CC210510\BAK:kcb

Our Reference: Your Reference:



Suite 2.01, Level 2 4 Ilya Avenue ERINA NSW 2250

PO Box 3772 Fountain Plaza ERINA NSW 2250

T 02 4324 3499

ENGINEERS

MANAGERS

INFRASTRUCTURE PLANNERS

DEVELOPMENT CONSULTANTS

30 June 2022

(Revised 11 July 2022)

Mr Rory Pryor 55 Woolgoolga Street NORTH BALGOWLAH NSW 2093

Dear Mr Pryor,

Re: Proposed Residential Development Stormwater Drainage and Easement Assessment Property: No. 55 Woolgoolga Street, North Balgowlah

We refer to our recent meeting with representatives from Northern Beaches Council on 17 June 2022 in relation to Development Consent reference DA2021/1801. The application seeks consent for a new single residential dwelling on the property known as No. 55 Woolgoogla Street, North Balgowlah.

The purpose of the meeting, amongst other matters was to review the Consent and specifically the condition requiring the applicant to obtain an easement.

We note that the Development Application included stormwater design details depicted on ACOR Consultants (CC) Pty Ltd plans, Reference CC210510, Sheets C1 – C8, Revision C (ACOR plans) copies enclosed. The level spreader discharge design depicted on these documents received support from Council Engineers during the referral phase of the application assessment.

The design depicted on the ACOR plans was prepared in accordance with the requirements of Northern Beaches Council document reference "Water Management for Development Policy" (Policy). The policy provides guidelines for stormwater discharge associated with low level properties under Section 5.5.

The level spreader option is considered the best engineering outcome following our exhaustive investigation of a piped easement and on-site disposal. In this regard we refer to our following comments which support the opinion that an easement is impractical and unviable and on-site disposal is not an effective means of stormwater management in the presence of underlying rock.

In relation to the easement assessment, we considered easements over the properties known as No. 10 Urunga Street and 6, 8 and 10 Dorrigo Avenue. The relationship of these properties to the subject site is depicted on our document reference CC210510, Sheet F2, Revision A (copy enclosed).

Our assessment over the abovementioned properties considers the catchment-based stormwater behaviour, the methodology for pipe installation, constraints imposed by property improvements and geological features including subsurface rock and rock outcrops. The purpose of this assessment is to determine the practicability and viability of an inter-allotment stormwater system.

Based on the foregoing we offer the following comments.

Our assessment of the abovementioned properties identified a common issue in relation to exposed and underlying bedrock. We note that this issue was identified in the site-specific Geotechnical Report included in Development Application reference DA2016/1185 for the property known as No. 10 Urunga Street. This Report identifies exposed rock outcrops and underlying bedrock in close proximity to the surface.

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We confirm having undertaken a site inspection over the subject properties. In addition, the applicant has sought advice from experienced contractors in relation to trenchless excavation (Horizontal Directional Drilling). We note that contactors have attended the site and provided advice to the effect that HDD is not possible due to site constraints associated with access and pilot trench locations.

As a consequence, the installation of the stormwater pipe would rely on excavation using handheld rock saws and pneumatic rock hammers. In addition, the reinstatement of the trench would be problematic in reflecting the existing surface features. This is a typical constraint associated with all of the abovementioned properties.

Notwithstanding the constraint imposed by the bedrock we note the following.

In relation to No. 10 Urunga Street, we assessed an easement along the eastern boundary. We observed rock outcrops, retaining walls and a suspended path structure along this alignment. Based on our previous comments it is our view that pipe installation along this alignment would be impracticable and unviable

We also assessed an inter-allotment stormwater system along the southern boundaries of No's 6 and No. 8 Dorigo Avenue.

In relation to No. 6 Dorrigo Avenue, we understand that an easement was refused.

In relation to No. 8 Dorrigo Avenue, constraints imposed by a substantial masonry wall and bedrock along the southern boundary revealed that pipe installation would be impracticable and unviable.

We understand that the owners of No. 10 Dorrigo Avenue have indicated that an inter-allotment stormwater drainage system might be considered within their property. An inter-allotment stormwater drainage system traversing No. 10 Dorrigo Avenue would also require an easement over either No. 10 Urunga Street or No. 8 Dorrigo Avenue. We note from our inspection a substantial masonry wall on No. 8 Dorrigo Avenue and underlying bedrock determine that pipe installation would be impracticable and unviable on No. 10 Dorrigo Avenue.

