

**The General Manager  
Byron Shire Council  
PO Box 219, Mullumbimby NSW 2482**

**Re. DA 10.2017.460.1  
Utility Installation: Telecommunications Tower  
Lot 100 DP 1178907  
2 Jones Road Wooyung**

Thank you for granting our request for an extension to this DA.

As long term residents of the North Byron Parkland (NBP) site, we wish to raise the following concerns and object to the proposed Optus Mobile Tower (OMT).

### **No Community Consultation**

According to the DA the proposal for the OMT has been in the pipeline for almost 12 months. Despite this, there has been no community consultation with residents of Jones Road from the proponent (Optus) or the landowner (North Byron Parklands).

### **Zoning - Commission of Inquiry**

In 1997, Commissioner Cleland, zoned much of the land within the Jones Road wildlife corridor (North Byron Parklands & surrounding properties) 7K Habitat zoning under the B,LEP 1988 (Amendment #51). The proposed OMT is on land zoned 7(K) Habitat 'cross hatched', refer clause 38A B,LEP (1988).

#### *Clause 38A B,LEP 1988*

Because of the overwhelming scientific evidence presented to the Commission in respect to the Marshalls Ridge (Jones Road) wildlife corridor values, the threatened fauna & flora species and endangered ecological communities, the Commissioner strengthened the environmental zones with cross hatching (refer clauses 38A of 1988 B,LEP). The majority of government agencies, including Byron Shire Council, supported this zoning. Cl. 38A requires Council to consider

#### **38A Development of land shown cross-hatched within Zones 1 (a), 1 (b1), 1 (d) and 7 (k) adjacent to Environmental Protection Zones 7(a), 7 (b), 7 (k) and 7 (j)**

- (1) *This clause applies to land within Zone No 1 (a), 1 (b1), 1(d) or 7 (k) and shown cross-hatched on the map*
- (2) *Despite other provisions of this plan, a person must not:*
  - (a) *clear, drain, excavate or fill the land to which this clause applies, or*
  - (b) *carry out development for the purpose of agriculture or forestry on the land to which this clause applies, or*
  - (c) *erect a building or construct a road on the land to which this clause*

*applies, except with the consent of the council.*

- (3) *The council must not grant a consent required by subclause (2) unless it has taken into consideration:*
- (a) *the likely effect on the fauna, flora, water table and habitat value of adjacent land within Zone No 7 (a), 7 (b) and 7 (k) of the development that the granting of that consent would permit, and*
  - (b) *the need for measures to protect and enhance the habitat value of the adjacent land within Zone No 7 (a), 7 (b) or 7 (k) by fencing to control access by people, vehicles and animals, reforestation with native plants, control of run off to prevent siltation and nutrient enrichment, bushfire management to facilitate maintenance of natural fire regimes, and weed eradication, and*
  - (c) *the appropriate width of the buffer area to protect the adjacent fauna, flora and habitat areas, having regard to species diversity, topography and the like.*

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It is our understanding that the OMT emits frequencies 24/7 which has the potential to impact on the foraging & breeding cycles of certain fauna species, especially nocturnal bats and the Grey-headed flying fox (EPBC) both of which are recorded from this locality.

#### **Fire Hazard Area – Priority 1A**

The Far North Coast Bushfire Risk Management Plan (FNCBFRMP) identifies the Jones Road area (proposed MOT site) as Priority 1A with Risk = Extreme, Likelihood = Almost Certain and Consequence = Catastrophic.

Out of 148 areas identified in the FNCBFRMP between Ballina & Tweed, Jones Road wildlife corridor is 1 of 2 areas that have been mapped as priority 1A 'Extreme Risk'.

It is our understanding that telecommunication towers have been known to ignite and cause fires. This is extremely concerning to us and other residents of Jones Road who live approx. 1.5 klms east of the proposed OMT.

