

## Engineering Referral Response

<b>Application Number:</b>	DA2020/0008
<b>Date:</b>	25/11/2020
<b>To:</b>	Renee Ezzy
<b>Land to be developed (Address):</b>	Lot 27 DP 9151 , 3 Central Road 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 50m<sup>2</sup> 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

#### **SUPPORTED**

#### **Amended Referral Comment**

#### **Amended plans and advice provided regarding VPA for footpath.**

The revised stormwater plans have been assessed and are considered satisfactory subject to conditions. Council's Traffic Engineers have supported the revised driveway design subject to conditions. They have also included conditions for the provision of the footpath to the nearest bus stops.

**Development Engineers raise no objection to approval, subject to conditions as recommended.**

#### **First Referral Comment**

The proposed development comprises a double basement which have separate entrances off Patterson Lane on the eastern boundary of the site. This lane has a one way cross-fall from east to west with a 150mm high kerb and gutter along the entire frontage of the site. The proposed driveway crossings must include a fall from each basement to the existing kerb invert level to ensure no stormwater collected in the kerb and gutter enters the property. The applicant's traffic consultant has provided turning paths for each of the crossings and as the existing lane is only wide enough to permit a single vehicle to enter or exit the lane, the driveway crossings need to be extended. Due to the existing grade along the invert of the laneway and the required width of each of the crossings and the distance between the lane and basement which is quite short, the proposal cannot achieve the required incline grade required to ensure no stormwater enters each of the basements. In this regard it will be necessary

for the applicant to redesign the driveway crossings and basement levels to ensure a minimum 150mm crest above the invert level is achieved at all points along the each of the crossings prior to transitioning into the basements.

The proposal requires access to the nearest bus stops with suitable grades in accordance with clause 26 of the SEPP. The applicant's access consultant has provided a report addressing this requirement which is satisfactory. To achieve this requirement the proposal include a footpath along the entire frontage of the site and a connecting path from the boundary of the site to the footpath. The survey plan indicates a level difference of approximately 1 metre between the kerb and boundary where this connecting path is shown. In order to meet the grade required for this path it will be necessary to fill the nature strip in this area. Also to meet Council's requirements the footpath will need to be a minimum of 1.5 metres wide. A review of the arborist's report indicates that trees 12 and 13 are to remain. As a result of the proposed footpath works these trees may be impacted. It is considered that this issue must be assessed by Council's Tree Management Officer.

The applicant also includes a narrow path along the frontage to Patterson Lane. As the access report does not rely upon this path for compliance it is considered that this path can be deleted. If it is deemed necessary from a Road Assets perspective then it can remain. The kerb alignment appears to be in the correct location with respect to the levels and drainage. Due to the width between the kerb and boundary this footpath will not meet Council's minimum standards.

The submitted stormwater management plan including on-site stormwater detention (OSD) has been reviewed and is not acceptable. The proposed volume and discharge rate meets Council's DCP however as the point of connection is to a Council pit in Patterson Lane and the invert level of the orifice plate is lower than the kerb at the point of connection the system is deemed to have a drowned orifice which is not acceptable. In this regard the applicant's engineer will need to relocate the OSD tank to ensure the invert of the orifice plate is higher than the kerb level adjacent to the Council stormwater pit that the site is proposing connection.

The Geotechnical report meets the requirements of the DCP.

Development Engineers cannot support the application due to insufficient information to address Clauses B5.7, B6.1 of Pittwater 21 DCP 2014.

Note: The proposed vehicular access to this development is via Patterson Lane which is a single lane, two way road which also acts a a pedestrian access way between Avalon Village and the primary school in Central Road. It is considered that the conflict of vehicles and pedestrians must be assessed by Council's Traffic Engineers. In order to avoid this conflict is is considered that access to this site should be via Central Road where the existing crossing to the site is located.

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:**

## **FEES / CHARGES / CONTRIBUTIONS**

### **Construction, Excavation and Associated Works Bond (Drainage works)**

The applicant is to lodge a bond of \$5,000 as security against any damage or failure to complete the

construction of stormwater drainage works as part of this consent.

Details confirming payment of the bond are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: Protection of Council's infrastructure.

### **Construction, Excavation and Associated Works Security Bond (Crossing / Kerb)**

The applicant is to lodge a Bond of \$25,000 as security against any damage or failure to complete the construction of any vehicular crossings, kerb and gutter, any footpath works and removal of any redundant driveways required as part of this consent.

Details confirming payment of the bond are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: Protection of Council's infrastructure.

## **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 JKGeotechnics dated 27 November 2019 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 Policy and generally in accordance with the concept drainage plans prepared by Sparks + Partners, drawing number 197279 DA1.01, DA4.01, DA4.02, DA4.10, DA4.11 and DA4.12 Revision 3, dated 8/09/20. 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.

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.

### **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, except where site conditions permit the following:

- (a) maximum height of 900mm above or below ground level and at least 900mm from any property boundary, and
- (b) Comply with AS3700, AS3600 and AS1170 and timber walls with AS1720 and AS1170.

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

Reason: To provide public and private safety.

