



General Manager  
Byron Shire Council  
PO Box 219  
MULLUMBIMBY NSW 2482

Attention: Mr Rob Van Iersel

Dear Mr Arnold

**RE: Development Application for Coastal Protection Works – 145 Bayshore Drive, Byron Bay**

Thank you for your referral through the NSW Planning Portal dated 13 December 2023 about the proposed extension of coastal protection works at 145 Bayshore Drive, Byron Bay, seeking comments from the Biodiversity, Conservation and Science Group (BCS) of the NSW Department of Climate Change, Energy, the Environment and Water. I appreciate the opportunity to provide input.

We have reviewed the documents supplied and advise that several issues are apparent with the assessments for coastal processes and biodiversity. These issues are discussed in detail in **Attachment 1** to this letter.

In summary, BCS is of the view that the most appropriate pathway to consider and give effect to the management of coastal hazards at the subject location is through the development and implementation of the Byron Shire Open Coast – Coastal Management Program (CMP). The CMP will identify a long term coordinated coastal management strategy for the Byron Bay embayment, including the Belongil Estuary entrance and subject land, in accordance with the *Coastal Management Act 2016*.

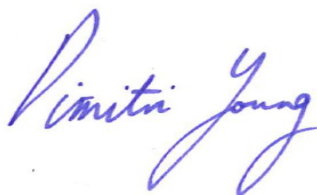
BCS recommends:

1. The proponent works closely with the Byron Shire Council, Department of Primary Industries (DPI) - Marine Parks Authority, DPI - Crown Lands, National Parks and Wildlife Service, Bundjalung of Byron Bay Aboriginal Corporation (Arakwal) and other relevant stakeholders, to develop a long-term strategy for the management of coastal hazard risks at the Belongil Estuary entrance and open coast through the development of the CMP.
2. In the interim, the proponent
  - a. relocates all non-critical, non-coastal dependent development and infrastructure from areas affected by current or projected future coastal hazards impacts and risk over the short to medium term, thereby removing coastal hazards impacts and risks to existing infrastructure and avoiding the need for new works that may exacerbate risks and impacts in the location such as enhanced 'end-effect' erosion, changes in wave and hydraulic interactions at the dune face, and risks to public safety and access.

- b. considers seeking approval for 'soft' maintenance works to reduce erosion impacts to the subject land, including dune restoration works (beach nourishment, beach scraping, dune reprofiling and revegetation) along the foreshore impacted by erosion.
- 3. If the Byron Shire Council recommends to the Northern Regional Planning Panel that the proposal be approved, then:
  - a. the proponent be required to provide additional information to the Panel, describing:
    - i. how any cumulative impacts from the existing works and proposed new works (total works) will be considered, monitored and managed to limit impacts to natural coastal processes, including avoiding increased impacts or risks of coastal hazards on the subject land and adjacent land, and avoid increased risk to public safety or impacts to public access.
    - ii. how management approaches such as beach scraping, beach nourishment and dune restoration may be used to address cumulative impacts as observed through a monitoring strategy with appropriate triggers and thresholds for a management response.
  - b. a condition of consent be imposed requiring a Biodiversity Management Plan to be prepared that protects and manages biodiversity values within and adjacent to the proposed works area, including but not limited to:
    - i. a detailed monitoring strategy involving regular surveys for any threatened and migratory shorebirds inhabiting the locality to be undertaken before, during and after construction.
    - ii. mitigation actions to prevent any adverse impacts on threatened or migratory shorebirds detected within or adjacent to the works area.
    - iii. contingency measures to rapidly address any adverse impacts on threatened or migratory shorebirds or their habitats.
    - iv. mitigation actions to prevent any adverse impacts on native vegetation adjacent to the works area including the implementation of tree protection measures in accordance with *AS 4970-2009 Protection of trees on development sites*.
    - v. a revegetation strategy for the replacement of any native vegetation impacted during construction.

If you have any further questions about this issue, please contact Mr Gene Mason, Senior Conservation Planning Officer North East, Biodiversity, Conservation and Science Group, on 8289 6315 or at [gene.mason@environment.nsw.gov.au](mailto:gene.mason@environment.nsw.gov.au).

