

Engineering Referral Response

Application Number:	REV2021/0034
Date:	12/11/2021
To:	Rebecca Englund
Land to be developed (Address):	Lot B DP 316404 , 231 Whale Beach Road WHALE 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

Vehicular Access

The proposal includes the provision of a new driveway crossing off Surf Rd to gain access to the basement parking area. The driveway has been modified to ensure no portion of the driveway burdens Council's property at Lot 10 DP 11067. The width of the modified driveway limits vehicular access to one a single lane. This issue must be addressed by Council's Traffic Engineers as it is contrary to the original proposal. A review of the transition grades for the proposed driveway indicates that it is not in accordance with the requirements of AS/NZS2890.1:2004. In this regard the proposed driveway is a reverse curve and as such the inside radius changes from one side to the other. The long section provided does not show the levels for the second inside radius and the transition lines are not perpendicular to the tangent points. As a result the level of the basement is too low and will need to be raised to meet the requirements of AS/NZS2890.1:2004.

Civil Works in Road Reserve

The proposal includes the provision of a service bay and indented parking on Surf Road. It is considered that Engineering drawings including proposed and existing levels and long and cross sections must be provided for these works to assess the extend of road works required. The plans must include the proposed stormwater diversion works for the Council trunk drainage line.

The proposal includes the provision of a landscaped overland flow path in Whale Beach Road. It is considered that this area be turfed to ensure no restriction to the flow of stormwater occurs in storm events. Also the existing driveway crossing along Whale Beach Road is to be reinstated to kerb and footpath. A note on the plans is to be included for these works.

Stormwater

The submitted stormwater plans for the site have not been updated to reflect the revised basement parking area. Also the connection of stormwater from the site is to be into the proposed trunk drainage line diversion in Surf Road. No stormwater pipes are to be directed through Council's land at Lot 10 DP 110676. The water quality design is to be assessed by Council's Catchment Team. In terms of the proposed trunk line diversion, comments from Stormwater Assets have been provided. In terms of the overland flow report by Barrenjoey Consulting Engineers P/L, the hydrologic/ hydraulic analysis and design of the trunk drainage line and overland flow path size is acceptable. Comments from Stormwater Assets have been provided for the overland flow path along the southern side of the building. It is considered that the landscaping plans be amended to reflect the treatment of this path as designed by the Engineer to ensure no blockage of the flows.

Geotechnical Report

The geotechnical report does not include Forms 1 and 1A as required by Council's Geotechnical Risk Policy.

Development Engineers cannot support the proposal due to insufficient information to address clauses B5 and B6 of the DCP.

Amended plans received 12/11/2021

The revised driveway grades provided by the applicant's Traffic consultant including swept paths are considered acceptable. The civil works in the public domain have been reviewed by Council's Landscape Architect and Traffic Team and are acceptable subject to conditions. The proposed stormwater diversion and overland flow path are also acceptable subject to conditions. The Geotechnical report addresses the relevant DCP controls.

Development Engineering support the application, 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:

FEES / CHARGES / CONTRIBUTIONS

Construction, Excavation and Associated Works Bond (Drainage works)

The applicant is to lodge a bond of \$150,000 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 \$100,000 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.

Construction, Excavation and Associated Works Bond (Maintenance for civil works)

The developer/applicant must lodge with Council a maintenance bond of \$25,000 for the construction of public domain works. The maintenance bond will only be refunded upon completion of the six month maintenance period, if work has been completed in accordance with the approved plans and to the satisfaction of Council. The maintenance bond is to be paid prior to Council issuing practical completion.

Reason: To ensure adequate protection of Council infrastructure.

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

Stormwater Disposal

The applicant is to submit Stormwater Engineering Plans for the new development within this development consent, prepared by an appropriately qualified and practicing Civil Engineer, indicating all details relevant to the collection and disposal of stormwater from the site, buildings, paved areas and where appropriate adjacent catchments. Stormwater shall be conveyed from the site to the proposed Council piped drainage system in Surf Road. The plans are to include an overland flow path a minimum of 600mm wide along the southern boundary of the site.

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

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

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 Douglas Partners dated September 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.

Submission Roads Act Application for Civil Works in the Public Road

The Applicant is to submit an application for approval for infrastructure works on Council's roadway. Engineering plans for the new development works within the road reserve and this development consent are to be submitted to Council for approval under the provisions of Sections 138 and 139 of the Roads Act 1993.

The application is to include four (4) copies of Civil Engineering plans for the design of the public domain works which are to be generally in accordance with the Council's specification for engineering works - AUS-SPEC #1. The plans shall be prepared by a qualified civil engineer. The design must include the following information:

1. The diversion of the existing Council stormwater pipeline from Whale Beach Road to Surf Rd. The kerb and gutter is to be reconstructed under the path of the pipeline.
2. Stormwater pits must be provided at each bend in the pipeline, including a lintel with a minimum size of 1.8 metres.
3. The pits are to be designed in accordance with Council's standard details.
4. Reinstatement of all redundant crossings to kerb, footpath and grass.
5. Reconstruction of the kerb and gutter along Surf Road.
6. Provision of a 4 metre wide driveway crossing off Surf Rd generally in accordance with Council standard drawing A4/3330/3 NL.
7. Details of the service bay and associated footpath and retaining walls in Surf Road.
8. Details of the parking bays and footpath to the east of the site in Surf Road to The Strand.
9. Details of all works proposed in the Public Domain Plan condition of this consent.

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 ensure engineering works are constructed in accordance with relevant standards and Council's specification.

