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The Director  
Urban Assessments  
NSW Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

Attention: Robert Byrne

**File:**

**MP-2009/131**

**Date:**

**4 November 2011**

Dear Sir/Madam

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<b>Development</b>	<b>PART 3A PROJECT APPLICATION No. MP 09-0131; Concept Plan for a mixed use development consisting of residential, commercial, industrial and retail development, public open space areas, new recreational facilities, environmental management, conservation areas and riparian corridors</b>
<b>Location</b>	<b>Tallawarra Lands, YALLAH</b>

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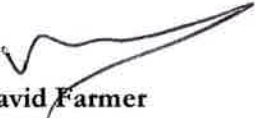
I refer to the above project and to Council's letter of response to the initial project application details dated 14 October 2009 and thank you for providing Council with the further opportunity to comment on the Environmental Assessment. Please note that Council considered the proposal at its meeting on 31 October 2011 and resolved to endorse the attached submission, with the following emphasis:

- Infrastructure should lead development, and that employment lands be first and foremost in the development (ahead of residential development);
- Council should retain the ability to prepare a site specific chapter of the DCP for the locality to reinforce the above requirement;
- The development should fully address impacts on water quality and Lake Illawarra;
- The bicycle paths should satisfy those requirements identified by the Bicycle Users Group.

Please find attached further detailed comments in response to the Concept Plan.

Should you have any enquiries or wish to discuss these matters further, please contact Nicole Ashton, Senior Development Project Officer on (02) 4227 7642.

Yours faithfully



**David Farmer**  
General Manager  
Wollongong City Council  
Phone: 02 4227 7010



## 1. Land Use Strategy

### Comments for consideration by the Director-General prior to any project approval

The main purpose of the Tallawarra Lands Project when Council undertook the rezoning of the site was to ensure the site was protected for major public infrastructure needs (that is, the future power station demands) and for regionally significant industrial employment lands.

The strategic priority for the site is to enable land for the current and future power generation requirements to be met, with additional employment lands surrounding the power station site. Residential uses should only be permitted on land which is not suited for industrial/employment lands uses and should not be permitted to interfere or threaten the use of the area for the primary land uses of power generation and industrial employment lands.

In this regard, the main strategic concern with the Masterplan is the nominated retirement living and school proposed on the B7 Business Park land on the southern side of Duck Creek. Schools and seniors housing are permissible within the R2 zone to the south, as such it would be considered consistent with the intent of planning for the Tallawarra Lands if these uses were not located within the B7 zone and instead contained within the R2 zoned land. This would allow for uses within the B7 land to be more in keeping with the objectives of this zone, which are as follows:

- To provide a range of office and light industrial uses.
- To encourage employment opportunities.
- To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.

The Tallawarra site contains regionally significant industrial/employment lands. The Illawarra Regional Strategy recognises this importance and calls for protection of such land from other uses such as residential. Neither a school nor a retirement complex/housing are considered to be consistent with the intent and objectives of the B7 zone. The appropriate development of employment lands is considered to be a priority for any proposal on Tallawarra Lands.

## 2. Traffic

### Comments for consideration by the Director-General prior to any project approval

- Impacts on the Local Road Network

The current proposal represents one part of a wider developable site. Future development is expected to come forward between Duck Creek and Yallah Bay Road, and on the Power Station site which is likely to result in further significant traffic generation during construction and operation. The proponent should consider the impact of this additional traffic (a staged development including the future full development scenario) on the local road network.

Wollongong City Council's Future Network Analysis modelled dedicated freeway ramps to serve future development in Tallawarra. However it is noted that these ramps do not form part of the current proposal. As a result, the limited access arrangements will result in circuitous travel patterns, increased Vehicle Kilometres Travelled (vkt) and impacts on local residential streets between the development site and the Fowlers Road Freeway access.

Further it does not appear that the impact of the above development-generated traffic on the safety and efficiency of the Haywards Bay roundabout has been considered by the proponent.

The Traffic Impact Assessment states that the volume of the additional traffic is not enough to justify the provision of dedicated freeway ramps to serve the development, based on an increase of 100 vehicles per hour in Cormack Avenue in the morning and evening peaks. As a 'rule of thumb' peak hour traffic represents around 10% of the daily traffic which equates to around 1000 additional vehicles per day which the Traffic Section considers to be significant. This additional through-traffic will impact on the safety, convenience and amenity of local residents living in Cormack Avenue, Compton Street and Emerson Road; a route already well known as a "rat-run".

