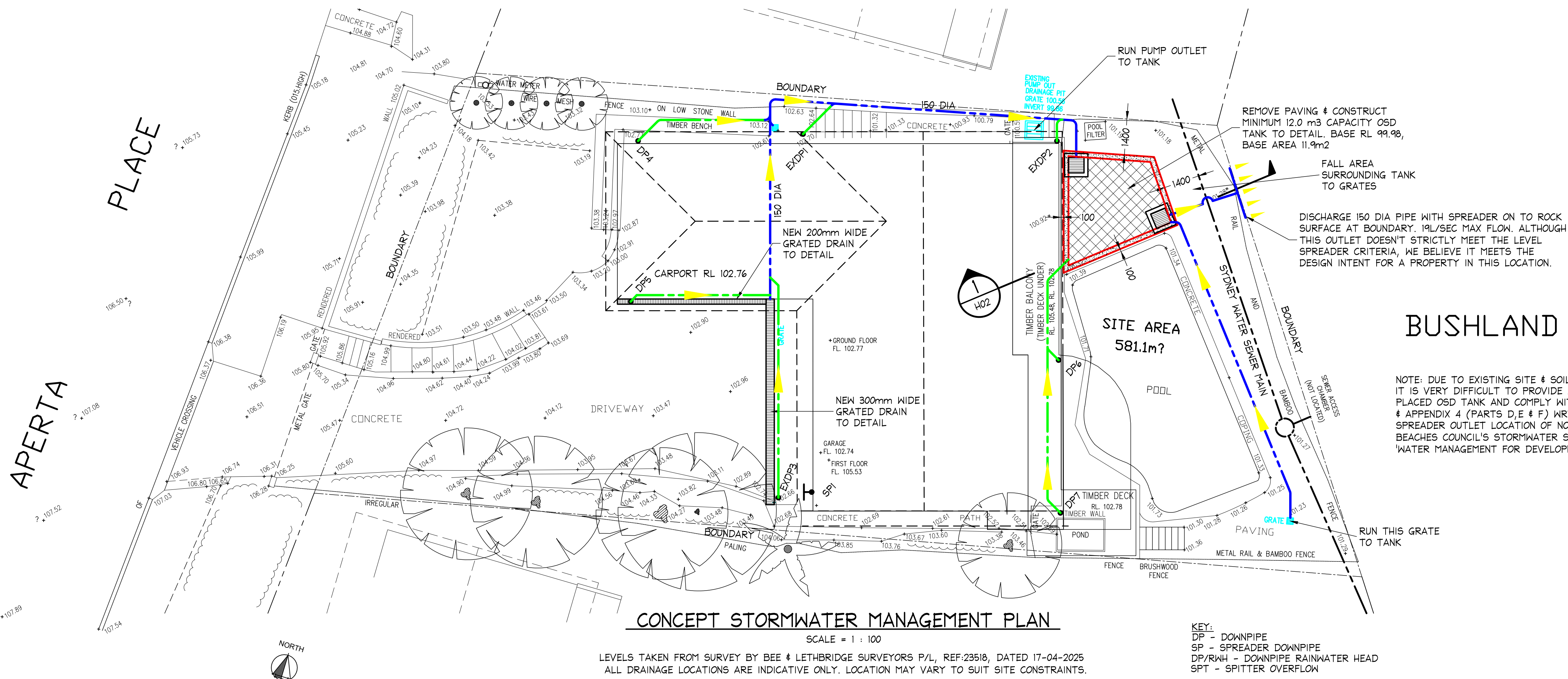
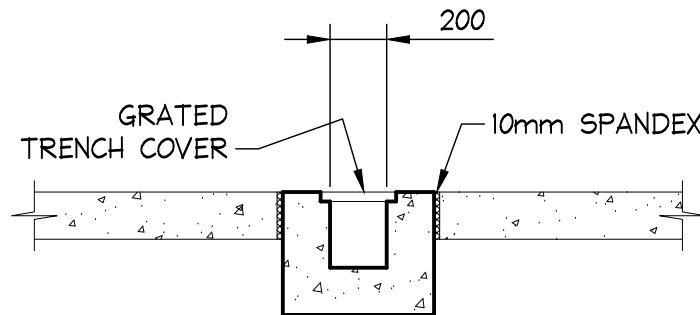


