

Council Reference: DA10/0222.26 LN44549
Your Reference: MP06_0258 MOD 10



22 April 2016

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Please address all communications
to the General Manager

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Attn: Kate MacDonald

Dear Kate

Comments on the proposed modification - amendment to Casuarina Town Centre including 56 lot subdivision, road works, infrastructure works and landscaping (Department of Planning Application MP06_0258) MOD 10 at Lot 13 DP 1014470; Casuarina Way CASUARINA; Lot 144 DP 1030322 & Lot 144 DP 1030322 & Lot 3 DP 1042119; Tweed Coast Road CASUARINA

Assessment of Modifications Proposed as Part of this Application

The proposed Modification is reviewed in detail below;

Modification of the approved lot layout and increase in the number of lots permitted on-site from 97 to 177

A revised subdivision layout has been proposed as part of this application, which is commented on below. An element of this revised layout relates to amendments to the north site boundary including the extinguishment of an easement. This is reviewed in more detail as a separate matter elsewhere in this report.

Earthworks/Retaining walls

Concerns are raised with respect to the extent and number of retaining walls proposed under the modified layout. Council's Development Engineering Unit has advised the following with respect to this;

- Tweed Shire Councils Development Design Specification – D6 Site Regrading (TSC-D6) specifies that the maximum permissible combined of retaining walls or batters in residential subdivisions shall be 1.8m above street level and 2.4m below street level. The proposal to have a retaining wall up to 4m in a residential subdivision (adjacent to proposed Lot 92) does not comply with TSC – D6.
- Concerns are raised on the number of retaining walls proposed across the site. It seems that the applicant has used multiple retaining walls to provide flatter gradient sites. The previous earthwork approvals did not have multiple retaining walls and still achieved compliant gradients.

- Concerns are raised regarding the number of proposed retaining walls in public road reserves / open space foreshore area on the eastern boundary. The walls would attract increased maintenance issues such as graffiti, re-painting, weed control etc... compared to a gradient batter that is grassed. The previous earthwork approvals did not have multiple retaining walls.



Streetscape Drawing/ Retaining Walls to North East

Further to this, Council's Stormwater Engineer has advised that *"The proposed earthworks are shown to extend through to the edge of the existing coastal cycleway. In addition retaining walls are shown as 1m high, however based on the proposed and existing landform. I strongly suspect the walls would be greater than 2.5m high rather than the 1m nominated. For example the adjacent proposed Lot 92 ranges from RL 7 to 7.25m AHD and the existing swale is at RL 4m - in short there is over a 3m level difference"*.

"From a maintenance perspective Basin 3 has no road frontage or vehicular access apart from the existing coastal cycleway. Ease of access for maintenance shall be considered and documented for Basin 3 that eliminates disruption to the existing cycleway. I also have concerns about the available space to accommodate the 2550sqm infiltration basin which excludes maintenance access and batter embankments without resuming existing dedicated open space. Extensive use of retaining wall structures is not acceptable from an ongoing maintenance perspective. Further investigation shall be undertaken to accommodate other available locations for infiltration basin/s that mitigates resumption and impacts of dedicated open space within the development footprint."

Beyond this, it is not apparent that owners consent has been submitted as part of this application for the proposed works within Council Reserve Lot.

Council request that the submitted application address the above concerns with respect to earthworks/retaining walls.

Road Layout

The proposed modification incorporates a new road layout to service the proposed allotments. This has been reviewed by Council's Traffic Engineer who has provided the following comments with respect to traffic and public car parking;

"Traffic

The proposed 4 leg intersection treatments at Grand Parade/Roads A and B, are not considered acceptable given Council's experience with similar intersections where crash history results in required upgrading through Federal Black Spot funding. The traffic volumes need review in accordance with the RMS Guidelines and suitable treatments constructed (roundabouts) to reduce potential conflict points. Roundabouts also provide turnaround facilities for motorists seeking on road parking negating the need to circulate on residential roads or Casuarina Way.

The on road parking layout on Grand Parade is only suitable for left in movements. The parking bays should be modified to be 90 degree angle parking with dimensions according to AS2890.5.

Public Car Parking

- *On-road parallel parking bays do not provide additional parking as vehicles can always park on roads where there is sufficient width.*
- *The on road parking on Grand Parade should not be included in the public carparking provision. It is likely that these car spaces will be absorbed for parking associated with the retail developments.*
- *The parallel parking bays on Blue Horizon Drive are not supported as they do not result in actual increase car parking provision. It is recommended that 90 degree angle parking be designed on Blue Horizon Drive adjacent to the beach foreshore."*

Further comment has been provided with respect to road network and parking by Council's Development Engineering Unit as per the below;

"Road Network/Horizontal/Vertical Alignment, Cross Section

- *The modification now seeks to reduce the road reserve width of Road 1 (Grand Parade) from 33.370m to 29m in width. The modification also is reducing the verge area from 4.5m to 3.5m. Tweed Shire Councils minimum road reserve width for this type of access road is to be 30m and minimum footpath verge to be 4.5m.*
- *The applicant is to indicate if the mixed use will provide shop frontage on Grand Parade and if so then Tweed Shire Council standard road standards require full width concrete pavement of the 4.5m wide verge on Grand Parade.*
- *The applicant to confirm if the rear access laneways (lots 37-43, 45-46, 53 and 79-84) will be privately owned with appropriate easements or public roads conforming to Council standards. If public road then applicant to demonstrate to Council standards.*
- *The applicant to confirm if the access driveway servicing proposed Lots 14, 15 and 16 is proposed to be privately owned with appropriate easements or*

intended to be a public road conforming to Council standards. If public road then applicant to demonstrate to Council standards.

- *Adjacent to proposed Lot 85 being the public reserve there is a widened section of Grand Parade forming a nib. The applicant is to demonstrate the purpose of the widened section and its practicality compared to car parking previously approved adjacent to the public reserve.*

Intersections

- *The current approval provides roundabouts at four way intersections. The proposed modification now seeks to provide four way intersections with Give Way signs by means of priority control with Grand Parade. The applicant justifies intersection design to be Give Way by argumentation of low traffic volumes, more friendly towards pedestrians and cyclists at four way intersections. The applicant has not considered Tweed Shire Councils Specifications for design.*

Tweed Shire Councils Development Design Specification – D1 specifies traffic control at four way intersections being Neighbourhood Connector and/or Access Streets to be controlled by use of roundabouts for use of speed control and intersection safety. A four way intersection for Access Street / Access Street may be controlled by small roundabouts (mountable are acceptable).