Based on the foregoing, we have formed the view that stormwater disposal requiring an inter-allotment stormwater drainage system would be impracticable and unviable.

As a consequence, we have assessed stormwater disposal by means of on-site absorption system. However, this system is deemed unacceptable as a consequence of the low soil permeability associated with the high-level bedrock. We note that Council has confirmed that on-site stormwater disposal would not be an acceptable outcome.

Our assessment has determined that an easement is impracticable and unviable and on-site disposal would not be supported by Council due to the underlying rock. In accordance with Section 5.5.1 of the DCP the policy permits an alternate discharge approach adopting on site detention and a level spreader.

In order to support the level spreader approach, we undertook an overland flowpath assessment for the surrounding catchment. The purpose of this assessment is to determine the distribution of the existing overland flow paths and compatibility with the resulting level spreader discharge.

The overland flow paths were developed using TUFLOW software. The TUFLOW model considered rainfall on grid over a digital terrain model based on LiDAR survey. The model produced results for the 100 Year ARI critical Design Storm Event. We have published the overland flow paths (blue shading) on our documents reference CC210510, Sheets F1 and F2 Revision A (copies enclosed). We note Sheet F1 identifies the study catchment area and the 100 Year ARI overland flow paths, Sheet F2 is an enlarged detail which includes the velocity vectors identifying the direction of the overland flow paths.



Based on the TUFLOW mapping we have determined the following existing overland flow conditions:

- 10 Urunga Street is impacted by overland flow from 12 Urunga Street.
- 8 Dorrigo Avenue is impacted by overland flow 53 Woolgoolga Street and 6 Dorrigo Avenue.
- 6 Dorrigo Avenue is impacted by overland flow from 53 Woolgoolga and 4 Dorrigo Avenue.

The modelling predicts the subject site, in its present developed state, will discharge 56 L/s (100 Year ARI) on to 10 Urunga Street and 8 Dorrigo Avenue. The subject sites predicted state of nature flow for the 5 Year ARI event at the same location is 26 L/s.

Based on the results of the TUFLOW modelling, the design of the stormwater disposal system has adopted the methodology outlined under section 5.5.1.1.3 of the Council policy. This methodology is based on a level spreader. The detail design is presented on ACOR Consultants (CC) Pty Ltd plans, Reference CC210510, Sheets C1 - C8, Revision C (copies enclosed)

We refer to these plans and note the location and orientation of the proposed level spreader shows good correlation with the overland flow behaviour developed by the TUFLOW modelling. We note that the on-site stormwater detention system has been designed to attenuate the post developed 100 Year ARI flows to the pre-developed 5 Year ARI state of nature flows. This results in a discharge rate from the level spreader of 6 L/s.

We have undertaken a hydraulic assessment using DRAINS software to allow a comparison of flows across the south-eastern corner of the subject site for state of nature, pre-developed, post developed with and without OSD scenarios. In this regard we refer to the table following:

STORM EVENT ARI (YEARS)	STATE OF NATURE (GREENFIELD SITE) DISCHARGE (L/s)	EXISTING PRE-DEVELOPED DISCHARGE (L/s)	POST DEVELOPED WITHOUT OSD DISCHARGE (L/s)	POST DEVELOPED WITH OSD AND LEVEL SPREADER DISCHARGE (L/s)		
5	26	30	39	15		
10	33	36	45	18		
20	41	45	52	20		
50	46	49	57	23		
100	52	55	64	26		

TABLE 1 – FULL COMPUTATIONAL METHOD – LEVEL SPREADER

Based on the foregoing, the proposed OSD and level spreader design will result in the beneficial reduction of the 100 Year ARI post developed flows to a rate equivalent to the state of nature 5 Year ARI flow. This will result in a beneficial impact for the downstream properties. The proposed stormwater design will provide a 50% reduction to the state of nature flow (column 1) compared to the corresponding post developed storm event (column 5) for all storms up to the 100 Year ARI events.

We have also undertaken a further assessment based on the Streamlined Method which would be the adopted methodology if an easement was deemed practicable and viable.



Applying the parameters outlined in Table 8, we have determined the following on site stormwater detention storage volume and permissible site discharge rates for the subject property.

