

**Submission
No 47**

INQUIRY INTO PACIFIC HIGHWAY UPGRADES

Organisation:

Name: Mr Garry Owers

Telephone:

Date Received: 18/08/2005

Subject:

Summary

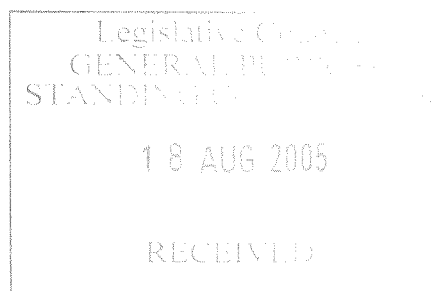
GPSC4 GPSC4 - RTA Submission

From:
To: <gpscno4@parliament.nsw.gov.au>
Date: 17/08/05 20:32:57
Subject: RTA Submission

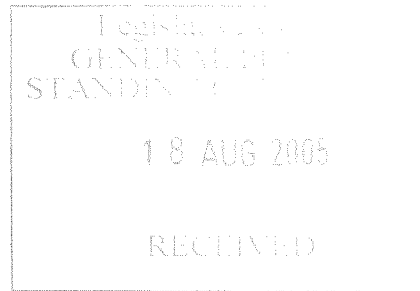
Hi,

Attached is a submission for the General Purpose Standing Committee No 4 Legislative Council inquiry into the Woodburn - Ballina Pacific Highway Upgrade.

Thanks, Garry.



Garry Owers, BAppSc(Hons),



17nd August 2005.

NSW Legislative Council
General Purpose Standing Committee No 4,
Inquiry into Pacific Highway Upgrades

Re: Submission Pacific Highway Upgrades

Need for highway upgrade

Is there a need for a highway upgrade and are there other options. These questions have not yet been posed by the government. Traffic volumes on this section are low except for heavy vehicles. Interstate heavy vehicles should not be using this road. Remove the interstate trucks from the road and we would not need an upgrade. Freight should be travelling by rail and sea which would be a much cheaper option environmentally, socially and economically. Instead this government appears in league with the interstate trucking industry and has closed our rail service and forced the public to risk their lives dicing with heavy vehicles. The upgrade will only make this position worse by encouraging more heavy vehicles onto our roads. We are already inflicted with B Doubles which should never have been allowed and now the trucking industry is calling for triple trailers with the false claim they are safer. How can a vehicle three times the length and three times the weight be safer when in motion it also has three times the kinetic energy. If this money was diverted to the rail system we could have a world class fast and efficient rail service with our roads given back to local traffic. The use of Trailer-rail in South Australia and Western Australia demonstrates the advantages of this freight system which could easily be established over the whole of NSW. The cost of rail freight and passenger services should and must be kept well below road transport. Road transport is heavily subsidised by government and this money should be transferred to rail and regarded not as a profit making operation but as a service to the people of NSW.

Freeways

The whole freeway concept appears inappropriate and needs to be re-examined. Freeways do not allow stopping, turning, slow moving vehicles or entry and exit to and from minor roads or property driveways. Constant crash barriers prevent vehicles pulling off the side of the road anywhere for breaks or breakdowns. This can leave parked vehicles coming into conflict with 110 km traffic which is a dangerous mix. The freeway mentality is now being shown in drivers who travel at 110 km/hr on any road and refuse to slow down for any hazard. This will only get worse as the freeways expand and with many country back roads still single lane and dirt, the promotion of

this mindset will only result in disaster. Safer roads should involve slowing the traffic down, not speeding it up.

Flood flows

Routes 2A to 2D cross the floodplain west of the Richmond River which is the side most runoff is generated from during storm events. I have personally witnessed floods depths in excess of one metre along Backchannel Road and Old Bagotville Road whilst engaged in emergency flood relief with the Rural Fire Service. I have also assisted motorists stuck in floodwaters along Wardell Road at several places including near Thurgates Lane and along Lumley's Lane and have observed up half a metre of floodwater water going over the Bagotville Barrage. I have also seen evidence of up to three metres of floodwater in the northern section of 2A, 2B & 2C. Whilst the freeway will be build above the level of most floods, a large amount of fill will be required. This fill will then form a barrier to the exit of floodwater, prolonging flooding in areas and concentrating flows through narrow channels leading to flood scour with possible suspension of Monosulfidic Black Ooze. Pondered floodwater on the floodplain to the west will drop its sediment load whilst areas on the eastern side will be denied sediment and instead erode. This would not be a problem if the road was along the existing route and to the eastern side of towns. The existing road is built on the eastern river levee which restricts river flooding to the east. The flood modelling done for the RTA does not seem to take the effect of the existing highway into account in reducing flooding to the east. As the existing highway and river levee will remain in place, the flood depths and the amount of fill required, appear to have been greatly overestimated for route 2F.

