

# Preferred Project Report

## Calderwood Urban Development Project State Significant Site Listing and Concept Plan

Submitted to  
Minister for Planning  
On Behalf of Delfin Lend Lease

August 2010 ■ 09077

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This report has been prepared by: Lesley Bull

Signature  Date: August 2010

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# Statement of Validity

Prepared under Part 3A of the Environmental Planning and Assessment Act, 1979  
(as amended)

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**Preferred Project Report Environmental Assessment prepared by:**

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Qualifications	BTP (Hons), MEL, MPIA
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In respect of	State Significant Site Study and Concept Plan Application

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**Concept Plan**

Applicant name	Delfin Lend Lease
Applicant address	Locked Bag 1, Millers Point, NSW 2000
Land to be developed	Calderwood Urban Development Project Site
Proposed development	Refer to Environmental Assessment Report dated March 2010

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**Preferred Project Report Environmental Assessment Certificate**

An Environmental Assessment (EA) is attached

I certify that I have prepared the content of this Environmental Assessment and to the best of my knowledge:

It is in accordance with the Environmental Planning and Assessment Act and Regulation.

It is true in all material particulars and does not, by its presentation or omission of information, materially mislead.

Signature



Name

Lesley Bull

Date

August 2010



## 1.0 Introduction

An Environmental Assessment Report (EAR) for the Calderwood Urban Development Project (MP 09-0082) and associated State Significant Site (SSS) Study, and an EAR for the Stage 1 Project Application (MP 09-0083) were publicly exhibited for a period of 4 weeks between 14<sup>th</sup> April and 14<sup>th</sup> May 2010. An extended period was given for submissions to the Department of Planning to be made beyond the statutory exhibition period, until 11<sup>th</sup> June 2010.

In response to the public exhibition, it is understood that the NSW Department of Planning (DoP) has received a total of 121 submissions from State agencies, councils and the general public.

The Proponent, Delfin Lend Lease (DLL) and its specialist consultant team have reviewed and considered the submissions and, in accordance with clause 75H(6) of the Environmental Planning and Assessment Act 1979, this Preferred Project Report (PPR) sets out the Proponent's response to the issues raised in relation to the Concept Plan and SSS Study (referred to herein as 'the Project'). Matters arising specifically in relation to the Stage 1 Project Application are to be dealt with in a separate submission / PPR.

The PPR presents:

- Further information and analysis with respect to a range of issues raised in submissions. The Proponent notes that in many instances submissions had not recognised the information that was contained within the original documentation;
- Further information in relation to options for ownership and funding of ongoing maintenance for land that is required for a public purpose (open space, drainage, riparian corridors and environmental areas);
- Changes to the rezoning proposal for the site;
- Revisions to the Concept Plan Application;
- Further information with respect to State and local development contributions, including costing estimates for construction / establishment and ongoing maintenance, identification of staging / timing thresholds for delivery, and intended maintenance and handover arrangements; and
- Revised / final Statement of Commitments in relation to the Concept Plan.

Key revisions to the Project include:

- A revision to the land use zoning proposal to zone site riparian corridors a combination of E2 Environmental Conservation and E3 Environmental Management instead of SP2 Infrastructure (local drainage);
- Amendments to the proposed land use tables to avoid duplication of provisions under other instruments, as appropriate, and update the range of permissible land uses in the E3 Environmental Management Zone to reflect that this zone is now also to be applied to some site riparian corridors, and
- A reduction in the total quantum of land proposed to be dedicated free of cost to the relevant council for public purposes from approximately 217 hectares to approximately 92 hectares;
- Incorporation of the proposed Albion Park Bypass / Tripoli Way Extension into the Concept Plan, with consequential changes to the footprint of future urban development in the south-eastern portion of the site;

- Amended development controls to further address urban design outcomes, including additional provisions to ensure the appropriate control of subdivision and thus residential density within the R1 General Residential Zone, particularly at the 'fringes' of the development;
- Inclusion of a 10,000 m<sup>2</sup> minimum lot size for residential development in the E3 Environmental Management Zone (outside of riparian corridors), and inclusion of dual occupancies and secondary dwellings as permissible uses in this zone in lieu of the formerly proposed 10 dwellings per hectare;
- A reduction in the maximum building height within the B4 Mixed Use Zone adjacent to the Illawarra Highway from 18 to 9.5 metres;
- Clarification that no bushfire APZs are to be located within Core Riparian Zones or Johnston's Spur, and that APZs will be provided between the E2 Environmental Conservation and E3 Environmental Management Zones where dwellings may be provided; and
- The Statement of Commitments for the Concept Plan has been revised to clarify and strengthen future planning and management actions. It now includes additional recommendations made by the Proponent's technical expert team, as well as addressing a number of recommendations made by the councils and State agencies in submissions.

Other minor revisions to the proposal have also been made and are outlined in the PPR.

This PPR should be read in conjunction with the Concept Plan and SSS EAR prepared by JBA Urban Planning Consultants Pty Ltd dated March 2010 and forms part of that application.

### Submissions (Section 2.0 and Appendices A and B)

Submissions in response to the public exhibition of the Project were received from Wollongong, Shellharbour and Kiama Councils, State Government agencies and authorities, and the general public. The source of submissions is summarised as:

- State Authorities and agencies – 10;
- Local Councils – 3;
- Members of the public - 108 (including 39 submissions supporting the proposal).

The Proponent's detailed response to issues raised is provided at **Attachment A** (State agencies and Councils) and **Appendix B** (the public). It is noted that the response to submissions from the public is based on a summary prepared by DoP.

In this PPR, issues raised in the submissions have been grouped into the following categories:

- Zoning and statutory planning provisions;
- Strategy consistency, including concerns expressed about loss of agricultural land;
- Options for ownership and funding of on-going maintenance for open space areas, riparian corridors and environmental areas;
- State and local development contributions;
- Sustainability;
- Flood impact and risk assessment;
- Riparian, drainage and stormwater;



- Biodiversity, including regional habitat connectivity;
- Transport and accessibility;
- Urban design, including visual impact and development controls;
- Non-residential floor space provision;
- European and cultural heritage; and
- Bushfire asset protection zones.

The PPR is structured to respond to these issues as follows:

- Section 2 – Issues Summary and Proponent Response;
- Section 3 – Revised Rezoning Proposal;
- Section 4 – Revised Development Contributions; Strategy and
- Section 5 – Preferred Project – Concept Plan.

## 1.1 Project Update

A number of relevant events have occurred since the Project was submitted to the DoP in March 2010:

### Development contributions strategy (Section 4 and Appendices J & K)

On 31 July 2010 the Proponent made a formal offer to enter into a Voluntary Planning Agreement (VPA) with the Minister for contributions towards regional transport works and the provision of land for education for the Calderwood Urban Development Project.

For some time there has been an expectation of an imminent announcement about the State Infrastructure Contributions (SIC) Levy for the Illawarra Region. Consistent with recent discussions with the DoP, the Proponent has calculated a proposed SIC for the Calderwood Project. The proposed SIC is detailed at Section 4 and **Appendix J**).

On 8<sup>th</sup> June 2010, Shellharbour Council resolved not to enter into a VPA with the Proponent for the provision of local contributions. The Proponent reiterates that its preferred strategy for the delivery and implementation of local development contributions is by the use of a VPA.

In its submission to the DoP dated 9<sup>th</sup> June 2010 Wollongong City Council has requested that appropriate negotiations take place between it and the Proponent in relation to local contributions and a future VPA. The Proponent welcomes this request.

The Proponent's offer to enter into a VPA with both Shellharbour and Wollongong City Councils, should they agree, is formally restated in the PPR (Section 4 and **Appendix K**). Further information is provided in the PPR in this regard as has been requested by the councils and the DoP.

### EPBC Act determination

On 26 February 2010 the Proponent made a referral to the Department of Environment, Water, Heritage and the Arts (DEWHA) for a determination as to whether or not the proposed rezoning and development is a controlled action under the Environment Protection and Biodiversity Conservation Act (EPBCA). The referral included details of the proposal and the site, and identified the measures included in the Concept Plan and rezoning to proposals mitigate potential impacts on matters of National Environmental Significance.

On 30 March 2010 DEWHA notified the Proponent that the proposed rezoning and development is not a controlled action and therefore may proceed without further assessment under the EPBC Act.

## Consultation

In the time since public exhibition of the Project the following consultation has taken place:

### *Department of Planning*

- 17 June –PPR Approach and Progress Meeting
- 19 July –DoP and SKM (Peer Review Flood Assessment) and ARUP (Peer Review Transport Apportionment)
- 20 July –PPR Progress Meeting
- 27 July –PPR Progress Meeting
- 29 July – DoP, SKM and Proponent technical Meeting
- 31 July – letter from Proponent to DoP re State infrastructure contributions
- 6 August – PPR Progress Meeting

### *Shellharbour Council*

- 8 July – Meeting with Council Administrator and Executive to discuss Council submission
- 9 July – letter from the Proponent to SCC confirming discussions and detailing next steps
- 15 August – Meeting scheduled to discuss PPR and development contributions
- Other – several requests for follow up discussions.

### *Wollongong Council*

- 30 July – Meeting to discuss response to WCC submission

### *RTA*

- Ongoing liaison between Cardno and RTA on technical modelling.

### *DECCW*

- Request for meeting to discuss response to DECCW submission in course of being actioned.

### *Integral Energy*

- 25 May and 10 August – Project status update provided at Proponent/Integral liaison meeting.

### *Sydney Water*

- 15 July – Project status update provided at Proponent/Sydney Water liaison meeting.

## 2.0 Summary Issues

**Appendices A and B** identify each of the matters raised by public agencies, the DoP and the general public in submissions made in response to the public exhibition of the Project. **Appendices A and B** also comprise a detailed response by the Proponent to each of the matters raised.

The key issues raised by public agencies and the community in relation to the Project can be generally summarised into the following categories:

- Zoning and statutory planning provisions;
- Strategy consistency, including loss of agricultural land;
- Options for ownership and funding of on-going maintenance for open space areas, riparian corridors and environmental areas;
- State and local development contributions;
- Sustainability;
- Flood impact and risk assessment;
- Riparian, drainage and stormwater;
- Biodiversity, including regional habitat connectivity;
- Transport and accessibility;
- Urban design, including visual impact and development controls;
- Non-residential floor space provision;
- European and cultural heritage; and
- Bushfire asset protection zones.

Issues relating to the proposed land use zoning and statutory planning provisions, and a revised Rezoning Proposal are addressed at Section 3.

The revised Development Contributions (State and local) are addressed at Section 4.

The Preferred Project – Concept Plan, including revised Statement of Commitments is detailed at Section 5.

The Proponent's summary response to each of the other key assessment issues as documented at **Appendices A and B** is provided in the following sections.

### 2.1 Strategy Consistency

Shellharbour City Council (SCC), Wollongong City Council (WCC) and Kiama Council (KC) have raised a range of concerns in relation to the Project's alignment with regional land use planning. These concerns can be generally summarised as: consistency with both the Illawarra Regional Strategy (IRS) and the new Illawarra Urban Development Program (IUDP); land and housing supply and demand; the ability for the Project to be developed and serviced independently from the West Dapto Release Area (WDRA); potential fragmentation and inefficiencies in the delivery of infrastructure services arising as a consequence of the early release of Calderwood; impact of the proposed development on the viability of WDRA and other land release areas; economic benefit; and loss of productive agricultural land.

The Department of Industry and Investment (DII) and the Southern Rivers Catchment Management Authority (CMA) have also raised concern in relation to the impact of the proposed development on the value of the current agricultural land uses and productive potential of the agricultural land on the site and in the area.

The Ministry of Transport has identified that the Project provides the opportunity to contribute to the objectives of the Illawarra Regional Transport Strategy to integrate land use and transport in the region.

A number of public submissions have also raised inconsistency with the IRS and the IUDP, land and housing supply and demand, the potential impact of the proposal on the implementation of the WDRA and implications for infrastructure delivery.

With the exception of the extent of cut and fill within the proposed Stage 1 development area (refer to Section 2.3 for detailed discussion) the DoP has not identified strategy consistency, nor any other matters relating to regional land use planning - housing affordability, residential land supply forecasts, population growth status, infrastructure delivery and independence from WDRA, economic growth, employment, retail impact, analysis of alternative land use options or sustainability - as issues to be further addressed by the proponent. Issues raised in relation to the Stage 1 Project Application will be further dealt with via a separate PPR.

#### Response:

Prior to the Minister for Planning declaring the Calderwood Project to be a Project that is subject to Part 3A, and prior to the Minister initiating the SSS Study to investigate the rezoning of the land to support the Project, the Minister required the Proponent to prepare a Justification Report for the Project in accordance with the then recently released Gateway Process for the early assessment of rezoning proposals against clearly established criteria (now incorporated into Part 3 of the EP&A Act).

The Minister issued requirements for the Justification Report to the Proponent on 7 April 2008. The terms of reference specified by the Minister for preparation of the Justification Report incorporated the criteria from the Department's Justification Report requirements, and the sustainability criteria from the IRS, as considered by the Minister to be relevant to the Project.

The Proponent's Justification Report accordingly incorporated assessment of the Project against the Sustainability Criteria of the IRS to address the case for a change in classification of the site in the IRS, and commencement of the rezoning process.

On the basis of the Proponent's Justification Report, and the outcome of the DoP's internal Gateway Process review, the Minister for Planning wrote to the Proponent on 18 December 2008 recommending that the Proponent commence the Part 3A process. In doing so, the Minister stated:

*"I consider that the Growth Centres Commission report on West Dapto now provides a clear way forward for West Dapto and Calderwood and the State Government will be working with the relevant local councils to achieve much needed land release for the Illawarra".*

The Justification Report was submitted again to the DoP as supporting documentation to the Preliminary Environmental Assessment submitted as part of the Part 3A process.

Copies of correspondence from the Minister to the Proponent on this matter are included at **Appendix C**.

The EAR accompanying the Concept Plan and SSS proposal included a detailed strategic justification for the Project (refer to EAR Section 2.0) which addressed:

- Housing affordability;
- Residential land supply;
- Infrastructure delivery and independence from West Dapto;
- Economic growth, employment and retail impact;
- Alternative land uses;
- Environmental constraints and benefits; and
- Sustainability.

The Project strategic justification was supported by:

- Illawarra Land and Housing Supply Report (refer to EAR Appendix E);
- A detailed assessment of the consistency of the project with the Illawarra Regional Strategy Sustainability Criteria (refer to EAR Appendix F);
- Infrastructure, Services and Facilities Implementation and Delivery Proposal (refer to EAR Appendix G);
- Economic Impact Analysis (refer to EAR Appendix H);
- Calderwood Employment Update Revised Report January 2010 (refer to EAR Appendix I);
- Assessment of Retail Floorspace Potential (refer to EAR Appendix J); and
- Agricultural Land Study (refer to EAR Appendix K).

### Calderwood as an alternative source of land supply

The Calderwood site is identified as an investigation area in the Metropolitan Development Program (MDP). It is one of two supply sources of scale, along with West Dapto.

The IRS which incorporates the Kiama, Shellharbour and Wollongong LGAs is the agreed NSW Government position to guide sustainable growth and economic development within the Illawarra to 2036. It provides for Calderwood as an additional new release area if demand for additional housing supply arises because growth in the Region is beyond projections and the ability of identified developments to satisfy housing demand.

The IRS provides for ongoing updates to the MDP/IUDP.

Accordingly, the IUDP Update (April 2010) Greenfield Dwelling Forecast (p.8), which was published by the State Government in April 2010, identifies Calderwood as potentially providing 700 dwellings in the 5 year period covered by the forecast, being 2008/09 to 2012/13. The IUDP update confirms the need for Calderwood to produce land and housing in order for Regional Strategy Dwelling targets to be met. Without Calderwood, the lot production forecasts under the IUDP do not demonstrate how this target can be met.

The strategic justification for the Project documented in the Concept Plan and SSS EAR demonstrated both that (a) population projections in the Region have exceeded projections in the IRS; and (b) that other developments identified under the IRS have not delivered the housing required to satisfy demand in the Illawarra (refer to EAR Section 2.2).

Given the delays in lot production and the demonstrated shortfall in land supply in the Illawarra Region, the release of Calderwood for urban development now conforms with the IRS and the State Government's policy of releasing land quickly to market. There are compelling reasons for proceeding with the Project now to deliver housing product in the Illawarra that meets the market's ability to pay.

It is consistent with the State government announcement on 12 February 2010 that whilst continuing to work on the rezoning of the first stages of the WDRA, it would also continue to investigate other appropriate release areas.

The relevant criteria to support the nomination of the Project site on Schedule 3 of the Major Development SEPP are met.

The strategic justification documented by the Proponent in Section 2 of the Concept Plan and SSS EAR remains valid. Accordingly the concerns raised in submissions with respect to regional land use planning are not agreed by the Proponent.

Since the Concept Plan and SSS EAR was submitted to the DoP in March 2010 there have been three key events of specific relevance to consideration of land and housing supply in the Illawarra:

- Updated population growth forecasts have been released by the DoP (April 2010);
- The IUDP update has been published (April 2010); and
- Stages 1 and 2 of the WDRA have been rezoned (early May 2010) and the draft Section 94 Contributions Plan for the WDRA has been released for comment (May 2010) identifying a \$42,000 per dwelling contribution rate.

In addition, a number of other significant matters have occurred since the Concept Plan and SSS EAR was submitted that are relevant to the consideration of land and housing supply and demand in the Illawarra:

- The National Housing Supply Council 2<sup>nd</sup> State of Supply Report has been released (late April 2010);
- The Productivity Commission benchmarking study into State and territories planning and zoning systems, including unjustifiable restrictions on competition has been commenced (early May 2010);
- The Henry Tax Review;
- The NSW Comprehensive Housing Supply Policy, including contributions limits and the establishment of the Independent Housing Supply Task Force has been released;
- The DoP has applied a maximum local contribution cap of \$20,000 per lot; and
- The DoP has confirmed, by letter to Shellharbour City Council dated 7<sup>th</sup> June 2010, the status of Calderwood as an Illawarra land and housing supply project.

The above provide:

- Reinforcement of the priority at both the Federal and State Government level to implement new land release and development as efficiently as possible, including addressing unjustifiable restrictions on competition;
- Restatement of both Federal and State Government Housing supply and affordability objectives; and
- Confirmation of the IRS land and housing supply targets.

In response to the above events, and to address the concerns relating to regional land use planning and strategy consistency raised by agencies and the general public in submissions, the Proponent has prepared an *Update Report – Consistency with Illawarra Regional Strategy*. A copy of the *Update Report* is included at **Appendix C**.

*The Update Report:*

- Provides an updated population forecast table that includes the NSW Statistical Local Area Population Projections, 2006-2036 issued by the DoP in April 2010; and
- Examines the production status of the zoned Release Areas, including Stages 1 and 2 of the WDRA, to reflect actual dwelling production rates; and
- Demonstrates the impact of the actual dwelling production rates on the IUDP Update released in early May 2010.

Key aspects of the updated population and lot production data and analysis documented in the *Update Report* are:

- Based on the NSW Statistical Area Population Projections 2006-2031 released by the DoP in April 2010 population growth in the Illawarra is expected to average 0.8% per annum between 2006 and 2031. The most recent population growth rate forecast released by the DoP is therefore higher than the growth rate assumed in the IRS.
- Notwithstanding, the above, between 2006 and 2008 the annual population growth rate in the Illawarra Region was in fact 1.1%, significantly in excess of both the IRS assumption made in 2006 (i.e. 0.7%) and the more recent population growth forecasts released by the DoP in April 2010 (i.e. 0.8%).
- The IRS, which was published almost 4 years ago in late 2006, forecasts the need for 38,000 new dwellings based on a projected population growth of 47,600 persons to 2031. The population projections released by the DoP in April 2010 estimate that the population of the Illawarra Region will grow by 52,200 persons by 2031.
- The DoP has therefore identified in its own recent population forecasts that population growth will exceed that estimated under the IRS. Whether or not the higher growth rate of 1.1% that has actually been experienced between 2006 and 2008 continues, the State government has acknowledged that population growth in the Illawarra is expected to exceed the growth rates assumed in the IRS.
- The basic premise of the IRS that the proposed WDRA will produce 500 lots per annum on 5 multiple development fronts has not been realised. No lots have been delivered to market within the WDRA nearly 4 years after the IRS was adopted.
- The draft WDRA Contributions Plan publicly exhibited in May 2010 assumes an average annual production rate of 172 lots per annum from the WDRA. Delivery of 172 lots per annum equates to only 22% of the annual Greenfield lot production rate of 780 lots (IUDP 2008) that is required to meet forecast demand in the Illawarra and less than 12% of the 1,520 dwellings per annum required under the IRS. In addition, the average annual production rate of 172 lots equates to less than 35% of the "required annual lot production (for West Dapto) of 500" as identified in the IRS (p.21). This represents a shortfall of 65% per annum from the WDRA. The cumulative impact of this rate of shortfall is significantly greater than has previously been identified.



- The rezoning of Stages 1 and 2 of WDRA, comprising approximately 6,900 dwellings, moves that land to the infrastructure servicing and delivery phase identified in the IUDP Update. However, the recently announced hard cap of \$20,000 for Council imposed Section 94 Contributions results in a shortfall of approximately \$370 million of the total \$710 million required under the draft WDRA Contributions Plan to provide infrastructure that is essential to implementation of the release area. It would appear likely that the Contributions Plan for the WDRA will have to be re-worked and re-exhibited before development in the WDRA can proceed causing still further delay to implementation and greater cumulative shortfall.
- The Growth Centres Commission (GCC) review of the West Dapto project conclusions that "...*The West Dapto Release Area presents unique challenges...*" and "...*that planning and development of this release area as difficult as such exercises get....*" are presently being reinforced as the implementation requirements of the project are being tested by industry and Wollongong Council and found to be as stated by GCC. To date every aspect of the Project has been delayed, extended, compromised and/or problematic.
- Planning for, and implementation of, the Release Areas nominated in the Regional Strategy (including Shell Cove, Tallawarra and Tullimbar) has not progressed as expected and continues to face ongoing difficulties. Even with the inclusion of Calderwood in production projections, the Greenfield dwelling forecast is a 'shortfall' in the IRS requirement by more than 35%.

The *Update Report* supplements the strategic justification documented at Section 2.0 of the Concept Plan and SSS EAR. Together, the Update Report and EAR demonstrate that:

- The strategic planning context of the IRS has been superseded by the National and State policy frameworks that require increased land and housing supply, positive measures to improve housing affordability and the need for competitive tension in the market place.
- Planning for, and implementation of, the WDRA (nominated in the IRS) as the Priority Release Area has not progressed as others had expected and continues to face significant ongoing difficulties.
- Planning for, and implementation of, the other Release Areas nominated in the Regional Strategy has not progressed as expected and these also continue to face ongoing difficulties.
- The product being developed in other Release Areas is differentiated to that which is proposed at Calderwood. Other Release Areas such as Tullimbar and Shell Cove are targeting 'specialist products', Calderwood is targeting an affordable product.
- Land and dwelling supply targets as documented in the IRS are not being met and the alternative Release Area of Calderwood is required to meet these targets.
- Over reliance on one major source of new land and dwelling supply (ie WDRA) is resulting in a significant undersupply of land and housing in the Illawarra. The concerns expressed by the National Housing Supply Council that data on potential supply may be higher than actual implementation and delivery are a reality in the Illawarra.



The Update Report prepared by DLL and included at **Appendix C** shows that the concerns expressed in submissions about whether the Project is consistent with the IRS:

- Are narrow in focus and based on the erroneous premise that there is sufficient zoned land to meet the Illawarra's land and housing supply needs;
- Fail to recognise the reality of the implementation status of release areas in the Illawarra;
- Ignore the significant broader forces at play in the strategic, economic and housing affordability framework and
- Take insufficient account of the capacity of the market and the requirement for affordable housing stock and choice.

### Loss of agricultural land

SCC, KC, the CMA and the DII have raised issues with respect to the loss of agricultural land, and impact on remaining agricultural land, arising as a consequence of the Project. It has been identified that parts of the site (approximately 40%) are identified as Class 2 and 3 Agricultural under the Agricultural Land Classification Map for the Illawarra Region, and that the land is identified in the IREP 1 as having Prime Crop and Pasture Potential. Concern has been expressed that the Agricultural Land Study submitted as part of the Concept Plan and SSS EAR (refer to EAR Appendix K) has downplayed the site's importance in relation to its primary production value as well as the financial viability of existing landholdings for production practices. Concern has also been expressed that the Concept Plan design does not suitably mitigate impacts on adjoining agricultural uses.

These concerns are not agreed by the Proponent.

The IRS states the following with regards to agricultural land:

*"the Regional Strategy will promote the economic, food production and community values of existing agricultural lands and protect them from inappropriate urban expansion (**other than that identified under this Strategy or in accordance with the Sustainability Criteria**) (our emphasis) (p.36) and "New residential (**other than those identified in Chapter 6 Housing and Settlement**) (our emphasis) or rural residential zones will only be supported where they meet the Sustainability Criteria (Appendix 1)"(p.37)*

The Proponent's Calderwood Project is specifically identified and referenced at Chapter 6 (p.22) of the IRS as an alternative source of residential land.

Although located in a 'rural and natural resource area' under the Strategy, the Project, which is specifically identified for future housing and settlement under Chapter 6 of the Strategy, is not identified as significant agricultural land, nor as productive resource land. Nor is any of the land within the defined 'area of influence' or 'area of potential impact'.

The IUDP Update, which monitors the planning, servicing and development for new urban areas in Wollongong, Shellharbour and Kiama includes the Calderwood Investigation Area (refer to IUDP Update Map 4, p.15) and incorporates assumed lot production from Calderwood in estimates of Greenfield Dwelling Potential and Greenfield Dwelling Forecast for the Illawarra (refer to IUDP Update p.8).

There is no inconsistency between the loss of agricultural land on this site and the IRS.

To the contrary, the IRS identifies that urban development of Calderwood may proceed if Calderwood is required as an alternative source of residential land supply to the WDRA.

The Sustainability Criteria of the IRS include a requirement that development “avoids significant agricultural land” and avoid “productive resource lands – extractive industries, mining and fishing”.

Assessment of the Project against the Sustainability Criteria of the IRS demonstrates that it is satisfactory. As identified above, the IRS Sustainability Criteria have already been considered in relation to this Project, and with respect to the Project’s identification at Chapter 6 of the IRS as a future land release area on a number of occasions including at the time of the Gateway Justification Report (2008).

The area of loss of agricultural land identified by DII in its submission is not correct. Table 2 (p7) of the EA Appendix K – Agricultural Lands Study shows that 580 ha of land currently used for marginal agricultural activity will be lost. This area relates to landholdings, not necessarily to “productive” land.

