

Engineering Referral Response

Application Number:	DA2019/0332
To:	Claire Ryan
Land to be developed (Address):	Lot 92 DP 564686 , 55 Kalang Road ELANORA HEIGHTS NSW 2101

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 subject site is burdened by a right of way (ROW) benefiting the adjoining property. The proposal includes the construction of a basement within a portion of the ROW and building elements over a portion of the ROW. The applicant has submitted a signed letter from the representatives of the adjoining affected strata regarding this issue which is deemed acceptable for the proposed works.

The site falls to the rear and will require the creation of a drainage easement through the downstream properties including Council land. The applicant has advised in the Statement of Environment Effects that they will accept a deferred commencement condition for the creation of the easement. There is a concept drainage plan that has been provided with the application and it is considered that a deferred commencement condition will be acceptable for this issue.

The submitted Geotechnical report addresses the relevant DCP controls.

Development Engineers raise no objection to the release of the DA subject to conditions as recommended.

Referral Body Recommendation

Recommended for approval, subject to conditions

Refusal comments

Recommended Engineering Conditions:

DEFERRED COMMENCEMENT CONDITIONS

Stormwater Drainage Easement

As the natural fall of the land is towards the rear of the site the disposal of stormwater drainage is to be generally in accordance with the drainage plan submitted by itm design Pty Ltd, drawing number 14-202 H-DA-01 Rev B dated 01/04/2019. The easement is to be created under Sections 88B and/or 88K of the Conveyancing Act 1919.

The applicant is to detail the size, gradient and capacity of the inter-allotment pipe traversing the downstream properties up to the connection with the Council drainage system in Allington Reserve. The onsite stormwater detention system is to be designed and constructed to accommodate the existing capacity of this pipe, based on the existing catchment areas of the properties draining to the inter-allotment pipe, for all storms up to and including the 1 in 100 year ARI storm event. The applicant is to provide evidence that this inter-allotment pipe is operating and is in reasonable condition to convey stormwater. Where this pipe is not in a condition to convey stormwater, details of works required to allow the pipe to convey stormwater must be detailed on the plan.

The applicant must provide Council with evidence of the creation of the easement and details demonstrating compliance with the capacity requirements listed above in order to activate the consent.

Reason: To ensure adequate provision is made for stormwater drainage from the site in a proper manner that protects adjoining properties.

FEES / CHARGES / CONTRIBUTIONS

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

A Bond of \$40,000 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.

Reason: Protection of Council's Infrastructure

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.

Reason: Protection of Council's Infrastructure

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

Stormwater Disposal

Drainage plans in accordance with the requirements of section 3.1.2 Drainage of the Building Code of Australia Housing Provision and AS/NZS 3500.3.2:1998 - Stormwater Drainage – Acceptable solutions and the concept drawing by itm design Pty Ltd, drawing number 14-202 H-DA-01 Rev B dated 01.04.2019 are to be submitted and certified by an appropriately qualified and practicing Civil Engineer, indicating all details relevant to the collection and disposal of stormwater from the site to the inter-allotment drainage easement benefiting the property.

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 Taylor Geotechnical Engineering Pty Ltd dated 22 September 2017 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 Compliance

Drainage plans detailing the provision of On-site Stormwater Detention in accordance with Northern Beaches Council's Pittwater 21 DCP 2014 and the concept drawings by itm design pty ltd, drawing number 14-202 H-DA-00 Rev B, H-DA-01 Rev B and H-DA-03 Rev C dated 01.04.2019. Details demonstrating compliance are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

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

Pump-Out System Design for Stormwater Disposal

The design of the pump-out system for Stormwater disposal will be permitted for drainage of hard surfaces areas such as driveways and basement pavement areas only, and must be designed in accordance with AS/NZS 3500. Engineering details demonstrating compliance with this requirement and certified by an appropriately qualified and practising hydraulic engineer. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure adequate provision is made for the discharge of Stormwater from the excavated parts of the site.

Shot

Submission Roads Act Application for Civil Works in the Public Road

An Application for Works to be approved within Council Roadway, including engineering plans is 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 footpath and driveway crossing which are to be generally in accordance with the Development Application and Council's specification for engineering works - AUS-SPEC #1 and The Elanora Heights Village Master Plan: 4.6 Landscape Master Plan - South. The plan shall be prepared by a qualified Civil engineer. The design must include the following information:

1. Full width granite pavers for the entire frontage of the site.
2. 4 metre wide driveway crossing.
3. New kerb and gutter for the frontage of the site.

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 compliance with Council's design and engineering specifications.