Effect on Prime Agricultural Land

Prime agricultural land is defined by NSW soil conservation service as being class 1 and 2. Class 1 and 2 prime agricultural land only occurs in this locality on the Alstonville plateau to the north-west. Land used for sugar cane production is classified as either class 4c or class 6c. Class 4 agricultural land is regarded as only suitable for poor grazing and unsuited to continual cultivation. The only possible agricultural use of this land is sugar cane which is regarded as a specialist crop (c) and is maintainable only with the addition of large amounts of artificial fertilisers and toxic chemicals. Sugar cane is therefore regarded as unsustainable and the sugar produced has a negative effect on community health and the environment. The cane industry is heavily subsidised and assisted by government packages while public money is continually used to address the environmental degradation caused by farming practices such as drainage. Sugarcane also does not store atmospheric carbon in the long term as carbon is released as carbon dioxide when burnt or methane when digested. The highway upgrade through sugarcane land therefore would have no effect on prime agricultural land and may even have some environmental benefit from the reduction of cane farming impacts.

Peak Oil

World oil production is at peak with no new wells being discovered. Australian oil production peaked in 2002/3 at 650,000 barrels per day and by 2004 it was down to 430,000 barrels per day. Oil consumption in China has increased dramatically as it modernises and adopts wasteful western practices. Increased consumption without increased production has currently led to major world price rises. Prices will continue to rise to the point where it will become uneconomical to transport anything inefficiently. The only solution will be to decrease our reliance on fossil fuel while using dwindling reserves as efficiently as possible. Efficient transport of freight will require rail and ship transport with freeways becoming redundant monuments signifying how money was squandered in the past by short-sighted politicians.

Consultants Failings

Many residents were not informed that their properties were being considered for a six lane freeway. Maps shown were of very poor quality and residents were not able to identify their properties from the maps. Surveys carried out were substandard and over very short timeframes. The area, which the RTA would like to turn into bitumen and concrete, is one of the most biologically diverse areas on the Far North Coast. These areas have never before been impacted by highways. The description of proposed works as an upgrade suggests additions to the existing route and not a whole new route which should be more accurately described as a new highway. Due to the inadequate and inaccurate fast tracked nature of the ground surveys the selection process should be started again from scratch using consultants who are willing to carry out proper assessments.

Surveys

The flora and fauna surveys conducted by RTA consultants, used sites on or adjacent to roads even though the biodiversity of roads and road verges is already known to be low. This appears a planned strategy to show low biodiversity therefore low environmental constraints. We are meant to trust RTA consultants, however the flora and fauna assessment of route options of June 2005 incorrectly describes mistflower (*Ageratina riparia*) (p93) and prince's feathers (*Persicaria orientalis*) (p107) as natives. Mistflower is commonly known as a declared noxious weed while prince's feather is an introduced environmental weed, therefore what trust can be placed in their assessments. The community should not have to continually step in to make up for the inadequacies of highly paid consultants. Major decisions such as this should be based on years of surveys and studies and include pre-existing studies. It is the job of consultants to do a proper assessment and not just manipulate the data to enable the original preferred RTA route to be chosen. This action only results in a high cost to society, the economy and the environment while causing community anger against the RTA, their consultants and the government.

Global Warming

Anthropogenic global warming predicted by the effect of global dimming could result in a 2 °C rise by 2030 and 10 °C by 2100. By 2100 sea level rise due to anthropogenic global warming has been predicted to be as much as 7.5 metres. Only a 1.5 metre rise is required to re-inundate coastal areas to the maximum level achieved 6,500 years ago as shown in figure 1. The predicted 7.5 metre rise in sea level would place the flood free highway at least three metres under water. Spending large amounts of taxpayer's money building new roads that will likely be permanently inundated in the near future makes very little sense. As native forests, swamps and wetlands store the carbon which could assist to head off global warming it is essential that we do not convert these areas to concrete or we will be helping to cement the fate of our descendants.