The Traffic Section notes that the new Tallawarra on/off ramps are listed in the Illawarra Special Infrastructure Contributions (SIC) Plan: State and Regional Road Projects (Item 8) to provide a direct

connection between the Tallawarra Land Release Area and the F6 Southern Freeway, eliminating the need for long distance trips to either congest the Princes Highway through Dapto or travel through local streets of Dapto and Koonawarra. The SIC document states that the timing of works are yet to be determined. Until now potential 'indicative' staging of infrastructure upgrades have been heavily based on assumptions made with regard to land release take up, however now that the land release is imminent, the provision of infrastructure upgrades is critical.

- Traffic Noise

The proponent should provide details of how the development will be designed to limit the impacts of traffic noise. The proponent should refer to Development near Rail Corridors and Busy Roads – Interim Guideline (2008).

- Cycling Network

More details of the proposed cycling network should be provided which show the location and hierarchy (i.e. shared path or on-road facility) of the proposed cycle routes within the development. It should also provide details of connections to existing infrastructure, crossing points, refuges and so on.

It is noted that the proponent refers to “shareways” which is not a term appearing in any infrastructure building document and is not covered under road rules. The proponent should clarify if this is a new specification or whether they are in fact referring to 'shared paths'. It is also noted that on-road cycle lanes are proposed. In some cases on-road cycle lanes may result in injury to cyclists through conflict including that from opening car doors and it is Council's preference that separate paths are provided.

The Landscape Plan indicates 2.5 metre wide shared cycle paths. Austroads Part 6A: Pedestrian and Cyclist Paths (2009) states that 2.5 metre wide shared paths are acceptable for 'local access' with speeds of up to 20kmph. A width of 3 metres is recommended for frequent and concurrent use in both directions with speeds greater than 30kmph.

- Outstanding items from Council's letter of response dated 14 October 2009 to draft Director-General Environmental Assessment Requirements

- Details on impact on road safety and impact of existing and proposed traffic noise.
- Location of pedestrian and cycling facilities within the proposal and linkages to existing facilities such as refuges and blister kerbs.
- Peak period traffic volumes and congestion levels at key intersections externally, within the proposal and also at the main entry points to the area.
- Impact of generated traffic on key adjacent intersections, streets in the neighbourhood of the development, the environment and other major traffic generating development sites in close proximity.
- Safety and efficiency of the proposed access between the subject area and the adjacent road network.
- Safety and efficiency of internal road layout, including service and parking areas.
- The proposed internal provision of public transport facilities such as bus bays etc.

### **3. Flooding and Drainage**

#### **Comments for consideration by the Director-General within any project approval granted**

- Flood Study

A comprehensive flood report should be provided that identifies the flooding behaviour through the site and surrounding area for the post developed state (i.e. ultimate development). The report should incorporate 1 or 2-dimensional hydraulic modelling that analyses the post developed state (i.e. including the proposed site levels, road and bridge structures and proposed riparian corridor planting) for all storm events up to and including the Probable Maximum Flood (PMF) event. All data used, assumptions made and results obtained from the modelling should be clearly documented within the report. All aspects of the report should be in accordance with Chapters E13 and E14 of the Wollongong City Council Development Control Plan 2009, and the NSW State Government Floodplain Development Manual (2005). Other specific requirements from the NSW Office of

Environment and Heritage relating to Climate Change and State Emergency Services (SES) relating to evacuation should also be adhered to.

The flood report should clearly demonstrate that the proposed development has no net impact on flooding behaviour, no net impact from flooding and no impact on evacuation or emergency services access. The report should also demonstrate that reliable access is available from all access points of the development site for all relevant storm events.

