

**The Glades Estate  
Lots 1 & 2 DP 725785  
Pacific Highway, Moonee**

**Preferred Project Report**

for Rothwell Boys Pty Ltd

September 2008

0037659 Final

[www.erm.com](http://www.erm.com)



**The Glades Estate  
Lots 1 & 2 DP 725785  
Pacific Highway, Moonee**

*Preferred Project Report*

for  
Rothwell Boys Pty Ltd

September 2008

0037659 Final

<b>Project Manager:</b>	<u>Carolyn Maginnity</u>
<b>Signed:</b>	<u></u>
<b>Date:</b>	<u>9 September 2008</u>
<b>Principal Consultant:</b>	<u>Steve O'Connor</u>
	<u></u>
<b>Date:</b>	<u>9 September 2008</u>

*Environmental Resources Management Australia Pty Ltd Quality System*

This report has been prepared in accordance with the scope of services described in the contract or agreement between Environmental Resources Management Australia Pty Ltd ABN 12 002 773 248 (ERM) and the Client. The report relies upon data, surveys, measurements and results taken at or under the particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the Client. Furthermore, the report has been prepared solely for use by the Client and ERM accepts no responsibility for its use by other parties.



## **CONTENTS**

<b>1</b>	<b>INTRODUCTION</b>	
<b>1.1</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>1.2</b>	<b>BACKGROUND</b>	<b>1</b>
<b>1.3</b>	<b>OUTLINE OF PROJECT</b>	<b>2</b>
<b>1.4</b>	<b>PUBLIC EXHIBITION</b>	<b>2</b>
<b>1.5</b>	<b>SUBMISSIONS RECEIVED</b>	<b>3</b>
<b>2</b>	<b>RESPONSE TO SUBMISSIONS</b>	
<b>2.1</b>	<b>RESPONSE TO SUBMISSIONS</b>	<b>4</b>
<b>3</b>	<b>PREFERRED PROJECT</b>	
<b>3.1</b>	<b>INTRODUCTION</b>	<b>34</b>
<b>3.2</b>	<b>AMENDMENTS TO PROJECT</b>	<b>34</b>
<b>3.3</b>	<b>PREFERRED PROJECT</b>	<b>35</b>
<b>4</b>	<b>STATEMENT OF COMMITMENTS</b>	
<b>5</b>	<b>CONCLUSION</b>	

## **ANNEXURES**

<b>ANNEX A</b>	<b>OPEN SPACE DEDICATION STAGING PLAN</b>
<b>ANNEX B</b>	<b>WATER AND SEWERAGE RETICULATION CONCEPT PLANS AND CORRESPONDENCE</b>
<b>ANNEX C</b>	<b>PROJECT PLAN</b>
<b>ANNEX D</b>	<b>SUPPLEMENTARY HYDRAULIC ASSESSMENT</b>
<b>ANNEX E</b>	<b>REVISED CEMP</b>
<b>ANNEX F</b>	<b>BULK EARTHWORKS &amp; NOISE ATTENUATION BARRIERS PLAN</b>
<b>ANNEX G</b>	<b>SUPPLEMENTARY FLORA AND FAUNA ASSESSMENT</b>
<b>ANNEX H</b>	<b>REVISED LANDSCAPE CONCEPT PLAN &amp; OPEN SPACE MANAGEMENT PLAN FIGURES</b>
<b>ANNEX I</b>	<b>REVISED BUSHFIRE RISK ASSESSMENT MAP</b>
<b>ANNEX J</b>	<b>REVISED STORMWATER DRAINAGE PLAN</b>
<b>ANNEX K</b>	<b>BUFFER ENCROACHMENTS PLAN</b>
<b>ANNEX L</b>	<b>STORMWATER INFRASTRUCTURE MAINTENANCE MANAGEMENT PLAN</b>
<b>ANNEX M</b>	<b>ADVICE RE: FILLING OF LOW-LYING AREAS – AUSPACIFIC ENGINEERS PTY LTD</b>
<b>ANNEX N</b>	<b>SUPPLEMENTARY TRAFFIC ASSESSMENT</b>
<b>ANNEX O</b>	<b>WAD EXTRACTS</b>
<b>ANNEX P</b>	<b>FIGURE 4 - COMPARISON OF WALLUM FROGLET HABITAT MAPPING</b>
<b>ANNEX Q</b>	<b>COPIES OF PREVIOUS COFFEY REPORTS</b>
<b>ANNEX R</b>	<b>DRAFT LEP AMENDMENT NO. ANNEX 24 OVERLAY AND CORRESPONDENCE</b>
<b>ANNEX S</b>	<b>DRAFT DESIGN GUIDELINES</b>
<b>ANNEX T</b>	<b>SUPPLEMENTARY GEOTECHNICAL ADVICE</b>
<b>ANNEX U</b>	<b>STAGE 1 - PRELIMINARY INVESTIGATION FOR CONTAMINATION</b>
<b>ANNEX V</b>	<b>ASS AND GROUNDWATER MANAGEMENT PLAN</b>
<b>ANNEX W</b>	<b>SECTION 94 CONTRIBUTIONS LETTER FROM COUNCIL</b>
<b>ANNEX X</b>	<b>CORRESPONDENCE FROM COUNCIL CONCERNING THE NORTHERN COLLECTOR ROAD APPROVAL PATH</b>
<b>ANNEX Y</b>	<b>CORRESPONDENCE RELATED TO CONSULTATION WITH ABORIGINAL GROUPS</b>

## *LIST OF TABLES*

<i>TABLE 2.1</i>	<i>RESPONSE TO SUBMISSIONS</i>	<i>5</i>
<i>TABLE 4.1</i>	<i>REVISED STATEMENT OF COMMITMENTS</i>	<i>38</i>

*This chapter states the purpose of this report and provides relevant background information.*

**1.1****INTRODUCTION**

Following a meeting with officers from the Department of Planning (DoP) on 13<sup>th</sup> May 2008 which was convened to update the DoP on the outcomes of meetings with key stakeholders, it was decided to adopt the suggestion of the DoP that the application for a Concept Plan should be withdrawn and the Project Application for the first three stages converted to a Project Application for the entire site. It was agreed that this Preferred Project Report (PPR) would be prepared documenting the additional investigations undertaken which has resulted in sufficient information now being available to support an application for project approval for the entire proposed 524 allotments, rather than the first three stages as originally envisaged.

The balance of this chapter provides a précis of the progress of this Major Project under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act).

**1.2****BACKGROUND**

An Environmental Assessment (EA) was prepared by Environmental Resources Management Australia Pty Ltd (ERM) on behalf of Rothwell Boys Pty Ltd (the proponent) pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act), to assess the environmental impacts of the proposed creation of a residential estate to be known as "The Glades" at Moonee Beach, north of Coffs Harbour.

The EA was prepared in accordance with the Director-General's Environmental Assessment Requirements (DGRs) issued on 19 October 2006 for a Concept Plan and Project Application.

The EA was publicly exhibited from Friday 23 November to Monday 24 December 2007.

The purpose of this report is to provide a response to submissions received during the public exhibition period, document the reasons for the withdrawal of the Concept Plan and the modification of the Project Application to cover the entire site and detail proposed changes to the project resulting from consideration of the issues raised by Government agencies, Coffs Harbour City Council (Council) and the local community.

The format adopted for this report has been discussed and agreed with the Department of Planning. *Chapter 1* provides background information and states the purpose of the report. *Chapter 2* presents a list of all the issues raised and provides a response to each issue. *Chapter 3* documents the project in its amended form. *Chapter 4* contains the amended statement of commitments and the final chapter draws conclusions based on the information provided in the preceding chapters. There are twenty four annexures which provide documentation relating to the results of the additional investigation undertaken leading up to the preparation of this report.

### 1.3 *OUTLINE OF PROJECT*

The project aims to create an attractive residential community, set within a quality built environment and surrounded by an extensive conservation/open space network, in keeping with its unique setting on the north coast of NSW.

The estate will be constructed in eleven stages and ultimately comprise 524 residential lots, with approximately 45 hectares of open space and habitat conservation areas. Project approval is sought for the entire estate which includes all the associated landscaping, earthworks, infrastructure and access roads. Concept approval is no longer sought as the project approval will now cover the entire site.

### 1.4 *PUBLIC EXHIBITION*

The EA was placed on public exhibition for a period of 31 days from Friday 23 November to Monday 24 December, 2007.

An advertisement detailing the exhibition was placed in the Coffs Harbour Advocate and the Coffs Harbour Independent on the 22 November 2007.

The EA was made available for public viewing at four public locations, namely:

- Department of Planning, Information Centre, 23-33 Bridge Street, Sydney;
- Department of Planning, Grafton Regional Office, 76 Victoria Street, Grafton;
- Coffs Harbour City Council, Administration Building, Cnr Coff and Castle Streets, Coffs Harbour; and
- Nature Conservation Council, Level 2 301 Kent Street, Sydney.

Additionally copies of the EA were provided to Coffs Harbour City Council and eight government agencies:

- Department of Environment and Climate Change;

- Department of Primary Industries;
- Department of Water and Energy;
- Rural Fire Service;
- NSW Marine Parks Authority;
- Northern Rivers Catchment Management Authority;
- Crown Lands NSW; and
- Roads and Traffic Authority.

## 1.5 *SUBMISSIONS RECEIVED*

The Department of Planning received submissions from:

- Coffs Harbour City Council;
- Department of Environment and Climate Change ( submissions);
- Department of Primary Industries;
- Department of Water and Energy;
- Rural Fire Service;
- NSW Marine Parks Authority;
- Northern Rivers Catchment Management Authority;
- Crown Lands NSW; and
- Roads and Traffic Authority.

In addition, three submissions were received from community members/adjacent landholders.

In preparing this response to the submissions received, the proponent has undertaken further consultation with Coffs Harbour City Council, the Department of Environment and Climate Change (DECC) and the Department of Planning. A meeting was held with officers from the Department of Planning on 8 March 2008 and meetings were held with Council officers and representatives from DECC on 18 March 2008 and 8 July 2008, to discuss the issues they had raised and to put forward measures to address their concerns. The outcomes/agreements reached at these meetings were discussed at a further meeting with officers from the Department of Planning on 13 May 2008 have been incorporated into this report.

*This chapter provides a summary of the submissions received and a response to each of the issues raised in those submissions.*

Responses to the issues raised by Council, statutory authorities and the community are contained within *Table 2.1*. More detailed supporting information is contained within the annexures at the rear of this report.

It is important to note that the documentation contained in these annexures generally relates to the project approval being sought for the entire estate. Where detailed information was originally provided only for the first three stages it has been supplemented to cover the whole 524 lot subdivision to be undertaken in eleven stages.



**Table 2.1 Response to Submissions**

Authority	Issue Raised	Reference	Submission	Response
Coffs Harbour City Council	Open Space Dedication	1(a)	Applicant to confirm dedication of all open space areas to Council is "at no cost".	<p>Dedication of all open space areas not currently zoned Open Space 6(a) to Council will be "at no cost" to Council (see correspondence to Council dated 21 May 2007 confirming this at <i>Annex R2</i>).</p> <p>The dedication of the land currently zoned Open Space 6(a) has been the subject of meetings, correspondence and discussions with Council aimed at satisfactorily addressing this issue. However, last month Council resolved to rezone that land currently zoned Open Space 6(a) to an environmental protection zone in an attempt to negate the potential for that land to have to be acquired by Council.</p> <p>Doubt has been raised about the method Council chose to effect this rezoning as it has resolved to use Draft Amendment 24 as the vehicle to achieve the rezoning, yet when this draft planning instrument was publicly exhibited it did not propose any change to the zoning of this land. The proponent has written to Council questioning the legality of this approach and requesting a meeting to discuss this issue. Both parties are keen to see this matter satisfactorily resolved to the mutual satisfaction of all concerned.</p>
		1(b)	Staging plan required for dedication of open space.	Dedication of open space areas to Council will be undertaken in stages, in accordance with the Open Space Dedication Staging Plan provided at <i>Annex A</i> .