The Proponent does not agree with the proposition of the DII that the Agricultural Lands Study should assess impact on existing adjoining agricultural land in isolation to the context of the IRS. Acknowledgement of the significant transformation of the locality that will occur under the IRS in the Projects ‘area of influence’ is considered both highly relevant and appropriate to the strategic planning context of Calderwood.

Implementation of the IRS will fundamentally change the existing rural character of the majority of land surrounding the Calderwood site, most of which is on the MDP. The locality will undergo transformation from the existing rural and agricultural land uses to urban development. This intended transformation underpins growth in the Illawarra.

As the majority of adjoining land currently used for the agricultural activities has been identified for future urban land release under the IRS and / or the MDP, any support of ongoing agricultural practices will remain only in the short term. Although a significant land use change is proposed, the Concept Plan proposal has responded to the potential longer term ongoing agricultural use of land in the area of potential impact by incorporating landscape and environmental buffers to adjoining land.

The Proponent also does not agree with the DII that the assessment of impact contained within the Agricultural Lands Study has not appropriately addressed impact on primary production values or regionally significant areas of food production.

Accordingly, the following findings and conclusions of the Agricultural Land Study (as summarised at Sections 3.6 of the Concept Plan and SSS EAR) are considered to remain valid:

- Currently only approximately 30% of the total site area is used for productive agricultural use. Key existing uses on the site and in the locality are dairying, low intensity farming, agistment, hobby farms and lifestyle activities.
- Subdivided into blocks of approximately 40 ha some 40 years ago, the site does not include any regionally significant areas of food production, and is not identified as significant agricultural land, nor as productive resource land under the IRS.
- No extensive livestock or crop production activities (the major sectors dominating agricultural production in the Illawarra Region) occur within the site – it contains only small scale and low intensity farming activities.

- Land currently zoned for rural purposes represents a significant component of the total land area of the Wollongong and Shellharbour LGA's. However, much of the existing rural area is designated for residential development under the IRS and the MDP. This reflects the economic reality that these two LGA's are no longer major agricultural areas.
- The site is also not located in or close to any area of regional agricultural significance. Land supporting regionally significant food production is located in the Kiama LGA to the south of the Calderwood site. This position is supported by the IRS which identifies (p.36) that *"agricultural lands in the south of the Region (Kiama, parts of Shellharbour and adjoining agricultural lands in the Shoalhaven) are strategically important for long term food production that is close to markets"*.
- There are no cropping or high intensity agricultural production activities currently occurring on or in the vicinity of the site.
- A significant proportion (approximately 70%) of land surround the site is used for hobby farming, lifestyle, low intensity farming or 'other uses'. Dairying and agistment are the main productive agricultural land use in the locality. As such there are no impacts on primary production values or regionally significant areas of food production anticipated as a result of the project.
- The Shellharbour and Wollongong LGAs only contribute to approximately 8% of the total agricultural value of the region. Within the 'area of potential influence' and 'area of potential impact' of the Calderwood Project, land used for livestock activities represents only 0.04% of the total area of land in the region currently used for these activities.
- The combination of the small scale agricultural production on the site and its surrounding area, and the distance of this area from the major regional agricultural areas means that the development is unlikely to have any measureable impact on the production from those areas.
- More than half of the existing rural land within the 'area of potential influence' of the Calderwood Project has been identified by the State government for future urban development
- The majority of land adjoining the Calderwood site to the north, south and east comprises existing urban development, land identified for future urban release, or rural land already strongly influenced and physically contained by its proximity to the existing urban areas of Tullimbar and Albion Park.
- More than half of the land adjoining the Calderwood site to the west comprises land identified for future urban release, or conservation lands.
- The Calderwood site is, to a large extent, physically contained, and geographically isolated from surrounding productive agricultural lands.
- It can reasonably and appropriately be concluded that nil to minimal impact on primary production values and practices of adjoining areas will arise as a consequence of the Project due to the existing limited agricultural production in the locality.
- Any impact the Project might have on the 0.04% of the region's land used for agricultural production in its 'area of potential influence' and 'area of potential impact' will be so low on a regional basis as to be imperceptible.

It is considered that the Concept Plan appropriately responds to any negligible impact that the development might have in its immediate vicinity through appropriate urban design and the inclusion of a buffer area between the subject site and the adjoining affected agricultural land.

Further consideration has been given to residential densities at the urban / rural interface of the development and additional controls are proposed to ensure that residential lot sizes in these locations are appropriate to achieve the intention of the Concept Plan proposal to incorporate a lower density of housing on the fringes of the Project, specifically on land adjoining long term agricultural land (refer to Section 2.7 and Appendix G of this PPR, and to revised **Statement of Commitments 18 – 20** for detailed discussion).

### Utilities infrastructure servicing

The Proponent has undertaken a significant amount of investigation into how the development can be serviced.

It is the position of the Proponent that the Infrastructure, Services and Facilities Implementation and Delivery Proposal (refer to Concept Plan and SSS EAR Appendix G) provides a clear and viable infrastructure and servicing implementation strategy that leverages readily accessible existing infrastructure.

The Utility Services Study prepared by Cardno (refer to Concept Plan and SSS EAR Appendix Y) has examined the ability to provide utility services to the site in the context of the strategy for servicing the WDRA. Calderwood can be implemented as a stand alone proposal and can be developed independently of the WDRA and therefore will not affect the provision of infrastructure for West Dapto. This has been demonstrated to be the case.

Calderwood and West Dapto represent the last remaining greenfields urban release areas of scale in the Illawarra. Whilst the projects will be virtually contiguous when fully developed, and the timing of the release of land in both areas is likely to overlap, their respective early stage releases (i.e initial development fronts) are more than 10km apart and will be supported by and require an entirely different services and delivery implementation mechanism.

Calderwood is on Sydney Water's GSP.

Water supply is to be delivered to the WDRA from the Dapto and Wongawilli Reserves to the north. Calderwood needs to be serviced initially from the existing Albion Park Reservoir in the south, or in the longer term from a future reservoir at Avondale (also in the South).

The service areas for the Wongawilli and Avondale Reservoirs are quite separate and have been purposely sited by Sydney Water so as not to over supply areas and lead to inefficiencies.

In terms of sewer, both Wollongong and Shellharbour STPs have available treatment capacity for any early development (first 5 years) though will need to be amplified in order to accommodate the future growth of both Calderwood and West Dapto.

Both these are separate augmentations and independent of each other. They have physically separate reticulation areas, and are managed separately by Sydney Water.

Integral Energy's strategy for West Dapto is again independent of the Agency's plans for Calderwood and involves the establishment of 3 new substations.

A new zone substation will be needed for Calderwood, and a specific site for this is identified and delivered by the Project (refer to Stage 1 Project Application).

The infrastructure and servicing strategy minimises implementation risk and cost to Government by utilising DLL expertise and delivery proposals. It will provide structural enhancements to the Region's infrastructure base and long term synergies with other proposed Release Areas.

Single developer control of consolidated land holdings with scale provides the opportunity for delivery as works in kind ensuring control over implementation and meeting community requirements in a timely manner.

The Project is uncomplicated: practical and achievable solutions are available for implementation of all aspects of the Project.

Refer to Concept Plan and SSS EAR Section 2.3.

## 2.2 Sustainability

Shellharbour City Council has concluded that the Project is “*economically, environmentally and socially unsustainable as proposed and not in the public interest*”.

Specifically, the council has identified:

- That although the Council has not undertaken any assessment of the Proponent’s Economic Impact Assessment, it appears that economic benefits are inequitably measured and do not quantify cost to government;
- That a number of negative social issues remain to be adequately addressed including public transport, physical and social isolation and the relative negative impacts of an isolated car reliant commuter suburb, employment inaccessibility, and housing affordability and diversity;
- That the Project mode shift of 10% will not be achievable given the geographical isolation of Calderwood from the existing employment, community, commercial and retail services in the Shellharbour and Wollongong LGAs, and that in any event a more stringent mode shift of 30% should be applied; and
- That the assessment of impact on biodiversity is inadequate.

The DoP has not raised any specific concern with respect to sustainability issues, other than in relation to consideration of the extent of cut and fill proposed within the Stage 1 Development area (refer Section 2.3) and will be further addressed in the Stage 1 Project Application PPR that is to be submitted separately.

### Response:

Any contention that the Project does not demonstrate sustainable outcomes is rejected in the strongest possible terms by the Proponent.

Each of the specialist sub-consultant disciplines involved in the preparation of the Project specifically considered and addressed the manner in which the Project can and should meet sustainability principles.

As summarised at Sections 2.7 and 4.4 of the Concept Plan and SSS EAR, the Calderwood Urban Development Project demonstrates sustainability as follows:

- The Project delivers integrated planning and design.
- This is possible because the site is a large landholding and implementation of the development rests with a single developer. Opportunities therefore exist to deliver holistic and balanced outcomes in a way that cannot be readily achieved in other urban release areas that are in fragmented ownership, such as the WDRA.
- This Project can appropriately manage existing environmental constraints within the site boundaries in a sustainable manner because there is sufficient land area available to do so without relying upon coordination of multiple landowners and use of off-site mitigation of impacts.

- This principle applies to environmental management strategies including floodplain re-shaping, biodiversity conservation, riparian corridor retention and water cycle management.
- As a developer-lead master planned community, the Project can be delivered in a manner that achieves a relatively high level of self containment in terms of employment generation, retail expenditure and vehicle trip generation. This self containment will contribute positively to reducing the carbon footprint of the development as compared to traditional Greenfields residential development.
- It will deliver a range of densities, lot sizes and dwelling types as a key social sustainability outcome to create a diverse community that is demographically balanced. The variety of housing forms will provide opportunities to respond to changing life cycle, lifestyle and work requirements over time, enabling people to age in place.
- The Project adopts a mode share target of 80% car based journey to work by 2031. This represents a 10% modal shift away from private vehicle use. A comprehensive package of deliverable sustainable transport measures is identified to assist in achieving the 10% mode shift including:
  - Timely Provision of Facilities and Services.
  - Fibre to the Home (FttH) and National Broadband Network.
  - Website/Community Portal.
  - Resident Kits.
  - Promotions.
  - Public transport incentives.
  - Land Use/Transport Interaction including:
    - Provision of walking and cycling networks.
    - A diversity of land uses and housing types across the project to accommodate a diverse population.
    - Engaging and active streets that provide a positive experience for the users particularly along primary pedestrian and cycle corridors.
    - Crime Prevention Through Environmental Design (CPTED) principles applied to provide a greater sense of safety through passive surveillance of streets, parks and other areas of open space
  - Establish a sub network of lit paths to provide for safer walking and cycling after dark.
  - Locate key amenities to maximise walkable access.
  - Holistic approach to the design of the street network, carefully balancing the needs for vehicle movement with the needs of pedestrians and cyclists.
  - Local Access Street Design.
  - Pedestrian and Cycle Hierarchy.
  - Way-finding Signage.
  - Parking Strategies.
  - Safety Elements for Network.
  - Bicycle parking at key destinations within CUDP.
  - Bus Network Provision
  - Bus Service levels that meet and exceed NSWTI's Outer Metropolitan Service Planning Guidelines
  - Early bus service provision
  - Branding and Publicity
  - Bus Stop Infrastructure

Transport NSW has supported the measures included in the TMAP and identified the above as appropriate with respect to demonstrating contribution towards mode shift targets (refer to letter dated 28 June 2010) and has requested that the TMAP measures be incorporated into conditions of consent.

***An additional Statement of Commitment has been included in relation to the above (refer to Commitment 23)***



- The Project will make a positive contribution to the achievement of travel and vehicle use goals in the Illawarra. It will form part of a larger urban area and assist in the achievement of a public transport catchment that can be serviced by economically efficient transport services.
- The Project makes special provision for home based businesses and working from home in accordance with the principles of the National broadband network. Combined with employment lands and a new Town Centre and Village centre, this will reduce car dependency and trip generation rates.
- The Project will generate approximately 8000 full time equivalent jobs by 2031, of which there will be a high containment ratio to the Shellharbour LGA – approximately 60%. This will contribute positively to a reduction in trip generation and to minimising the carbon footprint of the development.
- The Project retains core biodiversity areas within the site and incorporates both east west and north south habitat connectivity. It presents a preferred long term ownership and management regime, and assesses options for alternative ownership and management arrangements, for the protection of natural resources.
- The proposed infrastructure and servicing strategy provides for structural enhancements to the region's infrastructure base and long term synergies with other proposed release areas. It will deliver efficiencies and economies of scale in infrastructure delivery and thus improve the sustainability of regional infrastructure to support future urban growth within the wider region.
- The Project adopts flood plain management and water sensitive urban design measures and design features that respond to an analysis of potential climate change impacts.
- The large size of the site and its availability for coordinated development enable the delivery of an holistic flood plain mitigation plan accompanied by water sensitive urban design measures that will result in a net improvement in water quality in Marshall Mount Creek, Macquarie Rivulet and as a consequence Lake Illawarra. Water cycle management integrates with urban design, salinity risk and riparian corridor protection measures.
- DLL is committed to the development of alternative technologies in its communities. The issues of carbon emissions, renewable energy targets and land tenure solutions will become increasingly relevant to new urban developments. DLL sees potential for both solar farms and co (or tri) generation as part of the Project, particularly for the Town Centre and employment precincts. Such opportunities will continue to be considered throughout the project.

***An additional Statement of Commitment has been included in relation to the above (refer to Commitment 24)***

- Energy sustainability for the Project focuses on reducing the demand for energy through the efficient design of the urban form to capitalise on the natural features of the site. Demand will also be mitigated through consumer demand initiatives including BASIX requirements for dwelling design.

***An additional Statement of Commitment has been included in relation to the above (refer to Commitments 25 and 26)***

- The Project adopts potable water supply conservation targets and identifies sustainable integrated options for water supply, wastewater and stormwater servicing. The master planned residential and non residential layout lends itself to an efficient internal water distribution network with good connectivity and relatively minor hydraulic losses.

***An additional Statement of Commitment has been included in relation to the above (refer to Commitment 27)***

SCC has raised concern that the proposal does not adequately address potential social impacts, including social and physical isolation, car dependency, transport, accessibility, employment, housing diversity etc.

These issues have already all been recognised and named as potential negative social impacts in the Social and Community Planning Assessment included at Appendix AA of the Concept Plan and SSS EAR. The Assessment describes the ways in which these impacts will be addressed to minimise negative outcomes (refer to chapter 5 of the Social and Community Planning Assessment).

The adopted strategies include relative self-containment for local facilities, early delivery of facilities, encouragement for public transport services etc. The Concept Plan proposal has been designed to incorporate employment opportunities within the site, including through the town centre and adjacent mixed use lands. Self containment and provision of on site opportunities for employment is a fundamental component of the project and contributes not only to social sustainability outcomes, but also to transport sustainability including mode shift.

Negative impacts of the development on existing revitalisation projects have not been identified – the Social and Community Planning Assessment concludes that Calderwood can help to revitalise Albion Park through retail demand for things like specialty shops and restaurants.

***Additional Statements of Commitment has been included in relation to the above (refer to Commitment 75-77)***

Early delivery of facilities, and human services are also addressed further in the revised local development contributions (refer to Section 4).

Examples of DLL projects that have demonstrated social, economic and environmental sustainability principles and application of the type of mode share initiatives that are proposed for Calderwood are included at Appendix 3A of the TMAP (refer to Appendix T of the Concept Plan and SSS EAR). These projects include Ropes Crossing, St Marys, and Forde, ACT.

The Proponent is part of the Lend Lease Corporation (LLC). Both DLL and LLC have won numerous awards for environmental outlook and delivery. For full details, visit the Lend Lease website: <http://www.lendlease.com/> and follow the links to 'Lend Lease Sustainability'.

LLC is included in the "Global 100" list of the world's most sustainable corporations. Lend Lease is the only Australian company to be listed on all three of the 2008 Dow Jones Sustainability Index, the 2008 Goldman Sachs JB Were Climate Leadership Index and 2009 Global 100. A copy of the LLC Policy Statement on the Environment can be found at the following link: [http://www.lendlease.com/sustainability/pdf/LendLease\\_Environment\\_policy.pdf](http://www.lendlease.com/sustainability/pdf/LendLease_Environment_policy.pdf)

## 2.3 Flood Impact and Risk Assessment

SCC and DECCW have expressed concern with respect to the proposed flood management strategy for the Project. The specific concerns raised include:

- The manner in which the risk of flooding on the proposed development and the impact on adjoining lands has been estimated, including the scope and technical adequacy of the flood study, modelling assumptions and potential cumulative impacts of filling of the floodplain;
- The consistency of the flood risk assessment of the site with the NSW Flood Prone Land Policy as set out in the Floodplain Development Manual 2005;



- The consistency of the Project with Shellharbour Council's Floodplain Risk Management DCP;
- That there is no comparison of flood flow and level information to that published in the Albion Park Flood Study – Water Resources Commission (WRC) 1986;
- That the documentation provided does not include flood mapping to Lake Illawarra and does not identify floodways; and
- That there is doubt with respect to potential risks associated with the Project.

A range of similar concerns have been raised in public submissions.

DECCW and the Council have requested that further information be provided to clarify a number of aspects of the Project and the technical flood assessment.

The Lake Illawarra Authority has also expressed concern that the Project will lead to adverse impacts on the catchment of Lake Illawarra during times of flood.

Notwithstanding its concerns expressed above, SCC has identified that it does not have the internal capability to properly assess the documentation relating to flooding provided by the Proponent, and has requested that it be subject to peer review. DECCW has also recommended that a peer review of the adequacy of the flood study, estimated design flood events, and assessment of impacts and risks be undertaken so that the DoP can satisfy itself with respect to potential flood impact risks.

The DoP has expressed concern with respect to the extent of cut and fill in the Stage 1 area between Macquarie Rivulet and the Illawarra Highway and its consistency with the Sustainability Criteria in the IRS which seeks to avoid residential development within the 1:100 floodplain. The DoP has requested that the extent of development within this part of the site be carefully considered to respond more appropriately to the environmental constraints of the site.

Having regard to the requests made by SCC and DECCW, and to assist in its assessment of the Project, the DoP has engaged SKM to undertake a peer review of the Proponent's flood studies, including consideration of the impact on downstream properties that rely on the flows from smaller streams for their agricultural use.

## Response :

### Flood risk assessment – methodology and modelling

The Proponent does not agree that the risk of flooding has been underestimated, and maintains that the scope and technical adequacy of the flood study and modelling assumptions is sound.

The flood reports for the Project have been prepared by a partnership of companies - Cardno and Rienco. The premise that the Cardno and Rienco flood reports lack technical veracity is strenuously rejected.

As detailed in the Concept Plan and SSS EAR the Project DGRs require the Flood Mitigation Study to be conducted in accordance with the NSW Government's Flood Prone Land Policy as set out in the Floodplain Development Manual 2005 (FPDM).

Accordingly, the Proponent has modelled and assessed flood risk in accordance with the FPDM.

The Project DGRs also require the Proponent to consider Shellharbour Council's Floodplain Risk Management DCP and justify any departure. The Proponent has done this, and has additionally decided to also consider the provisions of the Wollongong DCP.

SCC's Floodplain Risk Management DCP has a stated aim and objective to *"deal equitably and consistently with applications for development on land affected by potential floods, in accordance with the principles contained in the Floodplain Development Manual"*.

Accordingly, where the council's DCP is inconsistent with the FPDM (which it is, in part), the proponent has appropriately adopted and applied the principles of the FPDM. Each of these instances is documented and justified in the EAR Appendix R Chapter 4 (Floodplain Risk Management Study). In all other instances, the DCP is consistent with the FPDM and therefore the assessment meets the requirements of both the FPDM and the DCP.

The flood assessment methodology is considered to be entirely consistent with other recent Regional project proposals and what has previously been accepted by agencies (refer to "Floodplain reshaping – strategic approach" below for further discussion).

The methodology and approach to addressing the DGRs was documented and agreed at a meeting with the DoP and DECCW on 20<sup>th</sup> October 2009 as identified in the Concept Plan and SSS EAR Appendix HH. The adopted methodology involved consultation with the DoP, DECCW, SCC, WCC and the Lake Illawarra Authority.

DECCW is aware that, consistent with recent Regional project proposals, a Flood Frequency Analysis incorporating the Albion Park Flood Study – Water Resources Commission (WRC 1986) has not been undertaken because of the substantial errors and lack of reliability of the WRC 1986 study as determined by the WRF 1996. The substantial errors and lack of reliability were determined by a committee on which current members of DECCW sat.

The Flood Model used for Calderwood is predominantly the same flood model used on the recent Illawarra Regional Business Park Development which was approved by the Minister for Planning under Part 3A on 2 January 2009. This model was also subject to 3<sup>rd</sup> party peer reviewed at the time by GHD (on behalf of DoP) and the DoP was satisfied with its integrity. It is noted that at that time, the potential impacts on flooding behaviour as a result of the proposed earthworks at the Illawarra Regional Business Park was a significant issue identified by the Department, DECC, SES, Council and public submissions.

The Proponent's approach to flood impact assessment is regionally consistent with the impact assessment undertaken by Bewsher Consulting for the WDRA and agreed to by both Council's, DECCW and the LIA.

An embedded design storm (EDS) procedure has been adopted by SCC, WCC and DECCW as being the preferred methodology in the Region for design flood estimation. Rienco, author of the EDS procedure, has confirmed that it has been adopted by SCC, WCC and DECCW as being the preferred methodology in the Illawarra region for design flood estimation. The EDS was adopted in various neighbouring catchment government funded, catchment wide studies conducted under a Floodplain Risk Management Committee (including DECCW). The EDS was also accepted by DoP and GHD (in their peer review) of effectively the same model in Macquarie Rivulet for the Illawarra Regional Business Park development. It is also well adopted outside of the region.

In accordance with relevant local and State government guidelines and policies modelling has been undertaken with respect to existing conditions, the developed scenario, Flood Planning Levels and Flood Planning Area, and climate change. It identifies the extent of flood prone land and flood risks during the 1% AEP flood and probable maximum flood events (pre and post development), and incorporates both water quality modelling – Australian Runoff Quality (ARQ) and water balance modelling.

The methodology adopts:

- WBNM and Tuflow modelling;
- Data capture through ALS, Historic Reports, rainfall and Stream Gauging, Mapping, Field Work, Literature Review;
- Separate consultant commission for baseline flood study;
- Hazard mapping in accordance with the Floodplain Development Manual;
- 1% AEP as designated flood event;
- Flood planning level in accordance with FDM at 1% + 500mm;
- Egress in PMF (or refuge as an interim response);
- Stormwater harvesting / Greening public domain; and
- Riparian corridor verification / ground truthing.

It is the Proponent's position that the Floodplain Mitigation Strategy for the Project is a holistic merit based assessment of floodplain mitigation options in accordance with the FPDM and meets the DGRs.

The Proponent notes the peer review of the flood assessments being undertaken on behalf of the DoP by SKM and assumes the review will assess the Calderwood Project flood model on the basis of the following:

- Does the model comply with the DGR's (including justifying deviations from Council standards)?
- Does the proposed development comply with the NSW Floodplain Development Manual?
- Will the lots be affected by 1% AEP flood?
- Will residents be safe in extreme flood events?
- Does the proposed development adversely impact other properties beyond what is already environmentally constrained?

It is considered that the Concept Plan and SSS EAR documentation and flood model satisfactorily addresses all of the above questions, and it is anticipated that the review of the flood studies by SKM will support the Proponent's position with respect to each of these matters.

It is noted that further technical information, analysis and response to a range of issues and questions has been provided to SKM by the Proponent to assist SKM in its review. The DoP has been part of this technical process, and has been provided with copies of all correspondence between the parties.

The responses provided at **Appendix A** provide further details with respect to a number of specific matters raised in relation to the methodologies and modelling assumptions adopted in the flood assessments. Reference should be made particularly to Items SCC 112 to 121, and DECCW 01 to 29 of this table.

As detailed at **Appendix A**, key responses by the Proponent to issues raised in relation to flood modelling methodology and risk assessment include:

- All model assumptions are clearly published in the EAR Appendix R Sections 4 and 5 (Reinco);
- The Flood Study provides detailed, calibrated results for both the probability of floods (ie 1% AEP) and also clearly defines the consequences (ie flood hazard, property affectation etc);

- The NSW Flood Prone Land Policy as set out in the FPDM does not prescribe any assessment procedures for assessing flood risk, however the methodologies used by the Proponent are consistent with all current major flood studies and associated policies and planning directions which are detailed in the EAR Appendix R (Rienco);
- Flood impacts have been assessed between the site and Lake Illawarra. The flood model clearly extends beyond the area of impact upstream (refer to EAR Appendix R – Floodplain Risk Management Study (Appendix C));
- The hydraulic hazard mapping presented by the Proponent provides appropriate guidance on areas of high velocity and / or depth and is reproducible as documented and advocated in the FPDM;
- In accordance with the FPDM and s.117 Direction 4.3 the 1% AEP flood level (incorporating climate change) plus 500 mm freeboard has been adopted as the Flood Planning Level for the development. This is documented at EAR Appendix R (Section 5.5). The adopted Flood Planning Level is consistent with DECCW's own proposal for the WDRA and other land release areas in the Illawarra;
- The process by which the potential impacts of climate change on flood planning levels have been addressed is explained in detail at Section 5.4 'Climate Change' and Section 5.5 "Determination of the Flood Planning Level" of EAR Appendix R. A medium climate change sensitivity has been assumed ie a sensitivity corresponding to a global warming of 2.6 degrees for a doubling of CO<sub>2</sub> from 280 ppm to 560 ppm (CSIRO 2007);
- The Flood Mitigation Plan has been developed based on modelling that assumes potential revegetation may occur within the riparian corridors within nominated locations as shown on Figure 53 of the EAR, subject to demonstration of no adverse impacts on flood levels;
- Cumulative downstream impacts have been specifically addressed in the EAR Appendix R Section 5.2;
- The flood modelling extends to the maximum possible flood, the PFM event; and
- All new bridge decks will be located above the 1% AEP flood level and will allow uninterrupted road traffic throughout the development (and beyond) during events up to and including the 1% AEP flood.

### Floodplain reshaping – Strategic approach

The IRS Sustainability Criteria item 5 "Avoidance of risk" provides a 'threshold criteria' relating to achievement of the following outcome: *"land use conflicts, and risk to human health and life, avoided"*. The measurable explanation of the criteria includes *"no residential development within 1:100 floodplain."*

The measurable explanation of the criteria aims to demonstrate how land use conflict and risk to human health and life can be avoided. It is the 'avoidance of conflict and risk' that is the prevailing objective of the IRS threshold sustainability criteria, and is thus the matter that must be demonstrated to the satisfaction of the approval authority.

