






















# PROPOSED DEVELOPMENT (No.29) EMERALD STREET, NARRABEEN PROPOSED DRIVEWAY PLANS

LEGEND	
	DENOTES ON-SITE DETENTION TANK
	DENOTES ON-SITE RETENTION TANK
	DENOTES DWELLING FOOTPRINT
	DENOTES 100mm DIA. STORMWATER/SURFACE WATER SYSTEM PIPE AT 1% MIN. GRADE U.N.O.
	DENOTES 100mm DIA. FULLY SEALED RAINWATER SYSTEM PIPE U.N.O.
	DENOTES RAINWATER PIPE AND DIA. WHEN PIPE EXCEEDS 100mm DIA.
	DENOTES STORMWATER/SURFACE WATER PIPE AND DIA. WHEN PIPE EXCEEDS 100mm DIA.
	DENOTES RISING MAIN AND PIPE DIA. U.N.O.
	DENOTES SUBSOIL DRAINAGE LINE AND DIA. WRAPPED IN GEOFABRIC U.N.O.
	DENOTES DOWNPIPE
	DENOTES INSPECTION OPENING WITH SCREW DOWN LID AT FINISHED SURFACE LEVEL
	DENOTES INSPECTION OPENING WITH SCREW DOWN LID AT FINISHED SURFACE LEVEL FOR SYSTEM FLUSHING PURPOSES
	STORMWATER PIT - SOLID COVER
	STORMWATER PIT - GRATED INLET
	DENOTES GRATED DRAIN
	DENOTES ABSORPTION TRENCH
	NON RETURN VALVE
	PUMP
	STOP VALVE (ISOLATION VALVE)
	240v REQUIRED
	DENOTES LEVEL OF INLET /OUTLET OF STORMWATER PIPE. NOTE: UNLESS NOTED OTHERWISE, THE BASE OF THE PIT IS THE SAME AS THE PIPE INLET/OUTLET.

DIAL BEFORE YOU DIG



IMPORTANT: THE CONTRACTOR IS TO MAINTAIN A CURRENT SET OF "DIAL BEFORE YOU DIG" DRAWINGS ON SITE AT ALL TIMES.

## GENERAL NOTES

1. 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 HYDRACOR CONSULTING ENGINEERS PTY LTD MUST BE CONTACTED IMMEDIATELY FOR VERIFICATION
2. WHERE THESE PLANS ARE NOTED FOR DEVELOPMENT APPLICATION PURPOSES ONLY, THEY SHALL NOT BE USED FOR OBTAINING A CONSTRUCTION CERTIFICATE NOR USED FOR CONSTRUCTION PURPOSES
3. SUBSOIL DRAINAGE SHALL BE DESIGNED AND DETAILED BY THE STRUCTURAL ENGINEER. SUBSOIL DRAINAGE SHALL NOT BE CONNECTED INTO THE STORMWATER SYSTEM IDENTIFIED ON THESE PLANS UNLESS APPROVED BY HYDRACOR CONSULTING ENGINEERS PTY LTD.

## STORMWATER CONSTRUCTION NOTES

1. 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
2. THE MINIMUM SIZES OF THE STORMWATER DRAINS SHALL NOT BE LESS THAN DN90 FOR CLASS 1 BUILDINGS AND DN100 FOR OTHER CLASSES OF BUILDING OR AS REQUIRED BY THE REGULATORY AUTHORITY
3. THE MINIMUM GRADIENT OF STORMWATER DRAINS SHALL BE 1%, UNLESS NOTED OTHERWISE
4. 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
6. ALL PITS TO BE BENCHED AND STREAMLINED. PROVIDE STEP IRONS FOR ALL PITS OVER 1.2m DEEP
7. MAKE SMOOTH JUNCTION WITH ALL EXISTING WORK
8. VEHICULAR ACCESS AND ALL SERVICES TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION
9. SERVICES SHOWN ON THESE PLANS HAVE BEEN LOCATED FROM 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
10. ANY VARIATION TO THE WORKS AS SHOWN ON THE APPROVED DRAWINGS ARE TO BE CONFIRMED BY HYDRACOR CONSULTING ENGINEERS PTY LTD PRIOR TO THEIR COMMENCEMENT

