NSW GOVERNMENT | Office of Environment & Heritage

Your reference : MP09_0088
Our reference : DOC13/16944
Contact : Miles Boak 02 62297095

Ms Sarah Waterworth
Planner
Metropolitan & Regional Project North
Department of Planning and Infrastructure
GPO Box 39
Sydney NSW 2001

Dear Ms Waterworth

RE: Exhibition of Environmental Assessment for Concept Plan Approval – Mixed Use Subdivision, West Culburra (MP09_0088)

I refer to your letter dated 17 April 2013 to the Office and Environment and Heritage (OEH) regarding the Environmental Assessment (EA) for a 637 lot subdivision and other mixed uses at West Culburra, and your invitation to make a submission on the project.

The main points OEH wishes to raise are:

- OEH acknowledges that a level of urban development on the site forms part of the adopted strategic planning outcomes for the wider Culburra area. The South Coast Regional Strategy 2007 (SCRP) nominates the site *as suitable for limited urban development* Page 38. This was based on the recommendations of the comprehensive review of the Culburra area by the *Independent Review Panel for the South Coast Sensitive Urban Lands Review, October 2006.* However, the sensitive environmental nature of the lands where also recognised as requiring careful design and site planning should allow for suitable bushfire setbacks, protection of EECs, and riparian setbacks exceeding current requirements.

- It is recognised that the previous subdivision design submitted from the 2007 and 2009 proposals has been modified significantly to largely exclude development from the Lake Wollumboola catchment in line with the regional statutory planning requirements. There would appear some scope to further modify the layout to avoid the Lake Wollumboola catchment in the detailed urban design stage for roads and industrial land. OEH is strongly supportive of the key planning parameters for this area- *that land within Lake Wollumboola catchment is unsuitable for urban development.* Page 38.

- There needs to be a redesign of the foreshore buffer, the current 7(a) Environmental zone, to ensure it is managed for environmental purposes and development excluded. It is not suitable as a mixed use zone including as a *Leisure hub and Foreshore Park*. This area provides a critical buffer for water quality, protection of the Aboriginal heritage, Endangered Ecological Community (EEC) vegetation and to avoid acid sulphate soils. One exception to this may be hardened for a walking/bike path to be based on the existing cleared sewer line access track which follows roughly the conservation/development edge of the existing environmental zone.

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- OEH is satisfied that development is unlikely to have a significantly impact on threatened species and their habitats. This is based on reviewing the information presented in the West Culburra Ecological & Riparian Issues & Assessment Report SLR March 2013 and on site inspections by OEH ecologists. This is subject to removal of development and clearing from the Environment Protection foreshore zone.

- The land proposed to be cleared in the residential/industrial parts of the project are lowland coastal forest in moderate to good condition which have considerable environmental values. The development should only proceed if a suitable offsets can be located and secured to ensure overall biodiversity values are maintained. OEH has reviewed the preliminary biobanking statement prepared for the site and generally agrees with its finding. The location of any offset lands would have to be negotiated and justified as the Offset Strategy for the project. OEH has recommendations in this regard that are contained in the Attachment E.

- OEH supports the Aboriginal Cultural Heritage environmental assessment reports findings and recommendations. That is no Aboriginal heritage sites or cultural sites were identified directly within the investigation area during the survey. It is noted, however, that report only looked the residential and industrial land components of the development as the investigation zone. Further Aboriginal cultural heritage investigation is required at this time if ground disturbance is proposed in the foreshore area and to investigate tourist facility and associated foreshore structures are proposed in the Cactus Point area.

- Satisfying water quality requirements for the development would remain the greatest environmental challenge if the proposal is to proceed. The Crookhaven catchment is extremely sensitive area of wetlands and foreshore environments. Considerable improvement of the water sensitive design and monitoring measures is required to support the EA claim that a treatment system can be implemented to reduce the export of pollutants in the order of pre-development levels.

The detailed comments of OEH on the Environmental Assessment reports exhibited are described in further detail in the Attachments.

1. Threatened species comments (Attachment A).
2. The impacts of the project on Aboriginal cultural heritage (Attachment B).
3. Water quality issues (Attachment C).
4. Offset measures required (Attachment D)

OEH is happy to discuss these comments further with the Department of Planning and Infrastructure and the proponent. Please contact Miles Boak on (02) 6229 7095 if you have any queries in relation to this matter.