Vehicle Driveway Gradients

Driveway gradients within the private property are not to exceed a gradient of 1 in 4 (25%) with a transition gradients in accordance with AS/NZS 2890.1:2004. Access levels across the road reserve are to comply with the allocated vehicle profile detailed in this consent. 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

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 Adjoining Property

Should the proposal require shoring to support an adjoining property or Council land, owner's consent for the encroachment onto the affected property owner shall be provided with the engineering drawings.

Council approval is required if temporary ground anchors are to be used within Council land. A Temporary Ground Anchors (Road Reserve) Application is to be submitted with Council for assessment and approval subject to Council's Fees and Charges. Details demonstrating compliance are to be submitted to the Principal 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

A Driveway Levels and Formwork Inspections Application shall be made with Council subject to the payment of the fee in accordance with Council's Fees and Charges. The fee includes all Council inspections relating to the driveway construction and must be paid.

Approval of the application by Council is to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To facilitate suitable vehicular access to private property.

Construction Management Program

An application for Traffic Management Plan is to be submitted to Council for approval. The Traffic

Management Plan shall be prepared to RMS standard by an appropriately certified person. An approval is to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure appropriate measures have been considered for site access, storage and the operation of the site during all phases of the construction process in a manner that respects adjoining owner's property rights and protects amenity in the locality, without unreasonable inconvenience to the community

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

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 Principal Certifying 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 - AUSPEC Standard
 - (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.
 - (j) All layers of the road formation are to be proof rolled to Council's satisfaction
- (**)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

All civil works approved in the Construction Certificate are to be supervised by an appropriately qualified and practising Civil Engineer. 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.

Footpath Construction

The applicant shall construct full width granite paving for the entire frontage of the site. The works shall be in accordance with the following:

- (a) All footpath works are to be constructed in accordance with The Elanora Heights Village Centre Master Plan: 4.6 Landscape Master Plan - South.
- (b) Council is to inspect the formwork prior to pouring of any concrete to ensure the works are in accordance with Council's specification 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.

Notification of Inspections

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 pouring of kerb and gutter
- (c) Subgrade level / basecourse level / subbase
- (d) 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. Council approval or acceptance of any stage of the work must be obtained in writing, and will only be issued after completion of the work to the satisfaction of Council and receipt of the required certification.

Reason: To ensure new Council infrastructure is constructed to Council's requirements.

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 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

Vehicle Crossings

The provision of one vehicle crossing 4 metres wide in accordance with Northern Beaches Council Drawing No A4-3330/1 N and specifications. An Authorised Vehicle Crossing Contractor shall construct the vehicle crossing and associated works within the road reserve. All redundant laybacks and crossings are to be restored to footpath/grass. Prior to the pouring of concrete, the vehicle crossing is to be inspected by Council and a satisfactory "Vehicle Crossing Inspection" card issued.

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

Reason: To facilitate suitable vehicular access to private property.

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.

Protection of Adjoining Property - Excavation

Where excavations extend below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation must preserve and protect the building from damage and, if necessary, underpin and support the adjoining building in an approved manner.

Reason: To ensure private and public safety

Kerb and Gutter Construction

Kerb and gutter is to be constructed along the entire frontage of the site in accordance with Northern Beaches Council Drawing No. A4 2276/A.

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

Site Fencing

The site must be fenced throughout construction and must comply with WorkCover New South Wales requirements and be a minimum of 1.8m in height.

Reason: To ensure public safety.

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

Authorisation of Legal Documentation Required for Onsite Detention

The original completed request forms (NSW Land Registry 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) and hydraulic engineers certification. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To create encumbrances on the land.

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.

Positive Covenant for the Maintenance of Stormwater Pump-out Facilities

A Positive Covenant (under the provisions of Section 88B of the Conveyancing Act 1919) is to be created on the property title to ensure the on-going maintenance of the stormwater pump-out facilities on the property being developed. Northern Beaches Council shall be nominated in the instrument as the only party authorised to release, vary or modify the instrument. Northern Beaches Council's delegate shall sign these documents prior to the submission to the NSW Land Registry Services. 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 adequate provision is made for the stormwater pump out system to be maintained to an appropriate operational standard

Positive Covenant and Restriction as to User 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 at the applicant's expense and endorsed by Northern Beaches Council's delegate prior to lodgement with NSW Land Registry Services. Northern Beaches Council shall be nominated as the party to release, vary or modify such covenant.

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 at the applicant's expense and endorsed by Council prior to lodgement with NSW Land Registry Services. 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 the on-site detention and/or pump system is maintained to an appropriate operational standard.

Geotechnical Certification Prior to Occupation Certificate

Prior to issue of the Occupation Certificate, Form 3 of the Geotechnical Risk Management Policy is to be completed and submitted to the Principal Certifying Authority.

Reason: To ensure geotechnical risk is mitigated appropriately.