## RAINWATER RE-USE SYSTEM NOTES

1. RAINWATER SUPPLY PLUMBING TO BE CONNECTED TO OUTLETS WHERE REQUIRED BY BASIX CERTIFICATE (BY OTHERS)
2. TOWN WATER CONNECTION TO RAINWATER TANK TO BE TO THE SATISFACTION OF THE REGULATORY AUTHORITY. THIS MAY REQUIRE PROVISION OF:
  - 2.1. PERMANENT AIR GAP
  - 2.2. BACKFLOW PREVENTION DEVICE
3. NO DIRECT CONNECTION BETWEEN TOWN WATER SUPPLY AND THE RAIN WATER SUPPLY
4. AN APPROVED STOP VALVE AND/OR PRESSURE LIMITING VALVE AT THE RAINWATER TANK
5. PROVIDE APPROPRIATE FLOAT VALVES AND/OR SOLENOID VALVES TO CONTROL TOWN WATER SUPPLY INLET TO TANK IN ORDER TO ACHIEVE THE TOP-UP INDICATED ON THE TYPICAL DETAIL
6. ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED PLUMBERS IN ACCORDANCE WITH AS/NZS3500.1 NATIONAL PLUMBING AND DRAINAGE CODE
7. PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY A LICENSED ELECTRICIAN
8. ONLY ROOF RUN-OFF IS TO BE DIRECTED TO THE RAINWATER TANK. 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

SHEET INDEX	
COVER SHEET & NOTES	SHEET C1
STORMWATER MANAGEMENT PLAN	SHEET C2
STORMWATER MANAGEMENT DETAILS SHEET No.1	SHEET C3
STORMWATER MANAGEMENT DETAILS SHEET No.2	SHEET C4

<b>NORTHERN BEACHES COUNCIL REQUIREMENTS</b>	
SITE AREA (m <sup>2</sup> ) .....	600.5
PRE-DEVELOPED IMPERVIOUS AREA (m <sup>2</sup> ) .....	404
POST DEVELOPED IMPERVIOUS AREA (m <sup>2</sup> ) .....	390.5
1. <u>RAINWATER RE-USE</u> RAINWATER RE-USE TANK PROVIDED IN ACCORDANCE WITH BASIX REQUIREMENT.	
2. <u>ON-SITE DETENTION</u> OSD NOT REQUIRED AS THE SITE IS LOCATED WITHIN A FLOOD PRONE LAND.	
DESIGN HAS BEEN PREPARED IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL'S WATER MANAGEMENT FOR DEVELOPMENT POLICY, AR&R AND AS/ANZS 3500.	

# LOCALITY PLAN

NORTHERN BEACHES COUNCIL

EMERALD STREET

MILCOTT STREET

0 100 METRES


Map data © 2020 SIX Maps

DEVELOPMENT APPLICATION ISSUE  
NOT FOR CONSTRUCTION

**DRAWINGS MUST BE PRINTED IN COLOUR**

B	ISSUED FOR REVIEW	17.04.25	IK	BK
A	ISSUED FOR REVIEW	07.03.25	IK	BK
Issue	Description	Date	Drawn	Approved

North

A diagram of a circle with a vertical line passing through its center. Two diagonal lines also pass through the center, forming a 'Y' shape. The top of the 'Y' is at the top of the circle, and the bottom is at the bottom. The two diagonal lines extend to the left and right sides of the circle. This diagram is used to represent a compass rose.

Client

HOPSDAL

Architect

URSINO ARCHITECTS

**HYDRACOR**  
CONSULTING ENGINEERS

**HYDRACOR Consulting Engineers Pty Ltd**  
Platinum Building, Suite 2.01, 4 Ilya Avenue  
ERINA NSW 2250, Australia  
T +61 2 4324 3499

