





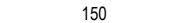

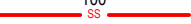





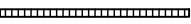








PROPOSED DEVELOPMENT
(No.4) WIRRILDA WAY, FORESTVILLE
STORMWATER MANAGEMENT PLANS

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
PRE & POST DEVELOPMENT SUMMARY & CHECKLIST	SHEET C2
STORMWATER MANAGEMENT PLAN - BASEMENT	SHEET C3
STORMWATER MANAGEMENT PLAN - SITE PLAN	SHEET C4
STORMWATER MANAGEMENT DETAILS SHEET No. 1	SHEET C5
STORMWATER MANAGEMENT DETAILS SHEET No. 2	SHEET C6
EROSION & SEDIMENT CONTROL PLAN	SHEET C7
EROSION & SEDIMENT CONTROL NOTES & DETAILS	SHEET C8

NORTHERN BEACHES COUNCIL REQUIREMENTS	
SITE AREA (m²)	830.2
PRE-DEVELOPED IMPERVIOUS AREA (m²)	420
PROPOSED IMPERVIOUS AREA - TOTAL ROOF - (m²)	412.8
PROPOSED IMPERVIOUS AREA - DRIVEWAY - (m²)	48.4
PROPOSED IMPERVIOUS AREA - PAVING - (m²)	41.5
TOTAL POST DEVELOPMENT IMPERVIOUS AREA (m²)	502.7
1.	REFER TO NORTHERN BEACHES CHECKLIST SHEET C2.
2.	PROVIDE 6000 LITRE RAINWATER RE-USE TANK IN ACCORDANCE WITH BASIX CERTIFICATE AND NORTHERN BEACHES COUNCIL REQUIREMENTS.
3.	STREAMLINED METHOD ADOPTED TO DETERMINE OSD REFER TABLE 8 'MINIMUM SITE STORAGE REQUIRED AND MAXIMUM PERMISSIBLE SITE DISCHARGE'
MINIMUM SSR REQUIRED	= 200m³ / PER Ha
SITE AREA (ha)	= 0.08302 ha
OSD REQUIRED (0.08302 x 200)	= 16.6m³
REVISED OSD VOLUME = DETERMINED OSD VOLUME - BASIX CERTIFICATE STORAGE VOLUME. THEREFORE 16.6 - 6	= 10.6 m³
OSD STORAGE VOLUME PROVIDED	= 10.6 m³
OSR STORAGE VOLUME (BASIX) PROVIDED	= 6 m³
MAXIMUM PERMISSIBLE SITE DISCHARGE	= 400 L/s/ha
SITE PSD (400 x 0.08302)	= 33.21 L/s
* ROOF AREA DRAINING TO OSD TANK	= 412.8 m² (49%)
DESIGN PREPARED IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL'S WATER MANAGEMENT FOR DEVELOPMENT POLICY, AR&R AND AS/NZS 3500	

LOCALITY PLAN
NOT TO SCALE



DEVELOPMENT APPLICATION ISSUE
NOT FOR CONSTRUCTION

DRAWINGS MUST BE PRINTED IN COLOUR

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				Client	Architect	<div>Project</div> <div>HYDRACOR Consulting Engineers Pty Ltd</div> <div>Platinum Building, Suite 2.01, 4 Ilya Avenue</div> <div>ERINA NSW 2250, Australia</div> <div>T +61 2 4324 3499</div> <div>ENGINEERS CIVIL FLOOD STUDIES STORMWATER HYDRAULIC</div>	<div>Project</div> <div>PROPOSED RESIDENTIAL DEVELOPMENT</div> <div>(No. 4)</div> <div>WIRRILDA WAY</div> <div>FORESTVILLE</div>				<div>Drawing Title</div> <div>COVER SHEET & NOTES</div>			
C	RE-ISSUED FOR DEVELOPMENT APPLICATION - SURVEY PLAN UPDATED			06.05.25	RH		BK	<div>North</div> 	Drawn	Date	Scale	A1	G.A. Check	Date
B	ISSUE FOR DEVELOPMENT APPLICATION			01.05.25	LW		BK		RH	APR 25	AS SHOWN		BAK	01.05.25
A	ISSUED FOR CLIENT REVIEW & COMMENT			08.04.25	RH		BK							
Issue	Description			Date	Drawn		Approved		Designed	Project No.		Dwg. No.		Issue
	0 10m at full size								BK		CC250036		C1	
	10cm												C	

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	4	Legal Property Description	
Street	WIRRILDA WAY	Lot	6
Suburb	FORESTVILLE	Section	-
Postcode	2087	DP	26948

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	830.2
Pre-Development Impervious Area	420	Post-Development Impervious Area	502.7
Is the site of the development located within an established Flood Prone Land as referred to Council's Local Environmental Plans?			Yes <input type="checkbox"/> No <input checked="" 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.

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Part 4.2 Northern Beaches Stormwater Region 2

Part 4.2.1 Description of Work

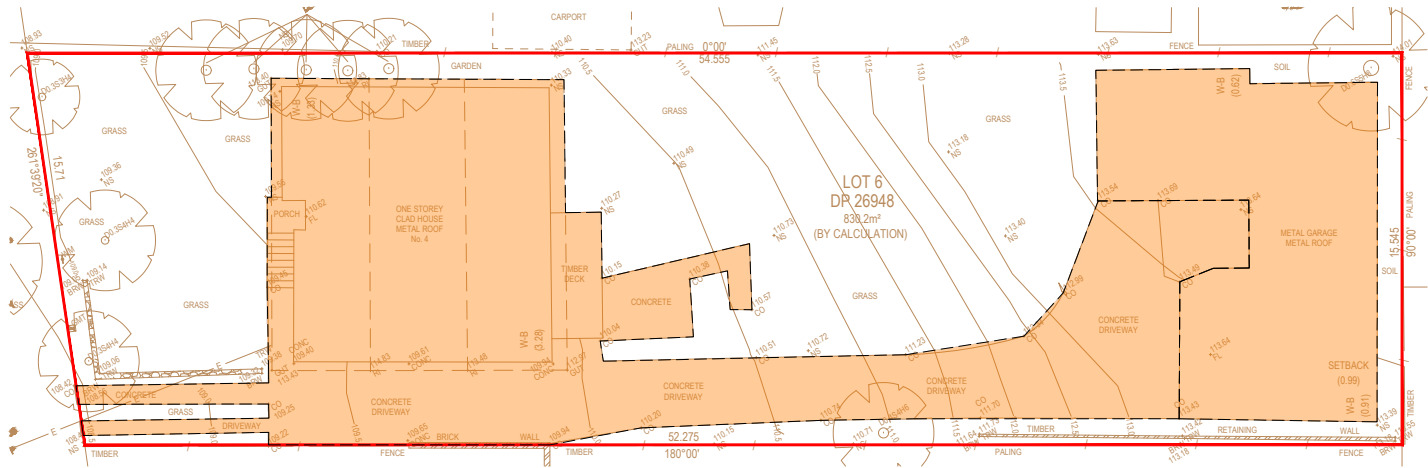
Residential flat building, commercial, industrial, multiple occupancy development and subdivisions resulting in the creation of three lots or more, will require OSD in all case. Please provide a design in accordance with the section 9.3.2 of Council's Water Management for Development Policy. Any single residential building development, please proceed to part 4.2.2 of this checklist.

