



Department of Primary Industries

Trevor Allen
JW Planning
Level 1 Suite 13/478 The Esplanade
Warners Bay NSW 2282

27 March 2013

Dear Mr Allen

PART 3A CONSULTATION – MOONEE PARKLANDS

Thank you for the opportunity to comment on the latest Moonee Parklands proposal. The Marine Parks Authority (now referred to as Department of Primary Industries – Marine Parks) provided comment on this development in January 2010 and a copy of our letter is provided as attachment 1. to this letter. The comments made in the letter are still relevant, particularly the section related to climate change and the provision of buffers into the future.

Below are some additional comments on the latest version of the proposal as provided by you in your recent emails.

Flood Assessment

Section 1.3 of the Flood Assessment mentions that a sewer pump station is required. The lot layout shown in appendix 1 to your letter dated 25th February 2013 shows the location of the pump station to be at the lower end of the developed section and near Moonee Creek.

This location is of concern as it is within the area zoned as 7A. Maps prepared for Coffs Harbour City Council show that this location is, in the future, likely to be inundated from rising sea levels and flooding.

The Concept Site Plan in the Flood Assessment appears to also show proposed bioremediation basins located within the area zoned 7A and in an area that is also at risk from future coastal and inundation hazards.

It is the opinion of the Department of Primary Industries – Marine Parks (DPI) that infrastructure such as sewer pump stations and stormwater treatment measures should be located well away from potential future coastal and inundation hazards. It is also the DPI's opinion that infrastructure related to the development should not be located within areas set aside for environmental protection as this may reduce the effectiveness of the area in providing a buffer between the development and Moonee Creek.

With regards to the location of the sewer pump station, the DPI understands the need to locate pump stations at the lowest point of the subdivision. However, this places the pump station close to Moonee Creek and poses a risk to the natural environment should there be a failure at the pump station or in the power supply. This risk needs to be assessed and an appropriate pump station design needs to be developed minimise the risk of surcharges reaching Moonee Creek.

Section 2.3 of the Flood Assessment states that some of the site consists of flat low-lying alluvial plains associated with Moonee Creek. This is confirmed by CHCC's LIDAR mapping that shows approximately half the site falls within this definition. Section 3.2.5 of the Flood Assessment details the assumptions used in the Tufflow model to map the developed site conditions. In this model it was assumed that the "developed portion of the site" was filled to a nominal 20 metres AHD.

It also states that the water quality basins are located within the developed portion of the site and were also modelled as being filled to a nominal level of 20 metres AHD. Modelling in this manner would show that the developed portion of the site, including the water quality basins, would definitely not be affected by future sea level rise and flood events. Modelling in this manner is likely to give a false idea of the effects of flooding on the developed site and in particular the pump station and water quality basins.

The flood modelling appears to be focused on providing protection to the housing development and does not consider the impact that flooding and sea level rise may have on the riparian zone or how it will affect the ability of these areas to retreat with rising sea levels. It is essential that riparian zones are allowed to retreat along with rising sea levels to ensure that the estuary has a viable riparian zone and is able to function naturally into the future. It is for this reason that we seek a 100m horizontal buffer that is measured from an AHD determined by the height of the future 2100 predicted sea levels.

PEA Consulting

The Ecological Assessment Lot 1 DP 1097743 Pacific Highway Moonee Beach, NSW.

Section 2.3.5 Document 5

This section confuses the Solitary Islands Marine Park and the Solitary Islands Marine Reserve (Commonwealth Waters). The Solitary Islands Marine Park adjoins the site and extends eastward to the 3 nautical mile mark. The Solitary Islands Marine Reserve (Commonwealth Waters) adjoins the eastern boundary of the Solitary Islands Marine Park. This section is so confused that it needs to be rewritten. The level of confidence in the document is eroded when fundamental errors such as this are made.