An appropriate strategic planning and development outcome for this Project does not and should not dictate that no residential development can proceed within the existing 1:100 year flood plain under any circumstances.

Rather, the DoP must be satisfied that:

- No residential or key infrastructure development will occur within the post-flood mitigation 1:100 year flood plain and thus give rise to potential land use conflicts and / or risk to human health and life;
- Roads and essential transport infrastructure have been designed to provide safe evacuation of the development during times of flood; and that the
- Off-site impacts that may arise as a consequence of the cut and fill works within the existing 1:100 year flood plain to establish the future urban footprint of Calderwood above the 1:100 yr flood line are satisfactory and will not give rise to potential land use conflicts and / or risk to human health and life.

The DoP recognises that the primary objective of the Flood Prone Land Policy is to reduce the impact of flooding and flood liability on individual occupiers of flood prone land, and to reduce private and public losses resulting from floods. The DoP also acknowledges that recognition should be given to the benefits that flow from the use, occupation and development of flood prone land. The Flood Prone Land Policy promotes the use of a merit based approach which balances social, economic, environmental and flood risk parameters to determine whether particular development or use of a floodplain is appropriate and sustainable.<sup>1</sup>

In terms of strategic planning outcomes, approaching the resolution of environmental constraints within a land release area of the scale of Calderwood in an integrated and holistic manner is considered appropriate.

The extent of cut and fill (both for the site as a whole, and the Stage 1 Development area in particular) is consistent with what has been occurring, and is intended to continue to occur elsewhere in the Illawarra Region to meet the IRS requirements.

There are several close-by examples of similar, recent subdivisions where large amounts of fill has been required (and approved by public agencies) to bring land within the floodplain to a developable level.

For example, of Tullimbar's 1,500 lots, it is understood that in excess of 500 lots require cut and fill on the flood plain. It is understood that the nearby Hayward's Bay (450 lots) required filling on the floodplain for every single one of its residential lots.

The Illawarra Regional Business Park development, which was approved by the Minister for Planning under Part 3A in 2009, is understood to rely on a cut and fill strategy for a significant portion of the land area that is proposed to be developed.

The Illawarra Regional Business Park site is located on the fringe of the floodplain of the Macquarie Rivulet and most of the site is subject to flooding during the 1 in 100 year and the PMF events. To enable development to proceed on the site, the Concept Plan approval allows the Proponent to import approximately 230,500m<sup>3</sup> of fill. The Director General's Environmental Assessment Report for that Project acknowledged that the adopted floodplain reshaping proposal would change both on-site and off-site flood behaviour, particularly with respect to the loss of floodplain storage in the local catchment, however concluded that the nature of the impacts is such that the floodplain reshaping model is appropriate in the circumstances.

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<sup>1</sup> Director General's Environmental Assessment Report – Illawarra Regional Business Park Concept Plan

The WDRA, also relies upon both significant infrastructure works being carried out to provide flood free access, and to a significant floodplain reshaping model in order for development within the release area to occur. A key component of the exhibited LES and strategies to manage flood behaviour in the WDRA relied on a cut and fill strategy across the release area. In the case of West Dapto implementation difficulties exist due to the need to coordinate the flood mitigation works and activities that are expected to be undertaken by multiple fragmented landholders.

The Growth Centres Commission Review (November 2008) of the WDRA recommended that the WDRA cut and fill strategy proposed to be carried out in the floodplain should be abandoned except for in certain circumstances including *“areas where excavation and fill can be undertaken within the one land ownership or development site with supporting evidence of no negative off site impacts on flood behaviour”* (refer Growth Centres Commission Recommendation D1).

Integrated floodplain reshaping is also consistent with the approach to flooding that has been taken in the North West and South West Growth Centres of Sydney.

The strategic approach to floodplain reshaping proposed by the Proponent has been demonstrated to be sound.

The constraints analysis undertaken by the Proponent and documented in detail at Section 3.0 of the Concept Plan and SSS EAR clearly acknowledge the existing environmental management constraints within the site, including flood affectation – extent and depth – across the site and its immediate surrounds.

A significant body of work has been undertaken by the Proponent to demonstrate where, and in what manner, a number of existing environmental constraints, including flooding, can be appropriately managed within the boundaries of the site.

Because the site is a large landholding under single control, an opportunity is presented in this case to proceed to mitigate existing flood impacts via development of an integrated flood mitigation plan and riparian strategy that coordinates the management of hydraulic impacts, ecological outcomes and future ownership and maintenance issues.

Assessment of existing site flood conditions and determination of an appropriate floodplain management strategy for the Project has formed a fundamental component of the site constraints and opportunities analysis and determination of the urban capable footprint of the site.

As previously stated in the EAR, to determine the optimum flood mitigation measures for the Project, including opportunities for re-shaping of the flood plain to optimise the urban capable footprint, a number of design iterations were undertaken and modelled by Cardno.

The final design iteration and subsequent identification of opportunities to re-shape the floodplain within the boundaries of the site to reduce flood impacts has been used to set a post development 1:100 yr flood line. The post development 1:100 yr flood line creates an optimal balance between the extent of works required and the resulting reduction in flood related impacts.

The final measures proposed will mitigate the potential impacts of flooding across the site, ensure no significant off site impacts arise, and also, wherever possible, improve flood affectation external to the site.



It is considered that the Flood Mitigation Plan that responds to the existing flood conditions on the site, and to the future increases in flood levels that have been determined as likely to occur under the identified climate change scenario. The Flood Mitigation Plan has been integrated with the recommendations of the Flora and Fauna Assessment; Concept Plan Riparian Corridor Network; Concept Plan Open Space Master Plan; Concept Plan Master Plan; to deliver an integrated Master Plan outcome.

The opportunity for the Proponent to reshape the floodplain within the boundaries of its own site where it can be demonstrated that no negative internal or off site impacts will arise represents a sustainable approach to land management.

### Off site flood level impacts

Information on offsite flood impact was included in the documentation lodged with the Concept Plan and SSS EAR (refer EAR Sections 3.12, 4.12 and, 7.6 and Appendix R - Flood Study).

Further technical information, analysis and response to a range of issues and questions have been provided to SKM by the Proponent to assist SKM in its peer review. The DoP has been part of this technical process, and has been provided with copies of all correspondence between the parties. Included in the further information sent to SKM is clarification on the offsite flood level impact on land adjoining the Calderwood Project.

A plan entitled "*The Design Flood Impact Map Post-Development 1% AEP 9 Hour Storm With Future Riparian Corridor*" is included in the original documentation (refer EAR Appendix R – Annex B). This plan shows the post development flood impact in terms of the quantum of 'increase' and 'decrease' in existing flood levels for both on site and on adjoining land during the 1% AEP as is included in this report at **Appendix D**.

During a technical meeting with SKM, the Proponent and consultants Cardno and Rienco used the above plan to illustrate that post development flood levels during the 1% AEP are:

- Contained within existing riparian corridors;
- Contained within existing flood affected land;
- Do not increase flood impacts on existing residences;
- Decrease flood impact on a small number of residential properties in Albion Park; and
- Acceptable in terms of their impact.

Following the discussion, DLL suggested that additional plans would help to explain and confirm the precise extent of the offsite flood impacts. As a result, additional plans were prepared and provided to SKM for reference.

The additional plans are attached to this report at **Attachment D**.

The additional plans include the following information:

- The impact on flooding, post development, during the 1% AEP 9hr storm: for this, the plans use the same digital information of predicted increases / decreases in flood level that are contained in the EAR Appendix R, Annex B;
- The extent of existing riparian corridors: these are defined by black boundaries. The different widths reflect the different category of stream classification and accord with the RCMS<sup>2</sup>.

<sup>2</sup> **NOTE:** The Calderwood project does not accept the RCMS classification of riparian corridors. Rather, DLL has undertaken a "ground truthing" exercise to validate riparian corridors within the Calderwood project area (as it has done for all other predicted site assets such as flora, fauna, heritage etc). However, as DLL has not ground-truthed the riparian corridors outside of the Calderwood project, a suitable benchmark is required to set riparian widths beyond the

- The physical extent of the existing, pre-development, 1% AEP: for this, the plans once again use the same digital information contained in the EAR Appendix R, Annex B, but map the 1% AEP as a defined red boundary. In addition, a light blue block is applied to all land within the 1% AEP for ease of reference; and
- Boundaries of the Calderwood MDP urban release area: these have been added to assist SKM in determining the impact on future development areas and the acceptability of flood impact with respect to risk assessment and the DGRS.

The additional plans demonstrate clearly the following offsite flood impacts:

- **Existing urban areas:**  
There is no increase in flood levels during the 1% AEP.  
A small number (approximately 5) of existing residential lots located within Albion Park that will have flood levels of between 0.5 and 1.0 metres less than currently experienced.
- **Calderwood Valley West (ie the MDP lands west of the Calderwood Project that are currently rural but anticipated to be developed for urban purposes in the future):**  
There are small areas of increase / decrease of between 0.02m-0.2m during the 1% AEP.  
The increases / decreases are on land that is already within the 1:100 yr flood line, and predominantly within existing riparian corridors.
- **Calderwood Valley East (ie the MDP lands east of the Calderwood Project that are currently rural but anticipated to be developed for urban purposes in the future):**  
There are small areas of increase / decrease of between 0.02m-0.2m during the 1% AEP.  
The increases / decreases are on land that is already within the 1:100 yr flood line, and predominantly within existing riparian corridors.
- **Surrounding rural areas (ie non MDP lands):**  
There are small areas of increase / decrease of between 0.02-0.2m during the 1% AEP.  
The increases / decreases are on land that is already within the 1:100 yr flood line, including within existing riparian corridors.

The impact of + or - 0.02m-0.2m during the 1% AEP is considered to be within acceptable limits and not a significant effect. Based on regionally consistent impact assessment, including that which has been adopted by Councils and the State government for the WDRA, there are no impacts that are categorised as "unacceptable" and all impacts fall into one of 2 categories:

- **"acceptable"** – through the normal development processes (eg fine tuning the mitigation measures, or by other means such as compensation) these flood impacts can be effectively managed so that third parties are not adversely affected; and
- **"not preferred"** – achieving an outcome whereby third parties are not adversely affected may present challenges, though the normal development processes enable these impacts to be managed satisfactorily.

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Calderwood site. The RCMS is considered as good a benchmark as any other. The RCMS identifies streams into various categories (1, 2 or 3) and defines corridor widths for each. DLL have applied the various riparian corridor widths from the RCMS to each stream outside of the Calderwood project area in the four inset plans in Attachment B.



The above terminology has been approved by Shellharbour Council and Wollongong Council, DECCW and the Lake Illawarra Authority for the West Dapto Release Area (WDRA) proposed development.

### Decreases in flood level

Importantly, the impact assessment framework for the WDRA defines “*decreases*” in flood levels to be acceptable, given the regional importance of flooding (especially on transport routes and other important infrastructure). The Proponent disagrees with the suggestion made by the DoP that there should be “no increase or decrease [our emphasis] in flood levels” off the site during the 1% AEP event as a result of the proposed Flood Mitigation Plan.

Currently, during the 1% AEP event the Illawarra Highway, just west of Yellow Rock Creek, is highly flood prone. Flood levels, and duration of overtopping, are key factors in existing road safety and present a considerable risk. The existing extent of flood affectation and risk on this section of the Illawarra Highway is detailed at Appendix R of the Concept Plan and SSS EAR.

The Concept Plan Flood Mitigation Plan results in this highly flood prone section of the Illawarra Highway having a lower flood level, and decreased duration of overtopping in the 1% AEP flood event. It cannot be reasonably concluded that a decrease in the existing flood affectation of the Illawarra Highway, a major traffic route, during the 1% AEP is an inappropriate outcome arising as a consequence of the development of Calderwood.

Furthermore, there is a significant area of land located to the east of the site that will experience a decrease in flood levels due to the proposed development. The decreases in flood levels include land within existing development at Albion Park, which is highly flood prone currently. As a consequence of the proposed development, there are a small number (approximately 5) existing dwellings that will have flood levels of 0.5-1.0m less during the 1% AEP. It cannot be reasonably concluded that a decrease in flood affectation on adjoining residential land during the 1% AEP is an inappropriate outcome arising as a consequence of the development.

### Flood impact and agricultural use

The potential impact on downstream properties has been fully considered. Properties that rely on the flows from smaller streams for their agricultural use will not be affected by the Calderwood project. Irrespective of the increase or decrease in flood levels that may occur during the 1% AEP, the proposed development will not have a significant impact on these streams or their flows. Stream flow is a separate and distinct issue to a 1:100 year flood level.

A review of NSW Government databases shows that there are approximately 40 groundwater bores within a 2 km radius of the site. This, combined with anecdotal evidence, suggests the dominant supply of water for agricultural purposes is via groundwater, not surface water. The development will have negligible impact on the supply of groundwater to these bores. Further:

- The increase or decrease in flood levels that has been identified occurs during a probable 1 hour storm event once every 100 years;
- No agricultural activity could reasonably rely upon such a storm event for water supply;
- Nor could it be reasonably concluded that a storm event that may occur once every 100 years would unreasonably impact upon agricultural activity, particularly given that the minor increase in flood levels that occurs on rural land is occurring on rural land that is already within the 1:100 year flood line; and
- The proposed floodplain reshaping does not affect the volume of water flowing into Lake Illawarra.

The Geomorphology Assessment included at Appendix M of the SSS and Concept Plan EAR concluded that flow variations due to the development are likely to be minimal due to the implementation of WSUD and other mitigation measures. It also concluded that the Project will have negligible impact on bed and bank erosion, channel depth, lateral movement of the channel and mobilisation of fine sediments on the floodplain (refer to Table 5.2 p.39 Appendix M).

## 2.4 Riparian, Drainage and Stormwater

### Riparian outcomes

The NSW Office of Water has raised a number of concerns relating to the proposals made for riparian lands:

- That the proposed categorisation of site water courses according to the Strahler system is not consistent with the RCMS mapping for the site and is therefore inconsistent with the riparian outcomes / actions under the IRS;
- That if the DWE (2008) Guidelines are to be applied to the Project instead of the RCMS, then a Vegetated Buffer of 10 metres should be provided in addition to the CRZs (on each side) for 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> order streams;
- That minimum CRZs of 40 metres + a 10 metre vegetated buffer be applied to Marshall Mount Creek and Macquarie Rivulet resulting in a total riparian corridor width of 100 metres;
- That minimum environmental corridors of 50 metres be provided to Reaches 4 and 5 which provide a connection between Johnston's Spur and Marshall Mount Creek (48 metre CRZs are currently proposed);
- That the proposed removal of Reaches 11, 12 and 13, and reduction in width of Reaches 3, 4, 5, 6, 9 and 10 not be supported;
- That clarification be given as to how the significant areas of public open space located immediately adjacent to the proposed CRZs might contribute to riparian function and outcomes;
- That it is not appropriate to remove existing native riparian vegetation and / or prevent the rehabilitation of riparian vegetation to allow for pedestrian and cycle pathways to be located within CRZs and that these should be located within APZs;
- That it is not appropriate to locate water cycle management structures online and within riparian land; and
- That all riparian lands should be rehabilitated to emulate the local community at a density that would occur naturally, and that flood impact modelling should assume this.

### Watercourse stability

In relation to flood plain reshaping, the NSW Office of Water has requested further information be provided to demonstrate that the watercourses will be stable, and that natural solutions to these watercourses can be achieved following the proposed modifications to the land form. Concern has been raised that the proposed floodplain filling may cause an increase in the velocities and shear stresses, and that the excavated areas may cause the streams to change course (by avulsion) and affect the landowners downstream of the site. DECCW has also raised the need to consider the hydraulic-geomorphic implications of the Project on the Macquarie Rivulet floodway.

NOW has requested further detail with respect to:

- Potential impacts of the cut and fill upstream and downstream of the site and how cut and fill areas will be merged with adjacent land;
- Impacts of the proposed reshaping on groundwater flow and creek base behaviour;
- The extent of potential watercourse modification and enlargement, including cut and fill areas, levels and impacts;
- Pre and post development velocities and shear stresses for the full range of hydraulic events;
- Mitigation measures to prevent cut and fill from increasing velocities and shear stresses, or causing streams to change course and affect downstream landowners;
- Sufficiency of vegetation to stabilise the watercourses.

The NOW is supportive of stable, natural solutions along the water courses and has requested details to demonstrate that natural solutions can be achieved.

Response:

### Stream categorisation methodology

During consultation with DECCW, a preference was identified for the development to maintain consistency with the Riparian Corridor Management Study (RCMS) 2004. DECCW required any deviations to the RCMS to be identified and justified and this was reflected in the Project DGRs. Accordingly, a Riparian Consistency Report was prepared by Ecological (refer to Concept Plan and SSS EAR Appendix P).

Methodologies used in the Riparian Consistency Report to map streams and riparian corridors include the RCMS and the most recent DECCW published riparian corridor Guidelines under the Water Management Act, 2000. Initial identification of watercourses was based on 1:25,000 topographic map data and review of the RCMS and mapping provided by DECCW for the Macquarie Rivulet Catchment. This data was augmented through high resolution LIDAR survey to identify the current location of channels and top of bank.

All watercourses on the site were then ground-truthed. An extensive field survey process was undertaken incorporating a variety of professional disciplines including planning, environmental engineering, geomorphology, biodiversity, bushfire and landscape architecture.

The Geomorphology Assessment (refer to Concept Plan and SSS EAR Appendix M) considered the hydro geological function of mapped water courses and identified a small number of mapped watercourses that due to the small catchment size and subsequent limited hydro geological function were excluded from further assessment.

A detailed assessment of the differences between the RCMS and Strahler categorisation methodologies and outcomes, and justification for the application of the Strahler system to the Project is provided in the Riparian Consistency Report at Appendix P and at Section 7.7 of the Concept Plan and SSS EAR.

When compared to the output of the RCMS, the proposed approach for the site has been demonstrated to identify a greater total area of land for inclusion in riparian and environmental corridors than that provided by the RCMS.

The Concept Plan includes approximately 113 hectares of land within the CRZs of the proposed Riparian Corridor Network. By comparison, categorisation of streams under the RCMS methodology would result in approximately 96.5 hectares of riparian land.

The Proponent disagrees with the view of the NOW that the RCMS should be applied instead of the Strahler system, for the reasons identified in the Riparian Consistency Report.

The Proponent also disagrees with the view of the NOW that application of the Strahler system to the site renders it inconsistent with the riparian outcomes / actions under the IRS.

The Sustainability Criteria at Appendix 1 of the IRS does not require application of the RCMS. It requires that development maintain or improve existing environmental conditions for water quality consistent with objectives for river health, and to maintain or improve areas of regionally significant terrestrial or aquatic biodiversity (as mapped and agreed by DECCW).

Emerging policy on riparian corridors is contained in the DoP's *Draft Planning for Riparian Corridors in Urban Areas Discussion Paper April 2010* which appropriately identifies that the Strahler System can readily be applied where good topographic and cadastral information is available for unmodified streams since there is generally a strong correlation between stream order and stream size and function.

Notwithstanding the application of the Strahler System instead of the RCMS, the riparian strategy for the site is considered to meet the objectives and outcomes of the RCMS methodology, via:

- Provision of regional linkages from the Ocean to the Escarpment via Marshall Mount Creek and Macquarie Rivulet;
- Identification of a series of secondary corridors from the regional linkages to Johnston's Spur reflecting their relative importance as riparian corridors; and
- Provision of a sufficient CRZ for remaining riparian corridors to provide for bed and bank stability.

### CRZ and Vegetated Buffer Widths

Table 1 compares the CRZ and Vegetated Buffer (VB) widths suggested by NOW in its submission, requirements under the most recent Guidelines published by DECCW under the Water Management Act (February 2008) and CRZs/VBs proposed under the Concept Plan.

A copy of the February 2008 DECCW Guidelines under the Water Management Act is included at **Appendix E**.

The DECCW (DWE) Guidelines clearly identify that the final CRZ widths are to be determined after merit assessment of the site and consideration of any impacts of the proposed activity. They are not a blanket minimum.

It is also noted that the DECCW Guidelines do not require a minimum 10 metre VB in addition to the CRZs. The recommended 10 metre VB is dependent on merit issues.

Table 1 – CRZ and Vegetated buffer widths

Stream	NSW Office of Water Submission	DECCW 2008 Guidelines	Concept Plan
Marshall Mount Creek, Macquarie Rivulet and Hazleton Creek (Category 1 /3 <sup>rd</sup> + Order Streams)	40 m CRZ + 10m VB either side	20 – 40 m CRZ + 10m VB dependent upon merit issues	46 m CRZ either side Significant additional open space and drainage land is provided immediately adjacent to CRZs resulting in an average of well in excess of 10 m of VB either side
Category 2 / 2 <sup>nd</sup> Order Streams	20 m CRZ + 10m VB either side	20 m CRZ + 10 m VB dependent on merit issues	24 m CRZ either side A 4 m wider CRZ is provided, with additional open space and drainage land forming an additional VB where considered appropriate
Category 3 / 1 <sup>st</sup> Order Streams	10-20 m CRZ + 10 m VB either side	10m CRZ (intermittent flow) + 10 m VB dependent on merit issues	12 m CRZ either side The minimum CRZ width is met, with open space and drainage land forming an additional VB where considered appropriate.

As is demonstrated above, the CRZs proposed by the Proponent meet or exceed the minimum widths recommended by NOW.

The CRZs proposed by the Proponent also exceed those recommended by DECCW (DWE) in its February 2008 Water Management Act Guidelines.

The proponent disagrees with the view of the NOW that a blanket 10 metre wide VB should be applied in addition to the CRZs for the entire length of each 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Order stream, and that the provision of public open space immediately adjoining CRZs does not contribute any benefit in terms of riparian outcomes.

The CRZs and any associated additional VBs adopted in the Project need to be considered based on analysis of the management objectives of the riparian corridors and should be applied flexibly depending on their locations and the objectives to be applied.

Consistent with emerging State government policy (refer for example to the DoPs *Draft Planning for Riparian Corridors in Urban Areas Discussion Paper April 2010*) it is appropriate that in determining requirements for VBs and CRZs the following relevant location and characteristics be considered:

- The nature of the waterway – whether it is a continuously flowing waterway, a minor creek or a drainage line;
- The topography and geology of the area including bank and bed stability, bank height, slope, soil texture and erodability;
- Flooding patterns;
- Any stormwater management issues;
- Characteristics of ecological communities and connection to other communities;
- Any water supply access issues; and
- Public access to the waterway and/or crossings.

Consistent with outcomes that have been determined by the State Government to be appropriate in the North West and South West Growth Centres of Sydney, riparian corridor outcomes also need to be balanced with the provision of land and housing supply in identified urban release areas.

Unless the ratio of riparian space to developable land can be kept at an appropriate balance, there will be an adverse impact on housing affordability.

This is particularly so given State agency and local government's stated lack of capacity and commitment to own, fund and maintain riparian lands in NSW including the concerns that have been expressed by public agencies in submissions made in relation to this Project.

It is considered that for urban release areas to achieve a balance between environmental outcomes and housing affordability recommended CRZ and VB widths should be treated as maximums, with appropriate widths determined depending on the particular land characteristics and ability to deliver river/stream health outcomes.

This approach is entirely consistent with the DECCW (DWE) 2008 Guidelines under the Water Management Act 2000.

It is understood that having specific regard to the experience of land release planning in the Growth Centres, emerging State government policy (refer to the *Draft Planning for Riparian Corridors in Urban Areas Discussion Paper*) will seek to appropriately balance riparian corridors with the provision of affordable housing by carefully rationalising the application of CRZs and VBs to riparian land within urban land release areas.

The Proponent agrees with submissions made by all public agencies that careful planning of riparian interface areas is needed to ensure appropriate protection of riparian vegetation, nutrient levels and water flow, as well as connection to other vegetation.

It is considered that the Concept Plan proposal achieves this.

In addition to the CRZs the Concept Plan Open Space Network and Water Cycle Management Network has taken great care to integrate drainage and public open space with the Riparian Corridor Network so that for a significant component of the riparian network, land immediately adjacent to riparian corridors will remain undeveloped and can thus contribute positively to achieving riparian outcomes.

The Concept Plan approaches riparian corridors as an holistic and interrelated planning issue that links environmental protection, open space and recreational uses, bushfire protection, water quality treatment and general amenity. The proposed Concept Plan Riparian Corridor Network is fully integrated with the proposed Concept Plan:

- Landscape and Open Space Master Plan.
- Flood Mitigation Plan.
- Water Cycle Management Plan.

The proposed Riparian Corridor Network also responds and specifically relates to the Flora and Fauna Assessment (Appendix Q), the Geomorphology Assessment (Appendix M) and the Groundwater Assessment (Appendix S).

The areas of open space and drainage land immediately adjoining the Riparian Corridor Network will incorporate a suite of ancillary functions as part of an integrated urban environment and it is the position of the Proponent that public open space provided immediately adjacent to CRZs substantially increases the capacity of environmental outcomes beyond the area afforded through the riparian strategy alone.

The Landscape Open Space Masterplan for the Project (refer to Concept Plan and SSS EAR Appendix CC) provides clear details as to how this land will be designed and landscaped so that it contributes a "VB" to riparian corridors.



These areas are proposed to be zoned RE1 Public Recreation and are contiguous with the riparian CRZs. The RE1 lands are generally flood affected and will be mostly devoid of built form. They will be generally open grasslands, together with some district and local parks. Where relevant these lands may be planted with native grasses and other suitable native species (as long as these species do not increase flood affectation or increase the width of APZs) to provide for broad riparian outcomes, balanced against the development needs of the site.

As demonstrated, in several instances, and particularly with respect to the Stream Order 3 + Marshall Mount Creek, Macquarie Rivulet and Hazelton Creek, VBs well in excess of an average of 10 metres are achieved through the Landscape and Open Space Masterplan. In some instances the VBs have been reduced below 10 metres or removed for sections of the overall corridor, however this is not considered to adversely impact upon the viability of the stream corridors having specific regard to the environmental and hydrological functions of the stream segments in question. This responds to and meets the “merit” based assessment identified in the DECCW (DWE) February 2008 Guidelines.

For Order 1 and 2 streams (Category 3 and 2 under NOWs references) whilst a 10 m VB is not provided for the full length of every corridor, VBs of 10 metres or well in excess have been achieved as appropriate. For example a VB well in excess of 10 metres is provided either side of those riparian corridors that extend into the Johnston’s Spur Conservation Area (E2 zone) and for those that extend into areas of land that are to be zoned E3 Environmental Management.

