

# REVEALED: Surprising list of measures for new marina



MAKING WAVES: Plans for the Gateway Marina in the recent Bundaberg Regional Council ordinary meeting.



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It has been recommended qualified turtle biologists collaborate with professionally qualified lighting engineers/designers during the detailed design phase of the Gateway Marina.

A Marine Turtle Management Plan has been prepared by Pendoley Environmental for Insite about the Burnett Heads harbour village development.

The plan outlines numerous lighting measures to mitigate potential impacts on nesting turtles and hatchlings.

As outlined in the Bundaberg Regional Council's ordinary meeting agenda this week, several multistorey buildings have been proposed near beaches renowned for nesting turtles.

On Tuesday the council [approved Stage 1](#) of the marina development which includes a commercial village hub and three multistorey accommodation buildings.

The turtle management plan considers both the subject development and the development of Stage 2; which is being separately assessed.



The proposed development is near beaches renowned for being significant turtle nesting sites.  
Picture: File

The plan does not include assessment or mitigation of potential impacts arising from the construction and operation of the marina berths.

This particular development is close to Oaks Beach, Barubbra Island and Mon Repos Beach, which are frequented by nesting turtles.

While a range of potential impacts are outlined in the report, light pollution carried a 'high' inherit risk, which could become a 'low' residual risk to the turtles should the suggested mitigated measures be implemented.

Some of these measures include:

**For external lighting include:**

- All external building lights utilise LED emitters (~585nm 'true amber' emitters, 'phosphor converted amber') or where white LED is required for human safety, a correlated colour temperature equal to or lower than 2700K;
- External lighting achieves an upwards waste light output ratio of 0 per cent.
- Security lighting will be motion activated and supplemented with computer monitored infrared detections systems;
- Motion activated external walkway lighting for residential premises from 8pm until dawn during turtle season;
- Motion activated lights will have an associated deactivation period of a maximum of 5 minutes.
- Exterior finishes on all buildings will be matte and have a maximum reflective value of 30 per cent;

- All balcony lighting will automatically turn off at 8pm during the turtle season (under the control of the Bodies Corporate)

**For interior lighting include:**

- Indoor lighting will have CCT equal to or lower than 2700K
- Apartment downlights will be built-in to the fixture - not a replaceable fixture.
- Modifications of the apartments' lighting design, including changes to the type, colour temperature, spectral power distribution of the LED sources, will be prohibited by the Bodies Corporate.
- All glass (windows/doors) will have opaque (blackout) blinds/curtains fitted.
- Interior finishes will be matte and have a maximum reflective value of 30 per cent.
- All glass (windows, doors, balustrades) on all buildings will have a tint applied with a visible light transmittance value of 50 per cent.
- Skylights will be not be permitted.

**For pool/water feature lighting:**

- The boundary of artificial water bodies will only be illuminated at night if night activities are intended
- Swimming pools will either be in-ground design or enclosed with solid walls (i.e. no glass windows).
- In pool lighting will be the minimum and lowest intensity needed for safe swimming and use of steps to access the water, lights will be aimed at or below the horizon or lower.
- Pool surfaces will be dark coloured to reduce light reflection from the water.
- Pool decking will be a dark colour to minimise reflection
- Pool deck lighting will be low level, shielded, mini-bollard amber LED.

**During construction:**

- Avoid activities that require elevated floodlights at night during the nesting season.



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According to the council agenda, the submitted turtle management plan states:

"To ensure efficacy of proposed mitigation measures, we recommend that during the detailed design phase of the development, qualified turtle biologists collaborate with professionally qualified lighting engineers/designers to further develop and assess mitigation measures based on detailed lighting designs, light models and simulations."

"Implementation of the proposed mitigation measures as described will prevent the development leading to significant impacts to marine turtle species as assessed against the EPBC Act Significant Impact Guidelines 1.1 - Matters of National Environmental Significance (Commonwealth of Australia, 2013) and will meet relevant priority actions outlined in the Recovery Plan for Marine Turtles in Australia 2017 - 2027 (Commonwealth of Australia, 2017)," it reads.

When discussing the approval, Bundaberg Regional Council's development group manager Michael Ellery said the council would require compliance with all of those from designing and installing lights that were turtle friendly, making sure lights are turned off at certain times during nesting season.

In what has been deemed as a first for the local council, Mr Ellery said they required the developer to do a pre-development and post-development audit to ensure there was no increase in light glow from the project.