Authority	Issue Raised	Reference	Submission	Response
		1(c)	Council does not support dedication of all open space areas in Stage 1 – agreement from Council to accept all areas proposed to be dedicated should be obtained.	The staging of the dedication of open space has been clarified during a meeting held with Council officers on 18 March 2008. The land which is to be dedicated to Council and the associated staging is shown in <i>Annex A</i> . A copy of the correspondence from Council confirming the conditions it has set down for the dedication of this land is reproduced in <i>Annex R2</i> .
	Temporary Access to Pacific Highway	1(d)	Temporary access arrangement not supported – contrary to Moonee DCP.	<p>The temporary access to the Pacific Highway (which has been approved by the RTA) is part of this approval, and provides the legal access to allow the site to be developed.</p> <p>However, the proponent is negotiating with adjoining land owners to the south seeking agreement to facilitate the construction of the northern collector road over their land. Discussions have progressed positively and a formal agreement is in the process of being finalised to allow an application to be lodged to construct the collector road, all works to be undertaken and the road dedicated to Council. The approval path to be followed in terms of securing the necessary approvals for the construction and dedication of this public road to Council is outlined in <i>Appendix X</i> which contains correspondence from Council setting out conditions Council would require to be satisfied if a Review of Environmental Factors (REF) is to be prepared under Part V of the Environmental Planning and Assessment Act 1979 (EP&amp;A Act). If agreement can be reached in a timely manner, then the temporary access will not be constructed.</p>

Authority	Issue Raised	Reference	Submission	Response
		1(e)	Section 94 Plan does not provide for forward funding of collector road – construction to be funded as works in kind offsets.	The Moonee DCP envisages the collector road to be funded by contributions from those who benefit (refer to Map 2 of Moonee DCP in <i>Annex K2</i> ). The proponent is prepared to forward fund the northern collector road subject to satisfactory formal agreements being finalised to all parties' satisfaction.
		1(f)	Application should seek approval for permanent access via collector road and include relevant environmental assessments and landowner agreements.	The construction of the collector road is not part of this Part 3A application. Negotiations are well advanced with relevant land owners and Council to obtain permission to construct and dedicate the northern collector road so that it becomes a public road.
Water Supply		1(g)	Preferred option is for developer to construct trunk water main from Moonee Beach Road along line of collector road. Other temporary water supply alternatives need further clarification, including evidence of RTA approval.	<p>Council has given in principle agreement on 17 July 2008 (see correspondence in <i>Annex B3</i>) to the construction of a temporary water main within Council's easement adjacent to the Pacific Highway, providing:</p> <ul style="list-style-type: none"> <li>• it does not compromise future use of the easement for trunk mains to service Council's reservoirs to the north;</li> <li>• it is fully funded by the developer; and</li> <li>• the design is approved by Council.</li> </ul> <p>As soon as it is feasible to do so, the temporary main will be replaced with a permanent water main constructed within the northern collector road reservation, in accordance with Council's water servicing strategy for Moonee Beach (see <i>Annex B1</i>).</p> <p>Note: There will be no need to construct the temporary main if the northern collector road is constructed at an early stage, as the permanent main will be able to be installed within the collector road reservation. This is the preferred position of the proponent.</p>

Authority	Issue Raised	Reference	Submission	Response
	Sewerage	1(h)	Ongoing maintenance requirements of vacuum sewer system is unacceptable. Standard gravity system pumping to treatment works in Bucca Rd will be required.	A conventional gravity system is now proposed as requested by Council. A revised sewerage reticulation plan has been prepared and is attached at <i>Annex B2</i> . Detailed design and installation of this system will be undertaken in consultation with Council (who is the approval body) at the construction certificate stage.
	Road Design	1(i)	Central landscaped island not supported.	The extended central landscaped island has been deleted as requested by Council. In its place a much shorter central island has been proposed in accordance with Council's desire to see an entry statement to the estate with an emphasis on water sensitive urban design (see <i>Annex C</i> ). Additional details will be provided at the construction certificate stage.
		1(j)	Roundabout at Road 1, 2 & 4 should be a three way intersection.	An amended lot layout has been prepared which deletes the roundabout and reconfigures the lot layout. The net result is one additional lot for a future corner store to service the estate (refer to revised Project Plan at <i>Annex C</i> ).
	Hydraulic Assessment	1(k)	More comprehensive assessment of impacts of climate change required, in accordance with relevant DECC guidelines, with at least a 100 year planning timeframe.	Comprehensive assessment carried out by Cardno Lawson Treloar (CLT) has demonstrated that the worst case scenario of sea level rise by the year 2100 will still see a minimum of approximately 700mm freeboard available. A copy of the supplementary hydraulic assessment is provided at <i>Annex D</i> .
	Acid Sulphate Soils	1(l)	Proposed construction of services/excavation/drainage through low lying areas of site requires further assessment for presence of ASS.	The presence of ASS in the areas proposed to be developed as part of the Project Application has been investigated with management plans having been prepared to manage any Acidic soils, ASS and groundwater given the important relationship between ASS and groundwater. <i>Annexures T and V</i> provide the results of these detailed investigations. Sufficient information is available to confirm that potential ASS is not a significant issue which should delay granting of the project approval. As the figure in <i>Annex F</i> illustrates there is a

Authority	Issue Raised	Reference	Submission	Response
				strong correlation between the areas in zone 2 where ASS may be present and the area where fill material is proposed to be placed. Very little excavation (apart from topsoil stripping) is proposed in zone 2 which means that the likelihood of disturbing any ASS which may be present would be small. If necessary, additional investigations in accordance with the ASS and Groundwater Management Plan will be undertaken prior to any earthworks in the potentially effected areas. These investigations would be undertaken in association with seeking a construction certificate. If ASS are encountered then the management plan sets out mitigation measure to ensure that they are appropriately managed. The key findings of these management plans are summarised in the Construction Environmental Management Plan (CEMP).
	CEMP	1(m)	CEMP needs to be more detailed to incorporate all necessary environmental protection measures to ensure project commitments are met.	The CEMP has been revised to include more detail of proposed environmental protection measures to ensure the project commitments are met. The revised CEMP is attached at <i>Annex E</i> .
	Noise Mound	1(n)	Further detail of noise mound/ cycleway/ service corridor/ etc. adjacent to the highway is required - scenic buffer may need to be widened.	More detailed plans have been prepared for this area demonstrating that there is sufficient land to accommodate all of the infrastructure proposed. The plans are provided at <i>Annex F2</i> .
		1(o)	Noise mounds are preferred, however if noise walls are proposed they must be of masonry construction.	Noise attenuation barriers (as shown in the drawing in <i>Annex 2</i> titled Typical Noise Attenuation Barrier Sections) are proposed to be constructed along the western boundary of the site, between the Pacific Highway and proposed residential lots, to ameliorate road traffic noise from the highway. These barriers will be constructed to a maximum height of 3 to 4 metres above ground level. In places the acoustic barrier will be significantly lower or non existent given the barrier effect of the natural topography. In addition, as agreed with Council, an acoustic

Authority	Issue Raised	Reference	Submission	Response
				barrier will be provided along the western and southern boundaries of proposed Lot 1. This barrier will be in the form of an acoustic fence of masonry construction.
	Pacific Hwy/Noise Mound Interface	1(p)	Rear boundary of Lots 1-19 should be fenced as part of subdivision works.	The rear boundaries of Lots 1 - 19 will be fenced in an aesthetically pleasing manner as requested by Council, part of the proposed subdivision works.
	Biodiversity	1(q)	Potential impact on Wallum Froglet from fill, stormwater devices, APZs and infrastructure requires further investigation.	<p>Possible impacts of the development on potential Wallum Froglet foraging habitat and proposed amelioration measures are discussed in detail in Chapter 5 of JWA's Wallum Froglet Assessment report provided in <i>Volume 2</i> of the EA. Further consideration has been given to the impacts of proposed APZs, stormwater treatment structures and possible infrastructure services located outside the development envelope. The findings of these investigations are detailed in the correspondence from JWA contained in <i>Annex G</i>.</p> <p>In summary, there will be no loss of core Wallum froglet habitat and the development of the site will only result in the loss of 1.16 hectares or 18% of the potential Wallum froglet foraging habitat. The retention of approximately 82% of potential foraging habitat in the south of the site and adoption of suitable amelioration measures will adequately provide for the ongoing potential use of the site by the Wallum froglet.</p>
		1(r)	Further justification of encroachment into buffers nominated in Moonee DCP and Draft Moonee Estuary Management Plan required.	<p>The buffers in the DCP are generally being observed with the only significant encroachment to Moonee Creek being in an area where the DCP (see <i>Annex K2</i>) envisaged less than a 100m buffer. Strict application of a 100m buffer to Moonee Creek would result in a total buffer area of approximately 12.6ha.</p> <p>The proposal, however, will result in a more generous buffer area of approximately 15.3ha. The figure in <i>Annex K1</i> quantifies the extent of encroachments. A buffer of 100m to the</p>



Authority	Issue Raised	Reference	Submission	Response
				<p>water's edge in Moonee Creek has been observed as illustrated in <i>Annex K1</i>.</p> <p>The Draft Moonee Estuary Management Plan is in conflict with the DCP and recognises that the DCP has been recently adopted and may override the Draft Plan until the DCP is revised.</p>
		1(s)	Wildlife crossings across roads are required.	Wildlife crossings will be provided under Road 1 to the north and south of the central vegetation corridor. Details will be provided with the Construction Certificate application.
		1(t)	A Vegetation and Habitat Management Plan is required.	A detailed plan of management for the vegetation in the open space areas on site has been prepared and was publicly exhibited as part of the Landscape Report included in <i>Volume 3</i> of the EA.
		1(u)	The Grass Owl habitat needs further assessment.	JWA have undertaken further detailed assessment of the Grass Owl habitat. The findings of this assessment are detailed in <i>Annex G</i> . In summary, only 0.0084 hectares of suitable habitat for the Grass Owl will be removed or modified as a result of the proposed development. Approximately 7.3 hectares will be regenerated with native heathland species, which will provide additional habitat for the Grass Owl.
		1(v)	Buffers to the Osprey nest require further consideration.	In accordance with the Moonee DCP, a 100m buffer to the Osprey nest has been provided.
		1(w)	The coastal walk route must have regard to EECs.	The preferred route of the proposed coastal walk was identified in Council's Moonee Beach DCP. The coastal walk does not form part of the proposed development. Therefore the proponent is not responsible for route selection or any associated environmental assessment of the proposed coastal walk.

Authority	Issue Raised	Reference	Submission	Response
		1(x)	Wildlife underpasses may be required between Roads 2 & 6 and under Road 1.	Wildlife crossings will be provided between Roads 2 and 6 under Road 1 to the north and south of the central vegetation corridor. Details will be provided with the Construction Certificate application.
	Creek Buffer Areas	1(y)	Fewer facilities should be located in the NNE corner of the site, given its cultural and ecological values. Proposed Education Centre & elevated decks over Moonee Creek are not supported.	The NNE corner of the site will no longer accommodate Recreation Node No 2 as it has been relocated to a less constrained area (see the Passive Recreation Node 2 figure in <i>Annex H2</i> ). No education centre or elevated decks over Moonee Creek are proposed.
	Playground – Node 1	1(z)	Playground will need to be fenced due to proximity to roadway.	Recreation Node No 1 has been relocated to a site which has frontage to a low flow traffic road and therefore will not require fencing (see the Active Recreation Node 1 figure in <i>Annex H1</i> ).
	Active Play	1(aa)	Investigate provision of a kick-around area adjacent to Playground – Node 1 or eastern end of Road 14.	A kick-around area has been incorporated into Recreation Node No 1, which has been relocated to a less constrained area (see the Active Recreation Node 1 figure in <i>Annex H1</i> ).
Department of Environment and Climate Change (DECC)	Aboriginal Cultural Heritage	2(a)	The Aboriginal Cultural Heritage Assessment is not considered consistent with DECC's Interim Community Consultation Guidelines – insufficient evidence of consultation with Aboriginal community.	Additional information has been provided to DECC regarding consistency with the DECC's guidelines in relation to consultation with the Aboriginal community (see <i>Annex Y</i> ). The Statement of Commitments (SoC) has been amended to adopt DECC's recommendations (refer to <i>Chapter 4</i> ).
		2(b)	Insufficient information provided to accurately determine the level of impact on the Aboriginal Cultural Heritage Values of the site – survey extent & coverage inadequate.	Consultation with local Aboriginal groups was in accordance with DECC guidelines. The proponent has keen to be inclusive of all interested Aboriginal groups. The SoC has been amended to adopt all DECC's recommendations. The revised SoC is provided in <i>Chapter 4</i> .
		2(c)	Draft SOC should be amended to include requirement for: 1. Additional archaeological assessment (including consultation with the Aboriginal community) to be	The SoC has been amended exactly as required by DECC and is reproduced in full in <i>Chapter 4</i> .

