Engineering Referral Response

Application Number:	DA2024/1079
Proposed Development:	Community title subdivision into five (5) lots and civil works
Date:	19/11/2024
To:	Stephanie Gelder
Land to be developed (Address):	Lot 3 DP 1115877 , 53 B Warriewood Road WARRIEWOOD NSW 2102 Lot 3 DP 942319 , 53 Warriewood Road WARRIEWOOD NSW 2102 Lot 2 DP 1115877 , 53 A Warriewood Road WARRIEWOOD NSW 2102

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 proposed subdivision development is not supported for the following reasons:
1) Lack of information , hydrological/hydraulic details upstream catchment and upgrade of Councils existing stormwater line (53 Warriewood Road).
a) The applicant is required to submit a DRAINS model for the upstream catchment in accordance with Councils Water Management Policy for Development and Auspec One using an initial loss continuing loss Hydrological model as required by Australian Rainfall and Runoff 2019.
The DRAINS model is also to incorporate Climate change increases as recommended in ARR 4.2 and the Warriewood Valley Water Management Specification 2001 to determine peak stormwater flows.
b) The existing 600m RCP Council stormwater line is be upgraded accordingly to a minimum capacity 1/100 AEP plus Climate change . A RCP pipeline is to be specified and Sydney Water cover requirements on their main sewer line are to be incorporated into the design.
c) The stormwater upgrade details are to include an energy dissapator structure at the end of the line which is compatible with the final creek works design.
d) A stormwater drainage long section incorporating a Hydraulic Grade Line Analysis is to also provided with the amended engineering plans.
e) Councils stormwater line which crosses Warriewood road is also to be upgraded to a minimum

capacity 1/100 AEP plus Climate change capacity and appropriately upgraded /new inlet pits provided in Warriewood road , Pit blockage factors are to be in accordance with Auspec one and used in the DRAINS model.
f) An appropriately sized overland flow path is to be provided over Councils upgraded stormwater line within the site the cater for all flows in excess of the 1/100 AEP storm events. A velocity vrs depth assessment is to be provided in accordance with the NSW Flood Risk Management Guideline.

2) The on site stormwater detention design. (OSD)

a) A DRAINS model is required to be submitted to Council to demonstrate compliance with the requirements of the Warriewood Valley Stormwater Management Specification 2001 and Councils Water Management for Development policy.
b)“Post-development peak flows both from the sector and in the channel at the downstream boundary of each sector are not to exceed the pre-development flows for the full range of duration's and frequencies up to the 1%AEP level plus climate change"
c)During the preparation of the Water Management Report for the sector a model is to be established that:
· matches the peak sector outflow discharge to the pre-development condition of the sector within ± 5% of the peak reported in Appendix A
· shows the pre-development hydrograph and the developed hydrograph with the tail cut at the duration of the storm
· the developed hydrograph is to be no more than ± 10% of the pre-development hydrograph at any location on the rising or falling limb.
All stormwater volume control structures and detention basins are to be above the1%AEP flood levels. (Note that Water Quality control ponds can be below the1%AEP flood level, but are to be above the 20%AEP flood level but wholly within the
private buffer zone - See Section 4.5, Table 4.3 and Section 4.3.2).
d) A stormwater quantity management assessment of the of the pipe drainage and OSD measures is to form part of an overall Water Management report and be prepared by a RPEng or NER Civil qualified engineer who has extensive experience in hydrological modelling and hydraulic design.
e) Full engineering plans are to be provided not conceptual minimum on site detention/stormwater drainage details are to be provided in accordance with section 9.7.3 of Councils Water Management for Development Policy.

3) **Road and footpath infrastructure design**

Please note detailed review of the roads and shared pathway design will be provided by Councils Traffic Co ordinator ,

However the following comments are provided:

The Lorikeet Grove cross section at the existing southern end does not match the existing road reserve width being approx 16m width .The road the cross section is to be amended to match the existing southern road reserve formation.
Cross sections of the proposed Lorikeet Grove extension are to be provided at both the southern and northern ends and mid way.

The proposal is therefore unsupported.

Note: Should you have any concerns with the referral comments above, please discuss these with the Responsible Officer.

Recommended Engineering Conditions:

Nil.