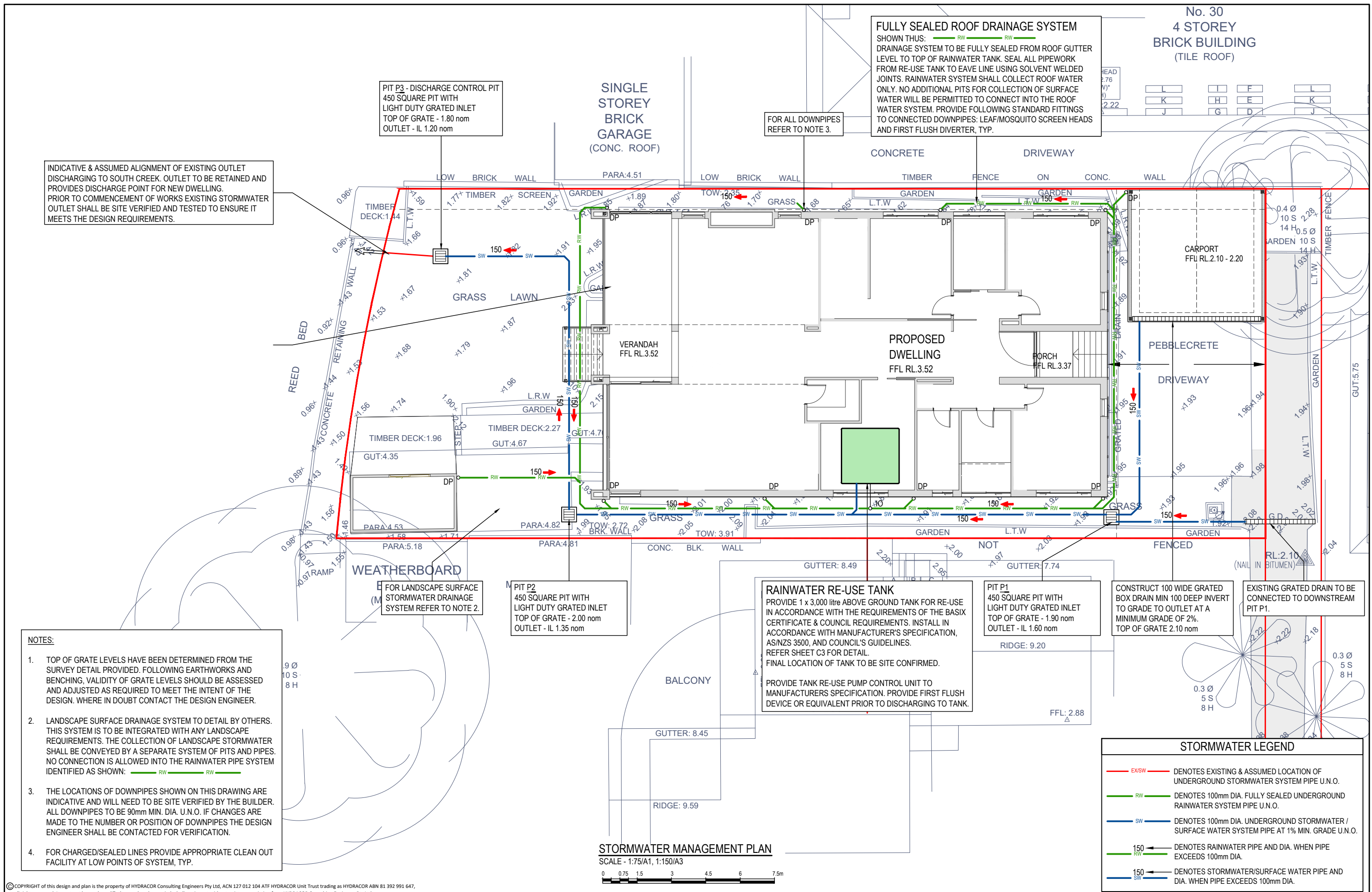
ENGINEERS | CIVIL | FLOOD STUDIES | STORMWATER | HYDRAULIC

Project

**PROPOSED RESIDENTIAL  
DEVELOPMENT**

No. 29  
EMERALD STREET  
NARRABEEN

Drawing Title				
COVER SHEET & NOTES				
Drawn	Date	Scale	A1	Q.A. Check
IK	FEB 2025	AS SHOWN		Date
Designed	Project No.		Dwg. No.	Issue
BK	CC250002		C1	B



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North			
B	ISSUED FOR REVIEW	17.04.25	IK BK
A	ISSUED FOR REVIEW	07.03.25	IK BK
Issue	Description	Date	Drawn Approved
1cm at full size			