Authority	Issue Raised	Reference	Submission	Response
			<p>undertaken for any activity likely to involve any level of ground disturbance in the following areas:</p> <ul style="list-style-type: none"> <li>• any area of remnant vegetation;</li> <li>• any area outside the proposed development footprint; and</li> <li>• the area of cultural significance.</li> </ul> <p>2. Representatives of local Aboriginal community to be given opportunity to participate in:</p> <ul style="list-style-type: none"> <li>• any additional archaeological ground surveys;</li> <li>• proposed mitigation/management measures; and</li> <li>• subsurface exploratory test pitting.</li> </ul> <p>Proponent to provide for the temporary and long-term care &amp; control of Aboriginal cultural material salvaged from the site.</p>	
	Biodiversity Conservation	2(d)	Rehabilitation and revegetation works should be ongoing for a period of five years with a focus on performance based outcomes.	Staged rehabilitation and revegetation works will be maintained for a period of two years following dedication of the land the works are located upon to Council. In some cases this may mean that maintenance is carried out for periods in excess of five years.
		2(e)	Further details of the bushland management program are required.	A management plan for vegetation and open space areas was included in the Landscape Concept Plan & Open Space Management Plan (refer to <i>Volume 3</i> of the EA) and provides details of the proposed bushland management program. Amended landscape plans are included in <i>Annex H3-H8</i> .
		2(f)	Open space areas should be afforded long term protection through dedication to Council or other controls (eg. zoning, covenants, etc).	Dedication to Council is proposed in stages to achieve the long term protection of all open space areas.

Authority	Issue Raised	Reference	Submission	Response
		2(g)	Consideration should be given to not filling the low lying heathland in the south-east of site and adding it to the open space network.	The DCP identifies this land as suitable to be developed for urban purposes subject to further investigation. The EA has documented the investigations undertaken and demonstrated that the land can accommodate development provided certain controls are implemented. The figure in <i>Annex F1</i> illustrates the high correlation between zone 2 areas which correspond with lower lying areas and the proposed areas of fill. Excavation is largely confined to the higher parts of the site located in zone 1 where the risk of ASS and a high water table are minimal. <i>Annex V</i> documents the findings of the groundwater investigations undertaken in relation to the low lying areas of the site which are proposed to be developed. This annex also contains a groundwater management plan which will ensure that any impacts on groundwater are monitored and if necessary mitigated appropriately. Appropriate controls are set out in the CEMP to safeguard any potential adverse impacts associated with filling these low lying areas.
		2(h)	<p>Draft SOC should be amended to include the following additional commitments:</p> <ul style="list-style-type: none"> <li>• provision of a minimum 100m native vegetation buffer to Moonee Creek;</li> <li>• implementation of the recommendations &amp; ameliorative measures outlined in JWA's report;</li> <li>• compensatory planting of Swamp Sclerophyll EEC and Glossy Black Cockatoo feed trees at a ratio of 10:1;</li> <li>• widening of central vegetation corridor by 25m either side;</li> <li>• relocation of Rec Node 1 so that it does not interfere with north-south wildlife corridor; and</li> </ul>	<p>All but two of these additional commitments have been incorporated into the SoC.</p> <p>Whilst the 100m buffer to Moonee Creek has generally been provided, the DCP (see <i>Annex K2</i>) envisaged minor encroachment in some places and the provision of more than a 100m buffer in other places. Strict application of a 100m buffer to Moonee Creek would result in a total buffer area of approximately 12.6ha. The proposal, however, will result in a more generous buffer area of approximately 15.3ha. Further, the extent of the encroachments is considered even less significant given the current alignment of Moonee Creek. The alignment of the creek is such that the development envelope is in fact approximately 100m from the water's edge in the creek,</p>

Authority	Issue Raised	Reference	Submission	Response
			<ul style="list-style-type: none"> <li>detailed rehabilitation management plan for open space areas to be prepared &amp; approved by Council.</li> </ul>	<p>as illustrated in <i>Annex K1</i>.</p> <p>The expansion of the central vegetated corridor by 50 metres in total is not consistent with the DCP and would result in a significant reduction in lot yield. The provision of fauna underpasses under Road No 1 will assist the functioning of the vegetated corridor to act as a wildlife movement corridor.</p>
DECC (Coast & Floodplain Management Branch)	Buffers	2(i)	100m vegetated buffers should be provided along both Moonee and Skinners Creeks, as per the draft Estuary Management Study (APZs & stormwater management devices should not be located within the buffers).	<p>APZs and stormwater management devices are not proposed in the buffer areas to Skinners and Moonee Creeks (refer to revised Bushfire Risk Assessment Map attached at <i>Annex I</i> and revised Stormwater Drainage Plan attached at <i>Annex J</i>).</p> <p>100 m buffers to both these creeks as proposed by the Draft Estuary Management Study is not consistent with the current DCP and has therefore not been adopted. As emphasised in 2(h) above, variation of the buffer to be consistent with the DCP (<i>Annex K2</i>) has resulted in an additional 2.7 ha of land being contained within the buffer area. In addition, the alignment of Moonee Creek has resulted in the development envelope being approximately 100m from the water's edge in the Moonee Creek. Details of buffer encroachments are shown in <i>Annex K1</i>.</p>
	Hydrodynamic Capacity of Moonee Creek	2(j)	Approval should be subject to ongoing maintenance of the Bio-retention swales to ensure they function fully.	<p>The Bio- retention swales will be maintained at all times to ensure they achieve the outcomes they are designed to achieve. Initially they will be maintained by the proponent (when during commissioning maintenance costs are likely to be higher) and after dedication they will be maintained by Council. A Stormwater Infrastructure Maintenance Management Plan has been prepared detailing the ongoing operation and maintenance of the bioretention basins, bioretention swales and vegetated filter zones and is provided at <i>Annex L</i>. Relevant details have been incorporated into the CEMP.</p>

Authority	Issue Raised	Reference	Submission	Response
	Jetty & Ramp	2(k)	Fencing should be provided to manage access to creek-side recreation facilities & an amenities block provided.	All creek-side recreation facilities have been deleted or relocated so that they are now distant from Skinners and Moonee Creeks, therefore fencing is not proposed or required.
	Cut & Fill	2(l)	Approval/licence to be obtained from DECC for air pollution associated with cut and fill works.	The CEMP provides appropriate measures (including minimising exposed areas, revegetation and the use of water carts) to mitigate any adverse air quality impacts associated with cut and fill works (refer to <i>Annex E</i> ).
	Erosion & Sediment Control	2(m)	Detailed erosion & sediment control plans to be submitted to DECC for approval prior to works commencing.	Detailed erosion and sediment control plans will be prepared at the Construction Certificate stage in accordance with the standards nominated in the "Blue Book". The CEMP has been revised/expanded to reflect this (refer to <i>Annex E</i> ).
	Acid Sulphate Soils	2(n)	Should ASS be encountered during construction, excavated material to be treated with lime & disposed of in accordance with Council's ASS Management Plan.	The CEMP incorporates references to appropriate procedures contained within management plans to manage any ASS or Acidic soils which may be encountered (refer to <i>Annex E</i> ).
	Groundwater	2(o)	A Groundwater Licence under Part 5 of the Water Act 1912 may be required if proposed works intersect the groundwater table.	As groundwater extraction is not proposed a Groundwater Licence will not be required. However, if at any stage it becomes necessary to extract groundwater, all necessary approvals/licences will be sought.
	RFI Act 1948	2(p)	A 3A permit under the RFI Act is required for works within 40m of the creek or watercourse crossings.	A permit under Part 3A of the <i>Rivers and Foreshores Improvement Act 1948</i> is not required for an approved project under Part 3A of the EP&A Act (refer to Section 75U of the EP&A Act). Even if this exemption did not exist a permit would not be required as there are no works proposed within 40m of any creek or watercourse.



Authority	Issue Raised	Reference	Submission	Response
Department of Primary Industries	Aquatic Habitat	3(a)	Boat ramps facilitating the use of powered boats in Moonee Creek may impact on seagrass beds & other aquatic habitat values & are not supported.	No boat ramps are proposed.
Department of Water & Energy	Protection of Waterfront Land	4(a)	The DoP to clarify discrepancies between proposals and planning guidelines.	No significant discrepancies have been identified. If deemed necessary the DoP could provide a response.
	Approvals	4(b)	Consultation with DWE to be undertaken in relation to detailed design of structures/works on waterfront land to determine need for approvals under Water Management Act 2000.	No structures are proposed on waterfront land.
	Groundwater	4(c)	Consultation with DWE to be undertaken in relation to installation, management & licensing of a groundwater monitoring network to assess long-term impacts.	If required, groundwater monitoring will be conducted as set out in the CEMP. This is a matter which will be further refined at the construction certificate stage. The groundwater monitoring which has been undertaken to date will be expanded as proposed in the CEMP so that the quantum and quality of the groundwater on the site is fully documented. If extraction is proposed in future, a licence will be sought from DWE.
	Stormwater Management	4(d)	A surface water monitoring program should be required as a condition of approval to monitor the effectiveness of stormwater management, in consultation with DECC and DWE.	Surface water monitoring is proposed, as outlined in the Stormwater Management Plan (SWMP) prepared by Gilbert and Sutherland and included in <i>Volume 3</i> of the EA. Reference to groundwater monitoring in the ASS and Groundwater Management Plan contained within <i>Annex V</i> also contains details of surface water monitoring proposed during the construction period. The CEMP has been revised to incorporate the findings of these reports.
	Erosion & Sediment Control	4(e)	The Stormwater Management Plan should include de-silting and on-going maintenance of waterways to ensure continued effectiveness.	On-going monitoring and maintenance of the stormwater treatment devices by Council during the 'Off-maintenance' operational phase is proposed in accordance with the Stormwater Infrastructure Maintenance Management Plan

Authority	Issue Raised	Reference	Submission	Response
				prepared by Gilbert & Sutherland (refer to <i>Annex L</i> ). The developer will be responsible for maintaining the devices during the 'On-maintenance' phase. In accordance with current practice a maintenance period for each device of two years after registration of the subdivision plan is proposed.
	Construction Environmental Management Plan	4(f)	The CEMP should include an Erosion & Sediment Control Plan, incorporating progressing revegetation and stormwater monitoring.	A detailed Erosion and Sediment Control Plan will be prepared at the Construction Certificate stage when detailed design plans are available and specific erosion and sediment controls can be identified. The CEMP has been revised/expanded to reflect this (refer to <i>Annex E</i> ).
	Acid Sulphate Soils	4(g)	The CEMP should include a sampling & assessment program to identify potential ASS problems for all excavation activities below the water table in Zone 2 & include treatment options to prevent environmental impacts.	The CEMP has been updated to incorporate reference to the ASS and Groundwater Management Plan contained within <i>Annex V</i> . This CEMP sets out appropriate procedures and if necessary mitigation measures to deal with any ASS encountered in zone 2. As illustrated in <i>Annex F1</i> there is little excavation proposed in zone 2 as this is the area where the majority of fill is planned to be placed. Therefore there is little likelihood of disturbing any ASS which may be present in zone 2.
	Integrated Water Management	4(h)	Consultation with DWE to be undertaken in relation to any major proposals for integrated water management initiatives (e.g. stormwater recycling, grey water re-use).	The Stormwater Assessment (Gilbert and Sutherland, 2007) included in <i>Volume 3</i> of the EA documents the water sensitive urban design initiatives proposed. Grey water is not proposed for re-use at this stage as Council is yet to adopt a grey water re-use strategy. However, all houses are proposed to have rainwater tanks in accordance with BASIX requirements. This will allow reuse of stormwater, thereby reducing overall demand for potable water.
Rural Fire Service	General	5(a)	Development to comply with the preliminary lot layout plan (Dwg No. P1, Amendment B dated Nov 06) prepared by Auspacific Engineers P/L.	Agreed.