It is noted that in the Growth Centres, the DoP has applied flexibility in the widths of CRZs and VBs at ‘pinch points’ to reduce land take provided that it is offset elsewhere along the creek corridor. Calderwood is consistent with this type of merit based flexibility.

Within the Growth Centres a blanket requirement to revegetate CRZs and VBs to emulate the local community at a density that would occur naturally has been acknowledged as “unnecessary” in every circumstance. Within the Growth Centres, whilst CRZs and VBs are generally to remain, or become vegetated, a combination of trees, shrubs and groundcover species may be used, and non-local native vegetation may be considered if it is demonstrated that the proposed planting scheme will not compromise appropriate outcomes.

In some instances within the Growth Centres the DoP has also negotiated combined VBs and APZs. Accordingly, the VBs are not required in every instance to be revegetated to emulate the local community at a density that would occur naturally. Planting schemes within VBs that are compatible with both riparian functions and bushfire risk, including those that have a reduced fire load, are permitted. Again, Calderwood follows these established principles.

NOW has raised concern with respect to the removal of watercourses from the site. As part of the development of the Concept Plan, the Proponent undertook an appropriate ground truthing exercise to confirm the existence, or otherwise, of each assumed watercourse.

As a result of this ground truthing exercise, some ‘watercourses’ were found not to exist, others were found to be in different locations than those mapped, and others were increased in corridor width when compared with the DECCW (DWE) Guidelines and/or the RCMS. Some first order streams have been relocated into WSUD swales, but none are ‘removed’. It is noted that one first order stream that was erroneously missed off the WSUD swales plan in the Stage 1 Project Application is to be addressed in the PPR for that application.

## Uses and development within riparian lands

Concept approval is sought to allow for a limited number of vehicular crossings, and pedestrian and cycle pathway crossings of riparian corridors generally in accordance with the principles shown on the Road Layout and Hierarchy Plan and the Pedestrian and Cycle Initiatives Plan. These crossings may be designed in a variety of forms dependent upon final location, and would not necessarily comprise bridges. They provide egress during the 1:100 yr flood event.

It is proposed to provide a network of pedestrian and cycle pathways within the CRZs. Utility services infrastructure will need to cross the CRZs as required and may be located within CRZs where dual location within pathways makes sense.

The final location of crossings and pedestrian and cycle pathways, and utility services infrastructure, will take into consideration vegetation that is proposed to be retained and protected as shown on the Environmentally Significant Land map.

The Proponent disagrees with the view of the NOW that accommodation of on-line stormwater works within CRZs and / or VBs is an inappropriate outcome.

On-line stormwater works are permitted under the planning controls developed by the DoP (in consultation with councils and DECCW) for application within the North West and South West Growth Centres of Sydney.

The planning controls applied in the Growth Centres recognise that the riparian protection areas are located within urban contexts and provide, in addition to their environmental benefits, valuable amenity, character, landscape and open space benefits to the people who live, work and play in the local area.

Specifically, the planning controls for the Growth Centres permit environmental protection works, drainage, crossings (eg roads, service utilities, paths etc) within CRZs and development including water quality features, service utilities, crossings, passive recreation use and open space uses within VBs (refer, for example, to the *Oran Park and Turner Road Waterfront Land Strategy 2009* and *Riparian Protection Area Controls, Blacktown Growth Centre Precincts DCP 2010*).

In the NW and SW Growth Centres the planning controls also allow limited opportunities for vegetated basins in CRZs for Category 1 and 2 watercourses in a manner that does not reduce the function of the CRZ. They allow limited passive recreation, open space, water quality treatment and APZs to be provided in the VBs in a manner that does not reduce the function of the CRZ. As identified above, combined VBs and bushfire APZs have also been permitted.

In the NW and SW Growth Centres the DoP has identified that there are a number of specific advantages of on line basins within riparian lands – less reliance on offsetting catchments with larger detention basins in other catchments, a reduction in the total number of basins with off line basins being consolidated into larger on line basins, and locating basins in flood prone land and thus reducing the land take of trunk drainage infrastructure.

The *Riverstone and Alex Avenue Precincts Post Exhibition Flooding and Water Cycle Management Report May 2010* (prepared for the DoP by GHD) for example specifically identifies opportunities to both rationalise riparian corridors in order to allow consolidation of facilities, without compromising ecological outcomes, and the placement of online basins within riparian corridors to assist in reducing the land take of facilities and thus keep the quantum of land required to be set aside for the dual purposes of open space, drainage and environmental outcomes to a minimum and consequential reduce costs.



As an example, the Alex Avenue and Riverstone precinct planning exercise undertaken by the DoP demonstrated that online basins can be appropriately provided in a few select locations without adverse impact on riparian zones if carefully considered in terms of potential impact of downstream water levels on discharge rates, adjacent catchments and the need for flow channels to mimic the existing creek for frequent rainfall events.

The Proponent agrees that recreation and drainage uses within riparian lands need to be sensitively designed and managed. The Proponent also agrees that existing native riparian vegetation should not be unnecessarily removed to accommodate these uses.

The proposed Environmentally Significant Lands layer under both the Concept Plan and the SEPP Amendment specifically aims to ensure that existing significant vegetation within riparian lands is appropriately protected, and that any development affecting such vegetation is subject to detailed and careful assessment and consideration.

As identified at Sections 4.11 and 7.8 of the Concept Plan and SSS EAR wetlands and ponds will be located and designed to be sympathetic to complement the environment.

The basic configuration of the proposed wetland system consists of a combination of permanent and intermittently inundated ponds and wetlands, shaped and interlinked with bioswales to retain mature trees where possible.

Photographs of other DLL projects illustrating the intended design outcomes with respect to on-line stormwater works are included at **Appendix E**.

Additional Statements of Commitment (refer to **Commitments 31-33**) have been included with respect to the above.

## 2.5 Biodiversity

A number of issues have been raised by public agencies with respect to biodiversity:

- SCC and DII have requested that an assessment be undertaken of a major population of platypus and Australian Grayling in Macquarie Rivulet that has been indicated to be present by the Southern Bass Fishing Club and Wollongong University;
- WCC has raised concern that 4 patches of Illawarra Lowlands Grassy Woodland (EEC), which includes the Illawarra Greenhood Orchid within the eastern portion of the site as previously mapped by the NSW National Parks and Wildlife Service 2002 have not been appropriately assessed and that further survey work is warranted for both the EEC and orchid species;
- DECCW has raised concern that targeted surveys have not been undertaken, or have not been fully documented, for all flora and fauna species that have been identified by the Proponent as likely or potentially likely to occur on site including, specifically, the Swift Parrot, White-flowered Wax Plant, Illawarra Socketwood, Illawarra Greenhood and Illawarra Zieria, and that the flora and fauna assessment does not adequately address the draft Threatened Biodiversity Survey and Assessment: Guidelines (or Developments and Activities) (DECCW, 2004);
- Kiama Council and the CMA have expressed concern that the Concept Plan does not strengthen the “Marshall Mount / Yallah Corridor”.

The LIA has requested further demonstration that appropriate long term controls will be in place to ensure the protection of the water quality and ecosystems of Lake Illawarra.

DII has identified that the comprehensive protection of riparian zones indicated in the Concept Plan as well as the proposed adoption of various Water Sensitive Urban Design elements will help ameliorate potential water quality impacts, and that the Project can assist in delivering significant water quality improvements by comparison with the existing situation. DII is also supportive of the Proponent's intention to develop and implement a comprehensive Soil and Water Management Plan. DII has identified a number of conditions, developed in consultation with I&I NSW (Fisheries) to ensure that the future Soil and Water Management Plans are appropriately prepared.

The DoP has not raised any specific matters of concern with respect to biodiversity issues.

### Response

The Proponent does not agree that the Flora and Fauna Assessment is inadequate, and considers that both the Concept Plan and SSS EAR and the Flora and Fauna Assessment provide a comprehensive assessment of the full impact of the development with respect to biodiversity issues.

It is noted that at a meeting held between the Proponent, DECCW and the DoP on 20<sup>th</sup> October 2009, the proposed flora and fauna study methodology was clearly outlined, as documented in the EAR Appendix HH. The resulting Flora and Fauna Assessment reflects that methodology and meets the DGRs.

All patches of remnant woodland on the site including all patches of the Illawarra Lowlands Grassy Woodland have been addressed, in detail, in the Flora and Fauna Assessment. Refer to the Concept Plan and SSS EAR Appendix Q.

A Statement of Commitment was included in the original EAR with respect to the further survey work that has been identified as necessary prior to any works commencing on land that supports Illawarra Lowlands Grassy Woodland (EEC) and includes the Illawarra Greenhood Orchid. The Statement of Commitment has been amended to require any specific mitigation measures that are determined following this additional assessment to inform the implementation of the Concept Plan accordingly (refer to **Commitment 37**).

The Flora and Fauna Assessment included a detailed targeted threatened flora survey for the entire site, as documented at Appendix A of that Report. This survey did not find any individuals of the species identified, and an assessment of their habitat potential identified that it was unlikely that these species would occur on the site (refer to Appendix C of the Flora and Fauna Assessment). Accordingly, no offset measures are required with respect to threatened flora (refer to Chapter 5).

The threatened flora survey methodology was outlined with DECCW and specific mention was made of the methodology being implemented i.e random meander search to target threatened flora, validate vegetation mapping and condition, undertake threatened flora and fauna habitat assessment and opportunistically record all species identified on site.

In response to DECCW's concern that survey effort per 'stratification unit' for threatened flora surveys has not been documented, the Proponent notes that 'stratification' is a technique that is undertaken to ensure that survey effort is spread across the landscape in situations where the entire landscape area cannot be surveyed. In the case of this Project, every vegetation polygon was surveyed and extensive areas of cleared land traversed and therefore there was no necessity to stratify the landscape – the vegetation assemblage mapping and detailed survey of the entire site occurred and therefore no 'stratification' was required or necessary.

With respect to fauna, the proposed methodology provided to DECCW at the meeting of 20<sup>th</sup> October 2009 specifically identified that it was not intended to undertake a targeted threatened fauna survey, and DECCW did not object to that methodology at that time.

The survey identified that there is potential for a number of threatened fauna species to occur on site, despite no individuals being found on the site, and no existing records for threatened species occurring on the site.

The Platypus is not a species listed under the TSCA. Notwithstanding, it is considered by Ecological that platypus would likely inhabit Macquarie Rivulet. Ecological also consider that the Project will provide a beneficial outcome with respect to any platypus present by significantly improving water quality and riparian outcomes in this degraded riparian environment.

The Flora and Fauna Assessment evaluates the ecological values of the “Yallah Calderwood Regional Habitat Corridor” (refer to EAR Appendix Q).

With respect to issues raised in relation to the Yallah Calderwood Corridor, the Proponent draws attention to the Growth Centres Commission Review of the WDRA (November 2008) which examined the Yallah/Marshall Mount Conservation Corridor concept and concluded that the implementation mechanism proposed for the corridor is uneconomical and by extension environmentally unsustainable, and that alternative approaches should be considered.

The Concept Plan results in a balanced outcome between development and sustainable land management. The various ‘green corridors’ between Johnston’s Spur and the two main riparian corridors of Marshall Mount Creek and Macquarie Rivulet are numerous and varied in typology, topography, vegetation and width. The two main green corridor linkages are sufficiently wide to provide an environmental link and to protect the areas of acknowledged importance.

The two main green corridors linking Johnston’s Spur to Marshall Mount Creek and Macquarie Rivulet are proposed to be the subject of revegetation, subject to future design detail in accordance with the Landscape and Open Space Masterplan. The riparian corridors of Marshall Mount Creek and Macquarie Rivulet are also proposed to be the subject of revegetation, subject to ensuring no further flood impact, and subject to future design detail in accordance with the Landscape and Open Space Masterplan.

The Flora and Fauna Assessment identifies that:

- 96% of Good Condition vegetation is retained;
- 72% of all native vegetation will be retained on site;
- At least 87% of good condition vegetation within each community type is to be retained.

The recommendations made by DII in relation to the preparation of the future Soil and Water Management Plans have been incorporated into the revised Statements of Commitment as appropriate. A requirement for major structures over the Macquarie Rivulet to have reference to relevant guidelines, including DECCWs Fish Passage Guidelines is also included in the revised Statement of Commitments (refer to **Commitment 47**).

It is noted that on 30<sup>th</sup> March 2010 the Commonwealth determined that the Project is **not** a controlled action under the EPBC Act and it does not therefore require further assessment under that Act before it can proceed.

## 2.6 Transport and Accessibility

SCC and Kiama Councils have not raised any specific issue with the scope of local road network improvements proposed as part of the Project, with the exception of the need for the Project to accommodate the future Albion Park Bypass / Tripoli Way extension.

WCC has raised concern that the Project will generate significant traffic impacts within the local road network of the Wollongong LGA, that only limited modelling and analysis has been included in the TMAP, and that the implications of the full development of West Dapto have not been included. Council has also raised particular concern with respect to the impacts of the Project on Marshall Mount Road and Yallah Road.

The RTA has undertaken a strategic assessment of the road network to ascertain the likely impacts of the Project combined with the land releases of West Dapto, Tallawarra and Calderwood. Concern has been expressed that:

- Impacts on the classified road network cannot be accommodated by road infrastructure improvements unless a significant mode shift in the order of 15-20% is achieved and data demonstrating mode shift assumptions has not been provided;
- Development at Calderwood could significantly alter timing of infrastructure upgrades on the classified state road network, and in particular will bring forward the need for the Albion Park Bypass, its connection at the F6 and associated interchanges.

The DoP has requested further information regarding the staging of the Concept Plan and the impact on the road network including:

- Consideration of the impact of the current and future network limitations on the developable yield, timing and sequencing. This should include a staging plan that demonstrates the sequence that each stage will be developed and what upgrades are necessary to support each stage.
- The Concept Plan proposes 4 intersections with the Illawarra Highway. Further information is required regarding anticipated traffic flows at these intersections, how this is addressed in the proposed intersection design and an assessment of the impact on the Illawarra Highway (prior to and after completion of the Albion Park Bypass and Tripoli Way extension).

In its original submission the RTA raised concern that the need for the roundabout at Yellow Rock Road had not been demonstrated and that it had not been demonstrated that the additional traffic could not be accommodated by a fourth leg at the existing roundabout at Tullimbar.

In subsequent written correspondence to the DoP dated 16 July 2010, the RTA advised that it no longer has concern in relation to either of these matters, subject to recommended conditions to be applied to the Stage 1 Project Application. These recommendations will be addressed in the revised Statement of Commitments in the PPR for the Stage 1 Development which is to be submitted to the Department separately.

The above has occurred subsequent to the DoP requesting further information in relation to the proposed 4 intersections with the Illawarra Highway, and this matter is therefore considered to have now been addressed to both the satisfaction of the RTA and DoP.

The Department has engaged ARUP to undertake a peer review of the TMAP.

Issues raised in relation to the funding, apportionment and delivery of identified road network improvements, and to the necessary timing / staging of their delivery are addressed in detail at Section 4.

## Response:

### ***TMAP Modelling and Analysis***

The Proponent strongly disagrees with any suggestion that the modelling and analysis contained within the TMAP is inadequate.

The methodology, inputs and land use assumptions for the transport modelling undertaken by Cardno on behalf of the Proponent were agreed at a consultation meeting with the RTA and DoP and in correspondence.

The set of land use planning assumptions, base road network improvements and area of influence was provided to the RTA for comment at a consultation meeting. In a letter from the RTA (dated 10 November 2009) to the Proponent the following comments were provided by the RTA in relation to this information :

- *“The RTA does not object to the proponent’s proposed study area as provided to the RTA in the meeting held on 2 November 2009.”* – this refers to the proposed area of influence that has been adopted; and
- *“The future development assumptions should be consistent with the figures in the attached land use input table **which were provided to the RTA by the DoP.**”* - this refers to a set of land use planning assumptions provided to DLL for comparison.

A detailed discussion of the land use planning assumptions and consistency with the land use input table referred to by the RTA is provided in Appendix T to the EA, specifically Section 5.2.1 and Appendices 1c, 1d and 5 to that Report.

The regional 2006 WOLSH TRACKS model was used as a base for the modelling. This model covers the whole of the Wollongong and Shellharbour LGAs. An area of influence was agreed with relevant agencies to consider the detailed impacts of the development and covered all the routes specified in the DGRs as follows: *“Network modelling for impacts on Illawarra Highway, Princes Highway/Southern Freeway, Tongarra Road, Marshall Mount Road, Yallah Road and the future Southern Freeway corridor between Yallah and Oak Flats.”*

The modelling was very extensive and covered all the issues considered relevant based on DGRs and consultation with agencies. The model outputs were assessed using mid-block level of service assessment criteria and the intersections modelled in SIDRA. A vast range of model scenarios were tested.

The WDRA Stage 1 and 2 were included in the model (full development by 2031) and Stage 3 & 4 was assumed to occur post 2031. This is consistent with advice provided by the RTA and DoP. The DoP land use planning assumptions assumed no stage 3 WDRA in 2021 and noted that Stage 3 was not assumed until late in the timeframe (2021 to 2036) and even then only at a rate of 50 lots per annum.

The detailed modelling was not included in the TMAP, however the full TRACKS model was sent to the RTA on 9<sup>th</sup> June 2010.

The area of influence and planning assumptions were also presented to WCC for comment prior to the traffic modelling being undertaken. No formal comments in relation to these were received by the Proponent.

It is noted that further technical information, analysis and response to a range of issues and questions has been provided to ARUP by the Proponent to assist ARUP in its review. The DoP has been part of this technical process, and has been provided with copies of all correspondence between the parties.

The responses provided at **Appendix A** provide further details with respect to a number of specific matters raised in relation to the methodologies and modelling assumptions used in the traffic assessments. Reference should be to this table.

Key responses found at **Appendix A** can be summarised as follows:

With respect to identified road network upgrades, works have been costed and cost estimates are available (refer to Section 4).

Technical apportionments have been determined based on the proportion of additional trips and where these trips originate from/end (ie new growth areas including Calderwood and other growth including infill and external growth) in accordance with the methodologies outlined in the TMAP (refer to Concept Plan and SSS EAR Appendix T Sections 1.6, 5, 6, 7, 10 and 11). The detailed calculations relating to apportionment are complex and involve the apportionment of 34 improvements under 8 different development scenarios.

The timing for works has not been assumed based on funding or works programs. It is based on potential need for the upgrades. This has been determined through modelling of the 2031 scenario with Calderwood and assumed agreed regional planning assumptions (including new growth areas, infill and external growth). Then 5 year incremental models (2016, 2021 and 2026) were run to determine the staging of the works. This assumes ramping up of development both at Calderwood and other growth areas and is a standard approach to undertaking transport studies of this nature and is consistent with the TMAP Guidelines.

It is understood that the detailed independent technical advice being provided to DoP by ARUP on this matter is specifically reviewing the apportionment methodology applied under the TMAP.

The methods for achieving mode shift are detailed in Appendix T to the EA, specifically Sections 8 and 9. Further Appendix 3A to that Report provides examples of transport demand management at 3 existing DLL projects. The Proponent does not agree that these methods are inadequate or unachievable, nor that the mode shift should be increased from 10% to 15-20%.

It is noted that Transport NSW has supported the measures canvassed in the TMAP as appropriate in this regard.

A new Statement of Commitment (refer to **Commitment 23**) is included to ensure ongoing implementation of the measures identified.

### Albion Park Bypass/Tripoli Way Extension

The Proponent has prepared a comprehensive response to the issue of accommodation of the Albion Park Bypass / Tripoli Way Extension. A copy of that response is included at **Appendix F**.

The response at **Appendix F** provides detailed information with respect to the current status of the proposed bypass, and to the potential impacts that would arise from its implementation in isolation to the Calderwood Project.

As detailed at **Appendix F**, previously, the Calderwood project had not unduly fettered the implementation of the Albion Park Bypass / Tripoli Way Extension. However, it had assumed implementation, at some point in the future.

Having analysed and considered the implications of implementation of the bypass without the Calderwood Project proceeding, the Proponent has concluded that a more comprehensive and coordinated approach is required, and that the Calderwood project has the potential to resolve a number of the issues raised.

The Proponent has identified the potential assistance that might result from implementation of the Calderwood project. The scope of this assistance is documented at **Appendix F**.



The land use zones proposed in the Concept Plan and SSS EAR would permit the implementation of the Albion Park Bypass / Tripoli Way Extension – on the basis that “roads” are permissible in all zones. However the Proponent considers that confirmation of the preferred route and/or other route options should be studied in greater detail, taking into account the issues identified and assessing the specific opportunities of being implemented (in whole or in part), comprehensively, as part of the Project.

In the circumstances, the Proponent believes it would appear prudent for the affected area of proposed subdivision to be deferred from registration / implementation until a reasonable period, say 5 years, has been provided to allow for significant progress in the implementation of the Albion Park Bypass / Tripoli Way Extension.

Accordingly, the Proponent has amended the Concept Plan to specifically assist implementation of the Albion Park Bypass / Tripoli Way Extension (refer Concept Plan – Preferred Project at Section 5 and revised **Statements of Commitments 13 - 17**). Revisions to the Stage 1 Project Application arising as a consequence of this change are separately addressed in the PPR for that application.

## 2.7 Urban Design, Visual Impact and Development Controls

SCC has raised concern in its submission that whilst some of the likely visual and physical impacts of the development have been mitigated in the Concept Plan design, the strategies identified by the proponent to minimise visual impact are only urban design principles, and do not completely link to actual land use controls.

The Council has expressed particular concern in relation to the:

- Visual impact on the rural scenic amenity of the western portion of the LGA;
- Buffers provided between the urban development areas and surrounding rural / agricultural uses;
- Future density of development proposed at the western end of the site which provides a transition to the existing rural landscape and forms a westerly gateway to the LGA;
- Extent of proposed extent of cut and fill in the area adjoining the Illawarra Highway between Broughton Avenue and Yellow Rock Road and resultant potential height and visual impact of development in this location; and
- Proposed 18 metre height of development on the Illawarra Highway and within the mixed use village centre.

WCC has raised a similar concern with respect to the “visual absorptive capacity” of the site with a particular emphasis on the main ridgeline and upslope areas of the site that fall within the Wollongong LGA. The Council has suggested creation of a ‘greenbelt’ in order to visually separate the WDRA from the Calderwood Valley and to ensure that the Marshall Mount Village retains its village character and atmosphere.

SCC has generally supported the application of the R1 General Residential zone on the basis that this land use zone is broad based and allows some flexibility for subdivision and development. However, the Council has raised concern with respect to the need to establish appropriate planning controls to ensure that the range and distribution of minimum lot sizes within the overall R1 zone reflects the particular environmental characteristics of different areas within the site.



Specifically, the Council is concerned to ensure that future residential development on land that provides a transition between rural and urban areas, and that interfaces with areas of bushland that are to be retained within the development, is of a lower density than that which may occur elsewhere on the site.

The Council has also requested that further consideration be given to the inclusion of development controls relating to the provision and integration of public art, preparation of a public domain strategy and waste minimisation.

In relation to urban design the DoP has requested that:

- The proposal clearly articulate which housing typologies (Table 3 in Appendix BB) apply to each of the proposed residential character areas (Figure 44 in the Environmental Assessment).
- The principle of locating denser housing forms (ie lots smaller than 300 m<sup>2</sup>) around the town/village centre and public open space is generally supported. Concern is raised about applying this to land within 200 metres of proposed bus stops as bus routes can vary over time.
- Low density forms of development should be provided at the western edge of the site in the “Country Residential” and “Bushland Edge” areas (Figure 44 of the EA) to provide an appropriate transition to the agricultural areas to the west. Consideration should be given to appropriate development controls to achieve this and minimise impacts and potential land use conflicts on adjoining rural uses.
- More consistent front setbacks should be proposed to ensure uniform streetscape are achieved where a variety of housing types are possible.
- Private open space adjoining front yards is not supported and should be located to the rear of the dwelling and increase to at least 20% of the site area to ensure adequate amenity for the future residents.

#### Response:

The Concept Plan proposal previously included a general distribution of residential character areas as illustrated by the ‘Residential Character Areas’ drawing at Figure 44 of the EAR.

The purpose of establishing the Residential Character Areas was to identify that the detailed design of residential neighbourhoods and mixed use residential areas within the overall future development would need to reflect the particular environmental features and landscape character of its surrounds.

As identified at Section 4.5.1 of the EAR and on Figure 44 of the Concept Plan, the proponent had identified five character areas within the site as follows:

- General residential neighbourhoods – residential scale and character, incorporating a range of attached and detached dwellings of 1 to 2 storeys.
- Town and Village Centres – urban scale, higher density and diverse built form resulting from pattern of use. Mixed use with residential, retail, commercial, community and education uses and incorporating a range of attached and detached dwellings, shop housing, axis and urban sleeve dwellings, apartments and multi unit dwellings.
- Parkland nodes – residential character with increased density surrounding nodes (parks and bus stops) incorporating a range of attached and detached dwellings.
- Country residential – residential character with decreased density and generally comprising detached dwellings.

- Bushland edge – a residential character with layout and setting that responds to the bushland interface and generally comprises detached dwellings.

The Development Control Strategy for the site included planning and design principles for each of the Character Areas (refer to Table 2 at Section 1.3 of the Development Control Strategy), and Residential Development Controls (refer to Table 3 at Section 1B of the Development Control Strategy). The residential development controls at Table 3 of the Development Control Strategy identified the housing typologies, and range of lot sizes proposed in relation to each of the Character Areas.

The Proponent agrees with the Council that it is appropriate to establish development controls that provide a high degree of clarity in expectations and that can be relied upon to deliver certainty of outcomes with respect to the anticipated nature of future residential development within the overall R1 General Residential Zone.

The Proponent also agrees with the Council that the following areas within the overall R1 General Residential Zone are the key areas that require special consideration with respect to how future subdivision will be controlled:

- The land comprising the lower slopes of Johnston's Spur;
- The land in south-western corner of the site, which provides a transition to adjoining existing rural areas to the west and forms a "gateway" to the LGA; and
- The land in the north-eastern corner of the site (in the Wollongong LGA) which provides a transition to the main ridgeline.

It is considered that retention of the R1 General Residential Zone with an accompanying 300 m<sup>2</sup> minimum lot size remains the most appropriate outcome for the site and the Project as a whole given that it is a major urban development project with an implementation time frame of 20 + years. The land use zone applied needs to be flexible and responsive to circumstances that may arise over time, and should be established in a manner that is permissive and facilitative without undue restriction and control.