Part 4.2.2 Exemption

Is the site area less than 450m ² ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Does the site of the development drain directly to the ocean without the need to pass through a drainage control structure such as pipe, bridge, culvert, kerb and gutter or natural drainage system?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is it an alternation and addition development to the existing dwellings?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If yes to any of the above questions, OSD is not required. If no to all the above questions, proceed to part 4.2.3	

Part 4.2.3 Determination of OSD Requirements

Calculation	a) Site area m ² x 0.40 (40%) = ...332.08..... m ² b) Post- development impervious area = ...502.7..... m ²
OSD will not be required when (a) is greater than (b) Is OSD required for this development (tick one only) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
If yes, provide a design in accordance with the section 9.3.2 of Council's Water Management for Development Policy. If no, OSD is not required and please proceed to part 5 of this checklist.	

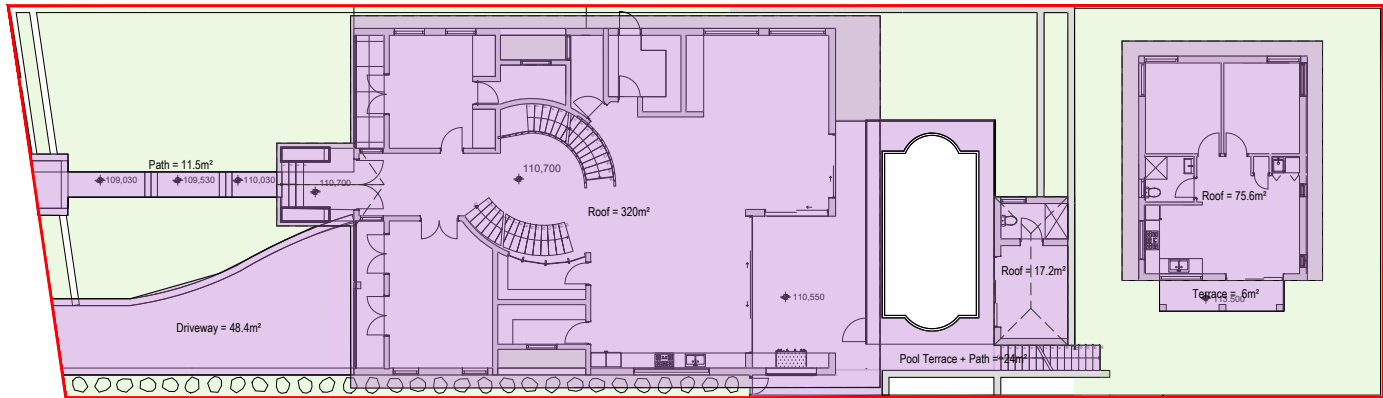


Denotes existing built upon area (420m²)

PRE-DEVELOPED IMPERVIOUS AREA PLAN

SCALE - 1:150/A1, 1:300/A3

0 1 2 4 6 8 10m



Denotes proposed built upon area (502.7m²)

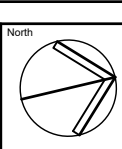
POST-DEVELOPED IMPERVIOUS AREA PLAN

SCALE - 1:150/A1, 1:300/A3

0 1 2 4 6 8 10m

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C	RE-ISSUED FOR DEVELOPMENT APPLICATION - SURVEY PLAN UPDATED	06.05.25	RH	BK
B	ISSUE FOR DEVELOPMENT APPLICATION	01.05.25	LW	BK
A	ISSUED FOR CLIENT REVIEW & COMMENT	08.04.25	RH	BK
Issue	Description	Date	Drawn	Approved



Client
FRANK CALCI

Architect
GELDER GROUP
ARCHITECTS

HYDRACOR
CONSULTING ENGINEERS

Project
HYDRACOR Consulting Engineers Pty Ltd
Platinum Building, Suite 2.01, 4 Ilya Avenue
ERINA NSW 2250, Australia
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Project
PROPOSED RESIDENTIAL
DEVELOPMENT
(No. 4)
WIRRILDA WAY
FORESTVILLE

Drawing Title PRE & POST DEVELOPMENT SUMMARY & CHECKLIST				
Drawn RH	Date APR 25	Scale AS SHOWN	A1 Q.A. Check BAK	Date 01.05.25
Designed BK	Project No. CC250036	Dwg. No. C2	Issue C	

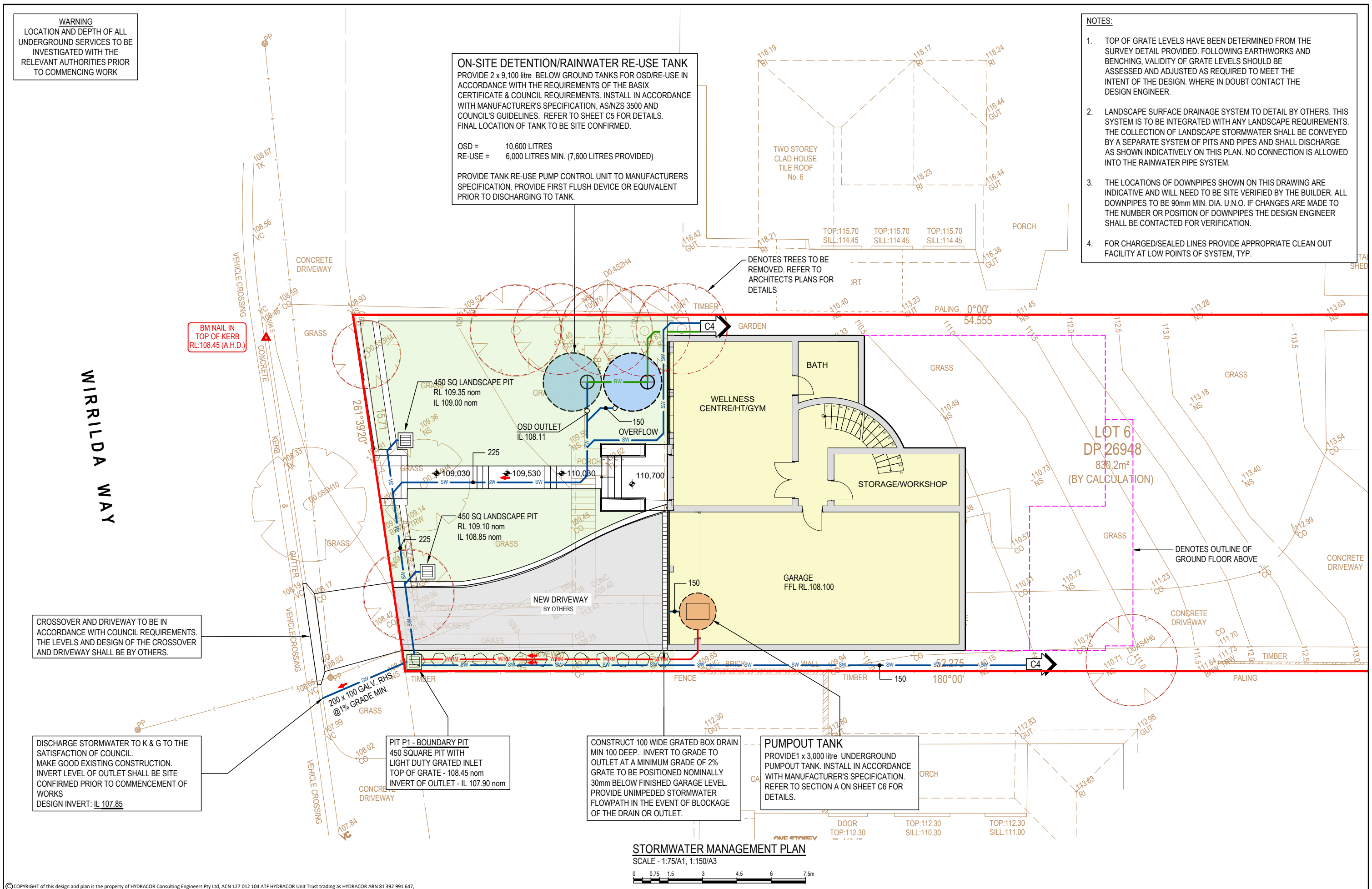
WARNING
LOCATION AND DEPTH OF ALL
UNDERGROUND SERVICES TO BE
INVESTIGATED WITH THE
RELEVANT AUTHORITIES PRIOR
TO COMMENCING WORK