- Interallotment Drainage  
A minimum 150mm diameter, PVC Class SH inter-allotment drainage system should be provided to drain proposed lots where roofwater and surface water from future development cannot be discharged directly into the street drainage system.
- No Adverse Run-off Impacts on Adjoining Properties  
The design of the development should ensure there are no adverse effects to adjoining properties or upon the land as a result of flood or stormwater run-off. Attention should be paid to ensure adequate protection for buildings against the ingress of surface run-off.
- Re-direction or Treatment of Stormwater Run-off  
Allowance should be made for surface run-off from adjoining properties. Any redirection or treatment of that run-off should not adversely affect any other property.
- Overflow Paths  
Overflow paths should be provided to allow for flows of water in excess of the capacity of the pipe/drainage system draining the land. Blocked pipe situations with 1 in 100 year ARI events should be incorporated in the design. Overflow paths should also be provided in low points and depressions.
- Service Location to be Shown  
The depth and location of all services (i.e. gas, water supply, stormwater, sewer, electricity, telephone, traffic lights, etc) should be ascertained and reflected on the plans issued for Construction.
- Civil Design  
Civil design plans should be provided for all proposed site regrading, road and bridge infrastructure on the development site and also all necessary upgrades to existing roads and bridges. The design should be in accordance with Wollongong City Council Subdivision Code, Austroads manual and the relevant Australian Standards.
- Stormwater Design  
A detailed stormwater management design should be provided for the proposed development in accordance with Chapter E14 of the Wollongong City Council's Development Control Plan 2009.
- Bridge Design - Flooding  
The design of all bridge structures and approach embankments should be undertaken by a suitably qualified certified practicing engineer with proven extensive experience in design of bridge structures of comparable magnitude. Each bridge structure is to be designed with a minimum of 500mm freeboard above the estimated 100 year flood level to the underside of the bridge deck, taking into account the effects of climate change and Council's blockage criteria. The design of the structure and approach embankments should be undertaken in accordance with, but not limited to, the requirements of AS 5100.1-2004 Bridge Design and Austroads "Waterway Design – A Guide to the Hydraulic Design of Bridges".
- Bridge Design - Structural  
The design of all road bridges should be in accordance with the current version of AS5100 – Bridge Design. All bridges should be designed to cater for an SM1600 loading. Prior to work commencing, a Certificate of Compliance from a qualified engineer experienced in bridge design should be submitted to the consent authority.
- Scour Protection  
All stormwater outlets and overland flow paths should incorporate appropriate scour/erosion protection measures.

- Retaining Wall Design Criteria  
All retaining walls should be designed by a suitably qualified civil and/or structural engineer and should be detailed on engineering plans which include, but is not limited to the following:
  - a) A plan of the wall showing location and proximity to property boundaries.
  - b) An elevation of the wall showing ground levels, maximum height of the wall, materials to be used and details of the footing design and longitudinal steps that may be required along the length of the wall.
  - c) Details of fencing or handrails to be erected on top of the wall.
  - d) Sections of the wall showing wall and footing design, property boundaries and backfill material. Sections should be provided at sufficient intervals to determine the impact of the wall on existing ground levels. The designer should note that the retaining wall and footing structure should be contained wholly within the subject property.
  - e) The proposed method of subsurface and surface drainage, including water disposal.
  - f) Reinforcing and joining details of the bends in the wall at the passing bay of the accessway.
  - g) The assumed traffic loading used by the engineer for the wall design.
  
- Street Lighting  
An electricity provider approved street lighting plan should be submitted to the Certifying Authority for approval prior to the commencement of Construction. All costs associated with the installation of street lighting should be borne by the developer.
  
- Supervision of Engineering Works  
All engineering works associated with the development are to be carried out under the supervision of a practicing engineer.
  
- Dilapidation Report  
The developer should provide Council's Manager Design and Technical Services with a dilapidation report, identifying the condition of Council assets and all land in the vicinity of the proposed works prior to the commencement of such works.
  
- Protection of Council Infrastructure  
The developer should provide adequate protection to all Council assets prior to work commencing and during construction. Council's Manager Design and Technical Services should be notified immediately in the event of any damage to Council's assets. Any damage to Council's assets should be made good to the satisfaction of Council, with all associated costs borne by the developer.
  
- Forty Eight Hours Notice – Prior to Works Commencing in any Road Reserve  
The applicant should consult with Wollongong City Council's Regulation and Enforcement Division, giving 48 hours notice to arrange an on-site meeting, prior to any works commencing in any road reserve (footpath/carrageway). The purpose of the meeting will be to discuss any relevant issues such as a schedule of inspections, the need for a road occupation or opening permit and the provision of a traffic control plan as part of the works.
  
- Construction of Civil Infrastructure Works  
The construction of all civil road and drainage infrastructure works within the road reserve should be undertaken by a Council approved contractor, with all associated costs borne by the developer.
  