Client  
**HOPSDAL**

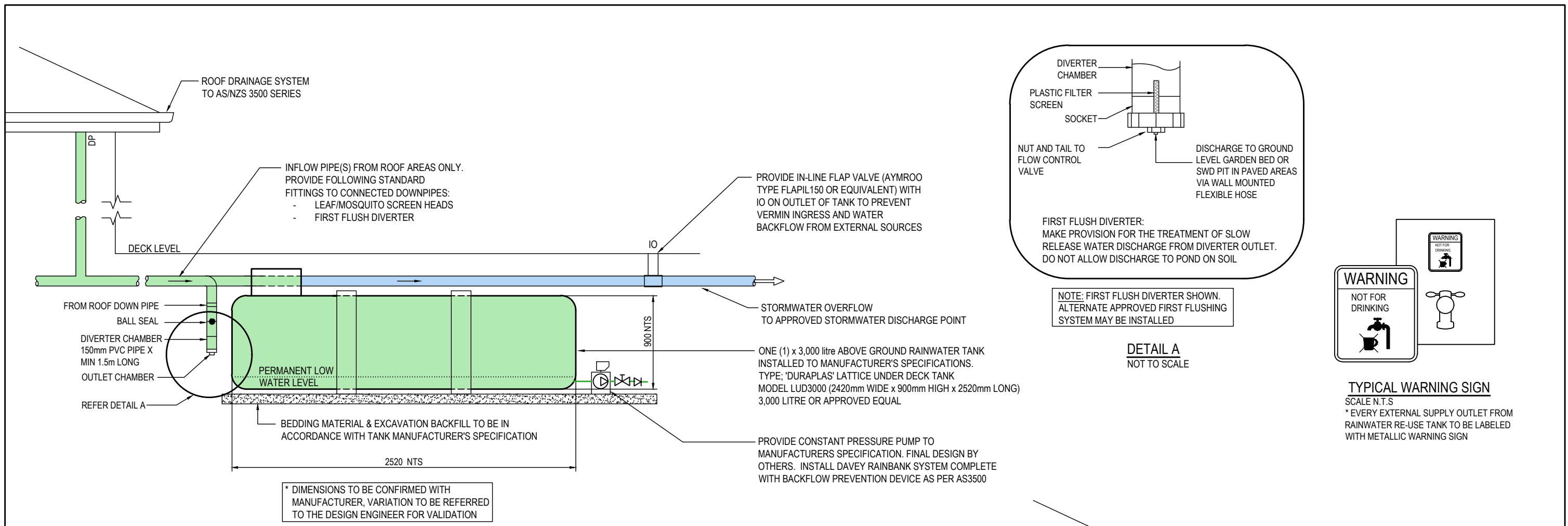
Architect  
**URSINO ARCHITECTS**

**HYDRACOR**  
CONSULTING ENGINEERS

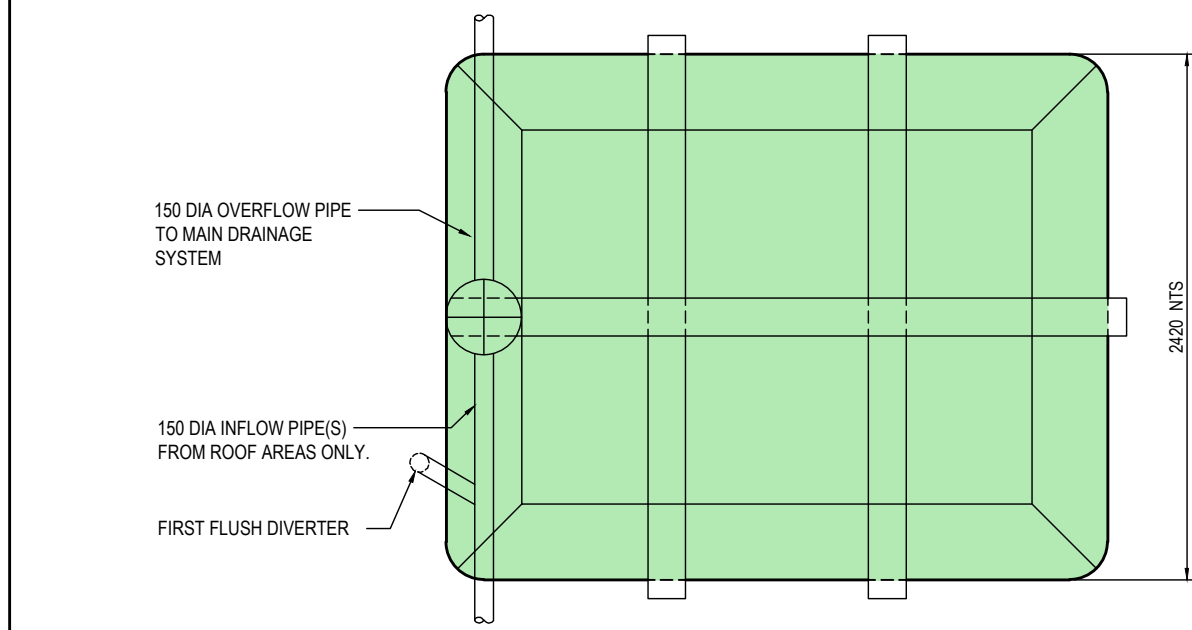
**HYDRACOR Consulting Engineers Pty Ltd**  
Platinum Building, Suite 2.01, 4 Ilya Avenue  
ERINA NSW 2250, Australia  
T +61 2 4324 3499