ON-SITE DETENTION/RAINWATER RE-USE TANK
PROVIDE 2 x 9,100 litre BELOW GROUND TANKS FOR OSD/RE-USE IN ACCORDANCE WITH THE REQUIREMENTS OF THE BASIX CERTIFICATE & COUNCIL REQUIREMENTS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION, AS/NZS 3500 AND COUNCIL'S GUIDELINES. REFER TO SHEET C5 FOR DETAILS. FINAL LOCATION OF TANK TO BE SITE CONFIRMED.

OSD = 10,600 LITRES
RE-USE = 6,000 LITRES MIN. (7,600 LITRES PROVIDED)

PROVIDE TANK RE-USE PUMP CONTROL UNIT TO MANUFACTURERS SPECIFICATION. PROVIDE FIRST FLUSH DEVICE OR EQUIVALENT PRIOR TO DISCHARGING TO TANK.


- NOTES:**
1. TOP OF GRATE LEVELS HAVE BEEN DETERMINED FROM THE SURVEY DETAIL PROVIDED. FOLLOWING EARTHWORKS AND BENCHING, VALIDITY OF GRATE LEVELS SHOULD BE ASSESSED AND ADJUSTED AS REQUIRED TO MEET THE INTENT OF THE DESIGN. WHERE IN DOUBT CONTACT THE DESIGN ENGINEER.
 2. LANDSCAPE SURFACE DRAINAGE SYSTEM TO DETAIL BY OTHERS. THIS SYSTEM IS TO BE INTEGRATED WITH ANY LANDSCAPE REQUIREMENTS. THE COLLECTION OF LANDSCAPE STORMWATER SHALL BE CONVEYED BY A SEPARATE SYSTEM OF PITS AND PIPES AND SHALL DISCHARGE AS SHOWN INDICATIVELY ON THIS PLAN. NO CONNECTION IS ALLOWED INTO THE RAINWATER PIPE SYSTEM.
 3. THE LOCATIONS OF DOWNPIPES SHOWN ON THIS DRAWING ARE INDICATIVE AND WILL NEED TO BE SITE VERIFIED BY THE BUILDER. ALL DOWNPIPES TO BE 90mm MIN. DIA. U.N.O. IF CHANGES ARE MADE TO THE NUMBER OR POSITION OF DOWNPIPES THE DESIGN ENGINEER SHALL BE CONTACTED FOR VERIFICATION.
 4. FOR CHARGED/SEALED LINES PROVIDE APPROPRIATE CLEAN OUT FACILITY AT LOW POINTS OF SYSTEM, TYP.



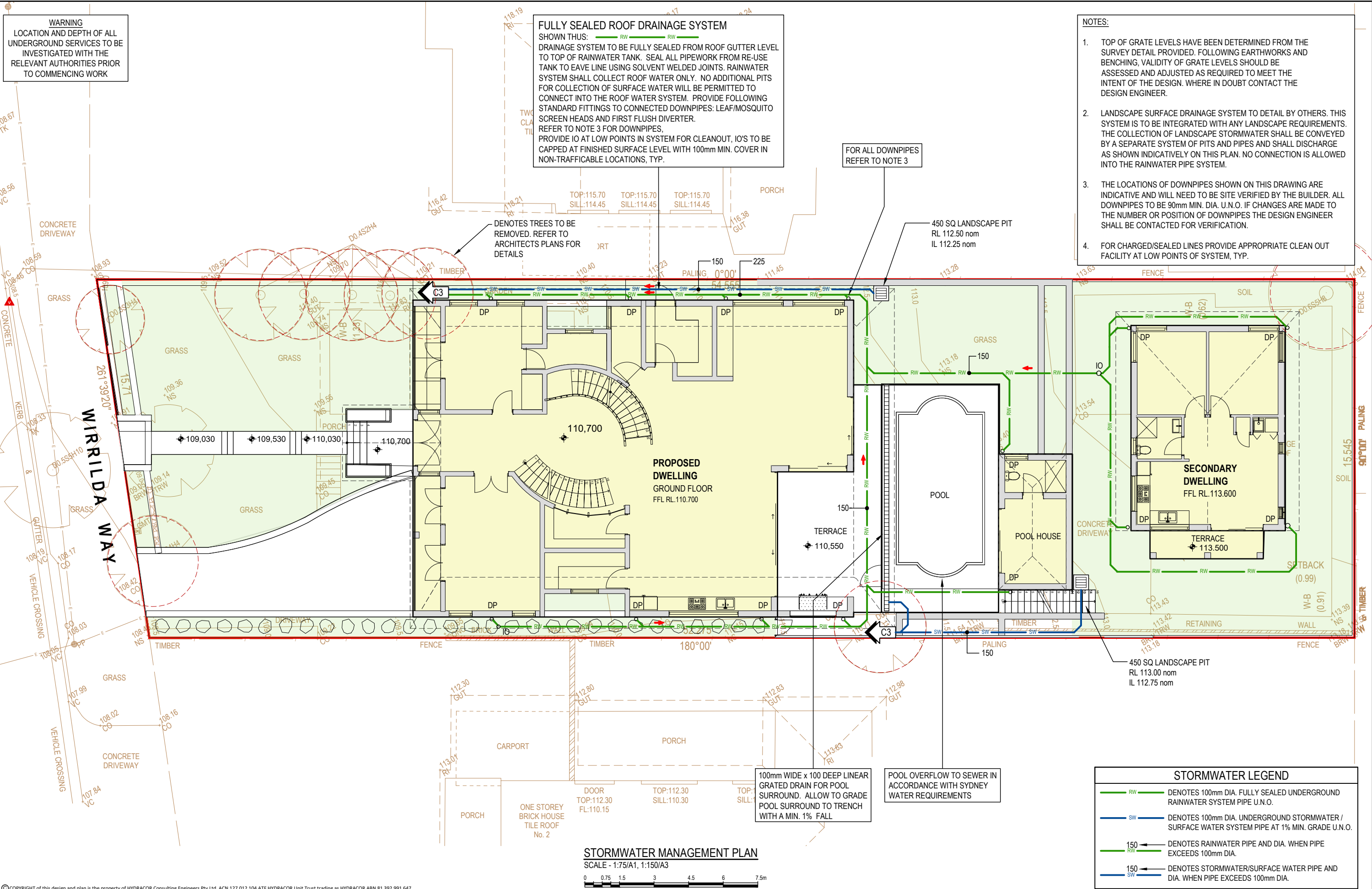
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					Client	Architect	Project	Drawing Title
					FRANK CALCI	GELDER GROUP ARCHITECTS	HYDRACOR CONSULTING ENGINEERS	STORMWATER MANAGEMENT PLAN - BASEMENT
					North		HYDRACOR Consulting Engineers Pty Ltd	PROPOSED RESIDENTIAL DEVELOPMENT
							Platinum Building, Suite 2.01, 4 Ilya Avenue	(No. 4)
							ERINA NSW 2250, Australia	WIRRILDA WAY
							T +61 2 4324 3499	FORESTVILLE
							ENGINEERS CIVIL FLOOD STUDIES STORMWATER HYDRAULIC	