SITE AREA (SQUARE METRES)	MIN. SIZE OF BASIN (SSR) 200 cubic metres / ha (CUBIC METRES)	PSD FROM BASIN 400 Litres per second / ha (L/s)		
926	(926 x 200/10,000=18.52) 18.52	(926 x 400/10,000=18.52) 37.04		

TABLE 2 – STREAMLINED METHOD SUMMARY

We refer to the results outlined in Table 1 and Table 2. The results allow a comparison of the anticipated post developed site discharge rates without an easement (Table 1) and with an easement (Table 2).

In this regard, the post developed property discharge is 26 L/s for the level spreader option and 37.04 L/s for an easement option.

We refer to the beneficial reduction in site discharge for the level spreader option and note the easement option includes a level of uncertainty in relation to the trenching methodology for the pipe in rock. Consequently, we remain firmly of the view that the level spreader option provides the best engineering outcome in this situation.

Should you have any further queries in relation to this matter please do not hesitate to contact our Central Coast office.

Yours faithfully, ACOR Consultants (CC) Pty Ltd

Bruoll, Per:

Encl. 1. ACOR Consultants (CC) Pty Ltd plans, Reference CC210510, Sheets C1 – C8, Revision C
2. CC210510, F1 and F2 Revision A

PROPOSED DEVELOPMENT No.55 WOOLGOOLGA STREET, NORTH BALGOWLAH STORMWATER MANAGEMENT PLANS



DIAL BEFORE YOU DIG



GENERAL NOTES THESE PLANS SHALL BE READ IN CONJUNCTION WITH OTHER

RELEVANT CONSULTANTS' PLANS, SPECIFICATIONS, CONDITIONS OF DEVELOPMENT CONSENT AND CONSTRUCTION CERTIFICATE REQUIREMENTS. WHERE DISCREPANCIES ARE FOUND ACOR CONSULTANTS (CC) MUST BE CONTACTED IMMEDIATELY FOR VERIFICATION WHERE THESE PLANS ARE NOTED FOR DEVELOPMENT APPLICATION 2 PURPOSES ONLY, THEY SHALL NOT BE USED FOR OBTAINING A CONSTRUCTION CERTIFICATE NOR USED FOR CONSTRUCTION PURPOSES SUBSOIL DRAINAGE SHALL BE DESIGNED AND DETAILED BY THE STRUCTURAL ENGINEER. SUBSOIL DRAINAGE SHALL NOT BE CONNECTED INTO THE STORMWATER SYSTEM IDENTIFIED ON THESE

STORMWATER CONSTRUCTION NOTES

PLANS UNLESS APPROVED BY ACOR CONSULTANTS (CC)

- ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500 (CURRENT EDITION) AND THE REQUIREMENTS OF THE LOCAL COUNCIL'S POLICIES AND CODES
- THE MINIMUM SIZES OF THE STORMWATER DRAINS SHALL NOT BE 2. LESS THAN DN90 FOR CLASS 1 BUILDINGS AND DN100 FOR OTHER CLASSES OF BUILDING OR AS REQUIRED BY THE REGULATORY AUTHORITY
- THE MINIMUM GRADIENT OF STORMWATER DRAINS SHALL BE 1%, UNLESS NOTED OTHERWISE
- COUNCIL'S TREE PRESERVATION ORDER IS TO BE STRICTLY ADHERED TO. NO TREES SHALL BE REMOVED UNTIL PERMIT IS OBTAINED
- 5. PUBLIC UTILITY SERVICES ARE TO BE ADJUSTED AS NECESSARY AT THE CLIENT'S EXPENSE
- ALL PITS TO BE BENCHED AND STREAMLINED. PROVIDE STEP IRONS 6 FOR ALL PITS OVER 1.2m DEEP
- MAKE SMOOTH JUNCTION WITH ALL EXISTING WORK
- VEHICULAR ACCESS AND ALL SERVICES TO BE MAINTAINED AT ALL 8. TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION
- SERVICES SHOWN ON THESE PLANS HAVE BEEN LOCATED FROM Q INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND FIELD INVESTIGATIONS AND ARE NOT GUARANTEED COMPLETE NOR CORRECT. IT IS THE CLIENT & CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL PRIOR TO CONSTRUCTION
- ANY VARIATION TO THE WORKS AS SHOWN ON THE APPROVED 10. DRAWINGS ARE TO BE CONFIRMED BY ACOR CONSULTANTS (CC) PRIOR TO THEIR COMMENCEMENT