It is considered that the appropriate level of development control to achieve the agreed future development outcomes within this land use zoning framework can be established through the Concept Plan and DCS, in combination with the proposed minimum lot sizes and special provision relating to subdivision included in the SEPP.

Accordingly, and to respond to the specific concerns raised by the councils, the Proponent has revised and strengthened the planning controls, proposed through the Concept Plan via the Development Control Strategy.

Revised development controls proposed for incorporation into a consolidated Development Control Strategy are detailed at **Appendix G**.

A new Statement of Commitment to amend the Development Control Strategy to incorporate the controls included at **Appendix G** post Concept Plan approval (refer to **Statement of Commitment 18**).

## 2.8 Non-residential Floor Space

### Retail floor space

Both SCC and WCC have raised concern with respect to the impact of the proposed retail floor space and inconsistency with existing council retail and centres hierarchies, and the potential negative impact of the Project on the role and performance of a number of existing retail and business centres in the region including Dapto, Unanderra, Shellharbour, Albion Park, Tullimbar, Bong Bong, and Darkes Road.

SCC has raised concern that the proposed 31,500 m<sup>2</sup> of retail floor space within the site is excessive, and that it should be reduced to around 12-13,000 m<sup>2</sup> of retail floor space within the site.

WCC has misinterpreted the Assessment of Retail Floor Space Potential and the Concept Plan proposal with respect to retail floor space and raised concern that 48,000 m<sup>2</sup> of retail floor space in the town centre (which is not proposed) is excessive, and that retail floor space should be restricted to less than 20,000 m<sup>2</sup> and only contain 1-2 full line supermarkets and lower order retailing which directly serves the daily needs of the resident population of Calderwood.

## B4 Mixed Use Zone

SCC has raised concern that the area of land proposed to be zoned B4 Mixed Use is excessive, and in particular has raised concern with respect to the proposed areas of B4 zoned land on the Illawarra Highway. The basis for this concern has not been specifically identified although it is thought to relate partly to visual impact and partly to potential economic impact.

WCC has also recommended that the main part of the Calderwood Town Centre be reduced in size to limit retail and business floor space to only 20,000 m<sup>2</sup> and that it be rezoned B2 Local Centre with adjoining land that supports the town centre zoned B4 Mixed Use.

The DoP has requested further justification in relation to the area of B4 Mixed Use zone land proposed on the Illawarra Highway frontage of the land.

## Response:

The Proponent does not agree with the concerns raised by SCC and WCC.

The Retail Assessment provided with the Concept Plan and SSS EAR stands on its merit and both of the council's suggested alternative retail floor space provisions are an arbitrary ceiling without any supporting analysis.

Restricting retail floor space in the way suggested by the councils would not reflect current and emerging Government policy.

The DoP's *Promoting Economic Growth and Competition Through the Planning System Review Report April 2010* provides a comprehensive review and analysis of issues relating to the promotion of competition and economic growth through the planning system.

The Review Report identifies that land use planning systems should be flexible enough to accommodate growth and allow for competition between existing and new entrants, and that regulation by the planning system should allow equal opportunities for entry into the land market, subject to zoning restrictions. There should not be any advantage or protection provided to existing businesses.

Furthermore, the Review report clarifies that the intention of the NSW Government is not to limit the number of supermarkets or other types of retail outlets in nominated existing activity centres or zones in regional strategies.

The Review Report states that it is the intention of the NSW Government to help ensure competition between retailers is not unreasonably restricted and to ensure that land use planning policies contained in strategic documents provide for the growth of centres and the change in zones types and not merely maintain 'status quo'. It has been acknowledged by the DoP that centres need to be responsive as the population density in the area changes and consumer needs shift over time with changes in demographics.

To have the best economic and innovative outcomes, the DoP Review Report concludes that strategic planning documents need to reflect the dynamic nature of land use and in particular, that it is important that centres can accommodate a range of mixed uses.

The Review Report also concludes that restricting competition by placing limits on the number of a particular type of store that can establish in an area can have a number of adverse consequences. Facing little or no competitive pressures, incumbent firms have more opportunity to charge higher prices and/or offer a lower quality of service. If the type of use is permitted within a given centre, it is difficult to justify restricting the quantity of that type of use. If a retailing use is permitted within a land use zone, then it should be left for the market to decide how many stores of the same type the local population can support.

State Environmental Planning Policy (Competition) 2010 commenced on 30 July 2010. It aims to promote economic growth and competition, and to remove anti-competitive barriers in environmental planning and assessment. It clarifies with respect to commercial development (retail, business and office premises) that commercial viability and competition are not relevant planning considerations.

A total of approximately 50 hectares of mixed use / employment land is included within the Concept Plan proposal to be used for a range of retail, commercial, business, light industrial, education, entertainment, civic, community, recreation, residential, tourist and visitor accommodation and mixed use employment.

The 50 hectares provision includes the proposed Town Centre, Village Centre, B4 zoned land adjacent to the Illawarra Highway, education lands (13 hectares) and land for other general future mixed use employment to be implemented over a 20 + year period.

Making provision for future mixed use and employment development within the Concept Plan is considered both necessary and appropriate and is supported by the Economic Assessment, Calderwood Employment Update and Assessment of Retail Floor Space Potential submitted with the Concept Plan EAR.

Seeking to provide a high degree of self containment in terms of employment and trip generation is a fundamental sustainability principle of the Project.

As identified at Section 2.4 of the Concept Plan EAR the quantum of mixed use / employment land proposed, together with investment in infrastructure, will cater for new employment directions. The proposed mixed use employment lands will form part of a larger urban area and assist in the achievement of a public transport catchment that can be serviced by economically efficient transport services and help to reduce car dependency and trip generation rates.

The Concept Plan proposal includes small area of mixed use development on the Illawarra Highway close to the main entry point to the site.

At this stage, the Concept Plan has not proposed any specific land use in this location, nor has a preferred land use been identified in the Stage 1 Project Application. Appropriate land uses will need to be considered and determined at subsequent stages of the Project, dependent on market factors. A potential option remains subdivision for residential use.

The Illawarra Highway frontage of the site is considered appropriate to support some non residential floor space due to its readily accessible location, and its position at the main entry to the development.

The Council and the DoP have not articulated why providing non-residential land use in this location would be inappropriate, beyond the proposed height limit (this has now been revised to 9.5 m to match that of adjoining residential lands, refer to Section 3) and impact on trade in other nearby centres (eg Tullimbar).

Allowing for some non residential floor space potentially provided in this location as part of the long term strategic planning for a major development site with a 20 + year time frame is considered to be an appropriate response. The Proponent believes that it would be premature to preclude the opportunities for consideration of a range of land use outcomes for this land at this stage.

The eastern most portion of the Illawarra Highway B4 zoned land adjoins existing residential properties in Albion Park and may offer potential for development as a service station or other equivalent road related development, particularly given its proximity to the proposed Albion Park Bypass / Tripoli Way Extension.

The western most portion of the Illawarra Highway B4 zoned land adjoins the main entry road into the Calderwood Project and offers potential for small scale employment development (or equivalent) suited to a main road and 'gateway' location (as opposed to a village centre location or a town centre location).

The Proponent has developed additional development controls for application to land within the Illawarra Highway B4 Mixed Use zone for inclusion into the consolidated Development Control Strategy (refer to **Appendix G**).

With respect to the proposed height limit within the broader B4 Mixed Use Zone (ie the Town Centre and Village Centre), the Proponent does not agree that an 18 metre height limit is excessive, and notes the following with respect to other town and village centre development within the locality:

- Stages 1 and 2 of the WDRA have a 30 m height limit in the B3 (town centre) zone, and a 20 m height limit in the B2 (village centre zone), which immediately adjoins rural land;
- Tullimbar Village Centre has a hotel DA approval at 17.8 metres in height;
- Shellharbour Town Centre has a 19 m maximum height limit (13 m standard); and
- Shell Cove has a 28 m height limit (13 m standard).

It would seem unreasonable and inconsistent in this context to seek to constrain heights within the town and village centre / employment lands of the Calderwood Project.

It is considered that the majority of development within town and village centres and associated employment lands would be unlikely to reach the maximum height limit of 18 metres, particularly in the short to medium term. Over time, there may be a select number of landmark buildings, or shop top housing / residential flat development provided, however this is not likely to occur until the Project has substantially progressed. It is considered that it would be premature at the rezoning stage to seek to limit heights within the B4 Zone to less than that permitted in other land releases of size in the Illawarra.

## 2.9 European and Cultural heritage

### European Heritage

SCC has raised concern that the Concept Plan is inconsistent with the heritage assessment because the cemetery is proposed to be a 3,000 m<sup>2</sup> park or incorporated into the private open space of adjoining property owners. The Council has requested a detailed conservation management plan be prepared for the cemetery to determine appropriate ownership, care and usage.

The DoP has also requested that the Proponent provide clarification on the proposed treatment of the curtilage around the cemetery boundary, including whether the open space will be on public or private land, and who will be responsible for maintaining this land.

SCC has requested that heritage items identified in the Draft Shellharbour Community Based Heritage Study be addressed. Accordingly, the DoP has requested that assessment be made of the potential heritage significance of Farm (337 North Macquarie Road), Oakvale (317 Calderwood Road), Parkview (340-400 North Marshall Mount Road) and Bushgrove (248-268 North Macquarie Road) identified in the Draft Shellharbour Community Based Heritage Study 2005 (revised 2009).

It is noted that each of the above properties is located within the Project site.

#### Response:

##### ***Marshall Mount Cemetery***

The 4,000 m<sup>2</sup> land area comprising Marshall Mount Cemetery (Lot 1 DP 195342) is to be retained in current private ownership.

It is proposed to establish 3,000 m<sup>2</sup> of public open space around the perimeter of the cemetery (but not including it) to provide an appropriate landscape buffer to the surrounding Town Centre (refer to EAR Section 4.7). As identified at EAR Section 7.9 no change of ownership, no subdivision and no change of land use is proposed with respect to the cemetery itself.

The Concept Plan proposal is entirely consistent with the recommendations of the Heritage Impact Statement (refer EAR Appendix U) which identifies that the cemetery should be retained and protected, and should be owned, occupied and used by those that have a stake in its future and wellbeing. It is also entirely consistent with the recommendations of the Heritage Impact Statement that future buildings within the new Town Centre should stand away from the cemetery to retain an atmosphere of contemplation and peacefulness appropriate to a memorial place by either placing the cemetery in a park or allowing the cemetery to share the private open space of adjacent properties.

The relevant recommendations of the Heritage Impact Statement are included in the revised Statement of Commitments (refer **Statement of Commitments 57 - 65**).

##### ***Draft Shellharbour Community Based Heritage Study***

The Draft Shellharbour Community Based Heritage Study is not publicly available. The Proponent has requested that the Council or the DoP provide a copy for its consideration, and this request has been declined.

The Proponent is therefore unable to review, comment on, or assess this report, nor to consider and confirm its recommendations.

The Heritage Impact Statement included in the Concept Plan and SSS EAR was prepared in accordance with the principles and definitions set out in the Australia ICOMOS Burra Charter, the guidelines of the NSW Heritage Manual and in accordance with 2001 Assessing Heritage Significance and the 2002 version of guidelines on how to prepare a Statement of Heritage Impact published by the Heritage Branch of the NSW DoP.



In accordance with those guidelines the Heritage Impact Statement reviewed all relevant statutory heritage controls and assessed the impact of the proposal on the properties identified as demonstrating heritage significance. It was prepared in accordance with the DGRs.

Had the properties identified by the Council been identified by the heritage consultant during the investigations into the site and its surrounds, as warranting further heritage assessment and consideration, the Proponent would have been appropriately made aware and responded.

### Cultural Heritage

SCC has raised concern that identified specific surface archaeological sites and additional areas where surface artefacts are not visible but could be buried require further assessment and careful management as the development proceeds. The council has also identified that the Educational Potential section of the Cultural Heritage Assessment may not take into account the importance of Aboriginal cultural heritage and spiritual link with historical and traditional association of the land for Aboriginal people.

#### Response:

Both of the matters raised by the Council are considered to have been appropriately addressed in the Cultural Heritage Assessment and proposed Statements of Commitments (refer to **Statements of Commitment 49 - 56**).

DECCW has broadly supported the management recommendations put forward in the Concept Plan and SSS EAR, and the matters DECCW has requested be addressed at subsequent stages of the development have all been incorporated into the Statements of Commitments.

## 2.10 Bushfire Asset Protection Zones

The DoP has requested that:

- APZs should be shown along the boundary between the E2 and E3 zoned land in Johnston's Spur should housing be proposed within the E3 land.
- APZs located in riparian corridors may have implications for the management of these corridors. Details should be provided to demonstrate that the management of the APZs in the riparian corridors will be consistent with other management plans.

#### Response:

The Proponent has modified the Concept Plan to incorporate APZs along the boundary between the E2 and E3 zoned land in Johnston's Spur (refer Section 5 below). This was always the case, however had been omitted from the drawing.

No APZs are proposed within the CRZs. Bushfire APZs are proposed to be provided within the open space that is immediately adjacent to the CRZs, at the outer edges of this open space, or within the adjoining urban development area. The Concept Plan APZ map has been amended to better clarify that this is the case (refer Section 5 below).



## 3.0 Rezoning Proposal

### 3.1 Issues

In relation to the zoning proposal and planning controls set out in the Concept Plan and SSS EAR, the DoP has requested that consideration be given to the following matters:

- The draft SEPP should be more consistent with the Standard Instrument LEP and practice notes and avoid duplicated provisions from other instruments such as the Infrastructure SEPP.
- Alternative zones, such as E3 Environmental Management should be considered for the land between Macquarie Rivulet and the Illawarra Highway, which will ensure appropriate management of the floodplain and sympathetic development.
- Riparian corridors and environmentally significant habitat areas should be zoned either E2 Environmental Conservation or E3 Environmental Management depending on the environmental values. The RE1 zone may be used where they serve a public purpose, however plans for the ongoing management of these areas should be prepared if this zone is to be used.
- The proposed density of 10 dwellings per hectare for the E3 Environmental Management Zone (1 dwelling for 40 ha is currently permitted in the equivalent 7(n) zone) is not adequately justified. A lower density to achieve a large lot style residential development should be considered to better reflect the environmental significance of the zone.

The DoP has also advised that a land release clause is proposed in the SEPP that requires satisfactory arrangements to be made for State infrastructure before subdivision can be approved including the Stage 1 Project Application.

A range of issues relating to the selection of proposed land use zones, and to the future statutory development control provisions that are proposed for the site, were also raised by public agencies in submissions. A detailed response to each of the matters raised by public agencies is provided at **Appendix A** and summarised below.

#### Application of SP2 Infrastructure (drainage) Zone

In their submissions, DECCW, SCC, Kiama Council, the CMA, and the NOW expressed concern in relation to the proposal to zone riparian corridors SP2 Infrastructure (drainage) and recommended that riparian corridors should be zoned to appropriately reflect their habitat and biodiversity value. In addition to the above, the following key concerns were also raised by public agencies in relation to the application of the proposed SP2 Infrastructure (drainage) land use zone:

- SCC has expressed concern that land that is proposed to be zoned for a public purpose, including the riparian corridor land proposed to be zoned SP2 Infrastructure (drainage) and which is therefore included on the proposed Land Reservation Acquisition Map would potentially need to be acquired by Council and that this would pose an unacceptable financial risk to the Council. The Council has requested that riparian corridors not be zoned exclusively for a public purpose to remove this risk.
- DECCW has expressed concern that the proposed SP2 Infrastructure (drainage) does not provide sufficient long term protection to the significant biodiversity values of remnant Illawarra Lowlands Grassy Woodland EEC and River Flat Eucalypt Forest EEC, and that the areas of SP2 Infrastructure zoning within Johnston's Spur do not reflect the conservation status of Johnston's Spur and that the SP2 Infrastructure zoning should be reviewed with respect to its application to the site's riparian corridors.

## Application of RE1 Public Recreation land use zone

In its submission, SCC raised the following specific concerns in relation to the proposed RE1 Public Recreation Zone:

- The land that is proposed to be zoned RE1 Public Recreation and which is therefore included on the proposed Land Reservation Acquisition Map would potentially need to be acquired by Council and this would pose an unacceptable financial risk to the council. The council has requested that the open space areas within the site not be zoned exclusively for a public purpose to remove this risk.
- The quantum of land proposed to be zoned RE1 Public Recreation and provided as open space is too great due mainly to the implications for the Council of ongoing maintenance costs for parks.

## Other land use zoning and planning control matters

SCC and WCC, and DECCW have raised a number of other concerns relating to the rezoning proposal:

- The proposed B4 Mixed Use zoned land fronting the Illawarra Highway may pull trade away from Sophia Street (Albion Park) and the proposed centre in Tullimbar, and the 18 metre height limit within this area of B4 Mixed Use zoned land is excessive (Shellharbour Council).
- Further consideration is required with respect to the minimum 300 m<sup>2</sup> lot size proposed to apply to the R1 General Residential zone, specifically in relation to those areas of land within the R1 General Residential zone that are adjacent to the edges of the development site and / or to bushland areas (SCC).
- Further consideration is required with respect to the proposed < 300 m<sup>2</sup> minimum lot size that is proposed to apply in certain circumstances to encourage increased densities at 'nodes' within the wider R1 General Residential zone, specifically in relation to those 'nodes' that are not close to the centre (SCC).
- There is no minimum lot size control proposed to be applied to the E3 Environmental Management Zone (SCC and DECCW).
- Consideration should be given to zoning the proposed town centre B2 Local Centre rather than B4 Mixed Use as the B4 Mixed Use zone as under the Standard Template LEP the B4 zone provides for a range of mixed land use opportunities, including shop top housing and therefore should only be used for land that plays a support role to B3 Commercial Core or B2 Local Centre zones (WCC).
- The inclusion of drainage, earthworks, electricity transmission or distribution networks, flood mitigation works, sewerage systems, stormwater management systems, telecommunications facilities and water supply systems in the proposed E2 Environmental Conservation Zone and E3 Environmental Management Zone are considered to be uses that are incompatible with the objectives of the zone (DECCW).
- The Environmentally Significant Land layer does not provide sufficient long term protection to the significant biodiversity values of remnant Illawarra Lowlands Grassy Woodland EEC and River Flat Eucalypt Forest EEC in areas outside the E2 and E3 zones (DECCW).
- That the model clause identified in the practice note for using spatial information in Local Environmental Plans to protect and manage Environmentally Sensitive Areas prepared by DECCW with the Department of Primary Industries and Department of Water and Energy be adopted with respect to biodiversity in lieu of the special provision proposed in relation to the ESL layer (DECCW).

## 3.2 Response and Preferred Rezoning Proposal

In response the Proponent has revised the proposed draft zoning provisions for the site as follows:

- The SP2 Infrastructure (local drainage) zone that was to be applied to the site's riparian corridors is no longer proposed. Accordingly, this land is no longer proposed for inclusion on the Land Reservation Acquisition Map.
- The riparian corridors of Marshall Mount Creek and Macquarie Rivulet, and the riparian areas within the Johnston's Spur conservation area are now proposed to be zoned E2 Environmental Conservation.
- Other site riparian corridors are now proposed to be zoned E3 Environmental Management. As a consequence of the expansion of the E3 Environmental Management zone to incorporate the riparian corridors, an amendment to the range of permissible land uses in the E3 Zone is proposed to allow for drainage, and flood mitigation works (which were previously to be permissible in the SP2 Zone).
- The RE1 Public Recreation Zone is retained for land that serves an exclusive public purpose – principally local drainage and open space -and accordingly continues to be included on the Land Reservation Acquisition Map. However, the total quantum of land included within the RE1 Zone has been reduced.
- The provision proposed to allow for a minimum lot size of 125 m<sup>2</sup> in locations that are within 200 metres of a bus stop, public open space or the B4 Mixed Use Zone boundary has been amended such that it will now apply only to land in a limited number of locations including within 200 metres of a designated park, the B4 Mixed Use Zone boundary or bus stops located on a sub-arterial or collector road.
- The formerly proposed maximum density control of 10 dwellings per hectare relating to the E3 Environmental Management zone is no longer proposed. A minimum lot size of 10,000 m<sup>2</sup> is proposed to be applied to the E3 zoned land, excluding those areas within the E3 zone that comprise riparian corridors or that are identified as "environmental reserves" in the Landscape and Open Space Masterplan. In addition, it is now proposed to include 'secondary dwellings' and 'dual occupancies' in the E3 zone (outside riparian corridors) to allow for some appropriate limited residential development in these areas.
- The maximum proposed building height of 18 metres within the area of B4 Mixed Uses zone that is adjacent to the Illawarra Highway has been reduced to 9.5 metres.
- The extent of the R1 zoned land in the south eastern corner of the site has been revised to allow greater flexibility for the future accommodation of the proposed Tripoli Way bypass and to facilitate a revised future residential subdivision in this location should the Tripoli Way bypass proceed.
- The extent of the R1 zoned land at the north eastern boundary of the site has been expanded to replace formerly proposed RE1 Public Recreation zoned land that has been determined as not required to be provided exclusively for a public purpose.
- The land use tables for the E2 Environmental Conservation and E3 Environmental Management zones have been updated to remove areas of potential overlap with the ISEPP.

Having regard to the process of assessment of the Project to date, the proponent has determined a necessity for an expanded area of land within the site to remain subject to a future Part 3A approvals regime.

The following revised maps demonstrating the above are included at **Appendix H**:

- Draft Land Zoning Map;
- Draft Minimum Lot Size Map;
- Draft Maximum Height Map;
- Draft Land Reservation Acquisition Map; and
- Draft Part 3A Area Map.

Also included at **Appendix H** is a revised land use zoning table.

Further explanation and justification in relation to the each of the amendments proposed is provided below.

As identified at Section 2.7, SCC has generally supported the application of the R1 General Residential zone on the basis that this land use zone is broad based and allows some flexibility for subdivision and development. However, the Council has raised concern with respect to the need to establish appropriate planning controls to ensure that the range and distribution of minimum lot sizes within the overall R1 zone reflects the particular environmental characteristics of different areas within the site.

The Proponent has sought to address the Council's concerns through proposed amendments to the Development Control Strategy that forms a part of the Concept Plan Approval. These amendments are detailed at 2.7 and 5 of the PPR.

The PPR does not propose any amendment to the following aspects of the preferred rezoning proposal:

- The selection of the B4 Mixed Use Zone in relation to the two parcels of land on the Illawarra Highway frontage of the site;
- The selection of the B4 Mixed Use Zone in relation to the town centre and employment lands;
- The selection of the R1 General Residential Zone in relation to the land between Macquarie Rivulet and the Illawarra Highway;
- The use of the Environmentally Significant Land overlay to assist in providing sufficient long term protection to the significant biodiversity values of remnant EEC .

Further justification in relation to those aspects of the project for which no amendment is proposed to the rezoning is provided at Section 2 and below.

### 3.3 Application of the E2 and E3 Zones

As stated above, the SP2 Infrastructure (local drainage) zone that was proposed to apply to riparian corridors has been deleted.

Accordingly, all riparian corridor lands have been removed from the draft Land Reservation Acquisition Map, as they are no longer proposed to be zoned exclusively for a public purpose.

It is noted that the proponent's offer to dedicate – free of cost - all riparian corridor land within the site to State and / or local government for retention and ongoing management in public ownership (should it be agreed) has not changed.

Furthermore, notwithstanding the proposal to change the underlying zoning of this land, it remains the Proponent's position that:

- the site riparian corridors serve a public purpose, namely a combined drainage, open space and environmental purpose; and
- that the most appropriate long term outcome for the protection and management of riparian lands is public ownership.

It is considered that the formerly selected SP2 Infrastructure (local drainage) zone was an appropriate choice of zone given that the riparian land in question performs an integral drainage function for the site.

The SP2 Infrastructure Zone has been applied by the DoP to riparian corridor lands in the Growth Centres of Sydney. Refer, for example, to the Alex Avenue and Riverstone Precinct land use zoning maps under State Environmental Planning Policy (Sydney Region Growth Centres).

Application of the SP2 Infrastructure (local drainage) zone to riparian corridor lands is not therefore without precedent, and is not considered to be inconsistent with the Standard LEP Template. Application of the SP2 Infrastructure (local drainage) land use zone to the site riparian corridors would be consistent with State government policy for major release areas.

To the contrary, State government policy for major release areas has appropriately identified that not only do riparian corridors serve multiple purposes (environmental, drainage and open space), but that the preferred outcome for riparian lands is retention in public ownership wherever possible.

Furthermore, it is considered that selection of a RE1 Public Recreation Zone for the entirety of the riparian lands and adjoining associated open space would be a legitimate and appropriate selection of land use zone given that the site riparian lands in this case perform multiple functions including for open space.

The E2 Environmental Protection Zone has been applied to the Stream Order 3 + riparian corridors of Marshall Mount Creek and Macquarie Rivulet. The boundary of the proposed E2 Environmental Protection Zone has been determined in accordance with the 92 metre Core Riparian Zone (CRZ) under the Concept Plan proposed Riparian Corridor Network (refer Concept Plan EAR Figure 4.5).

The E3 Environmental Management Zone has been applied to Stream Order 1 and 2 riparian corridors, with the exception of those corridors which extend into the Johnston's Spur conservation area, which have been zoned E2 Environmental Conservation on the basis of the ecological characteristics of Johnston's Spur taking "zoning precedence". The boundaries of the proposed E3 Environmental Management Zone have also been determined in accordance with the 48 metre and 24 metre CRZs for the relevant riparian corridors under the Concept Plan proposed Riparian Corridor Network (refer Concept Plan EAR Figure 4.5).

Notwithstanding that the majority of significant vegetation identified on the Environmentally Significant Lands layer is now located within the E2 or E3 zone, the proponent has not proposed to delete the Environmentally Significant Lands layer (refer below). This is to ensure that appropriate protection of future development and works within the E2 and E3 zones has specific regard to the protection of existing significant vegetation on this land.

As identified, the preferred outcome for the site proposed by the proponent is for the riparian corridors to be transferred into public ownership (refer to Section 4). The proposed E2 Environmental Conservation and E3 Environmental Management zones do not preclude the transfer of these lands into public ownership, and similarly do not prevent their retention in private ownership.

The application of the E2 Environmental Conservation Zones and E3 Environmental Management Zones in the manner proposed is consistent with the Standard LEP Template generally, and with the DoP's LEP Practice Note PN 09-002 relating to the application of environmental protection zones specifically.

### 3.4 RE1 Public Recreation Zone

The DoP's LEP Practice Note PN 06-002 identifies that the RE1 Public Recreation Zone is generally intended for a wide range of public recreation areas and activities, including local and regional open space. It also identifies that where land is reserved for public recreation purposes (e.g. local or regional open space), the land is to be outlined and annotated on the Land Reservation Acquisition Map and the relevant acquisition authority identified in the table in (Standard LEP Template) clause 24.