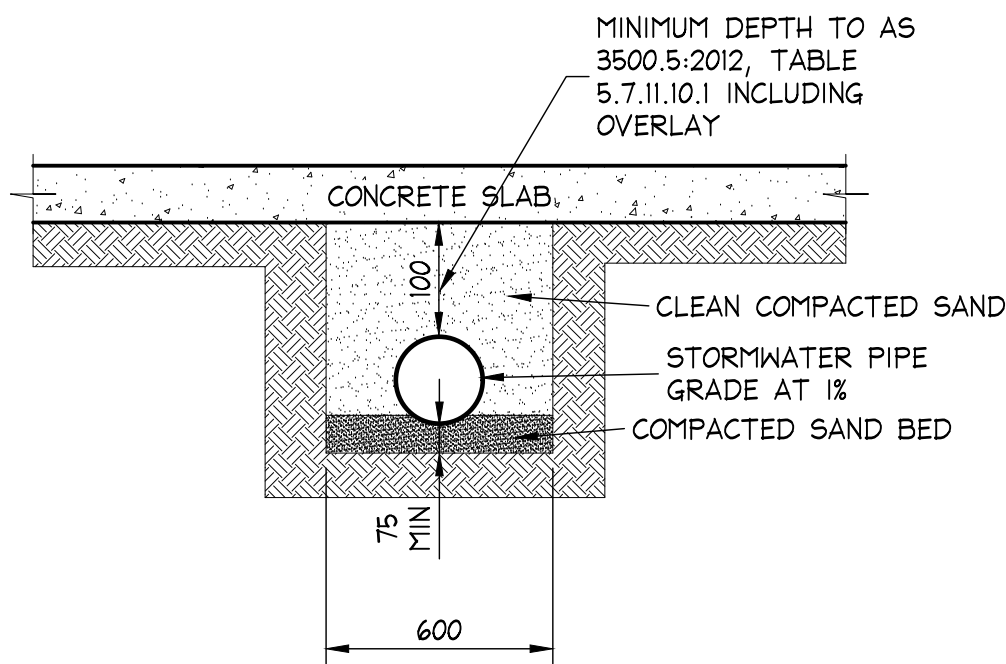


STORMWATER NOTES:

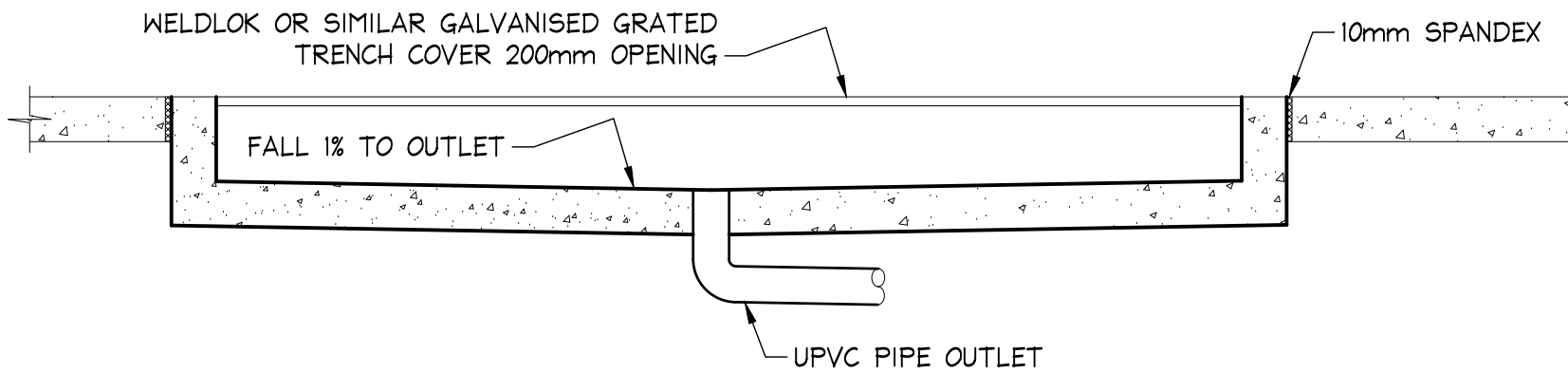
- 1 - ALL PIPES TO BE 100mm Ø SEWER GRADE uPVC UNLESS NOTED OTHERWISE.
- 2 - ALL PIPES TO BE uPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
- 3 - ALL PIPES TO BE LAID AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
- 4 - ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS.
(NO COMPACTION REQUIRED BELOW LANDSCAPING)
COVER TO SURFACE FROM TOP OF PIPE TO BE AS PER A53500.
BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH GRANULAR MATERIAL AS SPECIFIED.
- 5 - DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT WITH WORK.
- 6 - PROVIDE CLEANING EYES AT ALL DOWNPIPES.
- 7 - ALL PITS TO BE PRECAST, PREFORMED OR HDPE, IN ACCORDANCE WITH LOCAL COUNCIL SPECIFICATIONS.
- 8 - ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
- 9 - ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
- 10 - PRIOR TO COMMENCING ANY SITE WORKS THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL MEASURES TO EPA GUIDELINES AND COUNCIL SPECIFICATIONS. ALL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION AND STABILIZATION OF THE SITE TO COUNCIL SATISFACTION.
- 11 - ALL LEVELS SHOWN ARE TO AHD
- 12 - ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
- 13 - ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO uPVC.
- 14 - ALL WORKS TO BE IN ACCORDANCE WITH AS 3500.3-2021 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE & NCC 2022.



