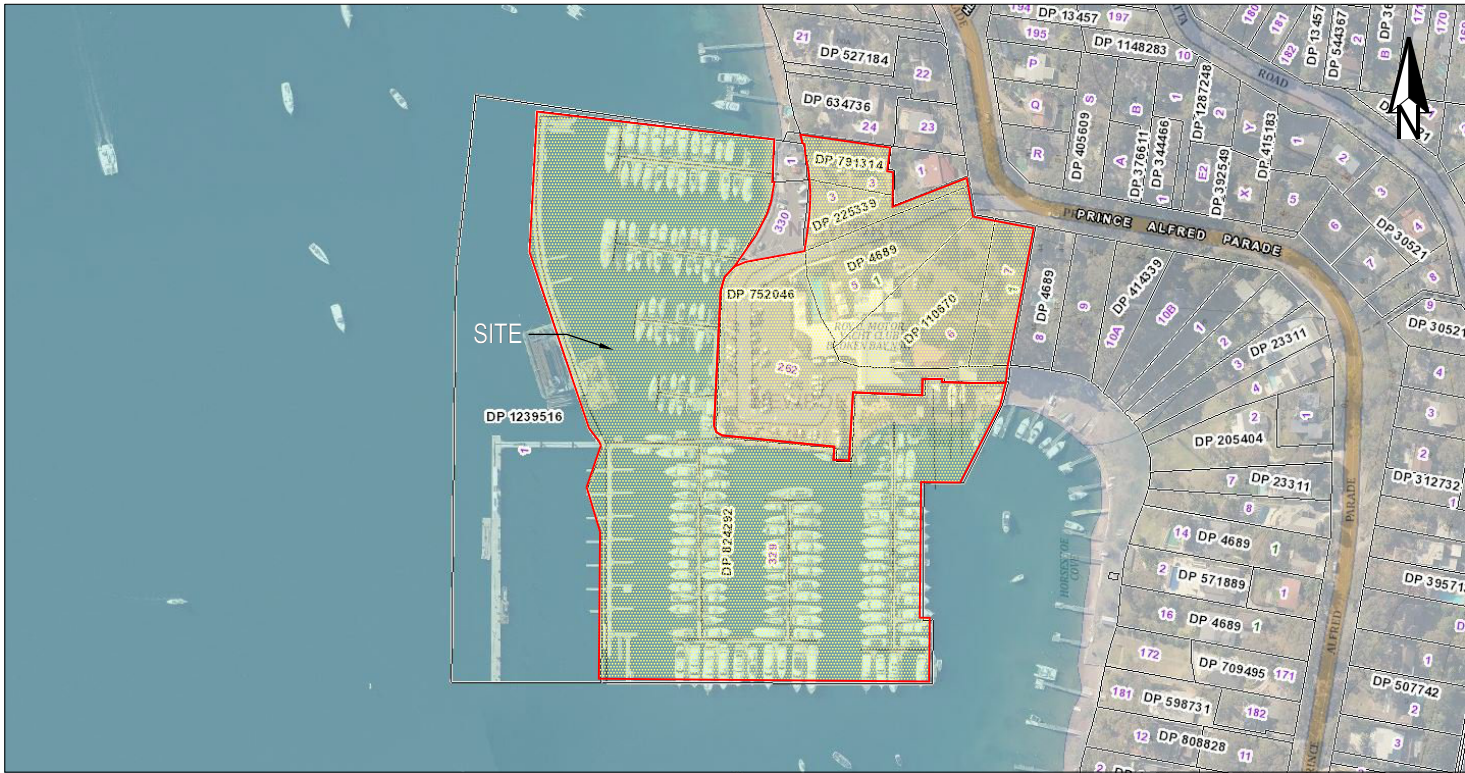


PROJECT: PROPOSED ALTERATIONS AND ADDITIONS
TO THE ROYAL MOTOR YACHT CLUB

PLANSET: CONCEPT STORMWATER
MANAGEMENT PLAN

CLIENT: PLANNING INGENUITY PTY LTD

DRAWING LIST		
DWG NO.	REV	DWG TITLE
GENERAL		
PS01-A000	C	COVER SHEET
PS01-A010	A	VIEWPORT REFERENCE PLANS
DRAINAGE		
PS01-E100	C	DRAINAGE PLAN
PS01-E200	C	DRAINAGE DETAILS
PS01-E700	B	WATER QUALITY CATCHMENT PLAN, MODEL AND RESULTS