Yours sincerely

MBoak 21 June 2013

MILES BOAK
A/Senior Team leader Planning – Illawarra
Regional Operations Group (South)
OFFICE OF ENVIRONMENT AND HERITAGE

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ATTACHMENT A – Threatened Species Comments on West Culburra

OEH has reviewed the information presented in the West Culburra Ecological & Riparian Issues & Assessment Report SLR March 2013 and site inspections by OEH ecologists and provides the following comments:

Threatened Species Survey

OEH has reviewed all previous documents relating to the assessment of biodiversity and threatened species values at the West Culburra site. OEH have provided several rounds of comments to Department of Planning and the applicant regarding the adequacy of these assessments and any outstanding concerns about methods and efforts used to determine the values of the site. A number of issues that were raised by OEH, particularly regarding fauna survey methods, efforts and site locations have been addressed. Most recently, OEH raised concern that appropriate breeding season surveys for the Glossy Black-Cockatoo had not previously been conducted. In March 2013, OEH provided the consultant, Dominic Fanning with recommended survey methodology, which OEH understands has now been undertaken with no birds detected on the site. OEH is awaiting documented information about these surveys, which was requested at an onsite inspection and meeting on 18 June 2013. The other main issue of concern from both an OEH and Shoalhaven City Council point of view was the survey methods used to detect a number of threatened orchid species that may have occurred on the site. The use of the 'random meander' technique to detect cryptic and rare orchid is not considered appropriate and OEH recommend the use of a standardised transect search method where parallel transects are spaced at 5 metre intervals to ensure that plants are not missed. This technique should be targeted to habitat considered likely to support the orchid species. OEH has discussed this requirement with Mr Fanning, with the understanding that future orchid surveys will be conducted using the appropriate method.

West Culburra site inspection – 13 March and 18 June 2013

To try and resolve outstanding concerns about whether the West Culburra site was likely to support the predicted threatened orchid species, OEH Regional Operations staff and local orchid expert Mr Allan Stephenson visited and surveyed the site on 18 June 2013 and on EEC boundary issues on 13 March 2013. OEH is now in a position to conclude that the site is unlikely to be habitat for the threatened orchid species. However, OEH re-iterates that future orchid surveys conducted by Mr Fanning and other consultants must use the appropriate parallel transect method and not a random meander technique. OEH also notes that the site constitutes moderate to good condition semi-mature forest that had generally low numbers of large mature hollow-bearing trees and is therefore unlikely to support significant populations of larger arboreal fauna such as gliders and owls.

OEH considers that fauna surveys were generally conducted to an adequate level of effort, in some cases over a period of 20 years. There were specific cases where technique or timing of fauna surveys were not optimal, but OEH considers that the amount of time and effort expended was adequate to be able to detect the subject threatened fauna species. OEH agrees with some but not all of the concerns raised by Shoalhaven City Council's Threatened Species Officer regarding timing and effort of fauna surveys. Based on the site visit, OEH consider that the current growth stage of the semi-mature forest is unlikely to provide significant hollow resources for larger arboreal fauna, particularly gliders and owls. However, OEH does acknowledge that a

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known Powerful Owl nest tree and a number of threatened microchiropteran bat records are present on or near the site, so there are clearly some important threatened fauna species habitat values on this site.

The OEH site visit also revealed that the vegetation types are unlikely to support the predicted threatened orchid species. OEH are now generally satisfied that an adequate level of assessment and consideration of threatened species and their habitat has been completed. We await final documentation from Mr Fanning on the Glossy Black-Cockatoo breeding surveys conducted in autumn 2013.

Other related issues on the report are:

- Whether EEC vegetation exists on site. OEH understands that the site occurs within the areas known as the Crookhaven River Floodplain, as stated in the Shoalhaven River Estuary Management Plan (Section 11.7). OEH considers the vegetation occurring along the foreshore of the Crookhaven River and associated drainage features should be considered to form part of the Swamp Oak Floodplain forest and Swamp Sclerophyll forest Endangered Ecological Communities. OEH notes the vegetation mapping indicates the plant species occurring within these vegetation types are consistent with the species known to occur within these EECs. However, the consultant has dismissed the occurrence of the EEC based on the apparent lack of a floodplain. It is noted in case law the EEC only has only to be associated with the floodplain.

  It is noted that agreed boundaries of the floodplain wet EECs will not be included in the development footprint if development is excluded from the foreshore zone.