Authority	Issue Raised	Reference	Submission	Response
		5(b)	Further development applications for class 1, 2 and 3 buildings under the BCA must be dealt with under Section 79BA of the EP&A Act and address requirements of Planning for Bushfire Protection 2006.	Agreed.
	Asset Protection Zones	5(c)	A 'restriction as to user' to be placed on all lots requiring the provision of APZs, in accordance with the recommendations in Section 9.1 of RDM's Bushfire Risk Assessment report (Sept 2007).	Agreed.
		5(d)	APZs to be managed in accordance with PFBP and 'Standards for Asset Protection Zones'.	Agreed.
	Water & Utilities	5(e)	Location of water, electricity & gas services to comply with section 4.1.3 of PFBP.	Agreed.
	Access	5(f)	Public road access to comply with section 4.1.3 of PFBP.	Agreed.
Marine Parks Authority	Environmental Buffers	6(a)	A 100m buffer to the Solitary Islands Marine Park should be provided, measured from the MHWM (MHWM should be determined using the most recent 100 year sea level predictions to allow for the likely landward movement of the MHWM).	<p>Both Moonee and Skinners Creek are within the Solitary Islands Marine Park. A 100 m buffer has generally been provided to Moonee Creek, but not to Skinners Creek (refer to plan provided at <i>Annex K1</i>). This is consistent with the Moonee DCP (<i>Annex K2</i>) which, whilst nominating a 100m buffer to Moonee Creek and a 50m buffer to Skinners Creek, envisages minor encroachments in some places and the provision of more than a 100m buffer in other places.</p> <p>Possible worst case sea level rises to 2100 have been modelled and are documented in the supplementary Hydraulic Assessment provided at <i>Annex D</i>. Even assuming worst case scenarios there remains a 700 mm freeboard in the worst effected locations within the estate.</p>

Authority	Issue Raised	Reference	Submission	Response
	Cut & Fill	6(b)	Proposed filling of low-lying areas of the site is not supported - likely to be groundwater recharge areas.	Investigations carried out as part of the preparation of the EA have demonstrated that the proposed areas to be filled are suitable for the purpose intended and that any adverse impacts on groundwater recharge are likely to be minimal given that these low lying areas are proposed to be filled and any excavations for services are likely to be minimal. The ASS and Groundwater Management Plan contained in <i>Annex V</i> assesses the likely impact on groundwater resources and concludes that any adverse impacts can be successfully mitigated. Additional advice in relation to proposed filling of low-lying areas has been provided by Auspacific Engineers Pty Ltd and is attached at <i>Annex M</i> . These two annexes provide the justification required to allow this investigation area to be developed for urban purposes without any significant adverse impact on groundwater and ASS given that these areas are earmarked to be filled. <i>Annex 1F1</i> illustrates that the low lying areas of the site (zone 2) are generally not proposed to be excavated and therefore impacts on groundwater and any ASS present are likely to be minimal.
	Sediment & Erosion Control	6(c)	Extensive & substantial sediment & erosion control measures (eg. sediment traps, settlement ponds, etc) will be required to protect aquatic & riparian habitats.	Extensive sediment and erosion control measures are proposed and will be fully documented at the Construction Certificate stage, as discussed in the revised CEMP attached at <i>Annex E</i> . These controls will ensure that adequate protection is provided to sensitive estuarine environments.
	Stormwater Management	6(d)	Concern that CHCC does not have resources to adequately monitor & maintain WSUD components of Stormwater Management Plan. Failure of WSUD components will impact on water quality & the SIMP.	Council will not be required to maintain the WSUD components of the stormwater infrastructure until the commissioning period has been successfully concluded (two years after registration of the subdivision plan). At this time Council will receive additional rate income from the lots created to help offset the costs associated with maintaining the WSUD components of the stormwater infrastructure over the longer term. During the commissioning period the proponent

Authority	Issue Raised	Reference	Submission	Response
				will be responsible for cleaning up the site and attending to any pollution spills.
		6(e)	Impacts of stormwater discharges on mangroves & areas of saltmarsh have not been adequately assessed.	The Stormwater Assessment included in <i>Volume 3</i> of EA demonstrates that the water quality objectives will be achieved provided the WSUD initiatives are implemented. Therefore any adverse impacts on mangroves and saltmarshes are unlikely.
	Structures within the SIMP	6(f)	Any structures located below the MHWL (eg. boardwalk, boat ramp, etc.) will require consent of the MPA.	There are no structures proposed below MHWL. The boat ramp and jetty have been deleted.
Northern Rivers CMA	Resident Education	7(a)	The protection of salt marshes and mangroves is extremely important & steps should be taken to educate future residents of this fact.	A brochure will be prepared and distributed to all prospective purchasers and future residents of the estate explaining the importance of salt marshes and mangroves which are a vital part of the marine ecosystem and the measures taken to protect them.
	Dogs and Cats	7(b)	DECC and Council should be consulted to confirm that the exclusion of cats and proposed restrictions on dogs is sufficient to protect local fauna.	DECC and Council have been consulted regarding the proposed restrictions on dogs and the exclusion of cats. The EA concludes that the likely impact on native fauna from cats and dogs will be minimal as long as the proposed restrictions on dogs and exclusion of cats is implemented successfully.
	ASS	7(c)	Measures should be taken at all times to ensure that ASSs are not exposed.	The CEMP has been expanded to incorporate measures to minimise the potential for damage from exposure of ASS (see <i>Annex E</i> ). As <i>Annex F1</i> illustrates that the areas where ASS may be encountered are not generally proposed to be excavated (apart from topsoil removal) and therefore the risk of exposing any ASS which may be present is minimal.

Authority			Issue Raised	Reference	Submission	Response
			APZ	7(d)	APZs should not be included within the north-south central vegetation corridor.	The APZ is not included in the north south central vegetation corridor (refer to <i>Annex I</i> ). The Bushfire Assessment has demonstrated that adequate APZs can be accommodated to protect surrounding property without the need to encroach upon this vegetation corridor.
Crown Lands NSW			Plan of Management	8(a)	A publicly exhibited POM for the environmental & open space areas needs to be prepared prior to approval & include provisions to manage illegal tree clearing to enhance views.	A plan of management for the environmental and open space areas has been prepared and was exhibited with the EA (refer to the Landscape Concept Plan & Open Space Management Plan included in <i>Volume 3</i> of the EA). Illegal tree clearing is a matter for Council to police and where appropriate, prosecute.
			Structures in Creeks	8(b)	Proposed viewing platforms, boardwalks, bridges & canoe/boat ramps require consent of Dept of Lands. Consultation with the Dept to determine which structures are appropriate for the area should be undertaken.	No viewing platforms, boardwalks, bridges, canoe/ boat ramps, etc are now proposed.
			Motorised Watercraft	8(c)	Provision of facilities for motorised watercraft, including boat ramp & boat trailer parking, is not supported.	No facilities for motorised watercraft are now proposed.
			Recreation Nodes	8(d)	Recreation Nodes 1 and 2 should be relocated so to avoid the existing EECs, the area of cultural significance & north-south habitat corridor.	Recreation Nodes No 1 and 2 have been relocated to avoid existing EECs and other constraints (refer to the Active Recreation Node 1 and Passive Recreation Node 2 figures in <i>Annex H1 and H2</i> ).
			Open Space Areas	8(e)	Open space areas requiring regular mowing should be minimised, so to reduce the burden on Council & encourage native species rehabilitation along the creeks.	Open space areas requiring regular mowing will be kept to a minimum so that maintenance costs are reduced and environmental areas are not disturbed.



Authority	Issue Raised	Reference	Submission	Response
	Vegetation Corridors	8(f)	Maintenance & enhancement of vegetation corridors, particularly along Moonee & Skinners Creek, is strongly supported. However, effectiveness of north-south habitat corridor will be compromised by proposed location of Recreation Node 1.	The central vegetated habitat corridor will not be compromised by Recreation Node No 1 as it has been relocated to the NW corner of the site (refer to <i>Annex H1</i> ).
	Asset Protection Zones	8(g)	All APZs should be located outside creek buffer zones to enhance corridor function, consistent with draft Moonee Creek Estuary Management Study.	All APZs are to be located outside the creek buffer zones (refer to <i>Annex I</i> ).
	Stormwater	8(h)	All stormwater management structures should be located outside creek buffer areas, to reduce impact of sedimentation, weeds, increased nutrient/pollution loads.	All stormwater management structures are to be located outside the creek buffer areas (see <i>Annex J</i> ).
		8(i)	Ongoing stormwater quality monitoring should be implemented & if sedimentation or pollution occurs, mitigation measures should be adapted accordingly.	The CEMP outlines the monitoring regime to be implemented. Mitigation measures will include removal of sedimentation.
	Grey Water Reuse	8(j)	Consideration should be given to installation of a dual reticulation system for use of treated grey water.	Greywater reuse is not proposed at this stage, as Council is yet to adopt a greywater reuse strategy. However, all dwellings are proposed to have rainwater tanks in accordance with BASIX requirements. This will allow reuse of stormwater, thereby reducing overall demand for potable water.
	Landscaping	8(k)	All landscaping and rehabilitation should use locally sourced native species.	The Landscape Report ( <i>Volume 3</i> ) proposes the use of native species sourced locally.
		8(l)	The use of natives in private gardens should be required & noxious weeds/nursery species which are recognised as invasive species should be prohibited.	See comments above.

Authority	Issue Raised	Reference	Submission	Response
	Cats and Dogs	8(m)	The proposal to not allow cats within the development and to exclude dogs from the environmental and open space areas (including walking trails) is supported and needs to be enforced.	The brochure to be distributed to prospective purchasers and future residents will describe the restrictions applying within the estate.
Roads & Traffic Authority	Road Safety, Efficiency & Traffic Management	9(a)	The RTA has not yet resolved interim and/or long term access arrangements with the developer.	<p>Access to/from the Pacific Highway will be via an interim intersection until such time as the collector road connecting to Moonee Beach Road is constructed. The RTA has approved the interim Pacific Highway intersection, which has been designed to accommodate traffic flows not only from the site but also the adjacent land to the south.</p> <p>However, subject to the successful outcome to current negotiations with adjoining land owners concerning the construction of the collector road, the interim Pacific Highway intersection will not be constructed. The proponent's preferred position is to construct the collector road.</p>
		9(b)	Provision needs to be made in the design of internal roads for a future connection to the north, to reduce impacts of local trips on the Highway.	Connection to the north is not proposed as it is considered undesirable to propose a vehicular crossing of Skinners Creek. If such as proposal was to proceed it would potentially impact of sensitive archaeological areas, and riparian vegetation and be contrary to the Moonee DCP.
		9(c)	Development is within road noise envelope for the existing & future upgrade of Highway. Affected residences need to be designed to meet DEC guidelines for road traffic noise.	Affected residences will be designed to meet DECC guidelines for road traffic noise.
		9(d)	Facilities need to be provided within the subdivision for town & school bus services (eg. lay-bys and shelters).	The road system has been designed to accommodate bus services. Details of lay- bys and shelters will be provided at the Construction Certificate stage.