RAINWATER RE-USE SYSTEM NOTES

- RAINWATER SUPPLY PLUMBING TO BE CONNECTED TO OUTLETS WHERE REQUIRED BY BASIX CERTIFICATE (BY OTHERS)
- TOWN WATER CONNECTION TO RAINWATER TANK TO BE TO THE 2. SATISFACTION OF THE REGULATORY AUTHORITY. THIS MAY REQUIRE PROVISION OF:
 - 2.1 PERMANENT AIR GAP
 - BACKFLOW PREVENTION DEVICE 2.2.
- NO DIRECT CONNECTION BETWEEN TOWN WATER SUPPLY AND THE 3. RAIN WATER SUPPLY
- AN APPROVED STOP VALVE AND/OR PRESSURE LIMITING VALVE AT 4 THE RAINWATER TANK
- PROVIDE APPROPRIATE FLOAT VALVES AND/OR SOLENOID VALVES 5. TO CONTROL TOWN WATER SUPPLY INLET TO TANK IN ORDER TO ACHIEVE THE TOP-UP INDICATED ON THE TYPICAL DETAIL
- ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED 6. PLUMBERS IN ACCORDANCE WITH AS/NZS3500.1 NATIONAL PLUMBING AND DRAINAGE CODE
- PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY A LICENSED ELECTRICIAN
- ONLY ROOF RUN-OFF IS TO BE DIRECTED TO THE RAINWATER TANK 8. SURFACE WATER INLETS ARE NOT TO BE CONNECTED
- 9. PIPE MATERIALS FOR RAINWATER SUPPLY PLUMBING ARE TO BE APPROVED MATERIALS TO AS/NZS3500 PART 1 SECTION 2 AND TO BE CLEARLY AND PERMANENTLY IDENTIFIED AS 'RAINWATER'. THIS MAY BE ACHIEVED FOR BELOW GROUND PIPES USING IDENTIFICATION TAPE (MADE IN ACCORDANCE WITH AS2648) OR FOR ABOVE GROUND PIPES BY USING ADHESIVE PIPE MARKERS (MADE IN ACCORDANCE WITH AS1345)
- 10. EVERY RAINWATER SUPPLY OUTLET POINT AND THE RAINWATER TANK ARE TO BE LABELED 'RAINWATER' ON A METALLIC SIGN IN ACCORDANCE WITH AS1319
- 11. ALL INLETS AND OUTLETS TO THE RAINWATER TANK ARE TO HAVE SUITABLE MEASURES PROVIDED TO PREVENT MOSQUITO AND VERMIN ENTRY

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TIMES

IMPORTANT: THE CONTRACTOR

IS TO MAINTAIN A CURRENT SET

OF "DIAL BEFORE YOU DIG" DRAWINGS ON SITE AT ALL

					Client	Architect		1	ACOR Consultants (CC) Pty Ltd	Project
				North					Platinum Building, Suite 2.01, 4 Ilya Avenue	PROPOSED RESIDENTIAL
1					MICKELS LEGAL SOLUTIONS				ERINA NSW 2250, Australia	
С	ISSUED FOR APPROVAL	24.02.22	SJ BK			ARCHITECTS	C		T +61 2 4324 3499	DEVELOPMENT
В	ISSUED FOR CLIENT REVIEW	08.02.22	SJ BK					ZK	<u> </u>	No.55
Issue	Description	Date D	Irawn Appro	ed			and table			WOOLGOOLGA STREET
1	0 1cm at full size 10cm						CONSU	LIANT	S ENGINEERS MANAGERS INFRASTRUCTURE PLANNERS DEVELOPMENT CONSULTANTS	NORTH BALGOWLAH

NORTHERN BEACHES COUNCIL (WARRINGAH COUNCIL REQUIREMENTS)

REFER TO NORTHERN BEACHES COUNCIL CHECKLIST ON SHEET C7

FULL COMPUTATION METHOD ADOPTED USING DRAINS PROGRAM. REFER TO DRAINS MODEL CC210510.drn

DRAINS SUMMARY REFER SHEET C8

2

3

SHEET INDEX					
COVER SHEET & NOTES	SHEET C1				
STORMWATER MANAGEMENT PLAN - GARAGE	SHEET C2				
STORMWATER MANAGEMENT PLAN - REMAINING LEVELS	SHEET C3				
STORMWATER MANAGEMENT DETAIL PLAN	SHEET C4				
STORMWATER MANAGEMENT DETAILS SHEET No.1	SHEET C5				
STORMWATER MANAGEMENT DETAILS SHEET No.2	SHEET C6				
COUNCIL ON-SITE DETENTION CHECKLIST	SHEET C7				
STORMWATER DRAINAGE SUMMARY	SHEET C8				