LOCALITY PLAN
NOT TO SCALE

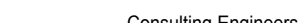
LGA: NORTHERN BEACHES

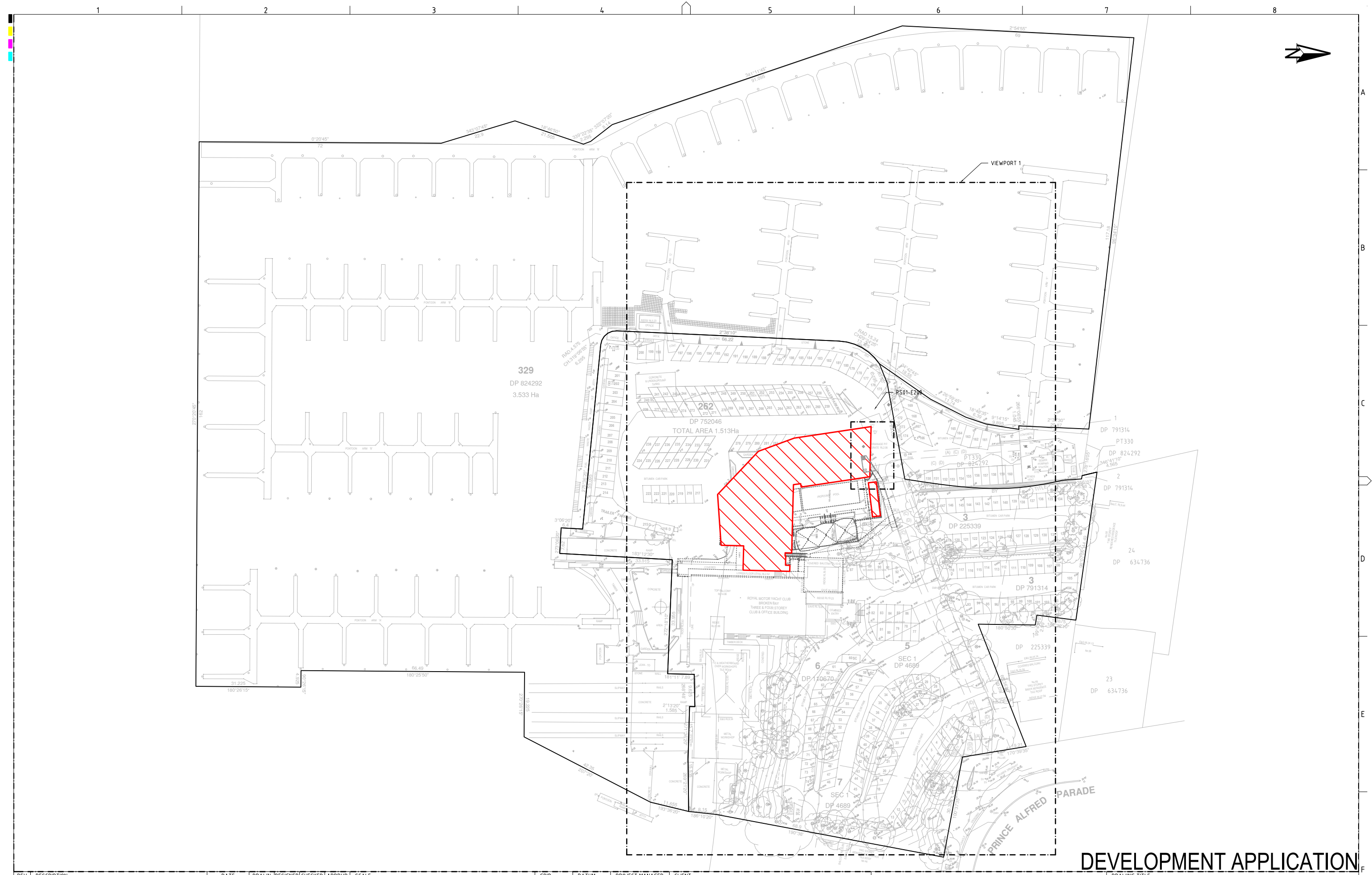
46 PRINCE ALFRED PARADE, NEWPORT 2106, NSW
LOT 3 DP791314, LOT 262 DP752046, LOT 3 DP225339
LOT 6 DP110670, LOTS 5&7 SEC 1 DP4689

GENERAL NOTES

- THIS PLAN IS FOR DEVELOPMENT APPLICATION PURPOSE AND NOT FOR CONSTRUCTION. DESIGN TO BE REVIEWED AND UPDATED FOR CONSTRUCTION CERTIFICATE.
- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH, AND THESE NOTES ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT AUSTRALIAN STANDARDS, COUNCIL SPECIFICATIONS, AND ALL PROJECT CONSULTANT'S PLANS AND REPORTS.
- INTERNAL SURVEY INFORMATION SHOWN BASED ON SURVEY INFORMATION PROVIDED BY SDG PTY LTD.
- LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED AND EXISTING SURFACE.

