

Engineering Referral Response

Application Number:	DA2022/2018
Proposed Development:	Construction of a dwelling house
Date:	01/06/2023
To:	Dean Pattalis
Land to be developed (Address):	Lot 9 DP 271326 , 9 Raven Circuit WARRIEWOOD NSW 2102

Reasons for referral

This application seeks consent for the following:

- New Dwellings or
- Applications that require OSD where additional impervious area exceeds 50m² or
- Alterations to existing or new driveways or
- Where proposals affect or are adjacent to Council drainage infrastructure incl. watercourses and drainage channels or
- Torrens, Stratum and Community Title Subdivisions or
- All new Commercial and Industrial and RFB Development with the exception of signage or
- Works/uses in flood affected areas

And as such, Council's development engineers are required to consider the likely impacts on drainage regimes.

Officer comments

Assessment 1 - 16/01/2023:

Access

Raven Circuit is a private road. As such there is no requirement for driveway levels.

Stormwater

As per consent condition 1 of subdivision DA2019/0887, Future housing development on individual lots is to provide on-site stormwater detention in accordance with Northern Beaches Council's –Warriewood Valley Urban Release -Water Management specification and generally in accordance with the concept drainage plans prepared by A T and L , drawing number SKC 014, dated 21/6/20. Detailed drainage plans for future housing development are to be prepared by a suitably qualified Civil Engineer, who has membership to the Institution of Engineers Australia, National Professional Engineers Register (NER) or RPENG (Civil). The individual lot site storage and permissible site discharges are to be in accordance with the values specified on the concept drainage plan. Underground storage tanks are to be Lattice (LU5000) tanks or equivalent .(internal Reference 2020/363144 and 2020/457164)
Requesting amended stormwater plans to account for OSD

- Site Storage Requirements: LOT 9 - 9.0m³
- PSD Requirements 1%: LOT 9 - 3.40 L/sec

Assessment 2 - 1/03/2023:

Stormwater

The applicant has proposed an alternative solution which departs from the lattice OSD tank design located underneath the driveway as originally approved in DA2019/0887.
The proposed tanks at the rear of the property would not be supported.

Please consider other alternatives such as tanks under the driveway, and/or front yard, and/or garage which also meets the the proposed OSD volumes and discharge rate as per DA2019/0887.
If feasible, a direct connection to council's pit or pipe would lower the invert at council's stormwater system. This would increase the depth of the underground tank and may achieve more volume to meet the necessary SSR requirements.

Council will only accept above ground tanks if the applicant can demonstrate it's not feasible from an engineering perspective to drain via gravity from underground tanks to council's stormwater system.

Requesting amended plans which reflects what was originally approved in the AT&L Concept design. If not feasible, requesting evidence to show that underground tanks draining via gravity to the kerb or council's stormwater system can not achieve the SSR and PSD requirements.
A DRAINS model is required to back up any altered design which demonstrates compliance to the SSR and PSD requirements. This is because a relocation of tanks would increase the bypass flows. All calculations will need to be shown.

In accordance with Councils Water management policy for development a DRAINS model is to be submitted to Council for review.

For Planner:

As above ground OSD tanks are proposed at the rear of the site which is taking 9-10sqm of landscaped area, comments from council's landscape officer on this set up are required.

The proposed solution is not acceptable and there is insufficient information for Council's Development Engineering Team to assess the application.

Assessment 3 - 1/06/2023:

Access

There have been updated plans to for the driveway levels to increase capacity under the driveway. The levels indicate a B85 vehicle is still capable of safely entering and exiting the driveway without scraping issues.

Stormwater

Amended plans have been provided to address the OSD requirements which are generally in accordance with the concept design provided by A T and L , drawing number SKC 014, dated 21/6/20.

The PSD has been achieved with minimum bypass.

It is noted that due to site constraints, it is difficult to meet the SSR requirements with a tank under the driveway as there is minimum fall to the kerb. The plans also address compliance with Landscaping requirements along the front boundary. As such, the proposed OSD basin has reduced in volume and does not achieve the required SSR of 9m³. Due to the site constraints and landscaping requirements, there is no potential to increase the OSD volume in the property frontage without pushing the building line back. As the SSR has not been satisfied by only 2.6m³, the stormwater plans have been assessed and accepted on merit.

