



ATTACHMENT 13

RESPONSE TO DOP SUMMARY OF SUBMISSIONS

ATTACHMENT 13 - WATKINSON APPERLEY PTY LTD RESPONSE TO DOP SUMMARY OF SUBMISSIONS

MAJOR PROJECT 06-0165 - RESIDENTIAL SUBDIVISION OF LOT 682 DP 568678, LOT 705 DP 613881 AND LOT 810 DP 247285, MANYANA DRIVE, MANYANA

The following document provides a summary of the issues raised by the following stakeholders:

- Rural Fire Service (received 29 September 2009). The RFS did not raise any issues and only provided requirements which should be included in the Environmental Assessment. The amended subdivision layout has taken into consideration the RFS requirements as well as the recent changes to Planning for Bushfire Protection" and Australian Standard AS3959 - Construction of Buildings in a Bushfire Prone Area as discussed in Section 4.2 of Preferred Planning Report.
- Shoalhaven Water (received 29 September 2009). Shoalhaven Water did not raise any issues and only provided requirements which should be included in the Environmental Assessment. The amendments to subdivision layout will not affect the proposal ability to comply with Shoalhaven Waters requirements.
- Department of Planning (DOP) (Revived on the 14 October 2009).

Issues	Response
Flora and Fauna	
DOP believes that the upland Swamp Oak Community identified by Kevin Mills is most likely to be the Endangered Ecological Community (EEC), Swamp Sclerophyll Forest on Coastal Floodplain.	We are of the opinion that the Supplementary Vegetation Assessment prepared by Kevin Mills analysed the site and the vegetation in terms of the key criteria, as identified in the Final Determination and clearly demonstrates that the <i>Upland Swamp Oak</i> community <u>does not</u> satisfy the criteria to be classified as an EEC. However, while we strongly disagree with the Department's determination that the identified <i>Upland Swamp Oak</i> should be classified as <i>Swamp Sclerophyll Endangered Ecological Community (EEC)</i> , for the purpose of this assessment we have adopted DECCW's boundary of the EEC (refer to Attachment 6).
Adequacy of the EEC offset.	Eco Logical Australia (ELA) were engaged to undertake an Indicative Biodiversity Offset Assessment of the endangered ecological communities affected by the proposed residential development. ELA concluded that the results of the indicative biodiversity offset assessment indicate that the revised development layout, and the proposed offset (Lot 147), results in a net surplus of ecosystem credits for the endangered ecological communities Swamp Oak Floodplain Forest and Swamp Sclerophyll Forest. Refer to Section 4.1 and Attachment 9 of the PPR for more details.

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Issues	Response
Bushfire	
Concern is raised with the proposed Asset Protection Zone (APZ) for Lot 116 as the current APZ impinges on Council land comprising an access track and a wetland.	The proposed wetland has been removed from the subdivision layout. The Asset Protection Zones (APZs) will be provided wholly on private residential land and public road reserves. Refer to Section 4.2 of the PPR for more details.
Advise if Council has agreed to maintain the proposed APZ required for lot 119 which is partially located within proposed lot 158.	The proposed subdivision has been redesigned and Lot 119 has been removed from the subdivision layout. The Asset Protection Zones (APZs) will be provided wholly on private residential land and public road reserves. Refer to Section 4.2 of the PPR for more details.
Advise if Council has agreed to maintain portion of APZ (required for lot 102) that is located within the boundaries of the pumping station.	The pumping station is formed and comprises part of the residential development in the area. Under Planning for Bushfire Protection Guidelines (2006) this type development can comprise part of the APZs for an adjoining property without an easement or approval from the land owner.
Constructed Wetland	
Concern is raised with the location of the proposed placement of the constructed wetland (located near Lot 116).	The proposed wetland has been removed from the subdivision layout. The wetland has been replaced with a bio-retention basin and gross pollutant trap which is located adjacent to lots 121 and 122 within Lot 147 (public reserve lots), but outside the EEC zone. Refer to Section 4.4 and Attachment 7 of the PPR for more details.
Acid Sulfate Soils (ASS)	
<p>Further ASS investigations should be undertaken in the vicinity of the proposed wetland (in accordance with the assessment guide in the ASS Manual 1998). Investigations should identify the extent of ASS in this area to determine if this area is a suitable location for a wetland and to appreciate the extent of risk from undertaking the proposed works.</p> <p>Explain any modification to the drainage pattern and hydrologic flow regime and its potential effect on ASS. Changes in drainage have implications for the likely generation of acid.</p> <p>Assess (in accordance with the ASS Manual) potential impacts on groundwater and the</p>	<p>The ASS assessment covered the area of the proposed bio-retention basin and pod. While the assessment only undertook limited samples in this area the report concluded that there was potential for ASS to be present, therefore an ASS management plan was prepared for the treatment of the soil during construction. The proposed bio-retention basin and pod will be lined to stop the interaction between the stormwater being treated and the surrounding soil material and ground water. Refer to Section 4.4. 4.7 and Attachment 7 of the PPR for more details.</p> <p>As agreed with the DOP officers, an updated management plan written as a series of commitments to actions with specifics about sampling regimes and treatment methods will be provided at the Construction Certificate stage for Stage 2.</p>

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Issues	Response
potential for generation and export of acid from any changes to the groundwater.	
Flood Impact	
<p>Confirm whether the flooding assessment factored in that Catchment 1 a will be developed in the future. This catchment includes a recently approved residential subdivision at Berringer Road, Manyana (Major Project number 050059).</p> <p>Following the amended Coastal Hazard Assessment, please revise the estimation of flood affected lots. Please also provide details of proposed flood mitigation measures, for example, no development of flood prone areas, filling etc.</p>	<p>With regards flood modelling, taking into consideration the recently approved Malbec subdivision, it is our understanding that the subdivision has been designed and conditioned to require stormwater outflows to be equal to the pre-development flows, therefore this subdivision will have no affect on the result of the flood model for this proposal.</p> <p>The amendments to the proposed layout remove flood impact from all lots except proposed Lot 102 which is only marginally impacted by the 1%AEP flood level allowing for climate change (Figure 4.2). The flood does not however impact on the proposed building envelope as the minimum habitable floor level is 4.93m AHD, adopting climate change and 500mm freeboard in the 1% AEP event, while the lowest point on the proposed building envelope is approximately 5.5m AHD. Additionally it is noted that all proposed water quality devices are above the 1% AEP flood level . Section 4.3 of the PPR for more details</p>
Stormwater	
<p>Clarification of stormwater quality modelling and results is required. The reductions in pollutant loads should be measured against the stormwater pollution loads resulting from the proposed development without the implementation of stormwater treatment measures.</p> <p>Therefore, please show:</p> <ul style="list-style-type: none"> • catchment, pollutant loads expected post development (without stormwater treatment) • catchment pollutant loads expected post development (with stormwater treatment) • expected pollutant load reduction, as a 	<p>The stormwater concept plan (Attachment 7) and MUSIC water quality model have been updated to reflect the changes to the proposed subdivision layout refer to Section 4.4 of PPR.</p> <p>The treatment system for this proposal consists of the following:</p> <ul style="list-style-type: none"> • All lots will be required to install a minimum 5,000L rainwater tank. Overflow will be piped to the road drainage system. • Stormwater from Lots 107 - 137, the new perimeter road located in the south eastern section of the layout, The Bounty and the extension of Manyana Drive, will be collected within the road network (kerbs and gutters) and be transferred to a lined biofiltration basin located within Lot 147 via a gross pollutant trap. The treated water will then be discharged overland into the vegetated public reserve lot (Lot 147) which slopes back to the existing creek traversing Lot 147. • Stormwater from lots 142 - 146 and The Barbette, will be collected and treated in kerbside biofiltration swales which will be provided along the eastern side of The Barbette. The treated water will then be piped into the existing stormwater system within The Barbette. • Stormwater from Lots 138 - 141 will be collected at the rear of the lots and piped via interallotment drainage structures to existing street drainage in The Palisade.

