

Our Ref: 2019-0229

4 December 2019

Forest Central Business Park Pty Ltd  
ACN 098 662 367  
PO Box 48  
Pymble NSW 2073

Dear Sirs

**Maui Oncology, Warringah Road & Wakehurst Parkway, Frenchs Forest (Site)  
Detention Tank Report**

## Background

Inline Hydraulic Services was engaged to conduct a review of the existing Onsite Detention System (OSD) for the above site know as Lot 7, DP 1020015 also known as Building 9 in the Forest Central Business Park.

It is noted that this is not a new complex, the complex has been established for approximately 20 years. Whilst the proposed development is a new construction on a vacant block, the OSD tank and main drainage lines are understood to have been installed at the establishment of the business park to support the future development of all lots within the business Park. Over the past approximately 20 years each lot within the business park has been developed and this proposal will see the completion of the business park as it is the last vacant parcel in the business park.

## Previous Submission

The Previous DA submission for this site DA2019/0988 was withdrawn. The engineering referral cited the following actionable items requiring further information which have been addressed in this submission.

- 1) The applicant is to provide survey detail including dimensions , width, depth , length, invert levels etc of the existing On Site Stormwater Detention(OSD) Tank.*

These have been included in Annexure 2 Geomat Engineering Survey Plans Rev\_2

- 2) A condition report prepared by a structural/civil engineer is to be prepared in regard to the suitability of using the existing OSD tank for the proposed development .*

A site inspection report of the existing OSD has now been undertaken by TTW and included in annexure 3.

- 3) The DRAINS on Site Detention system model is to be submitted to Council for review and summary information presented in the format listed in Councils On Site Detention Technical specification

This has been undertaken by Inline Hydraulic Service and included in annexure 1

- 4) The outlet stormwater line from the detention tank is to be shown together with the connection point to Councils existing stormwater drainage network.

These have been included in Annexure 2 Geomat Engineering Survey Plans and the pit connection on Warringah Road Referenced in the TTW inspection report in annexure 3.

- 5) The landscaping plans detail tree planting above the footprint of the existing OSD tank and given the limited soil cover over the tank lid, the viability of the tree planting may be compromised.

The landscaping plans have been amended in the updated submission and concerns addressed with shallow plantings sympathetic to both landscaping requirements and the existing OSD tank with limited soil coverage. Refer to Landscape Development Application prepared by Arcadia Landscape Architecture Issue C dated December 2019.

## The Proposed Development

- The Development submission proposes construction of a fit for purpose Medical centre.
- Total GFA= 1976m<sup>2</sup> (Ground Floor=468m<sup>2</sup>, Level 1=457m<sup>2</sup>, Level 2=525m<sup>2</sup>, Level 3=526m<sup>2</sup>) Measured as per the LEP Definition.
- Treatment at the facility is by appointment only, No overnight stays, the Hold bays only to facilitate observation prior to patient transfer off site.
- Hours of operation 7am-7pm, six days a week. However no patients booked after 5pm.
- After hours emergency treatment would be approximately 1 patient per 3 months. This is only for emergency spinal compression where immediate treatment is the only relief.
- Cancer treatment centre with Radiation Oncology, Medical Oncology and support services for the management and treatment of cancer.
- Carparking will now include boom gates and approved/controlled access only.
- Staff and patient numbers only to be referenced as per TTPA Traffic report.
- Existing Detention tank and discharge point has been surveyed. As per Drawing 1775G\_Frenchs\_Forest\_Frenchs\_Forest\_Rd Rev\_2 Sheet 1 & 2
- Existing Detention tank has been reviewed for construction and suitability. As Per TTW Site Inspection report 191134 CAAA Report\_3 dated 4/12/2019

## On Site Detention System

### Current conditions

<b>Total Site Area</b>	1.33Ha <sup>1</sup>
<b>Current OSD Volume</b>	828m <sup>3</sup> (55m long x 6m wide x 2.51m deep – average depth)

### Required conditions

Note, this was undertaken using DRAINS modelling assuming greenfield site to 85% impermeable area. Based on the calculations provided and Council's DCP, we believe that the volume nominated below meets Council's requirements.

<b>Total Site Area</b>	1.33Ha <sup>2</sup>
<b>Required OSD Volume for Total Site Area</b>	580m <sup>3</sup>

Subsequent to the volume calculation, a survey of the on-site detention tank has been undertaken and it was found that the existing OSD tank exceeded the minimum Council DCP requirements by some 248m<sup>3</sup>.

