

#	DPE Comment	Response
<b>Coastal hazard planning horizons</b>		
1	The coastal processes report adopts a standard timeframe for considering coastal hazards, which is particularly relevant to existing or infill development.	The 'standard timeframe' – which is taken to mean a 2100 planning horizon – was not set with any caveat that it is particularly relevant or suitable only for existing or infill development. There are not separate timeframes set for existing and greenfield development. The 'standard timeframe' contemplates and is suitable for the full spectrum of development. The Coastal Processes Report has adopted the currently endorsed NSW Government planning horizon of 2100.
2	As this is a greenfield site that is government owned land, we would encourage the proponent to be especially conservative around measures to avoid, mitigate and/or manage coastal hazards	<p>The conservative approach preferred by DPE is already adopted because the modelling for the coastal hazards is based on conservative modelling assumptions such as the frequency of coincident storm, tide and significant wave events. Hence, when the subdivision design responds to 2100 hazard lines, there is an inherent conservatism 'baked in' to the hazard lines which guide the location of future development.</p> <p>There is also no risk difference which derives from the type of entity which owns the land. The ownership of land by government, or private entity, or community organisation, does not require an adjusted level of conservatism because the coastal processes do not distinguish between the different types of ownership. If the proposed development can achieve a satisfactory response to the modelled risks within the prescribed planning horizon, then the fact that it is a greenfield site owned by government does not require additional precaution.</p> <p>As a concession to the conservative approach preferred by DPE, the revised concept masterplan ("Summary of Proposed Acceptable Changes Building on DPE Option 3" dated 9 Dec 2022) identifies a 'red line' generally 30 m landward of the 100 year coastal hazard line and reduces the scale and intensity of future planned development in that 30 ribbon. In terms of future hazard risk, this represents a lightly reduced consequence in the event that any future hazard is manifested landward of the 100 year hazard line. Note that this does not constitute a Coastal Vulnerability Area pursuant to the CM Act.</p>
3	It is NSW Government policy that we avoid exposing life, public and private assets, and the environment to current or future coastal hazards. The Government's policy is set out in the Coastal Management Act 2016, and is given land use planning effect by State Environmental Planning Policy (Coastal Management) 2018	<p>The NSW Government developed two sea level rise benchmarks in 2009. Those benchmarks were set for a point-in-time of 2050 and 2100. The derivation of the NSW sea level rise benchmarks, and how the relevant information was used, is set out in the <i>Technical Note: Derivation of the NSW Government's sea level rise planning benchmarks</i> (DECCW 2009).</p> <p>In 2010, the (then) NSW Department of Planning released the <i>NSW Coastal Planning Guideline: Adapting to Sea Level Rise</i> for incorporating sea level rise in land-use planning and development. That policy document again adopted projections based on 2050 and 2100 timeframes.</p> <p>The New South Wales Sea Level Rise Policy Statement 2009 was repealed 3 years after its introduction, primarily on the basis that uniform approaches to coastal planning were counter-intuitive to the nuances experienced in specific localities</p> <p>The announcement of the Stage 1 Coastal Reforms in 2012 saw the repeal of the NSW Government's Sea Level Rise Policy (i.e. the State-recommended benchmarks) in favour of locally determined sea level rise parameters set by local councils.</p> <p>Current NSW Government policy is articulated through a number of published documents, including <i>Sea Level Rise: Science and Synthesis for NSW: NSW Office of Environment and Heritage's Coastal Processes and Responses Node – Technical Report</i> (2015). The Technical Report provides projections for sea level rise to 2100 and notes that global mean sea level rise will continue beyond 2100 however "any sea level rise projection beyond 2100 has inherent uncertainties" and that "current evidence and understanding is insufficient to make accurate quantitative assessments".</p> <p>The NSW Government also commissioned a report by the NSW Chief Scientist and Engineer, in 2012. The <i>Assessment of the science behind the NSW Government's sea level rise planning benchmarks</i> found that "the way the science has been used to date to determine benchmarks for sea level rise in NSW is adequate, in light of the evolving understanding of the complex issues surrounding future sea levels". Recommendations from the Chief Scientist and Engineer were that projections should be refined as new model outputs become available and projections should be reviewed through formal consultations with relevant experts. The Intergovernmental Panel on Climate Change (IPCC) limits its current projections to 2100 due to the inherent uncertainties in the modelling beyond that point, and this modelling limit has been reflected in the way that government policy and the planning system set planning horizons. Hence, proponents operating within the planning system appropriately adopt those same planning horizons. The 'new models' referenced by the Chief Scientist and Engineer, are not yet available. The IPCC Sixth Assessment Report is expected in late 2022 or early 2023.</p> <p>It is therefore correct that the Coastal Management Act 2016 and Coastal Management SEPP 2018 (which is now part of the State Environmental Planning Policy (Resilience and Hazards) 2021) set out the policy intent of government in a statutory sense. These instruments set out principles, objectives and development controls for coastal development but do not specify timeframes for sea level rise projections.</p> <p>In summary, the NSW Government has no formal policy regarding the use of 2100 or later dates as a timeframe for the purpose of coastal hazard planning horizons or for land use decision making more broadly. It does however point to the inherent uncertainties and constraints in developing projections beyond 2100 on current model outputs. Notwithstanding this, the recommendations within the Coastal Processes Report for that portion of the site that is immediately landward of the 2100 hazard (refer to Section 7.1.3 of the</p>

#	DPE Comment	Response
		Coastal Processes, Hazards and Planning Study, prepared by Worley Parsons and dated 6 March 2019) would be equally relevant beyond 2100 as they would leading up to and including 2100.