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Issues	Response																														
<p>percentage.</p> <p>It is noted that the results of the MUSIC modelling, on p19 of the Flood and Stormwater Assessment, shows that the predicted reduction of pollutant loads as , a result of the proposed stormwater treatment comprises 45.6% for Total Phosphorus and 27% for Total Nitrogen. In lieu of Council adopted targets, DECCW draft guidelines 'Managing -Urban Stormwafer. environmental targets (2007) recommends a 65% reduction in Total Phosphorous and 45% reduction in Total Nitrogen.</p> <p>Stormwater treatment measures may need to be modified to achieve the recommended targets.</p>	<ul style="list-style-type: none"> Stormwater from Lots 103 - 104 and the extension of Sunset Strip will be collected and treated in a kerbside biofiltration pod which will be provided in Sunset Strip road reserve. The treated water will then be discharged overland within Lot 147. A 30 to 50m vegetated buffer (riparian zone) has been provided between these lots and the watercourse. Stormwater from Lots 101 - 102 and the extension of Sunset Strip will be discharged overland within Lot 147. A 30 to 50m vegetated buffer (riparian zone) has been provided between these lots and the watercourse. <p>If the stormwater management for the proposed subdivision is designed and installed in accordance the recommendations in PPR, the stormwater runoff will be collected and treated prior to discharge from the site. Water quality modelling (MUSIC) suggests the recommended treatment systems will comply with the DECCW (2007) retention requirements. The table below shows that the average annual pollutant load (kg/y) from the proposed development with the recommended treatment measures complies with the DECCW (2007) retention requirements.</p> <p>Table - Predicted annual pollutant loads as the result of the proposed development</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Post-development (no mitigation measures) (kg/y)</th> <th>Post-development (with mitigation measures) (kg/y)</th> <th>Retention (%)</th> <th>Draft Guideline (2007)</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>Total suspended solids</td> <td>4630</td> <td>573</td> <td>87</td> <td>Minimum retention (%) of the average annual load 85</td> <td>Compiles with DECCW requirements</td> </tr> <tr> <td>Total Phosphorus</td> <td>10</td> <td>2.68</td> <td>73</td> <td>65</td> <td>Compiles with DECCW requirements</td> </tr> <tr> <td>Total Nitrogen</td> <td>68.4</td> <td>35.9</td> <td>47</td> <td>45</td> <td>Compiles with DECCW requirements</td> </tr> <tr> <td>Gross Pollutants</td> <td>715</td> <td>63</td> <td>91</td> <td></td> <td></td> </tr> </tbody> </table>		Post-development (no mitigation measures) (kg/y)	Post-development (with mitigation measures) (kg/y)	Retention (%)	Draft Guideline (2007)	Comment	Total suspended solids	4630	573	87	Minimum retention (%) of the average annual load 85	Compiles with DECCW requirements	Total Phosphorus	10	2.68	73	65	Compiles with DECCW requirements	Total Nitrogen	68.4	35.9	47	45	Compiles with DECCW requirements	Gross Pollutants	715	63	91		
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Issues	Response
<p>Please revise the Coastal Hazard Assessment, including modelling, using the NSW Government adopted sea level rise benchmark of 0.90m.</p>	<p>The assessment has been updated to consider the combination of design elements for the 100 year ARI, beach erosion and shoreline recession, including the effects of 0.9 m SLR as per DECCW policy benchmark (<i>DECC, 2009</i>) on the combined Beach Erosion and Shoreline Recession. The re-assessment has resulted in the following changes (refer to Section 4.6 and Attachment 13 of the PRP):</p> <ul style="list-style-type: none"> • Slope Instability - The Line of Wave Impact is assessed to be located 27 m seaward of the SE corner of the site (<i>reduced from 50m in the previous assessment</i>), but 30 m landward or inside the NE corner (<i>increased from 6m in the previous assessment</i>). The Zone of Reduced Foundation Capacity is well seaward of the property at its southern end, crossing the seaward property boundary (<i>Lot 147</i>) in the vicinity of the creek close to the NE corner (Figure 4.9). The report concluded that no beach erosion and shoreline recession hazard applies to the subdivision layout as proposed (<i>layout at 4/6/10</i>). Since all residential allotments fall within the Stable Foundation Zone, no special foundation treatments would be required. • Wave Runup and Overtopping - Allowing for a Greenhouse SLR of 0.9 m (<i>up from 0.5 in the previous assessment</i>) over the 100 year planning period GBAC calculates design 2% wave run up level at RL 6.7 (<i>up from 6.3 in the previous assessment</i>) at the primary coastal dune, and RL 5.7 (<i>up from 5.3 in the previous assessment</i>) at the flooded creek margin inside the entrance. A summary of GBAC's coastal hazard inundation assessment is presented in Figure 4:10. • Sand Drift - the substantial separation of the proposed allotments from the unstabilised back beach areas (>140 m) (<i>reduced from <150m in the previous assessment</i>), together with the natural topographic shielding and abundance of intervening vegetation, ensure that sand drift is not an issue for the proposed subdivision. • SLR Contribution to Shoreline Recession - Over the next 100 years, the Bruun Rule predicts shoreline recession due to SLR of approximately 54m (0.9 x 60) (<i>up from 30m in the previous assessment</i>). It is therefore proposed to adopt a SLR recession for the subdivision of 54m over the next 100 years. This may be slightly conservative for a variety of technical reasons (<i>eg base planning dates, SLR offsets over past 50-100 years etc</i>), however as these are not investigated here, they have been neglected. • SLR Contribution to Coastal Inundation - It would be reasonable to raise the wave run up level by 0.9 m (<i>up from 0.5 m in the previous assessment</i>) to account for the effects of SLR. While increased wave action at the shoreline may also result due to climate change, the consequences for wave run up are considered to be small relative to SLR increment, and can be neglected. Thus design wave run up at the end of the 100 year planning period could be expected to attain a 2%

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Issues	Response
	<p>level up to RL 6.7 (<i>up from 6.3 in the previous assessment</i>) at the primary coastal dune, and RL 5.7 (<i>up from 5.3 in the previous assessment</i>) at the flooded creek margin inside the entrance</p> <p>GBAC recommends that:</p> <ul style="list-style-type: none"> The residential allotments proposed at Lots 101, 102 and 104 have regard to the design RL 5.7 coastal inundation level. The residential allotments proposed on the western side of Lot 147 are sufficiently removed from the creek entrance and protected from direct wave action by the primary dune such as not to be impacted by wave run up inside the creek entrance. Consideration be given to incorporating a fence in to the proposal. This fence, of approximate total length 100 m, would be installed in the public reserve lot (<i>Lot 147</i>) generally to the north-east of the perimeter road. The proponent would install and maintain the fence for the first three years, after which maintenance for the fence would become the responsibility of SCC as managers of the public reserve (Figure 4.11). The fence could be of the conventional Bayco-type, with 100Ø treated pine poles at 5 m maximum spacing and three 4 mm wire strands (<i>galvanised and PVC coated</i>) equally separated and extending 1.2 m above the ground. Intermediate posts should penetrate 0.6 m into the ground, and end strainer posts 1.0 m into the ground.
Design and Visual Impact	
<p>A reduced building setback of 5.5m for 19 lots (Lots 116-134) is not in keeping with the identity of a coastal holiday village or in compliance with Council's DCP100. Provide a plan showing potential building footprints, allotment dimensions and setbacks that generally complies with Council's DCP100 and DCP91. (Note: Lots 120-130 also do not currently comply with DCP 100's required allotment dimensions.)</p> <p>It is noted that the road reserves for Roads 1 & 2 and Sunset -Strip are some 3-4m narrower than prescribed by Council's DCP for Access</p>	<p>The proposed subdivision layout has been amended and now seeks approval for the creation of forty-six (46) Torrens Title residential allotments covering 5.02 hectares of the 9.56 hectare site. The residual land (4.54 hectares), representing 47% of the subject site is proposed to be dedicated to Shoalhaven City Council as a public reserve lot (proposed Lot 147 in the subdivision).</p> <p>Complies of the amended layout with DCP 100 has been addressed in Section 3.2.1 of the PPR. The following points address the main issues raised by DOP:</p> <ul style="list-style-type: none"> The lot sizes range from 586m² to 1744m². The average lot size is 777 m² (excluding Lot 147). All rectangular non-corner lots are above minimum standard, except; lot 101 which has width less than 16m (15.88) but a depth greater than 30m (42m) and overall area of 688m²; and lot 112 which has width greater than 15m (20m) but an average depth greater than 30m (29m) and overall area of 586m². All the irregular shaped lots are above minimum standard, except; lot 120 which has average depth of less than 30m, however, the lot has an overall area of 995m²; lot 129 which has depth of less than 30m, however, the lot has an overall area of 724.8m²; and lot 137 which has average

