

11 September, 2014

DEPARTMENT OF PLANNING AND ENVIROMENT

M1 - M2 TUNNEL

Re: Southern Exhaust Stack Placement and Modelling and Urban Design

Mark, Joanne, Evan and Abigail Power

We are owners and residents of:

11 Gum Grove Place

West Pennant Hills NSW 2125

As we are one of the closest residents to the proposed Southern Interchange for the M1 - M2 tunnel I would like to think that the Department of Planning and Environment and Northconnex take the following concerns of not only ourselves, but also our neighbours very seriously.

We are very concerned with regard to the location and air quality modelling for the Southern Exhaust Stack. From the very first community consultation Northconnex have advised that the design is of Worlds Best Practice. We have been advised and also stated in the EIS that the modelling for the air quality of this stack was based on the design of the stack being directly above the exit of the portal.

However, this is not the case as the the Exhaust Stack is in the vicinity of 200 metres at right angles from the the portal exit on the north western corner of Pennant Hills Rd and the M2. There is supposed to be a connecting shaft from the Exhaust Stack to the Southern Tunnel somewhere under and across Pennant Hills Rd. which Northconnex cannot tell us. This has been omitted from the EIS. We can only conclude that this connecting shaft has not been designed.

Therefore, all modelling of the air quality is based on the Exhaust Stack being above the exit portal as Worlds Best Practise design.

This is not the case and the exhaust stack is some 200 metres away.

If the connecting shaft hasn't been designed, then there are no dimensions, no air flow rates, number of fans required, the amount of bends in the shaft, etc.to base air quality standards on. How can Northconnex asses the efficiency and air quality of a ventilation system that has not been designed?

Note: 7.3.1 Predicted air quality. EIS

The final paragraph states:

Based on the findings of this assessment, the low levels of predicted pollutant concentrations do not indicate that further mitigation would be required for the operation of the tunnel.

The predicted pollutant concentrations represent careful design of the ventilation system and ventilation outlets to achieve optimum exhaust velocities while minimising the potential for wake-effects on the plume when emitting from the ventilation outlet.

This does **NOT** represent careful design. The efficiency of the Southern Exhaust Stack is based on an assumption that it would be the same as being directly above the exit portal.

Residents could be faced with a far higher degree of pollutants than stated in the EIS.

The worst being diesel emissions which are carcinogenic.

This also affects the health assessment component of the EIS as it is based on this assumption that the southern ventilation stack is efficient.

We want to see this re-evaluated.

We also believe that relocating the southern ventilation to the south western corner of the Pennant Hills Golf Club would make it far more efficient with less impact on the residents, in regard to pollution and the urban design impact of a 15 metre stack on our back fences.

The south western corner is land also owned by the RMS and is even higher than the proposed site which would help dissipate the pollution into the atmosphere.

This land is also directly above the southern tunnel, which would make the stack far more efficient and cheaper to build.

From information supplied by Northconnex the stack and support buildings takes an approximate area of 4,000sq/m. Not a huge amount of land.

The other issue with the current layout of the southern motorway operation complex is the Motorway Control Centre. This building is located at the corner of Eaton Rd and Pennant Hills Rd. This is at a very high point overlooking the West Pennant Hills residential valley. This building is 15 metres high and will be able to be viewed from the majority of residential properties. This industrial looking building will be an eyesore towering over a residential area.

Relocating the southern ventilation stack would allow more land area to be used for the Motorway Control Centre, allowing a lower height to be designed for this building so it blends with the current Urban Environment.

NORTH BOUND ON-RAMP FROM M2 MOTORWAY

The proposed design of the Northbound On-Ramp is also of major concern to the residents in Gum Grove Place, Larchmont Ave and Savoy Crt.

The current ramp to Pennant Hills Road is sufficient in height and distance to alleviate the worst of Pollutants and Noise. The proposal to widen this area and to excavate the hill down to house level or lower in height and be only 10 metres approx. from our houses (Not the Boundary Fence) is unacceptable.

We have children in the majority of these houses that are or will be studying for their HSC and University Degrees over the next 5 years. To study with the constant construction noise will have a major impact on their concentration levels and results.

It will decimate the Flora and Fauna of this area as 90% of Flora will be removed. There are King Parrots, Rosella, Cockatoos, lorikeets, owls, snakes, possums and other wildlife that thrive in this current environment.

The major concerns here are with Pollution and noise. With only a sound wall between housing and the thousands of truck movements that will take place everyday and night, the amount of emission pollution and noise from these trucks would be unbearable and unhealthy.

As the sound wall is approx. 6 metres in height and only 10 metres from our properties and a truck exhaust stacks are 3 - 4 metres in height from road level, the emissions will float and disperse over our properties making this a far greater concern than the proposed location of the Southern Tunnel Ventilation stack.

This would make our outdoor living near impossible to enjoy safely.

The noise level of 24hrs/day of truck and vehicle traffic will impact on our ability to get enough sleep which is also a known health hazard.

There is enough noise now with the current off ramp with trucks using their compression brakes at the intersection of Pennant Hills Rd, and they are travelling up hill which should negate the need for compression braking.

To have this only 10 metres from our houses is unacceptable.

Please see 1.5 from EIS below.

RE: Appendix G. Air Quality

Note: 1.5 Expected benefits of the project on air quality. EIS

By capturing the vehicle emissions released within the tunnels and venting them to atmosphere via the ventilation facilities, the total volume of pollutants released remains unchanged, but the pollutant dispersion would be significantly improved. **Pollutants released from vehicle exhausts along surface roads normally stay close to the ground, and collect around the emission point, with dispersion dependent on passive diffusion and the movement of nearby objects. Vehicle emissions at the surface and ground level tend to disperse up to around 300 metres from the emission point.**

In contrast, pollutants released from the project's ventilation facilities would be released with vertical momentum, which, coupled with the height of the ventilation outlets and the positive thermal buoyancy, would result in the dispersion of pollutants at a height well above ground level. As wind speeds typically increase in speed with increasing distance above ground, this would facilitate pollutant dispersion with dilution over a greater area. **So rather than the pollutants being deposited close to ground level and, subsequently, being concentrated along the surface road,** the pollutants would be dispersed at a greater height and diluted much faster over a greater area, resulting in lower ground-level concentrations.

SUGGESTED OPTIONS:

We would like to have the following considered:

Option 1

Start tunnelling further west at the lowest point before the start of the current off ramp to Pennant Hills Rd. This land is crown land and would have no impact on residents in the area as the tunnelling doesn't need to be below residential housing nor would it be within 10 metres of residential property.

Option 2

Widen the top of the current off-ramp to allow an extra lane and funnel the northbound tunnel traffic into the tunnel entry on Pennant Hills Rd. This could be done without the need for traffic lights to stop northbound tunnel traffic at Pennant Hills Rd.

This will reduce current emissions from trucks and vehicles as there is no need for stopping and starting for traffic lights.

Regards,

Mark, Joanne, Evan and Abigail Power