4	For example, consider going beyond 2100 to a 100-year time horizon, which will also be more compatible with the likely engineering life of the housing, other development, and public and private infrastructure including roads and stormwater drainage.	<p>As noted above, the NSW Government has no formal policy regarding the use of 2100 or later dates as a timeframe for the purpose of coastal hazard planning horizons or for land use decision making more broadly.</p> <p>The selection of appropriate planning horizons is a matter for the Department of Planning and Environment as the relevant planning authority for the NTURA Rezoning Proposal. In considering the suitability of the proposed land use, DPE may wish to consider the formally adopted policy of MidCoast Council which notably adopts a timeframe of 2100 for coastal management purposes.</p> <p>The Coastal Protection Act 1979 – which would have been the relevant statutory instrument at the time the Coastal Zone Management Plan (CZMP) was prepared – required CZMPs to consider the impacts from climate change on risks arising from coastal hazards. The requirement was not limited to particular types of development and therefore it is fair to assume that assets such as housing, roads and stormwater would have been properly considered when Council prepared and adopted the CZMP, and the planning timeframes on which the CZMP was predicated.</p> <p>Hence it is reasonable to expect that Council would consider the asset life for housing, roads and stormwater drainage when selecting the planning horizons for coastal development decision-making, and if there was a need to consider horizons beyond 2100 then it was (and remains) open to a Council or a State government to adopt those timeframes. Since that has not been the case, it is reasonable to assume that 2100 is currently considered an appropriate limit for planning purposes.</p> <p>Notwithstanding the limits on formal application of planning horizons beyond 2100, the revised concept masterplan (“Summary of Proposed Acceptable Changes Building on DPE Option 3” dated 9 Dec 2022) identifies a ‘red line’ generally 30 m landward of the 100 year coastal hazard line and reduces the scale and intensity of future planned development in that 30 ribbon.</p>
5	<p>We recommend you take into account the relevant provisions of the Great Lakes Coastal Zone Management Plan as it relates to North Tuncurry. Further, any future Coastal Management Programs developed by the local council will need to be taken into account as they may constrain future landowners:</p> <p>Under State Environmental Planning Policy (Coastal Management) 2018 clause 16, development consent must not be granted to development on land within the coastal zone unless the consent authority has taken into consideration the relevant provisions of any certified coastal management program that applies to the land.</p>	<p>The relevant information contained in the Great Lakes Coastal Zone Management Plan has been taken into account. There is no draft Coastal Management Program however it is agreed that if such a document was adopted by Council, it would also be considered.</p> <p>State Environmental Planning Policy (Coastal Management) 2018 clause 16 is now section 2.13 of the State Environmental (Planning Policy (Resilience and Hazards) 2021.</p> <p>The matter under consideration is a planning proposal and the proponent is not seeking development consent. Hence this section of the State Environmental (Planning Policy (Resilience and Hazards) 2021 is enlivened as and when development may be proposed – which is not currently the case.</p> <p>It is worth also noting that during the Voluntary Planning Agreement discussions with Council, Landcom has committed in principle to one off monetary contributions towards the following in recognition of the sensitive nature of the foreshore location, likely increase in climate impacts, and recognition to the extended timeframe of the development:</p> <ul style="list-style-type: none"> <li>• implementation of a Coastal Management Program for the locality, including maintenance of beach access trails and infrastructure, restoration and management of the coastal dunes and environment for the extent of Nine Mile Beach, including establishment of an ongoing monitoring program within three months of the rezoning of the land for development; and</li> <li>• preparation of updated Coastal Management Program for the locality, prior to the release of any stage of the land for development which adjoins the ‘9 Mile Beach foreshore’ area.</li> </ul>
<b>Legacy issues</b>		
6	We would recommend against any development that is likely to cause legacy issues for future state and local governments. We have a number of areas along the NSW coast that are subject to coastal hazards and which are the source of significant land use conflict.	<p>The proposed rezoning and masterplan are cognisant of the need to minimise any risk of future legacy issues.</p> <p>That need is acknowledged in the revised concept masterplan (“Summary of Proposed Acceptable Changes Building on DPE Option 3” dated 9 Dec 2022) which identifies a ‘red line’ generally 30 m landward of the 100 year coastal hazard line and reduces the scale and intensity of future planned development in that 30 ribbon. This reduces the consequence associated with any future risk and thereby further minimises the likelihood of future legacy issues.</p>
7	In our experience, future engineering or other costly solutions (e.g. coastal protection works such as seawalls, sand mining and beach nourishment) have proven very difficult to achieve. In addition to the capital costs of such solutions, there are practical challenges such as sourcing of sand for beach nourishment, the inability of private landholders to contribute to the funding of such works, the adverse impacts on the environment of such works and the social impacts (such as loss of beach access or amenity) associated with needing to put such measures in place	<p>The costs and complexities of engineering solutions for coastal hazard management are acknowledged.</p> <p>The proposed rezoning and masterplan do not propose coastal protection works. Such works are also not anticipated to be required over the period of the adopted coastal planning timeframe (2100).</p>
8	The proposed land release and timing of its staged development should be adaptive to respond to risks as known now and in the future.	The proposed land release and timing of staged development has been informed by the know site constraints and opportunities, current Government policy and Landcom’s commercial requirements. Staging has been proposed to ensure a commercially feasible development and will also be informed by market demand.