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Issues	Response
<p>Roads. The proposed subdivision layout may have 'to be amended to allow for road widths which generally comply with Council's DCP 100.</p>	<p>depth of less than 30m, however, the lot has an overall area of 914m².</p> <ul style="list-style-type: none"> • The majority of the lots accommodate a 15m x 15m rectangular building envelope. Lot 101, 124 - 129 will not be able to accommodate a 15m x 15m rectangular building envelope due to site setback requirements. However, these lots will easily accommodate a building with a similar floor space e.g. 16m x14m. A plan showing that all lots have suitable building envelopes is provided in Attachment 2. • Street reserves range from 15 – 20m due to the environmental constraints of the site. The new proposed perimeter loop road will have a road reserve of 15m (carriageway of 8m). This road is only proposed to be a single load road, with services provide on only one side of the road. The side of the road with the reduce verge width will abut the public reserve lot. We are of the opinion that the 1m reduction in the road reserve width is justified in this situation. A typical cross-section is provided in Attachment 4. <p>The subdivision layout has been designed with the intention of providing a building line set back of:</p> <ul style="list-style-type: none"> • 7.5m on the lots fronting The Barbette, The Bounty, Sunset Strip and Manyana Drive in line with the existing dwellings; and • 5.5m on the lots fronting the proposed perimeter loop off Manyana Drive. <p>We are of the opinion that the reduction in the building line set back is warranted in this section of the subdivision layout for the following reasons:</p> <ul style="list-style-type: none"> • There are no existing dwellings within this section of the subdivision and therefore all the future dwellings will adopt the same building line setback. • Reducing the building line setbacks has the effect of bringing dwellings closer to the street, enhancing the opportunity to propagate neighbourly contacts and removing physical barriers to social contact. These simple design characteristics are considered to be positive attributes that assist in community building. Opportunities for spontaneous casual exchange are also increased between neighbours which is critical for the development of community. • Fear of crime is often attributed to social isolation. While crime and perceived crime are the result of complex social interactions and therefore a single cause would be difficult to apply in a generic sense, reduced building setbacks can assist in reducing crime and fear of crime by engaging the built form with the street.

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Issues	Response
Statement of Commitments (SoC)	
<p>Please remove all commitments that have already been undertaken</p> <p>Include landscape design principles in the SoC</p>	<p>An amended Statement of Commitments have been provided in Section 6 of the PPR.</p> <p>Prior to the issue of the Construction Certificate for each stage the developer will prepare a detailed landscape plan for each stage of development in line with the updated concept landscape plan (Attachment 8).</p>
Contributions	
<p>As previously discussed, it is recommended that you enter into discussions with Shoalhaven City Council in regards to contributions (relating to community infrastructure) beyond the scope - of their Section 94 Plan.</p>	<p>JWA Enterprises Pty Ltd has agreed to enter into a Voluntary Planning Agreement (VPA) for additional works outside of the Contributions Plan as may be directed by the Minister for Planning. JWA Enterprises Pty Ltd has agreed to pay additional contributions equivalent to those required for the Malbec (MP050059) project, based on a pro-rate basis i.e. per lot rate.</p> <p>In relation to specific contributions for public open space, JWA Enterprises will be seeking an exemption in lieu of the dedication of Lot 147.</p>
General	
<p>A cut and fill plan should be provided.</p>	<p>The subject site relevantly flat and will not require any significant cut and fill to be undertaken to create the lots or the associated civil infrastructure. Therefore we do not believe a cut and fill plan is warranted. Detailed road design plans will be provided at Construction Certificate Stage for each stage of development. These plan will indicate any cut and fill which will be required in association with the civil infrastructure.</p>

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- Department of Environment Climate Change and Water (Revived on the 14 October 2009).

Issues	Response
DECCW disagreed with the position of the identified northern EEC boundary.	We are of the opinion that the Supplementary Vegetation Assessment prepared by Kevin Mills analysed the site and the vegetation in terms of the key criteria, as identified in the Final Determination and clearly demonstrates that the <i>Upland Swamp Oak</i> community <u>does not</u> satisfy the criteria to be classified as an EEC. However, while we strongly disagree with the Department's determination that the identified <i>Upland Swamp Oak</i> should be classified as <i>Swamp Sclerophyll Endangered Ecological Community (EEC)</i> , for the purpose of this assessment we have adopted DECCW's boundary of the EEC (refer to Attachment 6).
<p>DECCW considers the potential indirect impacts of this development on the EEC's located on the site have not been adequately addressed.</p> <p>These impacts may include changes in the hydrological regime due to increase in surface water from the hard surface areas associated with the residential development and the likely increase in nutrient levels. Potential impacts from the proposed clearing of the Asset Protection Zone (APZ) have also not been adequately addressed.</p>	<p>The proposed subdivision layout has been amended and now seeks approval for the creation of forty-six (46) Torrens Title residential allotments covering 5.02 hectares of the 9.56 hectare site. The residual land (4.54 hectares), representing 47% of the subject site is proposed to be dedicated to Shoalhaven City Council as a public reserve lot (proposed Lot 147 in the subdivision).</p> <p>The proposal has been amended in the following ways (Figure 2.1):</p> <ol style="list-style-type: none"> 1) The amended subdivision layout has reduced the number of lots from 58 to 47; 2) Sunset Strip is no longer proposed to be connected (i.e. Sunset Strip will not connect as a through road to The Bulwark and beachfront), resulting in the dedication of a further 0.5ha of Endangered Ecological Community as part of the public reserve lot (Lot 147). It should be noted that while 8 lots have been removed from the proposal along Sunset Strip, the new lots located adjacent to the public reserve lot (lots 102, 105 and 105) have been increased in size to accommodate the required Asset Protection Zones (APZs). 3) The south-eastern section of the layout has been redesigned to remove the effects of flooding to proposed lots and to reduce the impact and provide a vegetated buffer to the EEC located on Lot 147. The redesign has reduced the number of lots in this section of the layout from 17 to 16. All lots are now located outside the 1:100 year flood level. The redesign results in part of the layout being located within the 2 (e) 'village' zoned area of the site. 4) The vegetated buffer to the identified EEC in the south-eastern section of the layout has been increased and ranges from 29 to 38 metres. The buffer area will be located within the public reserve lot. 5) The developer commits to maintaining the Endangered Ecological Community and surrounding

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Issues	Response
	<p>Eco Logical Australia (ELA) were engaged to undertake an Indicative Biodiversity Offset Assessment of the endangered ecological communities affected by the proposed residential development. ELA concluded that the results of the indicative biodiversity offset assessment indicate that the revised development layout, and the proposed offset (Lot 147), results in a net surplus of ecosystem credits for the endangered ecological communities Swamp Oak Floodplain Forest and Swamp Sclerophyll Forest. Refer to Section 4.1 and Attachment 9 of the PPR for more details.</p> <p>The proposed treatment system has been designed to retain and filter stormwater to remove pollutants such as litter, sediment and nutrients to protect the existing watercourse. The proposed treatment system for this proposal consists of gross pollutant traps, a bioretention basin, kerbside bioretention, and 30 to 50m of existing vegetated buffer (riparian zone) adjacent to the watercourse.</p> <p>If the stormwater management for the proposed subdivision is designed and installed in accordance the recommendations in PPR, the stormwater runoff will be collected and treated prior to discharge from the site. Water quality modelling (MUSIC) suggests the recommended treatment systems will comply with the DECCW (2007) retention requirements by retaining 87% of total suspended solids, 73% of total phosphorus, 55% of total nitrogen and 91% of gross pollutants.</p>
<p>DECCW suggests a buffer between the areas of EEC and the boundaries of the proposed lots to protect the EEC's from the edge effects associated with the increase in hard surface area and the APZ's associated with this development. As previously stated, a 50 metre buffer zone is recommended in areas where residential development has not already encroached closer than 50m to the EEC's. The DECCW does not support the creation of EEC buffer zones by the clearing of EEC (or existing vegetation buffers) and then using new infrastructure such as roads and APZ's associated with residential development as EEC buffer zones.</p>	<p>In accordance with our discussions with the Department of Planning and inline with the approach taken on the recently approved subdivision on Berringer Road, Manyana (Major Project number 05_0059) a vegetated buffer ranging between 29 and 36m has been provided to the ECC in south-easterly direction (as discussed in Section 4.1 of PPR).</p> <p>We acknowledge that no vegetated buffers have been provided between proposed lots 102, 103,105 and the ECC to be retained within Lot 147. However, the title of Lots 102, 104 and 105 will specify that a 1.8m solid boundary fence be erected and maintained adjacent the Council land to ensure a clear delineation between public and private land to reduce encroachment potential. While we agree it would be beneficial to have a buffer between these lots and the EEC, it needs to be recognised that if these lots were not developed, the EEC would still be flanked by existing development, which has no requirements in relation to providing boundary fence between the public and private land.</p>

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Issues	Response
DECC considers it inappropriate to construct a wetland within EEC which forms part of a functioning ecosystem.	The proposed wetland has removed from the subdivision layout.