- The removal of 73 ha of semi-mature forest is a significant loss of moderate to good forest vegetation whose tree hollow resources cannot be mitigated by the utilisation of the cleared trunks and branches in the surrounding bush. OEH does not consider moving the cleared hollows to surrounding bush to be an adequate replacement for *in situ* mature hollow-bearing trees and this approach is not supported by underpinning scientific research at this time to be considered a viable mitigation measure.

- The EA required the need for a local corridor to be identified linking the site to areas in both the North and South of the site in the Director Generals Requirements and in the South Coast Regional Strategy recommendation. OEH considers that while it is imperative to maintain the foreshore buffer for a range of environmental and cultural heritage reason, this may not necessarily provide a functional local corridor as vegetation in the surrounding local area is likely to be cleared in the future. Rather, it is critical for the potential offset options to provide enhanced connectivity at the landscape or regional scale.

In conclusion, OEH is satisfied that the development is unlikely to have a significantly impact on threatened species and their habitats. OEH considers that the land proposed to be cleared in the residential/industrial parts of the project are lowland coastal forest in moderate to good condition which have considerable environmental values. This is based on reviewing the information presented in the West Culburra Ecological & Riparian Issues & Assessment Report SLR March 2013 and the on site inspections by OEH ecologists and planning staff. This is subject to there being no development and clearing from the Environment Protection foreshore zone. Furthermore, the development should only proceed if suitable offsets can be located and secured to ensure overall biodiversity values are maintained.

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ATTACHMENT B - The impacts of the project on Aboriginal cultural heritage

OEH supports the Aboriginal Cultural Heritage environmental assessment reports findings and recommendations. That is no Aboriginal heritage sites or cultural sites were identified directly within the investigation area during the survey.

Further Aboriginal cultural heritage investigation is required at this time if ground disturbance is proposed in the foreshore area and to investigate tourist facility and associated foreshore structures are proposed in the Cactus Point area.

The detailed comments are:-

OEH has reviewed the report titled "Proposed Mixed Use Subdivision at West Culburra Shoalhaven City NSW: Aboriginal Archaeological Assessment" prepared by Peter Kuskie South East Archaeology Pty Ltd (dated May 2012) and supports the reports findings and recommendations that no Aboriginal heritage sites or cultural sites were identified directly within the investigation area during the survey.

It is noted that report only looked the residential and industrial land components of the development as the investigation zone. There is a need at this time to investigate the cultural heritage implications of the proposed built and structural structure items in the foreshore zone in accordance with Recommendation 3 of the report - *Any development outside of the heritage study area investigated during the current assessment, for example, in the foreshore zone between the investigation area and the Crookhaven River, further Aboriginal cultural heritage investigation should be undertaken.*

Recommendation 5) has also implications for any foreshore tourism development proposed at Cactus Point. The Culburra midden sites (OEH #52-5-171 to 52-5-186) adjacent to the investigation area are of significance, potentially at a regional level, and warrant total conservation. Direct impacts to this suite of sites must be avoided and indirect impacts must be managed and minimised. This would call in to question any development at this point from a cultural heritage perspective.

It is noted that Recommendation 2 also requires further assessment involving test excavations should be undertaken within the survey area WC 15 and a sample of the portions of WC 3, 9 and 14 within the zone of high potential for subsurface deposits of artefacts with 200 metres of the shoreline.

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ATTACHMENT C – WATER QUALITY

As stated previously satisfying water quality requirements for the development would remain the greatest environmental challenge if the proposal is to proceed. The Crookhaven catchment is extremely sensitive area of wetlands and foreshore environments. Considerable improvement of the water sensitive design and monitoring measures is required to support the EA claim that a treatment system can be implemented to reduce the export of pollutants in the order of pre-development levels.

Stringent protection of the foreshore zone will be essential over the life of the project and will require an ongoing commit to the management of this area.

There is a need to revisit the water sensitive urban design and urban stormwater management (including use of the MUSIC model) to address the comments below.

1. The report still seems to over-estimate existing (i.e. natural) pollutant loads. No data are presented regarding the pollutant concentrations adopted in the modelling (these should be stated for both pre- and post development).

2. These high pre-development estimates of pollutant loads and run-off volumes make 'no net increase' much easier to achieve. The pre-development load estimates need to be substantiated - what pollutant concentrations are used?

3. They should use the 'typical values' listed in Tables 2.43 to 2.45 in http://www.catchment.crc.org.au/pdfs/technical200408.pdf , together with default standard deviations in MUSIC (i.e . Note also Figures 2.15 to 2.20 in this reference that allows an approximate estimate of loads for different combinations of land use, % imperviousness and mean annual rainfall, which DECCW used to assess likely validity of the estimates). This is a good reference.