CARPORT GRATED DRAIN
SCALE = 1 : 20
PRECAST OR HDPE GRATED DRAIN
ALTERNATIVE



TYPICAL TRENCHING DETAIL
SCALE = 1 : 20



LONGITUDINAL SECTION CARPORT GRATED DRAIN
SCALE = 1 : 20

ONSITE DETENTION SYSTEM
SUMMARY NOTES -
NORTHERN BEACHES COUNCIL

COUNCIL'S "WATER MANAGEMENT FOR DEVELOPMENT POLICY, 26 FEB. 2021" USED SECTION 5.5 - FOR REGION 2 - CENTRAL CATCHMENTS	
TOTAL SITE AREA	581.1 m ²
PREDEVELOPMENT IMPERVIOUS AREA	428.5 m ² (74%)
POST DEVELOPMENT IMPERVIOUS AREA	444.4 m ² (76%)
DESIGN METHOD USED -	DRAINS
PROPERTY DRAINS TO REAR & IS A LOW LEVEL PROPERTY. NO EASEMENT THROUGH THE DOWNSTREAM PROPERTY HAS BEEN IDENTIFIED. THEREFORE OSD IS REQUIRED AS PER SECTION 5.5 OF THE COUNCIL POLICY.	
BELOW GROUND OSD TANK IS TO BE PROVIDED TO CAPTURE ALMOST ALL SITE RUNOFF AND DETAIN THAT AREA BACK TO "STATE OF NATURE" CONDITIONS.	
PREDEVELOPMENT RUNOFF FOR SITE	19 l/s - FROM DRAINS
TOTAL VOLUME OF OSD REQUIRED	11.9 m ³
ORIFICE DIAMETER TANK	96 mm

Gutter Calculations -20 yr ARI Storm

Northern Beaches Council
4 Aperta Place Beacon Hill
Alterations & Additions

to AS 3500.3 - 2021 & AS 3500.5 - 2012 & NCC 2022					²⁰ I ₅	From	Downpipe
Eaves	Horizontal	slope		Gutter		Figure	From
	Area A _h	factor	Area A _c	Slope	from	5.6.4.1.a	Table 5.6.4.7.1
Gutters		From		steeper	Council	gutter	size reqd
		Fig 5.6.3.2		than	Appendix 12	area reqd	mm
	m ²		m ²	1 in	mm/hr	mm ²	
EXDP1	31.3	1.2	37.6	500	201	7400	100x75 or 100 dia
EXDP2	27.3	1.2	32.8	500	201	6400	100x50 or 90 dia
EXDP3	38.1	1.2	45.7	500	201	8600	100x75 or 100 dia
DP4	31.3	1.2	37.6	500	201	7400	100x75 or 100 dia
DP5	31.3	1.2	37.6	500	201	7400	100x75 or 100 dia
DP6	27.3	1.2	32.8	500	201	6400	100x50 or 90 dia
DP7	27.3	1.2	32.8	500	201	6400	100x50 or 90 dia
total	213.9						
Eaves Gutters - Alcan Ogee					Area	9700	mm ²
All underground Pipes to be 100 Dia Sewer Grade PVC UNO							
All Downpipes to run to OSD Tank							
All SPs to be 90 dia							