- Drainage within Road Reserve – Works as Executed  
The developer should obtain written verification from a suitably qualified civil engineer, stating that the construction of the drainage infrastructure works within the road reserve has been undertaken in accordance with the approved plans. In addition, full works-as-executed plan, prepared and signed by a Registered Surveyor should be submitted. This plan should include the location and levels of the drainage lines, structures and finished surface levels. This information should be submitted to Wollongong City Council's Manager Design and Technical Services prior to commencement of use of the development.
  
- Works-As-Executed Plans  
The submission of two sets (minimum) of Works-As-Executed (WAE) plans to the Principal Certifying Authority, prior to the use of the development. The Works-As-Executed plans should be

certified by a registered surveyor indicating that the survey is a true and accurate record of the works that have been constructed. The Works-As-Executed dimensions and levels should also be shown in red on a copy of the approved Construction plans. The Works-As-Executed (WAE) plans should include:

- a) Final locations and levels for all works associated with the development;
- b) a separate conduit plan showing the location of all conduits laid beneath the constructed road system;
- c) a separate fill plan showing extent and depth of filling;
- d) a separate plan which indicates the extent of flood inundation for 1% AEP and PMF storm event; and
- e) the plan(s) should include but not be limited to the stormwater requirements stated in Chapter E14 of the Wollongong City Council's Development Control Plan 2009.

- Existing Easements

All existing easements should be acknowledged on the final subdivision plan.

- Existing Restriction as to Use

All existing restriction on the use of land should be acknowledged on the final subdivision plan.

- Encroaching Pipes

A minimum one (1) metre wide easement to drain water should be created over any encroaching drainage pipes.

- Encroaching Services

A minimum one (1) metre wide easement for services should be created over any encroaching utility service.

- Section 88B Instrument

The submission of a Final Section 88B Instrument to the Consent Authority, which incorporates (but is not necessarily limited to) the following restrictions, easements and covenants, where applicable:

- a) Easement for services;
- b) easement to drain water;
- c) drainage easement over overflow paths;
- d) restricted building zone over the 100 year flood inundation area of the natural watercourse(s) which prohibits the erection of structures, fences, pools, ancillary buildings, the placement of fill and the planting of trees;
- l) restriction as to user defining minimum floor levels for any lots which have any part of the site below the 1% AEP flood level taking into account climate change criteria for the year 2100. This should be accompanied by the 100 year flood profile of the natural watercourse with superimposed lot boundary location.

- 88B Instrument Easements/Restrictions

Any easements or restrictions required by this consent should nominate Wollongong City Council as the authority to vary, modify or release/extinguish the easements or restrictions. The form of the easement(s) or restriction(s) created as a result of this consent should be in accordance with the standard format for easements and restrictions as accepted by the Land and Property Information Office.

- Certification – Stormwater Drainage

The submission of written certification from a suitably qualified civil engineer stating that all stormwater drainage and related works have been constructed in accordance with the approved Construction plans, Chapter E14 of the Wollongong City Council's Development Control Plan 2009 and Wollongong City Council's Subdivision Code.

- Certification - Retaining Wall

The submission of a Certificate of Structural Sufficiency from a suitably qualified Civil and/or Structural Engineer for all retaining walls constructed.

- Certification - Bridges  
The submission of a Certificate of Structural Sufficiency from a suitably qualified Civil and/or Structural Engineer for all bridges constructed. Full works as executed drawings should also be submitted. Any variations to the certified design should be noted by the designer.
- Certification - Flood Affection  
The submission of a report from a suitably qualified and experienced civil (hydrology) engineer to the Certifying Authority is required, prior to the use of the development. This report is required to certify that the 'as-constructed' development will not have any detrimental effects to adjoining properties or upon the subject land with respect to the loss of flood storage, changes in flood levels and alteration of flood conveyance, as a result of flooding or stormwater run-off.

#### 4. Environment

##### Comments for consideration by the Director-General prior to any project approval

- Vegetation Management Plan  
As the Voluntary Planning Agreement (VPA) has not yet been submitted, many of the proposals outlined in the Vegetation Management Plan (VMP) are uncertain. An agreed set of performance criteria (describing percentage cover (FPC) of native species and exotic species at canopy, mid-storey and groundcover) for all vegetated patches within each zone should be included in the VPA.