- Department of Environment Climate Change and Water - NSW Office of Water (Revived on the 14 October 2009). Did not raise any specific issues, however, they did provide their recommended conditions of approval. The main conditions are discussed in the following table.

Issues	Response
The width -of the -riparian zone is to be a minimum of 30 meters on both sides of the unnamed west-east flowing watercourse.	A 30 to 50m riparian zone has been provided between lots on the northern side of the watercourse. There is no proposed development on the southern side of the watercourse.
A VMP for site -rehabilitation is to be prepared that demonstrates protection of any remnant local native riparian vegetation at the site and the restoration of any riparian zones to a state that is reasonably representative of the natural ecotone of the protected waters system, to achieve sound naturalised watercourse and long term riparian area stabilisation and management by the enhancement/emulation of the native vegetation communities of the subject area.	The VMP will be prepared by a suitably qualified person to address a number of matters including but not limited to, protection and maintenance of the flora species of conservation significance, weed control, vegetation enhancement, control of access, monitoring and fire management.
The riparian zones must be maintained for a period of at least-five (5) years after final planting or where other revegetation methods are used, five years after plants are at least of tubestock size and are at the densities required by these conditions and with species richness as described in the VMP, and five (5) years minimum for those ai-eas required for	In accordance with our discussions with the Department of Planning and inline with the approach taken on the recently approved subdivision on Berringer Road, Manyana (Major Project number 05_0059) the developer commits to maintaining the Endangered Ecological Community and surrounding reserve for three (3) years post the land being dedicated to Council.

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MAJOR PROJECT 06-0165 - RESIDENTIAL SUBDIVISION OF LOT 682 DP 568678, LOT 705 DP 613881 AND LOT 810 DP 247285, MANYANA DRIVE, MANYANA

Issues	Response
access and maintenance relating to any WP.	
The riparian zones must be monitored over a period of 5 years commencing after final planting and will include weed control monitoring and the establishment of locally indigenous riparian vegetation (comprising both natural regeneration and/or planting).	In accordance with our discussions with the Department of Planning and inline with the approach taken on the recently approved subdivision on Berringer Road, Manyana (Major Project number 05_0059) the developer commits to maintaining the Endangered Ecological Community and surrounding reserve for three (3) years post the land being dedicated to Council.
A permanent physical barrier, (such as bollards, logs, a fence, pathway, road etc), to prevent inadvertent damage to riparian zones is to be placed at the landward extent of the riparian zones.	<p>The title of Lots 102, 104 and 105 will specify that a 1.8m solid boundary fence be erected and maintained adjacent the Council land to ensure a clear delineation between public and private land to reduce encroachment potential.</p> <p>A fence, of approximate total length 100 m, would be installed in the public reserve lot (<i>Lot 147</i>) generally to the north-east of the perimeter road. The proponent would install and maintain the fence for the first three years, after which maintenance for the fence would become the responsibility of SCC as managers of the public reserve (refer to Figure 4.11 on the PPR).</p>
Erosion and sediment control -measures are to be implemented prior to any works commencing at the site and must be maintained for as long as necessary after the completion of works, to prevent sediment and dirty water entering the watercourse. These control measures are to follow relevant management practices as outlined in the Landcom manual "Managing Urban Stormwater: Soils and Construction -- Volume 1" (4th Ed, 2004) - the "Blue Book".	Prior to the issue of the Construction Certificate for each stage. The developer will prepare a erosion and sediment control plan to control run off during construction in accordance with the principles of the Landcom publication Managing Urban Stormwater: Soils and Construction Volume 1, 4th Edition.
Any requirements for bushfire asset protection zones, including fire trails, are not to compromise in any way the extent, form or function of the riparian zones. Fuel reduced areas are to be located outside of riparian zones.	The Asset Protection Zones (APZs) will be provided wholly on private residential land and public road reserves.

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- Shoalhaven City Council (Received 29 September 2009).

Issues	Response
Section 94 Contributions and Voluntary Planning Agreements	
The proposed subdivision would be required to pay Contributions in accordance with Council's Contributions Plan. In addition to these Contributions, Council will need to enter into a Voluntary Planning Agreement (VPA) for additional works outside of the Contributions Plan as was identified in the earlier Part 3A application MPO5 -0059, approved by the Minister.	<p>JWA Enterprises Pty Ltd has agreed to enter into a Voluntary Planning Agreement (VPA) for additional works outside of the Contributions Plan as may be directed by the Minister for Planning. JWA Enterprises Pty Ltd has agreed to pay additional contributions equivalent to those required for the Malbec (MP050059) project, based on a pro-rate basis i.e. per lot rate.</p> <p>In relation to specific contributions for public open space, JWA Enterprises will be seeking an exemption in lieu of the dedication of Lot 147.</p>
Subdivision Layout	
The subdivision layout and design criterion are to comply with DCP 100 - Subdivision Code.	<p>Complies of the amended layout with DCP 100 has been addressed in Section 3.2.1 of the PPR. The following points address the main issues raised by DOP:</p> <ul style="list-style-type: none"> • The lot sizes range from 586m² to 1744m². The average lot size is 777 m² (excluding Lot 147). • All rectangular non-corner lots are above minimum standard, except; lot 101 which has width less than 16m (15.88) but a depth greater than 30m (42m) and overall area of 688m²; and lot 112 which has width greater than 15m (20m) but an average depth greater than 30m (29m) and overall area of 586m². • All the irregular shaped lots are above minimum standard, except; lot 120 which has average depth of less than 30m, however, the lot has an overall area of 995m²; lot 129 which has depth of less than 30m, however, the lot has an overall area of 724.8m²; and lot 137 which has average depth of less than 30m, however, the lot has an overall area of 914m². • The majority of the lots accommodate a 15m x 15m rectangular building envelope. Lot 101, 124 -129 will not be able to accommodate a 15m x 15m rectangular building envelope due to site setback requirements. However, these lots will easily accommodate a building with a similar floor space e.g. 16m x14m. A plan showing that all lots have suitable building envelopes is provided in Attachment 2. • Street reserves range from 15 – 20m due to the environmental constraints of the site. The new proposed perimeter loop road will have a road reserve of 15m (carriageway of 8m). This