Section 4.12 Aquatic Results

The list of fish species noted in this section contains a number of species that are not likely to be found in Moonee Creek. Conversely, some species such as the Black Cod and Sygnathids have been left out, giving the impression that significant species are

not in this location and that the development therefore does not pose a risk to fish species in Moonee Creek.

Moonee Creek provides habitat for a large number of recreational and commercial species of fish that use the ecosystems in the creek and depend to varying degrees on the ecosystems provided by the riparian vegetation. Small estuaries such as Moonee Creek provide ideal nursery areas for many fish species that spend much of the rest of their lifecycle in the adjacent coastal and oceanic waters.

Protected species such as Sygnathids, Estuary Cod and Black Cod have been recorded in Moonee Creek. DPI is currently conducting research on Black Cod and their presence in coastal estuaries. This research is showing that substantial numbers of juvenile Black Cod are present in the coastal estuaries around Coffs Harbour.

Refer to the DPI factsheets relating to not only fish species but seagrass, mangroves and saltmarsh. These provide good information on the importance of particular species or habitats, their location, threats and ways of protecting them.

Sections 5.10 & 5.11

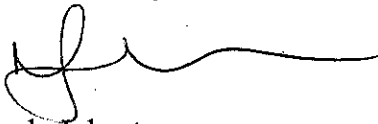
Again, these sections confuse the Solitary Islands Marine Park and the Solitary Islands Marine Reserve (Commonwealth Waters) and needs rewriting.

The comments made in this letter regarding the proposal should be viewed in conjunction with the comments made in our previous letter. In summary the DPI's major concerns relate to the ability to provide adequate buffers between the development and Moonee Creek into the future, conservation of habitats such as mangroves, saltmarsh and seagrass and protection of water quality.

The information supplied by you to DPI – Marine Parks for review has also been forwarded to DPI – Fisheries for their input. Their comments are attached to this letter as attachment 2.

If you would like to discuss any of the matters raised in this letter please contact David Greenhalgh on 6691 0604

Yours sincerely



Nicola Johnstone
Manager
Solitary Islands Marine Park

Attachment 1.

DOC10/1339

Department of Planning
GPO Box 39
SYDNEY NSW 2001

12 January 2010

Attention: Tom FitzGerald

Dear Mr FitzGerald

PROVISION OF KEY ISSUES – MP09-0067 MOONEE PARKLANDS

Thank you for the opportunity to provide key issues for the above major project. The Marine Park Authority's (MPA) comments with regards to this proposal have been made with a view to meeting the objectives, policy and legislation listed below.

BACKGROUND

Marine Park Objectives

The Moonee Creek System forms part of the Solitary Islands Marine Park (SIMP). The MPA is responsible under the *Marine Parks Act 1997* for ensuring the objects of the Act are met. The objects are as follows:

- a) to conserve marine biological diversity and marine habitats by declaring and providing for the management of a comprehensive system of marine parks,
- (b) to maintain ecological processes in marine parks,
- (c) where consistent with the preceding objects:
 - (i) to provide for ecologically sustainable use of fish (including commercial and recreational fishing) and marine vegetation in marine parks, and
 - (ii) to provide opportunities for public appreciation, understanding and enjoyment of marine parks.

The Moonee Creek system has been zoned as Habitat Protection and the objects of this zone are as follows:

- (a) to provide a high level of protection for biological diversity, habitat, ecological processes, natural features and cultural features (both Aboriginal and non-Aboriginal) in the zone, and
- (b) where consistent with paragraph (a), to provide opportunities for recreational and commercial activities (including fishing), scientific research, educational activities and other activities, so long as they are ecologically sustainable, do not have a significant impact on fish populations within the zone and have a negligible impact on other animals, plants and habitat.

Relevant Legislation and Policy

It is also appropriate to highlight some relevant policy and legislation that should be considered when addressing the MPA's key issues. The main points for consideration are listed below:

- SEPP 71 – Coastal Protection – Defines land within 100 metres of a Marine Park as a sensitive coastal location.