No development engineering objections subject to conditions.

The proposal is therefore supported.

Note: Should you have any concerns with the referral comments above, please discuss these with the Responsible Officer.

Recommended Engineering Conditions:

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

Vehicle Driveway Gradients

The Applicant is to ensure driveway gradients within the private property are not to exceed a gradient of 1 in 4 (25%) with a transition gradient of 1 in 10 (10%) for 1.5 metres prior to a level parking facility. Access levels are to comply with the allocated vehicle profile detailed in this consent.

Details demonstrating compliance are to be submitted to the Certifier for approval prior to the issue of the Construction Certificate.

Reason: To ensure suitable vehicular access to private property.

Structural Adequacy and Excavation Work

Excavation work is to ensure the stability of the soil material of adjoining properties, the protection of adjoining buildings, services, structures and / or public infrastructure from damage using underpinning, shoring, retaining walls and support where required. All retaining walls are to be structurally adequate for the intended purpose, designed and certified by a Structural Engineer.

Details demonstrating compliance are to be submitted to the Certifier prior to the issue of the Construction Certificate.

Reason: To provide public and private safety.

On-site Stormwater Detention Details

The Applicant is to provide a certification of drainage plans detailing the provision of on-site stormwater detention in accordance with Northern Beaches Council's Water Management Policy for Development", and generally in accordance with the concept drainage plans prepared by Strutterre Consulting Engineers, drawing number WAW0009-C-401 - WAW0009-C-403, Revision 4, dated 25/05/2023.

Detailed drainage plans are to be prepared by a suitably qualified Civil Engineer, who has membership to the Institution of Engineers Australia, National Professional Engineers Register (NPER) and registered in the General Area of Practice for civil engineering.

The drainage plans must address the following:

1. Detailed drainage plans, including engineering certification, are to be submitted to the Certifier for approval prior to the issue of the Construction Certificate.
2. The ponding water depth in the above ground OSD basin to be maximum 250mm for open air OSD to negate the requirement for fencing.

Reason: To ensure appropriate provision for the disposal of stormwater and stormwater management arising from the development.

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

Road Reserve

The applicant shall ensure the public footways and roadways adjacent to the site are maintained in a safe condition at all times during the course of the work.

Reason: Public safety.

CONDITIONS WHICH MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF THE OCCUPATION CERTIFICATE

Positive Covenant and Restriction as to User for On-site Stormwater Disposal Structures

The Applicant shall lodge a Legal Documents Authorisation Application with Council. The application is to include the original completed request forms (NSW Land Registry standard forms 13PC and/or 13RPA) and a copy of the Works-as-Executed plan (details overdrawn on a copy of the approved drainage plan by a Registered Surveyor) and Hydraulic Engineers' certification for the completed on-site stormwater detention system works. A guide to the process can be found on Council's website using the following link.

<https://files.northernbeaches.nsw.gov.au/sites/default/files/documents/pdf-forms/legal-documents-authorisation-on-site-stormwater-detention-systems/guide-submitting-ldaa-nov19.pdf>

The form for the application can be found on Council's website using the following link.

<https://files.northernbeaches.nsw.gov.au/sites/default/files/documents/pdf-forms/legal-documents-authorisation-on-site-stormwater-detention-systems/4023-legal-documents-authorisation-oct19.pdf>

The Applicant shall create on the Title a positive covenant in respect to the ongoing maintenance and restriction as to user over the on-site stormwater detention system within this development consent. The terms of the positive covenant and restriction are to be prepared to Council's standard requirements at the applicant's expense and endorsed by Northern Beaches Council's delegate prior to lodgement with the NSW Land Registry Services. Northern Beaches Council shall be nominated as the party to release, vary or modify such covenant. A copy of the certificate of title demonstrating the creation of the positive covenant and restriction as to user for the on-site stormwater detention system is to be submitted.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of final Occupation Certificate.

Reason: To ensure the on-site stormwater detention system is maintained to an appropriate operational standard and not altered.