### **Shoring of Council's Road Reserve (Temporary road anchors)**

Should the proposal require shoring to support an adjoining property or Council land, the Applicant shall provide the adjoining properties with engineering drawings, detailing the proposed shoring works for their consideration and approval.

Written approval from Council under Section 138 of the Roads Act 1993 is required if temporary ground anchors are to be used within Council's road reserve. The Owner's approval is to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure that owners consent is obtained for ancillary works, and to ensure the protection of adjoining properties and Council land.

### **Vehicle Crossings Application**

The Applicant is to submit an application for driveway levels with Council in accordance with Section 138 of the Roads Act 1993. The fee associated with the assessment and approval of the application is to be in accordance with Council's Fee and Charges.

An approval is to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To facilitate suitable vehicular access to private property.

### **Stormwater Drainage Application**

The applicant is to provide a stormwater drainage application under Section 68 of the Local Government Act 1993 to Council for approval. The submission is to include four (4) copies of Civil Engineering plans for the design of the stormwater connection from the site into the existing Council drainage pit in Patterson Lane which is to be generally in accordance with the civil design approved with the Development Application and Council's specification for engineering works - AUS-SPEC #1. The form can be found on Council's website at [www.northernbeaches.nsw.gov.au](http://www.northernbeaches.nsw.gov.au) > Council Forms > Stormwater Drainage Application Form. The fee associated with the assessment and approval of the application is to be in accordance with Council's Fees and Charges.

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

Reason: To ensure appropriate provision for disposal and maintenance stormwater management and compliance with the BASIX requirements, arising from the development.

## **CONDITIONS THAT MUST BE ADDRESSED PRIOR TO ANY COMMENCEMENT**

### **Public Liability Insurance - Works on Public Land**

Any person or contractor undertaking works on public land must take out Public Risk Insurance with a minimum cover of \$20 million in relation to the occupation of, and approved works within Council's road

reserve or public land, as approved in this consent. The Policy is to note, and provide protection for Northern Beaches Council, as an interested party and a copy of the Policy must be submitted to Council prior to commencement of the works. The Policy must be valid for the entire period that the works are being undertaken on public land.

Reason: To ensure the community is protected from the cost of any claim for damages arising from works on public land.

## **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.

### **Civil Works Supervision**

The Applicant shall ensure all civil works approved in the Section 138 and Section 68 application approvals are supervised by an appropriately qualified and practicing Civil Engineer.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority and/or Roads Authority.

Reason: To ensure compliance of civil works with Council's specification for engineering works.

### **Footpath Construction**

The applicant shall construct a 1.5 metre wide footpath. The works shall be in accordance with the following:

- (a) All footpath works are to be constructed in accordance with the Section 138 Road Act approval.
- (b) Council is to inspect the formwork prior to pouring of concrete to ensure the works are in accordance with Section 138 Road Act approval for footpath.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority.

Reason: To ensure compliance of footpath works with Council's specification for engineering works.

### **Traffic Control During Road Works**

Lighting, fencing, traffic control and advanced warning signs shall be provided for the protection of the works and for the safety and convenience of the public and others in accordance with RMS Traffic Control At Work Sites Manual (<http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/technical-manuals/tcws-version-4/tcwsv4i2.pdf>) and to the satisfaction of the Roads Authority. Traffic movement in both directions on public roads, and vehicular access to private properties is to be maintained at all times during the works

Reason: Public Safety.

### **Vehicle Crossings**

The Applicant is to construct one vehicle crossing 5.5 metres wide in accordance with Northern Beaches Council Drawing No A4-3330/1 Normal and the driveway levels application approval. An Authorised Vehicle Crossing Contractor shall construct the vehicle crossing and associated works within the road reserve in plain concrete. All redundant laybacks and crossings are to be restored to kerb, footpath and grass. Prior to the pouring of concrete, the vehicle crossing is to be inspected by

Council and a satisfactory "Vehicle Crossing Inspection" card issued.

A copy of the vehicle crossing inspection form is to be submitted to the Principal Certifying Authority.

Reason: To facilitate suitable vehicular access to private property.

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

### **Reinstatement of Kerb**

The Applicant shall reinstate all redundant laybacks and vehicular crossings to conventional kerb and gutter, footpath or grassed verge as appropriate with all costs borne by the applicant.

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

Reason: To facilitate the preservation of on street parking spaces.

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

The Applicant shall lodge the Legal Documents Authorisation Application with Council. The application shall 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) and Hydraulic Engineers' certification.

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 disposal structures 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 lodgment 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 is to be submitted.

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

Reason: To ensure the on-site stormwater disposal system is maintained to an appropriate operational standard.

### **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.

### **Certification of Council Drainage Works and Works as Executed Data**

The Applicant shall submit a suitably qualified Civil Engineer's certification that the completed works have been constructed in accordance with this consent and the Section 68 approval. Works as Executed data (details overdrawn on a copy of the approved drainage plans) certified by a registered surveyor prepared in accordance with Council's 'Guideline for preparing Works as Executed data for Council Stormwater Assets' shall be submitted to Council for acceptance prior to the release of any security deposits.

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

Reason: To ensure compliance of drainage works with Council's specification for engineering works.