#	DPE Comment	Response
9	<p>It should not rely on the future availability of high-cost solutions to address future problems. These issues are likely to create future costs and liability to private landholders and state and local government.</p> <p>Please also note that section 27 of the <i>Coastal Management Act 2016</i> is a precondition to development consent for all coastal protection works and requires consideration of impacts on public access and safety, and that satisfactory arrangements have been put in place to apportion private and public capital and maintenance costs for the works (including beach restoration works). Landowners may also be liable to pay a coastal protection charge under the <i>Local Government Act 1993</i> to maintain these works.</p>	<p>The proposed rezoning and masterplan do not rely on the installation of high cost coastal protection works.</p> <p>The provisions of the Coastal Management Act 2016 are acknowledged and will be applied at the appropriate time when development consent is sought. Development consent is not required for a planning proposal and hence this provision is a future consideration and not relevant to the matter at hand.</p>
10	Removal of dune vegetation should be avoided to prevent worsening of existing coastal hazards	Agreed. The masterplan does not rely on dune vegetation removal.
<b>Sale of future at-risk lots</b>		
11	We note the site is proposed to be developed over a multi-decade time horizon	Agreed.
12	<p>We recommend you consider alternative tenure arrangements and staging of the development to assist with management of future coastal hazards. For example:</p> <p>Sites most exposed to Coastal hazard should not be sold and instead be leased out, to enable retreat from the site in future if necessary</p> <p>Avoid release and sale of 'super-lots' for sections of the site that may be exposed to future coastal hazards, as this may lock in developer or landowner expectations before the future risk exposure of these sites is clearly understood.</p> <p>Staging of the land release should prioritise areas closest to existing development in Tuncurry and radiate out to stage most at risk subdivisions last, allowing future Governments the opportunity to consider whether these areas should still be developed.</p> <p>We note that any future developments must take into account the provisions of State Environmental Planning Policy (Coastal Management) 2018, including that a proposed development must not adversely affect coastal processes, or increase the risk of coastal hazards on that land or any other land</p>	<p>The proposed land release and timing of staged development has been informed by the known site constraints and opportunities, current Government policy and Landcom's commercial requirements. Staging has been proposed to ensure a commercially feasible development and will also be informed by market demand.</p> <p>The staging plan generally aligns with Council's request to prioritise land release closest to existing development in Tuncurry. The first four (4) stages are proposed to occur along the site's southern boundary and then radiate northwards west of the golf course. Unless unexpected market demand supports earlier delivery, land east of the golf course and closest to the coast is proposed to be delivered in the last stages of the development, during which time coastal hazard risks can be contemporaneously verified.</p> <p>The provisions of the State Environmental Planning Policy (Resilience and Hazards) 2021 (formerly Coastal Management SEPP) are acknowledged and will be applied at the appropriate time when development consent is sought. Development consent is not required for a planning proposal and hence this provision is a future consideration and not relevant to the matter at hand.</p>
<b>Coastal design</b>		
13	As noted above, the NSW Government's policy on coastal management is set out in the <i>Coastal Management Act 2016</i> . It includes objectives to ensure beaches and key coastal environmental assets are protected and maintained for their own intrinsic value and for the benefit of current and future generations.	<p>There are several objectives for the Coastal Management Act 2016.</p> <p>The proposed rezoning and masterplan do not act in contradiction to any of the objectives.</p> <p>It is also appropriate to consider the objectives of the Environmental Planning and Assessment Act 1979 which include "to promote the orderly and economic use and development of land" and "to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment".</p>
14	The development footprint should maximise public open space, especially in highly valued areas such as along the coastal foreshore. The proponents should consider widening the proposed public pathway/bike track, and include linear parklands immediately to the east of the proposed pathway/bike track	<p>The masterplan's open space and public domain has been informed by an analysis of site opportunities and constraints, design principles established in the Landscape Masterplan (Appendix C of the Rezoning Study) and Landcom's commitment to ensuring all of NTURA's future residents have suitable proximity to local open space.</p> <p>The introduction of linear parks is inconsistent with the established design principles.</p> <p>The Rezoning Proposal facilitates the proposed open space concept. The proposed street typologies have been designed to accommodate active transport for walking and cycling.</p> <p>Widening of pathways and bike tracks are not rezoning considerations.</p>
15	The layout of the development footprint should avoid creating private/public land interface areas that may result in future land use conflict or the effective privatisation of beachfront land	There is no intention to privatise the beachfront. The master plan very clearly shows a perimeter/access road in front of all future development lots ensuring public access is provided.