- *An access lane is proposed to connect the beach car park to Grand Parade. The proposed access lane is almost directly opposite a proposed driveway access for proposed Lots 79 – 84. Australian Standard AS2890.1 specifies prohibited locations of access driveways (Figure 3.1). The proposed driveway access as indicated is within the prohibited location.*

Footpaths / Cycleway

- *The existing approval includes a proposed 3.5m wide cycleway connecting from Casuarina Way to Casuarina foreshore along an easement of various widths. In addition the approval provides an additional cycleway connection to Casuarina Way near the existing Santi building.*

The proposed modification now seeks to reduce the proposed cycleway width from 3.5m to 2.5m and delete the additional cycleway connection to Casuarina Way near the existing Santi building. The cycleway width of 3.5m and cycleway connection to Casuarina Way near the existing Santi building is to remain as per approved.

- *The applicant has not provided pedestrian access for the proposed Access connecting the beach car park to Grand Parade. A pedestrian footpath to be provided within the road reserve of the Access connecting the beach car park to Grand Parade for separation.*

Car Parking

- *Additional 17 existing car parking spaces are counted as being within the 100m zone. Upon review of car parking counts it seems only 6 to 7 car parks*

are within the 100m zone. Applicant to demonstrate how 17 car parks were counted as part of the 100m zone.

- *The total car parking calculations does not take into consideration the three (3) car parking spaces removed as agreed for the Kool Kids development.*
- *The proposal is essentially re-locating the existing approved car parking along Blue Horizon Drive (existing 42 parks – proposed 14 parks) to Grand Parade. Upon re-locating the car parks the applicant is changing the car parking layout from 90 degree parking to parallel parking. By re-locating the majority of car parking to Grand Parade concerns are raised regarding the following:*
 - 1) *Reduction in car parking within the 100m beach parking zone by approximately 24 car parks.*
 - 2) *The car parks in Grand Parade is more focused on mixed use (shop) car parking rather than public beach car parking.*
 - 3) *The mixed use development (shop) will want to use the public car parks in Grand Parade as credit provisions in their car parking calculations (similar to the Seaside City development).*
 - 4) *The parallel parking along Blue Horizon Drive is essentially not providing additional car parking given commuters would most likely park on the side street. The car parking proposed is only formulating car parking spaces. It is preferable if 90 degree parking is provided as per the original approval.*
 - 5) *Angle parking 30 – 60 degrees is not supported in Grand Parade in this instance as it would restrict users on opposite side of road to park. Previously there was a median proposed down the centre line of Grand Parade and 30 - 60 degree parking was desirable given one sided traffic lane. As there is no proposed central median preference is for 90 degree parking to be provided in Grande Parade to allow both east and west commuters to park.”*

Having regard to the information provided by Council’s Traffic engineer and Development Engineering Unit, it is considered that the proposal would require amendment to take into account the issues raised in the above comments.

Density of Casuarina Town Centre Development

The proposed modification results in an amended allotment layout design as outlined under figures 6-8 above. It is noted that this amended layout will result in a reduction in density of development on site. The Economic Impact Assessment submitted as part of this application outlines the following with respect to this;

“Clarence Property Group controls a strategic parcel of land within the Town Centre which was originally designated to incorporate some 474 dwellings. A modification to this number of dwellings is proposed, which would result in a reduced number of 330 dwellings.”

The area to which this reduction applies is identified under the below figure;



Clarence Property Group Controlled Land

It is noted that under Modification 6 (Approved 16 May 2014) a reduction in density was previously approved to the Casuarina Town Centre development on land to the south of the Clarence Property land, where medium density allotments to provide for 208 units was changed to a 40 Torrens title allotment configuration.

This application would further reduce the density of development to the overall Casuarina Town Centre.

At the time of assessment of Mod 6, Council provided the following comments concerning the reduced density of the development over these allotments;

“In assessing the merits of the original proposal it was noted that a variety of low and medium density housing options was an element of the overall Casuarina Town Centre development which provided an environmental, social and economic benefit and resulted in the support of the development. Furthermore, it is considered that a town centre site should have a higher residential density in close proximity to services such as the proposed retail area in order to maintain the viability of such services.

Therefore, from Councils perspective it is considered necessary that any such amendment be suitably investigated from a holistic perspective regarding potential impacts on the Casuarina Town Centre Development.

It is not considered that adequate information has been provided in this regard to determine that the proposed amendment will not have a detrimental impact on the Casuarina Town Centre development as a whole. As such, a detailed assessment of the potential impacts arising from the proposed modification

should be provided in order to ascertain the impact of the modification with respect to this.”

The modification application now submitted seeks to further reduce the density of development over this area by an additional 144 dwellings. Tweed Shire Council would again request that Department of Planning & Environment assess this as a reduction to the density of the overall Casuarina Town Centre development and consider its suitability from an holistic perspective regarding potential impacts on the Casuarina Town Centre Development.

It is further noted that under Tweed Local Environmental Plan 2014, a large portion of land to which this application relates is zoned B2 Local Centre and R3 Medium Density Residential uses where a greater residential density would ordinarily be provided.

Modification of the built form to increase the height of buildings permitted along Grand Parade

The submitted application advises that the concept plan has been designed in order to create a gradual increase in density from the surrounding existing residential uses to the town centre. A concept drawing of this has been reproduced below;



Proposed Concept Plan

It is further noted that the modified master plan encompasses two four storey apartment sites to the western end of Grand Parade. Grand Parade is stated as being lined with three and four storey mixed use retail (ground floor) and residential units (levels 2 & 3). The submitted application advises that the proposed building height accords with the 13.6m building height limit prescribed within the Tweed Local Environmental Plan 2014.

The Grand Parade sheet contained within the Urban Design Plans and Design Statement prepared by RPS (Page 4 of 18) indicates that there would be Ground Level Mixed Use development such as shop top housing and SOHO type units proposed as part of this modification.

Council would be supportive of the area being utilised for commercial and mixed use type development, which would be consistent with the current zoning over the land under the Tweed Local Environmental Plan 2014 (B2 Local Centre), however it is requested that the land use definition of any such SOHO units be provided in order to determine whether this would entail a commercial use or a home office area which would be ancillary to a residential unit on site.

Council officers raise no objection to the proposed modified building heights. In this regard it is noted that this area was previously subject to a three storey building height control under Tweed Local Environment Plan 2000, however the current Council controls under Tweed Local Environmental Plan 2014, a building height of 13.6m is identified for this site, which the applicant states will be complied with.