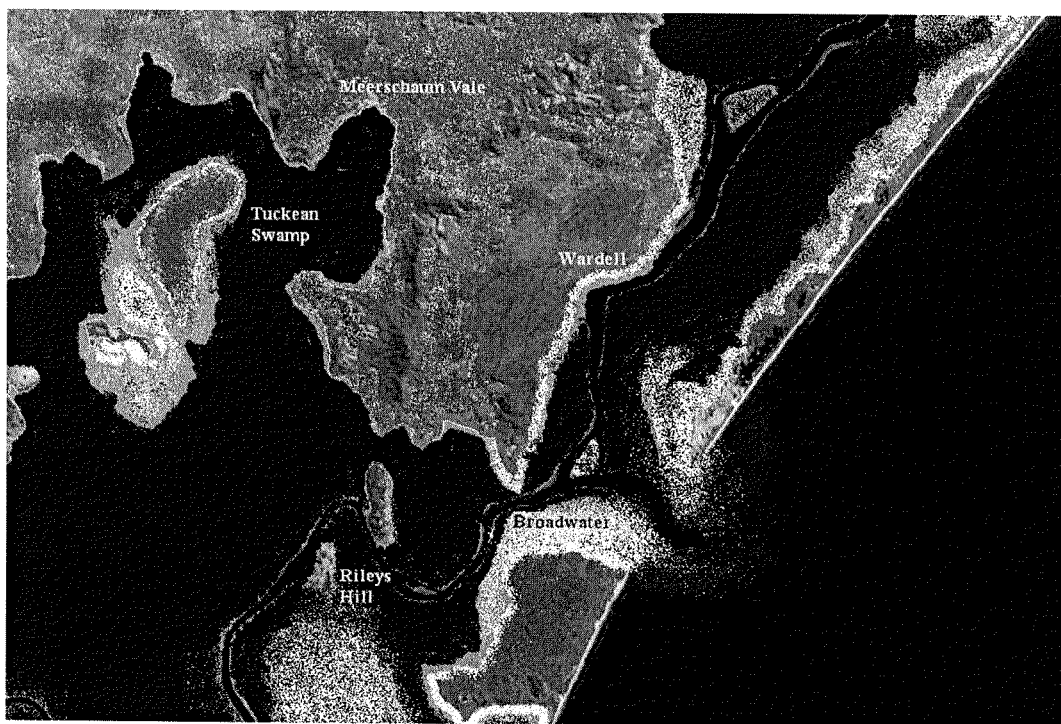


Figure 1: Holocene and future inundation from sea level rise. Source: Owers, 2002

Acid Sulfate Soils

The soils of the Tuckean Swamp contain the highest pyrite and oxidisable sulphur concentration along the east coast of Australia. The swamp has an approximately groundwater storage of 15 million tonnes of acidified water containing 750 tons of sulphuric acid and in March 1994 released 950 tons of H_2SO_4 through the Bagotville Barrage on a single flood recession with pH as low as 1.8. Approximately 500 tons of monomeric aluminium and 600 tons of iron flocs were also released from this event with 190 tons of flocs formed in the tidal reach. This event acidified the entire Broadwater to pH 2.7 with the Richmond River acidified to pH 2.9 for 860 metres downstream of the Broadwater junction (Sammut, et al, 1996). Reduced sediments from the Tuckean Swamp are deposited in the Broadwater and the Richmond River at Broadwater and should not be disturbed. Sulfuric acid reacts with and dissolves

concrete and this is the area of the proposed 2A – 2D major bridge crossings. Due to saltwater buffering as salinity levels rise downstream in the Richmond River the impact of acidity diminishes.