4. Greater detail is required in the design on how the quantity of runoff needs to be considered and catered for to ensure that the treatment devices are not overloaded.

    - The stormwater management system should be designed to manage flows up to and including the 100 year ARI (as per Australian Rainfall and Runoff and Australian Runoff Quality).

    - The impact of groundwater levels will need to be considered and addressed on the treatment systems and this needs to be accounted for.

    - The impact of any backflow occurring through the drainage outlets and the impacts of this backflow on the treatment and stormwater management systems needs to be considered.

    - Any flows that bypass the stormwater treatment systems needs to be transferred safely through the development as per AR&R.

    - Any flows filtering through the system and the slotted pipes needs to be considered and designed appropriately to avoid water logging and flooding of the treatment systems

- The wetland design should also consider the Constructed Wetlands Manual (DLWC 1998) for design and planting purposes.

- The bio-retention swales intended to go across the fall of the land need to be design at a maximum on a slope of less then 4%. Where these are designed to be on a slope of greater then 4%, scour treatment is to be provided and velocity calculations should be included

- Outlet protection into the estuary and scour protection should be provided based on best practice management, to ensure concentrated flows do not impact the sea grasses on the banks of the estuary.

- Justification should be provided for the use of the Nowra gauge or Albion park gauge for modelling

- Justification of the selected modelled time-step is to be provided in the report.

- Clarification of where the diversion bund on the southern boundary of the site should be provided.

- Direct piping into the Curleys Bay area should be avoided

5. The water quality monitoring program for the Crookhaven estuary (section 5.4) as stated is inadequate. Monitoring should be at least monthly and begin well before construction to enable an adequate baseline pre-development (preferable for at least 12 months), as well as capturing at least 2 rainfall events resulting in runoff from the site.

6. We consider that 3 Council sites (454, 455, 456 as depicted in Figure 2, pg 50) as well as a new 4th site to the immediate west of Cactus Pt should be monitored to adequately monitor any change in estuary health / water quality as a result of the development.

7. While Council holds some data that can be used for comparative purposes, they don't have data for all indicators we would consider to be important for measuring change in estuary health at all relevant sites. Additional indicators that should be monitored as part of the program on top of those already listed include chlorophyll a, turbidity, orthophosphate, salinity, temperature, dissolved oxygen. It would be preferable to continue monthly monitoring over the construction period and continue for at least 1 year post construction.

8. Sample collection and analysis of chlorophyll a and turbidity results should be carried out in accordance with the 'Assessing Estuary Ecosystem Health: Sampling, data analysis and reporting protocols', which can be downloaded from: http://www.environment.nsw.gov.au/soc/130125esthlthprot.htm, rather than using ANZECC guidelines. Analysis of all water quality monitoring results should be carried out in a statistically appropriate manner that will allow the determination of any impacts from the development (e.g BACI).

9. In regards to secondary indicator monitoring (section 5.6), designated photo points should be established to support the 3-monthly inspections, particularly at discharge points into mangroves which will make assessment of change more quantifiable.

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ATTACHMENT D – OFFSET MEASURES REQUIRED

