

Engineering Referral Response

Application Number:	DA2017/1294
To:	Adam Mitchell
Land to be developed (Address):	Lot A DP 356986 , 9 Lawrence Street FRESHWATER NSW 2096 Lot CP SP 1172 , 15 Lawrence Street FRESHWATER NSW 2096

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

Development Engineers have reviewed the proposal and cannot support the proposal due to the following reasons.

1. Insufficient details are provided to demonstrate the development site is not impacted by the 1 in 100 year ARI storm event overland flow path. In order for Development Engineers to adequately check the design of the OSD system and analysis of the 1 in 100 yr ARI upstream catchment flows, when the DRAINS program is used, the input data and summary information including a copy of the model on computer disc must be provided. This information has not been submitted to Development Engineers for assessment to date.

2. Where the development site is deemed to be impacted by the 1 in 100 year ARI overland flow path, all requirements of Section 9.3, Overland Flow of Council's "Stormwater Drainage : From Low Level Properties" Policy, PDS-PL 136. The extents of the existing and proposed overland flow path are to clearly shown on the architectural and stormwater drainage plans and modelled using the HECRAS computer program. The HECRAS computer model is to be submitted to Development Engineers for assessment. Runoff from the developed site must not cause a detrimental effect on any property. This may require the retention (and possible expansion) of existing surface flow paths.

3. No written concurrence of the proposal was issued by Council's Traffic Engineers with respect to the location and dimension of the vehicle access fronting Lawrence Street. The proposed vehicle crossing conflicts with the existing kerb blister of the wombat crossing in Lawrence Street. In order for the vehicle

crossing to be constructed, the kerb blister will need to be modified. In this regard Development Engineers are unable to finalise the assessment of the proposal without comments/concurrence from Council's Traffic Engineers.

4.The proposed vehicle crossing conflicts with the existing kerb blister of the wombat crossing in Lawrence Street. In order for the vehicle crossing to be constructed, the kerb blister will need to be modified. No written concurrence of the proposal was issued by Council's Manager, Transport & Civil Infrastructure Assets for the modification of the above kerb blister. A referral request for comments should be issued to Council's Manager, Transport & Civil Infrastructure Assets to respond to the above issue.

5.The proposed vehicle crossing conflicts with the existing stormwater kerb inlet in Lawrence Street. In order for the vehicle crossing to be constructed, the stormwater kerb inlet pit will need to be modified or relocated. No written concurrence of the proposal was issued by Council's Stormwater Assets Engineer for the modification of this pit.

6.No written concurrence of the proposal was issued by Council's Stormwater Assets Engineer with respect to Section 6, Building Over or Adjacent to Council Drainage Systems and Easements Policy of Council's "Stormwater Drainage : From Low Level Properties" Policy, PDS-PL 136.

Not supported for approval due to lack of information to address:

- Stormwater drainage for the development in accordance with clause C4 Stormwater of the DCP
- Council's Stormwater pipeline clearance for the development in accordance with clause C6 Building over or adjacent to Constructed Council Drainage Easements
- Vehicle access for the development and impact of Council's road infrastructure in accordance with clause C2 Traffic, Access and Safety

Further assessment dated 15/5/2018

Development Engineers have reviewed the proposal and raise no objections subject to conditions.

Referral Body Recommendation

Recommended for approval, subject to conditions

Refusal comments

Recommended Engineering Conditions:

FEES / CHARGES / CONTRIBUTIONS

Works Bonds

(a) Construction, Excavation and Associated Works Bond (Drainage)

A Bond of \$10,000 as security against any damage to Council's stormwater drainage system at the rear of the property and failure to complete the construction of stormwater drainage works as part of this consent.

(b) Construction, Excavation and Associated Works Bond (Crossing/Kerb)

A Bond of \$10,000 as security against any damage or failure to complete the construction of any vehicular crossings, kerb and gutter and any footpath works required as part of this consent.

(c) Construction, Excavation and Associated Works Bond (Pollution)

A Bond of \$3,000 as security to ensure that there is no transmission of material, soil etc off the site and onto the public road and/or drainage systems.

(d) Construction, Excavation and Associated Works Bond (Failure to Remove Waste)

A bond of \$5,000 as security against damage to Council's road(s) fronting the site caused by the transport and disposal of materials and equipment to and from the site.

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

The developer/applicant must lodge with Council a Maintenance Bond of \$5,000 for the construction of the vehicle crossing, modification and extension of Council's stormwater drainage system in Lawrence Street, extension of Council kerb blister and associated streetscape works. The Maintenance Bond will only be refunded on completion of the Maintenance Period, if work has been completed in accordance with the approved plans to the satisfaction of Council.

(Note: This bond may be refunded and replaced by the Maintenance Bond upon submission to Council of the final Compliance Certificate or Subdivision Certificate.)