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Issues	Response
	<p>road is only proposed to be a single load road, with services provide on only one side of the road. The side of the road with the reduce verge width will abut the public reserve lot. We are of the opinion that the 1m reduction in the road reserve width is justified in this situation. A typical cross-section is provided in Attachment 4.</p> <p>The subdivision layout has been designed with the intention of providing a building line set back of:</p> <ul style="list-style-type: none"> • 7.5m on the lots fronting The Barbette, The Bounty, Sunset Strip and Manyana Drive in line with the existing dwellings; and • 5.5m on the lots fronting the proposed perimeter loop off Manyana Drive. <p>We are of the opinion that the reduction in the building line set back is warranted in this section of the subdivision layout for the following reasons:</p> <ul style="list-style-type: none"> • There are no existing dwellings within this section of the subdivision and therefore all the future dwellings will adopt the same building line setback. • Reducing the building line setbacks has the effect of bringing dwellings closer to the street, enhancing the opportunity to propagate neighbourly contacts and removing physical barriers to social contact. These simple design characteristics are considered to be positive attributes that assist in community building. Opportunities for spontaneous casual exchange are also increased between neighbours which is critical for the development of community. • Fear of crime is often attributed to social isolation. While crime and perceived crime are the result of complex social interactions and therefore a single cause would be difficult to apply in a generic sense, reduced building setbacks can assist in reducing crime and fear of crime by engaging the built form with the street.
<p>Proposed lots 115 and 116 are not acceptable as the EA report (and Appendix 6) shows both to be flood and climate change affected. Proposed Lot 119 is also significantly affected. As such, Council does not accept a solution of specifying a minimum floor level when it is proposed to create new lots.</p>	<p>The proposed subdivision has be redesigned and Lots 115, 116, and 119 have be removed from the subdivision layout.</p> <p>The amendments to the proposed layout remove flood impact from all lots except proposed Lot 102 which is only marginally impacted by the 1%AEP flood level allowing for climate change (Figure 4.2). The flood does not however impact on the proposed building envelope as the minimum habitable floor level is 4.93m AHD, adopting climate change and 500mm freeboard in the 1% AEP event, while the lowest point on the proposed building envelope is approximately 5.5m AHD. Additionally it is noted that all proposed water quality devices are above the 1% AEP flood level . Section 4.3 of the</p>

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Issues	Response
	PPR for more details
The connection of Sunset Strip should be the same width as the existing section, (20.115m width), and a bioswale incorporated into the nature strip on the southern side. A lesser width would be inconsistent with DCP1 00 for an infill subdivision.	<p>Sunset Strip is no longer proposed to be connected and will now only be extended 50m in a westerly direction to provide street frontage to proposed Lots 101 - 104. A y-shaped turning head has been provided in accordance with Shoalhaven DCP 100. Sunset Strip is proposed to have a 20.115 metre road reserve, with 6.5 metre verges and a 7 metre carriageway.</p> <p>Proposed lots 105 and 106 will have direct street frontage to the existing Sunset Strip, minor upgrade works will be required. A right of carriageway will be created over Lot 105 to ensure that Lot 106 has appropriate accessibility and manoeuvrability.</p>
DCP classes Road (1) and (2) as "Access Roads" and the reserve width should be at least 16, with a minimum carriageway of 6m, except where the road is a perimeter road and the carriageway should be at least 8m.	The perimeter loop road (Road 1) will be located off Manyana Drive approximately 7m south of The Palisade and approximately 7m north of The Bounty. The perimeter loop road (Road 1) is proposed to have a 15 metre road reserve with a 4.5 metre verge on the western side and a 2.5 metre verge on the eastern side of the street with a 8 metre carriageway. It should be noted that the perimeter loop road will be a single load road and services will be only be required on the western side of the road. A typical cross-section is provided in Attachment 4. The side of the road with the reduced verge width will abut the public reserve lot. We are of the opinion that the 1m reduction in the road reserve width is justified in this situation.
The layout for lots 117 to 134 is not acceptable. This includes concern about flood affects, the road widths, the shape of a number of lots and available building envelopes, and the impacts of the APZs on a number of the lots.	<p>The south-eastern section of the layout has been redesigned to remove the effects of flooding to proposed lots and to reduce the impact and provide a vegetated buffer to the EEC located on Lot 147. The redesign has reduced the number of lots in this section of the layout from 17 to 16. All lots are now located outside the 1:100 year flood level. The redesign results in part of the layout being located within the 2 (e) 'village' zoned area of the site.</p> <p>A plan showing that all the lots have adequate building envelopes has been provided in Attachment 2. The plan takes into consideration all environmental constraints as will the required offsets in accordance with Shoalhaven City Council requirements and the request for the reduced building setback lines.</p>
EA Plan Attachment 5, seeks to demonstrate that there are "acceptable building envelopes available. However, to achieve a meaningful area most are taken from side to side boundaries, which in practice is not achievable and is not acceptable. DCP100 suggests a minimum 15m x 15m building envelope	The majority of the lots accommodate a 15m x 15m rectangular building envelope. Lot 101, 124 -129 will not be able to accommodate a 15m x 15m rectangular building envelope due to site setback requirements. However, these lots will easily accommodate a building with a similar floor space e.g. 16m x14m. A plan showing that all lots have suitable building envelopes is provided in Attachment 2.

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Issues	Response
should be provided.	
The proposed concrete to delineate a change in road width is not acceptable and this form of treatment has been discontinued by Council due to maintenance issues. However, in connecting the east and west sections of Sunset Strip, it is recommended there be a "slow-down" measure at each end incorporated into the road design with consultation taking place with Council to determine the suitability of a final design proposal.	Sunset Strip is no longer proposed to be connected and will now only be extended 50m in a westerly direction to provide street frontage to proposed Lots 101 - 104. A y-shaped turning head has been provided in accordance with Shoalhaven DCP 100.
The drainage line along the boundary of existing Lots 630 and 631 is contained within a drainage easement. This line should be incorporated into an easement along the proposed lot 110/111 boundary.	The proposed subdivision has be redesigned and Lots 110 and 111 have be removed from the subdivision layout.
The concept landscaping plan (Drawing No 08-132A) contains details of an access pathway to the beach, in a straight line. The general location is acceptable however should be aligned to follow the existing track leading to the beachfront, with sides stabilised.	An updated landscape plan is provided in Attachment 8.
It is noted that there in an approved electricity pad-mount sub-station located on the southern side of the extension of the Sunset Strip road reserve, and opposite propose Lots 109/110. All-weather access to this facility shall be provided and maintained	Shoalhaven Water has already constructed the all weather access track to this facility. The access track is located within the proposed public reserve lot. It will be Council's responsible to maintain this access track.
Environmental Constraints	
The proponent should provide a plan of the environmental constraints (hollow bearing trees etc), identified EEC and other vegetation communities overlain with the subdivision proposal to allow for the impact of the proposal to be adequately assessed	A plan showing the ecological constraints has been provided in Attachment 6.
Preliminary clearing of the whole site at Stage 1 is recommended to provide material for the implementation of the long term vegetation	The vegetation will be removed during the civil works associated with each stage of the development.

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Issues	Response
management plan .(VMP)/ rehabilitation works for bushland in the dedicated reserve and should include necessary works on the adjoining Crown reserve (to be assessed by the VMP).	
The Landscape Plan should be amended to ensure that exotic perennial grasses are not specified for use adjacent areas of retained or rehabilitated native vegetation for example; nature strips, drainage swales and artificial wetlands.	An updated landscape plan is provided in Attachment 8.
<p>This should be clearly described in the VMP and include appropriate monitoring and evaluation of the restoration project.</p> <p>The VMP must allow for implementation to begin prior to construction and continue throughout all stages of the development. The VMP must include agreed compliance check points with measurable evaluation outcomes.</p>	The VMP will be prepared by a suitably qualified person to address a number of matters including but not limited to, protection and maintenance of the flora species of conservation significance, weed control, vegetation enhancement, control of access, monitoring and fire management.
Beach access should be directed to existing Council maintained access points (Manyana and Cunjurong Point). The proposed new beach access point, stabilised pathways and fencing to protect bushland should be provided to improve the existing "desire line" track across Crown and Council managed land as a valuable community link extension to the proposed Cunjurong Headland walking track.	<p>A fence, of approximate total length 100 m, would be installed in the public reserve lot (<i>Lot 147</i>) generally to the north-east of the perimeter road. The proponent would install and maintain the fence for the first three years, after which maintenance for the fence would become the responsibility of SCC as managers of the public reserve (refer to Figure 4.11 on the PPR).</p> <p>The proposed perimeter road match up with the existing access to Manyana beach. Refer to the updated landscape plan is provided in Attachment 8</p>
It appears that the individual allotment stormwater and rainwater tanks have been removed as Shoalhaven Water are to provide recycled water to the site. These tanks provided for both stormwater	<p>The stormwater concept plan (Attachment 7) and MUSIC water quality model have been updated to reflect the changes to the proposed subdivision layout refer to Section 4.4 of PPR.</p> <p>The treatment system for this proposal consists of the following:</p>