With respect to the built form gradual increase in height, please see comments above relating to the density being achieved across the Casuarina Town Centre development.

Deletion of the approved hotel use

A tourist hotel was approved as part of the original Casuarina Town Centre development. As part of this S75W modification application, it is proposed to delete this use *'due to the development not being deemed economically feasible having regard to existing tourist development within the immediate locality.'*

It is noted that the Economic Impact Assessment submitted as part of this application does not detail further how this conclusion has been reached.

Tweed Shire Council does not have any specific comments with respect to the deletion of this use, however the Department of Planning and Environment is requested to determine any impacts associated with same as part of its assessment of the modification.

Revisions to the drainage concept to facilitate the filling of the existing drainage swale and the conversion of the swale to a 'green buffer'

There is currently a 36m swale located to the north site boundary, approved under the original approval. Modification 1 raised the proposal to pipe the swale and reduce the width of drainage land to accommodate it. Under this Modification the Department issued an approval that set various design criteria around the sizing of the piped system to ensure equivalency of performance in extreme storm events, requirements to offset lost infiltration capacity, and requirement that a 20m wide drainage reserve be created over the drainage infrastructure along the northern boundary, thereby preserving a buffer function and continuity for a cycleway between the sportsfields to the coastline cycleway.

In granting owner's consent for works to be carried out in this area, Council agreed to relinquish the 36m wide easement in return for the dedication of the 20m wide

drainage reserve. To date these works and dedication have not taken place. The previously approved 20m easement is demonstrated below;

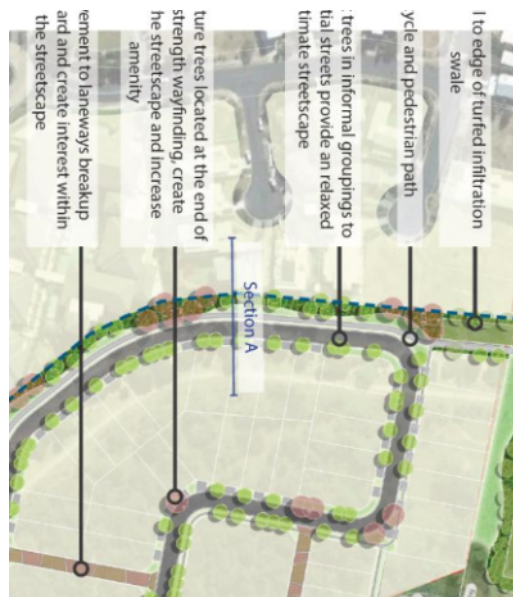


Approved 20m Easement

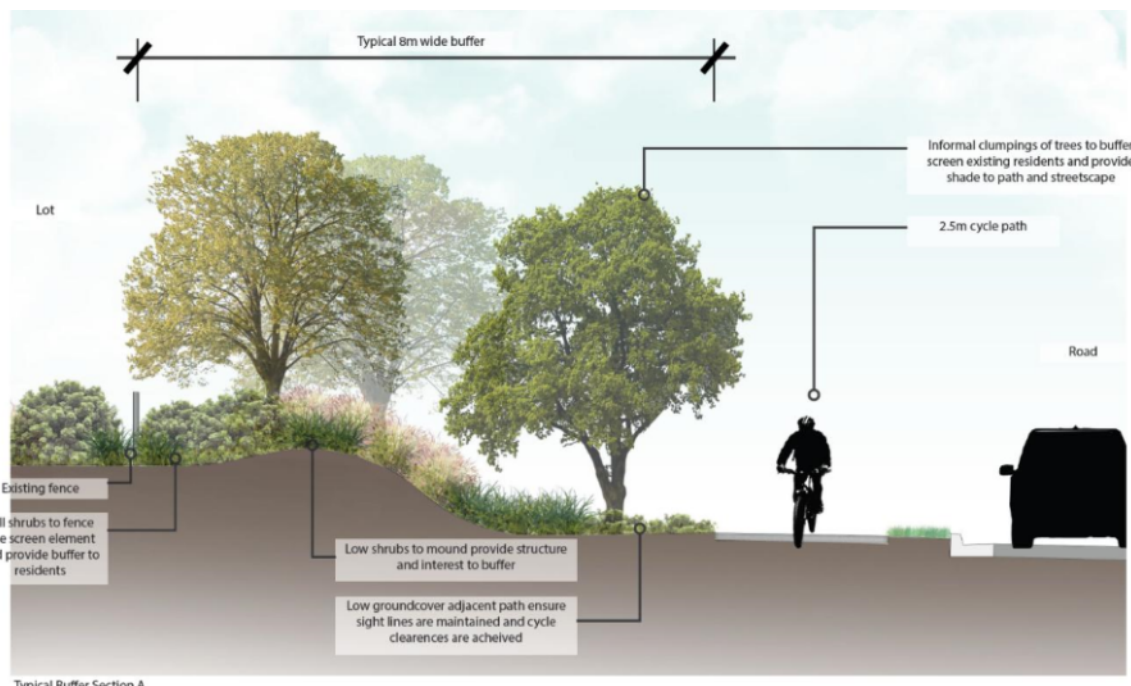
The submitted application outlines that the purpose of the swale was twofold, firstly to provide for stormwater management within Casuarina, and secondly to address the proposed land use interface with the adjoining northern residential dwellings.

Beyond this it is also noted that this easement is benefitted to Tweed Shire Council, and as such an application to extinguish same would need to be approved by Council.

It is now proposed to locate a road within this 20m dedication, resulting in a reduced 8m wide buffer, as identified in the subdivision layout and below;



North Boundary Treatment with road



Concept drawing of proposed 8m wide buffer

It is noted that a number of letters have been received by Council during the exhibition of this application, objecting to the amendments to this component of the Casuarina town Centre Development. Council will forward these submissions to Department of Planning & Environment who are the consent authority and request that they take the matters raised into consideration when determining the application.

