

Job Number: 210096
Date: 26th February 2024

GRC Hydro
Level 20,66 Goulburn Street
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Isabella Stewart and James Georgiades
Warren Smith Consulting Engineers
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Dear Isabella and James,

Re: Development of 8 Forest Road, Warriewood– Emergency Response Plan comment

GRC Hydro have previously presented the Development of 8 Forest Road, Warriewood– Flood Assessment (1st February 2024) which detailed the flood assessment conducted by GRC Hydro for 8 Forest Road, Warriewood (the site). Martens Consulting Engineers (Martens) have previously provided an emergency response plan in 'Flood Emergency Response Plan: 8 Forest Road, Warriewood NSW' (Martens Consulting Engineers, Nov 2016) for the site.

The flood assessment conducted by GRC Hydro involved the following updates since the Martens emergency response plan:

- Using the Martens proposed conditions TUFLOW model.
- Inclusion of a swale running adjacent to the west of the site instead of a DN1500mm pipe.
- Updating the terrain on the site to reflect the most recent earthworks plan from Warren Smith Consulting Engineers (Feb 2024)

The above changes do not materially modify the results used for the Martens emergency response plan due to:

- GRC Hydro used the Martens proposed conditions TUFLOW model.
- The terrain updates use a similar site layout as Martens, so that there is still no overland flow through the site in the 1% AEP and the PMF is conveyed primarily by the proposed road layout.
- The swale acts similarly to the previous DN1500mm pipe by conveying flow to Narrabeen Creek just near the north-western boundary of the site.
- Similar final results, with an afflux of between 0.02m and 0.10m at the Jubilee Avenue bridge in the Martens flood study and between 0.01m and 0.10m at the Jubilee Avenue bridge in the GRC Hydro flood study.

Given the minimal changes between the two studies, an updated emergency response plan was not required.

Yours Sincerely,



Steve Gray

Director

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