Monosulfidic Black Ooze (MBO)

Monosulfidic Black Ooze is iron monosulfide (FeS) formed on drain surfaces under anaerobic conditions. MBO's are black gel like reduced deposits which form rapidly up to 100mm per month to several meters thickness. When mobilised by flood flows or other disturbance such as bridge or road construction, MBO's can strip oxygen from receiving waters within minutes killing all aquatic organisms such as the deoxygenation event experienced in the Richmond River in March 2001. The occurrence of MBO's decrease downstream from the Barrage with no occurrence expected at Wardell. Land drainage works from the new highway may also create acidity with the possible formation of MBO's. In order to minimise the disturbance and creation of MBO's bridge works should therefore be located no further upstream than Wardell.

Palaeovalley's

Holocene sea level rise caused the inundation of the deep Pleistocene river valleys, filling them with sediments and creating palaeovalleys. The location of palaeovalley sediments, shown in figure 2 marks the position of coastal rivers during the last glaciation. Holocene palaeovalley sediments are composed of estuarine clays, muds and gels with depths exceeding 40 metres and widths of up to 5,000 metres. While the land based palaeovalley sediments north of Broadwater do not form a barrier to road construction these sediments do form a very poor foundation for a major bridge. Bridge construction would require deep excavation in excess of 40 metres to bedrock resulting in high cost. The sediments do not extend to Wardell in the north leaving bridge crossings in that area unaffected.

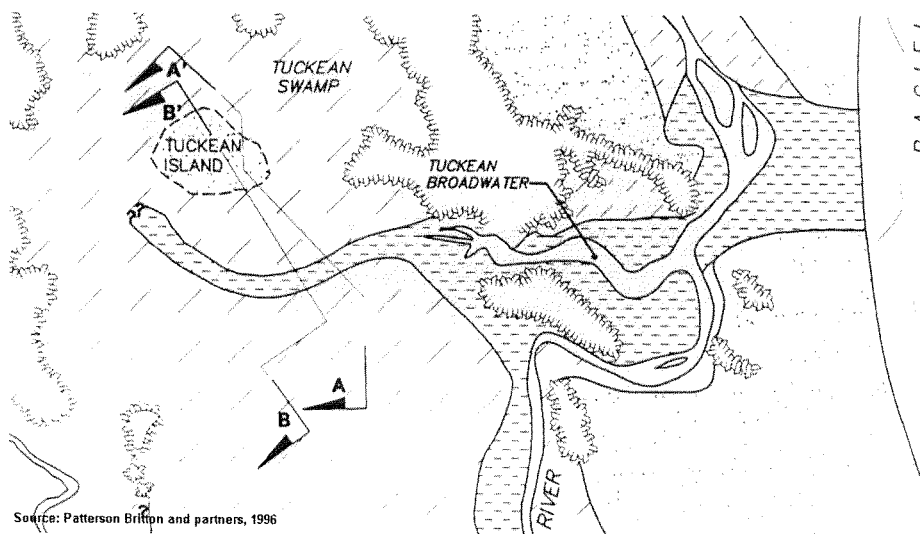


Figure2: Distribution of Holocene Sediments across the project area. Source: Hudson, 1995

Koalas

A major Koalas corridor exists between the Blackwall Range and the Wardell heath although there was no mention of this in the wildlife corridors and key habitats section of the Geolyse flora & fauna assessment. This study only identified two koalas within section 2 while previous studies on the Blackwall Range for NPWS have identified five to the hectare. Our own Friends of the Koala records show 134 callouts to koalas within and in close proximity to the study area. These callouts were only for sick, injured and orphaned koalas so therefore only represent a fraction of the total koala population. The positioning of a six lane freeway across this major corridor will effectively isolate and kill any koalas attempting to cross. This will cut off their food sources and cause genetic isolation resulting in the decline of the local koala population.

Broadwater Koalas

A small population also exists in Broadwater National Park south of the Broadwater tip. Radio tracking of individuals has indicated that koalas regularly cross the two lane highway. A six lane highway will be three times more dangerous to cross therefore provision will have to be made of suitable koala friendly overpasses and underpasses.