Residents only have one exit and that is via Jones Road, a narrow winding gravel road flanked by large eucalypt trees. The undergrowth and weeds (lantana, molasses grass, etc.) along Jones road is a major concern. Fuel loading of 7 tonnes per ha. is considered acceptable. However, measurements taken recently along either side of Jones Road by the Rural Fire Service were measured at 22 tonnes per ha.

In its current state, this loading presents a real threat to residents' safety and their evacuation.

It is imperative that Council, as consent authority, recognize any increase risk the OMT could have on residents located at the eastern end of Jones Road. If a fire

was to occur as a result of the Tower it could very easily impede and block residents only exit to safety.

### **Festival Site**

Over the past 5 years during festival events, NBP have provided 'Cell On Wheels' (Optus, Telstra & Vodaphone) to cater for the patrons, staff and emergency services on site.

Optus as a provider, which is reliable and not an issue. We understand, however, that the Yelgun Valley & Crabbes Creek areas have poor mobile phone reception.

### **Alternate Locations**

Optus needs to investigate alternate sites located outside areas identified as 'Extreme Fire Risk'.

For example, there may be areas in the north of the Parklands site or alternatively on the western side of Tweed Valley Way which could potentially supply the festival site as well as the Yelgun Valley and Crabbes Creek communities.

### **Power Supply**

We have lived on Jones Road for many years. During this time, our power supply has often been affected, i.e. black outs, power shortages and interferences which has resulted in the loss of electrical equipment. Several years ago we went through 4 fridges in a very short period of time. Three of these fridges were new.

Approx. 4 months ago, Essential Energy replaced the overhead HV electricity cables along the entire length of Jones Road with new copper cable.

The DA states that the MOT will source its power supply (24/7) from the power pole opposite No. 54 Jones Road, the business office of North Byron Parklands.

We are concerned that our electricity supply could become even more problematic, if the MOT is approved for this location.

### **Aesthetics**

The installation of a 35metre MOT is not in keeping with the surrounding rural environment and is contrary to the values of the Marshalls Ridge wildlife corridor and the adjacent Billinudgel Nature Reserve.

Sincerely



A SUBMISSION TO BYRON SHIRE COUNCIL ON THE DA FOR A PROPOSED  
OPTUS MOBILE PHONE TOWER AT 2 JONES ROAD WOoyUNG, LOT 100 / DP  
1178907

FROM

6 October 2017

### **Objection and Concerns**

We have read the DA for a proposed Optus Mobile Phone Tower on North Byron Parklands land at 2 Jones Road, Wooyung and require Council's attention to several issues that the DA presents.

From a detailed examination of several scientific studies published in scientific journals, the proposal will have health impacts on residents on Jones Road, on an apiarist business and bee hives situated along the Jones Road wildlife corridor and on wildlife within the Jones Road Wildlife Corridor and the Billinudgel Nature Reserve. The NSW State Government has listed the Jones Road wildlife corridor as of State Significance because it is the only north-eastern forested corridor from the World Heritage listed Tweed Caldera rainforests to the coastal rainforests and Wallum habitats in the coastal nature reserves. Consequently, we wish to draw your attention to the following issues.

We have examined 78 scientific studies\* showing health effects from mobile phone towers emitting radio frequency radiation. Two were selected (see below) for your perusal that examined effects on people and wildlife within 300 m & 150 m from the tower. The other 76 studies all showed negative health effects from mobile phone towers but did not elucidate distances from the cell towers.

The DA for a proposed Optus Mobile Phone Tower on North Byron Parklands land at 2 Jones Road Wooyung states that two residential dwellings exist within 100 metres and 240 metres of the tower. Within the 300-metre zone that the scientific paper *Study of the health of people living in the vicinity of mobile phone base stations* and consequently it can be expected that people within these dwelling will suffer from headache, nausea, loss of appetite, sleep disturbance, depression, discomfort and visual perturbations once the tower begins operations. **If the Byron Shire Council approves this DA it will be directly responsible for these debilitating health effects on Jones Road residents.**

Three additional studies were selected (see below) for your perusal that examined effects on wildlife from electromagnetic pollution from phone masts, threat to wildlife orientation, colony collapse in honey bees from electromagnetic pollution from phone masts, effects on bird orientation disrupted by RF field pollution from phone masts and radiofrequency radiation injures trees around mobile phone base stations.