Authority	Issue Raised	Reference	Submission	Response
		9(e)	Internal road network should be designed to manage speed & provide appropriate traffic calming & protection where various road users interact.	The road network will be designed with traffic calming devices/protection in accordance with Council's requirements. Details will be provided at the Construction Certificate stage.
		9(f)	AUSTROADS guidelines should be used to assess the needs of right/left turning traffic at intersections.	The needs of turning traffic at intersections has been incorporated into the design of the road network.
Department of Planning	Climate Change & Predicted Sea Level Rise	10(a)	Further assessment of potential impacts of climate change & predicted sea level rise/storm surges over the next 100 years is required – refer to DECC's <i>Floodplain Risk Management Guideline – Practical Consideration of Climate Change</i> .	Cardno Lawson Treloar have reviewed the potential impacts of climate change and concluded that the worst case scenario for sea level rise to 2100 can be accommodated and a freeboard of at least 700mm will still be available to all future dwellings (see <i>Annex D</i> ).
	Access	10(b)	Revision of draft Matrix which shows funding proposed for collector road construction is required following consultation with Council.	Reference to the draft Matrix has been deleted from the SoC. In its place a commitment has been inserted which provides an undertaking that the interim Pacific Highway intersection will not service more than 400 lots in the Glades Estate and if necessary, will be decommissioned when the collector road is constructed.
		10(c)	Cardno report & SOC need to be reviewed to provide a definitive timeframe for decommissioning of interim Hwy access & establishment of alternative access via collector road.	<p>The timeframe for the decommissioning of the interim Highway access and the construction of the collector road is established in the EA and further expanded upon in the supplementary traffic report prepared by Cardno Eppell Olsen (refer to <i>Annex N</i>).</p> <p>In summary, the Glades Estate will access the Pacific Highway by way of an interim intersection until such time as the collector road is constructed. Following construction of the collector road, the interim intersection can be decommissioned.</p> <p>The proponent will facilitate the construction of the northern collector road upon release of the Subdivision Certificate for the 200<sup>th</sup> lot in the subdivision and will facilitate completion of the construction of the northern collector road prior to release of the Subdivision Certificate for the 400<sup>th</sup> lot. If necessary, the interim intersection will be decommissioned within six (6)</p>

Authority	Issue Raised	Reference	Submission	Response
				<p>months of the collector road being open to traffic or at a later date nominated by the RTA.</p> <p><u>Note:</u> There will be no need to construct the interim intersection if the northern collector road is constructed at an early stage, as access to the site will be able to be provided via the collector road. Negotiations with adjoining land owners to secure the early construction of the northern collector road are well advanced.</p> <p>The Statement of Commitments (see <i>Chapter 4</i>) has been updated to reflect the proponent's commitments in relation to decommissioning of the interim Hwy access and establishment of alternative access via the northern collector road.</p>
		10(d)	The release of lots needs to be consistent with the capacity constraints of the interim Highway access. Capacity constraints need to take account of possible connections to future development to the south.	The interim Highway access has ample capacity to accommodate the traffic generated from the site and adjacent land to the south (see <i>Annex N</i> ). Notwithstanding that ample capacity exists, a limit of 400 lots is proposed to ensure the interim Highway access operates well within its operational and safety capacity
		10(e)	Further details of the WAD (referred to on page 70 of EA) to be provided.	Relevant extracts from the WAD are attached at <i>Annex O</i> .
	Impacts on Aboriginal Cultural Heritage Significance	10(f)	Further assessment of impact of proposal on areas of Aboriginal heritage significance is required, in particular the area of cultural significance and PAD areas – need to liaise with DECC.	The changes and additions to the Statement of Commitments recommended by DECC have been accepted. In addition details of the consultation which has been undertaken with the Aboriginal community has been provided to DECC (see <i>Annex Y</i> ). The DECC's consultation guidelines have been adhered to.
		10(g)	Recreation Node 2 and proposed fencing will potentially impact on area of cultural significance. Other works, including cut/fill & stormwater drainage structures may impact on PAD areas. All proposed works should be mapped in relation to areas of cultural or heritage significance.	Recreation Node No 2 has been relocated to avoid any conflict with PAD areas and the area of cultural significance (refer to the Passive Recreation Node 2 figure in <i>Annex H2</i> ).

Authority	Issue Raised	Reference	Submission	Response
	Flora & Fauna /Biodiversity	10(h)	Further consideration & assessment of impact of proposal on Wallum Froglet habitat & Swamp Sclerophyll EEC is required.	<p>Potential impacts of the development on potential Wallum Froglet foraging habitat and proposed amelioration measures are discussed in detail in <i>Chapter 5</i> of JWA's Wallum Froglet Assessment report provided in <i>Volume 2</i> of the EA.</p> <p>Further consideration has been given to the impacts of proposed APZs, stormwater treatment structures and possible infrastructure services located outside the development envelope. The findings of these investigations are detailed in <i>Annex G</i>, as well as measures proposed to mitigate these impacts.</p> <p>In summary, no areas of core Wallum froglet habitat are impacted and only approximately 1.16ha of potential Wallum froglet foraging and dispersal habitat will be impacted by the development (which represents approx 18% of the potential habitat on site). The areas to be lost occur at the peripheries of suitable habitat areas and this loss is considered likely to place negligible limits on available foraging and dispersal habitat for the species. In addition, the development provides adequate buffering to habitat areas and the Vegetation Management Plan (see <i>Annex H4</i>) will result in significant restoration of the heathland environment on the site, which comprises suitable foraging habitat for the species.</p> <p>Further consideration and assessment of the impact of the proposal on Swamp Sclerophyll EEC has been undertaken by JWA and the results are also discussed in <i>Annex G</i>. In summary, the EEC on the site is considered to be regrowth of poor structural quality. It is already fragmented and does not retain any connectivity with nearby similar communities. A small area (approx 0.2351ha) of the Swamp Sclerophyll EEC will be removed as a result of the proposed development.</p>

Authority	Issue Raised	Reference	Submission	Response
				However, the proponent has voluntarily agreed to undertake compensatory revegetation in other areas of the site to offset this loss. The proposal will not have a significant adverse impact on the survival of the EEC.
		10(i)	APZs & stormwater drainage structures will potentially impinge on core Wallum Froglet habitat, as mapped by JWA.	<p>Further consideration has been given to the impacts of proposed APZs, stormwater treatment structures and possible infrastructure services located outside the development envelope (refer to <i>Annex G</i>).</p> <p>In summary, there will be no impact to core Wallum Froglet habitat and only 1.16ha of potential Wallum Froglet foraging and dispersal habitat will be impacted by the development (which represents approx 18% of the potential habitat on site). The areas to be lost occur at the peripheries of suitable habitat areas and this loss is considered likely to place negligible limits on available foraging and dispersal habitat for the species. In addition, the development provides adequate buffering to habitat areas and a Vegetation Management Plan (see <i>Annex H4</i>) will result in significant restoration of the heathland environment on the site, which comprises suitable foraging habitat for the species.</p>
		10(j)	Figure 4 referred to on Page 23 of JWA's report is missing.	This figure is attached at <i>Annex P</i> .
	Geotechnical Assessment & Site Works	10(k)	More detailed geotechnical assessment, including slope stability analysis, required for Stages 1-3.	Given the gentle slopes within the estate, the preparation of a slope stability analysis is not considered justified. More detailed geotechnical assessment will be undertaken at the Construction Certificate stage to determine pavement thickness and lot classifications.



Authority	Issue Raised	Reference	Submission	Response
		10(l)	Reports & letters referred to in Section 1.1 of the Geotechnical Assessment should be included in the report appendices.	These documents are included at <i>Annex Q</i> .
	Cut and Fill	10(m)	Moonee DCP excludes from development parts of the site subject to 'High Water Table'. Implications of development (including filling) in these areas should be assessed & any variations to the DCP justified.	The investigations undertaken in relation to this area have demonstrated that the area is suitable for development. As illustrated in <i>Annex F1</i> the area of zone 2 proposed to be excavated is minimal (mainly related to topsoil stripping) and therefore the potential to impact any ASS which may be present is negligible. No adverse impacts on the water table are anticipated as documented in <i>Annex M</i> . The groundwater monitoring set out in the CEMP will ensure that if necessary the monitoring regime which exists will be continued and upgraded to consider not only groundwater levels but groundwater quality issues as well. The CEMP contains mitigates measures and a reporting system which is accountable and transparent.
		10(n)	Further clarification required regarding the extent of proposed site cuts.	<p>The extent of proposed site cuts is indicated on the Bulk Earthworks Plan provided in <i>Annex F1</i>. Three main areas of cut are proposed. A cut to fill volume of approximately 274,000m<sup>3</sup> is estimated. Cuts of up to 4.5m will be required tapering back to the natural surface level at the cut limits. Generally little excavation of material is proposed in zone 2 which contains alluvial material in the lower lying parts of the site (apart from topsoil stripping).</p> <p>Earthworks will be carried out under the control of a suitably qualified geotechnical engineer and certified to Level 1 construction monitoring and testing as defined in "AS 3798-1996 Guidelines for Earthworks for Commercial and Residential Developments".</p>

Authority	Issue Raised	Reference	Submission	Response
		10(o)	Confirmation that there will be sufficient fill material in Stages 1-3 to provide for proposed filling of nominated parts of site to be provided, as well as details of any on-site storage or stockpile areas at various stages of development.	<p>There will be sufficient fill from proposed site cuts to provide for proposed filling of nominated parts of the site, as shown on the Bulk Earthworks Plan (refer to <i>Annex F1</i>).</p> <p>All earthworks will be undertaken during the first stage of the development, with appropriate management measures being put in place to ensure that erosion, dust, etc. do not cause a problem to future residents or impact on the local environment. These measures are outlined in the revised CEMP attached at <i>Annex E</i>.</p>
	Sewerage	10(p)	Further assessment & liaison with Council is required regarding provision of a standard gravity system, given Council's objection to proposed vacuum system. Potential impacts of gravity system & appropriate mitigation measures to be addressed.	A conventional gravity sewerage system is now proposed (see plans in <i>Annex B2</i> ). The detailed design will be undertaken at the construction certificate stage in consultation with Council to ensure it meets all Council's requirements.
	Open Space Network	10(q)	Consultation with Council required to confirm that they are prepared to accept responsibility for all open space areas & APZs in Stage 1.	Further consultation with Council has resulted in an agreement being reached. Providing the staged dedication of open space areas is consistent with proposed zonings under the amended Draft Amendment 24, Council is prepared to accept responsibility for all open space areas & APZs (see confirmation from Council in <i>Annex R2</i> ).
	Concept Plan	10(r)	List the components of the development and works for the Concept Plan.	No longer relevant.
	Project Approval	10(s)	Indicate whether separate construction certificates for each stage of the project application will be sought.	A separate construction certificate will be sought for each stage of the development (or several stages combined if appropriate).

Authority	Issue Raised	Reference	Submission	Response
	Draft LEP Amendment 24	(10t)	Provide a plan showing the overlay of Draft Amendment 24 on the proposed development.	<p>A plan has been prepared and is included in <i>Annex R1</i>, which illustrates the proposed new zone boundaries in Draft Amendment 24. The inset in this plan shows the amended boundaries agreed by Council provided certain conditions are adhered to.</p> <p><u>Note:</u> Council has indicated that the final form of DLEP 24 will be amended to reflect any approvals issued by the Minister under Part 3A, so that it is consistent with these approvals.</p>
	Buffer Zones	(10u)	Indicate the extent of encroachments and the width of buffers on a plan.	<p>A plan has been prepared and is included in <i>Annex K1</i>.</p> <p><u>Note:</u> The buffers in the DCP (<i>Annex K2</i>) are generally being observed with the only significant encroachment to Moonee Creek being in an area where the DCP envisaged less than a 100m buffer. Strict application of a 100m buffer to Moonee Creek would result in a total buffer area of approximately 12.6ha. The proposal, however, will result in a more generous buffer area of approximately 15.3ha. Further, the development envelope is approximately 100m from the water's edge in Skinners Creek.</p>
	Hydraulic Assessment	(10v)	Provide plan showing the extent of inundation for the proposed development.	Cardno Lawson Treloar have prepared the post development inundation plan requested (refer to <i>Annex D</i> ). It demonstrates that no lots will be subject to inundation, even assuming worst case sea level rise and storm events.
	Subdivision Design	10(w)	Provide details of the built form controls proposed.	Draft design guidelines have been prepared and are included at <i>Annex S</i> . These guidelines demonstrate the sympathetic, low rise coastal development form which will be promoted within the estate.