DEVELOPMENT APPLICATION ISSUE
NOT FOR CONSTRUCTION

DRAWINGS MUST BE PRINTED IN COLOUR

COVER SHEET & NOTES							
Drawn	Date	Scale A1	Q.A. Check	Date			
SJ	04.02.22	AS NOTED	-	-			
Designed	Project No.		Dwg. No.	Issue			
BK	CC210	510	C1	С			
	COVER Drawn SJ Designed 3K	COVER SHEET Drawn Date 5J 04.02.22 Project No. CC2105	COVER SHEET & NOTES Drawn Date Scale A1 SJ 04.02.22 AS NOTED Designed Project No. CC210510	Date Scale A1 Q.A. Check SJ 04.02.22 AS NOTED - Designed Project No. Dwg. No. CC210510 C1			











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L							Client	Architect	A	ACOR Consultants (CC) Pty Ltd	Project
						North	Makees LECAL SOLUTIONS			Platinum Building, Suite 2.01, 4 Ilya Avenue	
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ľ	С	ISSUED FOR APPROVAL	24.02.2	2 SJ	BK			ARCHITECTS	C	T +61 2 4324 3499	DEVELOPMENT
	В	ISSUED FOR CLIENT REVIEW	08.02.2	2 SJ	BK						No.55
	Issue	Description	Date	Drawn	Approved						WOOLGOOLGA STREET
	P	1cm at full size		<u> </u>	·				CONSUL	TANTS ENGINEERS MANAGERS INFRASTRUCTURE PLANNERS DEVELOPMENT CONSULTANTS	NORTH BALGOWLAH

SIDENTIAL	Drawing Title STORMWATER MANAGEMENT DETAILS SHEET No.2							
	Drawn	Date	Scale A1	Q.A. Check	Date			
	SJ	04.02.22	AS NOTED	-	-			
	Designed	Project No.		Dwg. No.	Issue			
	BK	CC210	510	C6	С			



Appendix 16 – On-site Detention Checklist

This checklist is to be used to determine the on-site stormwater disposal requirement for developments and must be completed and included with the submission of any development application for these works. Please read this form carefully for its notes, guidelines, definition and relevant policies.

For assistance and support, please contact Council's Development Engineering and Certification team on 1300 434 434.

Part 1 Location of the Property

House Humber	55	Legal Property Description	
Street	WOOLGOOLGA STREET	Lot 23	
Suburb	NORTH BALGOWLAH	Section	
Postcode		DP 23447	

Part 2 Site Details

Northern Beaches Stormwater Regions (refer to Map 2 of Northern Beaches Council's Water Management for Development policy)		Total Site Area	926.4	
Pre-Development Impervious Area	312	Post-Development Impervious Area	526	
Is the site of the development located with referred to Council's Local Environmental	in an estat Plans?	olished Flood Prone Land as	Yes 🗆	No 1
If yes, On-site stormwater Detention system to part 5 of this checklist If no, please proceed to part 3 of this chec	m (OSD) is klist.	s not required and please proceed		

Part 3: Northern Beaches Stormwater Regions (refer to Map 2 of Northern Beaches Council's Water Management for Development policy)

If the site of the development located within Region 1, please proceed to the part 4.1 of this checklist
If the site of the development located within Region 2, please proceed to the part 4.2 of this checklist
If the site of the development located within Region 3, please proceed to the part 4.3 of this checklist
If the site of the development located within Region 4, please refer to Council's Warriewood Valley Wate Management Specification.

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Part 4.2 Northern Beaches Stormwater Region 2 Part 4.2.1 Description of Work Residential flat building, commercial, industrial, multiple occupancy development and subdivisions resulting in the creation of three lots or more, will require OSD in all case. Please provide a design in accordance with the section 9.3.2 of Council's Water Management for Development Policy. Any single residential building development, please proceed to part 4.2.2 of this checklist. Part 4.2.2 Exemption Is the site area less than 450m²? Yes 🗆 No 🗹

Does the site of t to pass through a and gutter or nati	Yes 🗆 No 🗹				
Is it an alternation	Yes D No M				
If yes to any of th If no to all the ab	e above questions, OSD is not required. ove questions, proceed to part 4.2,3				
Part 4.2.3 Deter	nination of OSD Requirements				
Calculation	a) Site area m ² x 0.40 (40%) = <u></u>	. m² . m²			
	Is OSD required for this development (tick one only)	Yes 🗹 No 🗆			
	If yes, provide a design in accordance with the section 9 Management for Development Policy.	3.2 of Council's Water			
If no. OSD is not required and please proceed to part 5 of this checklist.					