16	It may be more appropriate to reduce the footprint of double-fronted beach-facing lots and instead increase the amount of public open space behind the beach. This will also provide opportunities for adapting the layout to respond to coastal hazards and reducing the Government's future exposure to risks and liability, and for a better integration of the site with the existing golf course	The revised concept masterplan ("Summary of Proposed Acceptable Changes Building on DPE Option 3" dated 9 Dec 2022) identifies a 'red line' generally 30 m landward of the 100 year coastal hazard line and reduces the scale and intensity of future planned development in that 30 ribbon. One of the proposed methods for reducing risk has been to increase lot size and remove any reliance on lot access from the fire trail along the eastern perimeter of the development area.
<b>Impacts on the coastal environment</b>		
17	We recognise the possible environmental benefits of some of the proposed water infrastructure options	Noted.
18	We recommend that the proponent avoid creating high cost infrastructure that cannot be effectively maintained into the future, by the state or local government, or by a private entity. Further work is required to	Noted.

#	DPE Comment	Response
	identify how effectively infrastructure maintenance arrangements, currently proposed to be held under community title	
19	We recommend working closely with the council to identify cost-effective measures, particularly where the council may be the asset owner in the future, or it has limited legal capacity to levy private landholders for infrastructure maintenance, such as stormwater.	Noted.

#	MCC Comment	Response
1	The original report was created in September 2010. With the <i>North Tuncurry Coastal Processes, Hazards and Planning Study</i> Worley Parsons March 2019 (Report) only being a review.	Noted.
2	The [original] report is outdated and does not address the Coastal Management Act 2016, Coastal Management Manual/s or associated the Coastal Management SEPP (Coastal environmental area, Coastal use area, coastal vulnerability area, coastal wetlands and littoral rainforests area).	The report was prepared before the Coastal Management Act 2016 and Coastal Management SEPP 2018 (now repealed) were introduced. The Coastal Management Manual was published in 2018 and therefore the report also pre-dates the Manual. However, the Coastal Processes Addendum (prepared by EMM and dated 3 March 2021) does address the Coastal Management Act 2016, Coastal Management SEPP 2018 (now Resilience and Hazards SEPP) and the Coastal Management Manual were addressed.
3	It is noted that Part 3 Division 2 Section 15 (e) of the CM Act states: if the local council's local government area contains land within the coastal vulnerability area and beach erosion, coastal inundation or cliff instability is occurring on that land, include a coastal zone emergency action subplan	Part 3 Division 2 Section 15(1) of the Coastal Management Act stipulates the requirements of a Coastal Management Program. Sub-section 15(1)(e) provides that a coastal management program must, if the local council's local government area contains land within the coastal vulnerability area and beach erosion, coastal inundation or cliff instability is occurring on that land, include a coastal zone emergency action subplan.  The provisions of Section 15(1) are therefore statutory obligations placed on the relevant council when preparing a Coastal Management Program.  The provision is accordingly not a relevant consideration for the purposes of the NTURA Rezoning Proposal.  In the interests of clarity, the revised concept masterplan ("Summary of Proposed Acceptable Changes Building on DPE Option 3" dated 9 Dec 2022) identifies a 'red line' generally 30 m landward of the 100 year coastal hazard line, however this does not constitute a Coastal Vulnerability Area pursuant to the CM Act.
4	The Study indicates beach erosion (1m recession rate – sect 5.3.1) will impact the site. Part 3 Division 2 Section 15 (e) of the CM Act states: if the local council's local government area contains land within the coastal vulnerability area and beach erosion, coastal inundation or cliff instability is occurring on that land, a coastal zone emergency action sub-plan is required. This does not form part of the proposal.	The preparation of a coastal zone emergency action sub-plan is not a requirement for a rezoning proposal.  The requirement to prepare a coastal zone emergency action sub-plan is the responsibility of the relevant council at the time of preparing a Coastal Management Program if, within the local government area, there is:  a) land mapped as a coastal vulnerability area; and  b) beach erosion, coastal inundation or cliff instability occurring on that land.
