

From: Mr James Maclachlan  
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12<sup>th</sup> April 2013

To: The Director General  
New South Wales Department of Planning

Dear Sir or madam,

Re: Proposed Sharks Development Stage 1.

My concerns are as follows.

### **ELECTROMAGNETIC RADIATION**

The Planning and Assessment Commission Concept Approval states

#### **TRANSMISSION LINES**

26. Future Applications shall demonstrate the EMF exposure to the northern most residential building envelopes is minimised taking into account the precautionary principle approach in consultation with Ausgrid. Such measures shall include those matters outlined in the Bluestone Solutions letter dated 5 June 2012.
27. Future Applications shall demonstrate that the recommendations of Magshield Products (Aust.) International Pty Ltd report dated 7 June 2012 in relation to the EMF mitigation measures comprising reversal of two outer phases of feeder 917, have been implemented

The Applicant's responses for Stage 1 Application includes

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#### **6.21 Electromagnetic Radiation**

An Electromagnetic Radiation Report prepared by Magshield Products International accompanied the Concept Plan application, and found that electromagnetic radiation levels within the Retail/Club precinct would be well within the applicable criteria for future occupants of this precinct and therefore no further assessment is required.:

Part of Table 4 (reconstituted)

<b>Environmental and Amenity Impact</b>		
...	...	...
The EA must address the impacts associated with the electricity transmission easement, and the transmission towers and wires upon future dwellings	Not Applicable to Retail Centre Project Application	N/A

The applicant has selectively chosen only Clause 26 of the Commission's conditions of Approval relating to the residential component, and has disregarded Clause 27 that requires demonstration that the phase reversal measures already "**have been** implemented" for "Future Applications" which therefore refers to any applications such as the current Stage 1 Application for the club and retail development. The phase reversal is of benefit to the whole site, and separate reference to "to the northern most residential building" also includes additional measures such as configuration and orientation of internal building layout.

The apparent attitude of the applicant is to water down the precautionary principle, as is evident in successive Magshield reports:

- from initially attempting to show a time weighted average below 4 milligauss,
- through to merely stating that electric and magnetic fields are below (or less than) "the recommended maximum level" ,
- to the present procrastination regarding the phase reversal.

The latter are in sharp contrast to the care taken in other projects to apply the precautionary principle by the same consultant. E.g. the Botany Bay Ausgrid link, North Sydney sub-station, and to the initial report of the Sharks development, which all attempted to keep magnetic fields as low as possible or site new powerlines away from sensitive areas.

Another example from a report by the consultant for residential redevelopment at 1 Lygon St Brunswick East Melbourne near powerlines recommends thus:

The calculated EMF emitted by the 66kV overhead line supplying the upgraded Zone Substation "C" in the direction towards the proposed residential development was less than 6% of the maximum permissible limit for safe human exposure recommended by the International Committee on Non-Ionising Radiation Protection in the guidelines published in 1998. However, in compliance with the precautionary principle and considering the uncertainty about the health effect due to the long-term EMF exposure, the EMF should be reduced using the option described in item 3 above.

*"Item 3" referred to replacing a section of overhead line with an underground line.*

The consultant has also dismissed concerns raised by Sutherland Council about the danger of electric fields for people in the open, with a claim of protection by the balustrade and building without any corroborating figures demonstrating the effectiveness of such partial shielding. Totally ignored is the increase in number of people that will "enjoy" the passive outdoor recreation area in and near the powerline easement.

The diminishing input about public health by the applicant and EMF consultant, and reliance by the approval authorities principally on phase reversal and other vague references to the precautionary principle, have somehow become the official application of due diligence on public health for this development site.

I can find no record on the website concerning the Sharks development of any input from Health NSW or any other similar organisation about protection of public health from adverse effects from the power lines adjacent to this development. Unless I have missed such, this omission would seem most unwise.

Nevertheless, the minimal conditions of approval should be enforced.

## **FIRE FIGHTING**

The hydraulic consultant, Arup's, report is along the lines that the length of evacuation paths exceeds the "deemed to satisfy" requirements of the Building Code of Australia, and so they are going to "engineer" a solution (that the code allows as an alternative) but which they give no details, only:

### **“Conclusion**

Based on our review of the project documentation, it is considered that performance based fire engineering can be used to demonstrate compliance with the Performance Requirements of the NCC without major changes to the current design.