All bonds and fees shall be deposited with Council prior to Construction Certificate or demolition work commencing, details demonstrating payment are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure adequate protection of Council's infrastructure. (DACENZ01)

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

On-site Stormwater Detention Compliance Certification

Drainage plans detailing the provision of On-site Stormwater Detention in accordance with Northern Beaches Council's "On-site Stormwater Detention Technical Specification" and the concept drawing by AJ Whipps Consulting Group, drawing number 20170228, drawings C00 to C10, dated 7 December 2017 are to be submitted to the Certifying Authority.

The drainage plans must also incorporate open style fences along the property boundaries to facilitate conveyance of any overland flows across the drainage easement. The open style fences are to be installed/built for the full width of the drainage easement. Existing ground surface levels within the drainage easement must be retained. Landscaping within the drainage easement is to consist of grass or turfing only.

Certification by a suitably qualified Civil Engineer, who has membership to the Institution of Engineers Australia, National Engineers Register (NER) and registered in the General Area of Practice for civil engineering stating the stormwater drainage design and plans are in accordance with Council's "On-site Stormwater Detention Technical Specification" and all requirements of this condition.

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 the disposal of stormwater and stormwater management arising from the development. (DACENC03)

Submission of Engineering Plans for Infrastructure Works on Council Roadway

Engineering plans are to be submitted to Council for approval under the provisions of Sections 138 and 139 of the Roads Act 1993. The submission is to include four (4) copies of Civil Engineering plans for the design vehicle crossing, modification and extension of Council's stormwater drainage system in Lawrence Street, extension of Council kerb blister and associated streetscape works are to be submitted to Council for approval under the provisions of Sections 138 and 139 of the Roads Act 1993.

The above are to be designed and constructed in accordance with Council's specification for engineering works - AUS-SPEC #1 and Warringah Public Spaces Design Guidelines, policy no. STR-PR350.

The developer/applicant must lodge with Council a Maintenance Bond for the construction of \$5,000. The Maintenance Bond will only be refunded on completion of the Maintenance Period, if work has been completed in accordance with the approved plans and to the satisfaction of Council.

All bonds and fees shall be deposited with Council prior to Construction Certificate or demolition work commencing, details demonstrating payment are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

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

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

Vehicle Driveway Gradients

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 across the road reserve are to comply with the allocated vehicle profile detailed in Council's Minor Works Policy.

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

Reason: To ensure suitable vehicular access to private property

Structures Located Adjacent to Council Pipeline or Council Easement

All structures are to be located clear of any Council pipeline or easement. Footings of any structure adjacent to an easement or pipeline are to be designed in accordance with Council's Water Management Policy; in particular Section 6 - Building Over or Adjacent to Constructed Council Drainage Systems and Easements Technical Specification. Any proposed landscaping within a Council easement or over a drainage system is to consist of ground cover or turf only (no trees are permitted).

Structural details prepared by a suitably qualified Civil Engineer demonstrating compliance are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: Protection of Council's Infrastructure (DACENC21)

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 Certifying Authority prior to the issue of the Construction Certificate.

Reason: Safety. (DACENC19)

Pre-Construction Dilapidation Survey

A pre-construction / demolition Dilapidation Survey of Council's Stormwater Assets is to be prepared by a suitably qualified person in accordance with Council's Guidelines for Preparing a Dilapidation Survey of Council Stormwater Asset, to record the existing condition of the asset prior to the commencement of works. Council's Guidelines are available at <https://www.northernbeaches.nsw.gov.au>

The pre-construction / demolition dilapidation report must be submitted to Council for approval and the Certifying Authority prior to the issue of the Construction Certificate.

Reason: Protection of Council's Infrastructure

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 \$10 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 Warringah 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. (DACEND01)

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

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 \$10 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 Warringah 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. (DACEND01)

Property Boundary Levels

The property boundary levels shall match the existing levels except where modified for the vehicular crossing. The applicant shall design and construct having regard for the existing levels. No approval is granted for any change to existing property alignment levels to accommodate the development.

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

Reason: To maintain the existing profile of the nature strip/road reserve

Progress Certification (Road & Subdivision)

Written certification is to be provided by a suitably qualified engineer upon completion and/or as and when requested by the Certifying Authority for the following stages of works.

- (a) Silt and sediment control facilities
- (b) Laying of stormwater pipes and construction of pits
- (c) Sub-grade trimmed and compacted **
- (d) Base-course laid and compacted **
- (e) Kerb and gutter construction
- (f) Pavement
- (g) Landscaping and vegetation
- (h) 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 (see www.warringah.nsw.gov.au). (DACENE02)

Maintenance of Road Reserve

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

Reason: Public Safety. (DACENE09)

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 Council's Minor Works Policy and to the satisfaction of the Principal Certifying 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. (DACENE11)

Maintenance of Road Reserve

The public footways and roadways adjacent to the site shall be 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

Authorisation of Legal Documentation Required for On-site Stormwater Detention

An application for the authorisation of legal documents is to be lodged with Council and payment of the associated fee. The application is to include the original completed request forms (Department of Lands standard forms 13PC and/or 13RPA) must be submitted to Council, with a copy of the Works-as-

Executed plan (details overdrawn on a copy of the approved drainage plan), hydraulic engineers certification and photographic evidence of the completed system.