The DoP has identified to the proponent that the RE1 Public Recreation Zone may be applied where land serves a public purpose, and that plans for the ongoing management of these areas should be prepared if this zone is to be used.

A detailed analysis of the intended purpose / use of each of the areas of land proposed for inclusion in the RE1 Public Recreation Zone has been undertaken by the Proponent. Refer to Section 4 and **Appendix I**.

The analysis detailed at Section 4 and in **Appendix I** identifies, for each element of open space, drainage and riparian land within the site, the intended / required purpose of the land in accordance with the following categories:

- Higher order park;
- Local park;
- Paths;
- WSUD;
- Water bodies;
- Riparian drainage; and
- Environmental / conservation.

As is demonstrated by the analysis at **Appendix I**, each component of the proposed Open Space Network performs multiple functions.

Under the revised rezoning proposal, a total of 55.7 of land is proposed to be zoned RE1. This includes 7.8 ha of district parks, 15.98 ha of sports grounds, 6.42 ha of citywide parks and approximately 25 ha of open space corridors that are located generally adjacent to riparian CRZs and which perform a dual drainage and open space function.

Of the 25 hectares of open space corridors, approximately 4.7 ha comprise recreational pathways and the remaining provides dual use open space and WSUD drainage land.

For a development with an urban footprint of this scale, providing a minimum quantum of land for drainage in addition to the CRZ land (which also contributes a drainage function) is entirely appropriate and consistent with normally accepted standards for residential subdivision. For urban release development, it would normally be expected that land for WSUD drainage purposes would be required to be provided at a ratio to developable land as is proposed by the Project.

The quantum of land identified on the site as required for a public open space function and thus proposed to be zoned RE1 is not considered excessive. It appropriately reflects the application of SCCs standards for public open space and drainage.



The detailed analysis presented at Section 4 has confirmed that all of the land as originally proposed to be included in the RE1 Public Recreation Zone serves a public purpose with the exception of two areas of land: one located in the top north-eastern corner of the site and the other in the bottom south-eastern corner of the site, both of which were previously identified as 'Open Space Corridor and Citywide Bushland'.

The proponent has acknowledged that although open space in these locations remains an option, this land is not required to be zoned exclusively for a public purpose in the SEPP Amendment.

Land in these two locations is now proposed to be zoned R1 General Residential.

It is noted that notwithstanding the RE1 zoning, all of the lands proposed to be zoned public recreation are the subject of an offer by the Proponent to dedicate the land to the relevant Council free of cost, following construction of the open space and drainage facilities, and a maintenance period of 3 years (refer to Section 4 for further detail). The Councils would be exposed to no financial risk in respect of land acquisition if the local infrastructure delivery proposal were accepted.

A new Statement of Commitment is proposed requiring the proponent to prepare plans for the ongoing management of land proposed to be zoned RE1 Public Recreation (refer to **Commitment 12**).

### 3.5 Zoning of Land between Macquarie Rivulet and Illawarra Highway

In relation to land between Macquarie Rivulet and the Illawarra Highway, Section 2 of the PPR provides further information and justification of the extent of:

- Cut and fill proposed and appropriate management of the floodplain;
- Development proposed, relative to the environmental constraints of this land.

On the basis of the justification documented at Section 2, it is proposed to retain the R1 General Residential Zone in this location.

In addition, having regard to the proposal to accommodate SCC's desired Albion Park Bypass /Tripoli Way Extension across the south-western portion of the site, it is proposed to extend the R1 General Residential Zone to allow for an appropriate resolution of the alignment of the Tripoli Way road corridor, and resultant footprint of future residential development to occur at a subsequent stage of the development.

In order to ensure that the appropriate level of future investigation occurs in relation to this land, the Concept Plan Flood Mitigation Plan has been amended to identify that this area of land is a 'flood planning area' for which further work may be required before residential subdivision can occur.

### 3.6 Subdivision Controls

#### E3 Zone minimum lot size

It is proposed to delete the maximum 10 dwellings per hectare density control for land within the E3 zone, and to replace it with a minimum lot size of 10,000 m<sup>2</sup> for that part of the E3 zoned land that does not comprise riparian corridors / environmental reserves under the Landscape and Open Space Masterplan.

The minimum 10,000 m<sup>2</sup> lot size for the E3 zone is considered to appropriately reflect the environmental attributes of this land.



### Subdivision to < 300 m<sup>2</sup>

To allow for, and to encourage the provision of the broadest possible range of dwelling product type within the R1 General Residential zone, it was proposed to allow subdivision to a minimum lot size of 125 m<sup>2</sup> in locations that are within 200 metres of a bus stop, public open space or the B4 Mixed Use Zone.

The DoP generally supports this provision as it relates to open space and the B4 Mixed Use Zone boundary, but has expressed concern that allowing smaller lot sizes within 200 metres of any bus stop may be too 'open ended' given that the location of bus stops may change over time.

It is therefore proposed to that the SEPP provision allow for subdivision to 125 m<sup>2</sup> within a more limited number of locations, namely within 200 metres of designated parks, the B4 Mixed Use Zone and bus stops located on sub-arterial and collector roads only. This is reflected graphically on the revised Concept Plan Character Area drawing (refer to Section 5).

## 3.7 Land Use Tables

DECCW has expressed concern with the range of land uses that are proposed to be permissible with consent in the E2 Environmental Conservation and E3 Environmental Management Zones. Specifically, concern has been expressed regarding the intention to allow "*drainage, earthworks, electricity transmission or distribution networks, flood mitigation works, sewerage systems, stormwater management systems, telecommunications facilities and water supply systems*" in these zones.

The NOW has also recommended that "*electricity transmission or distribution networks, kiosks, recreation areas, roads (with the exception of crossings), sewerage systems, stormwater management systems, telecommunications facilities, waterbodies and water supply systems*" are removed to ensure that the E2 zone provides adequate protection of riparian land.

The DoP has also requested that the proponent avoid duplicating provisions from other instruments such as the Infrastructure SEPP in the proposed land use table.

### 'Drainage' and 'flood mitigation works' in the E2 and E3 zones

The Water Cycle Management strategy for the Project includes on line stormwater management works within riparian corridors.

The Floodplain Mitigation Strategy and Flood Mitigation Plan for the Project, which is centred around a holistic merit-based assessment of floodplain mitigation options in accordance with the FPDm, includes floodplain regrade works within riparian corridors.

Both the Water Cycle Management Strategy, and the Flood Mitigation Plan are essential components of the Project and are further justified at Section 2 of the PPR.

It is therefore essential that both 'drainage' and 'flood mitigation works' as defined in the Standard LEP Template are permissible with consent in both the E2 Environmental Conservation Zone (as originally proposed) and also now in the E3 Environmental Management Zone, now that it's application is to be extended to include Order 1 and Order 2 riparian lands.

Accordingly, both of these land uses are proposed for retention in the E2 Environmental Conservation land use table, and are also now proposed to be added to the list of permissible uses in the E3 Environmental Management Zone.

It is noted that drainage, earthworks and flood mitigation works are all land uses that have been applied by the DoP to the E2 Environmental Conservation Zone that has been used in a number of Precincts within the NW and SW Growth Centres.

Allowing this development with the E2 and E3 Zones as proposed cannot be seen to be inconsistent with the Standard LEP Template or State policy for other major release areas.

### 'Earthworks' in the E2 and E3 Zones

On the basis that any 'earthworks' as defined under the Standard LEP Template (i.e 'excavation or filling') required to allow for implementation of the Water Cycle Management Strategy and / or Flood Mitigation Plan would fall within the definition of 'drainage' or 'flood mitigation works'; and that any 'earthworks' that are ordinarily ancillary and incidental to another permitted land use would fall within the definition of that development, 'earthworks' is proposed to be deleted from Item 2 of the Environmental Conservation Zone. 'Earthworks' can be deleted from Item 2 of the RE1 land use table on the same basis.

### Electricity, sewerage, stormwater, telecommunications and water infrastructure

There are a number of items included in Item 2 of the proposed land use table for the E2, E3 and RE1 zones that 'overlap' or 'apparently overlap with the provisions of the ISEPP, including drainage, electricity transmission or distribution networks, flood mitigation works, roads, sewerage systems, stormwater management systems, telecommunications facilities, water supply systems and waterway foreshore management activities.

The Infrastructure SEPP provides for the permissibility of a range of development when that development is being undertaken by or on behalf of a public authority (or relevant supply authority), including, relevantly:

- Electricity transmission or distribution networks;
- Flood mitigation works;
- Road infrastructure facilities;
- Stormwater management systems;
- Telecommunications facilities;
- Water reticulation systems; and
- Waterway foreshore management activities.

In addition, the Infrastructure SEPP permits 'sewage reticulation facilities' and 'telecommunications facilities' to be carried out by any person on any land with development consent.

The proponent is not a public authority. Although in many instances it can reasonably be expected that infrastructure delivery works will ultimately be undertaken by or on behalf of a public authority and ultimately retained in public ownership (particularly with respect to roads, electricity transmission or distribution networks, stormwater management systems, water reticulation systems etc) this cannot be guaranteed at rezoning stage.

Furthermore, and particularly until such time as land that is proposed to be provided for open space and/or retained as part of the site's riparian corridors transfers into public ownership (if at all), it is imperative that 'flood mitigation works', 'stormwater management systems' and 'waterway foreshore management activities' undertaken by any person (and not just a public authority) are permissible with consent.

In these circumstances, the Infrastructure SEPP cannot be relied upon to ensure the permissibility of the development.

It is therefore considered necessary for the following development to remain separately identified in Items 2 of the land use tables:

- 'drainage';
- 'electricity transmission or distribution networks';
- 'flood mitigation works'; and
- 'waterway foreshore management activities'.

It is acknowledged that 'telecommunications facilities' do not need to be separately identified at Item 2 of the E2, E3 or RE1 land use tables as they are otherwise appropriately covered by the Infrastructure SEPP which permits 'telecommunication facilities' to be carried out with consent by any person on any land.

With respect to 'electricity generating works', 'sewage systems' and 'water supply systems', it is acknowledged by the Proponent that the definition of 'sewage reticulation facilities' and 'water reticulation systems' and 'electricity transmission or distribution networks' will appropriately cover the majority of development that may be considered within the E2 and E3 zones.

Accordingly, the Proponent would not object to these uses being removed from the broader land use table.

However, opportunities may exist for low impact, environmentally appropriate and sustainable technology activities to occur within Johnston's Spur and E3 zoned lands outside of riparian corridors, particularly if these lands are required to be retained in private ownership and therefore a viable and economic use such as ecotourism of these lands pursued. For example, opportunities may exist for solar farms, or for self contained sewage and/or water facilities associated with future uses to be provided.

The inclusion of a provision of a nature that is similar to Clause 18B of the Growth Centres SEPP would be appropriate to allow for this type of development, within the defined area of the wider E2 and E3 land use zones as identified above. Clause 18B of the Growth Centres SEPP allows electricity generating works and water recycling facilities that are small scale, likely to have only a minor impact, and consistent with the principles of ecologically sustainable development.

On the basis that it is not able to be determined whether the definition of 'drainage' under the Standard LEP Template includes all of the works that would be permitted by the definition of 'stormwater management system' under the Infrastructure SEPP the Proponent requests that it remain as a separately identified item in the E2, E3 and RE1 zones.

### Kiosks and recreation areas in the E2 Zone

The NOW has expressed concern over the inclusion of 'kiosks' and 'recreation areas' as permitted development in the E2 Zone.

The proponent considers both land uses to be entirely appropriate for inclusion as they allow for appropriate recreational use to be made of the land, in particular within parts of Johnston's Spur conservation area.

By definition and application of Standard LEP Template clause 5.4 (which has been proposed for adoption) 'kiosks' are 'retail premises used for the purposes of selling food, light refreshments and other small convenience items such as newspapers, films and the like and are approximately 10m<sup>2</sup> in area.

Also as defined under the Standard LEP Template 'recreation area' is a place used for outdoor recreation and includes playgrounds, community sporting activities, public parks, reserves and gardens.

The Project includes:

- A network of pedestrian and cycle pathways within the CRZs and VBs of the riparian network; and
- Retention of Johnston's Spur as a city wide park and bushland to provide a combination of conservation and passive recreation outcomes.

It is noted that the Infrastructure SEPP would permit recreation development by or on behalf of a public authority on public reserves without development consent.

However, as at this stage the long term ownership option of E2 Environmental Conservation zoned land is to be confirmed, 'recreation areas' need to remain in Item 2 of the land use table to allow them to be undertaken by any person.

It is noted that both kiosks and recreation areas are land uses that have been applied by the DoP to the E2 Environmental Conservation Zone that has been used in a number of Precincts within the NW and SW Growth Centres.

Allowing this development with the E2 and E3 Zones as proposed cannot be seen to be inconsistent with the Standard LEP Template or State government policy that is applied to major urban release areas elsewhere.

Attention is drawn to the DoP's Practice Note PN 09-002 which identifies that a range of additional uses may be suitable for inclusion in the E2 zone depending on location, including bed and breakfast accommodation, eco-tourism, environmental facilities, farm stay accommodation, information and education facilities, water recreation structures and wetland rehabilitation.

PN 09-002 also states that *"...uses should not be drawn too restrictively as they may, depending on circumstances, invoke the Land Acquisition (Just Terms Compensation) Act 1991 and the need for the Minister to designate a relevant acquiring authority."*

Revised land use tables reflecting the above are included at **Appendix H**.

### Dual occupancies and secondary dwellings in the E3 Environmental Management Zone

In response to public agency submissions, the proponent proposes to establish a minimum lot size of 10,000 m<sup>2</sup> for the three areas of land proposed to be zoned E3 Environmental Management outside of the riparian corridors and the nominated environmental reserves.

Previously, a maximum density control of 10 dwellings per hectare was proposed for this land. The density control was proposed to allow for some reasonable development potential of the three E3 parcels of land, whilst recognising that the most appropriate form of residential development would likely require 'clustering' of dwellings rather than subdivision to a uniform block size.

Each of the three parcels of E3 zoned land has an area of approximately 2 hectares. Each is substantially cleared.

As previously proposed, the E3 Environmental Management land use table permitted only dwelling houses. Up to 20 homes would have been permissible on each parcel.

Application of a 10,000 m<sup>2</sup> minimum lot size control will allow for only approximately 6 separate dwellings on the total 6 ha land area ie two dwellings per parcel.

Given the particular environmental characteristics of the E3 land, it is considered appropriate to now include 'dual occupancies' and 'secondary dwellings' at Item 2 of the E3 land use table.

The minimum 10,000 m<sup>2</sup> lot size control would prevent more than 4 dual occupancy dwellings (attached or detached) on each 2 ha parcel. Allowing 'secondary dwellings' would provide for 'granny flats' or 'fonzie flats' to be established in conjunction with each otherwise permitted dwelling on the land.

It is acknowledged that PN 09-002 suggests that residential accommodation other than detached dwelling houses may be unsuitable for the E3 zone. However, it is considered that in the circumstances of this case the additional residential housing within the E3 zone would not undermine the integrity of the zone objectives, whilst allowing for some reasonable and appropriate residential development in these locations. It is also considered that the range of proposed residential development would not undermine the primary purpose of this land in providing a transition between high conservation value land (ie E2 land) and other land zoned for general urban purposes (ie R1 land).

### 3.8 Environmentally Significant Lands

DECCW has expressed concern with respect to the suitability of the Environmentally Significant Lands (ESL) layer as a mechanism to ensure appropriate ongoing protection and consideration of areas of significant habitat within the site.

It is understood that this concern specifically relates to the use of the ESL layer as the primary mechanism to ensure ongoing protection and consideration of vegetation within the formerly proposed SP2 Infrastructure Zone that had been applied to the riparian corridor network, and to those minor areas of remnant habitat located within the proposed R1 General Residential / B4 Mixed Use zones.

DECCW has acknowledged and supported the proposal as originally submitted to apply the E2 Environmental Conservation and E3 Environmental Management Zone to the land that supports Illawarra Lowlands Grassy Woodland Endangered Ecological Community (EEC) and River Flat Eucalypt Forest EEC. However DECCW has recommended that all remnant EECs, including moderate disturbance (8) and high disturbance regenerating (C) condition be zoned E2, and scattered trees, thinned canopy (TX) condition be zoned E3 to provide appropriate long term protection to the significant biodiversity values of these remnants.

As the site's riparian corridor network, including riparian lands which are located within the Johnston's Spur conservation area, is now proposed to be zoned a combination of E2 Environmental Protection and E3 Environmental Management, it is considered that the principal basis for DECCW's concern relating to the ESL layer has been adequately addressed. The core ecological values of Johnston's Spur, Marshall Mount Creek and Macquarie Rivulet, as well as smaller pockets of good quality remnant vegetation area incorporated within the E2 and E3 zones.

As identified on the proposed ESL layer, some small patches of significant remnant habitat will still be zoned R1 General Residential and B4 Mixed Use. A revised diagram illustrating the extent of the ESL on the revised Land Use Zoning Map is included at **Appendix H**.

The total area of remnant habitat that is still located in the R1 and B4 zones and subject to primary protection via the ESL layer minimal, representing a minor percentage of total remnant habitat on the site.

It is the position of the proponent that the revised land use zoning proposal, including the use of the ESL layer to ensure protection of very minor areas of remnant EEC outside of the E2 and E3 zones delivers a balanced outcome between development and sustainable land management.

It is considered that zoning areas of moderate disturbance and high disturbance regenerating vegetation and scattered trees to E2 Environmental Conservation is in appropriate and unwarranted in the circumstances of the Project. It is noted that the removal of this vegetation was also the subject of the EPBCA referral and has been deemed not to be a controlled action.

DECCW has recommended that the model biodiversity clause in the Practice Note for using spatial information in Local Environmental Plans to protect and management Environmentally Sensitive Areas prepared by DECCW with the Department of Primary Industries and Department of Water and Energy be used rather than the provision proposed by the Proponent. The NSW Department of Water has recommended other changes. The Proponent notes this recommendation, but considers that the biodiversity clause is inconsistent with the objectives that should be applied to urban release areas.

As the DoP is aware, the Concept Plan and SSS rezoning proposal as publicly exhibited (and therefore including the application of the SP2 Infrastructure zone to riparian corridors and the use of the ESL layer to protect remnant habitat within the SP2, R1 and B4 Zones) was referred to DEWHA for determination under the EPBCA.

On 30<sup>th</sup> March 2010 the Commonwealth determined that the proposed action (the Project) is not a controlled action under the EPBCA and does not therefore require further separate assessment before it can proceed.

### 3.9 Part 3A Area

It is proposed to include the land area that is the subject of the existing Stage 1 Project Application in the area of land to which Part 3A will continue to apply post approval of the Concept Plan.

This is considered necessary given the position of SCC to date in relation to the assessment of this Project, and because SCC has declared that it has a conflict of interest with the Calderwood Project.

## 4.0 Development Contributions

### 4.1 Issues

#### State development contributions

The RTA has highlighted to the DoP the importance of ensuring that suitable planning mechanisms are in place to ensure that future upgrades to the classified regional road network occur in a timely manner.

The RTA has identified that it has not yet undertaken any modelling to determine likely staging of infrastructure upgrades, but has concerns that development of Calderwood could significantly alter timing of infrastructure upgrades on the classified state road network. In particular, that the Project could bring forward the need for the Albion Park bypass, its connection at the F6 and associated interchanges.

The RTA has also identified that the State government is currently considering the preparation of an Illawarra State Infrastructure Contribution (SIC) to cover the land releases of West Dapto, Tallawarra and Calderwood, that the apportionments are outlined in a Cabinet in Confidence correspondence dated 15 October 2009, and that the estimates for the SIC do not include upgrades to classified regional roads.

The Department of Education and Training (DET) is supportive of the Project and of the provision of school sites (2 x 2ha primary schools, a 6 ha secondary school and a potential special needs unit (1 ha associated with mainstream school) consistent with the DoP SIC Planning Circular PS 08-017 whereby the developer will provide 50% (increasing to 75% from 1 July 2011) of the cost (or equivalent works in kind) towards land for education. DET has indicated it is appropriate to designate school sites in areas close to town or village centres and with an opportunity to share facilities.

With respect to State infrastructure, the DoP has recommended that a monetary contribution per lot be set in a Voluntary Planning Agreement (VPA) with the option to negotiate works-in-kind agreements with the RTA.

As noted above the Department has also recommended a land release clause be included in the SEPP that requires satisfactory arrangements to be made for State infrastructure before subdivision can be approved including the Stage 1 Project Application.

#### Local development contributions

On 8<sup>th</sup> June 2010, SCC resolved not to enter into a VPA with the Proponent for the provision of contributions.

SCC has requested that further information be provided in relation to the funding and delivery of local infrastructure to assist it form an opinion as to appropriate cost estimates and its resultant long term asset management obligations. Although the Council has resolved not to enter into a VPA in relation to the proposal at this time, it has indicated that it does not, at this stage, either support or oppose the offer that the Proponent has made with respect to the funding and delivery of local community infrastructure.



Key concerns of expressed by SCC with respect to the local contributions proposal are:

- The ongoing maintenance burden to Council in relation to the land and facilities which the Proponent has proposed to dedicate to it free of cost for the purpose of public open space, drainage and community infrastructure;
- Any requirement that may be imposed on the Council to fund any component of identified road network upgrades that are not proposed to be fully funded by the Proponent;
- The cost implication to the Council of ongoing maintenance of community infrastructure that may be used by persons residing in the Wollongong LGA;
- That the quantum of local open space proposed to be dedicated to it free of cost, which slightly exceeds Council's standards, may be excessive and the area of local parks should be reduced from 0.3 ha to 0.2 ha to align with council's revised minimum size requirements;
- That the Council has limited capacity to maintain and manage the proposed environmental reserves, riparian corridors and land required for drainage;
- That the proposed sports field provision is deficient and the Proponent is not proposing to contribute to the provision and expansion of city wide facilities beyond the site; and
- Although supportive in principle of a co-located multi-purpose community centre and library, and of the proposed temporary community facility, that further information is required to justify the scope of these facilities and timing.

SCC has also raised concern that the proponent has not provided adequate evidence based demographic projections and that likely demand for facilities and services may not therefore be appropriately assessed.

SCC has not identified any concern with respect to the scope of the local road network upgrades that have been proposed by the Proponent, but has requested further information and justification in relation to the proposed Council apportionments of necessary road upgrades.

WCC has expressed concern that the Project will generate significant traffic impacts upon the local (Wollongong) road network, and has questioned a number of assumptions used in the TMAP modelling and analysis.

The Council has requested further information with respect to what monetary contributions or works in kind arrangements are proposed for the upgrading of each of the roads and key intersections within the Wollongong LGA.

WCC has not objected to the proposal to enter into a VPA with the Proponent for the delivery of local infrastructure within the Wollongong LGA. The Council has identified that future negotiations between it and the Proponent in relation to the proposed VPA will require detailed evidence to be submitted on the proposed embellishment works for each active and passive park and cost estimates for maintaining the facilities within each park.

The DoP has requested that detailed cost estimates be provided for the construction/establishment and on-going maintenance of proposed local infrastructure.

The Department has also requested that alternative options for ownership and funding of on-going maintenance for open space areas, riparian corridors and environmental areas should be considered and evaluated.

## 4.2 Response

The Concept Plan and SSS EAR documentation contained a comprehensive Infrastructure, Services and Facilities Implementation Proposal for the Project (refer to Concept Plan and SSS EAR Appendix G).

The preferred strategy for the delivery and implementation of the development contributions for the Project is by the use of commercially binding VPAs.

Consistent with this strategy the Proponent proposed to negotiate VPAs with the Minister for Planning and SCC following lodgement and exhibition of the Project documentation. The negotiations with WCC were proposed to follow nearer to the time when the development impacts on land within the Wollongong LGA.

Outline VPAs with the Minister for Planning, Shellharbour Council and Wollongong Council were included in the Concept Plan and SSS EAR at Appendix DD.

The Outline VPAs proposed development contributions as follows:

- **Minister for Planning:** contributions towards regional transport works and the provision of land for education.
- **Shellharbour Council:** contributions towards local internal and other transport; land and facilities for human services; land, facilities and initial maintenance for open space and recreation; and drainage infrastructure.
- **Wollongong Council:** contributions towards local internal and other transport; land and facilities for human services; land, facilities and initial maintenance for open space and recreation; and drainage infrastructure.

The Proponent reiterates that the preferred strategy for the delivery and implementation of the development contributions is by the use of VPAs.

The human services, open space and recreation, ancillary open space and transport works proposed to be delivered have been revised as described at Sections 4.2.2 and 4.2.3 below. The updated schedules provide clarification of a number of aspects of the proposed contributions, including cost estimates for contribution/establishment and ongoing maintenance, and threshold timing of delivery. It is noted that the apportionment of proposed local road network improvements is the subject of independent review by the DoP.

Given that agreement has not been reached at this stage to enter into VPAs, the Proponent has examined and analysed alternative options for long term ownership and maintenance of the lands that it has identified as being required for a public purpose. Refer to Section 4.2.1 below.

The following section provides further specific detail and response in relation to land ownership options, and the Proponent's preferred position. It should be read in conjunction with Sections 3.3 and 3.4 of the PPR relating to the selection of appropriate land use zones.

### 4.2.1 Land ownership options

In accordance with the DoP's request and concerns raised by SCC and WCC, alternative options for ownership, funding and maintenance of open space areas, riparian corridors and environmental areas have been considered and evaluated.

A Land Ownership Option matrix, and a Land Ownership Options Plan are included at **Attachment I**.

The Land Ownership Option matrix and Land Ownership Options Plan provide a detailed analysis of each area of land that is proposed to form a part of the Concept Plan Proposed Open Space Network (refer to Concept Plan and SSS EAR Section 4.7 and to Landscape and Open Space Masterplan at Appendix CC) including:

- Environmental reserves;
- City Wide Parks;
- District Parks;
- Local Parks;
- Open Space Corridors and Citywide Bushland.

All riparian land is included in the analysis.

The Land Ownership Option matrix and Plan have identified, for each area of land:

- Proposed zoning (as revised – refer to Section 3);
- Location;
- Land use (purpose), including multiple uses as relevant;
- Ownership options, including existing ownership of adjoining lands; and
- Logical future maintenance responsibility – preferred ownership.