The 600mm diameter pipe appears in fair condition and is suitable for use. The orifice plate size is 350mm diameter. The tank overflow is sufficient and has a rock apron installed so ensure no erosion occurs during extended large storm events.

Note that this is not a new complex. The complex has been established for approximately 20 years. The proposed development is new however all the systems for the complex are already in place, i.e. main drainage lines etc.

## Summary

Based on the information obtained from the supporting annexures including the;

- Geomat Engineering survey,
- TTW Site inspection report,
- DRAINS calculations provided for the 1:20 and 1:100,
- As well as a physical inspection onsite by Inline Hydraulic Services,

Inline Hydraulics Services believes that the capacity of the existing OSD exceeds the volume requirements of the Northern Beaches Council DCP and the good condition of the reinforced concrete tank, is more than capable to support the developments connection to the existing Forest Central Business Park OSD and drainage system for stormwater discharge of the development.

<sup>1</sup> Source: Nearmap

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## Annexures

Please see attached annexure as per the following;

	NAME	DRAWING/DOCUMENT Number	REV	DATED
Annexure 1	Drains Model Results	1:20 & 1:100		27/11/2019
Annexure 2	Survey Plans	1775G-Frenchs_Forest_Frenchs_Forest_Rd	2	21/08/219
Annexure 3	TTW Site Inspection Report	191134 CAAA	3	4/12/2019



**Paul McDonald**

Director

**Inline Hydraulic Services Pty Ltd**

AHSCA Full Member #2508

Dip. Hydraulic Engineering #90967NSW

# DRAINS results prepared from Version 2019.09 1:20 Year Results

## PIT / NODE DETAILS

Name	Max HGL	Max Pond HGL	Max Surface Flow Arriving (cu.m/s)	Version 8 Max Pond Volume (cu.m)	Min Freeboard (m)	Overflow (cu.m/s)	Constraint
N728	8.25		0				

## SUB-CATCHMENT DETAILS

Name	Max Flow Q (cu.m/s)	EIA Max Q (cu.m/s)	Remaining Max Q (cu.m/s)	EIA Tc (min)	Remaining Tc (min)	Due to Storm
Pre Dev	0.755	0	0.755	5	6	5% AEP, 15 min burst, Storm 6
Post Dev	0.814	0.761	0.054	5	6	5% AEP, 5 min burst, Storm 1

## PIPE DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Max U/S HGL (m)	Max D/S HGL (m)	Due to Storm
P1.000	0.271	2.02	8.905	8.254	5% AEP, 30 min burst, Storm 8

## CHANNEL DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Due to Storm
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## OVERFLOW ROUTE DETAILS

Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm
OF578	0	0	0.908	0	0	0	0	

## DETENTION BASIN DETAILS

Name	Max WL	MaxVol	Max Q Total	Max Q Low Level	Max Q High Level
OSD	9.44	416.4	0.271	0.271	0

Run Log for Frenchs Forest Rd.drn run at 08:36:47 on 27/11/2019

Flows were safe in all overflow routes.

# DRAINS results prepared from Version 2019.09 1:100 Year Results

## PIT / NODE DETAILS

Name	Max HGL	Max Pond HGL	Max Surface Flow Arriving (cu.m/s)	Version 8 Max Pond Volume (cu.m)	Min Freeboard (m)	Overflow (cu.m/s)	Constraint
N728	8.29		0				

## SUB-CATCHMENT DETAILS

Name	Max Flow Q (cu.m/s)	EIA Max Q (cu.m/s)	Remaining Max Q (cu.m/s)	EIA Tc (min)	Remaining Tc (min)	Due to Storm
Pre Dev	1.03	0	1.03	5	6	1% AEP, 10 min burst, Storm 1
Post Dev	1.114	1.036	0.08	5	6	1% AEP, 5 min burst, Storm 1

## PIPE DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Max U/S HGL (m)	Max D/S HGL (m)	Due to Storm
P1.000	0.328	2.22	9.237	8.295	1% AEP, 45 min burst, Storm 6

## CHANNEL DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Due to Storm
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## OVERFLOW ROUTE DETAILS