WARNING
LOCATION AND DEPTH OF ALL
UNDERGROUND SERVICES TO BE
INVESTIGATED WITH THE
RELEVANT AUTHORITIES PRIOR
TO COMMENCING WORK





FULLY SEALED ROOF DRAINAGE SYSTEM
SHOWN THUS: 
DRAINAGE SYSTEM TO BE FULLY SEALED FROM ROOF GUTTER LEVEL
TO TOP OF RAINWATER TANK. SEAL ALL PIPEWORK FROM RE-USE
TANK TO EAVE LINE USING SOLVENT WELDED JOINTS. RAINWATER
SYSTEM SHALL COLLECT ROOF WATER ONLY. NO ADDITIONAL PITS
FOR COLLECTION OF SURFACE WATER WILL BE PERMITTED TO
CONNECT INTO THE ROOF WATER SYSTEM. PROVIDE FOLLOWING
STANDARD FITTINGS TO CONNECTED DOWNPIPES: LEAF/MOSQUITO
SCREEN HEADS AND FIRST FLUSH DIVERTER.
REFER TO NOTE 3 FOR DOWNPIPES.
PROVIDE IO AT LOW POINTS IN SYSTEM FOR CLEANOUT, IO'S TO BE
CAPPED AT FINISHED SURFACE LEVEL WITH 100mm MIN. COVER IN
NON-TRAFFICABLE LOCATIONS, TYP.

- NOTES:
1. TOP OF GRATE LEVELS HAVE BEEN DETERMINED FROM THE SURVEY DETAIL PROVIDED. FOLLOWING EARTHWORKS AND BENCHING, VALIDITY OF GRATE LEVELS SHOULD BE ASSESSED AND ADJUSTED AS REQUIRED TO MEET THE INTENT OF THE DESIGN. WHERE IN DOUBT CONTACT THE DESIGN ENGINEER.
 2. LANDSCAPE SURFACE DRAINAGE SYSTEM TO DETAIL BY OTHERS. THIS SYSTEM IS TO BE INTEGRATED WITH ANY LANDSCAPE REQUIREMENTS. THE COLLECTION OF LANDSCAPE STORMWATER SHALL BE CONVEYED BY A SEPARATE SYSTEM OF PITS AND PIPES AND SHALL DISCHARGE AS SHOWN INDICATIVELY ON THIS PLAN. NO CONNECTION IS ALLOWED INTO THE RAINWATER PIPE SYSTEM.
 3. THE LOCATIONS OF DOWNPIPES SHOWN ON THIS DRAWING ARE INDICATIVE AND WILL NEED TO BE SITE VERIFIED BY THE BUILDER. ALL DOWNPIPES TO BE 90mm MIN. DIA. U.N.O. IF CHANGES ARE MADE TO THE NUMBER OR POSITION OF DOWNPIPES THE DESIGN ENGINEER SHALL BE CONTACTED FOR VERIFICATION.
 4. FOR CHARGED/SEALED LINES PROVIDE APPROPRIATE CLEAN OUT FACILITY AT LOW POINTS OF SYSTEM, TYP.



STORMWATER MANAGEMENT PLAN
SCALE - 1:75/A1, 1:150/A3



STORMWATER LEGEND	
 RW	DENOTES 100mm DIA. FULLY SEALED UNDERGROUND RAINWATER SYSTEM PIPE U.N.O.
 SW	DENOTES 100mm DIA. UNDERGROUND STORMWATER / SURFACE WATER SYSTEM PIPE AT 1% MIN. GRADE U.N.O.
 150 RW	DENOTES RAINWATER PIPE AND DIA. WHEN PIPE EXCEEDS 100mm DIA.
 150 SW	DENOTES STORMWATER/SURFACE WATER PIPE AND DIA. WHEN PIPE EXCEEDS 100mm DIA.