The VMP has not considered the potential for some work sites to contain pollutants. Areas where asbestos has been buried and soils which are affected by pollutants should be clearly identified in the VMP work plans

The suggestions made within the VMP (Section 9; Monitoring and Reporting) for monitoring and reporting are supported and it is considered that a Wollongong City Council presence at site inspections be required. Furthermore, it is requested that all reports generated under this section be provided to Wollongong City Council, as well as the client.

- Riparian Assessment  
The Riparian Assessment has been prepared without reference to any of the associated pollution studies. It is apparent that some waterways may be affected by arsenates and high ammonia loads. Impacts of pollutants on the riparian systems should be considered and remedial actions should be proposed.

- Ecological Assessment  
The study estimates that 4.37 ha of Endangered Ecological Communities will be cleared. The largest proportion of clearing relates to 3.08 ha of Illawarra Lowlands Grassy Woodland. This EEC is endemic to the Illawarra and has been severely depleted by development over recent years. The observation is made that "The proposal is considered to meet the 'maintain and improve' test under Part 3A of the EP&A Act...". This statement is difficult to reconcile with the proposed removal of Illawarra Lowlands Grassy Woodland. The VMP does not provide sufficient detail to demonstrate that the loss of this EEC will be adequately supplemented.

It is noted that some vegetation patches where *Casuarina glauca* occur are not included as EEC by EcoLogical, because "...Given this area was previously used as an ash dam for the Power Station and therefore has undergone extensive soil modification, vegetation clearing and other disturbances, this area is not considered to comprise the Swamp Oak Floodplain Forest ...and has been mapped as Planted Swamp Oak". There is nothing in the definitions of "species" or elsewhere within the TSC Act which suggests that human caused establishments of plants and animals (including translocations) cannot be threatened species. Indeed there are a number of provisions in the NPW Act that suggest that human caused establishment of a threatened species can be a threatened species within the meaning of the TSC Act.

As such, it is considered that within the meaning of the TSC Act, a threatened species exists on specific land even if it was planted there and it therefore follows that a section 5A assessment should also consider landscape plantings of threatened species.

Table 1 which lists 32.12 ha of Coastal Swamp Oak Forest, of which 0.54 ha is to be cleared should therefore be adjusted in order to present a more realistic assessment of the occurrence and proposed disturbance of this EEC on the site.

#### **Comments for consideration by the Director-General within any project approval granted**

- Contamination and water quality contamination due to ash ponds issue  
The number of samples taken from the most contaminated area, being that surrounding the ash dams and the ash dam toe drains, are below the recommended number under the EPA guidelines for contaminated site assessment. Noting the above, it is still considered that the entire Zone 4(A) and Zone 4(C) is a contaminated site with the potential to harm Duck Creek and Lake Illawarra (as the ultimate receiving system).  
  
The results of 14 samples investigated from these zones show elevated concentrations of ammonia, arsenic, zinc and nickel exceeding ANZECC/ARMCANZ (2000) guidelines. As Lake Illawarra is a nitrogen limited system, flow of nitrogen rich ground water from these zones toward the Lake can seriously impact Lake nitrogen balance and cause excessive filamentous algae growth. As such, further groundwater and soil assessment on a tighter grid is recommended prior to commencement of any development on these two zones.
- Acoustic assessment and noise compliance  
Appropriate acoustic treatment in accordance with the report prepared by PKA Acoustic Consulting should be implemented as part of the overall development..
- Water Sensitive Urban Design  
The proposed development should consider Wollongong City Council Development Control Plan 2009 Chapter E15 *Water Sensitive Urban Design*.

### **5. Landscape**

#### **Comments for consideration by the Director-General within any project approval granted**

- In relation to the interface of the industrial employment area and the residential area in the central precinct, minimal screening is provided between the two areas. A more extensive vegetative buffers/screening should be provided to minimise the visual link from residential to industrial.
- All species suggested for the site, including tree species for roadside planting should be in keeping with the Vegetation Management Plan. It is noted that *Cupaniopsis anacardioides* is a suggested street tree – these are not suitable for this site as they tend to invade adjacent bushland areas.
- Street tree planting in the form of “Rain Gardens” where groundcovers or low level shrub planting are installed significantly increase the maintenance regime for Council. It is the preference of Council to utilise verge planting.