Bushfire Management

All roads represent a potential source of bushfire ignition from carelessly discarded cigarette butts to traffic accidents. The more traffic the higher the resulting potential. Unlike other types of roads, freeways due to the presence of continual crash barriers, do not allow access off the sides of roads for emergency vehicles. While some sections may include a parallel local road, most will not. Fighting fires initiated from the freeway subject to smoke obscuring 110 kilometre per hour traffic while not able to park fire vehicles safely off the highway presents a major threat to the lives of fire crew and motorists. It is therefore possible that local Bushfire brigades would refuse to fight fires from freeways without police or RTA traffic control in place. The location of interchanges and emergency U turns is also a major factor in response times. The Wardell Brigade which services the current highway would first be required to drive to the nearest interchange giving it a longer response time. If the road was located in 2A, 2B or 2C the Meerschaum Vale Brigade may be closer but would also have to access via the nearest interchange giving it a much longer response time.

Ecologically Sustainable Development

The four principles of Ecologically Sustainable Development, (a) the precautionary principle, (b) inter-generational equity, (c) conservation of biological diversity and ecological integrity and (d) improved valuation, pricing and incentive mechanisms, shown in the appendix form the basis of planning laws in NSW (EP&A Regs, 2000). These principles should be followed which should therefore result in routes 2A-2D being automatically ruled out.

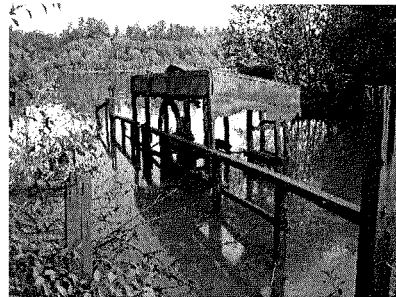
Current Route Options

In regard to the route options display of May 2005 and associated reports for the Woodburn to Ballina highway upgrade, I would like to point out the strengths and weaknesses of the proposed routes.

Route 2A

Weaknesses

- Requires two major bridge crossings of minimum 275 & 250 metres.
- Bridge below barrage disturbs reduced sediments from the Tuckean the largest Acid Sulfate hotspot of highest concentration on the east coast of Australia.
- Bridge crosses 1500 m wide palaeovalley downstream of barrage (fig 2) comprising deep marine muds, clays and gels providing poor bridge foundations with high construction costs.
- Crosses areas of high concentration potential and actual acid sulfate soils.
- Release of acid from bridge and road works can kill aquatic organisms and fish with sub-lethal effects including lesions known as red spot disease.
- Highest corrosion of concrete bridge foundations and oxidation of metal reinforcing by sulfuric acid to pH 1.8.
- Highest potential for disturbance of Monosulfidic Black Ooze (MBO) (FeS) due to low salinity levels resulting in deoxygenation events and resultant fish kills.
- Bridge crossing of Richmond River on tight river bend with highest potential for erosion and bridge failure.
- Destroys amenity of Riley's Hill, Bagotville and Meerschaum Vale community with noise, water, air, and visual pollution.
- Destroys agricultural areas of Broadwater Riley's Hill, Bagotville and Meerschaum Vale.
- Destroys High Conservation Value (HCV) native vegetation and threatened species at Alleys Hill, Bagotville and east of Buckombil.
- Destroys koala corridor linking the Blackwall Range with the Wardell Heath and threatens viability of local koala population.
- Crosses flood prone land at Bagotville and east of Buckombil with flood depth recorded in excess of one metre.
- Damming effect of road will concentrate flood flows in the Broadwater and at Meerschaum Vale causing scour and mobilising MBO's.
- Destroys cultural heritage of old vehicular ferry & ferry crossing at Bagotville (right).
- Increased bushfire ignitions from large traffic volume with restricted access off the freeway for fire tankers endangering the lives of fire crew and motorists.