Project  
**PROPOSED RESIDENTIAL DEVELOPMENT**  
No. 29  
EMERALD STREET  
NARRABEEN

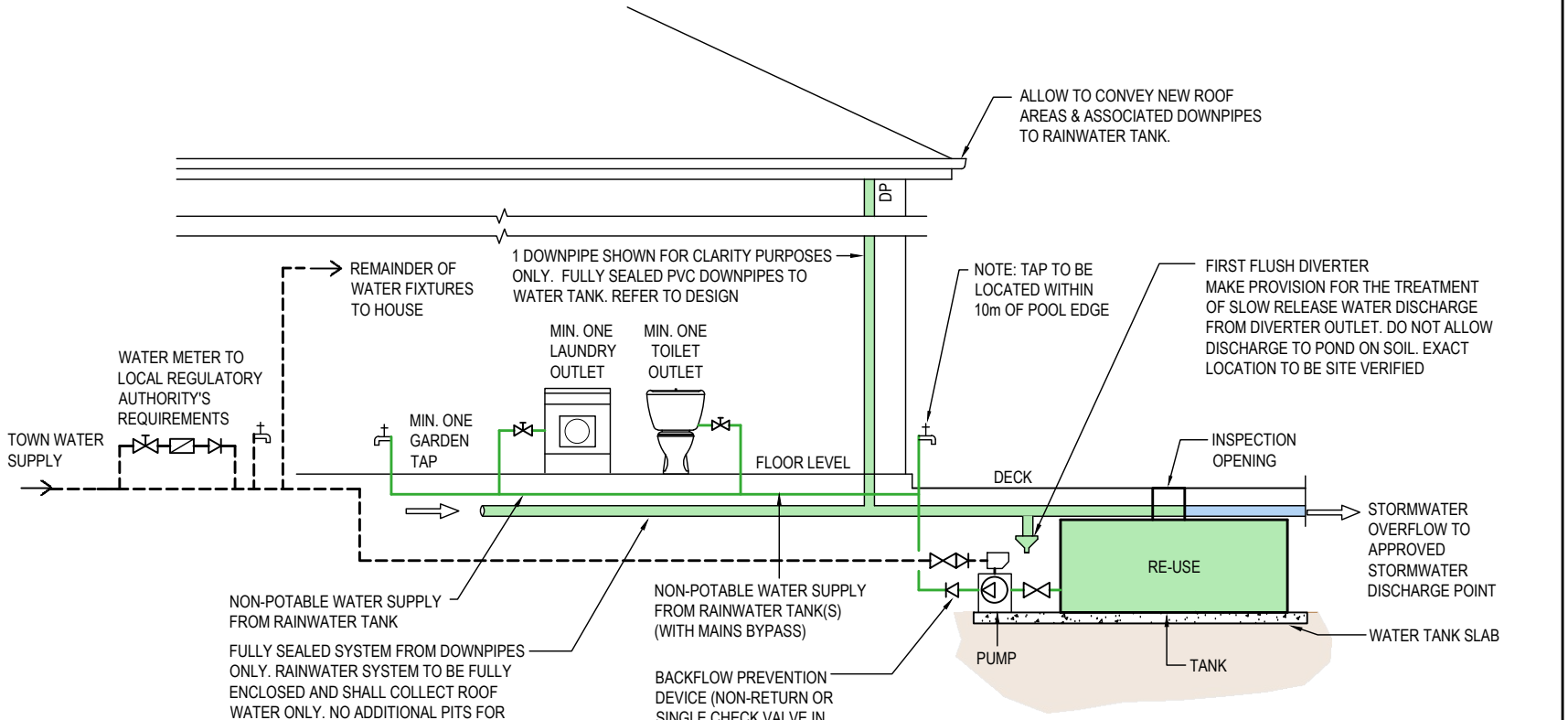
Drawing Title <b>STORMWATER MANAGEMENT PLAN</b>			
Drawn IK	Date FEB 2025	Scale AS SHOWN	Q.A. Check -
Designed BK	Project No. <b>CC250002</b>	Dwg. No. <b>C2</b>	Issue <b>B</b>