The proposed modification to amend this swale to the north site boundary has been reviewed by Council's Manager Roads and Stormwater (proposal would require changes to the easements benefitting Council), Development Engineer and Stormwater Engineer, with the following comments provided;

Manager Roads and Stormwater (Easement)

The drainage swale provides a high capacity connection between the coastal swale that services the Casuarina Estate and an outlet to Cudgen Creek to the west. It provides a high degree of infiltration due to the sandy soil. Taking into account the design specifications provided by the existing consent and Council's D5 specification, the modification application proposes to replace the open swale with large diameter pipes (3 x 1650mm pipes) to cater for the Q100 flow. Modelling demonstrates that this piped configuration does not increase upstream flood levels in extreme events, or increase the incidence of the coastal swale overtopping the dune to the beach. This would allow for the overall easement width to be reduced, provided equivalent infiltration can be achieved elsewhere in the trunk drainage system. As such, there is no hydraulic reason to oppose the piping of the swale drain, only the public benefits afforded by the wider easement.

Detail of the proposed configuration of the area within the easement is difficult to locate in the modification application. It is assumed that the area will be dedicated as a widened road reserve, containing landscaped vegetation for the first 8m from the northern boundary, a 2.5m wide cycleway, and then a local access street, up to the front boundary of low density residential allotments. The 3x1650 stormwater pipes, a

realigned sewer, as well as necessary water services, telecommunications and street lighting will be provided within this area.

It is requested that the applicant provide a clear cross section showing all above and below ground infrastructure, landforming batters and retaining structures, and clearances between the various uses e.g. Vegetation, cycleway, roadway, verge widths, and piped infrastructure. Without such detail, it is suspected that inadequate width has been allowed for in the design, noting that approved 20m wide drainage reserve in the current approval did not include road infrastructure.

Widening of this area to accommodate the additional road infrastructure should also help address the ongoing concerns of landowners to the north and their expectation of a buffer zone created by the drainage reserve.

Development Engineering Unit

The applicant proposes to pipe and fill the existing open swale. The proposal is for with 3 x 1650mm pipes to be installed and to significantly reduce the drainage reserve width (currently 36m wide).

The issue of the drainage swale and associated easement over the Casuarina Town Centre site is long running and there is a great deal of history and correspondence associated with the various landholders' proposals to realign, reduce or eliminate the open drain in order to maximise developable area.

Of relevance to this assessment is a letter dated 24 September 2013 to NDC from Council's Coordinator Development Engineering. This provides a summarised history of the issues, and in consideration of the proposal to fill and pipe the swale and reduce the easement width concludes:

"Council wishes to retain the existing approval drainage reserve to ensure a minimum urban buffer is achieved. Therefore, Council does not accept piping of the whole open drain and the reduction of drainage reserve widths and easement widths from the original agreement."

The current proposal does not acknowledge this previous advice.... there is no justification for Council to change the viewpoint of opposing piping of the whole swale.

Stormwater Engineer

The application has included a preliminary engineering assessment with preliminary conceptual engineering details. Based on review of the documents the applicant is prepared to accept our earlier advice that the equivalent Infiltration Basin Configuration on the adopted Cardno MBK plan SK No. 7079/1-24 Rev B shall be incorporated with this proposal.

Conceptually the application has provided three separate locations for the infiltration basins as shown on the NDC plan - SWINF 01 - Rev B Dec 2015. There are two located either side of Casuarina Way - Pavilion Ct (Western side 725sqm - existing) and adjacent to Blue Horizon Dr (Eastern side 1130sqm). The remaining basin of 2255sqm is proposed at the northern end of the Town Centre within and adjacent the

existing coastal swale and public reserve. For the purposes of this assessment I will refer to this third basin as Basin 3.

In conclusion, it is considered that the proponent may be able to achieve the required stormwater/infrastructure provisions within the amended design, however sufficient information has not been provided as part of this application to demonstrate that all services can be located in the proposed area.

It is further considered that adequate justification for the reduction of a buffer area has not been provided as part of this application. This is in particular noted through the submission of correspondence from landowners to the north in opposition to this element of the proposal.

Council would request that the Department of Planning & Environment give consideration to the public submissions received with respect to this element of the modification and it is considered that without sufficient justification for a change to the approved layout, Council would prefer that the existing arrangement remain to this area.

An application has been submitted to Tweed Shire Council for the extinguishment of the existing easement to the north site boundary (to be replaced by road reserve under this proposed layout) which would require the approval of the elected Council, however the applicant has requested that the determination of this application be deferred.

Changes to the timing for the provision of additional beach access

Under the current approval, Condition B51 of the Concept Approval requires the proponent to obtain approval from the relevant agencies regarding the provision of a proposed beach access to the east of the icon building. This is currently required prior to the issue of a construction certificate for balance of Stage 1 works. The applicant has requested that the approval be modified to have the access approved in Stage 2 in association with the development of the 'Icon Building' and surf lifesaving facilities.

To this end the applicant has provided an amended condition B51 which states that *'Evidence of the approval for the construction of the beach access shall be provided to the Department prior to the issue of the Construction Certificate for the Icon Building.'*

This has been reviewed by Councils natural Resource management Unit who have advised that there is *'No objection to the proposed changes to timing for provision of additional beach access.'*

Council has no objection to the amended timing for the beach access provision.

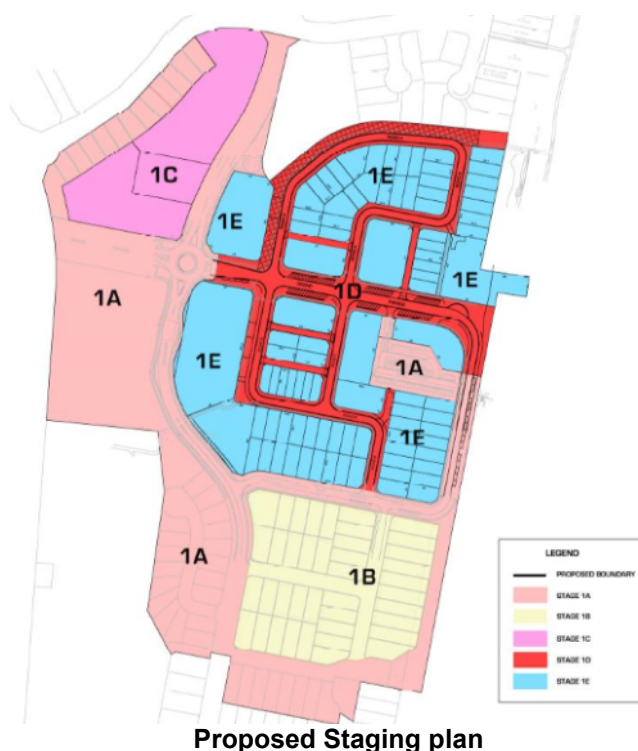
Changes to the approved staging plan

Amended staging of the development is proposed as part of this application. With respect to this, the submitted application states the following;

“Stage 1D is proposed to include the construction of the civil infrastructure and its associated dedication as a public asset, whilst Stage 1E will include the release of the remaining 92 lots (including 2 public reserves). Stage 1D will encompass the development of the balance of the road network (as amended), water, sewer, drainage, electricity and telecommunication infrastructure for the full Casuarina Town Centre. As part of the drainage works, the existing swale will be piped and filled and thereby established as a planted buffer with a shared pedestrian/cycleway path.