These studies prove that the proposed Optus Mobile Phone Tower on North Byron Parklands land at 2 Jones Road Wooyung will be catastrophic to common and threatened, sedentary and migratory protected fauna species and will damage or destroy the NSW State Government State Significance wildlife corridor between the World Heritage listed Tweed Caldera rainforests and the coastal rainforests in the coastal nature reserves.

**Two scientific studies that examined effects on people and wildlife within 300 m & 150 m from mobile phone towers**

Santini R, Santini P, Danze JM, Le Ruz P, Seigne M. **Study of the health of people living in the vicinity of mobile phone base stations: I. Influence of distance and sex.** *Pathol Biol (Paris)* 50(6):369-373, 2002.

A survey study using questionnaire was conducted in 530 people (270 men, 260 women) living or not in vicinity of cellular phone base stations, on 18 Non-Specific Health Symptoms. Comparisons of complaints frequencies (CHI-SQUARE test with Yates correction) in relation with distance from base station and sex, show significant ( $p < 0.05$ ) increase as compared to people living  $> 300$  m or not exposed to base station, till 300 m for tiredness, 200 m for headache, sleep disturbance, discomfort, etc. 100 m for irritability, depression, loss of memory, dizziness, libido decrease, etc. Women significantly more often than men ( $p < 0.05$ ) complained of headache, nausea, loss of appetite, sleep disturbance, depression, discomfort and visual perturbations. **This first study on symptoms experienced by people living in vicinity of base stations shows that, in view of radioprotection, minimal distance of people from cellular phone base stations should not be  $< 300$  m.**

**If the Byron Shire Council approves this DA it will be directly responsible for these debilitating health effects on Jones Road residents.**

Balmori A. **Mobile Phone Mast Effects on Common Frog (*Rana temporaria*) Tadpoles: The City Turned into a Laboratory.** *Electromagn Biol Med.*29(1-2):31-35, 2010.

An experiment has been made exposing eggs and tadpoles of the common frog (*Rana temporaria*) to electromagnetic radiation from several mobile (cell) phone antennae located at a distance of 140 meters. The experiment lasted two months, from the egg phase until an advanced phase of tadpole prior to metamorphosis. Measurements of electric field intensity (radiofrequencies and microwaves) in V/m obtained with three different devices were 1.8 to 3.5 V/m. In the exposed group ( $n = 70$ ), low coordination of movements, an asynchronous growth, resulting in both big and small tadpoles, and a high mortality (90%) was observed. Regarding the control group ( $n = 70$ ) under the same conditions but inside a Faraday cage, the coordination of movements was normal, the development was synchronous, and a mortality of 4.2% was obtained. These results indicate that radiation emitted by phone masts in a real situation may affect the development and may cause an increase in mortality of exposed tadpoles. This research may have huge implications for the natural world, which is now exposed to high microwave radiation levels from a multitude of phone masts.

**Four scientific studies that examined effects on wildlife from electromagnetic pollution from phone masts, effecting wildlife orientation, effects on bird orientation and radiation injuries to trees.**

Balmori A. **Electromagnetic pollution from phone masts. Effects on wildlife.** Pathophysiology. 2009; 16: 191-199.

In the Abstract it states;

“A review on the effects of radiofrequency radiation from wireless telecommunications on living organisms and its possible impact on wild mammals are presented. Physical and technological characteristics of mobile telephone and phone masts, the scientific discoveries that are of interest in the study of their effects on the wildlife, action mechanisms on biological systems and experimental difficulties are described. Keeping in mind that electromagnetic pollution (in the microwave and radiofrequency range) is a possible source for decline of some mammal populations, it is of great importance to carry out studies on the effects of this new pollutant to wildlife. Some research types that could be useful to determine adverse health effects are proposed”.