Yours sincerely



**DIMITRI YOUNG**  
**Senior Team Leader Planning North East**  
**Biodiversity, Conservation and Science**

9 February 2024

## **Attachment 1: Detailed DCCEEW BCS Comments – Coastal Protection Works – 145 Bayshore Drive, Byron Bay**

The Biodiversity, Conservation and Science Group (BCS) of the NSW Department of Climate Change, Energy, the Environment and Water has reviewed the documents supplied in the NSW Planning Portal for this proposal and we provide the following comments.

### Coastal processes

BCS understands that for several decades the Belongil Estuary entrance has been identified as being subject to coastal hazard impacts and risks. Coastal hazard definition work completed on behalf of Byron Shire Council by independent consultants in 1999, 2013 and most recently in 2023, identifies the relevant coastal hazard risks at this location including the uncertain entrance migration dynamics and associated risks.

The land managers of Elements Resort have previously been advised by state agencies of the immediate and projected risk of coastal hazards to their property including coastal erosion, recession, and inundation, as well as the risks associated with creek entrance meandering processes and the future risks under projected sea level rise scenarios.

Council is preparing a coastal management program (CMP) for the Byron Shire Open Coast, Belongil Creek Estuary and Tallow Creek Estuary in accordance with the process outlined in the NSW Coastal Management Manual. CMPs set the long-term strategy for the coordinated management of the coast, with a focus on achieving the objects and management objectives of the *Coastal Management Act 2016* (CM Act).

Council will commence Stage 3 of its CMP in 2024. Stage 3 of the CMP process involves identifying and evaluating coastal management strategies and actions required to address priority coastal management issues (including coastal hazard risks) in an integrated and strategic manner. During Stage 3, Council and relevant stakeholders will identify and evaluate management options to select the preferred management actions or strategies with a focus on achieving the objects of the CM Act and giving effect to the management objectives for each coastal management area.

The northern embankment of the Belongil Estuary entrance has been identified in the draft Stage 2 CMP Coastal Hazard Assessment as being vulnerable to erosion due to entrance channel meandering and wave attack, with projected sea level rise likely to increase erosion risk. Where the coastal hazard risks identified in Stage 2 are determined to be unacceptable, they will be prioritised for the development of management strategies to be included in the CMP.

In accordance with the objects of the CM Act, BCS advocates for management of the coastal environment of NSW in a manner consistent with the principles of ecologically sustainable development for the social, cultural, and economic well-being of the people of the State.

We note the application's coastal engineering assessment (refer *Elements of Byron – Extension to Existing Geobag Protection Works - Coastal Engineering Assessment* prepared by Royal HaskoningDHV dated 29 May 2023), proposes several longer-term strategies for the management of the coastal hazard risks at the location.

### *Key matters and observations:*

- The value and criticality of the assets being impacted by erosion at the subject site are not clearly described in the application. The application does not provide a detailed justification for the proposed works including by specifying the impacts the works aim to mitigate, the values requiring protection, and why these values are considered by the proponent to be critical coastal-dependant uses and therefore cannot be relocated landwards or removed.