Stage 1E will then comprise the release of the balance of the subdivision for future residential housing, mixed use, commercial and retail development. The timing for the release of the lots within Stage 1E will occur based on market demand.”

The amended staging is demonstrated in below;



Council do not have any specific objections to the staging of the development in this manner, provided the provision of infrastructure (Stage 1D) occurs prior to the release of allotments (Stage 1E).

It is noted that Development Sequence Plan (Drawing No. 13/054), prepared by Newton Denny Chapelle and dated 21 December 2015 demonstrates an allotment to the west of Casuarina Way as part of Stage 1D works. The Department of Planning and Environment are requested to clarify whether it is intended to incorporate this site into Stage 1D works.

Administrative changes to the conditions of approval in response to the above changes.

As outlined in the comments contained elsewhere in this report, it is considered that additional information is required with respect to the proposed modification application which would likely necessitate the amendment to the conditions of approval. Tweed Shire Council would welcome an opportunity to comment/review conditions of approval prior to the application being finalised.

Public Comments

Council have received correspondence throughout the exhibition period with respect to the modification. These are to be forwarded to NSW Planning & Environment, with the Department requested to take into account the matters raised in these correspondences.

Miscellaneous

Owners consent/ Land to which the Modification relates

This modification is stated as relating to an 8.93ha portion of the Casuarina Town Centre development. This would correlate with Lot 15 DP 1198266, for which landowners consent has been submitted to the Department of Planning and Environment.

However the submitted application elsewhere relates to a modified layout which also includes Lot 13 DP 1014470, a 5.2 ha Tweed Shire Council owned parcel of land located adjacent to the coastal foreshore within which works (including a retaining wall) appear to be proposed and a road reserve which includes parking area. It does not appear that Council consent for works on this land has been submitted as part of this application.

The Department of Planning and Environment is requested to clarify the allotments/land included as part of this application and to ensure that the correct landowners consent has been submitted.

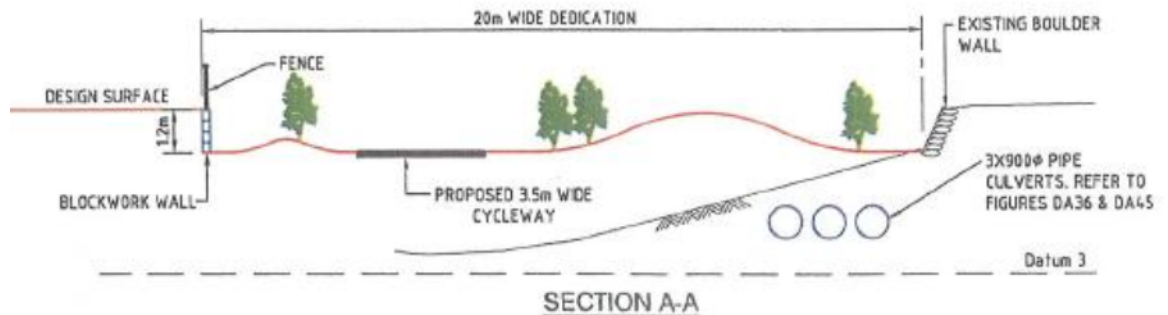
Tweed Shire Council Officer Comments in Full

Development Engineering Unit request further information/modified design with respect to the following

Earthworks and Retaining walls

- Tweed Shire Councils Development Design Specification – D6 Site Regrading (TSC-D6) specifies that the maximum permissible combined of retaining walls or batters in residential subdivisions shall be 1.8m above street level and 2.4m below street level. The proposal to have a retaining wall up to 4m in a residential subdivision (adjacent to proposed Lot 92) does not comply with TSC – D6.

The previously approved cycleway/drainage plan (Figure No. DA44D(21/12/09)) provided an open channel approval with a retaining wall limited to a maximum of 1.2m in height as per below:



- Concerns are raised on the number of retaining walls proposed across the site. It seems that the applicant has used multiple retaining walls to provide flatter gradient sites. The previous earthwork approvals did not have multiple retaining walls and still achieved compliant gradients.
- Concerns are raised regarding the number of proposed retaining walls in public road reserves / open space foreshore area on the western boundary. The walls would attract increased maintenance issues such as graffiti, re-painting, weed control etc... compared to a gradient batter that is grassed. The previous earthwork approvals did not have multiple retaining walls.