### **6. Infrastructure**

#### **Comments for consideration by the Director-General within any project approval granted**

- The construction of any new infrastructure works and utility services should integrate with existing infrastructure and other services both within the road reserve and within other Council owned or controlled land.
- Construction of any utility related structures should take place outside of Council’s road reserve. More suitable locations such as public reserves or private property with easements are recommended.
- The proposed staging of the new infrastructure construction works should address how continued development construction work will continue and be compatible with either existing or newly completed and occupied infrastructure works to avoid vehicular / vehicular and pedestrian / vehicular conflicts.

- Any construction works located in, on, over or to and from a public road reserve will require Council consent under section 138 of the Roads Act 1993.
- Details should be provided for the following matters:
  - a. any future dedicated road reserves indicating a hierarchy of classifications – either as classified roads or local roads;
  - b. future road reserve areas and other land that is proposed to be dedicated to Council ownership;
  - c. intersections of all access roads to the development with the existing Princes Highway road reserve and connection to existing infrastructure;
  - d. proposed upgrading of Yallah Bay Road or any other existing Council assets as required to service the development;
  - e. proposed new infrastructure to be located within Council’s road reserve or other Council owned or controlled land. This should also include proposed pedestrian and cycleway facilities.
  - f. upgrading of, or installation of new utility services mains within Council’s road reserve such as, but not limited to, power, water, sewer, gas and telecommunications as required to service the development.

## **7. Recreational Facilities**

### **Comments for consideration by the Director-General prior to any project approval**

The current proposal is significantly different from an outcome agreed to by the proponent and Council in response to initial concerns raised in Council’s letter of 14 October 2009. There is currently insufficient information within the documentation indicating any supporting infrastructure or specification on the field construction to make an informed decision.

## **8. Geotechnical Assessment**

### **Comments for consideration by the Director-General within any project approval granted**

The concept master plan is considered feasible from a geotechnical perspective subject to further geotechnical investigations being required to support the transition of the concept plan into engineering designs. Staging the development would be desirable in order to optimise the geotechnical solutions to the identified geotechnical constraints as identified to date in the summary below.

- Whilst development of the areas subject to shallow fill, whether general fill or some parts of Ash Pond No3, are technically feasible from a geotechnical perspective, development of these areas should be supported with further geotechnical input to address the remediation of this fill.
- The development of the upper hillside land is technically feasible also but should undergo further geotechnical investigation to delineate any areas of high risk of slope instability which should subsequently be excluded from development.
- The development of areas of deep soft soils including underlying estuarine clays and the majority of the ash ponds are currently unsuitable for development and require further significant geotechnical investigation to assess the susceptibility of these areas to consolidation settlement, collapse settlement and liquefaction. This investigation will assist in determining what remedial works are necessary to prepare these areas for the specific components of the concept master plan which encroach into them.

## **9. Social Planning**

### **Comments for consideration by the Director-General prior to any project approval**

- It is noted that a comprehensive social impact assessment has not been completed. It is considered that a comprehensive study would address the likely demand, or lack thereof, for community infrastructure such as community centres, child care centres and schools, and in doing so provide certainty in relation to the requirement for land for these facilities.

- Further investigations are required to support the proponent's assertion that the projected number of children would not give rise to the development of the school over a 5 to 30 year period. Demand for a school should be considered in association with the forward capacity of surrounding schools, noting the likely projected population growth to be generated from the West Dapto Release Area over the next 20 to 30 years.
- The potential location of a community centre in the south east corner of the B1 Neighbourhood Zone is not supported and should be relocated adjacent to the area shown as Medical or Child Care.
- Council supports a varied housing product mix insofar as providing an assortment of allotment sizes that will provide a variety of housing types i.e. multi-residential dwellings, 2-3 storey town houses, dual occupancy, 3-4 storey residential apartments. The appropriate allotment mix should offer 50% detached housing i.e. 450 - 700m<sup>2</sup> lots and the remaining balance an assortment of allotments that will provide a rich mix of housing types.

This approach is supported by the Illawarra Regional Strategy (IRS) in section 6 of the Housing and Settlement chapter. The outcome of this strategy is to provide an appropriate mix of housing from detached housing (50%) to medium (35%) and high (15%) density housing around neighbourhood centres or key services.

Provision of an assortment of allotment sizes that would provide an opportunity to locate medium and high residential density around the neighbourhood centre or key services would increase the proposed overall densities of 13 to 15 dwelling /ha. It is therefore recommended the proposed residential densities are revised upwards to allow for medium to high density development and a higher percentage of unconventional lot sizes.