Route 2B

Weaknesses

- Requires two major bridge crossings of minimum 500 metres each.
- Bridge across Broadwater disturbs reduced sediments from the Tuckean the largest Acid Sulfate hotspot of highest concentration on the east coast of Australia.
- Road and bridges cross wide 5000 metre palaeovalley downstream of barrage (fig 2) comprising deep marine muds, clays and gels providing poor bridge foundations with high construction costs.
- Crosses areas of high concentration potential and actual acid sulfate soils.
- Release of acid from bridge and road works can kill aquatic organisms and fish with sub-lethal effects including lesions known as red spot disease.
- High corrosion of concrete bridge foundations and oxidation of metal reinforcing by sulfuric acid to pH 2.7.
- High potential for disturbance of Monosulfidic Black Ooze (MBO) (FeS) due to low salinity levels resulting in deoxygenation events and resultant fish kills.
- Destroys amenity of Riley's Hill Road, Bagotville and Meerschaum Vale community with noise, water, air, and visual pollution.
- Destroys agricultural areas of Broadwater, Bagotville and Meerschaum Vale.
- Destroys High Conservation Value (HCV) native vegetation and threatened species at Bagotville and east of Buckombil.
- Destroys koala corridor linking the Blackwall Range with the Wardell Heath and threatens viability of local koala population.
- Crosses flood prone land at Bagotville and east of Buckombil with flood depth recorded in excess of one metre.
- Damming effect of road will concentrate flood flows in the Broadwater and at Meerschaum Vale causing scour and mobilising MBO's.
- Increased bushfire ignitions from large traffic volume with restricted access off the freeway for fire tankers endangering the lives of fire crew and motorists.

Route 2C

Weaknesses

- Bridge crossings of minimum 300 metres crosses at 1500 metre wide palaeovalley on Richmond River (fig 2) comprising deep marine muds, clays and gels providing poor bridge foundations with high construction costs.
- Bridge disturbs reduced sediments from the Tuckean the largest Acid Sulfate hotspot of highest concentration on the east coast of Australia.
- Crosses areas of high concentration potential and actual acid sulfate soils.
- Release of acid from bridge and road works can kill aquatic organisms and fish with sub-lethal effects including lesions known as red spot disease.
- High corrosion of concrete bridge foundations and oxidation of metal reinforcing by sulfuric acid to pH 2.9 from the Broadwater.
- High potential for disturbance of Monosulfidic Black Ooze (MBO) (FeS) due to low salinity levels resulting in deoxygenation events and resultant fish kills.
- Destroys amenity of Bagotville and Meerschaum Vale community with noise, water, air, and visual pollution.

- Destroys agricultural areas of Bagotville and Meerschaum Vale.
- Destroys largest expanse of High Conservation Value (HCV) native vegetation and threatened species at Bagotville and east of Buckombil.
- Destroys koala corridor linking the Blackwall Range with the Wardell Heath and threatens viability of local koala population.
- Crosses flood prone land at Bagotville and east of Buckombil with flood depth recorded in excess of one metre.
- Damming effect of road will concentrate flood flows in the Broadwater and at Meerschaum Vale causing scour and mobilising MBO's.
- Increased bushfire ignitions from large traffic volume with restricted access off the freeway for fire tankers endangering the lives of fire crew and motorists.

Route 2D

Weaknesses

- Bridge crossings of minimum 300 metres crosses at 1500 metre wide palaeovalley on Richmond River (fig 2) comprising deep marine muds, clays and gels providing poor bridge foundations with high construction costs.
- Bridge disturbs reduced sediments from the Tuckean the largest Acid Sulfate hotspot of highest concentration on the east coast of Australia.
- Crosses areas of high concentration potential and actual acid sulfate soils at Broadwater and west of Wardell.
- Release of acid from bridge and road works can kill aquatic organisms and fish with sub-lethal effects including lesions known as red spot disease.
- High corrosion of concrete bridge foundations and oxidation of metal reinforcing by sulfuric acid to pH 2.9 from the Broadwater.
- High potential for disturbance of Monosulfidic Black Ooze (MBO) (FeS) due to low salinity levels resulting in deoxygenation events and resultant fish kills.
- Destroys amenity of Cabbage Tree Island and western Wardell community with noise, water, air, and visual pollution.
- Destroys agricultural areas along Backchannel Road.
- Destroys the largest expanse of High Conservation Value (HCV) native vegetation and threatened species areas west and north of Wardell.
- Destroys koala corridor along the eastern side of the Wardell Heath and threatens viability of local koala population.
- Crosses flood prone land along Backchannel Road with flood depth recorded in excess of one metre.
- Damming effect of road will concentrate flood flows in the Broadwater and Bingal Creek causing scour and mobilising MBO's.
- Increased bushfire ignitions from large traffic volume with restricted access off the freeway for fire tankers endangering the lives of fire crew and motorists.

Route 2E

Weaknesses

- Destroys heathland east of Broadwater

Route 2F

Weaknesses

- Appears to have been deliberately misaligned to maximise weaknesses.
- Passes through small area of native vegetation north of Wardell.
- Passes closer to Wardell caravan park than necessary.