GUTTER CALCULATIONS

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
2. TO BE PRINTED IN COLOUR FOR DEFINITION.



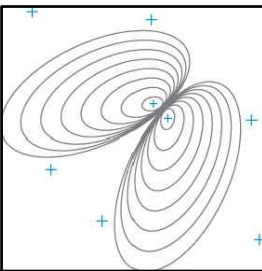
DOCUMENT CERTIFICATION

Date : OCT. 2025
Bruce Lewis
(Principal : Peninsula Consulting Engineers)
BE(Civil), CPEng, MIEAust., NPER,
Institute of Engineers Membership No. 879131

23-10-2025	A	FOR COUNCIL SUBMISSION
22-10-2025	PI	DRAFT
Date:	Rev:	Amendment:

Peninsula Consulting
Engineers

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Project:

PROPOSED WORKS
at: 4 APERTA PLACE
BEACON HILL
for: JON STEVENS

Drawing Title:

STORMWATER MANAGEMENT
PLAN & DETAILS

Job No:

25-1004

Drawing No:

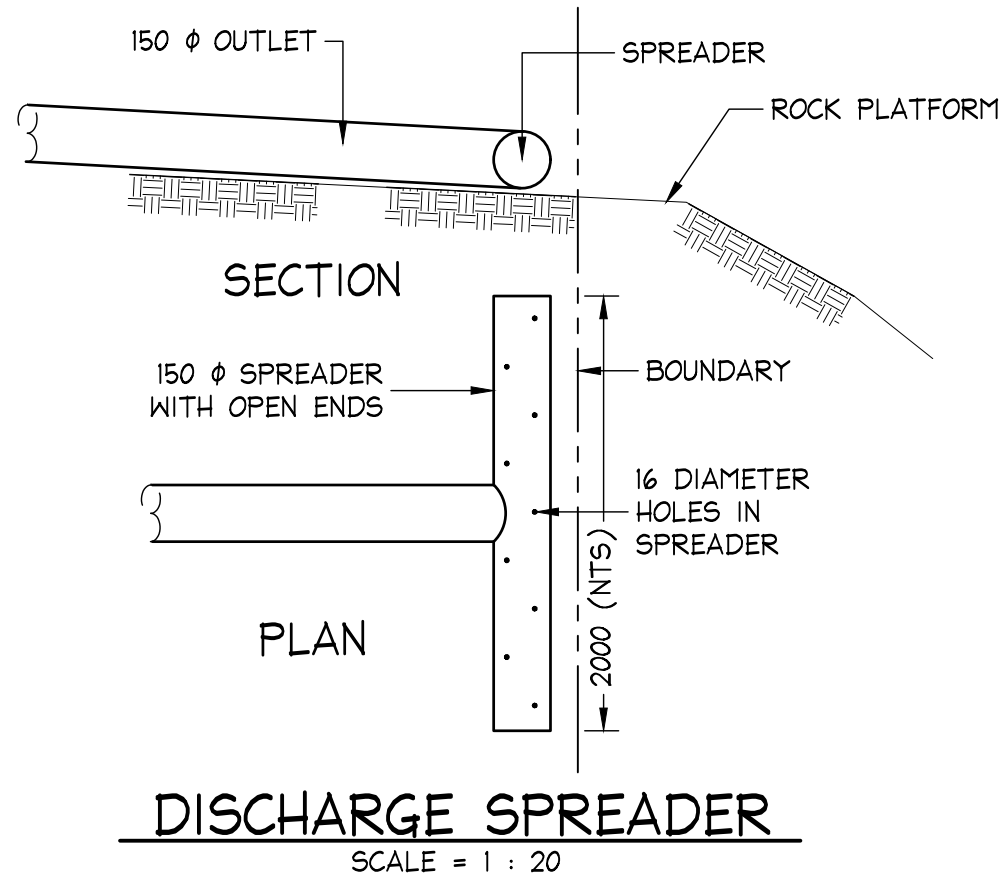
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Rev:

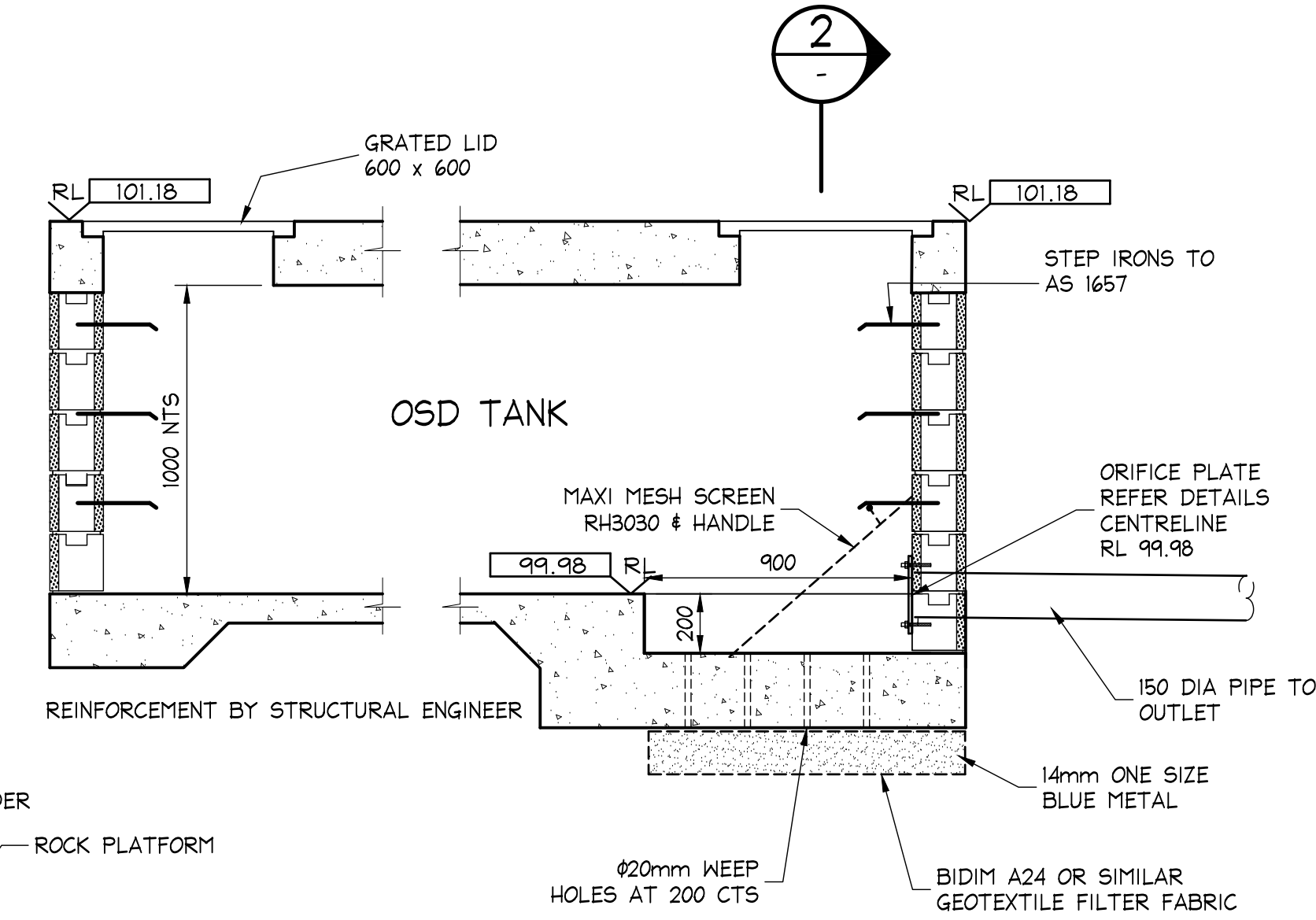
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Northern Beaches Council [Region 2]			
4 Aperta Place Beacon Hill			
Alterations & Additions			
On Site Drainage Calculations			
	m ²		
Site Area	581.1		
Under Northern Beaches Council Conditions, "Water Management for Development Policy" revised 26/2/2021 for Region 2 - Central Catchments - Section 9.3.2 & Section 5.1 applies			
Property drains toward rear			
Area Calculation - Proposed	m ²	Area Calculation - Existing	m ²
Existing & New Roofs	213.9	Existing Roofs	162.9
Driveway	108.2	Driveway	142
Timber Bench - 50% Impervious	2.8	Timber Bench - 50% Impervious	4.1
Side & Rear Paving less Pool	119.5	Side & Rear Paving less Pool	119.5
Total Impervious	444.4	Total Impervious	428.5
Percent Impervious	76%	Percent Impervious	74%
Additional Impervious	16		
Section 5.5 - for Region 2 - Central Catchments			
Property drains away from street			
5.5.1.2 Alterations & Additions to a Single Dwelling House & Granny Flats			
5.5.1.2.1 Stage 1 Discharge to an Existing Drainage System - not available			
5.5.1.2.2 Stage 2 Interallotment Drainage Easement - not available			
5.5.1.2.3 Stage 3 On Site Absorption - not applicable - based on assessment of local conditions			
5.5.1.2.4 Stage 4 Level Spreader - applicable in this location			
Refer Level Spreader Design Guidelines - page 65			
Below Ground OSD Tank is to be provided to capture all roof water & surface water and control that area back to "state of nature"			
OSD Tank is to be installed beside Pool - base RL - -Tank 1			
Length of Flowpath			
	37.1	m	
Top RL	105.6	Bottom RL	101.18
Grade %	12%		
Discharge from area to rear Pre Development - from DRAINS			
Permissible Site Discharge	19	L/sec	
Area Contributing to Tank			
	m ²		
New & Existing Roof & Front Area	581.1		
Impervious Area	444.4		
Percent Impervious	76%		
Maximum Actual Area of OSD Surface	11.9	m ²	
Top Water Level Available of OSD Tank	100.98	mAHD	
Maximum Available Depth of OSD Tank	1.00	m	
Bottom Water Level Available of OSD Tank	99.98	mAHD	
this was then inputted into DRAINS			
maximum Detention Volume from DRAINS	11.9	m ³	
Orifice Diameter	96	mm	