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<p>quality, and quantity management. It is likely that the requirements of BASIX for future dwellings will require individual stormwater tanks.</p> <p>The stormwater devices have been removed from individual lots and are proposed to be provided on future Council managed land (wetland) and this is not acceptable. Ongoing financial costs in relation to maintenance of the "wetland area" should be included in VPA.</p>	<ul style="list-style-type: none"> • All lots will be required to install a minimum 5,000L rainwater tank. Overflow will be piped to the road drainage system. • Stormwater from Lots 107 - 137, the new perimeter road located in the south eastern section of the layout, The Bounty and the extension of Manyana Drive, will be collected within the road network (kerbs and gutters) and be transferred to a lined biofiltration basin located within Lot 147 via a gross pollutant trap. The treated water will then be discharged overland into the vegetated public reserve lot (Lot 147) which slopes back to the existing creek traversing Lot 147. • Stormwater from lots 142 - 146 and The Barbette, will be collected and treated in kerbside biofiltration swales which will be provided along the eastern side of The Barbette. The treated water will then be piped into the existing stormwater system within The Barbette. • Stormwater from Lots 138 - 141 will be collected at the rear of the lots and piped via interallotment drainage structures to existing street drainage in The Palisade. • Stormwater from Lots 103 - 104 and the extension of Sunset Strip will be collected and treated in a kerbside biofiltration pod which will be provided in Sunset Strip road reserve. The treated water will then be discharged overland within Lot 147. A 30 to 50m vegetated buffer (riparian zone) has been provided between these lots and the watercourse. • Stormwater from Lots 101 - 102 and the extension of Sunset Strip will be discharged overland within Lot 147. A 30 to 50m vegetated buffer (riparian zone) has been provided between these lots and the watercourse. <p>If the stormwater management for the proposed subdivision is designed and installed in accordance the recommendations in PPR, the stormwater runoff will be collected and treated prior to discharge from the site. Water quality modelling (MUSIC) suggests the recommended treatment systems will comply with the DECCW (2007) retention requirements.</p> <p>To address the concerns of Shoalhaven City Council regarding the maintenance burden that may flow from infrastructure provided in response to this development. The developer commits to undertake the maintenance of the water quality devices on public land for a three (3) year period following their construction.</p>

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Issues	Response
Bushfire	
<p>Council considered that the stated APZs in the EA Report in Table 7.7 are consistently under-estimated. All APZs within all lots are to be managed to Inner Protection Area standard.</p> <p>Council considered the affects upon available building areas of the APZs for lots 103,126,130 and 131 is unacceptable.</p> <p>The alternate solution proposed for Lot 116 supposes 'in-perpetuity' maintenance of the vegetation within the constructed wetland. There is no proposed mechanism to ensure the vegetation remains as specified in the plan. The alternate solution for Lot 116 is unacceptable.</p>	<p>The bushfire guidelines, "Planning for Bushfire Protection" and Australian Standard AS3959 - Construction of Buildings in a Bushfire Prone Area have been updated since the layout was originally prepared and application of the current requirements to the amended proposal was considered necessary. For example a 1° downslope for Forest Wetland under the previous guideline would require a 16m Asset Protection Zone (APZ), where as under the new guidelines it requires a 24m APZ.</p> <p>Table 4.3 of the PPR provides the APZs and the level of construction to be incorporated into residential lots that require bushfire mitigation measures. The subdivision layout provided in Attachment 1 also shows the required APZs.</p> <p>Lots 102, 104 - 107, 111 - 122, 129 - 137, 145 and 146 contain varying degrees of Asset Protection Zone in accordance with recently updated Planning for Bushfire Protection Guidelines (2006) and AS3959-2009, while accommodating suitable building area on each lot. A plan showing that all the lots have adequate building envelopes has been provided in Attachment 2.</p>
Coastal Hazard	
<p>The Gary BIUmhern0nd Associates (GBA) report does not provide the 50 and 100 year hazard lines using the 2009 DECC sea levels rise benchmarks. This information should be provided and the long term implications may then need to be reconsidered.</p>	<p>The assessment has been updated to consider the combination of design elements for the 100 year ARI, beach erosion and shoreline recession, including the effects of 0.9 m SLR as per DECCW policy benchmark (<i>DECC, 2009</i>) on the combined Beach Erosion and Shoreline Recession. The re-assessment has resulted in the following changes (refer to Section 4.6 and Attachment 13 of the PRP):</p> <ul style="list-style-type: none"> • Slope Instability - The Line of Wave Impact is assessed to be located 27 m seaward of the SE corner of the site (<i>reduced from 50m in the previous assessment</i>), but 30 m landward or inside the NE corner (<i>increased from 6m in the previous assessment</i>). The Zone of Reduced Foundation Capacity is well seaward of the property at its southern end, crossing the seaward property boundary (<i>Lot 147</i>) in the vicinity of the creek close to the NE corner (Figure 4.9). The report concluded that no beach erosion and shoreline recession hazard applies to the subdivision layout as proposed (<i>layout at 4/6/10</i>). Since all residential allotments fall within the Stable Foundation Zone, no special foundation treatments would be required. • Wave Runup and Overtopping - Allowing for a Greenhouse SLR of 0.9 m (<i>up from 0.5 in</i>

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	<p><i>the previous assessment</i>) over the 100 year planning period GBAC calculates design 2% wave run up level at RL 6.7 (<i>up from 6.3 in the previous assessment</i>) at the primary coastal dune, and RL 5.7 (<i>up from 5.3 in the previous assessment</i>) at the flooded creek margin inside the entrance. A summary of GBAC's coastal hazard inundation assessment is presented in Figure 4:10.</p> <ul style="list-style-type: none"> • Sand Drift - the substantial separation of the proposed allotments from the unstabilised back beach areas (>140 m) (<i>reduced from <150m in the previous assessment</i>), together with the natural topographic shielding and abundance of intervening vegetation, ensure that sand drift is not an issue for the proposed subdivision. • SLR Contribution to Shoreline Recession - Over the next 100 years, the Bruun Rule predicts shoreline recession due to SLR of approximately 54m (0.9 x 60) (<i>up from 30m in the previous assessment</i>). It is therefore proposed to adopt a SLR recession for the subdivision of 54m over the next 100 years. This may be slightly conservative for a variety of technical reasons (<i>eg base planning dates, SLR offsets over past 50-100 years etc</i>), however as these are not investigated here, they have been neglected. • SLR Contribution to Coastal Inundation - It would be reasonable to raise the wave run up level by 0.9 m (<i>up from 0.5 m in the previous assessment</i>) to account for the effects of SLR. While increased wave action at the shoreline may also result due to climate change, the consequences for wave run up are considered to be small relative to SLR increment, and can be neglected. Thus design wave run up at the end of the 100 year planning period could be expected to attain a 2% level up to RL 6.7 (<i>up from 6.3 in the previous assessment</i>) at the primary coastal dune, and RL 5.7 (<i>up from 5.3 in the previous assessment</i>) at the flooded creek margin inside the entrance <p>GBAC recommends that:</p> <ul style="list-style-type: none"> • The residential allotments proposed at Lots 101, 102 and 104 have regard to the design RL 5.7 coastal inundation level. The residential allotments proposed on the western side of Lot 147 are sufficiently removed from the creek entrance and protected from direct wave action by the primary dune such as not to be impacted by wave run up inside the creek entrance. • Consideration be given to incorporating a fence in to the proposal. This fence, of approximate total length 100 m, would be installed in the public reserve lot (<i>Lot 147</i>) generally to the north-east of the perimeter road. The proponent would install and maintain the fence for the first

