

Our Ref: SY180-197
Enquiries to: MDS



25 March 2020

Level 1, 131 Sailors Bay Rd,
Northbridge NSW 2063

Attention: Dino DiPaolo

RE:

**STRUCTURAL CERTIFICATE – DESIGN
1 SIRUS ROAD, LANE COVE WEST
LANE COVE TUNNEL – TUNNEL EXHAUST IMPACT STATEMENT**

This is to confirm that our company has carried out structural design for the above project.

We certify that the structural design for the current documented generator platform level of RL 8.4 will have the same approximate founding level as per the previous platform level. The pile loadings adjacent to the lane Cove tunnel - exhaust tunnel will have no impact on as the loads and distance from the tunnel being approximately 15m away is outside of the zone of influence on the tunnel. As per the attached vibration statement from Douglas Partners the vibration generated is not of concern from the piling on the nearest corner of the generator platforms.

I am a Professional Engineer with appropriate experience and competence in this field.

Yours faithfully
van der Meer Consulting

A handwritten signature in blue ink, appearing to read 'Mark Shelmerdine', with a horizontal line extending to the right.

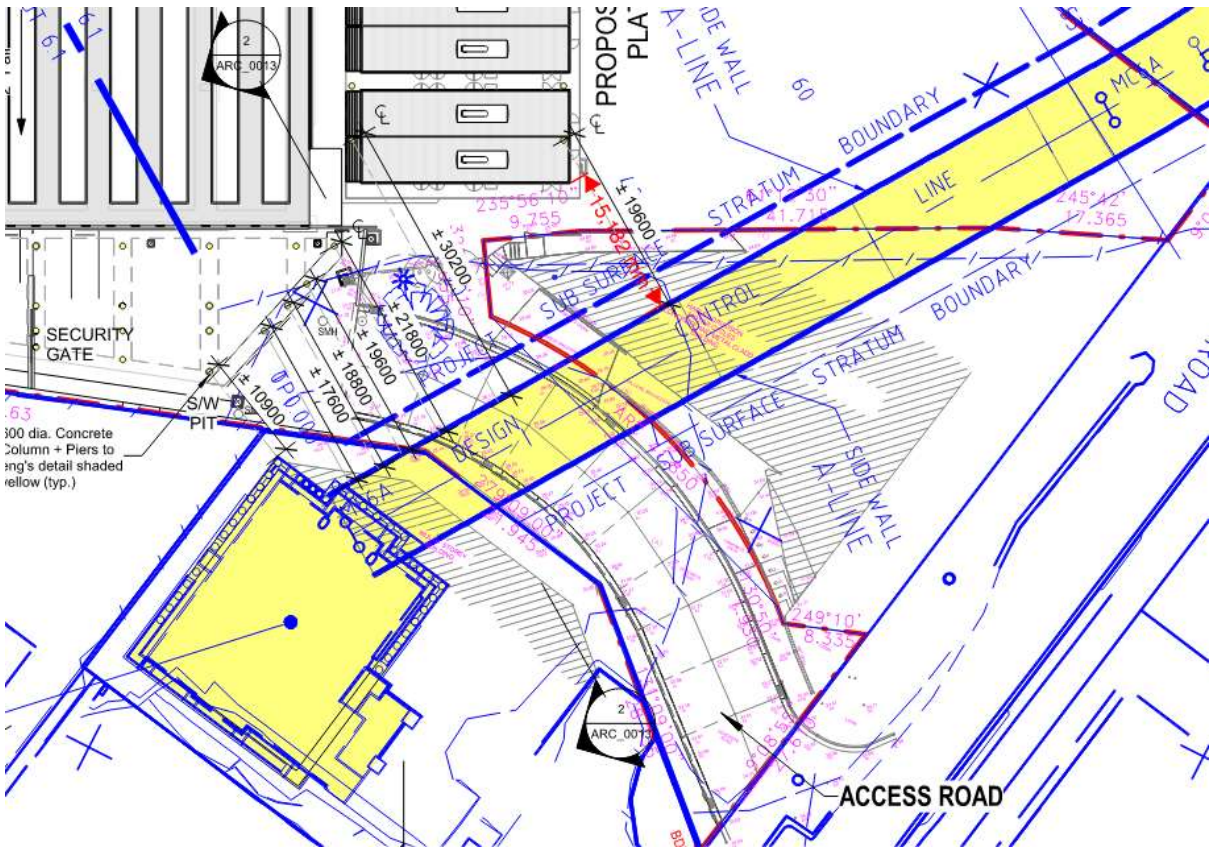
MARK SHELMERDINE
Associate Director
BE FIEAust, CPEng, NER (Struct),
APEC Engineer IntPE(Aust), RPEQ

Encl: Douglas Partners memorandum

BRISBANE
Level 8, 757 Ann Street
Fortitude Valley QLD 4006
P 07 3667 8861
E QLD-enquiries@vandermeer.com.au
ABN 63 609 812 615

MELBOURNE
Level 6, 379 Collins Street
Melbourne VIC 3000
P 03 8614 5555
E VIC-enquiries@vandermeer.com.au
ABN 48 158 266 329

SYDNEY
Level 6, 39 Chandos Street
St Leonards NSW 2065
P 02 9436 0433
E NSW-enquiries@vandermeer.com.au
ABN 56 158 266 301



Memorandum

To	AW Edwards Pty Ltd	Tim Dekruif	tdekruiif@awedwards.com.au
From	John Braybrooke	Date	21 Nov 2019
Subject	Piling Vibration vs Lane Cove Exhaust Tunnel, 1 Sirius Road, Lane Cove West		Project No. 86621.02.Rev 1

You have asked us whether or not you should be carrying out vibration monitoring while boring piles for the elevated access-way to the above site when near the Lane Cove Tunnel exhaust tunnel.

From the drawings you have provided, the nearest pile will be drilled 17.6 m laterally from the exhaust tunnel footprint, the tunnel roof being at RL3.1, falling to the north. The collar level for the nearest pile is approximately RL24 and the pile will be about 6 m long. This means that the slant distance between the pile toe and the tunnel roof will be approximately 23 m.

From DP's data-base of vibration versus various types of construction equipment including pile boring rigs, at a distance of 1 m from a pile boring rig we have measured vibration levels of approximately 5 mm/s, reducing away from the rig. We predict that at a distance of 23 m the felt vibration intensity will be less than 1 mm/s.

From our monitoring of vibration in railway tunnels, the Railways requirements are to limit vibration levels to between 16 and 20 mm/s; in our opinion these are very conservative levels.

On the above basis it is our opinion that vibration of less than 1 mm/s will have no deleterious effect on the ventilation tunnel and thus we see no need at all to monitor for this level of vibration.

We trust this meets your requirements at this time.

Douglas Partners Pty Ltd



John Braybrooke
Senior Consultant



Hugh Burbidge
Principal

Attachments: About this Inspection Report