

## Engineering Referral Response

<b>Application Number:</b>	DA2021/2600
<b>Date:</b>	20/05/2022
<b>To:</b>	Lashta Haidari
<b>Land to be developed (Address):</b>	Lot 1 DP 349085 , 49 Warriewood Road WARRIEWOOD NSW 2102 Lot 2 DP 972209 , 43 Warriewood Road WARRIEWOOD NSW 2102 Lot 2 DP 349085 , 45 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 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

The proposed subdivision and apartment building development is not supported for the following reasons:

#### 1) Stormwater discharge adjacent to the environmentally sensitive coastal wetlands.

The proposed discharge point for the 900mm RCP stormwater outlet pipe as detailed in the engineering plans is not satisfactory. The new 900mm stormwater line will essentially carry a flow of 3.4cumecs at the discharge point in a 1 % AEP event. The downstream impacts on the coastal wetland have not been addressed in terms of the impacts of the the outlet flow . The engineering plans need amendments to demonstrate that there are no additional impacts on the coastal wetland and native vegetation. The outlet design is to use best stormwater flow management practice. The ecological report needs to correspondingly address the flow in terms of impacts on the downstream coastal wetland.

#### 2) Capture of upstream stormwater overland flows within Warriewood road.

The stormwater management plan prepared by C and M Consulting engineers details the provision of a 900mm RCP stormwater line to be constructed within the existing drainage

reserve traversing the site. The stormwater line is designed to cater for the 1 in 100 Year AEP upper catchment flow that arrives at the site . This approach is supported however the designer is to demonstrate how the majority of the proposed 3.4m<sup>3</sup>/s flow is to enter the 900mm pipe via a combination of sag and on grade inlet pits within Warriewood Road. An additional 3.4m wide sag pit is to be installed on the northern kerbside of Warriewood Road as the majority of overland flow from the upstream catchment is contained within that half of the road carriageway. The outlet pipe from this pit is to be accordingly sized for the incoming stormwater flows.

The engineering plans are to detail the proposed new RCP pipe and pit on the southern side of Warriewood road, noting that Councils minimum pipe size is 375mm RCP.

Long sections of the proposed stormwater lines are to be included on the engineering plans detailing the Hydraulic Grade Line , velocities and flows.

3) The design engineer is to provide certification that the overland flow study was undertaken in accordance with Australian Rainfall and Runoff 2019 and Book 9 a guide to flood estimation in urban areas. Climate change provisions are also to be incorporated into the modelling. Additionally the design engineer is to confirm that they are registered within the requirements NSW Design and Building Practitioners Act and Regulation .

4) The checklist DA submission within appendix D of the Warriewood Valley Water management specification 2001 are to be completed and submitted with an amended engineering report.

5) The design/engineering plans is demonstrate that a safe overland flow path can be provided over the proposed 900mm line assuming the applicable upstream pit blockage factors and a velocity depth analysis is to be provided . Additionally a minimum of three cross-sections through the easement are to be provided adjacent to the apartment buildings detailing the 1% AEP Top Water Levels . All habitable floors are to have a flood planning level at a minimum of 500mm above the 1 % AEP TWL.

6) The shared pedestrian footpath is to be detailed on the engineering plans showing the proposed connection to No 34 Lorikeet Grove (Lot 10 DP 270946) masterplan alignment.

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.