- The application does not consider alternative short to medium-term coastal hazard management options such as restoring natural coastal defences or mitigating erosion impacts from the existing works, and whether the benefits of installing geotextile sand-bags outweigh the potential for increased adverse impacts on coastal values (amenity and access) and coastal processes as compared to the loss of the assets proposed for increased protection.
- The existing temporary coastal protection works were constructed in 2015 to arrest the coastal erosion being experienced along the property boundary at the time. The coastal engineering assessment accompanying the application indicates these works may have resulted in approximately 60m of enhanced end effect erosion to the adjacent coastal dunes and foreshore north of the coastal protection works. It may be inferred that the proposed extension works are sought to arrest dune erosion that is attributed, at least in part, to the end effects caused by the existing coastal protection works.
- The application proposes restoration and nourishment of a sand lock-up offset volume which is limited to offsetting the calculated impacts of the extension. The application does not address how the erosion caused by the end effect of the existing structure could be mitigated. The cumulative impacts of the entire existing structure and proposed extension to coastal values and coastal processes will likely increase above the status-quo and continue for the life of the works. Impacts may include transfer of end effect erosion impacts further north-westwards to the unprotected dune and beach and changes to the hydrology of Belongil Creek outflows at the works location.
- The coastal engineering assessment specifies 800m<sup>3</sup> of sand would be imported to the beach to offset the calculated sand lock-up behind the proposed 40m coastal protection works extension over the nominal five-year approval period. It is possible the proposed nourishment volume may be eroded from the site in a relatively short timeframe from both estuarine and open coast processes. Once the works are exposed to wave or hydraulic impacts, their cumulative impact on the coastal environment will be ongoing.
- The coastal engineering assessment acknowledges the proposed works would increase end effect erosion. The proposal does not demonstrate compliance with Section 27 of the CM Act by describing a management approach to reliably mitigate the impact of coastal hazards on the adjacent unconsolidated dune system and beach.
- Section 2.12 of the *State Environmental Planning Policy (Resilience and Hazards) 2021* sets out that development consent must not be granted to development on land within the coastal zone that is likely to cause increased risk of coastal hazards on that land or other land.
- The coastal engineering assessment suggests that one of the main processes causing foreshore erosion in the Belongil Estuary entrance area is the impact of wave propagation over the low-lying estuary entrance berm during large swell or ocean storm events. This process also results in damage to the existing coastal protection works and necessitates ongoing repairs and maintenance. These impacts are likely to continue to both the existing and the proposed extension, necessitating ongoing maintenance and repairs.

In summary, BCS is of the view that the most appropriate pathway to consider and give effect to the management of coastal hazards at the subject location is through the development and implementation of the Byron Shire Open Coast - CMP. The CMP will identify a long term coordinated coastal management strategy for the Byron Bay embayment, including the Belongil Estuary entrance and subject land, in accordance with the CM Act.

### Biodiversity

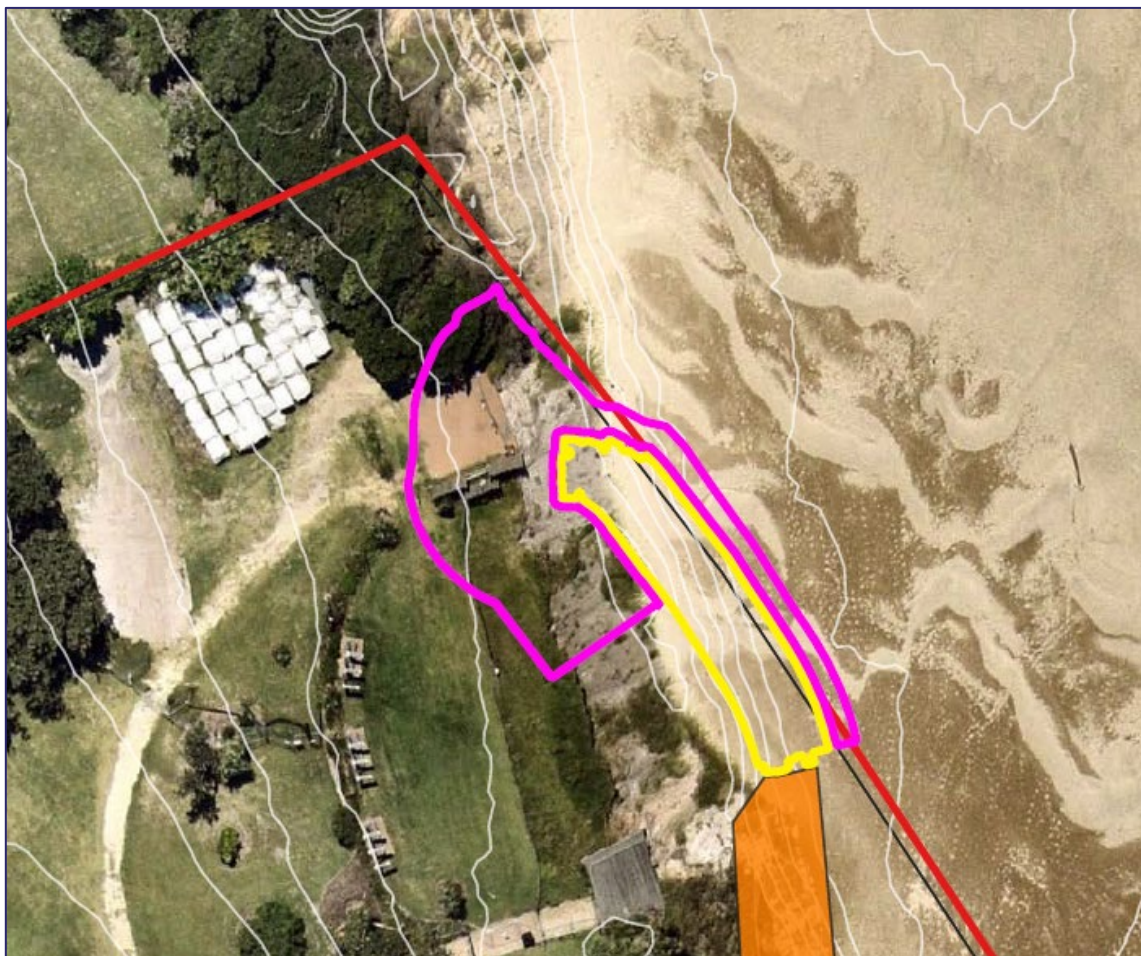
BCS has reviewed the ecological assessment report dated 20 June 2023 and the response to the Council's request for further information dated 18 December 2023, both prepared by Biodiversity Assessments & Solutions Pty Ltd and we note that both documents conclude the proposal would not result in a significant impact on biodiversity including threatened and migratory bird species.