- Industry and Investment NSW (Fisheries) – General Policy for the Conservation of Fish, Marine Vegetation and Aquatic Habitats states that.
 - Protected areas including Marine Parks should be given priority consideration in the development of plans, in assessing the impacts of developments and in determining applications;
 - Terrestrial areas adjoining freshwater, estuarine and coastal habitats should be carefully managed in order to minimise landuse impacts on these aquatic habitats. As a precautionary approach, foreshore buffer zones of at least 50 metres wide should be established and maintained, with their natural features and vegetation preserved. Such buffers may need to be fenced or marked by signs. The width of these buffer zones may need to be increased to 100 metres or more where they are adjacent to ecologically sensitive areas.

Natural Environment

The Moonee Creek system is one of the longer estuaries on the north coast to run parallel with the coast. It provides a diverse mix of habitat types and estuarine communities, including mangroves, seagrasses, saltmarshes, freshwater wetlands and fringing riparian vegetation. These provide shelter and food to a variety of marine and estuarine species including important commercial and recreational species such as mudcrabs and prawns.

Moonee Creek has one of the highest concentrations of seagrass beds in the SIMP. Seagrass is not common in NSW waters and the total of seagrass beds in NSW comprises only 0.3% of Australia's total seagrass. Seagrasses directly and indirectly support many commercial and recreational fish species by providing either habitat or food. They also play an important role in preventing erosion and improving water quality.

Seagrass beds are an extremely fragile habitat that can be easily destroyed by human induced stresses that include coastal development and some fishing practices.

Saltmarshes also provide an important source of food and habitat for many important estuarine species such as prawns and crabs. Areas of saltmarsh are adjacent to the development site. Saltmarshes act as a buffer and filtration system for sediments and nutrients. The area of saltmarshes in NSW is currently contracting and in most cases the decline has been linked to agriculture, reclamation or urban development.

KEY ISSUES

Climate Change

The proposal needs to fully consider the likely impacts of climate change on the development over a suitable planning timeframe, for example the next 100 years. These impacts may include sea level rise and changes to flooding.

Environmental Buffers

The MPA consistently asks for the provision of buffers, typically 100 metres between the mean high water mark and development. The purpose of a buffer is to protect the marine park from the direct impacts of urban development and to promote the natural functioning of the waterway and the riparian zone.

One of the likely impacts of climate change is sea level rise and it is predicted that sea levels in this region will rise by 0.91metres over the next 100 years. The MPA requests that the

width of buffers provided to the development will ensure that a viable buffer is present over a typical planning timeframe of 100 years. One way of ensuring this is to include a vertical buffer that corresponds with the predicted sea level rise over the next 100 years in addition to 100 metre horizontal buffer. This approach has already been used in other areas of the Coffs Harbour Local Government area.

If a buffer less than this is proposed, the proponent needs to show how the proposal will meet the objects of the *Marine Parks Act 1997* and the also the objects of the current SIMP zoning of the Moonee Creek system.

Protection of Important Habitats

The issue of how important habitats such as riparian vegetation (which includes mangrove forests), areas of saltmarsh and seagrass will be protected from the impacts of the development needs to be fully detailed. This should include but not be limited to discussion of how access to the creek will be managed and how water based recreational activities likely to be carried out by residents will impact on important habitats.

Moonee Development Control Plan

The proposal appears to be contrary to the Moonee Development Control Plan in that it does not recognise buffer widths. The widths of buffers detailed in the Development Control Plan should, as a minimum, be incorporated within the planned development.

Stormwater

The proponent will need to clearly address how stormwater generated in both the construction and operational phases will be managed so that it does not impact negatively on the Moonee Creek system. Of particular concern to the MPA is the location of a stormwater collection point and water treatment dam. This dam is located on the southern section of the development and is located adjacent to and immediately upstream of areas containing saltmarsh communities. The proposal should fully explore the likely impacts this will have on the saltmarsh and in particular the impact of increased freshwater flows to these areas.