## 10. Subdivision Requirements

### Comments for consideration by the Director-General within any project approval granted

The following items are considered essential in ensuring that the development can be undertaken generally in accordance with the requirements of Wollongong Council's Subdivision Code. This will ensure that future assets handed over the Council will comply with Council's accepted standards.

Any approval should detail the required staging and ensure that each stage is validated prior to the subdivision being released for that stage.

- Road Network
  - a. The road network and width should be designed in accordance with Council's Development Control Plan 2009 Chapter B2 Sections 20, 21, and 22.
  - b. All road design and construction works should comply with the requirements of Council's Subdivision Code and the requirements of Austroads and the RTA Road Design Guide.
- Bulk Earthworks

It is noted that 320,000 cubic metres of fill is proposed to be imported into the site. Results from the groundwater monitoring for the nearby Haywards Bay coalwash emplacement have indicated a gradual rise in the nitrogen / ammonium levels in the groundwater. The use of coalwash should not be supported in areas affected by groundwater or in deep emplacements where anaerobic decay is likely.
- Soil and Water Management

Although dependant on individual staging requirements and the extent of the proposed works, all soil and water management on site should be undertaken in accordance with the requirement of the 'Blue Book', Landcom's 'Soils and Construction' Manual. Soil and Water Management Plans, ongoing maintenance and monitoring and reporting requirements should be provided at Construction Certificate stage, including those stages relating to bulk earthworks. All environmental assessment reports should be considered in the preparation of these documents.

## **11. Heritage**

### **Comments for consideration by the Director-General within any project approval granted**

The submitted documents fully satisfy Council's requirements for assessment of heritage impact, both in the areas of European and Aboriginal heritage. It is considered that these reports present a sound background basis for further decision making and that for the purpose of the current application the essence of heritage requirements has been satisfied.

Regarding both the current application and future actions, the following is noted:

- It is important to refer this and any future applications to the Office of Environment and Heritage (OEH) and seek their comments in relation to Aboriginal Heritage.
- It is noted that the Lake Foreshore has been continually identified as a place of high cultural significance in Aboriginal Heritage Studies and assessments. It is noted in the Aboriginal report that the views and input of the local Aboriginal Community have been sought and it is concurred with the requirement that it will be important to respond to any eventually received feedback and to translate it into particular actions.
- It is also noted that the high area and ridge around Mt Brown Reserve have been recognised in past Council studies as having high cultural significance. The views and input of the local Aboriginal Community have been sought and it will again be important to include any eventually received feedback regarding this matter, both from the Aboriginal and from the general community, and to translate it into particular actions.
- As per the report on Aboriginal heritage, in any future detailed development it will be important to continue to seek views and input from the local Aboriginal Community in relation to the assessment of the application.

## **11. Wollongong Local Environmental Plan 2009**

### **Comments for consideration by the Director-General prior to any project approval**

- It is noted that the Department included Tallawarra as an Urban Release Area in Wollongong Local Environmental Plan 2009 (WLEP 2009) and as such, the provisions of Part 6 WLEP 2009 apply to this land. Accordingly, the Department should certify in writing that satisfactory arrangements have been made for the provision of State public infrastructure and a Development Control Plan (DCP) should be prepared for the land, prior to development consent being granted.

Whilst it is acknowledged that the Concept Plan and master plan submitted by TruEnergy is similar to a DCP, it would not satisfy the provisions of WLEP 2009. Council at its meeting on 31 October 2011 reiterated the need for a site specific DCP chapter for Tallawarra to be included in the Wollongong DCP 2009.

- Any staging plan forming part of the DCP should give consideration to Council's desire for the provision of infrastructure to lead the overall development of the site.

## **12. Developer Contributions**

### **Comments for consideration by the Director-General within any project approval granted**

- Council's Section 94A Development Contributions Plan (2011) should be considered by the Department in the project assessment process.
- Council is investigating a range of additional traffic calming measures to address concerns relating to through-traffic and road safety. In view of the additional traffic movements predicted from the Tallawarra development, the proponent will be required to contribute towards future traffic calming measures based on percentage increase/impact. Concept plans and cost estimates are currently being prepared by Council to allow implementation as funding becomes available.