We understand the Belongil Creek estuary is an important habitat area for threatened and migratory bird species. Given the proposal involves heavy machinery movements and excavation

near the Belongil Creek estuary, we consider that if the proposal proceeds, the preparation and implementation of a monitoring program for any threatened or migratory bird species occurring within or adjacent to the works area will be necessary, and contingency measures prepared to rapidly address any adverse impacts on these species or their habitats.

We also note the ecological assessment report and the response to the Council's request for further information are unclear about whether the proposal would impact native vegetation at the top of the dune. The ecological assessment report states :“the area of littoral vegetation potentially impacted is calculated as being <75m<sup>2</sup>” and Figure 5 of the report appears to indicate the excavation area overlapping with the edge of the littoral rainforest vegetation at the top of the dune (see Figure 1 below). However, the response to the Council's request for further information states “although there is some potential for impact to rainforest trees as a result of construction, it is however considered more likely than not that no trees would be impacted by the proposal”.

We consider that if the proposal proceeds, the preparation and implementation of a revegetation strategy will be necessary to replace any native vegetation impacted during construction.



**Figure 1. Excerpt from Figure 5 of ecological assessment report showing area of excavation (pink line) overlapping with littoral rainforest vegetation at the top of the dune.**

### BCS Recommendations

BCS recommends:

1. The proponent works closely with the Byron Shire Council, Department of Primary Industries (DPI) - Marine Parks Authority, DPI - Crown Lands, National Parks and Wildlife Service, Bundjalung of Byron Bay Aboriginal Corporation (Arakwal) and other relevant stakeholders, to develop a long-term strategy for the management of coastal hazard risks at the Belongil Estuary entrance and open coast through the development of the CMP.