5	The Coastal Management Manual/s requires a review on population increase within affected areas and the <i>Report</i> does not comment on this aspect of coastal management in the <i>Report</i>	The Coastal Management Manual (Part A) details the required scope of a Coastal Management Program which includes "future population growth and development pressures". The Coastal Management Manual (Part B) also notes that the strategic context of a Coastal Management Program should include consideration of factors which include "social context such as population growth and seasonal demographic changes".  MidCoast Council has prepared a Coastal Zone Management Plan (2016) which includes Tuncurry Beach. It would not be appropriate for a rezoning proposal report to review the population growth data and assumptions underpinning the adopted Coastal Zone Management Plan. Furthermore, the obligation to consider population growth within the coastal zone as expressed via the Coastal Management Manual applies to the relevant council when preparing a Coastal Management Program.  It is worth also noting that during the Voluntary Planning Agreement discussions with Council, Landcom has committed in principle to one off monetary contributions towards the following in recognition of the sensitive nature of the foreshore location, likely increase in climate impacts, and recognition to the extended timeframe of the development:  <ul style="list-style-type: none"> <li>• implementation of a Coastal Management Program for the locality, including maintenance of beach access trails and infrastructure, restoration and management of the coastal dunes and environment for the extent of Nine Mile Beach, including establishment of an ongoing monitoring program within three months of the rezoning of the land for development; and</li> <li>• preparation of updated Coastal Management Program for the locality, prior to the release of any stage of the land for development which adjoins the '9 Mile Beach foreshore' area.</li> </ul> Council may wish to consider the implications of known population increase when undertaking a future update of the Coastal Management Program.
6	The <i>Report</i> does not comment on the Marine Estate Management Strategy (MEMS) and associated Threat And Risk Assessment (TARA).	The purpose of the MEMS is set pursuant to section 10 of the Marine Estate Management Act 2014. That section states " <i>The purpose of a marine estate management strategy is to set the over-arching strategy for the State government to co-ordinate the management of the marine estate with a focus on achieving the objects of this Act</i> ".  The NSW State Government has released LEP Making Guidelines (September 2022) which identify the matters to be considered when addressing the strategic merit of the proposal (refer to Attachment A: Scoping Proposal). While not specifically applicable to State led rezoning proposals such as the NTURA Rezoning Proposal, the matters identified by the LEP Making Guidelines are:

#	MCC Comment	Response
		<ul style="list-style-type: none"> <li>the Region and District strategic plan;</li> <li>council's Local Strategic Planning Statement (LSPS); and</li> <li>any Department endorsed or approved local planning strategy (eg Local Housing Strategy).</li> </ul> <p>The MEMS is not one of these matters.</p> <p>The Statewide TARA is similarly not a matter stipulated for consideration under the LEP Making Guidelines. Furthermore, the TARA also confirms that <i>"the outputs of the TARA will be used as a key input to inform the development of management responses at a statewide scale, as well as regional and local scales. The latter primarily being addressed through new marine park management plans, which will commence with the Solitary Islands and Batemans Marine Park"</i>.</p> <p>The draft Coastal Design Guidelines (2022) makes relevant provision at Chapter 3 of the Guidelines for planning proposals in the coastal zone. The Guidelines further reinforce the need for a planning proposal to demonstrate strategic merit by:</p> <ul style="list-style-type: none"> <li>giving effect to a regional, district or corridor/precinct plan including any draft released for public comment;</li> <li>giving effect to a relevant local strategy that has been endorsed by the department, such as the local strategic planning statement; and</li> <li>responding to a change in circumstances, such as the investment in new infrastructure or changing demographic trends that have not been recognized by existing planning controls.</li> </ul> <p>The Rezoning Study (prepared by Ethos Urban and dated November 2021) addresses these matters.</p>
7	<p>The <i>Report</i> states that stormwater (sect - 5.3.6) at present is not an issue. It is proposed that stormwater from the development will be discharged into the sand. The report comments no direct overland flow paths are in existence. The report does not comment on a future scenario with higher rainfall events and elevated SLR combined with an eroding coast.</p> <p>Therefore, the <i>Report</i> has not been prepared in consideration of other studies provided with the proposal that do review and make comment on ground water, stormwater, flooding or other management requirements, that will be affected by coastal management issues. The only statement is that stormwater (sect - 5.3.6) <i>at present</i> is not an issue, with no regard to future scenarios</p>	<p>The current proposal does not include any overland flow paths that cross the foredune which would constitute a "coastal" stormwater hazard, now or in the future. Section 5.6 of the Report states:</p> <p><i>There are no apparent coastal hazards due to stormwater for the undeveloped site, as stormwater infiltrates into the ground. There are no surface flow paths crossing the foredune and beach to the ocean. The North Tuncurry Stormwater Constraints and Opportunities Assessment (WorleyParsons, 2010b) outlines stormwater management options for development of the site with infiltration of all stormwater runoff within the site. As such, there would be no future coastal hazards attributed to stormwater within the site. If alternative management options were to be implemented, e.g. directing overland flow paths onto the beach, further assessment of these hazards would need to be undertaken.</i></p> <p>The management of stormwater and associated flooding has been addressed in other documents (re: Flooding) specifically because the Rezoning Proposal has considered the risk of coastal stormwater erosion hazard and has eliminated it by managing the risk within the proposed development footprint and other discharge pathways.</p>
