOUS AREA AND IS 23 l/s.
 - DISCHARGES FROM THE LEVEL SPREADER ARE RESTRICTED TO THE 0.2EY PSD CASE FOR ALL STORMS UP TO AND INCLUDING THE 1% AEP EVENT.
 - TOTAL SITE DISCHARGE EXCLUDES THE POOL AREA WHICH HAS AN OVERFLOW CONNECTED TO THE SEWER.



SITE AREAS
1:150

NOT FOR CONSTRUCTION

This drawing is confidential and shall only be used for the purposes of this project.

Scale

1:150

DO NOT SCALE. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE STELLEN QUALITY ASSURANCE SYSTEM

DESIGNED	LES	CHECKED	FRM
DRAWN	LES	CHECKED	FRM
APPROVED	FRM	DATE	05/07/2023



Stellen Consulting ABN 61 149 095 189

This design complies with:
AS3500.3:2021

67 WOOLGOOLGA STREET, NORTH BALGOWLAH

SITE AREAS

Size	A3	Status	FOR DA SUBMISSION	Drw No.	DR-006	Rev.	3
------	----	--------	-------------------	---------	--------	------	---