The detailed analysis of the land use (purpose), including multiple uses as relevant, has confirmed the Proponent's position as made in the Concept Plan and SSS EAR that:

- The Macquarie Rivulet and Marshall Mount Creek Core riparian corridors (Items E2 01 – 03, 02-a and 03-a and 03-b) perform a multi-purpose function: environmental, drainage (riparian), water sensitive urban design, water body and public open space functions;
- Other site riparian corridors (Items E3 01-02, E3 05-08, E3 12-18) perform a multi-purpose function: drainage (riparian), water body, water sensitive urban design, public open space and public pathways;
- Johnston's Spur (Item E2 06, E2 06-a and E2 06-b) performs a multi-purpose function: environmental, drainage (riparian), and open space functions;
- The 4 Environmental Reserves (Items E2 04-05, E3 10-11) perform a multi-purpose function: environmental and public open space;
- District parks, local parks, open space corridors and citywide bushland (Items RE1 01 – 30 and RE1 04-a) perform combined drainage and open space functions.

The detailed analysis has confirmed that three areas that were previously proposed to be included in land to be transferred into public ownership (Items R1 01-03) are not required exclusively for a public purpose.

In each other case, the multi-purpose functions identified are considered by the Proponent to constitute public purposes.

As identified at Section 3.4, under the revised rezoning proposal, a total of 55.7 of land is proposed to be zoned RE1. This includes 7.8 ha of district parks, 15.98 ha of sports grounds, 6.42 ha of citywide parks and approximately 25 ha of open space corridors that are located generally adjacent to riparian CRZs and which perform a dual drainage and open space function. Of the 25 hectares of open space corridors, approximately 4.7 ha comprise recreational pathways and the remainder provides dual use open space and WSUD drainage land.

For a development with an urban footprint of this scale, providing a minimum quantum of land for drainage in addition to the CRZ lands (which also contribute a drainage function) is entirely appropriate and consistent with normally accepted standards for residential subdivision. For urban release development, it would normally be expected that land for WSUD drainage purposes would be required to be provided at a ratio to developable land as is proposed by the Project.

It would be expected that at subdivision stage, the council would not approve a development that did not include land to be dedicated for drainage purposes of this magnitude.

The quantum of land identified on the site as required for a public open space / drainage function and thus proposed to be zoned RE1 is not considered excessive. It appropriately reflects the application relevant standards for public open space and drainage.

### Ownership options

The key ownership options available for open space and drainage lands include:

- State ownership;
- Local council ownership;
- Private – individual fragmented land owners;
- Private – community title, environmental trust models;
- Private – current landowner / developer / biobanking.

Each of the above options could be used with respect to the long term ownership of open space, drainage and environmental lands.

The following table sets out the key elements of the model, and implications.

Ownership model	Description	Implications
State ownership	Transfer of land to the Crown or State govt agency such as DECCW, NOW, DoP, Dept of Lands, CMA - free of cost	<ul style="list-style-type: none"> <li>■ Single entity public ownership</li> <li>■ Coordinated protection and maintenance regime</li> <li>■ Long term maintenance cost</li> <li>■ Acceptable in special circumstances</li> <li>■ Appropriate for urban growth areas eg Growth Centres</li> </ul>
Local Council ownership	Land dedicated to Council free of cost	<ul style="list-style-type: none"> <li>■ Single entity public ownership</li> <li>■ Coordinated protection and maintenance regime</li> <li>■ Long term maintenance cost</li> <li>■ Appropriate for land required for local open space and drainage</li> <li>■ Appropriate for riparian land that also serves drainage, open space, recreation and environmental purposes</li> <li>■ Accepted practice for vast majority of subdivision proposals in urban growth areas and elsewhere</li> </ul>
Private ownership – fragmented	Land retained in fragmented private ownership and managed by private owners at their own cost	<ul style="list-style-type: none"> <li>■ May be appropriate for small areas of riparian land where public access is to be restricted</li> <li>■ Inappropriate for land required for drainage purposes</li> <li>■ Inappropriate for land required for public open space</li> <li>■ Inappropriate for any land requiring public access</li> <li>■ Un-coordinated protection and inconsistent maintenance regime, with further fragmented subdivision possible</li> <li>■ Not standard practice</li> <li>■ Potential negative impact on housing affordability in Illawarra market</li> <li>■ No incentive scheme to support appropriate maintenance</li> </ul>

Ownership model	Description	Implications
Private ownership – eg community title, trust arrangement	Land retained in single entity private ownership to be owned and managed by the owners of individual lots within a precinct via ongoing contributions	<ul style="list-style-type: none"> <li>Single entity private ownership</li> <li>Provides for privately accessible open space and recreation available only to those that are a party to the title or trust arrangement</li> <li>General public access may be restricted</li> <li>Coordinated protection and maintenance regime</li> <li>Potential negative impact on housing affordability in Illawarra market with take up likely to be minimal – best suited to ‘prestige’ land release areas</li> </ul>
Private ownership – current landowner, developer, biobanking	Land retained in single or multiple entity private ownership and managed at owners’ cost	<ul style="list-style-type: none"> <li>May be appropriate for land where public access is to be restricted</li> <li>No incentive scheme to support appropriate maintenance</li> <li>Provides for privately accessible open space and recreation available only to those that are a party to the title or trust arrangement</li> <li>General public access may be restricted</li> <li>Coordinated protection and maintenance regime</li> </ul>

The above has been used to identify the preferred ownership model for each area of land that is proposed to be zoned E2, E3 and RE1 as documented in the matrix at **Appendix I**.

The Proponent is committed to ongoing negotiations with State and local government to achieve the preferred ownership outcomes for the identified land, and the revised Statements of Commitment reflect this.

However, as also reflected in the revised Statements of Commitments, if the preferred ownership outcome is not ultimately agreed, the Proponent will identify an alternative ownership arrangement at the relevant subdivision stage.

### Riparian lands

It is the position of the Proponent that site riparian corridors provide both important open space and drainage functions, and that integrating these land uses within riparian lands in the manner proposed can occur whilst maintaining riparian conservation values, and assist in enhancing and restoring those values.

In general terms, depending on the location and size of land proposed for subdivision, riparian corridor lands may be held by a single land owner or may be subdivided with the land held in multiple ownership.

Several approaches are therefore available to future ownership of riparian corridors in urban release development areas. The characteristics of the riparian corridor influence which option would provide the best outcome or range of outcomes.

It is the position of the Proponent that retaining the site riparian corridors in fragmented multiple private ownership, with potential inconsistency in the management of the waterway, is the least preferred outcome.

Riparian corridor land could potentially be retained in private ownership under a community title or environmental trust arrangement to be owned and maintained by the owners of individual lots in the release area. Ongoing contributions for maintenance of the riparian land on this title would come from the future residents. Accordingly, the riparian corridors would provide ‘private open space’ or ‘recreation area’ only available to residents who own the title.

The privatisation of the riparian corridors in this manner is not considered to be a preferred option by the Proponent. Furthermore, as contributions would be required directly from future residents to fund maintenance costs, it is not considered a suitable option for the Calderwood Project given the imperative to deliver affordable housing product to market in the Illawarra. It is considered that the ability to privately own and maintain riparian corridors may confine market take up of these lots to the higher end of the market and thereby undermine housing affordability objectives of the Project.

Furthermore, there is no incentive scheme to support appropriate maintenance of riparian land held in private ownership.

Under existing State Government Policy, the acquisition of riparian corridors land cannot be included in a contributions plan or a VPA where the land is set aside solely for conservation, river health or for corridor values.

However, where the riparian corridor also has a public purpose eg drainage, cycleways or open space, a contributions plan may be applied to acquire the land, or to construct the community infrastructure on the land – eg paths, drains, recreation areas etc.

It is the position of the Proponent that public ownership provides long term certainty, appropriate protection and management of the corridor. It does raise issues with respect to funding for the ongoing management of the land.

It is the position of the Proponent that the site riparian lands that are proposed to be transferred to the Council:

- Provide viable multiple uses (riparian corridor and community infrastructure including stormwater drainage, play grounds, bike paths etc);
- Provide open space / recreational land;
- Provide a valuable connection between other walking and cycling paths within the development;
- Provide a connection with other proposed open space and link areas of open space within the site together;
- Provide connectivity between areas of habitat significance; and
- Promote conservation, river health and corridor values.

### Preferred ownership options

The Land Ownership Options matrix and Land Ownership Options Plan, and the analysis it provides, is considered to demonstrate that the application of the RE1 Public Recreation zone to public open space and drainage land as proposed is appropriate because this land is required exclusively for a public purpose.

As a consequence of the detailed analysis at **Appendix I**, in response to the concerns raised by council with respect to the quantum of land proposed to be transferred into its ownership, and having regard to the revised rezoning proposal, the Proponent has revised the proposals with respect to transfer of land required for a public purpose to propose that:

- The riparian corridors of Macquarie Rivulet and Marshall Mount Creek (Items E2 01, E2 02 and E2 03) and associated immediately adjacent public open space (Items RE1 01, RE1 02, RE1 04, RE1 09, RE1 12, RE1 15, RE1 22 and RE1 28) be transferred to the Department of Lands (preferred outcome);
- Johnston' Spur (Item E2 06) be transferred to the Department of Lands (preferred outcome);
- Two Environmental Reserves (Items E2 04 and E2 05) be transferred to the Department of Lands (preferred outcome);
- Site riparian corridors other than Macquarie Rivulet and Marshall Mount Creek (Items E3 01-02, E2 02-a, E2 03-a/b, E3 05 – 08, and E3 12 – 18) be transferred to the relevant council (preferred outcome);

- Two Environmental Reserves (Item E3 10 - 11) be transferred to the relevant council (preferred outcome);
- Public open space Items E2 06-a, E2 06-b, RE1 03, RE1 04-a, RE1 05-08, RE1 10-11, RE1 13-14, RE1 16-21, RE1 23-27 and RE1 29-30 be transferred to the relevant council (preferred outcome); and
- Items R1 01, R1 02 and R1 03 be retained in private ownership at this stage (preferred outcome).

## 4.2.2 Revised scope of local contributions

### Land required for a public purpose

The following analysis shows the revised preferred land ownership arrangements as identified at **Appendix I** compared with those that were shown in Schedule 3 in the Outline VPAs included at Appendix DD of the Concept Plan and SSS EAR:

**Table 2** – Revised ownership open space land located within the Shellharbour LGA

Item	Outline VPA SCC (Ha)	Preferred Project Report	Variation	Comment
Local Parks	3.00	2.00	(1.00)	Reduced in accordance with SCC submission
District Parks	6.80	6.80	Nil	No change
Citywide parks	5.11	5.11	Nil	No change
Sports fields	15.98	15.98	Nil	No change
Paths in open space	3.61	3.61	Nil	No change
Corridor open space	104.68	49.18	(56.50)	Drainage, mainly within E3 land
Environmental reserve	16.58	8.95	(7.63)	Contiguous with other open space
Citywide Bushland Zones	61.11	Nil	(61.11)	Alternate arrangements proposed
<b>TOTAL</b>	<b>216.87</b>	<b>91.63</b>	<b>(125.24)</b>	

The land proposed for transfer to Shellharbour Council is limited to parks, playing fields, pathways in open space and drainage, all of which are clear public purpose uses. This amendment addresses Council's concerns about the quantum of open space initially proposed for transfer and the associated maintenance burden.

**Table 3** – Revised ownership open space land located within the Wollongong LGA

Item	Outline VPA WCC (ha)	Preferred Project Report	Variation	Comment
Local Parks	0.90	0.90	Nil	No change
District Parks	1.00	1.00	NIL	No change
Citywide parks	1.31	1.31	Nil	No change
Paths in open space	0.82	0.82	Nil	No change
Corridor open space	49.05	21.77	(27.28)	Drainage or contiguous with other open space
<b>TOTAL</b>	<b>53.08</b>	<b>25.80</b>	<b>(27.28)</b>	



The land proposed for transfer to Wollongong Council is limited to parks, playing fields, pathways in open space and drainage, all of which are clear public purpose uses. This amendment addresses Council's concerns about the quantum of open space initially proposed for transfer and the associated maintenance burden.

**Table 4 – Revised ownership options – other open space land**

Item		Outline VPA (ha)	Preferred Project Report	Variation	Comment
Corridor	open space	Nil	83.78	+83.78	As per Appendix I
Environmental reserve		Nil	7.63	+7.63	As per Appendix I.
Citywide	Bushland Zones	Nil	61.11	+61.11	As per Appendix I.
<b>TOTAL</b>		<b>Nil</b>	<b>152.52</b>	<b>+152.52</b>	

The revised ownership options for the other open space/environmental/riparian land are detailed in **Appendix I**.

Prior to the final ownership option being implemented, the Proponent will undertake a detailed review of the options to establish and confirm:

- The relationship to existing adjoining land ownership and/or use;
- The condition of the land (eg: potential for contamination; level of infestation by weeds / feral animals and so on);
- That the proposed level of embellishment and establishment for the land remains as stated in the EAR - Appendix CC Landscape and Open Space Master Plan.

Delfin Lend Lease will implement a predictable managed programme of transition to the selected option that is consistent with the above and the approved Concept Plan.

### Population estimates and demand assessment

The demographic projections used in the Social and Community Planning Assessment are based on average household size for different types of dwellings in Shellharbour LGA based on the 2006 census. Average household size in Shellharbour has then been applied to the dwelling mix proposed for Calderwood. This is both transparent and a standard methodology for population forecasting, based on "evidence" from the last census. While household size in other nearby release areas might have been higher, this is because they have a different dwelling mix to that proposed for Calderwood. Age, household and socio-economic projections have been based on population characteristics from surrounding release areas (based on 2006 Census analysis) and DLL experience in its other release areas.

A potential underestimate of population might occur if a higher average household size is selected, but this has not been articulated or justified. Even if slightly higher population projections were adopted, the assessment of facilities and services required would not change – they are not sensitive to an extra 1000 or so people.

Any forecasting of need is speculative – the Proponent cannot be certain about who will move into the development and precisely what services they will require. Generic needs of a new community have been identified in the Social and Community Planning Assessment, however specialist age / care / support needs have not as it is not appropriate to try and guess them at this early stage for a 20 year implementation program.

Instead, the Proponent's approach is that the proposed multi-purpose community centre will have inbuilt flexibility to provide accommodation for whatever services, activities and programs will be required to meet the needs of the future population as they can be identified (ie as people move into Calderwood). The inclusion of funding for a community development worker provides a mechanism to help identify precise needs for services and activities and to organise for their provision as they are needed. This approach was supported by the State government human service agencies consulted, including Health, DOCS and Disability / Aged Care, who agreed precise needs could not be identified at this early stage.

The normative standards adopted in SCC's Open Space and Community Facilities Needs Study and Design Guidelines have been applied to the assessment of demand, consistent with Council's own policy and planning documents. The Proponent does not agree that likely demand and need for community and recreation infrastructure based on likely demographic composition has not been appropriately considered.

The issue of need for contribution towards city-wide facilities was addressed in Section 10.4 of the Social and Community Planning Assessment. Under State Government reforms to Section 94 contributions, contributions to most of the city-wide facilities Council had included in its existing Section 94 Contributions Plan are no longer to be allowed, as they constitute "additional" rather than "key" community infrastructure (eg new Council Admin Centre).

#### 4.2.3 Updated local contributions schedules

The Proponent has updated the human services, open space and recreation, ancillary open space and transport schedules provided in the Outline VPAs for Shellharbour and Wollongong Council contributions that were included as part of the Concept Plan and SSS EAR to provide further detail to provide:

- Cost estimates for the construction / establishment and on-going maintenance of proposed local infrastructure;
- A reduced rate of local public open space provision for local parks from 0.3 to 0.2 ha per park;
- Reduced the quantum of land proposed to be dedicated to both the councils having regard to the further analysis and consideration of open space areas, riparian corridors and environmental areas as identified above.

Detailed Schedules are provided at **Appendix K** for:

- Human services
- Open Space and Recreation
- Ancillary Open Space
- Transport

The updated schedules identify:

- The facility and requirements,
- Timing, including threshold staging as relevant;
- Scope;
- Technical apportionment, where relevant; and
- Estimated value of each item to a level of detail that would ordinarily be contained within a Section 94 Plan or VPA.

The implementation process relating to works, facilities and services approvals, maintenance and handover procedures is detailed as part of the implementation strategy explained at Section 4.2.4 below.

#### 4.2.4 Implementation of contributions strategy

On 31<sup>st</sup> July 2010, the Proponent submitted a formal proposal to the DoP to enter into a Voluntary Planning Agreement for contributions towards regional transport works and the provision of land for education.

A copy of the formal proposal for State development contributions is included at **Appendix J**.

The offer by the Proponent to enter into a VPA with both Shellharbour and Wollongong Councils is formally restated through this PPR.

However, in light of SCC's resolution not to enter into a VPA at this time, alternative arrangements are proposed by the Proponent in the event that SCC maintains its current position.

A resolution by SCC to enter into a VPA is not a necessary pre-requisite to provide for the satisfactory delivery of local public amenities and services.

It is also not a necessary pre-requisite to determination of the Concept Plan and rezoning of the land.

Although the 'preferred outcome' of the Proponent, it is important to note that delivery of local infrastructure does not have to be managed by Council, nor do facilities and amenities have to transfer into Council ownership.

As long as it can be demonstrated that the demands of the incoming population for the required facilities and amenities will be met, a development can proceed.

Accordingly the Statement of Commitments has been revised (refer to **Commitments 5 - 12**) to offer the following with respect to local development contributions:

##### **Local Contributions for land located within the Shellharbour LGA:**

The Proponent will:

- Provide local public amenities and services for all land included within the Concept Plan boundary within the Shellharbour LGA; and
- Meet its obligations with respect to the above via a combination of the dedication of land, carrying out of works and payment of monetary contributions in accordance with the attached Schedules; and
- Provide details with respect to the proposed carrying out of works, and any land to be dedicated to the Council at the time of the application relating to each subsequent stage of the development. The land to be dedicated to the SCC will be shown on the relevant plan(s) of subdivision; and
- Meet its obligations with respect to the above (monetary contributions, material public benefits and land transfer) prior to the registration of subdivision plans for the specific milestones detailed in the attached supporting Schedules.

In accordance with s.75R(4) of the EP&A Act – which states that Division 6 of Part 4 (Development Contributions) applies to both Concept Plans and Project Applications under Part 3A – the proposed approach to local development contributions within the Shellharbour LGA is consistent with:

- **s.94 Contribution towards provision or improvement of amenities or services** - which allows the Minister to require the dedication of land or payment of a monetary contribution in relation to a development that will or is likely to require the provision of or increase the demand for public amenities and public services within an area, and for that contribution to be met via the carrying out of works; and

- **s.94B(2) Contributions plans** - which allows the Minister to impose a condition under s.94 or 94A even though it is not authorised (or of a kind allowed) by, or is not determined in accordance with, a contributions plan, subject to the Minister having regard to any contributions plan that applies to the whole or any part of the area in which development is to be carried out;
- **s.94C Cross boundary issues** – which allows the Minister to impose a condition under section 94 or 94A for the benefit (or partly for the benefit) of an area that adjoins the local government area in which the development is to be carried out
- **s.94E Directions by Minister** – which allows the Minister to direct a consent authority as to the nature of local development contributions (scope and maximum amount).

In accordance with s.75J(5) of the EP&A Act, it is anticipated that the Minister will impose a condition of approval on the Concept Plan requiring the Proponent to comply with each of these obligations of the Concept Plan Statement of Commitments.

As identified above, discussions with respect to a future VPA with Wollongong Council have not been programmed at this time. In its submission to the DoP dated 9<sup>th</sup> June 2010, Wollongong Council requested that appropriate negotiations take place between the parties on this matter. The Proponent welcomes this request.

**Local Contributions for land located within the Wollongong LGA:** It is proposed to enter into a Voluntary Planning Agreement for contributions towards local public amenities and services for all land included within the Concept Plan boundary within the Wollongong LGA at a future time in accordance with the attached detailed Schedules for:

- Human services
- Open Space and Recreation
- Ancillary Open Space
- Transport

Also, the Proponent will construct all internal drainage infrastructure and maintain it for 3 years following substantial completion of development within the relevant catchment. Where land is to be transferred to Council it will be dedicated at no cost to Council.

### Funding and Maintenance of Open Space Areas

The Open Space Schedules provide details of embellishment, land value and maintenance cost contributions. The highly intensive initial establishment maintenance is proposed as a proponent cost, that is, the initial 3 year maintenance period. Based on the revised ownership tables above the annual maintenance impost is estimated to be in the order of \$175,000 to \$250,000 per annum for land in the Shellharbour LGA proposed to be transferred to Shellharbour council and \$40,000 to \$60,000 per annum for land in the Wollongong LGA proposed to be transferred to Wollongong Council. These estimates are based on estimated contract rates established by Delfin Lend Lease from experience on its Master Planned communities. However it is noted that the estimates are affected by a number of variable including whether maintenance is handled by in house or contract resources, organisational purchasing power and the quality and scope of initial embellishment and fit out.

## Works, facilities and services approvals, maintenance and handover procedures

The following general principles are proposed to apply for approvals, maintenance and handover procedures:

- The works, facilities and services to be delivered are detailed in the Schedules;
- Descriptions of the works, facilities and services are detailed in the Schedules;
- Value of works, facilities, services, land and initial maintenance are detailed in the Schedules;
- The open space hierarchy is detailed in the Open Space Master Plan;
- At the User Brief, Concept and Detailed Design stages, the proponent and Council, or other relevant authority, will agree the level of embellishment/works for the items in the Schedules- this may be as part of the statutory approvals process;
- The usual statutory works approvals processes relevant to the works will apply;
- Works-in-kind, including design, construction, certification, authority approvals, construction and initial maintenance, will be the proponent's responsibility.
- "On Maintenance Period" will commence at the date of practical completion of the works.
- "On Maintenance Period" for open space and drainage works will be 3 years.
- "On Maintenance Period" for buildings will be 3 months.
- "Handover Period" for open space and drainage will commence 3 months prior to the end of the "on Maintenance Period".
- "Handover Period" for buildings will commence 1 month prior to the end of the "on Maintenance Period".
- "Handover Inspections" will be held. These will confirm the scope, condition and functionality of the asset using standard mutually agreed pro forma list of items
- "Handover Documentation" will be prepared. This will provide details of the works including relevant specifications, drawings, approvals, manufacturer(s) warranties and maintenance records.
- "Off Maintenance" items will be formally agreed through exchange of correspondence.
- Independent Expert Certification may be provided if mutually agreed.

## General principles applying to the contributions strategy

The following general principles will apply to the provision of contributions:

- The contributions and obligations imposed as a result of this Contributions Strategy are in place of and exclude the application of sections 94 and 94A of the EP and A Act to the area covered by the Concept Plan;
- Delivery of works, facilities and services will be progressive in proportion with the rate of development and/or milestones detailed in the relevant schedules;
- The baseline standard of works, facilities and services will be equivalent to like services throughout the Shellharbour and Wollongong Local Government Areas;
- Better Outcomes for the delivery of all works, facilities and services will be considered. This involves identifying options to provide more efficient, effective and flexible delivery of works, facilities and services. This includes opportunities for shared use, integration of works from different funding sources and co-location of facilities;
- In the event that Better Outcomes cannot be identified or agreed the baseline standard of works, facilities and services will be delivered;

- If the Concept Plan is amended or replaced, the proponent and relevant Authority or Council will agree to act in good faith to review and negotiate the Contributions having regard to all relevant considerations including Contributions made to the date of amendment or revision, the variation in the Concept Plan and the demand for facilities, service and infrastructure;
- Monetary contributions must be spent on the relevant facility, infrastructure or service for which the contribution is made unless otherwise agreed by the proponent;
- The Transport upgrades necessary for the implementation of the Concept Plan and the assumptions and process for establishing the upgrades are identified in the EAR Appendix T. However if the assumptions and process materially change as a consequence of a change in the Concept Plan, the impact of that change will be reviewed and the upgrades will be amended as is fair and reasonable;
- If required an appropriate level of security may be provided for works, facilities and services on a progressive basis. A baseline level of security, reviewed on an annual basis, would be equivalent to the value of the works facilities that are deliverable within the next 12 months.
- Open space will be maintained by the proponent for up to 3 years in accordance with the procedures stated above.
- Certification of delivery of contributions may be provided by an independent Expert. The appointment of the relevant independent Expert may be agreed by the parties or appointed by the Director General of the DoP. The independent expert will be report on annual basis or on specific mutually agreed major works items.

## 5.0 Concept Plan – Preferred Project

In response to the matters raised by the DoP and in submission the proponent has revised the proposed Concept Plan for the site as follows:

- The proposed future Albion Park Bypass / Tripoli Way Extension has been accommodated within the Project site. A corresponding amendment has been made to the potential urban footprint in the south-eastern corner of the site, and to the Flood Mitigation Plan as it relates to this portion of the site.
- The quantum of public open space located in the north-eastern and south eastern portions of the site has been reduced to accord with the revised local infrastructure schedules.
- The proposed Character Areas have been reviewed to better identify and differentiate between areas that have been identified to be sensitive with respect to environmental characteristics and landscape surrounds.
- New development controls are proposed for incorporation into the Concept Plan / Development Control Strategy that establish clear and specific planning objectives and controls for each of the identified Character Areas.
- The Bushfire Asset Protection Zones (refer to Concept Plan Figure 48) have been amended to include APZs between the E2 Environmental Protection and E3 Environmental Management Zones where housing is proposed and to clarify that all APZs are located outside of Core Riparian Zones.
- An additional Concept Plan drawing has been included showing the preferred location of school sites, consistent with the proposed State contributions for education lands.

The revised drawings, which comprise the Preferred Concept Plan, are included at **Appendix L**.

The proposed development controls for each of the Character Areas are detailed in the tables presented at **Appendix G**.

Further explanation and justification in relation to the each of the amendments proposed is provided in the response to issues at Section 2.

Having regard to the matters raised by the DoP and by public agencies and the public in submissions in relation to the Concept Plan, the Preferred Project does not propose any amendment to the following aspects of the Project:

- Proposed Riparian Corridor Network;
- Proposed Water Cycle Management Plan;
- Quantum of retail floor space or size of the proposed Town Centre / employment zone; and
- Potential future non residential land use on the Illawarra Highway.

Further justification in relation to those aspects of the project for which no amendment is proposed to the rezoning is also provided at Section 2 above.



## 5.1 Statement of Commitments – Concept Plan

The DoP has requested that the Proponent incorporate the recommendations of the various consultants reports submitted with the EAR into a revised Statement of Commitments for the Concept Plan.