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Footpaths / Cycleway

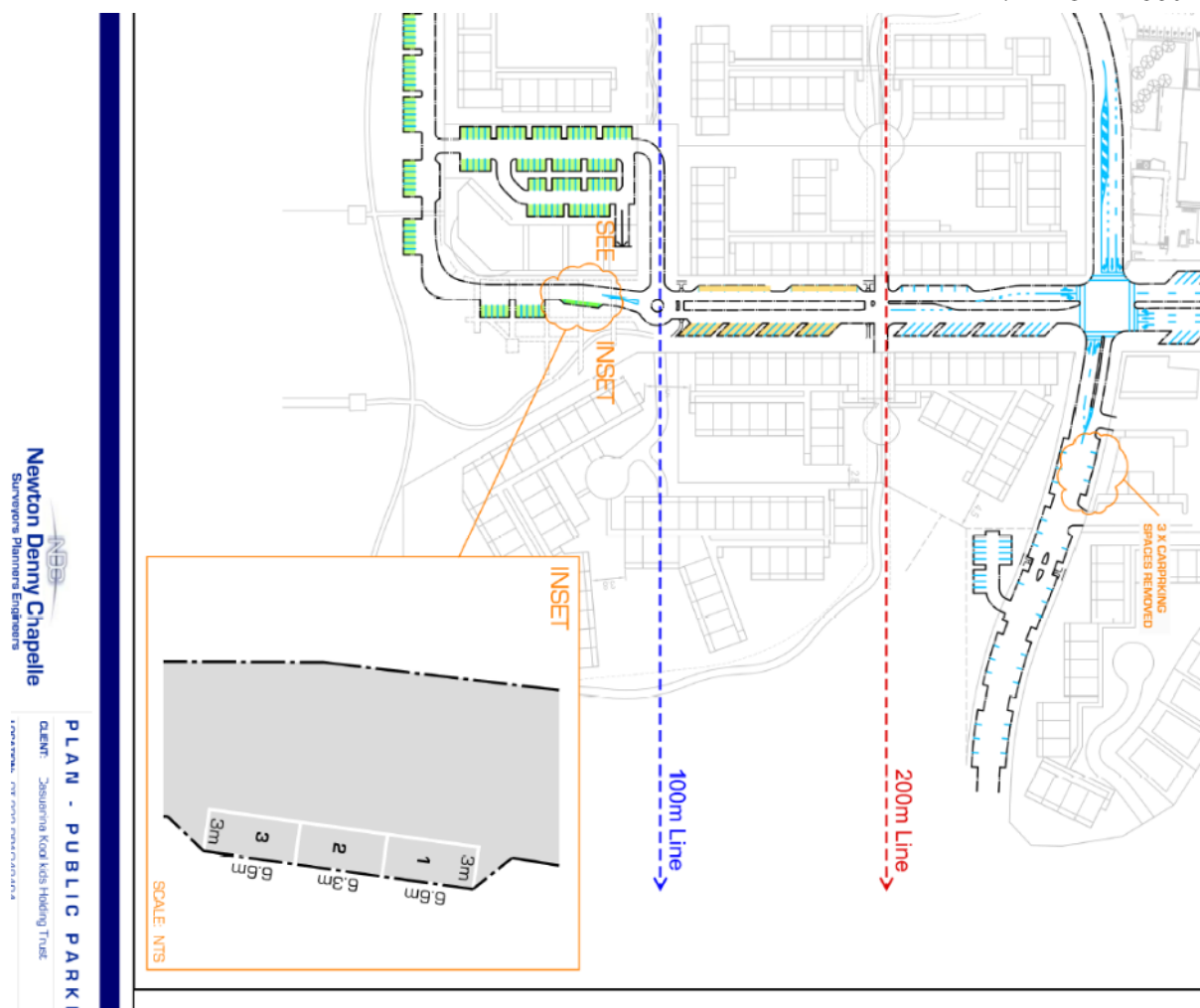
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 - 7) The car parks in Grand Parade is more focused on mixed use (shop) car parking rather than public beach car parking.
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 - 10) Angle parking 30 – 60 degrees is not supported in Grand Parade in this instance as it would restrict users on opposite side of road to

park. Previously there was a median proposed down the centre line of Grand Parade and 30 - 60 degree parking was desirable given one sided traffic lane. As there is no proposed central median preference is for 90 degree parking to be provided in Grande Parade to allow both east and west commuters to park.

Open Swale Drainage

- The applicant proposes to pipe and fill the existing open swale. The proposal is for with 3 x 1650mm pipes to be installed and to significantly reduce the drainage reserve width (currently 36m wide).

The issue of the drainage swale and associated easement over the Casuarina Town Centre site is long running and there is a great deal of history and correspondence associated with the various landholders' proposals to realign, reduce or eliminate the open drain in order to maximise developable area.

Of relevance to this assessment is a letter dated 24 September 2013 to NDC from Council's Coordinator Development Engineering. This provides a summarised history of the issues, and in consideration of the proposal to fill and pipe the swale and reduce the easement width concludes:

- *"Council wishes to retain the existing approval drainage reserve to ensure a minimum urban buffer is achieved. Therefore, Council does not accept piping of the whole open drain and the reduction of drainage reserve widths and easement widths from the original agreement."*

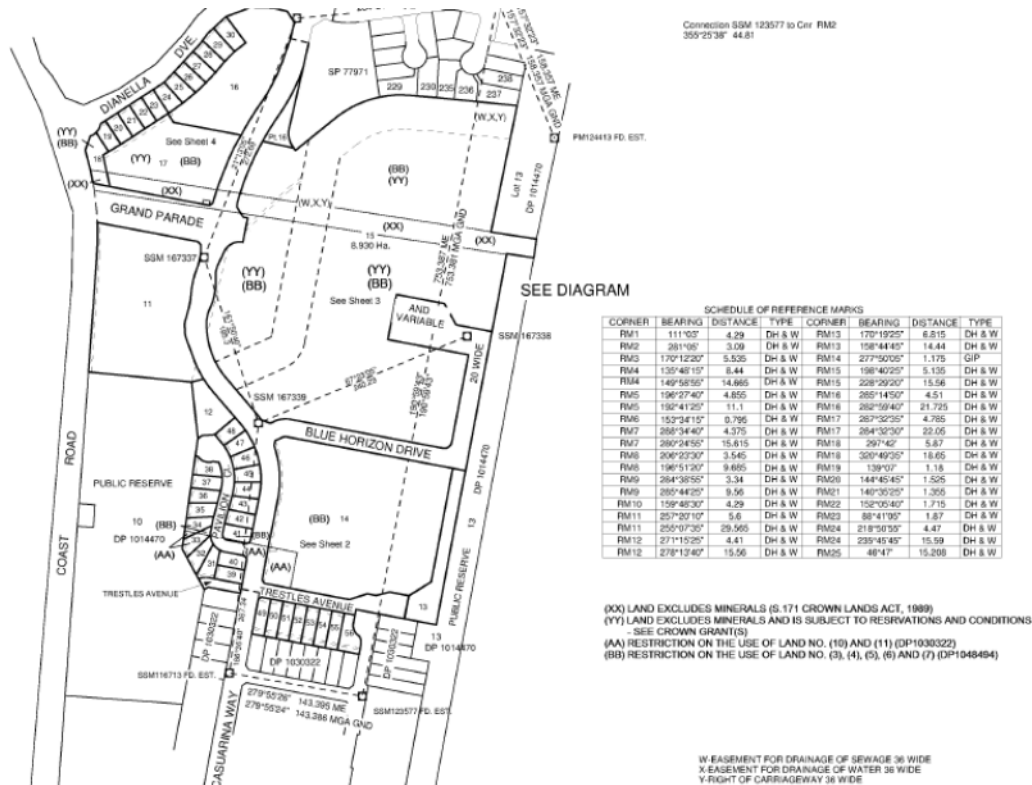
The current proposal does not acknowledge this previous advice, or attempt to address the urban design issues associated with the proposed changes to the easement and associated works. As such, there is no justification for Council to change the viewpoint of opposing piping of the whole swale, and no changes to the existing easement benefiting Council will be supported.