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POST DEVELOPED IMPERVIOUS AREA PLAN = 526m² (56.8%) SCALE - 1:200/A1, 1:400/A3 12 0 2 4 8 16 20m



Ac OR

SIDENTIAL	COUNCIL ON-SITE DETENTION CHECKLIST							
	Drawn	Date	Scale A1	Q.A. Check	Date			
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	Designed Project No.			Dwg. No.	Issue			
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			the second secon	
	Scale - 1:250/A1, 1:500/A3 0 2 4 12 16 20m			
	STATE OF NATURE (FOR CALCULATION PURPC	SES)	(m²) 926.5	
	Dest developed catchment p Scale - 1:250/A1, 1:500/A3 0 2 4 8 12 16 20m	LAN		
	ROOF AREA TO OSR TANK WITH OVERFLOW TO OSD (m ²)		343	
	IMPERVIOUS PAVEMENT AREA DIRECTED TO OSD (m ²)		105	
	LANDSCAPE AREA DIRECTED TO OSD (m ²)		155.4	
	LANDSCAPE AREA BYPASSING OSD (m ²)		252	
	IMPERVIOUS AREA BYPASSING OSD (m ²)			
SUMMARY	,			
SITE AREA(r	n²)		926.4	
TOTAL AREA	DIRECT TO OSD (m²)	**	603.4 (75% IMPERVIOUS, 25% PERVIOUS) ADOPT FOR CALCULATION PURPOSES (90%	% IMPERVIOUS, 10% PERVIOUS)
TOTAL AREA	BYPASSING OSD (m²)	**	323 (22% IMPERVIOUS, 78% PERVIOUS) ADOPT FOR CALCULATION PURPOSES (37%	MPERVIOUS, 63% PERVIOUS)
		**	NOTE. INCLUDES 13/0 INCREASE IN IMPERI	
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ISSUED FOR APPROVAL

ISSUED FOR CLIENT REVIEW

PRE DEV	VELOPED 0% IMP	
OUTLET		
	OSD OVERFLOW	
OSD CATCHMENT	in and in the set	OSD BYPASS
Ş	OSD OUTLET.	19
OSD BASIN		LEVEL SPREA

DRAINS SCHEMATIC LAYOUT



** NOTE: DENOTES 100 YEAR ARI PRE-DEVELOPED FLOW (NOT ADOPTED)

DRAINS 100 YEAR ARI OUTPUT MODEL

SUMMARY

5 YEAR ARI PRE-DEVELOPED FLOW CALCULATIONS BASED ON DRAINS MODELLING

- BASED ON "DRAINS MODELLING"
- ADOPT 26 L/s FOR 100 YEAR ARI ASSESSMENT PURPOSES

ARI	PRE-DEVELOPED OUTFLOW (L/s)	POST DEVELOPED OUTFLOW FROM OSD (L/s)	POST DEVELOPED BYPASSING OSD (L/s)	TOTAL OVERFLOW FROM LEVEL SPREADER (L/s)	REQUIRED OSD VOLUME (m ³)	BASIN OVERFLOW (L/s)
5	26	-	-	-	-	-
100	52	6	20	26	42.5	0

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					Client	Architect		ACOR Consultants (
				North	McKEES LEGAL SOLUTIONS	URSINO	Ac	Platinum Building, Suite 2.01
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	24.0Z.ZZ	5J	BN					
	08.02.22	SJ	BK					
	Date	Drawn	Approved					2
10cm		<u> </u>					CONSULTANTS	ENGINEERS MANAGERS INFRASTRUCTURE PLANNERS DEVELOP





. 26 L/s

SIDENTIAL	STORMWATER CATCHMENT SUMMARY						
	Drawn	Date	Scale A1	Q.A. Check	Date		
	SJ	04.02.22	AS NOTED	-	-		
	Designed	Project No.	Dwg. No.	Issue			
	BK	CC210	510	C8	С		



