Engineering Referral Response

Application Number:	DA2022/0742

Date:	17/10/2022
To:	Luke Zajac
Land to be developed (Address):	Lot 2 DP 25969 , 78 Chisholm Avenue AVALON BEACH NSW 2107

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

The proposal is for the alterations and additions to the existing dwelling.
Stormwater
The submitted stormwater plan is not satisfactory. The site falls to the rear and the method of stormwater discharge shall be in accordance with Clause 5.5.1.2 of Council's Water Management for Development Policy. All stages of the Clause are to be addressed.
The stormwater plan proposes to discharge via a level spreader however no supporting calculations have been provided. Additional information required for assessment are:

- It is unclear if the option of an easement has been investigated in accordance with Stage 1 of Clauses 5.5.1.2. Where an interallotment easement is not viable, a refusal of easement must be provided.
- If the stormwater discharge is proposed via a level spreader the design shall be in accordance with Appendix 4.
- Stormwater flows from the whole site are to be restricted for all storm events up to and including the 1% AEP storm event.
- Total site discharge including bypass flows and controlled flows through the level spreader must not exceed the 20% AEP state of nature storm event for all storms.
- A catchment plan shall be provided showing bypass areas and the areas draining to the OSD system.
- Calculations shall be shown on plan including:

-Predeveloped and post developed impervious areas

- Predeveloped flows for the 1%, 5%, 20% AEP storm events
- Post developed flows for the 1%, 5%, 20% AEP storm events. The discharge from the OSD and the bypass flows are to be shown.

- Concurrence shall be provided from the geotechnical engineer for the proposed method of discharge via a level spreader.

Additional Information Received on 10/10/2022
The amended stormwater plan proposes an OSD system for the developed areas and the undeveloped areas to the rear are not included in the calculations. The proposed OSD volume is unsatisfactory.
There appears to be an error in the tabulated flows as the total flows and the discharge from the OSD do not match and the total flow for the 5% AEP storm is higher than the 1% AEP storm.
The drains model shown does not have an overflow component. Based on the area discharging to the OSD system it is unlikely that a volume 3.75m^3 is sufficient to control the discharge without overflow.
The applicant shall provide amended plans with an appropriately sized OSD system to control the flows through the level spreader such that the flows do not exceed the 20% AEP state of nature storm event for all storms. The calculations are to include flows from the OSD, bypass flows and total flows from the level spreader. The existing flows from the undeveloped area to the rear are to be included.
Additional Information Received on 14/10/2022
The amended stormwater plan proposes an OSD system to control the flows from the developed areas to the 5year state of nature flows and is satisfactory subject to conditions.
An addendum to the geotechnical report has been submitted stating that the provision of a level spreader is acceptable subject to the flows being kept to that of the natural runoff for the site.
No objections to approval subject to conditions as recommended.

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

Geotechnical Report Recommendations have been Incorporated into Designs and Structural Plans
The recommendations of the risk assessment required to manage the hazards as identified in the Geotechnical Report prepared by White Geotechnical Group dated 17/1/2022 & Letter dated 16/8/2022 are to be incorporated into the construction plans. Prior to issue of the Construction Certificate, Form 2

of the Geotechnical Risk Management Policy for Pittwater (Appendix 5 of P21 DCP) is to be completed and submitted to the Accredited Certifier. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure geotechnical risk is mitigated appropriately.

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 for Development Policy, and generally in accordance with the concept drainage plans prepared by Stellen Consulting, drawing number DR-001 to DR-006, dated 13/10/2022. 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:
i. The design of the level spreader shall be in accordance with Appendix 4.
Detailed drainage plans, including engineering certification, are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

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.

Geotechnical Certification Prior to Occupation Certificate
The Applicant is to submit the completed Form 3 of the Geotechnical Risk Management Policy (Appendix 5 of P21 DCP) to the Principal Certifying Authority prior to issue of the Occupation Certificate.

Reason: To ensure geotechnical risk is mitigated appropriately.