ABOVE GROUND RAINWATER RE-USE TANK ELEVATION  
NOT TO SCALE



RAINWATER RE-USE TANK PLAN  
NOT TO SCALE



TYPICAL ABOVE GROUND RAINWATER TANK - SCHEMATIC LAYOUT  
NOT TO SCALE

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					Client	Project	Drawing Title												
					HOPSDAL	URSINO ARCHITECTS	HYDRACOR CONSULTING ENGINEERS	HYDRACOR Consulting Engineers Pty Ltd	Platinum Building, Suite 2.01, 4 Ilya Avenue	ERINA NSW 2250, Australia	T +61 2 4324 3499	PROPOSED RESIDENTIAL DEVELOPMENT	No. 29	EMERALD STREET	NARRABEEN	STORMWATER MANAGEMENT DETAILS SHEET No. 1			
B					ISSUED FOR REVIEW	17.04.25	IK	BK	Drawn	IK	Date	FEB 2025	Scale	AS SHOWN	A1	Q.A. Check	-	Date	-
A					ISSUED FOR REVIEW	07.03.25	IK	BK	Project No.	CC250002	Dwg. No.	C3	Issue	B					
Issue					Description	Date	Drawn	Approved											





## 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 Number	29	Legal Property Description	
Street	EMERALD STREET	Lot	1
Suburb	NARRABEEN	Section	
Postcode	2101	DP	947441

### Part 2 Site Details

Northern Beaches Stormwater Regions (refer to Map 2 of Northern Beaches Council's Water Management for Development policy)	2	Total Site Area	600.5
Pre-Development Impervious Area	404	Post-Development Impervious Area	390.5
Is the site of the development located within an established Flood Prone Land as referred to Council's Local Environmental Plans?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If yes, On-site stormwater Detention system (OSD) is not required and please proceed to part 5 of this checklist If no, please proceed to part 3 of this checklist.			

### 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 Water Management Specification.



### Part 5 Disposal of Stormwater

Does the site fall naturally towards the street? Yes ☐ No ☒

If yes, provide a design in accordance with section 5.1 of Council's Water Management for Development Policy.  
If no, provide a design in accordance with section 5.5 of Council's Water Management for Development Policy.

### Definitions

Designed to help you fill out this application	<b>Site area:</b> This refers to the area of the land bounded by its existing or proposed boundaries. <b>Impervious area:</b> This refers to driveways, parking spaces, pathways, paved areas, hardstand areas, roofed areas, garages and outbuildings. <b>Pre Development Impervious area:</b> This refers all impervious areas of the site before the development. <b>Post Development Impervious areas:</b> This refers all the impervious areas within the site after the development is completed.
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					Client	Architect					Project					Drawing Title																																						
					HOPSDAL	URSINO ARCHITECTS					HYDRACOR CONSULTING ENGINEERS					HYDRACOR Consulting Engineers Pty Ltd Platinum Building, Suite 2.01, 4 Ilya Avenue ERINA NSW 2250, Australia T +61 2 4324 3499					PROPOSED RESIDENTIAL DEVELOPMENT					STORMWATER MANAGEMENT DETAILS SHEET No. 1																												
B					ISSUED FOR REVIEW	17.04.25					IK					BK					Drawn					Date					Scale					A1					Q.A. Check					Date								
A					ISSUED FOR REVIEW	07.03.25					IK					BK					No. 29					EMERALD STREET					NARRABEEN					CC250002					C3					B								
Issue					Description					Date					Drawn					Approved					Designed					Project No.					Dwg. No.					Issue														
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