Stormwater Operational Phase

- There is an existing GPT (GPT 12a-1) that requires amendments in order to function correctly. The applicant's contractors have provided previous correspondence that this GPT would be fixed for some time. This proposal will only further impact on the GPT's performance. Applicant to indicate when GPT 12a-1 will be rectified. Preference is for GPT to be amended during construction.

Manager Roads and Stormwater (Easement)

As asset owner, this assessment will centre on the proposal to fill the drainage swale which currently traverses the site, and associated changes to the easements benefitting Council (easements for drainage, sewerage and right of carriageway, 36m wide, refer deposited plan below).



The town planning report describes various previous modifications to the Concept and Project Approvals. MOD1 from 2009 first raised the proposal to pipe the swale and reduce the width of drainage land to accommodate it. The Department issued an approval that set various design criteria around the sizing of the piped system to ensure equivalency of performance in extreme storm events, requirements to offset lost infiltration capacity, and required that a 20m wide drainage reserve be created over the drainage infrastructure along the northern boundary, thereby preserving a buffer function and continuity for a cycleway between the sportsfields to the coastline cycleway.

In granting owner's consent for works to be carried out in this area, it was agreed to relinquish the 36m wide easement in return for the dedication of the 20m wide drainage reserve. However to date these works and dedication have not taken place.

The drainage swale provides a high capacity connection between the coastal swale that services the Casuarina Estate and an outlet to Cudgen Creek to the west. It provides a high degree of infiltration due to the sandy soil. Taking into account the design specifications provided by the existing consent and Council's D5 specification, the modification application proposes to replace the open swale with large diameter pipes (3 x 1650mm pipes) to cater for the Q100 flow. Modelling demonstrates that this piped configuration does not increase upstream flood levels in extreme events, or increase the incidence of the coastal swale overtopping the dune to the beach. This would allow for the overall easement width to be reduced, provided equivalent infiltration can be achieved elsewhere in the trunk drainage system (refer to separate assessment by the Flooding and Stormwater Engineer). As such, there is no hydraulic reason to oppose the piping of the swale drain, only the public benefits afforded by the wider easement.

Detail of the proposed configuration of the area within the easement is difficult to locate in the modification application. It is assumed that the area will be dedicated as a widened road reserve, containing landscaped vegetation for the first 8m from the northern boundary, a 2.5m wide cycleway, and then a local access street, up to the front boundary of low density residential allotments. The 3x1650 stormwater pipes, a realigned sewer, as well as necessary water services, telecommunications and street lighting will be provided within this area. **It is requested that the applicant provide a clear cross section showing all above and below ground infrastructure, landforming batters and retaining structures, and clearances between the various uses e.g. Vegetation, cycleway, roadway, verge widths, and piped infrastructure. Without such detail, it is suspected that inadequate width has been allowed for in the design, noting that approved 20m wide drainage reserve in the current approval did not include road infrastructure.**

Widening of this area to accommodate the additional road infrastructure should also help address the ongoing concerns of landowners to the north and their expectation of a buffer zone created by the drainage reserve.

Traffic Engineer Comments

Whilst the development can be accommodated on the existing road network, the proposed road layout needs review in consideration of the following.

Traffic

Estimated traffic generation for the Development would appear to be significantly understated, particularly for the Retail (3200m²) component. Attachment 6 Engineering Services Report, Section 4.2 Trip Generation needs to be reviewed in reference to the Roads and Maritime Services Guide to Traffic Generating Developments.

The proposed 4 leg intersection treatments at Grand Parade/Roads A and B, are not considered acceptable given Council's experience with similar intersections where crash history results in required upgrading through Federal Black Spot funding. The traffic volumes need review in accordance with the RMS Guidelines and suitable treatments constructed (roundabouts) to reduce potential conflict points. Roundabouts also provide turnaround facilities for motorists seeking on road parking negating the need to circulate on residential roads or Casuarina Way.

The on road parking layout on Grand Parade is only suitable for left in movements. The parking bays should be modified to be 90 degree angle parking with dimensions according to AS2890.5.

Public Car Parking

- On-road parallel parking bays do not provide additional parking as vehicles can always park on roads where there is sufficient width.
- The on road parking on Grand Parade should not be included in the public carparking provision. It is likely that these car spaces will be absorbed for parking associated with the retail developments.
- The parallel parking bays on Blue Horizon Drive are not supported as they do not result in actual increase car parking provision. It is recommended that 90

degree angle parking be designed on Blue Horizon Drive adjacent to the beach foreshore.

Pedestrian access.

There are no proposed pedestrian facilities on Grand Parade and this should be reviewed in consideration of the likely pedestrian desire lines.

Stormwater Engineer Comments

The application has included a preliminary engineering assessment with preliminary conceptual engineering details (Engineering Services Report - NDC - December 2015). Based on review of the documents the applicant is prepared to accept our earlier advice that the equivalent Infiltration Basin Configuration on the adopted Cardno MBK plan SK No. 7079/1-24 Rev B shall be incorporated with this proposal - refer Section 5.2 of the report.

Conceptually the application has provided three separate locations for the infiltration basins as shown on the NDC plan - SWINF 01 - Rev B Dec 2015. There are two located either side of Casuarina Way - Pavilion Ct (Western side 725sqm - existing) and adjacent to Blue Horizon Dr (Eastern side 1130sqm). The remaining basin of 2255sqm is proposed at the northern end of the Town Centre within and adjacent the existing coastal swale and public reserve. For the purposes of this assessment I will refer to this third basin as Basin 3.

Review of the NDC - Bulk Earthworks Plan BE001 - Rev A indicates Basin 3 will involve earthworks shaping and cut within the already dedicated Public Reserve of Lot 13 DP 1014470. The proposed earthworks are shown to extend through to the edge of the existing coastal cycleway. In addition retaining walls are shown as 1m high, however based on the proposed and existing landform. I strongly suspect the walls would be greater than 2.5m high rather than the 1m nominated. For example the adjacent proposed Lot 92 ranges from RL 7 to 7.25m AHD and the existing swale is at RL 4m - in short there is over a 3m level difference.

From a maintenance perspective Basin 3 has no road frontage or vehicular access apart from the existing coastal cycleway. Ease of access for maintenance shall be considered and documented for Basin 3 that eliminates disruption to the existing cycleway. I also have concerns about the available space to accommodate the 2550sqm infiltration basin which excludes maintenance access and batter embankments without resuming existing dedicated open space. Extensive use of retaining wall structures is not acceptable from an ongoing maintenance perspective. Further investigation shall be undertaken to accommodate other available locations for infiltration basin/s that mitigates resumption and impacts of dedicated open space within the development footprint.