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	martens & Associates Pty Ltd		Consulting Engineers	DRAWING TITLE						
C	MINOR AMENDMENTS	09/05/2023	YI	SL	SL	SL		DISCLAIMER & COPYRIGHT This plan must not be used for construction unless signed as approved by principal certifying authority. All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd. (C) Copyright Martens & Associates Pty Ltd		SL	PLANNING INGENUITY PTY LTD	 Environment Water Geotechnical Civil Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au	COVER SHEET								
B	MINOR AMENDMENTS	28/02/2023	YI	TW	SL	SL					PROJECT NAME/PLANSET TITLE										
A	INITIAL RELEASE	09/02/2023	YI/JS	TW	SL	SL					PROPOSED ALTERATIONS AND ADDITIONS										
											CONCEPT STORMWATER MANAGEMENT PLAN										
											46 PRINCE ALFRED PARADE, NEWPORT 2106, NSW										
A1 / A3 LANDSCAPE (A/LC_V02.0.0)																PROJECT NO. P2209347		PLANSET NO. PS01	RELEASE NO. R03	DRAWING NO. PS01-A000	REVISION C
DRAWING ID: P2209347-PS01-R03-A000																					



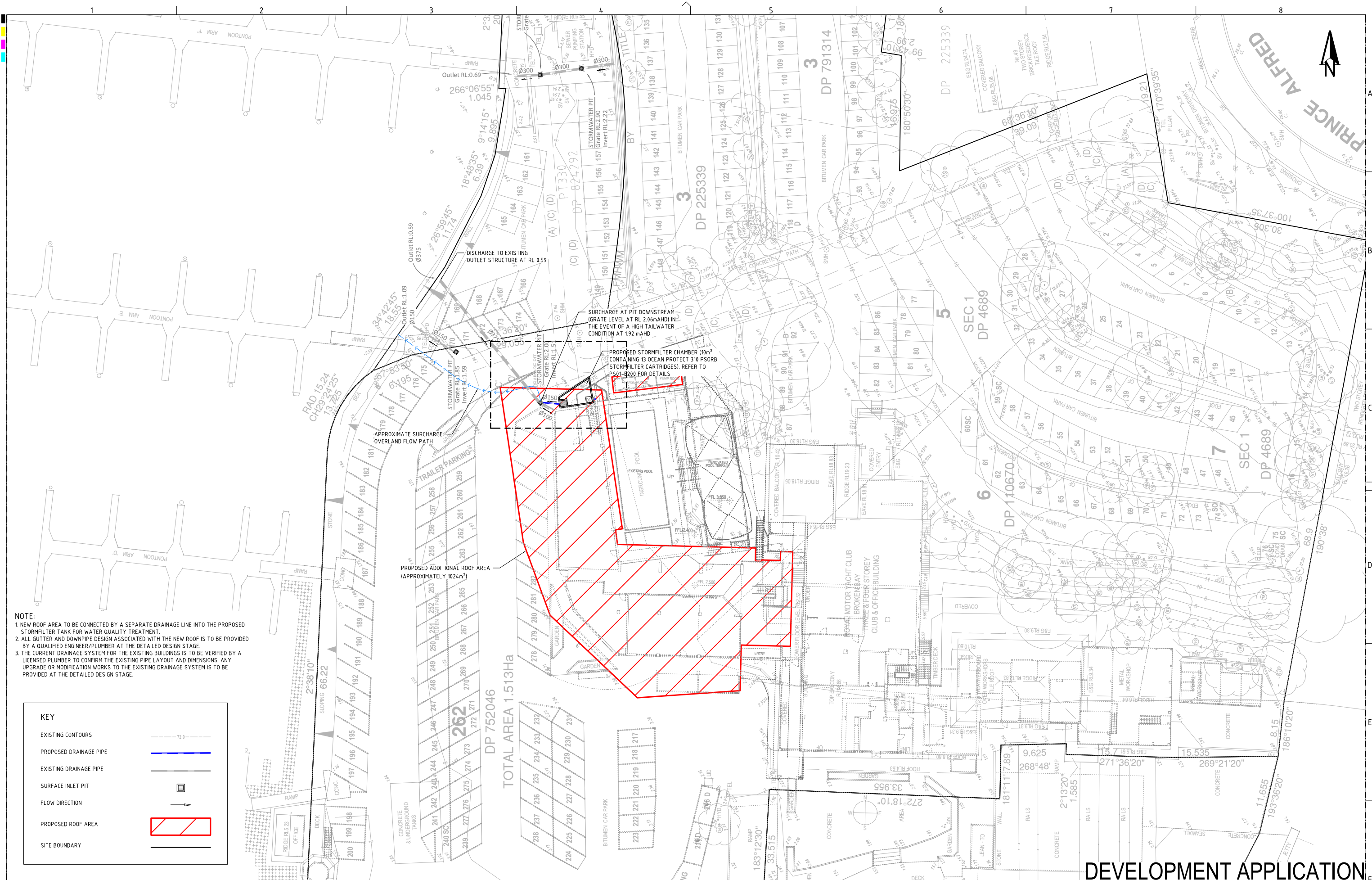
DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	martens & Associates Pty Ltd		Consulting Engineers		DRAWING TITLE	
A	INITIAL RELEASE	09/02/2023	YI/JS	TW	SL	SL	0 10 20 30 40 50 60 70 80 90 100 A1 (A3) 1:1,000 (1:2,000) METRES	MGA	mAHD	SL	PLANNING INGENUITY PTY LTD	PROJECT NAME/PLANSET TITLE PROPOSED ALTERATIONS AND ADDITIONS CONCEPT STORMWATER MANAGEMENT PLAN 46 PRINCE ALFRED PARADE, NEWPORT 2106, NSW		Environment Water Geotechnical Civil		VIEWPORT REFERENCE PLANS	
							DISCLAIMER & COPYRIGHT This plan must not be used for construction unless signed as approved by principal certifying authority. All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd. (C) Copyright Martens & Associates Pty Ltd		PROJECT NO. P2209347		PLANSET NO. PS01	RELEASE NO. R03	DRAWING NO. PS01-A010	REVISION A			