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Issue				Description				Date				Drawn				Approved			
C	RE-ISSUED FOR DEVELOPMENT APPLICATION - SURVEY PLAN UPDATED	06.05.25	RH	BK															
B	ISSUE FOR DEVELOPMENT APPLICATION	01.05.25	LW	BK															
A	ISSUED FOR CLIENT REVIEW & COMMENT	08.04.25	RH	BK															
Issue				Description				Date				Drawn				Approved			

Client
FRANK CALCI

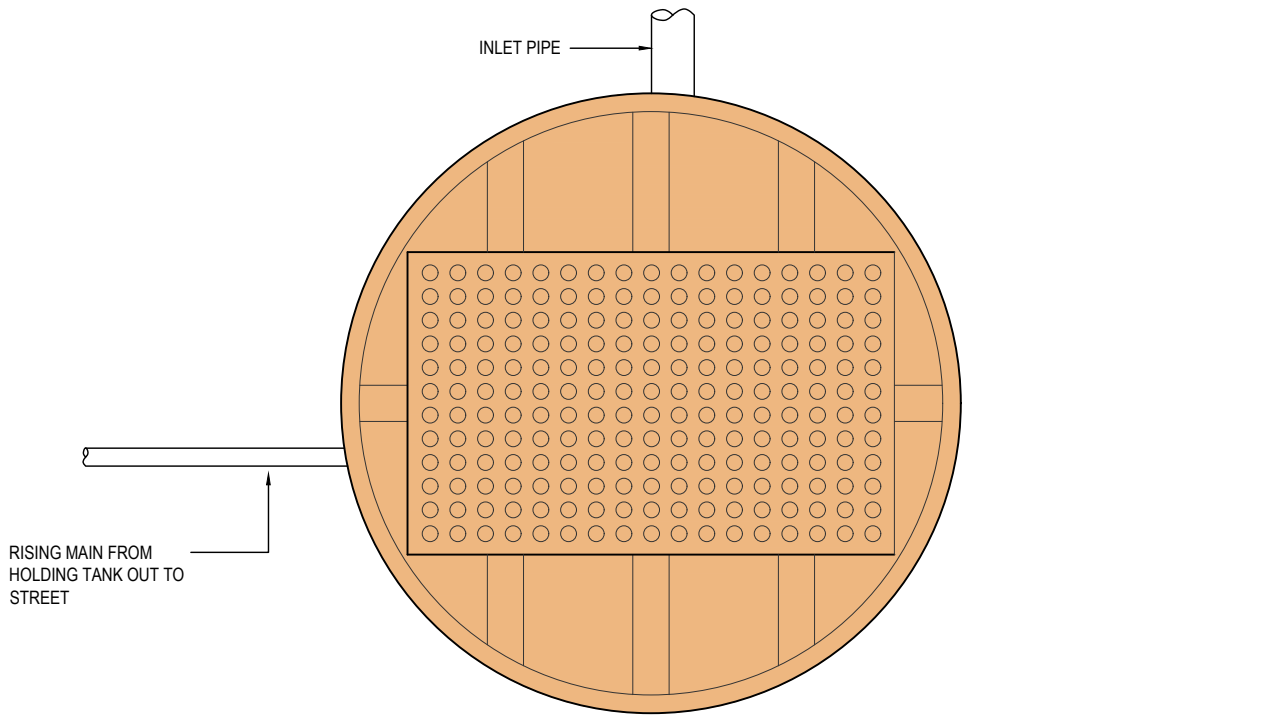
Architect
**GELDER GROUP
ARCHITECTS**

HYDRACOR
CONSULTING ENGINEERS

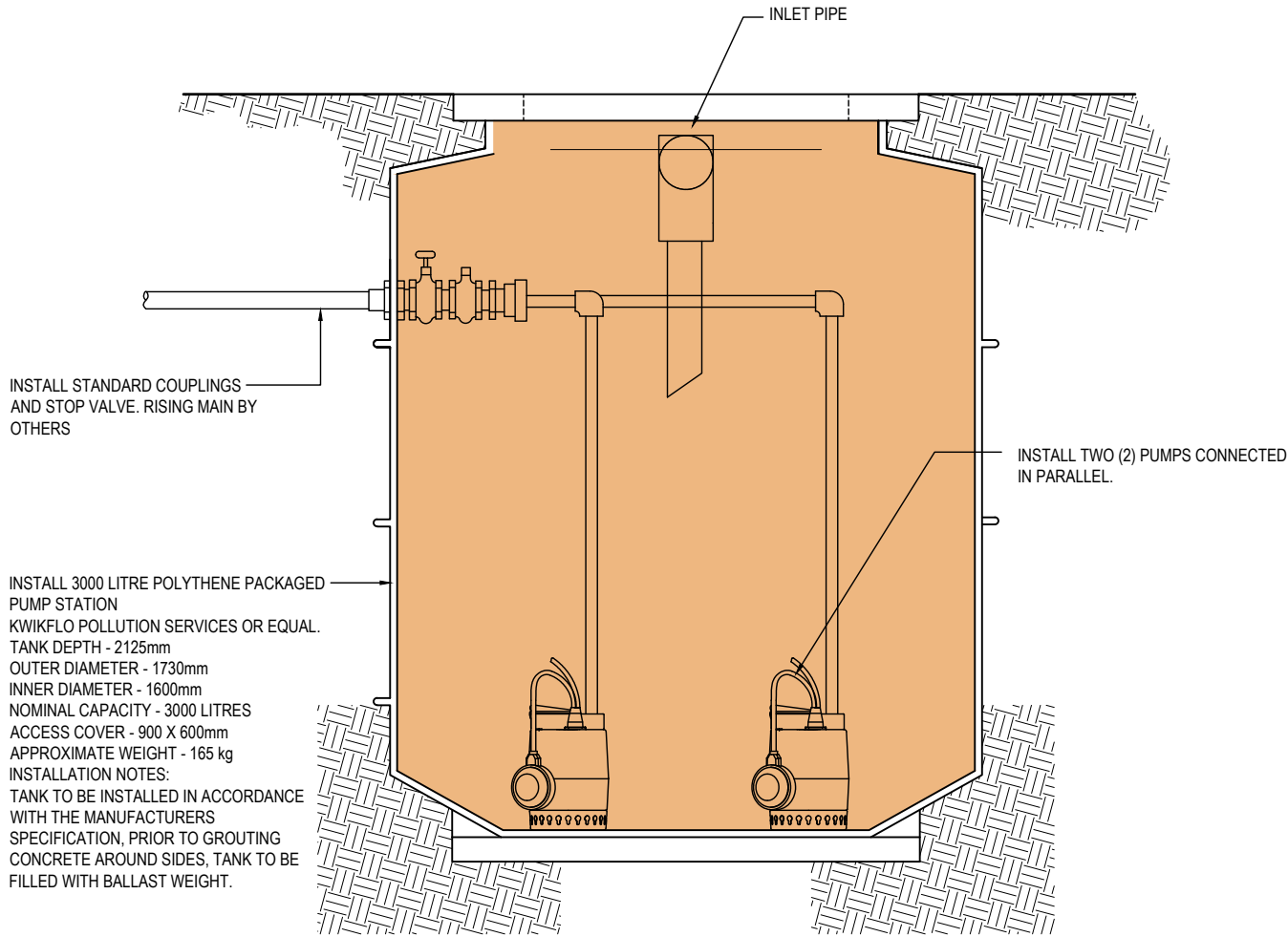
HYDRACOR Consulting Engineers Pty Ltd
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ERINA NSW 2250, Australia
T +61 2 4324 3499

Project
**PROPOSED RESIDENTIAL
DEVELOPMENT**
(No. 4)
WIRRILDA WAY
FORESTVILLE

Drawing Title STORMWATER MANAGEMENT PLAN SITE PLAN					
Drawn	Date	Scale	A1	Q.A. Check	Date
RH	APR 25	AS SHOWN		BAK	01.05.25
Designed	Project No.	Dwg. No.		Issue	
BK	CC250036	C4		C	