Authority	Issue Raised	Reference	Submission	Response
	Acid Soils	10(x)	Submit a management plan for acid soils.	Management of Acidic Soils is discussed in the revised CEMP which is attached at <i>Annex E</i> . At the construction certificate stage any further investigations required will be undertaken to ensure that acidic soils do not cause any adverse environmental impacts in and adjoining the site.
	Contamination	10(y)	Provide preliminary investigation undertaken by RDM confirming that there were no historic potentially contaminating activities that could have contaminated the site.	RDM have carried out a Stage 1 – Preliminary Investigation in accordance with the <i>Managing Land Contamination: Planning Guidelines</i> . The report is attached at <i>Annex U</i> .  The site has historically been used for cattle grazing. A small portion of the site was also used for turf farming in the late 1980s. Whilst both these activities have the potential to cause contamination, the results of the preliminary investigation did not reveal any evidence of contamination on the site and on this basis, no further investigation was considered warranted.
	Recreation Node 1	(10z)	Please confirm exact location of Recreation Node 1.	Recreation Node 1 has been relocated to the NW corner of the site (refer to the Active Recreation Node 1 figure in <i>Annex H1</i> ).
	Statement of Commitments	(10aa)	Clearly indicate the party responsible for carrying out action and include any monitoring measures and the likely timeframes.	The draft Statement of Commitments has been revised to include: <ul style="list-style-type: none"> <li>• all recommended flora and fauna mitigation measures as set out in JWA's Flora and Fauna Assessment;</li> <li>• reference in the CEMP to measures to monitor and deal with groundwater and potential ASS issues;</li> <li>• DECC's recommendations; and</li> <li>• a requirement for Level 3 construction (AS 3959) for specified lots, as per the recommendations set out in RDM's Bushfire Risk Assessment.</li> </ul> In addition, responsibility and timing for each commitment is indicated. The revised SoC is provided in <i>Chapter 4</i> .

Authority	Issue Raised	Reference	Submission	Response
Public Submissions	Temporary Access to Pacific Highway	11(a)	The construction of a temporary intersection will slow traffic on the Highway creating an impediment to the efficient flow of traffic.	The Traffic Report submitted to the RTA assessing the temporary intersection demonstrated that the efficiency of the traffic on the Pacific Highway would not be significantly impeded. If significant impediments to highway traffic were likely the RTA would not have approved the temporary intersection.
	Early Construction of Road 4 or Right of Carriageway in Favour of Lots 1 & 2 DP 1097743	11(b)	The staging of the development could be amended to provide for the construction of Road 4 as part of stage 1. Temporary provision for traffic from the dwelling on Lots 1 and 2 DP 1097743 along a right of carriageway could be provided if the ROC followed the route of Road 4.	Road 4 could be constructed as part of Stage 1 if agreement can be reached between the respective landowners regarding the shared cost of construction. As previously stated, negotiations with adjoining land owners are underway and the preferred approach is to construct the northern collector road which will provide a high standard permanent vehicular access to the estate.
	Position of Road 5	11(c)	The final location of Road 5 may need to be varied to connect with future roads on Lots 1 and 2 DP 1097743.	Road 5 is in the location required under the Moonee Development Control Plan.

*This chapter details the changes to the project that have resulted from consideration of the issues raised by Government agencies, Council and the local community and describes the Preferred Project.*

**3.1****INTRODUCTION**

Following consideration of the issues raised by Government agencies, Council and the local community, a number of amendments have been made to the project to further minimise any potential negative environmental impacts and enhance the creation of sustainable urban outcomes. These amendments are discussed in detail in the following section.

Accordingly, the proposed development as described in the exhibited Environmental Assessment report (dated November 2007), together with the changes outlined in this report and summarised below, comprise the Preferred Project.

**3.2****AMENDMENTS TO PROJECT**

The proposal has been amended as follows:

- the original application sought project approval for the first three (3) stages of the development only and concept approval for the entire estate. In accordance with advice from officers of the Department of Planning, the proponent has now provided more detail in relation to proposed works and is now seeking project approval for the entire estate;
- the proposed subdivision layout has been amended by:
  - altering the road layout near the entrance to the estate to delete the proposed roundabout and replace with a 3-way intersection, in accordance with Council's request;
  - creating one (1) additional lot for a future convenience store/general store (subject to a future development application) to service the estate (creation of this additional lot resulted from the above changes to the road layout);
  - relocating Recreation Nodes 1 and 2 to less constrained areas of the site in order to preserve important cultural and ecological values; and
  - replacing the extended central landscaped island with a much shorter central island, in accordance with Council's desire for an entry statement with an emphasis on water sensitive urban design (WSUD).

- due to Council's concerns regarding ongoing maintenance requirements, the proposed vacuum sewer system has been replaced with a conventional gravity system, pumping to the existing sewerage treatment works in Bucca Road;
- wildlife crossings will now be provided under Road 1 to the north and south of the central vegetation corridor to assist the functioning of the vegetated corridor to act as a wildlife movement corridor;
- the proposed Education Centre, canoe/boat ramps, jetty and elevated decks over Moonee Creek have been deleted. No facilities for motorised water craft are now proposed;
- a kick-around area has been incorporated into Recreation Node 1;
- additional groundwater and ASS investigations have been undertaken to better quantify any risks associated with developing the estate;
- in consultation with Council a detailed Stormwater Infrastructure Maintenance Management Plan will be prepared detailing the ongoing operation and maintenance of the proposed bioretention basins, swales and vegetated filter zones to further elaborate on the detailed information already documented; and
- draft design guidelines have now been prepared detailing proposed built form controls.

### 3.3

#### *PREFERRED PROJECT*

Project approval is now sought for the following:

- construction of a staged residential subdivision to create a total of 524 lots within eleven stages, with lots ranging in size from 600m<sup>2</sup> to 900m<sup>2</sup>;
- construction of an internal network of roads, pedestrian paths and cycleways providing access to all residential lots and community/recreation areas and including an interim access from the Pacific Highway with future provision to link into Council's proposed northern collector road to Moonee Village;
- provision of approximately 45 hectares of open space/habitat conservation area, including construction of two formal recreation nodes providing a range of facilities such as barbeques, picnic shelters, informal playing fields, children's playgrounds and associated car parking;
- associated bulk earthworks (cut and fill);

- construction of associated infrastructure including water supply mains, sewerage mains, stormwater drainage structures, water quality and detention structures;
- construction of associated Asset Protection Zones;
- installation of noise attenuation barriers adjacent to the Pacific Highway;
- construction of the main pedestrian/cycleway linking the site to the north and south along the collector road;
- provision of fencing to indicate areas where access is desired; and
- associated landscaping, street planting and rehabilitation/ strengthening of existing native vegetation areas to be retained.

Following discussions with officers from the DoP the extent of works included in the Project Application are shown in the revised 524 lot Project Plan included in *Annex C*. The entire Glades Estate is now proposed to be developed as part of the Project Application and the request for a Concept Plan approval has now been withdrawn.



*This chapter sets out the revised Statement of Commitments having regard to the various issues raised.*

A revised Statement of Commitments is provided in *Table 4.1*. The revised Statement of Commitments has been compiled based on the environmental assessment undertaken in the preparation of the Project Application and following review and consideration of issues raised in agency and community submissions. *Table 4.1* indicates the responsibilities and timing to implement measures to prevent potential environmental impacts that have been identified through assessment, to ensure that the project is environmentally, socially and economically sustainable.

**Table 4.1 Revised Statement of Commitments**

Item Number	Item	Commitment	Responsibility	Timing
1	Scope of Development	<p>The development will be carried out in accordance with the plans and documentation mentioned below, except where amended by the Department of Planning's conditions of approval:</p> <ul style="list-style-type: none"> <li>the Environmental Assessment prepared by ERM (November, 2007) and accompanying specialist reports; and</li> <li>the Preferred Project report prepared by ERM (September, 2008) which contains the revised Statement of Commitments.</li> </ul>	Proponent	Ongoing.
2	Statutory Requirements	<p>All necessary licences, permits and approvals will be obtained once project approval is granted and maintained for the development, including:</p> <ul style="list-style-type: none"> <li>Construction Certificates for engineering works (including earthworks, soil and water management, roadworks, drainage, landscaping) for each stage of the subdivision;</li> <li>Subdivision Certificates for each stage of the subdivision;</li> <li>Section 138 Consent for roadworks (Roads Act 1993);</li> <li>Electricity Compliance certificate from Country Energy;</li> <li>Telstra Compliance Certificate; and</li> <li>Water Compliance Certificate from Coffs Harbour City Council.</li> </ul>	Proponent	For the duration of the construction of the subdivision.
3		In accordance with section 104A of the EP&A Act, the proponent will surrender the Development Consent issued by Coffs Harbour City Council in 1994, for a 10 lot community title subdivision.	Proponent	Prior to commencement of works.
4	Subdivision Design and Layout	The proponent will establish and construct all recreation facilities identified in the Landscape Concept Plan and Open Space Management Plan. Ultimately all recreation amenities will become public facilities once the development stages of the project are complete. All areas of open space and any recreation facilities will be maintained by the proponent for a period of two years after the dedication of the land to Council, after which time all maintenance will be Council's responsibility. The staged dedication of	Proponent	Maintenance responsibility will transfer to Council two years after dedication of open space areas to Council.

Item Number	Item	Commitment	Responsibility	Timing
		open space areas will take place upon registration of the subdivision plan for each stage of the estate.		
5	Construction	<p>Prior to the commencement of works on the site, the proponent will submit to Council an updated Construction Environmental Management Plan (CEMP) for approval. The CEMP will address the following:</p> <ul style="list-style-type: none"> <li>• a description of the work program outlining relevant timeframes for activities;</li> <li>• traffic management, including measures to be taken at the interim seagull intersection on the Pacific Highway;</li> <li>• a description of the roles and responsibilities for all relevant employees involved in the construction phase;</li> <li>• the minimisation of rubbish and debris at the site from development activities during the construction phase;</li> <li>• erosion and sediment control during construction;</li> <li>• details of environmental management procedures, monitoring and reporting requirements during construction and operation phase;</li> <li>• details of statutory and other obligations that must be met during construction and operation, including all approvals and agreements required from authorities and other stakeholders; and</li> <li>• an education strategy of construction contractors.</li> </ul>	Proponent	Prior to commencement of works.
6		Construction work will be confined to 7.00 am to 6.00 pm Monday to Fridays and 7.00 am to 4.00 pm on Saturdays, with no construction taking place on Sundays or public holidays, unless prior approval is obtained from the relevant authority.	Proponent and contractors	For the duration of the construction of the subdivision.

Item Number	Item	Commitment	Responsibility	Timing
7	Flora and Fauna	<p>The following mitigation and management measures will be implemented to minimise impacts on flora, fauna and threatened species:</p> <ul style="list-style-type: none"> <li>clearing activities will be restricted to only those areas nominated on construction plans;</li> <li>vehicle movements within uncleared areas will be restricted;</li> <li>vegetation removed during construction is to be mulched for use on site;</li> <li>weed control will be undertaken during construction as required to ensure there is no spread of weeds on or off site;</li> <li>mature eucalypts and mature <i>Melaleuca sieberi</i> will be retained where possible within the development area, particularly within parks and landscaping areas. These trees are to be clearly identified and flagged prior to commencement of works;</li> <li>areas of known environmental weed species occurrence should be avoided during construction activities where possible;</li> <li>landscape and fill materials are to be sourced from a supplier where cane toads do not occur;</li> <li>fill material is to be inert material to reduce the risk of pH change within the potential Wallum froglet foraging habitat;</li> <li>areas of native vegetation around the potential Wallum froglet foraging habitat are to be retained and protected;</li> <li>mature habitat trees are to be retained where possible;</li> <li>any injured wildlife will be reported to WIRES or similar organisation immediately for rescue;</li> <li>a qualified fauna handler should be on site when clearing of trees occurs;</li> <li>maintain a 100 metre buffer around the Osprey nest in the south east corner of the site;</li> <li>planting of suitable feed trees (<i>Allocasuarina littoralis</i>, <i>A. torulosa</i>) around retained vegetated areas of the site for Glossy black cockatoos utilising the site;</li> </ul>	Proponent and contractors	For the duration of the construction of the subdivision.