PRINTED: 11:45 AM - USER: 104040

A1 / A3 LANDSCAPE [A/LC_v02.0.01]

<



NOTE:
1. NEW ROOF AREA TO BE CONNECTED BY A SEPARATE DRAINAGE LINE INTO THE PROPOSED STORMFILTER TANK FOR WATER QUALITY TREATMENT.
2. ALL GUTTER AND DOWNPIPE DESIGN ASSOCIATED WITH THE NEW ROOF IS TO BE PROVIDED BY A QUALIFIED ENGINEER/PLUMBER AT THE DETAILED DESIGN STAGE.
3. THE CURRENT DRAINAGE SYSTEM FOR THE EXISTING BUILDINGS IS TO BE VERIFIED BY A LICENSED PLUMBER TO CONFIRM THE EXISTING PIPE LAYOUT AND DIMENSIONS. ANY UPGRADE OR MODIFICATION WORKS TO THE EXISTING DRAINAGE SYSTEM IS TO BE PROVIDED AT THE DETAILED DESIGN STAGE.

KEY

EXISTING CONTOURS

PROPOSED DRAINAGE PIPE

EXISTING DRAINAGE PIPE

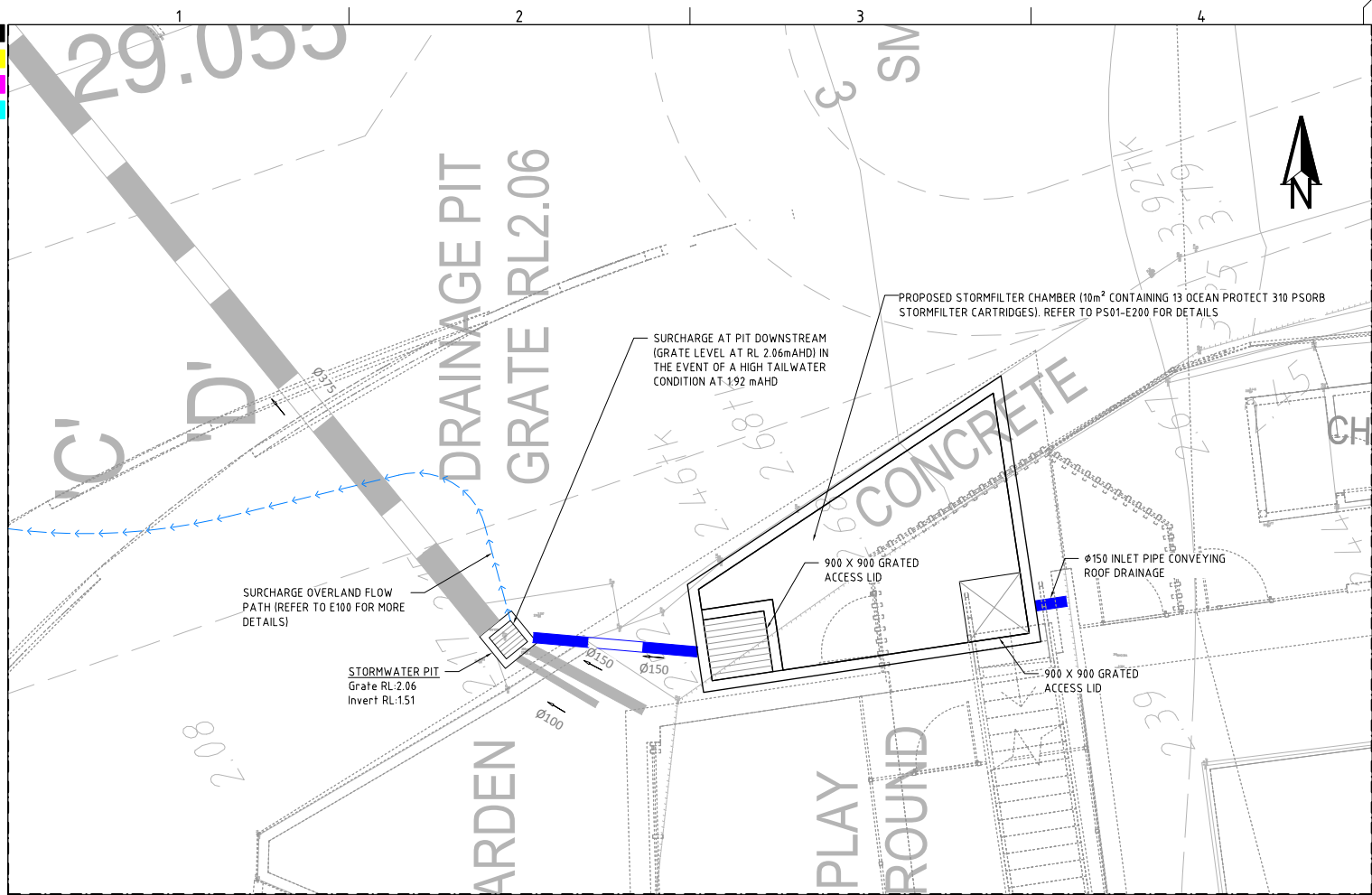
SURFACE INLET PIT

FLOW DIRECTION

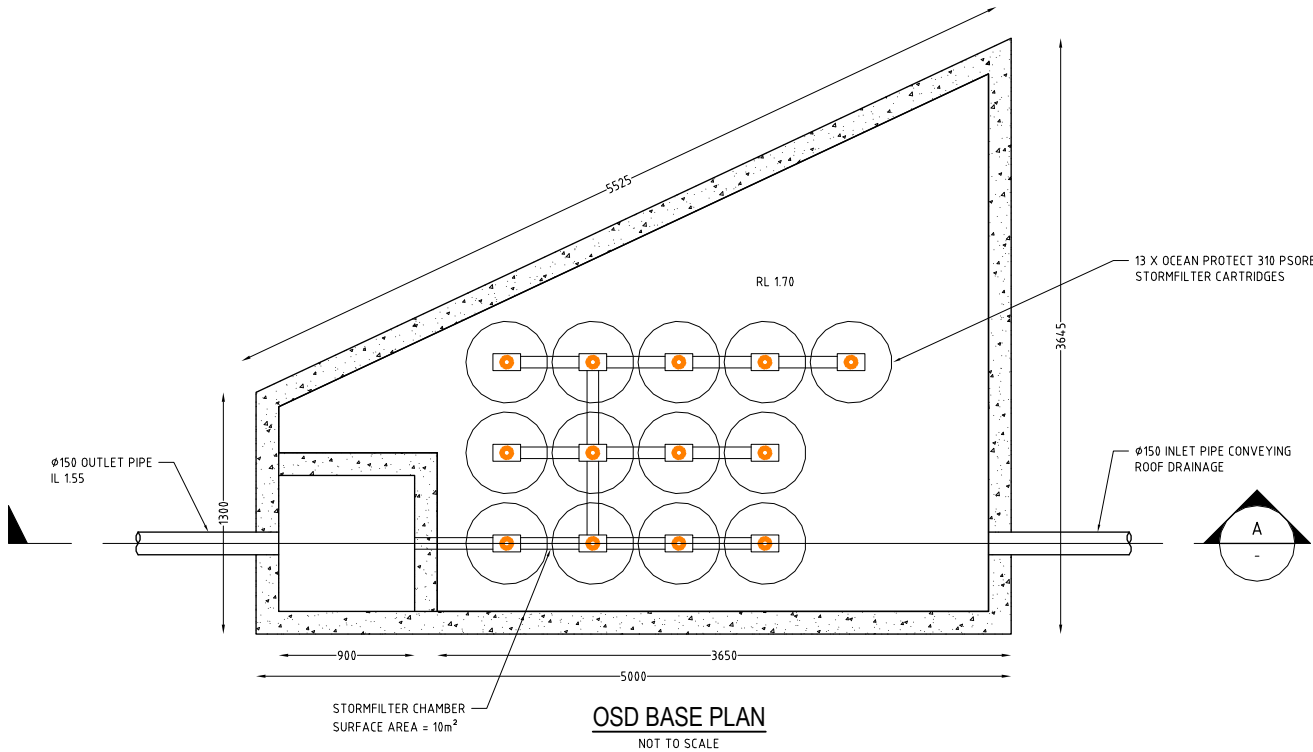
PROPOSED ROOF AREA

SITE BOUNDARY

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	DRAWING TITLE																			
C	MINOR AMENDMENTS	09/05/2023	YI	SL	SL	SL		MGA	mAHD	SL	PLANNING INGENUITY PTY LTD	DRAINAGE PLAN																			
B	MINOR AMENDMENTS	28/02/2023	YI	TW	SL	SL		DISCLAIMER & COPYRIGHT This plan must not be used for construction unless signed as approved by principal certifying authority. All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd. (C) Copyright Martens & Associates Pty Ltd		PROJECT NAME/PLANSET TITLE PROPOSED ALTERATIONS AND ADDITIONS CONCEPT STORMWATER MANAGEMENT PLAN 46 PRINCE ALFRED PARADE, NEWPORT 2106, NSW		 Consulting Engineers Environment Water Geotechnical Civil	PROJECT NO. P2209347		PLANSET NO. PS01		RELEASE NO. R03		DRAWING NO. PS01-E100		REVISION C										
A	INITIAL RELEASE	09/02/2023	YI/JS	TW	SL	SL																									
A1 / A3 LANDSCAPE (A1,E,C_v02.0-0)							DRAWING ID: P2209347-PS01-R03-E100																								