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	<p>three years, after which maintenance for the fence would become the responsibility of SCC as managers of the public reserve (Figure 4.11). The fence could be of the conventional Bayco-type, with 100Ø treated pine poles at 5 m maximum spacing and three 4 mm wire strands (<i>galvanised and PVC coated</i>) equally separated and extending 1.2 m above the ground. Intermediate posts should penetrate 0.6 m into the ground, and end strainer posts 1.0 m into the ground.</p>
Stormwater and Flooding	
<p>It is notes that a system of interallotmert stormwater drainage lines is proposed where lots do not have gravity drainage to the street, and these should be contained in easements for drainage under a RATU. Some interallotment drains will need to be conveyed through adjoining land and unless the required easements are already acquired, any approval should be deferred until easements are registered and locations based on drainage design requirements.</p> <p>The EA report suggests On Site Detention (OSD) may be required on lots draining towards Council's existing drainage pipes in the roads because there may be capacity issues that have not been thoroughly investigated. Either a full hydraulic assessment of the existing drainage infrastructure should be undertaken to determine if OSD is needed, or place restrictions (RATU) on lots that OSD must be provided with all buildings to ensure no additional runoff to Council's street drainage. This second option is not preferred as it results in individual lot building designers to find solutions rather than the issue being decided at subdivision stage.</p> <p>The drainage design should take into account the</p>	<p>The stormwater concept plan (Attachment 7) and MUSIC water quality model have been updated to reflect the changes to the proposed subdivision layout refer to Section 4.4 of PPR. The following amendments from the concept layout provided in the July 2009 Stormwater concept plan:</p> <ul style="list-style-type: none"> • The stormwater treatment devices only treat stormwater generated within the proposed subdivision and not stormwater generated by other existing development. • With the removal of the Sunset Strip link and adjoining lots from the proposal, piped drainage to the watercourse is no longer necessary for this area. In lieu of this Sunset Strip is to be constructed to the end of the lot 623 at the corner of Sunset Strip and Manyana Drive on the western end (Lot 105 and 106), and on the eastern end Sunset Strip is to be extended approximately 55m with appropriate stormwater drainage and a small bio-retention pod to service four new lots (Lots 101 - 104). Proposed Lots 101 and 102 off Sunset Strip are to drain to an inter-allotment drainage line to discharge to a single point in the proposed public reserve. • The wetland has been removed due to EEC impacts and a bio-retention basin and gross pollutant trap is now proposed outside the EEC zone. • Rainwater tanks have been added to individual lots. • A bio-filtration swale has been added into the road reserve of The Barbette to treat the stormwater before it connects into the existing drainage network. • Inter-allotment drainage to proposed Lots 137 and 138 has been directed to Manyana Drive to reduce the flow to the existing drainage system in The Palisade. The removal of these building envelopes from the catchment draining to The Palisade will offset the potential increase in flow from buildings on proposed Lots 139, 140, and 141, therefore removing any requirement for on site detention on these lots.

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<p>channelling of surcharge flows from Manyana Drive into the low lying reserve area. Lots draining directly to the low lying reserve area should have roofwater piped in an interallotment drainage easement to a single discharge point.</p> <p>The short and medium term maintenance of water quality devices including the bioswale and wetland should be incorporated into the VPA.</p>	<p>To address the concerns of Shoalhaven City Council regarding the maintenance burden that may flow from infrastructure provided in response to this development. The developer commits to undertake the maintenance of the water quality devices on public land for a three (3) year period following their construction.</p>
<p>The Flood Study should consider the ocean inundation levels provided by the GBA coastal hazard report. The Flood Study does not include velocities, hydraulic and hazard categories and these are required so an assessment can be undertaken.</p> <p>The flood study identifies two lots (Nos 115 and 116) that are totally inundated as flood prone and these lots should be deleted. In addition proposed Lot 119 is significantly flood prone to such an extent that it is unacceptable and should not be mitigated by providing a minimum floor level above flood level as a solution.</p>	<p>The amendments to the proposed layout remove flood impact from all lots except proposed Lot 102 which is only marginally impacted by the 1%AEP flood level allowing for climate change (Figure 4.2 of the PPR). The flood does not however impact on the proposed building envelope as the minimum habitable floor level is 4.93m AHD, adopting climate change and 500mm freeboard in the 1% AEP event, while the lowest point on the proposed building envelope is approximately 5.5m AHD. Additionally it is noted that all proposed water quality devices are above the 1% AEP flood level.</p>
Open Space	
<p>The applicant proposes that Lot 158 be dedicated to Council as a public reserve. In principle, this dedication is not opposed subject to ongoing maintenance resourcing/ costing being sufficiently addressed in the Voluntary Planning Agreement (VPA).</p>	<p>The proposed subdivision layout has been amended and now seeks approval for the creation of forty-six (46) Torrens Title residential allotments covering 5.02 hectares of the 9.56 hectare site. The residual land (4.54 hectares), representing 47% of the subject site is proposed to be dedicated to Shoalhaven City Council as a public reserve lot (proposed Lot 147 in the subdivision).</p>

ATTACHMENT 13 - WATKINSON APPERLEY PTY LTD RESPONSE TO DOP SUMMARY OF SUBMISSIONS

MAJOR PROJECT 06-0165 - RESIDENTIAL SUBDIVISION OF LOT 682 DP 568678, LOT 705 DP 613881 AND LOT 810 DP 247285, MANYANA DRIVE, MANYANA

- Public Submission (Revived on the 29 September 2009 and 14 October 2009)

Issues	Response
Additional school age children can be accommodated in the schools located in Milton and Ulladulla. However, this means children have a 30 kilometre round trip to school.	The proposal will result in approximately 19 addition school age children. A 30km travel distance for a rural/coastal area is not considered to be out of the ordinary.
The nearest hospital is a 50 minute drive from Manyana. The proponent has not addressed this issue.	This fact is acknowledged however Manyana is a coastal rural area and the distance to the nearest hospital is a consideration by state government agencies at the time of rezoning the land for residential purposes.
The EA did not address the impacts of climate change, particularly the increased risk of serious fire events.	With regards to bushfire protection the proposal addresses and incorporate the requirements of Planning for Bushfire Protection (2006) in accordance with the Rural Fire Act 1997. Currently there is no requirement to address climate change.
The hydraulic modelling shows that six lots will be affected by the I in 100 year floods. Taking Into account the precautionary principle, these lots should not be approved. No decision should be made about these lots until there is more evidence in relation to the severity of affects from climate change.	The amendments to the proposed layout remove flood impact from all lots except proposed Lot 102 which is only marginally impacted by the 1%AEP flood level allowing for climate change (Figure 4.2 of the PPR). The flood does not however impact on the proposed building envelope as the minimum habitable floor level is 4.93m AHD, adopting climate change and 500mm freeboard in the 1% AEP event, while the lowest point on the proposed building envelope is approximately 5.5m AHD. Additionally it is noted that all proposed water quality devices are above the 1% AEP flood level.
There is only one access road into Manyana evacuation in case of bush fire would be difficulty particularly with the proposed additional dwellings.	With regards to bushfire protection the proposal addresses and incorporate the requirements of Planning for Bushfire Protection (2006) in accordance with the Rural Fire Act 1997.
Manyana already has an abundance of homes for sale; it does not warrant the scale of the new development.	The sale of the land will be driven by market conditions.
The EA does not address cumulative impacts as required by the Director General's requirements. The proposal, as well as, the recently approved 181 lot development at Bewringer and Cunjurong Roads, Manyana, represents a significant increase to a village without a shop, school or medical centre.	Cumulative impacts have been addressed in the EA. Shop, schools and medical centres are considered to be infrastructure which come population growth.

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Issues	Response
The Traffic Impact Assessment is inadequate as it does not assess impacts on Cunjurong Point (the location of the closest shop). It also does not consider the potential increase in waterway traffic generated by additional boats/jet skis and whether there is sufficient parking at the nearby boat ramp.	The traffic impact assessment was prepared in accordance with the RTA Guide to Traffic Generating Developments.
A fence should be placed along the southern boundary of The Bounty to prevent people parking and accessing the Crown Land to the south of the proposal.	This is a matter for consideration as part of the assessment and conditions of consent.
To prevent people parking on the proposed reserve it is recommended that a low post rail and boundary fence be built along the extended part of Sunset Strip and along the boundary of Loop Road 1.	A fence, of approximate total length 100 m, will be installed in the public reserve lot (<i>Lot 147</i>) generally to the north-east of the perimeter road.
The South Coast Sensitive Urban Lands review stated that one of the reasons Manyana has one of the highest rates of unoccupied dwellings is due to a lack of facilities. Manyana does not have enough services to support an increase in population.	Services and infrastructure are a consideration by government agencies at the rezoning stage.
Concern raised with the ongoing maintenance of the wetland.	The wetland is no longer proposed to be constructed.
The proposed width of Sunset Street is too narrow particularly as this will be a main thoroughfare.	Sunset Strip is no longer proposed to be connected and will now only be extended 50m in a westerly direction to provide street frontage to proposed Lots 101 - 104. A y-shaped turning head has been provided in accordance with Shoalhaven DCP 100. Sunset Strip is proposed to have a 20.115 metre road reserve, with 6.5 metre verges and a 7 metre carriageway.
It is recommended that The Bounty be constructed with kerb and guttering.	To be addressed in conditions of consent.
Loop Roads 1 and 2 are too narrow; there won't be provision of parking for cars and boats.	Design modification have address this issue.
There are concerns about the reduced building alignment, to 5.5 metres and whether this will set precedence for other development.	The reduced building results in a better urban design outcome and more compact community. An future development will be assessed on its merit.
If staging is varied and Stage 3 takes place prior to	The wetland is no longer proposed to be constructed. Refer to Section 4.4 of the PPR.