Balmori A. **Anthropogenic radiofrequency electromagnetic fields as an emerging threat to wildlife orientation.** Science of the total Environment. 2015; 60: 518-519.

In the Abstract it states;

“The rate of scientific activity regarding the effects of anthropogenic electromagnetic radiation in the radiofrequency (RF) range on animals and plants has been small despite the fact that this topic is relevant to the fields of experimental biology, ecology and conservation due to its remarkable expansion over the past 20 years. Current evidence indicates that exposure at levels that are found in the environment (in urban areas and near base stations) may particularly alter the receptor organs to orient in the magnetic field of the earth. These results could have important implications for migratory birds and insects, especially in urban areas, but could also apply to birds and insects in natural and protected areas where there are powerful base station emitters of radiofrequencies. Therefore, more research on the effects of electromagnetic radiation in nature is needed to investigate this emerging threat” (15 June 2015, Pages 58-60).

**Natural orientation disrupted by RF field and altered light spectrum. Zebra Finches Have a Light-dependent Magnetic Compass Similar to Migratory Birds.**

In the Abstract it states;

“Birds have a light-dependent magnetic compass that provides information about the spatial alignment of the geomagnetic field. It is proposed to be located in the avian retina and mediated by a light-induced, radical-pair mechanism involving cryptochromes as sensory receptor molecules. To investigate how the behavioural responses of birds under different light spectra match with cryptochromes as the primary magnetoreceptor, we examined the spectral properties of the magnetic compass in zebra finches. We trained birds to relocate a food reward in a spatial orientation task using magnetic compass cues. The birds were well oriented along the trained magnetic compass axis when trained and tested under low-irradiance 521 nm green light. In the presence of a 1.4 MHz radio-frequency electromagnetic

(RF)-field, the birds were disoriented, which supports the involvement of radical-pair reactions in the primary magnetoreception process. Birds trained and tested under 638 nm red light showed a weak tendency to orient ~45 deg clockwise of the trained magnetic direction. Under low-irradiance 460 nm blue light, they tended to orient along the trained magnetic compass axis, but were disoriented under higher irradiance light. Zebra finches trained and tested under high-irradiance 430 nm indigo light were well oriented along the trained magnetic compass axis, but disoriented in the presence of a RF-field. We conclude that magnetic compass responses of zebra finches are similar to those observed in nocturnally migrating birds and agree with cryptochromes as the primary magnetoreceptor, suggesting that light-dependent, radical-pair-mediated magnetoreception is a common property for all birds, including non-migratory species.” (<https://www.ncbi.nlm.nih.gov/pubmed/28356366>)

### **Radiofrequency Radiation Injures Trees Around Mobile Phone Base Stations.**

In the Abstract it states;

“In the last two decades, the deployment of phone masts around the world has taken place and, for many years, there has been a discussion in the scientific community about the possible environmental impact from mobile phone base stations. Trees have several advantages over animals as experimental subjects and the aim of this study was to verify whether there is a connection between unusual (generally unilateral) tree damage and radiofrequency exposure. To achieve this, a detailed long-term (2006-2015) field monitoring study was performed in the cities of Bamberg and Hallstadt (Germany). During monitoring, observations and photographic recordings of unusual or unexplainable tree damage were taken, alongside the measurement of electromagnetic radiation. In 2015 measurements of RF-EMF (Radiofrequency Electromagnetic Fields) were carried out. A polygon spanning both cities was chosen as the study site, where 144 measurements of the radiofrequency of electromagnetic fields were taken at a height of 1.5m in streets and parks at different locations. By interpolation of the 144 measurement points, we were able to compile an electromagnetic map of the power flux density in Bamberg and Hallstadt. We selected 60 damaged trees, in addition to 30 randomly selected trees and 30 trees in low radiation areas (n=120) in this polygon. The measurements of all trees revealed significant differences between the damaged side facing a phone mast and the opposite side, as well as differences between the exposed side of damaged trees and all other groups of trees in both sides. Thus, we found that side differences in measured values of power flux density corresponded to side differences in damage. The 30 selected trees in low radiation areas (no visual contact to any phone mast and power flux density under  $50\mu\text{W}/\text{m}^2$ ) showed no damage. Statistical analysis demonstrated that electromagnetic radiation from mobile phone masts is harmful for trees. These results are consistent with the fact that damage afflicted on trees by mobile phone towers usually start on one side, extending to the whole tree over time”.