2. In the interim, the proponent
  - a. relocates all non-critical, non-coastal dependent development and infrastructure from areas affected by current or projected future coastal hazards impacts and risk over the short to medium term, thereby removing coastal hazards impacts and risks to existing infrastructure and avoiding the need for new works that may exacerbate risks and impacts in the location such as enhanced 'end-effect' erosion, changes in wave and hydraulic interactions at the dune face, and risks to public safety and access.
  - b. considers seeking approval for 'soft' maintenance works to reduce erosion impacts to the subject land, including dune restoration works (beach nourishment, beach scraping, dune reprofiling and revegetation) along the foreshore impacted by erosion.
3. If the Byron Shire Council recommends to the Northern Regional Planning Panel that the proposal be approved, then:
  - a. the proponent be required to provide additional information to the Panel, describing:
    - i. how any cumulative impacts from the existing works and proposed new works (total works) will be considered, monitored and managed to limit impacts to natural coastal processes, including avoiding increased impacts or risks of coastal hazards on the subject land and adjacent land, and avoid increased risk to public safety or impacts to public access.
    - ii. how management approaches such as beach scraping, beach nourishment and dune restoration may be used to address cumulative impacts as observed through a monitoring strategy with appropriate triggers and thresholds for a management response.
  - b. a condition of consent be imposed requiring a Biodiversity Management Plan to be prepared that protects and manages biodiversity values within and adjacent to the proposed works area, including but not limited to:
    - i. a detailed monitoring strategy involving regular surveys for any threatened and migratory shorebirds inhabiting the locality to be undertaken before, during and after construction.
    - ii. mitigation actions to prevent any adverse impacts on threatened or migratory shorebirds detected within or adjacent to the works area.
    - iii. contingency measures to rapidly address any adverse impacts on threatened or migratory shorebirds or their habitats.
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    - v. a revegetation strategy for the replacement of any native vegetation impacted during construction.





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Attention: Mr Rob Van Iersel

Dear Mr Arnold

**RE: Development Application for Coastal Protection Works – 145 Bayshore Drive, Byron Bay – Additional Information**

Thank you for your email dated 15 July 2024 about the additional information provided to support the application for the proposed extension of coastal protection works at 145 Bayshore Drive, Byron Bay, seeking comments from the Biodiversity, Conservation and Science Group (BCS) of the NSW Department of Climate Change, Energy, the Environment and Water.

BCS has reviewed the following documents supplied:

- Letter from Planners North dated 12 July 2024 RE: Request for additional information DA 10.2023.287.1 (PAN-355981) Coastal Protection Works LOT: 1 DP: 1215893 - 144 Bayshore Drive BYRON BAY
- Letter from Elements of Byron Resort dated 29 May 2024 RE: Development Application 10.2023.287.1 for extension of temporary Geobag coastal works to the oceanside boundary of Elements of Byron Resort, 145 Bayshore Drive, Byron Bay
- Letter from RoyalHaskoningDHV dated 14 May 2024 RE: Elements of Byron - Extension to Existing Geobag Coastal Protection Works: Responses to Issues Raised at Site Inspection on 29 February 2024
- Construction Methodology Statement – Geo-bag Wall Extension prepared by Lockyer Valley Quarry dated 24 June 2024.

We previously commented on the proposal in our letter dated 9 February 2024. In that letter, we advised the most appropriate pathway to consider and give effect to the management of coastal hazards at the subject location is through the development and implementation of the Byron Shire Open Coast – Coastal Management Program (CMP). The CMP will identify a long term coordinated coastal management strategy for the Byron Bay embayment, including the Belongil Estuary entrance and subject land, in accordance with the *Coastal Management Act 2016*.

BCS recommended the proponent works closely with the Byron Shire Council, Department of Primary Industries (DPI) - Marine Parks Authority, DPI - Crown Lands, National Parks and Wildlife Service, Bundjalung of Byron Bay Aboriginal Corporation (Arakwal) and other relevant stakeholders, to develop a long-term strategy for the management of coastal hazard risks at the Belongil Estuary entrance and open coast through the development of the CMP.

We also recommended in the interim the proponent relocates all non-critical, non-coastal

dependent development and infrastructure from areas affected by current or projected future coastal hazards impacts and risk over the short to medium term and considers seeking approval for 'soft' maintenance works to reduce erosion impacts to the subject land.

We acknowledge the proponent's response to our previous comments and note their intention to continue towards seeking approval for the proposed extension works. We note the works are proposed as temporary, with a lifespan of five years, and that if the Byron Shire Open Coast –CMP is endorsed and implemented prior to this time, the proposed temporary works may be removed within a shorter time period.

BCS also acknowledges and generally supports the recommendations in the letter from RoyalHaskoningDHV dated 14 May 2024 in relation to the components of the proposal aimed at minimising and managing any impacts to coastal processes and the coastal environment, public access, and public safety associated with the proposed works.