If you have any further questions regarding this matter please contact David Greenhalgh on (02) 6652 0915.

Yours faithfully

Nicola Johnstone
Marine Park Manager
Solitary Islands Marine Park
NSW Marine Parks Authority

Attachement 2.

Aquatic Habitat Protection

Fisheries NSW is responsible for ensuring that fish stocks are conserved and that there is "no net loss" of key fish habitats upon which they depend. To achieve this, the Aquatic Habitat Protection Unit assesses activities under Part 5 of the Environmental Planning and Assessment Act 1979 in accordance with the objectives of the Fisheries Management Act 1994, the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act, and the associated Policy and Guidelines for Aquatic Habitat Management and Fish Conservation. In addition Fisheries NSW is responsible for ensuring the sustainable management of commercial, quality recreational fishing and viable aquaculture within NSW. The following matters relevant to established Fisheries NSW policy are identified to ensure they are appropriately addressed as the proposal progresses.

Buffer Zones

Fisheries NSW acknowledges the proposal describes a 100 metre buffer to waterways. Provision of buffer zones with established or regenerating natural endemic vegetation are a key tool in ensuring that key fish habitats such as seagrass, mangroves and saltmarsh continue to provide for productive commercial and recreational fisheries as well as contributing to water quality. Fisheries NSW long established policy outlined in the Department's policy and guidelines which states:

"Terrestrial areas adjoining freshwater, estuarine or coastal habitats be carefully managed in order to minimise land use impacts on these aquatic habitats. As a precautionary approach, foreshore buffer zones at least 50 metres wide should be established and maintained, with their natural features and vegetation preserved. Such buffer zones may need to be fenced or marked by signs. The width of these buffer zones may need to be increased to 100 metres or more where they are adjacent to ecologically sensitive areas."

It is Fisheries NSW position that the proposed site, adjacent to key fish habitats and a Habitat Protection Zone within the Solitary Islands Marine Park, warrants a 100 metre buffer zone that satisfies the policy outlined above. It should be noted that Asset Protection Zones for bushfire protection and mosquito buffers are to be located beyond 'environmental buffers'. The management objectives and consequently actions undertaken to achieve objectives for APZ or mosquito buffers such as under scrubbing and ensuring a non-contiguous canopy are in conflict with buffers managed for the protection of aquatic habitats.

ICOLL Entrance Management

Moonee Creek is an ICOLL (Intermittently Closing and Opening Lake or Lagoon). The proposed development including flood management should accommodate a natural opening regime for the Moonee Creek ICOLL, ie an entrance management regime based on no or very limited intervention such as re-establishment of an opening to the sea.

Waterway Crossings

It is noted that the proposal incorporates construction of a new waterway crossing of Bucca Creek on Lot 2 DP1097743. Fisheries NSW would require that a new structure

satisfy the Department's fish passage requirements outlined within Fish Friendly Waterway Crossings available at:
www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/202692/Fish-friendly-waterway-crossings-Policy-and-guidelines.pdf

Foreshore Access

Any plans for establishment of foreshore access (including tracks, boardwalks and boat ramps) should be clearly indicated and assessed for direct and flow-on impacts on Moonee Creek.

Further Information

The Fisheries NSW Aquatic Habitat Protection Policy and Guidelines series contains more detailed information on techniques and practices that satisfy the Department's requirements to minimise impacts of developments on fish and fish habitat. The two Guidelines listed below are available at:

www.dpi.nsw.gov.au/fisheries/habitat/protecting-habitats/toolkit

- Policy and Guidelines Aquatic Habitat Management and Fish Conservation 1999
- Fish Passage – Requirements for Waterway Crossings, 2003

Considering the information in these documents prior to further development and submitting your proposal is strongly recommended. For further information, Fisheries Conservation Manager (North), Patrick Dwyer may be contacted on 02 6626 1397.