PUMP-OUT TANK SYSTEM - PLAN
SCALE - 1:10/A1, 1:20/A3



PUMP-OUT TANK SYSTEM - SECTION
SCALE - 1:10/A1, 1:20/A3

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					Client		Architect		Project		Drawing Title			
					FRANK CALCI		GELDER GROUP ARCHITECTS		HYDRACOR CONSULTING ENGINEERS		STORMWATER MANAGEMENT DETAILS SHEET No. 2			
									Platinum Building, Suite 2.01, 4 Ilya Avenue ERINA NSW 2250, Australia T +61 2 4324 3499		PROPOSED RESIDENTIAL DEVELOPMENT			
									(No. 4) WIRRILDA WAY FORESTVILLE					

EROSION & SEDIMENT LEGEND

1

INSTALL SEDIMENT FENCING REFER
DETAIL SD 6-8, SHEET C8. WHERE
UNDER CANOPY AREAS OF TREES TO
BE RETAINED, FENCING NOT TO BE
DUG INTO THE GROUND BUT INSTEAD
ATTACHED TO GROUND BY TIGHTLY
PACKED SANDBAGS.

2

THE EXISTING CROSSOVER &
LAYBACK ARE TO BE RETAINED
FOR SITE ACCESS UNTIL
REASONABLE COMPLETION OF
CONSTRUCTION WORKS

3

STOCKPILE IN ACCORDANCE
WITH DETAIL SD 4-1,
REFER TO SHEET C8. LOCATION
MAY BE ALTERED PENDING
CONSTRUCTION STAGING

4

WASTE STORAGE AREA
PROVIDE SOLID AND LIQUID
WASTE RECEPTACLE BINS

5

PROPOSED DISTURBED AREA

6

SITE ACCESS PROVIDE LARGE COARSE
DIA AGGREGATE OR RECYCLED
CONCRETE. IN ACCORDANCE WITH
DETAIL SD 6-14, SHEET C8

EROSION & SEDIMENT CONTROL PLAN
SCALE - 1:100/A1, 1:200/A3

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C				RE-ISSUED FOR DEVELOPMENT APPLICATION - SURVEY PLAN UPDATED				06.05.25	RH	BK	<div>North</div>
B				ISSUE FOR DEVELOPMENT APPLICATION				01.05.25	LW	BK	
-				NIL ISSUE				-	-	-	
Issue				Description				Date	Drawn	Approved	
				1cm at full size							

Client		Architect		Project		Drawing Title			
FRANK CALCI		GELDER GROUP ARCHITECTS		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. 4) WIRRILDA WAY FORESTVILLE			
				ENGINEERS CIVIL FLOOD STUDIES STORMWATER HYDRAULIC		EROSION & SEDIMENT CONTROL PLAN			
Drawn	Date	Scale	A1	Q.A. Check	Date				
LW	APR 25	AS SHOWN		BAK	01.05.25				
Designed	Project No.			Dwg. No.					
BK	CC250036			C7					
					Issue				
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EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

- THIS SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH OTHER ENGINEERING PLANS RELATING TO THIS DEVELOPMENT.
- CONTRACTORS WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS INSTRUCTED IN THIS SPECIFICATION AND CONSTRUCTED FOLLOWING THE GUIDELINES OF "MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION", DEPT OF HOUSING, 1998 (BLUE BOOK).
- ALL SUBCONTRACTORS WILL BE INFORMED OF THEIR RESPONSIBILITIES IN REDUCING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE AREAS.

LAND DISTURBANCE INSTRUCTIONS

- DISTURBANCE TO BE NO FURTHER THAN 5 (PREFERABLY 2) METRES FROM THE EDGE OF ANY ESSENTIAL ENGINEERING ACTIVITY AS SHOWN ON APPROVED PLANS. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE ZONES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
- ACCESS AREAS ARE TO BE LIMITED TO A MAXIMUM WIDTH OF 10 METRES THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON-SITE. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE BOUNDARIES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
- ENTRY TO LANDS NOT REQUIRED FOR CONSTRUCTION OR ACCESS IS PROHIBITED EXCEPT FOR ESSENTIAL THINNING OF PLANT GROWTH.
- WORKS ARE TO PROCEED IN THE FOLLOWING SEQUENCE:
 - INSTALL ALL BARRIER AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN.
 - CONSTRUCT THE STABILISED SITE ACCESS.
 - CONSTRUCT DIVERSION DRAINS AS REQUIRED.
 - INSTALL MESH AND GRAVEL INLETS FOR ANY ADJACENT KERB INLETS.
 - INSTALL GEOTEXTILE INLET FILTERS AROUND ANY ON-SITE DROP INLET PITS.
 - CLEAR SITE AND STRIP AND STOCKPILE TOPSOIL IN LOCATIONS SHOWN ON THE PLAN.
 - UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS ENSURING THAT ROOF AND/OR PAVED AREA STORMWATER SYSTEMS ARE CONNECTED TO PERMANENT DRAINAGE AS SOON AS PRACTICABLE.
 - GRADE LOT AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 20 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
 - REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
- ENSURE THAT SLOPE LENGTHS DO NOT EXCEED 80 METRES WHERE PRACTICABLE. SLOPE LENGTHS ARE DETERMINED BY SILTATION FENCING AND CATCH DRAIN SPACING.
- ON COMPLETION OF MAJOR WORKS LEAVE DISTURBED LANDS WITH A SCARIFIED SURFACE TO ENCOURAGE WATER INFILTRATION AND ASSIST WITH KEYING TOPSOIL LATER.

SITE MAINTENANCE INSTRUCTIONS

- THE SITE SUPERINTENDENT WILL INSPECT THE SITE AT LEAST WEEKLY AND AT THE CONCLUSION OF EVERY STORM EVENT TO:
 - ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT ANY NECESSARY REPAIRS.
 - REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5 METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS AND PAVED AREAS.
 - REMOVE TRAPPED SEDIMENT WHENEVER THE DESIGN CAPACITY OF THAT STRUCTURE HAS BEEN EXCEEDED.
 - ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS NECESSARY.
 - CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS. MAKE ONGOING CHANGES TO THE PLAN WHERE IT PROVES INADEQUATE IN PRACTICE OR IS SUBJECTED TO CHANGES IN CONDITIONS ON THE WORK-SITE OR ELSEWHERE IN THE CATCHMENT.
 - MAINTAIN EROSION AND SEDIMENT CONTROL STRUCTURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.
- THE SITE SUPERINTENDENT WILL KEEP A LOGBOOK MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:
 - THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS.
 - THE CONDITION OF ANY SOIL AND WATER MANAGEMENT WORKS.
 - THE CONDITION OF VEGETATION AND ANY NEED TO IRRIGATE.
 - THE NEED FOR DUST PREVENTION STRATEGIES.
 - ANY REMEDIAL WORKS TO BE UNDERTAKEN. THE LOGBOOK WILL BE KEPT ON-SITE AND MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF THE WORKS.