8	<p>In Section 7 of the <i>Report</i> recommends that land seaward of the 2100 hazard line be retained in public ownership. i.e. dedicated to Council. Further consideration must be given to this recommendation given existing risk, liability, social and economic costs associated with beach-front development in the MidCoast, notably Jimmys Beach, Old Bar, Seal Rocks, Boomerang and Blueys beaches</p>	<p>The intent of retaining land seaward of the 2100 hazard line in public ownership is to avoid the management issues associated with the other locations noted by MCC (where the foreshore is in private ownership) over the planning period without sterilising the land use and opportunities associated with the land. As the Report states, this could in the future be achieved by providing flexibility to restrict appropriate uses and building forms to a specified timeframe, through a lease or licence system.</p> <p>It is understood that the 'red line' generally 30 m landward of the 100 year coastal hazard line as identified in the revised concept masterplan ("Summary of Proposed Acceptable Changes Building on DPE Option 3" dated 9 Dec 2022) does not result in the public ownership land extending landward of the 100 year coastal hazard line.</p> <p>Options for lease or licence renewal also provide flexibility over time to continue, and/ or reduce the area associated with, or change, the land use in response to the actual future impacts of sea level rise and coastline recession. Resolution of the lease/licence is not prudent to the rezoning process and would occur at a future point in time.</p> <p>It is also worth highlighting the land lying between the development footprint and the ocean will be a Biodiversity Stewardship Site. Council has stated that they are the logical owner of this land however any transfer to them would be on terms acceptable to Council.</p>
9	<p>The <i>Report</i> does not comment on the current beach use, 4WD. Nor does the report comment on how this activity will continue with additional pedestrian access from this development using the beach. There is no comment on how public recreation and access will be managed as the beach recedes although the report acknowledges that Surf lifesaving towers and public access paths should be designed to be able to be removed</p>	<p>Section 7.1.1 of the Report does comment on the current beach use (4WD)</p> <p><i>"It is noted that existing dune vegetation has been damaged by 4WD vehicles and this issue, together with the future location(s) of 4WD access points to the beach and along the beach, would need to be addressed to maintain dune vegetation and the safety of beach goers."</i></p> <p>The matter of 4WD use and access / restrictions on public land is managed through the CZMP. Beach accessways for pedestrian access from the development would be signposted to warn pedestrians of the potential conflict with occasional 4WD usage of the beach.</p>

#	MCC Comment	Response
		<p>Section 7 of the Report is a commentary that describes a strategy for managing the coastal hazard zone for the development planning period and beyond. The maintenance of a “public owned vegetated buffer with controlled beach access points (possible incorporating light weight viewing platforms), surf life saving facilities (e.g. observation tower and rescue equipment storage) and dune restoration where necessary. Any structures in this zone should be able to be dismantled and moved.” is part of the strategy to manage the risk associated with the hazard. This area is intended to be rolled back over time as sea level rise and coastline recession are realised, without the constraints of private ownership and “permanent” structures and is considered current best practice.</p> <p>The Report also discusses development control measures (including public infrastructure assets) to accommodate further retreat landward of the 2100 hazard line, if necessary, in the future.</p> <p>Furthermore, beach access policy is a matter for Council. Landcom has acknowledged a need to maintain 4wd access and has committed to provide an alternate access point to the north of the Local Centre in the event that the existing access point results in conflicts with beach users.</p>
10	<p>The study references the certified and gazetted Great Lakes Coastal Zone Management Plan August 2016 and associated Options Study in Section 5.2. These documents included a risk assessment of the coast and where development was established the risk consequence was raised. A similar risk assessment is recommended for the proposal to assist in determining the long-term viability, risks and potential costs associated with maintaining of 'beachfront' development, services and infrastructure.</p>	<p>For the purposes of rezoning of land, the Great Lanes Coastal Zone Management Plan (CZMP) and Options Study, as the current adopted coastal management strategy for Council, adequately describes the risk profile. The hazard mapping within these documents defines the likelihood of a coastal hazard occurring. Accordingly, the NTURA Site is located landward of the 2100 hazard line (“very rare to rare” likelihood). Regardless of a raised rating of consequence, locating the site landward of the 2100 hazard line ensures the risk is acceptable due to the likelihood.</p> <p>As a further measure in the interests of resilience, the concept master plan now identifies a buffer area generally defined by a line approximately 30 m landward of the 100 year coastal hazard line, and has reduced the scale and intensity of development within that buffer area.</p> <p>As development types/footprints are not detailed/defined in a rezoning proposal it may be appropriate to revisit such matters pending future development consents.</p>