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Issues	Response
Stage 2, it is recommended that the artificial wetland be constructed as part of Stage 2.	
The amenity (in relation to flora and fauna) of the Manyana area has started to diminish.	4.54 hectares, representing 47% of the subject site is proposed to be dedicated to Shoalhaven City Council as a public reserve lot (proposed Lot 147 in the subdivision).
The EA does not consider impacts on Austin Street residents. Also, Austin Street is incorrectly shown on the EA plans which shows it as a formed road. However, the northern part of Austin Street is an unformed road on Crown Land and it is considered this should remain.	Austin Street will not be constructed as part of this proposal, the plans have been updated to clearly show this fact.
It is not clear from the EA if Council will accept dedication of Lot 158. Dedication of this lot is the best outcome.	Council indicated in their submission to this proposal that in principle, this dedication is not opposed subject to ongoing maintenance resourcing/ costing being sufficiently addressed in the Voluntary Planning Agreement (VPA).
<p>The number of lots should be reduced to avoid impact on any native flora and fauna.</p> <p>Removing even a small number of trees reduces the variety of native birds and increases the number of exotic birds using an area.</p> <p>If projects keep getting approved, fauna, considered common now, will become rare.</p> <p>How many other developments along the coast, which require clearing of habitat, are there? What affect does this incremental clearing have?</p> <p>The cumulative impact of development approvals in the area will result in large areas of habitat being destroyed. Has this been considered?</p>	<p>The proposed subdivision layout has been amended and now seeks approval for the creation of forty-six (46) Torrens Title residential allotments covering 5.02 hectares of the 9.56 hectare site. The residual land (4.54 hectares), representing 47% of the subject site is proposed to be dedicated to Shoalhaven City Council as a public reserve lot (proposed Lot 147 in the subdivision).</p> <p>Eco Logical Australia (ELA) were engaged to undertake an Indicative Biodiversity Offset Assessment of the endangered ecological communities affected by the proposed residential development. ELA concluded that the results of the indicative biodiversity offset assessment indicate that the revised development layout, and the proposed offset (Lot 147), results in a net surplus of ecosystem credits for the endangered ecological communities Swamp Oak Floodplain Forest and Swamp Sclerophyll Forest. Refer to Section 4.1 and Attachment 9 of the PPR for more details.</p>
Removal of all vegetation during subdivision is unacceptable, some trees should remain.	The 4.54 hectares, representing 47% of the subject site is proposed to be dedicated to Shoalhaven City Council as a public reserve lot (proposed Lot 147 in the subdivision). This lot will remain fully vegetated.

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Issues	Response
The sand dunes, already suffering from previous vegetation removal, will be degraded by residents who try to create views and easy access to the beach.	
Concern raised over a pet owner's ability to keep a cat within the dwelling curtilage.	The public's concern is noted.
Vegetation protects the dunes and hind dunes, it should not be removed.	The crest of the primary dune at Manyana is observed to stand over 10 m above the beach. This dune crest coincides approximately with the seaward boundary of Lot 147. The seaward-most subdivided residential allotments are located further landward, set back between approximately 20 and 60 m from the dune crest. The majority of the vegetation adjacent to the dunes will be retained within Lot 147.
The location of the proposed development is concerning as it is low lying and on a known waterway (swamp). The creek running through the property overflows several times a year.	The amendments to the proposed layout remove flood impact from all lots except proposed Lot 102 which is only marginally impacted by the 1%AEP flood level allowing for climate change (Figure 4.2). The flood does not however impact on the proposed building envelope as the minimum habitable floor level is 4.93m AHD, adopting climate change and 500mm freeboard in the 1% AEP event, while the lowest point on the proposed building envelope is approximately 5.5m AHD. Additionally it is noted that all proposed water quality devices are above the 1% AEP flood level.
Concern was raised by the need to clear endangered ecological communities (EEC) to create the artificial wetland.	The proposed wetland has been removed from the subdivision layout.
The revised Flora and Fauna Assessment suggests that EECs covers lots 102, 103 and 110-130. The proposed offset doesn't meet the Principles for the use of Biodiversity offsets in NSW.	Eco Logical Australia (ELA) were engaged to undertake an Indicative Biodiversity Offset Assessment of the endangered ecological communities affected by the proposed residential development. ELA concluded that the results of the indicative biodiversity offset assessment indicate that the revised development layout, and the proposed offset (Lot 147), results in a net surplus of ecosystem credits for the endangered ecological communities Swamp Oak Floodplain Forest and Swamp Sclerophyll Forest. Refer to Section 4.1 and Attachment 9 of the PPR for more details.
Clear felling the vegetation would isolate the EEC. Significant trees to be retained onsite should be identified.	The EEC is connected to the vegetation contained within the 6(a) zoned land to the east of the site, which is in turn connected to the vegetation on the crown land to the south of the site.
The boundary of the EEC should be defined.	Refer to Attachment 6.

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Issues	Response
The EA used outdated measures (in relation to sea level rise). Predictions of climate change may have been underestimated.	The EA is based on the current NSW Department of Environment and Climate Change (DECC) guidelines for assessing the effects of climate change on flooding and the draft Sea Level Rise Policy Statement respectively.
The EA, on p15, incorrectly describes Manyana. The general store and caravan parks are in Cunjurong Point and Bendalong, not Manyana.	It is acknowledged that the caravan park is located in Bendalong, however, there is a general store located on Alaska Street, Manyana.
The EA should not have gone on exhibition if Council is not willing to accept Lot 158 as a public reserve. This issue should be resolved.	Council indicated in their submission to this proposal that in principle, this dedication is not opposed subject to ongoing maintenance resourcing/ costing being sufficiently addressed in the Voluntary Planning Agreement (VPA).
Concern was raised regarding the notification procedure, as most of the community doesn't live in Manyana fulltime. No attempt was made to contact residents at their alternate address. Notification should also have been sent to all Council rate addresses in Manyana, Cujurong Point, Lake Berringer, Bendalong and North Bendalong.	The notification procedure is administrated by the Department of Planning.
An increase in stormwater will result in the area being even wetter.	The subject site is located at the bottom end of the catchment, therefore detaining flows to reduce to pre-development peaks would increase the possibility of peak flows from the site coinciding with peaks from upstream flows and potentially increase flood levels in the area. Stormwater management for the proposal includes the use of bioretention and individual rainwater tanks which will assist in controlling the flows into the existing creek and surrounding area.
It is concerning that lots 115, 116 and 119 will be affected by the 1 in 100 year flood event, with the addition of lots 103, 117 and 119 if you take into account climate change. The layout should be revised.	The amendments to the proposed layout remove flood impact from all lots except proposed Lot 102 which is only marginally impacted by the 1%AEP flood level allowing for climate change (Figure 4.2). The flood does not however impact on the proposed building envelope as the minimum habitable floor level is 4.93m AHD, adopting climate change and 500mm freeboard in the 1% AEP event, while the lowest point on the proposed building envelope is approximately 5.5m AHD. Additionally it is noted that all proposed water quality devices are above the 1% AEP flood level.
100 years is not a long time in engineering terms, it would be interesting if the flood study modelled the 1 in 500 year event.	The 1:100 year flood level is the relevant flood scenario to be used in a flood assessment.
To ensure Manyana and Cunjurong Point maintain their identities, Austin Street should not be opened.	Austin Street will not be opened as part of this proposal.