Item Number	Item	Commitment	Responsibility	Timing
		<ul style="list-style-type: none"> <li>landscape plantings are to include a majority of native species that will provide habitat for nectarivorous and frugivorous birds and bats;</li> <li>landscape plantings are to be situated where possible to reduce the amount of disturbance to retained areas of habitat. All landscaping works will be undertaken in accordance with the Landscape Concept Plan and Open Space Management Plan;</li> <li>koala habitat trees are to be planted in the north-west corner of the site and outside of the development envelope for any koala habitat trees removed;</li> <li>use of preferred koala trees in landscaping where suitable;</li> <li>installation of lighting and koala exclusion fencing where appropriate in roadways adjacent to koala habitat;</li> <li>retain tree species listed within the KPOM for Secondary Koala Habitat;</li> <li>installation of koala warning signs long roads within the development area, particularly in the north-west corner of the site adjacent to Skinners Creek where mature Tallowwood occur;</li> <li>a 40km/hr speed limit is to be imposed on internal access roads; and</li> <li>installation and maintenance of erosion and sediment control measures prior to and during construction to minimise impacts on water quality in the potential Wallum froglet foraging habitat.</li> </ul>		
8	Proposed conservation areas and Moonee Creek / Estuary Buffer zones	<p>The Landscape Concept Plan and Open Space Management Plan sets out a vegetation management plan and program of management for all open space areas within the development, including proposed conservation areas and the Moonee Creek/Estuary Buffer zones.</p> <p>Landscape works will be undertaken in stages to coincide with the staged release of residential lots, as shown on the staging plan. Stage 1 will involve the development and management of natural areas. These areas will undergo bush regeneration and weed suppression activities. Management actions will include the following:</p> <ul style="list-style-type: none"> <li>installation of permanent farm style fencing as shown on the staging plan;</li> <li>installation of gates and bollards where access is desired;</li> </ul>	Proponent and contractors	Prior to release of the Subdivision Certificates for the respective stages of the subdivision.

Item Number	Item	Commitment	Responsibility	Timing
		<ul style="list-style-type: none"> <li>• installation of temporary fencing to minimise disturbance to these areas during construction;</li> <li>• plant rehabilitation and weed suppression to begin as soon as fencing is in place;</li> <li>• removal of any unnecessary existing fencing that may hinder plant rehabilitation or future pedestrian movement through the site;</li> <li>• interpretative signs to be installed at pedestrian entry points to the creek buffer areas once occupancy occurs; and</li> <li>• efficiency of bush regeneration to be monitored and if necessary, chicken wire to be placed on fencing to stop grazing by swamp wallabies.</li> </ul> <p>Bush regeneration and vegetation management within these conservation areas will have a management regime during civil construction and for a period of two years following dedication of these lands to Council.</p>		
9	Water cycle management impact on watercourses, including Moonee Creek and estuary	<p>The following stormwater treatment measures will be implemented in accordance with the SWMP to ensure that pollutants leaving the site are minimised:</p> <ul style="list-style-type: none"> <li>• runoff from all catchments will be directed through bioretention swales that have been designed to treat flows up to and including those with a three month Average Recurrence Interval (ARI). These swales will be designed to overflow along their full length; and</li> <li>• flows up to and greater than three months ARI will overtop the bioretention swales and pass through vegetated filter zones prior to being released into natural drainage lines.</li> </ul>	Proponent	Prior to the release of the Subdivision Certificates for the respective stages of the subdivision.
10	Erosion and Sediment Control	<p>Prior to the commencement of works the proponent will submit a detailed erosion and sediment control plan (ESCP) based on the requirements of the Stormwater Management Plan (Gilbert and Sutherland, 2007) and <i>Managing Urban Stormwater: Soils and Construction</i> (Landcom, 2004) (Blue Book). The ESCP will address:</p> <ul style="list-style-type: none"> <li>• site layout, including access, soil stockpile locations and building material stockpiles;</li> </ul>	Proponent	Prior to release of the Construction Certificates for the respective stages of the subdivision.

Item Number	Item	Commitment	Responsibility	Timing
		<ul style="list-style-type: none"> <li>proposed disturbed and undisturbed areas throughout construction;</li> <li>erosion and sediment control measures proposed, which may include clean water diversion, sediment fences, straw bales, sand bags, sediment traps, erosion mats and blankets, check dams, surface mulching, vegetation plantings, turf filter strips and surface roughening; and</li> <li>proposed maintenance and monitoring program to be implemented to ensure erosion and sediment controls are appropriately implemented for the duration required.</li> </ul>		
11	Bushfire Risk Management	<p>The following measures will be implemented to provide adequate bushfire protection within the development:</p> <ul style="list-style-type: none"> <li>the proponent will establish Asset Protection Zones (APZs) in accordance with the Bushfire Assessment Risk Map prepared by RDM (RDM, 2008);</li> <li>APZs will be maintained to ensure that: <ul style="list-style-type: none"> <li>fuel loads are kept to a minimum through under scrubbing and ongoing maintenance works;</li> <li>trees and shrubs are maintained such that vegetation is not continuous; and</li> <li>ground cover/fuel does not exceed 10 centimetres in height.</li> </ul> </li> </ul>	Proponent	Prior to release of the Subdivision Certificates for the respective stages of the subdivision.
12		Lots identified in red shading on the Bushfire Assessment Risk Map (RDM, 2008) will be subject to Level 3 Construction (AS 3959). Level 3 construction will reduce the necessary APZ to 22m in these locations. This will ensure that there is no conflict with creek buffer areas and recreational and stormwater management facilities that may be located between the development footprint and the adjacent hazard.	Proponent	Prior to release of the Subdivision Certificates for the respective stages of the development.
13	Traffic Management and Access	The proponent will provide vehicle access to the site by way of a new temporary un-signalised intersection on the Pacific Highway. The intersection will be a priority-controlled AUSTROADS Type C seagull intersection, constructed to the satisfaction of the RTA.	Proponent	Prior to release of the Subdivision Certificate for Stage 1 of the development.

Item Number	Item	Commitment	Responsibility	Timing
14		The proponent will facilitate the commencement of the construction of the northern collector road upon the release of the Subdivision Certificate for the 200 <sup>th</sup> lot.	Proponent	Upon the release of the Subdivision Certificate for the 200 <sup>th</sup> lot.
15		The proponent will facilitate the completion of the construction of the northern collector road prior to release of the Subdivision Certificate for the 400 <sup>th</sup> lot.	Proponent	Prior to release of the Subdivision Certificate for the 400 <sup>th</sup> lot.
16		If the northern collector road is constructed after the interim Pacific Highway intersection, the proponent will decommission the interim intersection within six (6) months of the collector road being open to traffic, or at a later date nominated by the RTA.	Proponent	Interim intersection to be decommissioned within six months of the collector road being open to traffic or at a later date nominated by the RTA.
17		All internal roads will be designed and constructed in accordance with the 'Road Design and Access Control' measures outlined in the Coffs Harbour City Council Subdivision Development Control Plan.	Proponent	Prior to release of the Subdivision Certificates for the respective stages of the subdivision.
18	Noise	<p>In order to reduce the impact of traffic noise from the Pacific Highway:</p> <ul style="list-style-type: none"> <li>the proponent will construct noise attenuation barriers in accordance with the recommendations of the Noise Impact Statement (H.K. Clarke &amp; Associates, 2006) and as detailed in DWG No. 04-1600 P3/1-A prepared by Auspacific Engineers Pty Ltd; and</li> <li>all future dwellings which adjoin the Pacific Highway will be assessed by a qualified Acoustic Engineer. A restriction shall be placed on the title of all affected lots via an 88B instrument to this effect.</li> </ul>	Proponent	Prior to release of the Subdivision Certificates for the respective stages of the subdivision.



Item Number	Item	Commitment	Responsibility	Timing
19	Infrastructure Provision	<p>The following infrastructure will be provided:</p> <ul style="list-style-type: none"> <li>• underground electricity reticulation to each residential lot to the satisfaction of Country Energy;</li> <li>• reticulated potable water supply to each residential lot to Council's satisfaction;</li> <li>• a reticulated sewer system to each residential lot to Council's satisfaction; and</li> <li>• satisfactory arrangements will be made with Telstra Australia for the provision of fibre optic cable to each residential lot.</li> </ul>	Proponent	Prior to release of the Subdivision Certificates for the respective stages of the subdivision.
20		<p>The proponent will construct a temporary water main within Council's easement adjacent to the Pacific Highway to service the proposed development in accordance with a design approved by Council (unless the northern collector road is constructed at an early date allowing the permanent water main to be installed in the northern collector road reservation).</p> <p>Once construction of the northern collector road has completed, the temporary water main will be decommissioned and replaced with a permanent water main, constructed within the northern collector road reservation in accordance with Council's water servicing strategy for Moonee Beach.</p>	Proponent	Temporary water main to be constructed prior to release of the Subdivision Certificate for Stage 1 of the development.
21	Aboriginal Cultural Heritage	<p>The following mitigation measures will be implemented to minimise any potential impacts of the development on Aboriginal cultural heritage:</p> <ul style="list-style-type: none"> <li>• the area of remnant vegetation within Site 2 (refer to <i>Figures 4.1</i> and <i>4.2</i> of the EA) will not be disturbed. During construction, this area will be protected from potential impacts by high visibility fencing and all contractors will be made aware that the area is not be disturbed;</li> <li>• the area of cultural significance and the potential archaeological deposits (PADs) identified in <i>Figure 4.2</i> of the EA will not be disturbed. During construction, these areas will be protected from potential impacts by high visibility fencing and all contractors will be made aware that the areas are not to be disturbed;</li> <li>• Aboriginal sites 3, 4, 6 and 7 identified in <i>Figure 4.1</i> of the EA will not be disturbed.</li> </ul>	Proponent	For the duration of the construction of the subdivision.

Item Number	Item	Commitment	Responsibility	Timing
		<p>During construction, these areas will be protected from potential impacts by high visibility fencing and all contractors will be made aware that the areas are not to be disturbed;</p> <ul style="list-style-type: none"> <li>any activity likely to involve any level of ground disturbance (including elevated boardwalks) in the following areas will require additional archaeological assessment, including consultation with the Aboriginal community: <ul style="list-style-type: none"> <li>any area of remnant vegetation (identified in <i>Figure 4.2</i> of the EA);</li> <li>any area outside of the proposed development footprint (as indicated by <i>Figure 1.8</i> of the EA) which has not been surveyed for this proposal; and</li> <li>the area of cultural significance identified on <i>Figure 4.2</i> of the EA.</li> </ul> </li> <li>representatives of the local Aboriginal community will be given an opportunity to participate in all additional archaeological ground surveys and to participate in the proposed mitigation/management measures. Aboriginal community representatives will also be given the opportunity to be present during subsurface exploratory test pitting, to halt works if significant cultural material is found and to participate in the decision making for such finds; and</li> <li>a locked and secure temporary storage facility will be provided on site for the temporary storage of artefacts collected from the site. A timeframe for the temporary storage of artefacts will be provided and a program developed in consultation with the local Aboriginal community for the long term care and control of all Aboriginal Cultural material collected from the development site.</li> </ul>		
22	Geotechnical	If necessary, further detailed geotechnical investigations, including ASS assessment in accordance with the procedure established in the ASS and Groundwater Management Plan prepared by Gilbert and Sutherland dated August 2008, will be carried out to confirm site stability and suitability prior to the commencement of construction of future stages of the development.	Proponent	Prior to release of the Construction Certificates for Stages 4 - 11 of the development.