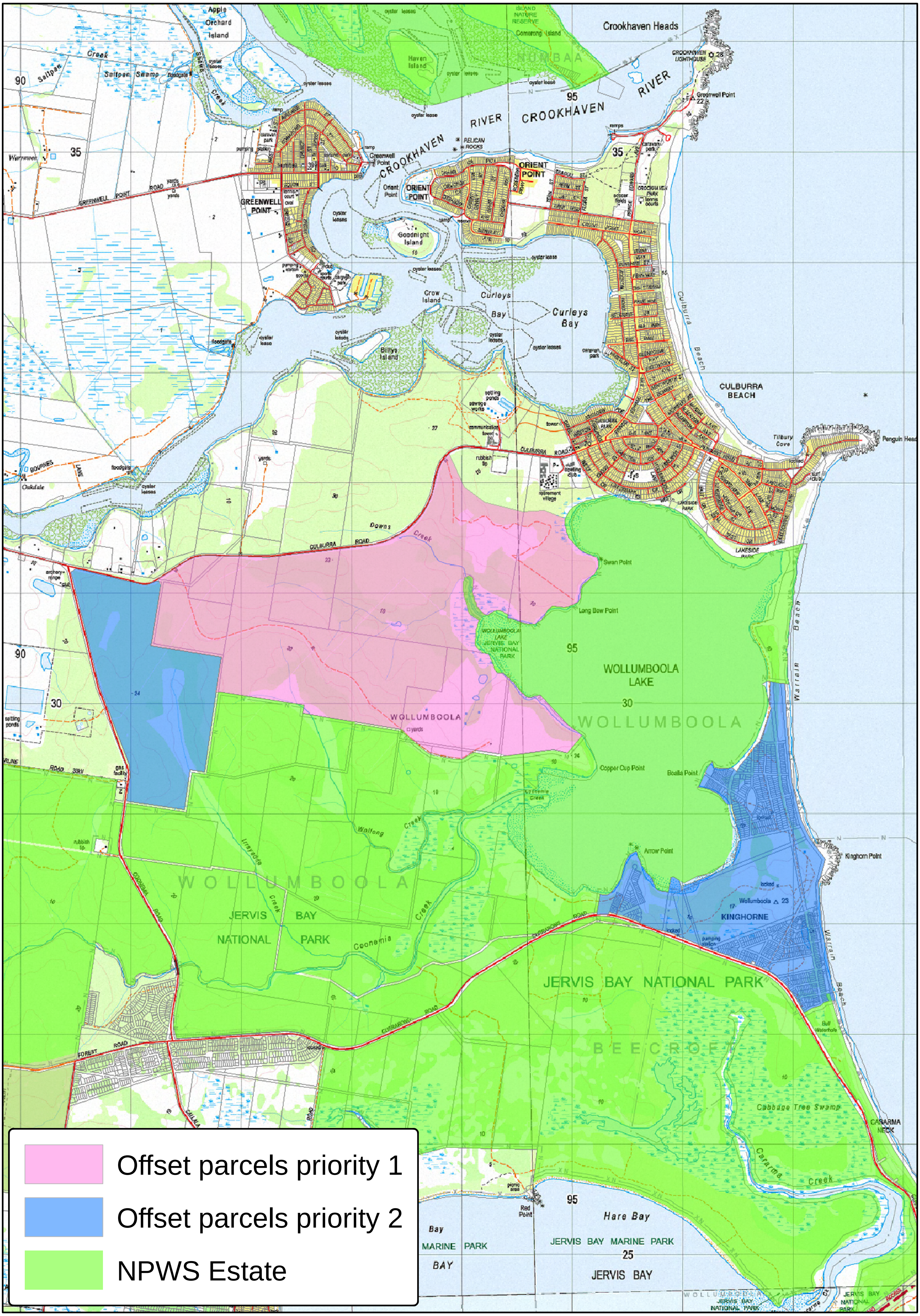
The DGs Requirements for Environmental Assessment required an Offset Strategy be prepared to ensure the loss of biodiversity/vegetation for the project is to be offset by the dedication of an appropriate area of other land. In the case of State Significant Major Projects this is based on the biobanking methodology.

The land proposed to be cleared in the residential/industrial parts of the project are lowland coastal forest in moderate to good condition which have considerable environmental values. The development should only proceed if a suitable offsets can be located and secured to ensure overall biodiversity values are maintained.

OEH has reviewed the preliminary biobanking statement prepared by on behalf of the applicant by Cumberland Ecology for the site and generally agrees with its finding. The location of any offset lands would have to be negotiated and justified as part of the Offset Strategy for the project.

It should be noted that indicative biobanking findings run by OEH and discussed with the applicants consultant found very similar outcomes for that section of the process. Only calculating the ecosystem credits on the broad biometric vegetation type.

In accordance with the recommendation of the South Coast Regional Strategy (2007) that the wider Lake Wollumboola catchments lands should be considered as an addition to the National Park E1 zone should any biobanking lands become available. Discussions has taken place with the South Coast Regional NPWS Office in this regard. The attached map shows the NPWS priorities from the known information and ecological values of the surrounding land owned by the applicant should any land become available as a biobanking offset. These are broken into Priority 1 and 2 lands.


Offset parcels priority 1
Offset parcels priority 2
NPWS Estate
CROOKHAVEN RIVER
Crookhaven Heads
GREENWELL POINT
ORIENT POINT
CULBURRA BEACH
WOLLUMBOOLA LAKE
JERVIS BAY NATIONAL PARK
KINGHORNE
Curleys Bay
Hare Bay
JERVIS BAY MARINE PARK
JERVIS BAY