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 the on-site stormwater disposal system is maintained to an appropriate operational standard

Registration of Encumbrances for On-site Stormwater Detention

A copy of the certificate of title demonstrating the creation of the positive covenant and restriction for on-site storm water detention as to user is to be submitted.

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

Reason: To identify encumbrances on land. (DACENF02)

Reinstatement of Kerb

All redundant laybacks and vehicular crossings shall be reinstated 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 any interim / final Occupation Certificate.

Reason: To facilitate the preservation of on street parking spaces. (DACENF03)

Restriction as to User for On-site Stormwater Detention

A restriction as to user shall be created on the title over the on-site stormwater detention system, restricting any alteration to the levels and/or any construction on the land. The terms of such restriction are to be prepared to Council's standard requirements, (available from Northern Beaches Council), at the applicant's expense and endorsed by Council prior to lodgement with the Department of Lands. Northern Beaches Council shall be nominated as the 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 any interim / final Occupation Certificate.

Reason: To ensure modification to the on-site stormwater detention structure is not carried without Council's approval. (DACENF04)

On-Site Stormwater Detention Compliance Certification

Upon completion of the on-site stormwater detention (OSD) system, certification from a consulting engineer and a "work as executed" (WAE) drawing certified by a registered surveyor and overdrawn in red on a copy of the approved OSD system plans are to be provided to Council. Additionally a Compliance Certificate is to be issued by an Accredited Certifier in Civil Works registered with the Institute of Engineers Australia, stating that the works are in accordance with the approved plans.

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 stormwater disposal is constructed to Council's satisfaction. (DACENF10)

Certification of Structures Located Adjacent to Council Pipeline or Council Easement

All structures are to be located clear of any Council pipeline or easement. Footings of any structure adjacent to an easement or pipeline are to be designed in accordance with Council's Water Management Policy; in particular Section 6 - Building Over or Adjacent to Constructed Council Drainage Systems and Easements Technical Specification.

<https://www.warringah.nsw.gov.au/sites/default/files/documents/policies-register/environment/water-management-policy/2016-011845-water-management-policy-current.pdf>

A statement of compliance is to be prepared by a suitably qualified Civil Engineer and submitted to the Certifying Authority for approval prior to the issue of the Occupation Certificate.

Reason: Protection of Council's Infrastructure (DACENF11)

Positive Covenant for On-site Stormwater Detention

A positive covenant shall be created on the title of the land requiring the proprietor of the land to maintain the on-site stormwater detention structure in accordance with the standard requirements of Council. The terms of the positive covenant are to be prepared to Council's standard requirements, (available from Warringah Council), at the applicant's expense and endorsed by Warringah Council's delegate prior to lodgement with the Department of Lands. Warringah Council shall be nominated as the party to release, vary or modify such covenant.

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 ongoing maintenance of the on-site stormwater detention system. (DACENF12)

Creation of Positive Covenant and Restriction as a User

Where any conditions of this Consent require the creation of a positive covenant and/or restriction as a user, the original completed request forms, (Department of Lands standard forms 13PC and/or 13RPA), shall be submitted to Northern Beaches Council for authorisation.

A certified copy of the documents shall be provided to Northern Beaches Council after final approval and registration has been affected by the "Department of Lands".

Details demonstrating compliance are to be submitted to the Certifying Authority prior to the issue of a Interim / Final Occupation Certificate.

Reason: To identify encumbrances on land. (DACENF14)

Post-Construction Dilapidation Survey

A post-construction Dilapidation Survey of Council's Stormwater Assets is to be prepared by a suitably qualified person in accordance with Council's Guidelines for Preparing a Dilapidation Survey of Council Stormwater Asset in order to determine if the asset has been damaged by the works.

The post construction dilapidation report must be submitted to the Council for review and the Certifying Authority prior to the issue of the Occupation Certificate. Any damaged to Council's stormwater infrastructure is to be rectified in accordance with Council's technical specifications prior to the release of the security bond.

Reason: Protection of Council's Infrastructure

Certification of Drainage Works and Works as Executed Data

A suitably qualified Civil Engineer shall certify that the completed works have been constructed in accordance with this consent and the approved Construction Certificate plans. Works as Executed data 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 the Council for approval prior to the issue of the Occupation Certificate.

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.
(DACNEF12)