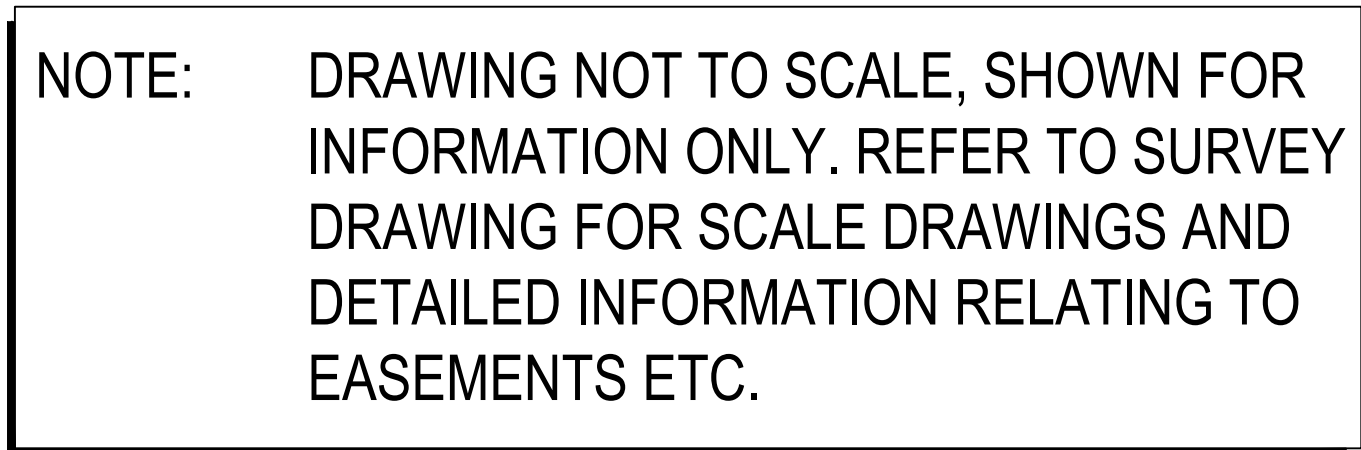
Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm
OF578	0	0	1.479	0	0	0	0	

## DETENTION BASIN DETAILS

Name	Max WL	MaxVol	Max Q Total	Max Q Low Level	Max Q High Level
OSD	10.01	580.5	0.328	0.328	0

Run Log for Frenchs Forest Rd.drn run at 08:41:31 on 27/11/2019

Flows were safe in all overflow routes.



Date:	10.12.19	Project No.	2019-0229
Scale:	NTS		
Drawn:	POK	Drawing No.	H01 / P1
Design:	PM		
No in set:	1		

## Site Inspection Report

To Erilyan Pty Ltd (NSW)

60 Strathallen Avenue  
Northbridge NSW 2063

Project GenesisCare Cancer Centre -  
Project Maui

Job No 191134 CAAA

Report No 3

Attention James Curtin

Date 04/12/2019

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**Subject:** On-Site Detention Tank

**Date of Inspection:** 20/11/2019

**Time of Inspection:** 10am

**Inspected With:** Ryan Cooke

**Weather:** Sunny

Site inspection was initiated by Ryan Cooke of Erilyan for the condition of the OSD tank and the confirmation of the OSD outlet direction and location.



Copy to Site Erilyan Pty Ltd (NSW), James Curtin;

Engineer Anthony LAHOUD



**Site Inspection Report**

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Date **04/12/2019**

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Visual inspection of interior of onsite detention tank indicated a constructed reinforced concrete tank that it is in generally good condition with no visible structural defects to the interior walls or ceiling. The reinforced concrete floor of the tank is not visible however due to a build-up of silt which is to be cleaned out by the existing tenant. A clause in current tenants lease which requires the them to clean out silt within the detention tank upon termination of their lease. Please refer to attachment - 2.5.1 (A) -4. The outlet pipe had an existing maxi-mesh screen and orifice plate installed which are still adequately attached.



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Engineer **Anthony LAHOUD**

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Upon looking at the outlet pipe at 90 degrees to the direction of Warringah Rd being a 600 diameter it seemed clear and ends approximately 25m to a pit opening



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Date **04/12/2019**Page No **4 of 4**

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Although I was unable to lift the lid from projected pit on Warringah Rd due to unsafe nature of lifting the lid on a busy road, the length and direction of the 600 diameter pipe indicates it connects to the kerb inlet pit adjacent to the OSD outlet point and the large RMS information signage pole. Following a survey of the pipe it has been identified that the 600mm pipe connects to the kerb inlet pit adjacent to the OSD outlet and the large signage pole. This connection point is shown on the survey plan.



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Engineer **Anthony LAHOUD**