<https://www.ncbi.nlm.nih.gov/pubmed/27552133?dopt=Abstract>

**If the Byron Shire Council approves this DA it will be directly responsible for the damage to and destruction of the NSW State Significant Jones Road Wildlife Corridor.**



**One scientific study examined colony collapse in honey bees from electromagnetic pollution from phone masts.**

**Colony collapse in Honey Bees. Is Electromagnetism One of the Causes of the CCD? A Work Plan for Testing This Hypothesis.**

This study states;

“Electromagnetism affects all living organisms: unicellular ones, insects, amphibians, birds, and mammals among others. Plants too are affected by electromagnetic fields (EMF) [6,7,8,9]. There exist several reviews on the subject [e.g. 10,11,12]. Among animals, the insects are very sensitive to EMF” (J Behaviour 2(1): 1006 2017).

“Bees may be particularly affected by manmade electromagnetism [21,22,23]. They have magnetite in their brain, a compound which reacts to magnetism. While flying, they can cross electromagnetic fields of high intensity generated by relay antenna and power lines. When crossing such electromagnetic fields, bees may no longer remember their way, may no longer fly in the correct direction, and may become unable to go back to their hive. Alone, a bee cannot live; it dies in about two days, far from its hive. Note that birds are also affected by EMF [26]. Since moreover most of them eat insects, at least during a part of the year, the actual decrease of their numbers finds here a plausible explanation” (J Behaviour 2(1): 1006 2017). <https://www.jscimedcentral.com/Behavior/Articles/behavior-2-1006.pdf>

It is important to note that the residence within 240 metres from the proposed tower operates an apiarist business and that bee hives are situated along the Jones Road wildlife corridor.

**If the Byron Shire Council approves this DA it will be directly responsible for the destruction of the apiarist business operated by a Jones Road resident.**

- \* <http://www.mainecoalitionstopsmartmeters.org/wp-content/uploads/2016/02/Cell-Tower-Studies-Final.pdf>
- \*\*[http://www.emraware.com/newsletter\\_june\\_july\\_2017.html](http://www.emraware.com/newsletter_june_july_2017.html)

Other points to note;

There has been a lack of community consultation as down Jones Road. Neither the proponents, Optus, nor the land owner North Byron Parklands, nor Byron Shire Council notified us of the proposal.

Although the DA for the proposal states that Optus does not expect the facility will impact on matters of national environmental significance as listed in the EPBC Act 1999, the DA only examines the impacts on the actual building footprint site and does not consider the impacts from the electromagnetic radiation once the tower begins operation. The scientific studies in the papers referred to above clearly show that the proposal will have important impacts on EPBA listed threatened species that have been documented to inhabit the Jones Road wildlife corridor and the Billinudgel Nature Reserve. This should be referred to & addressed under the EPBC Act 1999.

Residents of Jones Road have experienced many power failures of the local electricity grid and the proposed Optus tower will be accessing electricity from this grid. We are concerned that this proposed development may have an impact on the local electricity grid and do not believe that it is wise to have a telephone tower dependent on a grid known for regular power failures.

Thanking you for your attention to this submission.

Sincerely,