SEDIMENT CONTROL INSTRUCTIONS

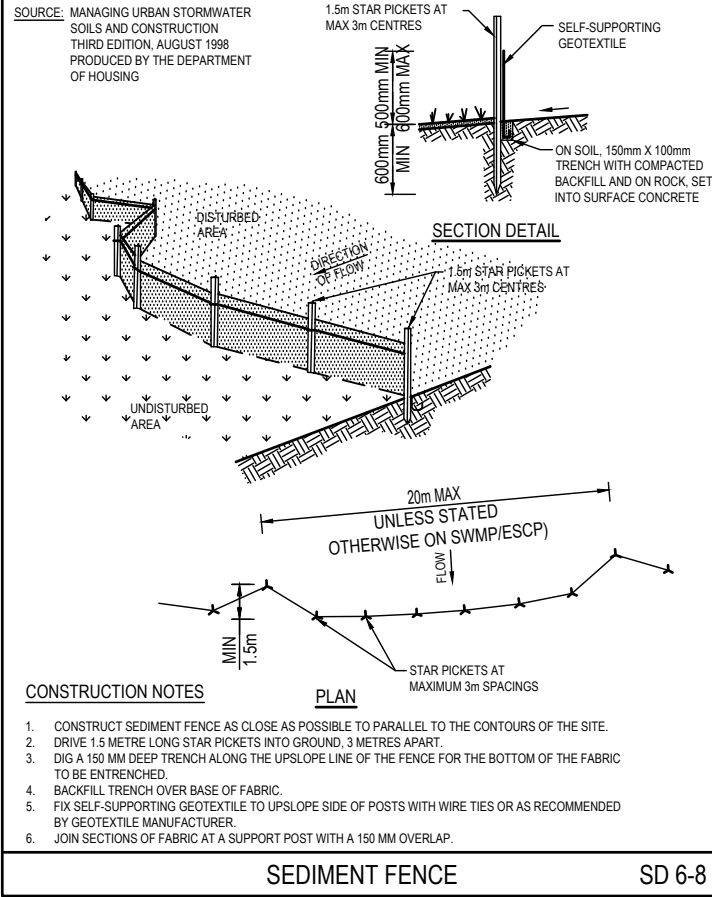
- SEDIMENT FENCES WILL BE INSTALLED AS SHOWN ON THE PLAN AND ELSEWHERE AT THE DISCRETION OF THE SITE SUPERINTENDENT TO CONTAIN SOIL AS NEAR AS POSSIBLE TO THEIR SOURCE.
- SEDIMENT FENCES WILL NOT HAVE CATCHMENT AREAS EXCEEDING 900 SQUARE METRES AND HAVE A STORAGE DEPTH OF AT LEAST 0.6 METRES.
- SEDIMENT REMOVED FROM ANY TRAPPING DEVICES WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS CANNOT OCCUR.
- STOCKPILES ARE NOT TO BE LOCATED WITHIN 5 METRES OF HAZARD AREAS INCLUDING AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS AND DRIVEWAYS.
- WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR WATER HAS BEEN TREATED BY AN APPROVED DEVICE.
- TEMPORARY SEDIMENT TRAPS WILL REMAIN IN PLACE UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.
- ACCESS TO SITES SHOULD BE STABILISED TO REDUCE THE LIKELIHOOD OF VEHICLES TRACKING SOIL MATERIALS ONTO PUBLIC ROADS AND ENSURE ALL-WEATHER ENTRY/EXIT.

SOIL EROSION CONTROL INSTRUCTIONS

- EARTH BATTERS WILL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER, UNLESS OTHERWISE NOTED, THAN:
 - 2(H):1(V) WHERE SLOPE LENGTH LESS THAN 12 METRES
 - 2.5(H):1(V) WHERE SLOPE LENGTH BETWEEN 12 AND 16 METRES.
 - 3(H):1(V) WHERE SLOPE LENGTH BETWEEN 16 AND 20 METRES.
 - 4(H):1(V) WHERE SLOPE LENGTH GREATER THAN 20 METRES.
- ALL WATERWAYS, DRAINS, SPILLWAYS AND THEIR OUTLETS WILL BE CONSTRUCTED TO BE STABLE IN AT LEAST THE 1:20 YEAR ARI, TIME OF CONCENTRATION STORM EVENT.
- WATERWAYS AND OTHER AREAS SUBJECT TO CONCENTRATED FLOWS AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUNDCOVER C-FACTOR OF 0.05 (70% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION. FLOW VELOCITIES ARE TO BE LIMITED TO THOSE SHOWN IN TABLE 5-1 OF "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", DEPT OF HOUSING 1998 (BLUE BOOK). FOOT AND VEHICULAR TRAFFIC WILL BE PROHIBITED IN THESE AREAS.
- STOCKPILES AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND-COVER C-FACTOR OF 0.1 (60% GROUND-COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION.
- ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND-COVER C-FACTOR OF 0.15 (50% GROUND COVER) WITHIN 20 WORKING DAYS FROM INACTIVITY EVEN THOUGH WORKS MAY CONTINUE LATER.
- FOR AREAS OF SHEET FLOW USE THE FOLLOWING GROUND COVER PLANT SPECIES FOR TEMPORARY COVER: JAPANESE MILLET 20 KG/HA AND OATS 20 KG/HA.
- PERMANENT REHABILITATION OF LANDS AFTER CONSTRUCTION WILL ACHIEVE A GROUND-COVER C-FACTOR OF LESS THAN 0.1 AND LESS THAN 0.05 WITHIN 60 DAYS. NEWLY PLANTED LANDS WILL BE WATERED REGULARLY UNTIL AN EFFECTIVE COVER IS ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. FOLLOW-UP SEED AND FERTILISER WILL BE APPLIED AS NECESSARY.
- REVEGETATION SHOULD BE AIMED AT RE-ESTABLISHING NATURAL SPECIES. NATURAL SURFACE SOILS SHOULD BE REPLACED AND NON-PERSISTENT ANNUAL COVER CROPS SHOULD BE USED.