Item Number	Item	Commitment	Responsibility	Timing																												
23	Section 94 Contributions	<p>Section 94 developer contributions will be paid to Council, at the rate current at the time of payment, towards the provision of the following public services or facilities:</p> <p>Note 1 - The contributions are to be paid prior to release of any Subdivision Certificate unless other arrangements acceptable to Council are made.</p> <p>Note 2 - The rates will be adjusted in accordance with the procedures set out in Council's Section 94 Contributions Plans. The applicant is advised to confirm the contribution rate applicable at the time of payment as rates are revised quarterly.</p> <p>Note 3 - If the development is to be staged, contributions are to be paid on a pro rata basis in respect of each stage.</p> <table><tr><th>Service / Facility</th><th>\$ Per Lot</th></tr><tr><td>- Coordination and Administration</td><td>329.04</td></tr><tr><td>- Coffs Harbour Road Network</td><td>793.06</td></tr><tr><td>- Surf Rescue Equipment</td><td>92.25</td></tr><tr><td>- Library Resources</td><td>249.88</td></tr><tr><td>- Beach Protection Works</td><td>219.75</td></tr><tr><td>- Regional Open Space</td><td>907.06</td></tr><tr><td>- District Open Space</td><td>4,739.13</td></tr><tr><td>- Neighbourhood Open Space</td><td>1 175.41</td></tr><tr><td>- Moonee Transport &amp; Traffic</td><td>9 569.82</td></tr><tr><td>- Moonee Local Roads</td><td>4 167.79</td></tr><tr><td>- Stormwater Management</td><td>29.65</td></tr><tr><td>- Urban Planning</td><td>127.23</td></tr><tr><td>- Community Facilities</td><td>707.27</td></tr></table>	Service / Facility	\$ Per Lot	- Coordination and Administration	329.04	- Coffs Harbour Road Network	793.06	- Surf Rescue Equipment	92.25	- Library Resources	249.88	- Beach Protection Works	219.75	- Regional Open Space	907.06	- District Open Space	4,739.13	- Neighbourhood Open Space	1 175.41	- Moonee Transport & Traffic	9 569.82	- Moonee Local Roads	4 167.79	- Stormwater Management	29.65	- Urban Planning	127.23	- Community Facilities	707.27	Proponent	Prior to the release of the Subdivision Certificate for the respective stages of the subdivision.
Service / Facility	\$ Per Lot																															
- Coordination and Administration	329.04																															
- Coffs Harbour Road Network	793.06																															
- Surf Rescue Equipment	92.25																															
- Library Resources	249.88																															
- Beach Protection Works	219.75																															
- Regional Open Space	907.06																															
- District Open Space	4,739.13																															
- Neighbourhood Open Space	1 175.41																															
- Moonee Transport & Traffic	9 569.82																															
- Moonee Local Roads	4 167.79																															
- Stormwater Management	29.65																															
- Urban Planning	127.23																															
- Community Facilities	707.27																															
<p>The Section 94 contribution is currently <b>\$12 062,078.46</b> for the 524 lots proposed in the subdivision. This includes a 2 lot rate credit of <b>\$46 214.86</b>.</p>																																

Item Number	Item	Commitment	Responsibility	Timing
		As documented in Council's letter dated 23 June 2008 (see <i>Annex W</i> ), there may be some scope to offset some contributions against other contributions within the Moonee Area Contributions Plan to ensure that practical outcomes are achieved for the community.		
24	Earthworks	<p>The following measures will be employed to minimise potential environmental impacts associated with the proposed earthworks:</p> <ul style="list-style-type: none"> <li>• proposed earthworks will be carried out strictly in accordance with the Bulk Earth Works Plan, the CEMP and the Stormwater Management Plan;</li> <li>• prior to commencement of construction, a detailed erosion and sediment control plan (ESCP) will be prepared and all management measures outlined in the ESCP will be implemented and maintained prior to and during construction activities;</li> <li>• any material, other than topsoil, to be cut from the zone 2 alluvial material in the lower lying parts of the site will be tested and if necessary treated, given its potential for sulphidic acidification;</li> <li>• in the event of ASS being encountered this material will be handled in accordance with the requirements set out in the approved ASS management plan;</li> <li>• earthworks will be carried out under the control of a suitably qualified geotechnical engineer and certified to Level 1 construction monitoring and testing as defined in "AS 3798-1996 Guidelines for Earthworks for Commercial and Residential Developments";</li> <li>• all bulk earthworks will be undertaken during the first stage of the development, minimising the need for stockpiling on-site and the potential impact on future residents of the estate; and</li> <li>• all disturbed areas will be stabilised upon completion of earthworks.</li> </ul>	Proponent	For the duration of the construction of the subdivision.

## CONCLUSION

*This chapter summarises the amendments which have been made in response to various issues and draws appropriate conclusions.*

Following discussions with officers from the Department of Planning the proposal has been amended as follows:

- The original application sought project approval for the first three (3) stages of the estate only and concept approval for the entire estate. In accordance with advice from officers of the DoP, the proponent has provided more detail in relation to proposed works and is now seeking project approval for the entire estate;
- The proposed subdivision layout has been amended by:
  - altering the road layout near the entrance to the estate to delete the proposed roundabout and replace with a 3-way intersection;
  - creating one (1) additional lot for a future convenience store/general store to service the estate;
  - relocating Recreation Nodes 1 and 2 to less constrained areas of the site so as to preserve important cultural and ecological values; and
  - replacing the extended central landscaped island with a much shorter central island, in accordance with Council's desire for an entry statement with an emphasis on water sensitive urban design (WSUD).
- Due to Council's concerns regarding ongoing maintenance requirements, the proposed vacuum sewer system has been replaced with a conventional gravity system, pumping to the existing sewerage treatment works in Bucca Road;
- Wildlife crossings will be provided under Road 1 to the north and south of the central vegetation corridor to assist the functioning of the vegetated corridor as a wildlife movement corridor;
- The proposed Education Centre, canoe/boat ramps, jetty and elevated decks over Moonee Creek have been deleted. No facilities for motorised water craft are now proposed;
- A kick-around area has been incorporated into Recreation Node 1; and
- Draft design guidelines have now been prepared detailing proposed built form controls.

These changes have resulted from consideration of the issues raised by various Government agencies, Coffs Harbour City Council and the local community. The proposed amendments will assist in mitigating any adverse

environmental impacts associated with the proposed development and enhance the achievement of sustainable urban outcomes on the site.

Project approval is now sought for the following:

- construction of a staged residential subdivision to create a total of 524 lots within eleven stages, with lots ranging in size from 600m<sup>2</sup> to 900m<sup>2</sup>;
- construction of an internal network of roads, pedestrian paths and cycleways providing access to all residential lots and community/recreation areas and including an interim access from the Pacific Highway with future provision to link into Council's proposed northern collector road to Moonee Village;
- provision of approximately 45 hectares of open space/habitat conservation area, including construction of two formal recreation nodes providing a range of facilities such as barbeques, picnic shelters, informal playing fields, children's playgrounds and associated car parking;
- associated bulk earthworks (cut and fill);
- construction of associated infrastructure including water supply mains, sewerage mains, stormwater drainage structures, water quality and detention structures;
- construction of associated Asset Protection Zones;
- installation of noise attenuation barriers adjacent to the Pacific Highway;
- construction of the main pedestrian/cycleway linking the site to the south along the collector road;
- provision of fencing to indicate areas where access is desired; and
- associated landscaping, street planting and rehabilitation /strengthening of existing native vegetation areas to be retained.

The extent of works included in the Project Application is shown in the revised Project Plan included at *Annex C*.

A revised Statement of Commitments (see *Chapter 4*) has been compiled detailing measures to be implemented to mitigate any adverse environmental impacts associated with the development and ensure that the project is carried out in an environmentally, socially and economically sustainable manner.

The proposed development will contribute to achieving the strategic objectives for population growth in the Coffs Harbour local government area (LGA) in a manner consistent with the objectives and strategies contained in Council's draft "Our Living City" Settlement Strategy and the Moonee DCP.

The proposed development footprint will be predominantly confined to areas which have been cleared for grazing, thereby avoiding all the significant environmentally sensitive areas of the site. It utilizes the RTA approved intersection to the Pacific Highway, for which development consent was granted by Council in 1994. The 1994 consent for a ten lot community title subdivision will be surrendered in accordance with Section 104A of the *EP&A Act*. The site will be developed generally in accordance with Council's strategy for the site, as set out in the Moonee DCP.

With appropriate mitigation and management measures, including water quality controls, restrictions on built form to achieve a high level of residential amenity and implementation of bushfire risk management measures, the proposed development will not result in any significant environmental impacts.

The justification provided in the EA and this Preferred Project report presents a strong case for The Glades Estate to be developed in the manner proposed, provided all the environmental enhancement and mitigation measures set out in the revised Statement of Commitments are implemented in a timely fashion.

## REFERENCES

Cardno Eppell Olsen (May 2008) **The Glades Estate Development, Pacific Highway Moonee Beach - Response to Department of Planning Information Request.** Report prepared for Winten Property Group.

Cardno Lawson and Treloar (March 2008) **Glades Estate - Moonee Beach, Revised Hydraulic Assessment - Sea Level Rise.** Report prepared for Auspacific Engineers Pty Ltd.

Coffey (July 2007) **Acid Sulfate Soils Assessment for Residential Subdivision, Lot 1 DP 725785 Pacific Highway Moonee Beach, NSW.** Report prepared for Resource Design and Management Pty Ltd.

Coffey Geosciences Pty Ltd (May 2004) **Vandalised Well Loggers at Site of Proposed Subdivision, Moonee Beach.** Facsimile addressed to the Winten Property Group Pty Ltd.

Coffey Geosciences Pty Ltd (June 2006) **Results of Groundwater Monitoring.** Report prepared for the Rothwell Boys Pty Ltd.

Coffey Geotechnics Pty Ltd (July 2008) **Response to Information Request from NSW Department of Planning - The Glades Development Moonee.** Report prepared for Rothwell Boys Pty Ltd.

Coffs Harbour City Council (2004) **Moonee Development Control Plan 2004**

Coffs Harbour City Council (2008) **Moonee Developer Contributions Plan 2008**

ERM (Sept 2008) **Construction Environmental Management Plan - The Glades Estate, Moonee.** Report prepared for the Rothwell Boys Pty Ltd.

ERM (November 2007) **Environmental Assessment - The Glades Estate, Lots 1 & 2 DP 725785 Pacific Highway, Moonee.** Report prepared for the Rothwell Boys Pty Ltd.

Gilbert and Sutherland (May 2008) **Stormwater Infrastructure Maintenance Management Plan - The Glades, Moonee Beach.** Report prepared for the Rothwell Boys Pty Ltd.

Gilbert and Sutherland (August 2008) **ASS and Groundwater Management Plan, Moonee Glades, Residential Development, Moonee Beach, New South Wales.** Report prepared for the Rothwell Boys Pty Ltd.

James Warren and Associates (May 2008). **Response to Request for Further Information.** Report prepared for Rothwell Boys Pty Ltd.

NSW Roads and Traffic Authority (January 2006) **Major Works Authorisation Deed - Private Financing & Construction NRG/06/48.**

RDM (2008) **Preliminary Site Contamination Investigation, The Glades Estate - Moonee Beach.** Report prepared for Rothwell Boys Pty Ltd.

WBM Oceanics Australia (January, 2006) **Moonee Creek Estuary Management Plan and Study.** Report prepared for Coffs Harbour City Council.



**ERM** has over 100 offices  
across the following  
countries worldwide

- |           |             |
|-----------|-------------|
| Australia | Netherlands |
| Argentina | New Zealand |
| Belgium   | Peru        |
| Brazil    | Poland      |
| China     | Portugal    |
| France    | Puerto Rico |
| Germany   | Singapore   |
| Hong Kong | Spain       |
| Hungary   | Sri Lanka   |
| India     | Sweden      |
| Indonesia | Taiwan      |
| Ireland   | Thailand    |
| Italy     | UK          |
| Japan     | USA         |
| Korea     | Venezuela   |
| Malaysia  | Vietnam     |
| Mexico    |             |



**Environmental Resources Management**

53 Bonville Ave  
Thornton NSW 2322  
PO Box 71,  
Thornton NSW 2322

T: 61 2 4964 2150  
F: 61 2 4964 2152  
[www.erm.com](http://www.erm.com)