11	<p>None of Council’s pre-exhibition adequacy assessment comments, particularly in terms of direct coastal hazard impacts on the proposed development have been addressed or even meaningfully discussed within the addendum. For example:</p> <p>“5.6 Stormwater Erosion Hazard” in “North Tuncurry, Coastal Processes, Hazards and Planning Study”:</p> <p>There is no assessment of coastal management being affected by the stormwater runoff due to a high groundwater table preventing stormwater from infiltration, after or during a period of significant rainfalls.</p> <p>This situation took place in March 2021, but has not been accounted for, and there has been no regard given to future climate change scenarios, which may result in coastal impacts.</p>	<p>The current proposal does not include any overland flow paths that cross the foredune which would constitute a “coastal” stormwater hazard, now or in the future. Section 5.6 of the Report states:</p> <p><i>There are no apparent coastal hazards due to stormwater for the undeveloped site, as stormwater infiltrates into the ground. There are no surface flow paths crossing the foredune and beach to the ocean. The North Tuncurry Stormwater Constraints and Opportunities Assessment (WorleyParsons, 2010b) outlines stormwater management options for development of the site with infiltration of all stormwater runoff within the site. As such, there would be no future coastal hazards attributed to stormwater within the site. If alternative management options were to be implemented, e.g. directing overland flow paths onto the beach, further assessment of these hazards would need to be undertaken.</i></p> <p>The management of stormwater and associated flooding has been addressed in other documents (re: Flooding) specifically because the Rezoning Proposal has considered the risk of coastal stormwater erosion hazard and has eliminated it by managing the risk within the future development footprint and other discharge pathways.</p>
12	<p>“6.3 Wave overtopping risks” in “Coastal Management - Tuncurry - Addendum to Coastal Processes, Hazards and Planning Study, EMM 3 March 2021”:</p> <ul style="list-style-type: none"> <li>The provided reference to a 1-in-1000-year storm event (which is mentioned in SMEC, 2013 only once in the Table 5 title) is not correct;</li> <li>“5.4 Inundation” in the Great Lakes Coastal Hazard Study (SMEC, 2013) talks about 1% AEP events only and does not mention any 0.1% events.</li> </ul> <p>The scope of that study was limited by 2100, so the text of the document takes clear precedence over the erroneous table title.</p>	<p>It is acknowledged that reference to a 1-in-1000-year average recurrence interval (ARI) storm event (or 0.1% Annual Exceedance Probability (AEP) events) is a result of a typographical error in the heading of Table 5 in SMEC, 2013, and the numbers represent the 1 in 100 year ARI (or 1% AEP) values.</p> <p>Regardless, the likelihood of the (conservatively estimated) 100 year ARI event occurring in 2100 (noting that the full risk is only realised at the end of the full planning period as the shoreline recedes over time) is “unlikely” in the context of Risk Management. This is consistent with the assignment of likelihood in the risk assessment undertaken by BMT WBM 2015 Options Study</p> <p>Accordingly, EMM’s 3 March 2021 response in “Coastal Management - Tuncurry - Addendum to Coastal Processes, Hazards and Planning Study”, that:</p> <ul style="list-style-type: none"> <li>“the interpretation of the SMEC data to suggest that dune overtopping will be “possible and likely during a coastal storm by 2100” does not properly represent the risk profile”; and</li> <li>other conclusions of “6.3 Wave overtopping risks”,</li> </ul> <p>is still valid.</p> <p>Furthermore, detailed interrogation of the latest LiDAR survey at the site indicates that dune levels between the NTURA site and the ocean reach heights of between 6m and 10m in a continuous front, mitigating estimated runup levels and their consequences. (Further discussion on this matter is provided in Item # 14 below.)</p>

#	MCC Comment	Response
13	<p>The Coastal Management Manual states that a CMP must demonstrate how a council has considered current and future risks, at timeframes of immediate, 20 years, 50 years, 100 years and (if council considers it relevant based on expert advice) beyond.</p> <p>Given the rezoning provides for a subdivision that will exist well beyond the 78 planning timeframe, Council's coastal expert considers a planning timeframe in excess of 2100 is required.</p>	<p>The Coastal Management Manual states (Part B: Chapter 1.5) that "<i>Councils should consider planning timeframes and pathways from now, to 20, 50, 100 years and beyond, where appropriate</i>". MidCoast Council does not currently have an adopted Coastal Management Program however the CZMP (2016) notes that "<i>Great Lakes Council utilises a rolling 50 year timeframe for planning purposes, hence the use of 2060. This will be revised regularly in association with the program of review and revision of coastal hazard studies and management plans. Council opted not to use the 2100 benchmark due to increased levels of uncertainty with longer term projections with regards to coastal processes and sea level rise</i>". It is therefore evident that Council has appropriately considered planning timeframes and determined that a rolling 50 year planning horizon is best.</p> <p>The Great Lakes Coastal Hazard Study (SMEC, 2012) also confirms that Council's preferred planning timeframe is a 50 year horizon (and therefore adopts a 2060 point-in-time for modelling purposes).</p> <p>Subdivision is not an 'asset' which is considered to be threatened by current and future hazards, and the MidCoast CZMP confirms that the 'assets' include ecological assets, recreational assets, transport assets, houses and other built assets; not land zoning or subdivision.