PROPOSED STORMWATER TANK AND DRAINAGE LAYOUT
SCALE 1:50



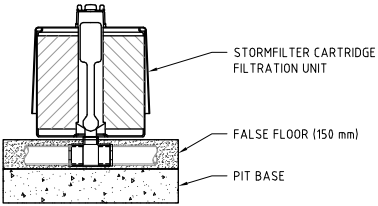
OSD BASE PLAN
NOT TO SCALE



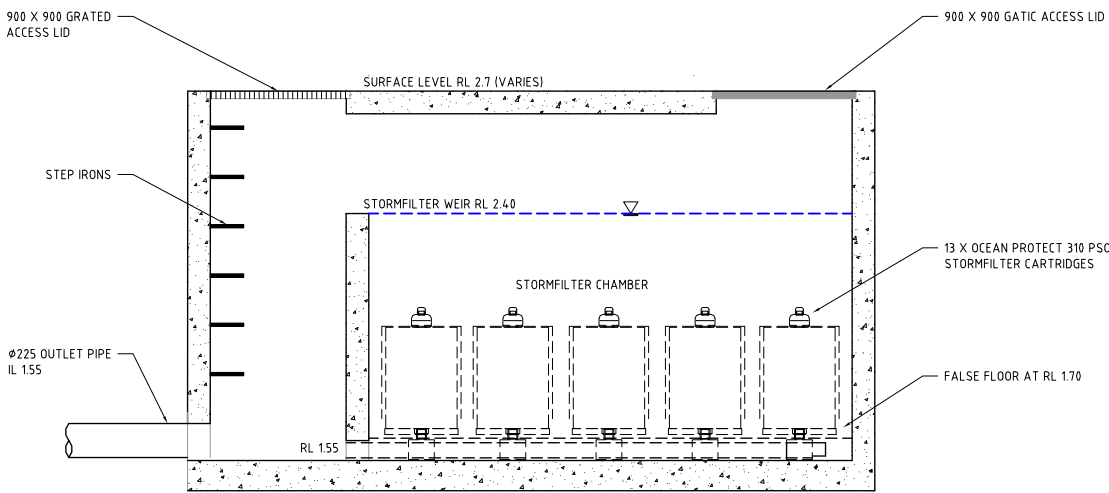
CONFINED SPACE WARNING SIGN
NOT TO SCALE



OSD WARNING SIGN
NOT TO SCALE



STORMFILTER CARTRIDGE INSTALLATION DETAIL
NOT TO SCALE



STORMFILTER CHAMBER SECTION
NOT TO SCALE

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	09/05/2023	YI	SL	SL	SL
B	MINOR AMENDMENTS	28/02/2023	YI/JS	TW	SL	SL
A	INITIAL RELEASE	09/02/2023	YI/JS	TW	SL	SL

SCALE
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0
A1 (A3) 1:50 (1:100) METRES

GRID	DATUM	PROJECT MANAGER	CLIENT
MGA	mAH	SL	PLANNING INGENUITY PTY LTD
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PROJECT NAME/PLANSET TITLE
PROPOSED ALTERATIONS AND ADDITIONS CONCEPT STORMWATER MANAGEMENT PLAN
46 PRINCE ALFRED PARADE, NEWPORT 2106, NSW

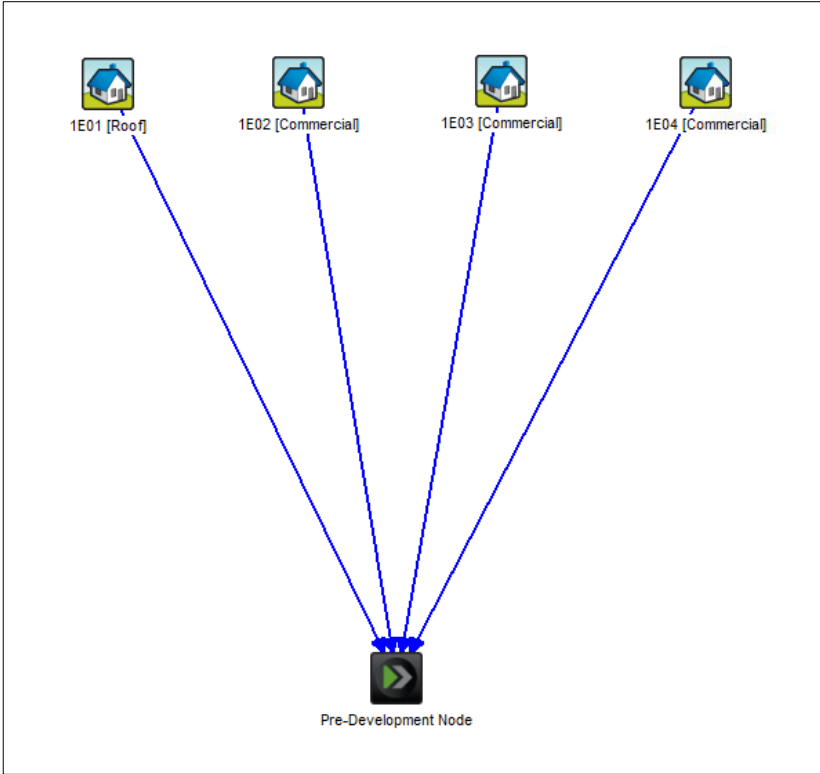
 Consulting Engineers Environment Water Geotechnical Civil	Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au		

DRAWING TITLE				
DRAINAGE DETAILS				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2209347	PS01	R03	PS01-E200	C