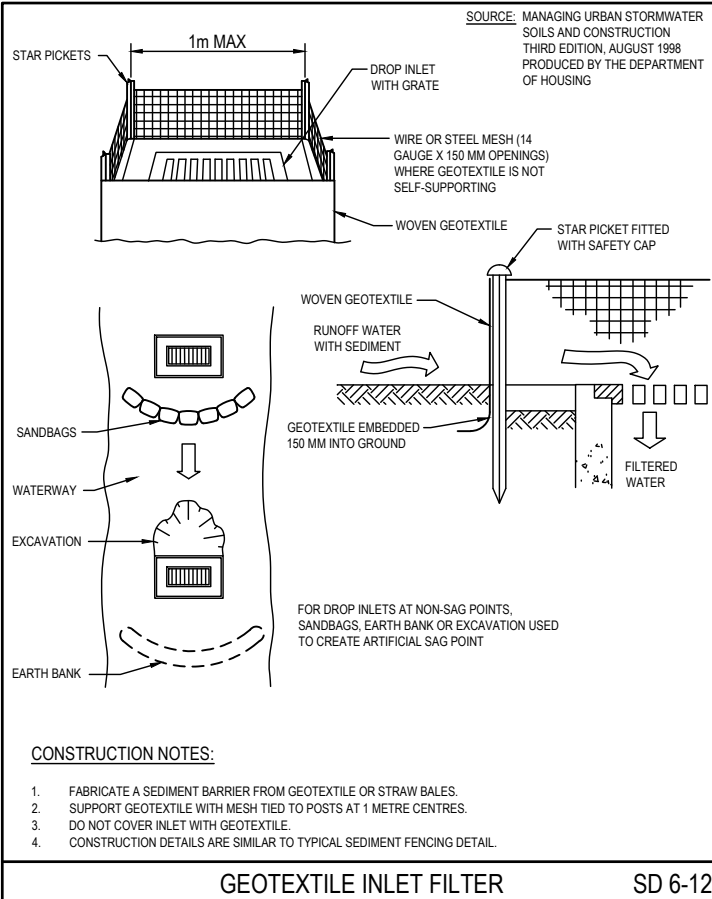
WASTE CONTROL INSTRUCTIONS

- ACCEPTABLE BINS WILL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHING, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES WILL BE PROVIDED AT LEAST WEEKLY. DISPOSAL OF WASTE WILL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT.
- ALL POSSIBLE POLLUTANT MATERIALS ARE TO BE STORED WELL CLEAR OF ANY POORLY DRAINED AREAS, FLOOD PRONE AREAS, STREAMBANKS, CHANNELS AND STORMWATER DRAINAGE AREAS. STORE SUCH MATERIALS IN A DESIGNATED AREA UNDER COVER WHERE POSSIBLE AND WITHIN CONTAINMENT BUNDS.
- ALL SITE STAFF AND SUB-CONTRACTORS ARE TO BE INFORMED OF THEIR OBLIGATION TO USE WASTE CONTROL FACILITIES PROVIDED.
- ANY DE-WATERING ACTIVITIES ARE TO BE CLOSELY MONITORED TO ENSURE THAT WATER IS NOT POLLUTED BY SEDIMENT, TOXIC MATERIALS OR PETROLEUM PRODUCTS.
- PROVIDE DESIGNATED VEHICULAR WASHDOWN AND MAINTENANCE AREAS WHICH ARE TO HAVE CONTAINMENT BUNDS.



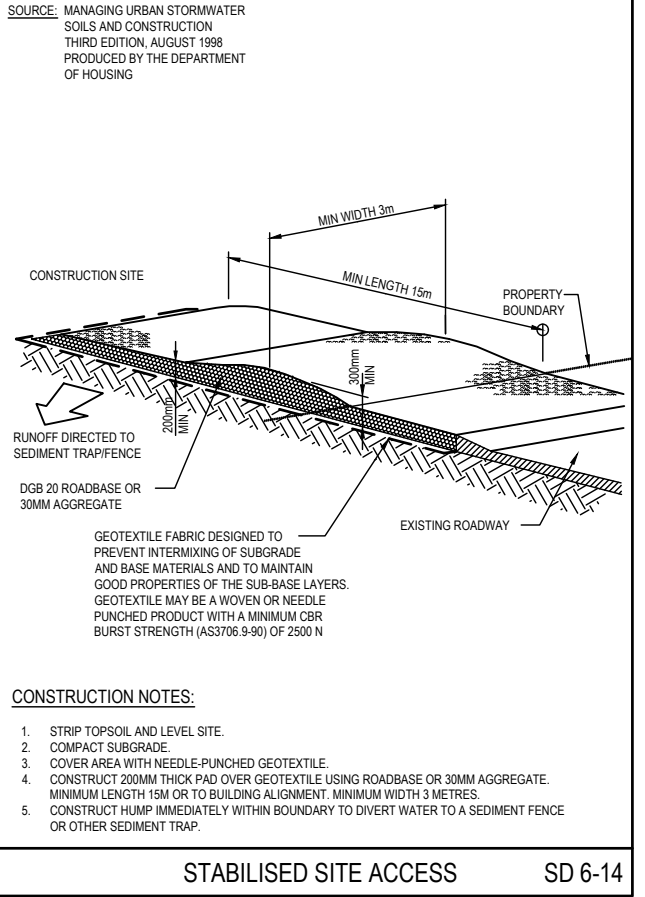
SEDIMENT FENCE

SD 6-8



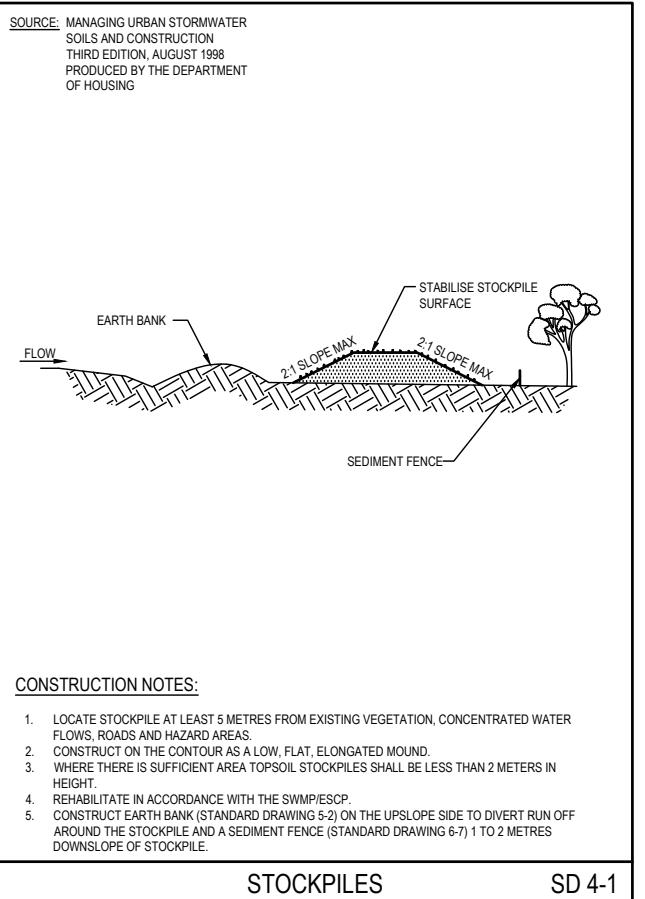
GEOTEXTILE INLET FILTER

SD 6-12



STABILISED SITE ACCESS

SD 6-14



STOCKPILES

SD 4-1

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