It is anticipated that other non-compliances with the DTS Provisions of the NCC may be identified as the design further develops. However, it is considered that there are no significant issues that would affect the building layout arising from fire safety and hence no impediments to the issuing of a Planning Approval for the project."

With regard to "performance based fire engineering" we can only guess what is envisaged. Will it be a system to suck away smoke to allow for longer evacuation times, but which would fail if the plant room itself fails, perhaps itself the cause of the fire. Possibly self closing fire doors will be proposed, which while suitable for office buildings or hospitals where there is a large proportion of staff trained in emergency procedures, would slow down evacuation and cause panic in a crowded public mall. The presence of active fire sources such as club and restaurant cooking facilities will exacerbate the fire risk.

It is imperative that the applicant detail the intended "performance based fire engineering" system for consideration by appropriate experts before approval is given.

With regard to "... no significant issues that would affect the building layout ... " one significant issue apparently overlooked by the consultant is the security of water supply that will be dependent on a single 1.1 km 250 mm watermain from the intersection of Kurnell Road and Hume Road. The existing 150 mm supply in Woollooware Rd would have only a fraction of the required flow rate if the supply from Kurnell Road and Hume Road is lost. Development of the scale of the Sharks development normally occurs in town centres where it is more feasible to provide a robust network of adequately sized watermains that offers surplus firefighting capability and a greater redundancy in supply security.

The Applicant's proposal constitutes only a Grade3 supply according to the Sprinkler Code of Australia AS2118.1. This code states that:

A Grade 3 supply shall not be used to supply sprinkler systems –  
(a) protecting a building greater than 25 m effective high ...

Therefore while possibly not being required for the Stage 1 development, the future high rise residential development will require at least a Grade 2 such as a water storage tank at this site where other suitably large town-water sources are distant. There is no mention of any such tank, nor could I find any indication of in the Applicant's plans.

## **BIRD STRIKES**

This problem highlights just how unsuitable the Sharks site is for the proposed bulk and height of buildings for this site. The Internet is full of articles about the danger to birds in urban areas from high rise buildings but the danger is multiplied manyfold for the Sharks development because the site is right next to a waterway with mangroves that is a crucial habitat for migratory birds.

The NSW National Parks and Wildlife Service website describes the nearby Towra Point Nature Reserve thus:

Towra Point Nature Reserve is a place of many contrasts. It forms the largest and most diverse estuarine wetland complex in NSW. Representing around half of the remaining mangrove area near Sydney, and most of the saltmarshes remaining in the region, this park is as beautiful as it is complex.

With an abundance of mudflat, fresh water wetlands and sea grass beds, the reserve teems with life. It provides breeding, feeding and roosting sites for many threatened and migratory bird species, which makes this reserve ideal for wetland birdwatching. Whether you experience these fragile and untouched wetlands by boat or kayak, you're bound to love Towra.

It is a RAMSAR site for which the NSW Department of Environment Climate Change and Water lists over 100 species of birds recorded in 2007.

The Applicant contends:

### **6.9.5 Bird Strike Potential**

The 'Review of Noise, Light and Bird Strike Potential' prepared by EcoLogical Australia (**Appendix T**) considers the potential for bird strike against windows within the proposed development. The design of the proposed building towards the Woollooware Bay foreshore has included measures to reduce the likelihood of bird strike, with the majority of glazed facades set back below covered awnings and pedestrian paths which reduce the likelihood of birds flying directly into these spaces. Where there are direct sight lines through glazed areas in the building, consideration will be given to treatment of glass to ensure that it is visible to birds.

### **4.2 MITIGATION MEASURES**

The proposed design of buildings at the Woollooware Bay Town Centre seek to reduce potential for bird strike by having significant proportion of glazed surfaces on the northern façade setback and below covered awnings, dining areas etc. The glazed portions of the building façade comprise a small percentage of the overall building façade.

Further architectural measures that could be considered include:

- ☐ Prevention of direct sight paths through buildings
- ☐ Treatment of glass so that it appears visible to birds – there are a number of products that can achieve this so that patterns may or may not be visible to the human eye (e.g. Ornilux glass)

There is scope to change behaviour of future residents so that bird strike risks are reduced.