Water Unit Comments

The information provided within the document for water and wastewater infrastructure is considered to be insufficient for Council to make a reasonable assessment of the proposal. Only one plan has been provided to show Sewerage (Master Services Plan in Appendix A) which is at scale 1:750 and is difficult to see detail and does not show Water Supply.

The following issues are highlighted as the main Water Unit concerns:

Sewerage System

- The report does not discuss the impact to the downstream sewerage infrastructure based on the changes to the proposal and the capacity to accept additional flows.
- No information has been provided regarding the proposed trunk sewer relocation to demonstrate that it meets the requirements outlined within Tweed Shire Council Development Design Specification D12 – Sewerage System. It does however indicate that the trunk sewer will be deeper than the maximum permitted in D12.
- No information has been provided regarding the proposed sewer reticulation layout to demonstrate that it meets the requirements outlined within Tweed Shire Council Development Design Specification D12 – Sewerage System.
- The Master Services Plan does not show the most recent trunk sewer main details.
- The Master Services Plan appears to show sewer reticulation located next to a retaining wall up to four meters high and under the Q100 stormwater piped drainage system. Information shall be provided to demonstrate that the proposed retaining wall next to the proposed sewers meets the Tweed Shire Council Sewers – Works in Proximity Policy, to ensure that in future Council may access the sewer for maintenance, repairs or renewals.
- The Master Services Plan does not show how the lot to the north of the development will connect to the relocated trunk sewer.

Water Supply

- The Master Services Plan does not show the proposed water supply layout for the new lots.
- The Engineering report states there is sufficient capacity for the water supply network as the previous Cardno report was for an expected 550 ET as compared to 240 ET for this proposal. However it is believed that the original Cardno report included the commercial areas to the west of the proposed modification area. Thus further information is required to demonstrate that the water supply capacity of the area will be sufficient to include the proposed modification.
- No information has been provided regarding the proposed water reticulation layout to demonstrate that it meets the requirements outlined within Tweed Shire Council Development Design Specification D11 – Water Supply System.

Summary

To undertake a full and proper assessment of the proposed development the following additional information is to be provided by the applicant:

- Assessment of the downstream capacity of the sewerage system to accept the additional proposed ET as a result of the modification.
- Plans to demonstrate the proposed trunk sewer relocation and new sewer reticulation layout will meet TSC D12 requirements.
- Plans to demonstrate the proposed trunk sewer relocation will meet the Sewer-Works in Proximity Policy requirements, in particular next to the proposed four meter retaining wall and the proposed stormwater drainage system.

- Plans to demonstrate how the existing upstream catchment to the north of the development will connect to the relocated trunk main.
- Plans to show the proposed water supply layout for the new lots and to demonstrate that it meets the requirements outlined within TSC D11.
- Assessment of the capacity of the water supply to accept the additional proposed ET as a result of the modification. Provision of the Cardno information referred to in the report is requested to demonstrate the information referred to within the Engineering report.

Recreation Services Unit Comments

The Landscape Design Plans (Masterplan) submitted as part of the application have been reviewed by Council's Recreation Services Unit, with the following comment provided in relation to public open space and landscaping of public land:

- Regarding planting on the "8 metre wide buffer to rear of properties includes planted mounds, informal shrub and ground cover plantings.....", these will need to be carefully designed to ensure minimal maintenance to the plantings will be required long term. This is important as this is not a park and won't be maintained in the same way as parks are.
- Reference is made to a "concrete wall to edge of turfed infiltration swale". Its not clear what this means but there is strong concern regarding use of retaining walls anywhere on public land including road reserves.
- Regarding the main park at the eastern end of Grand Parade:
 - The playground appears to be too close to the road. TSC playground guidelines seek a safe distance of 30 metres to roads, waterbodies or similar potential risks.
 - More information is required regarding the function of the 'secondary building' shown.
 - Given the apparent use of this park as a key beach access and recreation area, public toilets and beach showers are desirable.
- Beach access points. There has been prior comment made about the number and location of the beach access tracks east of the Casuarina development. It may be appropriate to reconsider these access points however this should be considered in consultation with Council's NRM Unit.
- The 'Bio-basin' at the south west corner of the development. Plantings in such areas are desirable however design must consider that this will be an operational area and be designed for minimal maintenance to the plantings. Plantings in these areas received little or no long term maintenance.
- Similarly, design of the "revegetation to edges of swale to integrate device into existing dune landscape" must consider the long term maintenance implications of both the plantings and general area.
- Casuarina Beach Landscape Masterplan has been prepared with some notations upside down. For ease of comparison with previous plans please ensure the drawings are consistently oriented.

Natural Resource Management Unit Comments

No objection to the proposed changes to timing for provision of additional beach access.

Environmental Health Unit Comments

Acid Sulfate Soil Management / Contaminated Lands

An Engineering Services Report prepared by Newton Denny Chapelle Consulting Surveyors & Planners dated December 2015 has been submitted. It is noted works within the drainage swale are proposed to be deeper than 0.6m AHD with groundwater generally indicated at 1m AHD.

Prior subsurface site investigation/remediation assessment and works for radiation considerations were undertaken to a depth of 4m or groundwater. It would appear drainage works will go beyond prior investigations therefore further assessment is required.

The Department of Planning and Environment need to ensure the provisions of current conditions B1 and E5 are also applied to proposed Stages 1D and 1E. Furthermore, there is a need to ensure the approved ASS MP is also applicable to proposed Stage 1D.

Amenity

The modified layout is inclusive of the removal of the 36m wide easement over the existing east/west drainage swale for the purposes of stormwater management and conduit for utility services and replaced with a 10.5m with planted zone (8m) and shared pedestrian/cycleway (2.5m) and a local road. Building setbacks are also current and applicable to the northern boundary.

The easement lies between the northern residential precinct and southern retail/commercial/residential precinct however residential development is proposed on each side of the easement.

The proposal also includes the removal of the construction of a 3-storey hotel previously nominated in the north eastern part of the Town Centre Development. It is not considered the reduction in buffer width will significant impact neighbour noise amenity.

For further information regarding this matter please contact David O'Connell on (02) 6670 2661.

Yours faithfully

Colleen Forbes

Team Leader Development Assessment

Enc: Copy of public comments received by Tweed Shire Council during exhibition of the modification