



# KNEEBONE, BERETTA & HALL PTY LTD

CONSULTING STRUCTURAL & CIVIL ENGINEERS

ACN 002 419 767

ABN 36 822 442 203

4 Macquarie Avenue PENRITH NSW 2750

PHONE: (02) 4731 3833

E-MAIL: [kneebone@pnc.com.au](mailto:kneebone@pnc.com.au)

FAX: (02) 4721 5442

WEB SITE: [www.kbgconsulting.com](http://www.kbgconsulting.com)



Ref 89967  
Date 5 June 2013  
RYAN HITCHEN PTY LTD  
C/- MCHP ARCHITECTS  
28 Chandos St St Leonards

## PROPOSED DEVELOPMENT AT LOT 8 OLD BATHURST RD EMU PLAINS STORMWATER DRAINAGE AND CONSTRUCTION OVER A FLOODWAY

Details shown on our drawings 89967-1 & 2 have been designed in accordance with Paclib Industrial report prepared by Patterson Britton dated 1.5.06 for development on the whole site.

OSD and bio-retention existing on site caters for the existing development. Refer to calculations shown on drawing 89967-1.

The proposed development is over a designated overland flow path allowing for flooding of the adjacent concrete lined drainage channel.

The level for a 1 in 100 year flood event in this subdivision is RL 24.30 AHD.

The flood report prepared for Paclib Industrial Pty Ltd dated February 2005 for this Industrial Development indicates a 200 year ARI flood level of 24.54 on Lot 8

The development will have a suspended concrete ground floor slab at RL 24.90 with the underside of the floor being at RL 24.55. The slab will be elevated on concrete columns over the overland / floodwater flow path on 400mm diameter concrete columns spaced at 5.0m approximate centres in both directions.

The above construction will have minimal, if any, effect on the flow of 1 in 200 year floodwaters across this site.

Based on the detailed flood report prepared by Patterson Britton & Partners and the fact that the floor levels are 600mm above 1 in 100 year flood level and that the construction will not interfere with flow of floodwaters we believe that a further flood study is not required for this development.

Trevor Hall, FIE Aust, CPEng

**KNEEBONE, BERETTA & HALL PTY.LTD.**

Consulting Engineers

**DIRECTORS:**

TREVOR B HALL, B.Sc.(Eng), F.I.E.Aust, C.P.Eng.

ENRICO L BERETTA, B.E.(ETH), F.I.E.Aust, C.P.Eng.

PETER R ANDRESEN, B.E., M.I.E.Aust, C.P.Eng