Measures could include:

- ☐ Use of window furnishing (curtains, blinds etc)
- ☐ Minimising lights in buildings at night so that birds do not collide with unseen windows when chasing insects

Information regarding prevention of bird strike could be presented as part of an integrated environmental education brochure that highlights the amenity and ecological values of Woollooware Bay and surrounds, and states how these values can be protected (e.g. prevention of rubbish, weeds, trampling).

Confronted with this overwhelming problem, the proponent can only suggest possible solutions in vague terms with a substantial emphasis on wishful thinking where “could be” or “could include” indicates that the developer is at a loss to ensure that the fundamental environmental challenge of bird strikes at this totally unsuitable development site can be significantly reduced.

There is a presumption by the applicant that bird strikes will only occur from the north, that is, by birds leaving the waterway. This fails to account for birds heading toward the waterway and those circling to or from the waterway.

No attempt has been made to justify that the development will not disrupt flying formations which are vital to protect the birds from being picked off individually in greater numbers by predators. The buildings may take on a more active role in this imbalance by acting as barricades exploited by predators to herd the prey birds for their consumption.

One web-site <http://phys.org/news/2012-08-birds-web-inspired-ornilux-glass.html> mentions a test of Ornilux glass:

Tests suggest the coating works and the special glass can cut bird strikes. The company tested the Ornilux glass at a flight tunnel at a US nature reserve. Birds were encouraged to fly to the end of the facility which was covered with two types of glass - one containing the special coating, the other without. A net was used and no birds were injured. The experiment suggested that the innovation would prevent birds flying into coated glass in 66 to 68 percent of cases.

Therefore there will still be a disappointingly significant one third of birds that will hit the glass surface, and takes no account of night-time bird strikes, for which the Applicant is shifting responsibility by suggesting “scope to change behaviour of future residents” to minimise lighting and close their blinds at night.

The literature indicates that structural definition needs to be down to small dimensions. The proposed verandahs do not satisfy this requirement and birds will fly into them as if they are flying between branches of a tree and impact the glass behind.

The suggestion of “**Prevention of direct sight paths through buildings**” means that what the Planning Commission approved is not what would eventuate. The appearance would change from individual towers with channels of visibility to what will appear to be a massive blob with catastrophically greater visual impact. Accordingly previously given approval to the Concept Plan would no longer apply.

What was approved was based on particular method of building separation to achieve some reduction of the visual impact compared to a structure that would appear more monolithic.

JBA's Preferred Project Report and Response to Submissions - 30 March 2012 states in part under heading Building Height and Local and Significant Views in Section:

#### **5.3.1 Built Form and Visual Impact**

The Preferred Project report reduces the height of some buildings and amends some building footprints, reducing the visual scale of the development and improving through-site views.

Turner and Associates Architectural report includes

The residential blocks are arranged to maximise a feeling of • open-ness embracing the surrounding natural environment. Closed more urban perimeter block forms were deemed unsuitable in this location.

These features are part of the Director-General's report as a crucial part of justifying the Department's support of the development, as stated in Section 5.6 Residential Amenity

The change in built form as depicted in the PPR has improved the amenity of future residents by maximising separation distances between buildings and improving through site views from the surrounding locality. The department supports the proposed layout as it minimises impacts upon the environmental significance of the immediate locality by providing adequate setbacks to Woollooware Bay and the tidal creek as discussed in **Section 5.4** above.

where the significant words are "improving the site views from the surrounding locality"

Conditions of approval in Schedule 5 of the Concept Plan Approval require that:

"Future applications for development will be generally in accordance with the scheme described ... the Residential Built Form Controls Drawing prepared by Turner And Associates ...

Therefore reassessment of the whole project would have to start all over again because Stage 1 may depend on recoupment of profits from the sale of residential units.

It is essential that protection to this internationally recognised wetland is guaranteed to ensure that Australia's environmental credential are not damaged if the lax approval of any proposed design and works is found to be wanting, with the development becoming an international embarrassment.

### **TRAFFIC MANAGEMENT**

Such a comprehensive game day traffic management plan has now become necessary to offset the disruption this development will cause.

However the plan lacks one measure that other major event locations have, namely special event time limited parking in adjoining residential areas. Accordingly such should be considered for North Woollooware and parts of North Caringbah, North Cronulla and Wanda, to ensure that the proposed bus shuttle measures will be fully utilised to reduce private vehicle use near the venue and prevent traffic and parking chaos in these residential areas. A time limit of no more than two hours, with local residents and authorised visitors exempt, should be considered.