</p> <p>MidCoast Council states that Council's coastal expert considers that a planning timeframe in excess of 2100 is required. It is noted however that Section 17 of the Coastal Management Act provides for a local council to adopt a Coastal Management Program and (as stated in the Coastal Management Manual) it is the Coastal Management Program which must consider and set the timeframes and planning horizons.</p> <p>Chapter 3 of the draft Coastal Design Guidelines identifies key outcomes for planning proposals in the coastal zone. Outcome E.3 recommends:</p> <ul style="list-style-type: none"> <li>Consider a 100-year planning horizon under up-to-date climate change projections for shoreline retreat and coastal inundation, and the full range of sea-level rise projections, and plan for corresponding foreshore setbacks. Recognise that beyond 2100, sea level is projected to continue to rise for centuries</li> </ul> <p>Notwithstanding the observation that sea level is projected to rise for centuries, the recommended planning horizon is limited to up-to-date climate change projections for shoreline retreat and coastal inundation. The Intergovernmental Panel on Climate Change (IPCC) limits its current projections to 2100 due to the inherent uncertainties in the modelling beyond that point, and this modelling limit has been reflected in the way that government policy and the planning system set planning horizons. The currently endorsed NSW Government planning horizon adopts the IPCC's planning horizon of 2100. The NTURA Rezoning Proposal is entirely consistent with the IPCC and endorsed NSW Government projections.</p> <p>On the matter of sea levels rising for centuries, there is a need to not only consider the duration of sea level rise but the rate of rise. The difficulty is that the IPCC provides a wide range of possible scenarios for the rate of rise over the next 100 years, however no probabilities are attached to those scenarios. For planners, this inherent uncertainty – which increases over longer time horizons - sets the practical limit for the period over which there is sufficiently reliable data on which to determine development matters. In short, 2100 is the limit of current scientific modelling and therefore the limit of place-based modelling for the planning system.</p>
14	<p>The 2100 maximum run up of 5.9 m AHD provided in Table 5 is also in accord with 6.2 m AHD run up value provided in "4.3 Wave Runup" and "5.5 Coastal Inundation Hazard" from "North Tuncurry Coastal Processes, Hazards and Planning Study" (WorleyParsons, 2019):</p> <p>"For planning purposes, it is considered that a runup level of 6.2 m AHD should be adopted for the study area, which includes the predicted sea level rise of 0.9 m over a planning period up to 2100."</p> <p>Considering that the minimum dune height along frontage for Nine Mile Beach Golf Course is 4.8 m AHD (SMEC, 2013), it is likely then that dune overtopping will be "possible and likely during a coastal storm by 2100".</p> <p>Therefore, a risk assessment considering overtopping events combined with beach recession, and probable consequences of such events, is recommended for the proposal to assist in determining the long-term viability and potential costs associated with maintaining any beachfront development, services and infrastructure</p>	<p>Figure 5.2 of the Report indicates the areas potentially affected by coastal inundation based on detailed LiDAR survey information. As stated in the Report, from this figure it is evident that the dune system is generally sufficiently high to prevent inundation of the site due to elevated water levels and wave runup. This has been re-confirmed with current LiDAR data, see images below, with dune height between 6m AHD and 10m assigned a colour. A continuous line where dune heights are between 6m and 10m AHD is maintained between the ocean and the NTURA Site.</p> <p>As discussed in Section 4.3 of the Report, runup levels in the order of 6 m AHD would only be realised if the foreshore was at this runup height or higher. In the case of potentially low-lying areas, waves that overtopped the dunes would fold over the crest and travel as a sheet flow at shallow depth, spreading out and infiltrating over landward areas. A significant reduction in the velocity and depth of runup would be expected within 10 m of the dune crest.</p> <p>Notwithstanding these matters, the revised masterplan provides for a further 30 m setback or buffer area within which the scale and intensity of development is minimised.</p>

#	MCC Comment	Response
		<div data-bbox="1409 237 2546 966"> </div> <p data-bbox="1409 1024 2893 1171">In the long term, as a beach receded, it could be postulated that the present dunal barrier would disappear, with the new shoreline taking on the existing topography landward of the present dune. This is unlikely from an understanding of the morphological response of beaches. The existing dune crest levels are a complex response to a variety of factors including beach sand characteristics, exposure to wind and wave action, mean sea level, and local topographic controls, all of which are likely to be relatively constant irrespective of the shoreline position in the long term; i.e. it is considered more likely the existing dune profile would 'roll back'.</p> <p data-bbox="1409 1186 2893 1270">Furthermore, the Bruun Rule which is applied to the sea level rise component of long term recession is based on the concept that sea level rise will lead to erosion of the upper shoreface and deposition of this sediment offshore, followed by re-establishment of the original equilibrium profile. The beach profile is re-established by a shift landward and upward.</p> <p data-bbox="1409 1285 2893 1344">Accordingly, the dune system fronting the NTURA Site is expected to remain generally sufficiently high up until 2100 to prevent inundation of the Site due to elevated water levels and wave runup.</p>