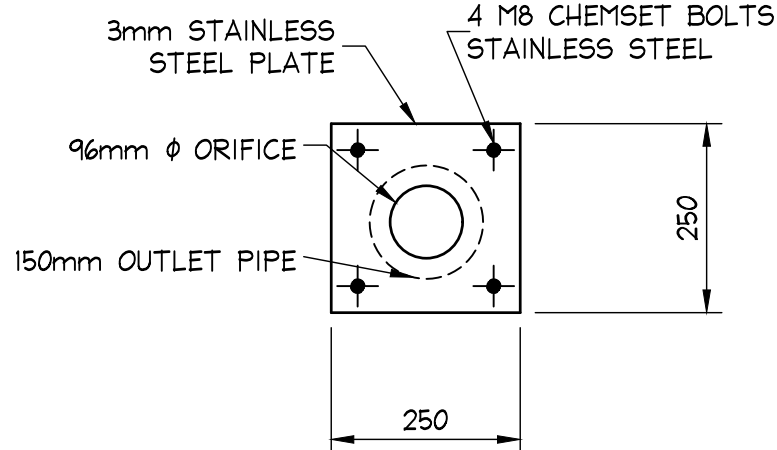
OSD CALCULATIONS



DRAINS RESULTS

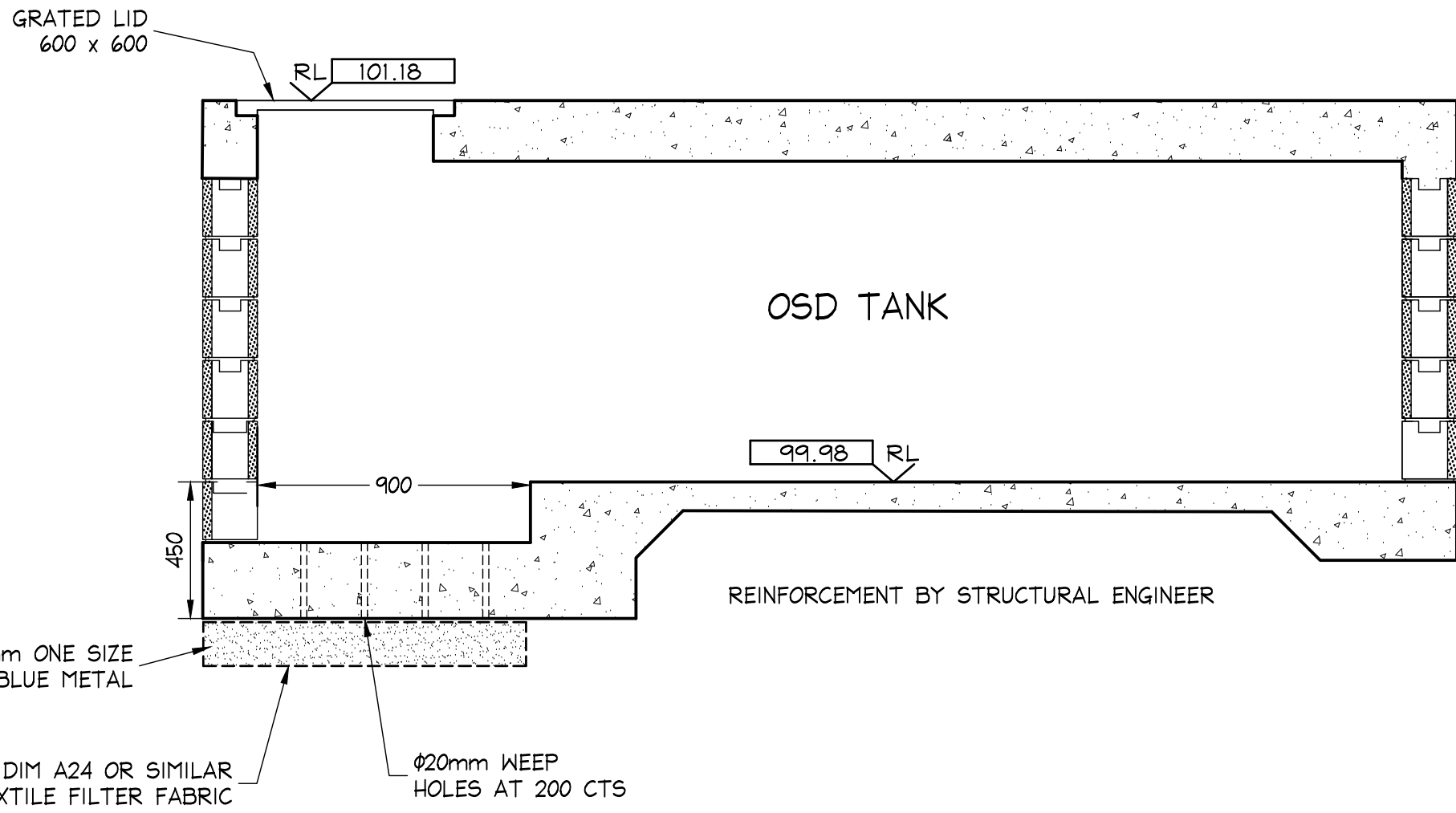


SECTION THROUGH OSD TANK



ORIFICE PLATE DETAIL

DRAINS DATA



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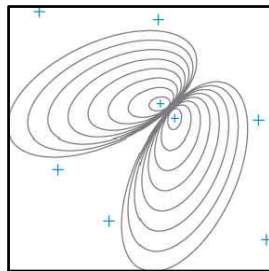
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for: JON STEVENS

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STORMWATER MANAGEMENT
DETAILS SHEET 2

Job No:

25-1004

Drawing No:

H02

Rev:

A