Strengths

- Bridge crossing further downstream minimises effects of disturbance of MBO's and ASS due to higher salinity causing saltwater buffering of acidity.
- No acid corrosion of bridge foundations.
- Crosses 5000 metre palaeovalley sediments on dry land adjoining Boundary creek (fig 2) however only small culvert required for creek crossing.
- Agricultural areas already cleared of all native vegetation.
- Does not pass through any HCV vegetation.
- No impacts on threatened species.
- Minimal social impact as few houses and many absentee landowners.
- Area already heavily impacted by existing highway.
- Minimal impact on secondary 4c and 6c agricultural areas.
- Sugar cane production heavily subsidised and unsustainable.
- Economic impacts to farmers are easily compensated for.
- No bushfire risk from freeway initiated ignition.
- Most direct route.
- Lowest cost already proven and existing route.
- Would only require one to two extra lane widths trimmed off front of existing properties.
- Flood free on existing natural river levee.
- Realignment of 2F utilising more of existing route would minimise social impacts and expense.
- Realignment of 2F 300 metres eastward would decrease bridge width to nearly half, significantly reducing cost.
- Realignment of 2F would minimise impact on Wardell caravan park.

Misplacement of route 2F

The misplacement of route 2f appears to have been a deliberate attempt to discredit this route. By following the existing highway and only deviating from this route to bypass towns as shown in figure 1 the impact on farms and residents could be easily minimised. Moving the bridge 300 metres west would also reduce the span by nearly half. Other reasons given for not using the existing route such as the circumference of bends could easily be addressed by banking or reducing speed limits which happens on all other current sections of the freeway.



Figure 1: Existing highway route and alternate 2F route.

Conclusion

Upgrading the highway will only encourage more traffic particularly trucks increasing the danger to the travelling public and using dwindling fuel reserves. The most sensible solution would be to upgrade the rail system and provide us with a first class low cost transport system. We need to get the freight off the roads which could be achieved much faster than an upgrade. The failure of the government to examine the many superior alternatives to major road construction indicates a hidden agenda. The poor quality planning and survey work of the RTA and its consultants is of great concern. The proposed western routes 2A to 2D make no sense at all from an economic, social or environmental viewpoint. One must wonder what motivates the decision makers, is there someone of more importance owning land along route 2F or have the flood studies deliberately ignored the effect of the present highway in reducing flooding to the east. With the existing highway currently proven and fully functional, an upgrade should only involve adding one or two additional lanes at low proportional cost with diversions around the eastern side of Woodburn, Broadwater and Wardell. There is no use throwing money at a road that will be of no use in 30 years time due to sea level rise and lack of fuel to power vehicles. Attempting to accelerate global warming by destroying native forests is not the answer. For the sake of our own survival we cannot afford to lose any more of our native bushland.

Appendix

6 Justification of development

(1) *The reasons justifying the carrying out of the development or activity in the manner proposed, having regard to biophysical, economic and social considerations, including the following principles of ecologically sustainable development:*

- (a) *the **precautionary principle**, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:*
 - (i) *careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and*
 - (ii) *an assessment of the risk-weighted consequences of various options,*
- (b) ***inter-generational equity**, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,*
- (c) ***conservation of biological diversity and ecological integrity**, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,*
- (d) ***improved valuation, pricing and incentive mechanisms**, namely, that environmental factors should be included in the valuation of assets and services, such as:*
 - (i) *polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*
 - (ii) *the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*
 - (iii) *environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

section 6 (2)

Protection of the Environment Administration Act 1991.

Schedule 2 (6)

ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 2000

References

- Hudson, J. 1995, *The Late Quaternary Geology and Evolution of Tuckean Swamp*, Northern New South Wales, Coastal & Marine Geosciences.
- Owers, G., 2002, *The Extent of Tidal Inundation for a Section of the Far North Coast of NSW during the Holocene Epoch*, Honours Minor, School of Environmental Science & Management, Southern Cross University, Lismore, NSW.
- Sammut, J. 1996, *Processes and Impacts of Acidification in Tuckean Swamp*, Report to the Tuckean Swamp Land and Water Management Plan Management Committee.