The Coastal Engineering Assessment prepared by Royal HaskoningDHV dated 29 May 2023 states:

*"The geobags within the stockpile were filled with sand from the commercial sand extraction operation at Chinderah. No sand was used from the beach or dune system.*

*A volume of sand would also be imported to the beach to assist in re-establishment of the dune profile on private land, as shown in Drawings 3267-1104, 3267-1105 and 3267-1106 in Appendix D. The volume of sand would be approximately 800m<sup>3</sup> and would be sourced from the commercial sand extraction operation at Chinderah. The volume of imported sand would also address the volume of sand 'locked up' behind the extension to the geobag coastal protection works, as discussed further in Section 6".*

However, the Construction Methodology Statement - Geo-bag Wall Extension, prepared by Lockyer Valley Quarry Solutions and dated 24 June 2024 states "*sand for geo-bags to be sourced from Belongil Beach*". BCS considers sourcing sand from Belongil Beach to be inappropriate. The Construction Methodology Statement does not describe the import and placement of the 800m<sup>3</sup> of sand to restore the dune. It is important the proponent provide a clear construction methodology, including the source, volume and placement location of all materials.

If the Byron Shire Council recommends to the Northern Regional Planning Panel that the proposal be approved, then BCS provides recommendations relating to conditions of consent as follows:


1. To avoid a net loss of sand from the proposed extension works, conditions of consent be imposed requiring:
  - a. the import of 800m<sup>3</sup> of sand to the site to assist in the re-establishment of the dune and to offset sand lock-up anticipated to occur over the 5-year lifespan of the coastal protection works.
  - b. in the event of any increased erosion caused by the presence of the coastal protection works at any time, the proponent must restore the beach, dune and land adjacent to the beach, including the public accessway to the beach located to the north.
2. In relation to end effect impacts associated with the proposed extension works, conditions of consent be imposed requiring:
  - a. The development and implementation of an ongoing monitoring and management program to detect and manage any adverse impacts arising from the structure, including end effect impacts as described in the letter from RoyalHaskoningDHV dated 14 May 2024.



- b. The proponent restores any damage to the beach, dune and land adjacent to the works as a result of any increased erosion caused by the presence of the works as described in the letter from RoyalHaskoningDHV dated 14 May 2024. This may include but is not limited to beach scraping, beach nourishment, repairs to accessways and dune restoration and fencing activities.
3. In relation to managing environmental impacts of the proposed extension works, a condition of consent be imposed requiring the preparation of an environmental management plan for the duration of the works, with the plan covering the proposed extension to the geobag coastal protection works, the beach, dune and land adjacent to the beach between the coastal protection works and 160m to the northwest of the works, as described in the letter from RoyalHaskoningDHV dated 14 May 2024, and including:
  - a. Monitoring at a 3-monthly frequency and following storms, including UAV imagery, survey, photographic monitoring and dune condition inspections.
  - b. Provisions relating to the import of sand and/or beach scraping (subject to gaining relevant licences/approvals) to address end effect impacts on beach and dune form and revegetation (and fencing as necessary) to restore dune vegetation values.
  - c. Monitoring and management of continued safe public access to and along the foreshore.
  - d. Provisions for the repair of damaged coastal protection works, removal of the coastal protection works in the event of failure and reinstatement of dune values above and immediately adjacent/over the structure following an erosion event.
4. In relation to the removal of the coastal protection works, conditions of consent be imposed requiring:
  - a. the removal of coastal protection works on or on or before 5 years to minimise adverse impacts from the proposed works and noting that the CMP will address the longer-term management strategy for the area.
  - b. the development of a coastal protection works removal and site restoration strategy.

If you have any further questions about this issue, please contact Mr Gene Mason, Senior Conservation Planning Officer North East, BCS, on 8289 6315 or at [gene.mason@environment.nsw.gov.au](mailto:gene.mason@environment.nsw.gov.au).

Yours sincerely



**DIMITRI YOUNG**  
**Senior Team Leader Planning North East**  
**Biodiversity, Conservation and Science**

1 August 2024