Utilities Services

Prior to the issue of the Construction Certificate, the Applicant is to obtain the following:

- (a) A letter from the utility provider confirming that satisfactory arrangements have been made for the approved development have been made; and
- (b) Evidence that notification has been received from a utility authority that, requirements for the development can be provided.

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

Reason: To ensure that services have been provided as required by this Consent.

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.

Sub-Soil Seepage

The Applicant is to submit plans demonstrating that all sub-soil seepage drainage is discharged via a suitable silt arrester pit, directly to Council's nearest stormwater drainage line being in Surf Road and is to be carried out in accordance with relevant Australian Standards. (Note: At the time of determination the following (but not limited to) Standards applied:

- Australian/New Zealand Standard AS/NZS 3500.3 - 2003 Plumbing and drainage - Stormwater drainage
- Australian/New Zealand Standard AS/NZS 3500.3 - 2003 / Amdt 1 - 2006 Plumbing and drainage - Stormwater drainage.

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

Reason: To ensure appropriate drainage and Stormwater management on site to protect amenity of residents.

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.

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 overland flow path along the southern boundary of the site 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 > Council Forms > Stormwater Drainage Application Form.

The design must include the following information.

1. The perimeter walls are to be watertight to ensure no flows enter the site or adjoining property.
2. The overland flow path is to be clear of any vegetation that will impede the flow.
3. Turf is to be provided between the rear of the public footpath in Whale Beach Road and the opening of the overland flow path at the boundary of the site, graded to ensure all flows enter the channel.
4. Details of the removal of the existing 450 mm pipeline traversing the site.

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

No Access Through Adjoining Park/Reserves

Access to the site through an adjoining park/reserve is prohibited without the written approval of the Council.

Reason: To ensure protection of council parks/reserves.

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.

Progress Certification (Road & Subdivision)

The applicant shall provide written certification is to be provided by a suitably qualified engineer upon completion and/or as and when requested by the Roads Authority for the following stages of works:

- (a) Silt and sediment control facilities
 - (b) Laying of stormwater pipes and construction of pits
 - (c) Proof Roll
 - (d) Sub-grade trimmed and compacted **
 - (e) Base-course laid and compacted **
 - (f) Kerb and gutter construction
 - (g) Pavement
 - (h) Landscaping and vegetation
 - (i) Clean-up of site, and of adjoining Council roadway and drainage system.
- (**To be tested by a recognised N.A.T.A. approved laboratory).

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

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

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.

Public Domain Construction

The applicant shall construct the public domain works in accordance with the following:

- (a) All works are to be constructed in accordance with the Section 138 Road Act approval
- (b) Council is to inspect the the works to ensure compliance with Section 138 Road Act approval.

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

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

Notification of Inspections (infrastructure works to be handed over to Council)

Council's Development Engineer is to be given 48 hours notice when the works reach the following stages:

- (a) Installation of Silt and Sediment control devices
- (b) Prior to backfilling of pipelines
- (c) Prior to pouring of stormwater gully pits
- (d) Prior to pouring of kerb and gutter, footpath and driveway crossing
- (e) Subgrade level / basecourse level / subbase
- (f) Sealing road pavement

NOTE: Any inspections carried out by Council do not imply Council approval or acceptance of the work, and do not relieve the developer/applicant from the requirement to provide an engineer's certification.

Reason: To ensure new Council infrastructure is constructed in accordance with Auspec 1 Council's design and specification standards.

Vehicle Crossing

The Applicant is to construct one vehicle crossing 4 metres wide in accordance with Northern Beaches Council Drawing No A4-3330/3 NL and the Section 138 Roads Act 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.

Kerb and Gutter Construction

The Applicant is to construct kerb and gutter and associated works along the entire frontage of the site in accordance with Northern Beaches Council Drawing No. A4 2276/A. Prior to the pouring of concrete,

the works are to be inspected by Council and an approval issued.

The approval is to be submitted to the Principal Certifying Authority.

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

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

Stormwater Disposal

The stormwater drainage works shall be certified as compliant with all relevant Australian Standards and Codes by a suitably qualified person. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

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

Driveway and Parking Facility Work

The Applicant shall submit a Traffic Engineers' certificate certifying that the driveway and parking facility was constructed in accordance with this development consent and the provisions of Australian/New Zealand Standard AS/NZS 2890.1:2004 parking facilities - Off-street car parking.

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

Reason: Compliance with this consent.

Retaining wall in Public Domain

The retaining wall works shall be certified as compliant with all relevant Australian Standards and Codes by a Structural Engineer.

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

Reason: Public and Private Safety

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 Civil Works and Works as Executed Data within the Public Domain

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 approved Section 138 and Section 68 approvals. Works as Executed data certified by a registered surveyor in relation to boundaries and/or relevant easements, prepared in accordance with Council's 'Guideline for preparing Works as Executed data for Council Assets' in an approved format shall be submitted to Council for acceptance and the acceptance issued to the Principal Certifying Authority prior to the issue of the Construction Certificate.

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

Restriction as to User (Stormwater Overland Flow Path)

The Applicant shall create lodge a Legal Documents Authorisation Application with Council to create a restriction as to user on the title over the area affected by the 100 year ARI stormwater overland flow path in order to:

1. Prohibit the alteration of the final stormwater overland flow path. (A copy of the Works-as-Executed plan details overdrawn on a copy of the approved drainage plan of the overland flow path and Hydraulic Engineers certification must be submitted to Council).
2. Prohibit the erection of any structure (including fencing) within the overland flow path without the written permission of Northern Beaches Council.

Northern Beaches Council shall be nominated as a party to release, vary or modify such restriction.

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

Reason: To ensure no modification of the stormwater overland flow path and the building platform without Council's approval.