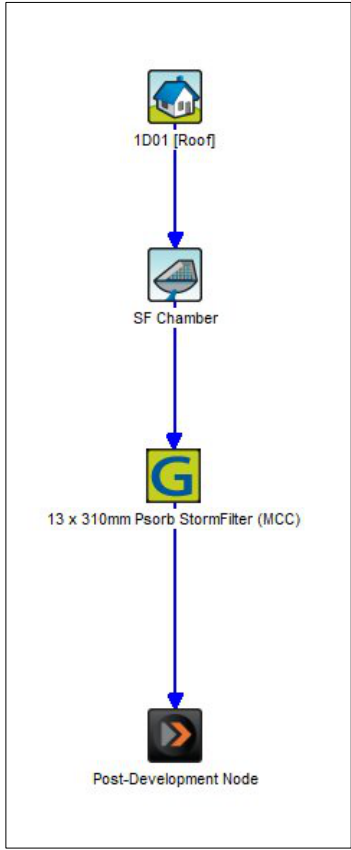


PRE DEVELOPMENT MUSIC CATCHMENT PLAN (P2209347MUS01V01)
SCALE 1:500

POST DEVELOPMENT MUSIC CATCHMENT PLAN (P2209347MUS01V01)
SCALE 1:500



MUSIC MODEL LAYOUT (P2209347MUS01V01)
PRE DEVELOPMENT



MUSIC MODEL LAYOUT (P2209347MUS01V01)
POST DEVELOPMENT

Mean Annual Loads - Post-Development Node		
	Pre	Post
Flow (ML/yr)	1.06	1.22
Total Suspended Solids (kg/yr)	172	4.83
Total Phosphorus (kg/yr)	0.300	37.7E-3
Total Nitrogen (kg/yr)	2.32	1.30
Gross Pollutants (kg/yr)	25.8	0.00

MUSIC MODEL RESULTS - NORBE (P2209347MUS01V01)

MUSIC PRE DEVELOPMENT CATCHMENT DETAILS (P2209347MUS01V01)			
KEY	MUSIC NODE	AREA (ha)	% PAVED
	1E-01	0.010	100%
	1E-02	0.019	100%
	1E-03	0.066	100%
	1E-04	0.007	0%
	TOTAL AREA	0.102	= 100% OF TOTAL AREA
	TOTAL IMPERVIOUS AREA	0.095	= 93% OF TOTAL AREA
	TOTAL PERVIOUS AREA	0.007	= 7% OF TOTAL AREA

Treatment Train Effectiveness - Post-Development Node			
	Sources	Residual Load	% Reduction
Flow (ML/yr)	1.22	1.22	0
Total Suspended Solids (kg/yr)	32.7	4.83	85.2
Total Phosphorus (kg/yr)	0.186	0.0377	79.7
Total Nitrogen (kg/yr)	2.7	1.3	51.6
Gross Pollutants (kg/yr)	31.7	0	100

MUSIC MODEL RESULTS - TTE (P2209347MUS01V01)

MUSIC POST DEVELOPMENT CATCHMENT DETAILS (P2209347MUS01V01)			
KEY	MUSIC NODE	AREA (ha)	% PAVED
	1D-01	0.102	100%
	TOTAL AREA	0.102	= 100% OF TOTAL AREA
	TOTAL IMPERVIOUS AREA	0.102	= 100% OF TOTAL AREA
	TOTAL PERVIOUS AREA	0.000	= 0% OF TOTAL AREA

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
B	MINOR AMENDMENTS	28/02/2023	YI/JS	TW	SL	SL
A	INITIAL RELEASE	09/02/2023	YI/JS	TW	SL	SL

SCALE
0 5 10 15 20 25 30 35 40 45 50
A1 (A3) 1:500 (1:1,000) METRES

GRID
MGA
DATUM
mAHD
PROJECT MANAGER
SL
CLIENT
PLANNING INGENUITY PTY LTD
PROJECT NAME/PLANSET TITLE
PROPOSED ALTERATIONS AND ADDITIONS
CONCEPT STORMWATER MANAGEMENT PLAN
46 PRINCE ALFRED PARADE, NEWPORT 2106, NSW
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CLIENT
PLANNING INGENUITY PTY LTD
PROJECT NAME/PLANSET TITLE
PROPOSED ALTERATIONS AND ADDITIONS
CONCEPT STORMWATER MANAGEMENT PLAN
46 PRINCE ALFRED PARADE, NEWPORT 2106, NSW

Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE				
WATER QUALITY CATCHMENT PLAN MODEL AND RESULTS				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2209347	PS01	R03	PS01-E700	B