In response to this requirement, the full recommendations of all specialist sub consultants studies as documented at Section 7.0 of the Concept Plan and SSS EAR have been incorporated into the revised Statement of Commitments. Specifically, a number of recommendations made in relation to the following technical disciplines, which had not been brought forward into the Statement of Commitments, have now been included:

- Transport and accessibility (refer to EAR Section 7.4)
- European heritage (refer to EAR Section 7.9)
- Landscape and visual impact (refer to EAR Section 7.15)
- Bushfire protection (refer to EAR Section 7.11)
- Social and community initiatives (refer to EAR Section 7.13)
- Sustainability initiatives (refer to EAR)

In addition, where considered appropriate, the Statements of Commitments relating to the following matters have been amended to provide further detail and / or to clarify the specific requirements and matters that are to be addressed at the subsequent detailed design stages of the project:

- Water cycle management
- Contamination
- Ecological and riparian
- Flood mitigation
- Indigenous heritage

The revised Statement of Commitments also now includes a number of new commitments that respond to a range of issues raised by public agencies in submissions as has been identified at Section 2 and at **Appendix A**.

It is noted that where recommendations of specialist sub consultants studies relate to the delivery of State, regional and / or local infrastructure (including land for education, regional and local road works, open space, drainage, community facilities etc), these recommendations have been incorporated into the contributions schedules included at **Appendix A** and are not therefore separately itemised in the revised Statement of Commitments.

It is also noted that where recommendations of specialist sub consultant studies relate to the Stage 1 Project Application, these are addressed under separate cover in the Stage 1 PPR.

Table 5 – Revised Statements of Commitment

Subject	Commitment	Responsibility / Timing
State infrastructure contributions	<p>1</p> <p>The Proponent will enter into a Voluntary Planning Agreement with the Minister for Planning for the delivery of infrastructure and facilities for the Calderwood Urban Development Project area. The Proponent will:</p> <ul style="list-style-type: none"> <li>- make a net monetary contribution of \$8,039 per dwelling to the State government; and</li> <li>- dedicate a total of 13 hectares of land to the Department of Education and Training free of cost to accommodate 1 high school site of 6 hectares and 2 primary school sites of 3 hectares each, and a special needs unit of 1 hectare co-located with one of the primary schools;</li> </ul> <p>The offer to enter into the VPA is made on the basis set out in the formal proposal to enter into a Voluntary Planning Agreement made in writing to the Director General of the Department of Planning on 31 July 2010, a copy of which is included at Appendix J of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010. The final location of the education land will be determined by agreement with the Department of Education and Training.</p>	VPA to be finalised prior to registration of first residential subdivision.
Johnston's Spur Conservation Area	<p>2</p> <p>The Proponent will dedicate that part of the Johnston's Spur conservation area identified as Item E2 06 on the Land Ownership Options Plan included at Appendix I of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010 to the Department of Lands free of cost and "under reserve" on a stage by stage basis, subject to the agreement of the Department of Lands to take ownership of this land. If the Department of Lands does not agree to take ownership of this land, the Proponent will identify a suitable alternative public or private land ownership option at the relevant subdivision stage. Any land to be transferred into public ownership in accordance with this commitment will be subject to an identified management regime. The land will only be transferred upon completion of any agreed embellishment and a suitable period of maintenance (eg 3 years).</p>	Proponent
Environmental reserves	<p>3</p> <p>The Proponent will dedicate the environmental reserves identified as Items E2 04 and E2 05 on the Land Ownership Options Plan included at Appendix I of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010 to the Department of Lands free of cost and "under reserve" on a stage by stage basis, subject to the agreement of the Department of Lands to take ownership of this land. If the Department of Lands does not agree to take ownership of this land, the Proponent will identify a suitable alternative public or private land ownership option at the relevant subdivision stage. Any land to be transferred into public ownership in accordance with this commitment will be subject to an identified management regime. The land will only be transferred upon completion of any agreed embellishment and a suitable period of maintenance (eg 3 years).</p>	Proponent
Riparian Land	<p>4</p> <p>The Proponent will dedicate the riparian corridor and adjoining open space/drainage lands identified as Items E2 01, 02 and E2 03, and RE1 01-02, RE1 04, RE1 09, RE1 12, RE1 15, RE1 22 and RE1 28 on the Land Ownership Options Plan included at Appendix I of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010 to the Department of Lands free of cost and "under reserve" on a stage by stage basis, subject to the agreement of the Department of Lands to take ownership of this land.</p>	Proponent

Subject	Commitment	Responsibility / Timing
	If the Department of Lands does not agree to take ownership of this land, subject to the underlying land use zone, the Proponent will identify a suitable alternative public or private land ownership option at the relevant subdivision stage. Any land to be transferred into public ownership in accordance with this commitment will be subject to an identified management regime. The land will only be transferred upon completion of any agreed embellishment and a suitable period of maintenance (eg 3 years).	
Local infrastructure contributions	5 The Proponent will enter into a Voluntary Planning Agreement with the relevant Council for the delivery of local infrastructure and facilities for the Calderwood Urban Development Project area, if agreed by the council.	Proponent
	6 The Proponent will dedicate the land required for a public purpose as identified at Appendix K of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010 on a stage by stage basis to the relevant council free of cost, subject to Council's agreement to take ownership of that land and subject to obtaining a satisfactory planning approval. If the relevant council does not agree to take ownership of this land, subject to the underlying land use zone, the Proponent will identify a suitable alternative public or private land ownership option at the relevant subdivision stage.	To be demonstrated at the time of release of the relevant subdivision certificate.
	7 The Proponent will carry out the works in kind identified at Appendix K of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010 and dedicate those works on a stage by stage basis to the relevant council free of cost, subject to Council's agreement to take ownership of those works and subject to obtaining a satisfactory planning approval. If the relevant council does not agree to take ownership of the works in kind, the Proponent will identify a suitable alternative public or private land ownership option for these works at the relevant subdivision stage.	To be demonstrated at the time of release of the relevant subdivision certificate.
	8 The Proponent will identify the level of embellishment / works for each work in kind item identified at Appendix K of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010 at the User Brief, Concept and Detailed Design stages to the relevant Council for agreement.	To be demonstrated by the proponent at the time of any relevant detailed application
	9 The Proponent will be responsible for works in kind, including design, construction, certification, authority approvals, construction and initial maintenance of each of the work in kind items identified on the Schedules at Appendix K of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010.	Proponent, ongoing.
	10 The Proponent will maintain any open space and drainage works that are to be dedicated to a public authority for a period of 3 years from the date of practical completion of the works, unless otherwise agreed by the Proponent and the relevant authority.	Proponent, ongoing.
	11 The Proponent will maintain any buildings that are to be dedicated to a public authority for a period of 3 months from the date of practical completion of the works, unless otherwise mutually agreed by the Proponent and the relevant authority.	Proponent, ongoing.
	12 The Proponent will provide any maintenance and handover plans as required for the ongoing management of any land that is transferred to a public authority.	To be prepared by the Proponent approximately 12 months prior to transfer of land to any public authority

Subject	Commitment		Responsibility / Timing
Albion Park Bypass / Tripoli Way Extension	13	If, within five (5) years from the date of approval of the Concept Plan, Council has taken substantive steps towards implementation of the Albion Park Bypass / Tripoli Way Extension (ie obtained all necessary approvals, acquired the necessary land, proceeded to point of tender etc), the Proponent will accommodate the design of the proposed road into the Calderwood project, generally in accordance with the indicative layout endorsed by Shellharbour Council in July 2008, and as shown on the Concept Plan included at Appendix L of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010.	To be demonstrated by the proponent at the time of any relevant detailed application
	14	The Proponent will have a suitably qualified party to prepare a brief for an "Albion Park Bypass / Tripoli Way Extension - Route Selection Study" within three (3) months of Concept Plan approval, execution of a VPA with Shellharbour City Council, and obtaining a satisfactory approval for Stage 1 residential subdivision, whichever is the latter. The Proponent will use all reasonable endeavours to have the brief prepared in consultation with Shellharbour Council, the RTA and the DoP.	By correspondence within the proposed timeframe
	15	The Proponent will contribute to having a suitably qualified party to undertake the "Albion Park Bypass / Tripoli Way Extension - Route Selection Study" within six (6) months of the brief being completed, subject to the terms of Commitment 14. The Route Selection Study will recommend a specific route alignment and preferred option(s) for access and egress for that part of the bypass between the Illawarra Highway (west of Albion Park) and Calderwood Road. The Proponent will use all reasonable endeavours to have the study undertaken in consultation with Shellharbour Council, the RTA and the DoP.	By correspondence within the proposed timeframe
	16	The Proponent will contribute to having a suitably qualified party to undertake the "Albion Park Bypass / Tripoli Way Extension – Concept Design" within four (4) months of the Route Selection Study being completed, subject to the terms of Commitment 14. The Proponent will contribute to the Concept Design on the basis of Shellharbour Council, the RTA and the DoP, endorsing the recommendations of the Route Selection Study. The Proponent will use all reasonable endeavours to have the Route Selection Study endorsed by Shellharbour Council, the RTA and the DoP.	By correspondence within the proposed timeframe
	17	The Proponent will contribute to having a suitably qualified party to undertake the "Albion Park Bypass / Tripoli Way Extension – Detailed Design" within four (4) months of the Concept Design being completed, subject to the terms of Commitment 14. The Proponent will contribute to the Detailed Design on the basis of Shellharbour Council, the RTA and the DoP, endorsing the Concept Design. The Proponent will use all reasonable endeavours to have the Concept Design endorsed by Shellharbour Council, the RTA and the DoP.	By correspondence within the proposed timeframe
Urban design / controls	18	The Proponent will prepare a Consolidated Development Control Strategy to the satisfaction of the Director General of the Department of Planning incorporating the Development Control Strategy included at Appendix BB of the SSS Study and Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated March 2010 as amended by the following Statements of Commitment .	To be submitted to the Department of Planning prior to the submission of any detailed application proposing subdivision or built form works beyond the Stage 1 Project Application
	19	The detailed design of relevant future development, including the design of streets, subdivision and built form will be generally in accordance with the Consolidated Development Control Strategy prepared in accordance with Statement of Commitment 18.	To be demonstrated by the proponent at the time of any relevant detailed application

Subject	Commitment		Responsibility / Timing
	20	The detailed design of subdivision, including proposed residential lot sizes, will be generally consistent with the development controls relating to the future Character Areas included at Appendix G of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty and dated August 2010. The revised provisions at Appendix G are to be incorporated into the Consolidated Development Control Strategy referred to in Commitment 18.	Refer to Commitment 18
	21	The Proponent will prepare a Public Domain Plan addressing landscape treatment of streets to distinguish between public and private spaces, street hierarchy and integration of public art into the public domain. A requirement to prepare a Public Domain Plan at the time of any relevant detailed application is to be incorporated into the Consolidated Development Control Strategy prepared in accordance with Statement of Commitment 18. The Proponent notes that embellishment works to the public domain, including User Brief, Concept and Detailed Design Stages, form part of the offer made in respect of local contributions (refer to Section 4 and Appendix K of the Preferred Project Report prepared by JBA Urban Planning Consultants dated August 2010). Street furniture, selection of materials and finishes and provision of public art will be dealt with via the works, facilities and services approvals process.	Refer to Commitment 18
	22	Future detailed applications will provide details of proposed measures designed to support active waste management and waste minimisation, particularly during construction. A requirement to provide active waste management and waste minimisation details with subsequent applications is to be incorporated into the Consolidated Development Control Strategy prepared in accordance with Statement of Commitment 18.	To be demonstrated by the proponent at the time of any relevant detailed application.
Sustainability	23	To assist in achieving a 10% shift in mode share the Proponent will adopt the travel demand measures (Measures 1 to 7), active transport principles (Measures 8 to 13) and the public transport principles (Measures 14 to 16) as set out in the Transport Accessibility Study and Transport Management and Accessibility Plan (TMAP) prepared by Cardno and included at Appendix T of the SSS and Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated March 2010.	Proponent, ongoing.
	24	The proponent will consider opportunities for the establishment of both solar farm(s) and co (or tri) generation as part of the Project, particularly for the Town Centre and employment precincts.	Proponent, ongoing.
	25	Future detailed applications will address energy sustainability and demonstrate measures to reduce the demand for energy and the efficient design of the urban form to capitalise on the natural features of the site.	To be demonstrated by the proponent at the time of any relevant detailed application.
	26	Future detailed applications will accord with BASIX requirements. Future detailed applications will provide details relating to specific measures proposed to assist in achieving this target as relevant.	To be demonstrated by the proponent at the time of any relevant detailed application.
Engineering Infrastructure & Utility Services	27	Proposals in respect of the supply of water, sewerage, stormwater, gas, electricity and telephone services within the site, including the adoption of technologies to reduce the demand or need for servicing and the supply of sustainable services, are to be generally in accordance with the Engineering Infrastructure & Utility Services Study prepared by Cardno included at Appendix Y of the SSS and Concept Plan Environmental Assessment Report prepared by JBA dated March 2010.	To be demonstrated by the proponent at the time of any relevant detailed application.

Subject	Commitment		Responsibility / Timing
Ecology and riparian	28	Riparian corridors that have been determined to have a requisite hydrological function will be retained generally in accordance with the Concept Plan Proposed Riparian Corridor Network drawing included at Appendix L of the Preferred Project Report prepared by JBA Urban Planning Consultants dated August 2010.	To be demonstrated by the proponent at the time of any relevant detailed application.
	29	A riparian corridor of 92 metres total width will be provided to Marshall Mount Creek and to Macquarie Rivulet in accordance with the Concept Plan Proposed Riparian Corridor Network included at Appendix L of the Preferred Project Report prepared by JBA Urban Planning Consultants dated August 2010.	To be demonstrated by the proponent at the time of any relevant detailed application.
	30	A riparian corridor of 48 metres total width will be provided to streams extending from the main valley floor environmental corridors to Johnston's Spur in accordance with the Concept Plan Proposed Riparian Corridor Network included at Appendix L of the Preferred Project Report prepared by JBA Urban Planning Consultants dated August 2010.	To be demonstrated by the proponent at the time of any relevant detailed application.
	31	<p>Vehicular crossings, and pedestrian and cycle pathway crossings of riparian corridors will be generally in accordance with the principles shown on the Concept Plan Road Layout and Hierarchy Plan included at Appendix L of the Preferred Project Report prepared by JBA Urban Planning Consultants dated August 2010.</p> <p>(a) The design and construction of watercourse crossings and ancillary works, such as roads, will consider the potential impacts of the crossing structure on the hydrologic, hydraulic and geomorphic functions of a watercourse, crossings will be designed and constructed in order to maintain the integrity of the existing channel as be sympathetic with the ecological values of the watercourse as identified in the Geomorphology Assessment, Water Cycle Management Study and Flora and Fauna Assessments included in the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated March 2010. Bed level crossings or bridges which fully span the watercourse channel provide the best opportunities for maintaining natural channel functions. However, alternative structures such as box culverts which can achieve the riparian functions will also be considered.</p> <p>(b) The design and construction of works and activities within a watercourse, including any stormwater outlets will aim to be as 'natural' as possible yet provide a stable transition from a constructed drainage system to a natural flow regime. A watercourse 'rehabilitation' design philosophy rather than a 'construction' philosophy will be applied. The design and construction footprint, and the extent of disturbances within riparian land will be minimised while achieving the desired discharge function and outcome. In order to minimise the impacts of in-stream works on the hydrologic, hydraulic and geomorphic functions on a watercourse, all works and activities should be designed and constructed to maintain the integrity of the existing channel, as well as being sympathetic with the ecological values of the watercourse as identified in the Geomorphology Assessment, Water Cycle Management Study and Flora and Fauna Assessments included in the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated March 2010 .</p> <p>(c) When considering the placement of utilities in or across watercourses the design and construction footprint and the extent of disturbances proposed in the watercourse and riparian area will be appropriately minimised.</p>	To be demonstrated by the proponent at the time of any relevant detailed application.
	32	The final location of any crossings, and pedestrian and cycle pathways within riparian corridors, and utility services infrastructure, will take into consideration vegetation that is proposed to be retained and protected as shown on the Concept Plan Environmentally Significant Land drawing included at Appendix L of the Preferred Project Report prepared by JBA Urban Planning Consultants dated August 2010.	To be demonstrated by the proponent at the time of any relevant detailed application.

Subject	Commitment	Responsibility / Timing
	33 Any public open space / drainage land beyond the riparian corridors referred to at Commitments 28-30 will be designed to contribute to riparian outcomes by providing appropriate landscaping.	To be demonstrated by the proponent at the time of any relevant detailed application.
	34 Any proposed revegetation within the retained Core Riparian Zones shown on the Concept Plan Riparian Corridor Network included at Appendix L of the Preferred Project Report prepared by JBA Urban Planning Consultants dated August 2010 will demonstrate consistency with the Concept Plan Flood Mitigation Plan included at Appendix L of the Preferred Project Report prepared by JBA Urban Planning Consultants dated August 2010 and the principles of the Landscape and Open Space Masterplan included at Appendix CC of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants dated March 2010.	To be demonstrated by the proponent at the time of any relevant detailed application
	35 Vegetation Management Plans (VMP)s will be prepared for all works with land that has been identified as Concept Plan Environmentally Significant Land and within the Core Riparian Zones shown on the Concept Plan Riparian Corridor Network included at Appendix L of the Preferred Project Report prepared by JBA Urban Planning Consultants dated August 2010 generally in accordance with the principles of the Landscape and Open Space Masterplan included at Appendix CC of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants dated March 2010.	To be demonstrated by the proponent at the time of any relevant detailed application
	36 Where Environmentally Significant Land and / or Core Riparian Zones are to be transferred into public ownership, the Proponent will rehabilitate that land in accordance with the VMPs to a suitable condition prior to any handover. Details of the rehabilitation to be undertaken in relation to each area of land, and of the likely ongoing maintenance requirements relating to weed management, bush regeneration and any asset protection zone maintenance of that land, are to be submitted with the relevant detailed application.	To be demonstrated by the proponent at the time of any relevant detailed application
	37 A detailed survey will be carried out in an appropriate season for <i>Pterostylis gibbosa</i> (Illawarra Greenwood) prior to any works commencing within potential habitat for that species. Potential habitat for the species is the Moist Box-Red Gum Foothills Forest and Coastal Grassy Red Gum Forest Wollybutt-Melaleuca. Following the further detailed survey work, any specific mitigation measures determined as required are to be addressed in the relevant detailed application(s).	To be demonstrated by the proponent at the time of any relevant detailed application
	38 Mature remnant habitat trees will be individually assessed prior to detailed design in the area identified on Figure 7 of the Flora and Fauna Assessment prepared by Ecological Australia and included at Appendix Q of the SSS Study and Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd and dated March 2010. Individual trees considered to provide significant habitat will be retained and incorporated into the design wherever practicable.	To be demonstrated by the proponent at the time of any relevant detailed application
	39 Where any spillways/outlets are proposed from stormwater detention basins / wetlands directly into the main arms of Marshall Mount Creek and Macquarie Rivulet, their design will have regard to facilitating colonisation by native fish species.	To be demonstrated by the proponent at the time of any relevant detailed application
	40 Wherever feasible the installation of services such as water, sewerage and gas pipeline across Marshall Mount Creek and Macquarie Rivulet will be combined with vehicular crossings to minimise potential impact on fish passage by trenching.	To be demonstrated by the proponent at the time of any relevant detailed application
Flood mitigation	41 Future relevant detailed applications will be accompanied by a flood impact statement that verifies that the proposal is consistent with the Flood Mitigation Plan included in the approved Concept Plan including, as relevant to the scope of development proposed: - Vegetation roughness increased through selective species planting within Core Riparian Zones only where it can be demonstrated that no adverse	To be demonstrated by the proponent at the time of any relevant detailed application



Subject	Commitment	Responsibility / Timing
	<p>impacts on flood levels will result,</p> <ul style="list-style-type: none"> <li>- Adoption of the 1% AEP flood level (incorporating the climate change scenario identified in ) plus 500 mm free board as the Flood Planning Level for the development,</li> <li>- Provision of safe evacuation routes during the 1% AEP flood event for any development on land located within the PMF,</li> <li>- Design of any new bridge deck above the 1% AEP flood level to allow uninterrupted road traffic throughout the development during events up to and including the 1% AEP flood, and</li> <li>- Design and location of all major spine roads within the development at or above the PFM level.</li> </ul>	
	42 The flood impact statement for any future application proposing the staged cut or fill of land within the area of the approved bulk earthworks shown on the approved Flood Mitigation Plan will also verify that the proposal is consistent with approved bulk earthworks strategy and does not introduce unacceptable interim flooding impacts on land outside the Project site boundary.	To be demonstrated by the proponent at the time of any relevant detailed application
	43 Future detailed applications are to address the following matters (as relevant to the works proposed): <ul style="list-style-type: none"> <li>- depth, volume and finished levels of any excavation and filling,</li> <li>- the extent of any proposed watercourse modification or enlargement,</li> <li>- use of natural solutions along watercourses rather than hard engineering solutions wherever practicable,</li> <li>- relevant measures to protect the function and stability of Marshall Mount Creek and Macquarie Rivulet.</li> </ul>	To be demonstrated by the proponent at the time of any relevant detailed application
	44 Future relevant detailed applications will demonstrate consistency with the approved Concept Plan Water Cycle Management Strategy prepared by Cardno and included in the Concept Plan Environmental Assessment prepared by JBA Urban Planning Consultants dated March 2010 to ensure that peak flows entering the site riparian system will not increase as a result of the development.	To be demonstrated by the proponent at the time of any relevant detailed application
Drainage and stormwater	45 A combination of proprietary litter/sediment traps, and water quality control ponds / artificial wetlands be provided for stormwater quality management, located in ways sympathetic to the other environmental constraints of the site.	To be demonstrated by the proponent at the time of any relevant detailed application
	46 The detailed design of development will comply with the NSW Government BASIX criteria for water supply management	To be demonstrated by the proponent at the time of any relevant detailed application
	47 At the detailed design stages of the development, a Soil and Water Management Plan is to be prepared to outline the methods through which stormwater runoff is controlled throughout the construction phase. This may include the use of the proposed wetlands as temporary sediment basins (where possible) and the provision of rock dams and filter fabric fencing (above and below the works are respectively). The Soil and Water Management Plan is to: <ul style="list-style-type: none"> <li>- Propose arrangements for regular periodic and event based water quality monitoring and reporting throughout the construction period with particular</li> </ul>	To be demonstrated by the proponent at the time of any relevant detailed application

Subject	Commitment	Responsibility / Timing
	<p>emphasis on monitoring during larger rainfall events when sediment export is most likely;</p> <ul style="list-style-type: none"> <li>- Propose arrangements for ensuring compliance with the Soil and Water Management Plan by constructing agents and contractors operating on site.</li> </ul>	
	48 During detailed design the longevity of proposed water bodies will be assessed. The potential for algal growth is also to be assessed during detailed design and the likelihood for algal growth reduced through incorporation of suitable hydraulic residence times (ie increased water body turnover) and incorporation of suitable subsurface macrobytes.	To be demonstrated by the proponent at the time of any relevant detailed application
Indigenous Heritage	49 Salvage through collection and relocation of surface artefacts is recommended for CP-IF-01, CP-IF-02, CP-S-01, CP-S-02, CP-IF-03, CP-S-03, CP-IF-04, CP-IF-05, CP-S-04, CP-IF-06, CP-IF-07, CP-IF-08, CP-S-05, CP-IF-09, CP-IF-10, CP-IF-11, CP-IF-12, CP-S-07, CP-IF-13, CP-S-08, CP-IF-14, CP-IF-15, CP-IF-16, CP-S-10, CP-S-12, CP-S-15, CP-IF-17 and CP-IF-18 if they are to be impacted by development.	To be carried out by the proponent prior to the commencement of any relevant works
	50 The development and implementation of a programme of test excavation and reporting is required to clarify the archaeological potential of CP-S-09/CP-PAD-02, CP-S-09/CP-PAD-03, CP-S-11/CP-PAD04 and CP-S-14/CP-PAD-05, if they are to be impacted by development. The development and implementation of a programme of salvage excavation and reporting is recommended if it is warranted by the results of the test excavation programme.	To be prepared by Proponent prior to any relevant works commencing
	51 The development and implementation of a programme of salvage excavation and reporting is to be undertaken for CP-S-09/CP-PAD-02, CP-S-09/CP-PAD-03, CP-S-11/CP-PAD04 and CP-S-14/CP-PAD-05, if it is warranted by the results of the test excavation programme.	Proponent, if required.
	52 The development and implementation of a Care and Control of artefacts strategy, devised through consultation with appropriately recognised groups, is recommended for all collected and excavated archaeological material retrieved during the abovementioned surface collection, testing and/or salvage excavation works. Such a strategy should be agreed and finalised with the Aboriginal stakeholders prior to any archaeological site works commencing. The Care and Control of artefacts strategy will address the need for lodgement of known Aboriginal objects at an appropriate professional location.	To be prepared by Proponent prior to any archaeological site works commencing
	53 The two properties located at 269 North Macquarie Road and 342 Calderwood Road are to be assessed for their archaeological potential if any relevant works are proposed.	To be demonstrated by the proponent at the time of any relevant detailed application
	54 If additional unrecorded Aboriginal archaeological material is encountered during development, works within the relevant location must cease immediately to allow an archaeologist to make an assessment of the finds. The archaeologist may need to consult with NSW DECCW and registered stakeholder groups concerning the significance of any such material.	Proponent, if required.

	55	As required by the <i>NSW Heritage Act 1977</i> (amended), in the event that historic relics are encountered, works within the relevant location must cease immediately to allow an archaeologist to make an assessment of the finds. The archaeologist may need to consult with the Heritage Branch Department of Planning concerning the significance of any historic cultural material encountered.	Proponent, if required.
	56	Copies of the finalised report will be provided to relevant groups and NSW DECCW, and that the completed site cards (see Appendix D.3 of the Aboriginal Archaeological and Cultural Heritage Assessment) be provided to the DECCW AHIMS Registrar as per Section 91 of the <i>NP&amp;W Act</i> .	To be demonstrated by the proponent at the time of any relevant detailed application
European Heritage	57	A two hectare parcel incorporating the Marshall Mount House and Barn and its garden, scribing a line outside the existing trees and bushes, including some of the grassed slope is to be retained.	To be demonstrated by the proponent at the time of any relevant detailed application
	58	Open space is to be provided to the east of Marshall Mount House and Barn to retain a view from Marshall Mount Road to the house, including the existing Oak Tree.	To be demonstrated by the proponent at the time of any relevant detailed application
	59	The Moreton Bay Fig and the Oak Tree within the garden curtilage of Marshall Mount House and Barn is to be inspected and assessed by an aborist with a view to ensuring their retention and protection.	To be demonstrated by the proponent at the time of any relevant detailed application
	60	The detailed design of residential development at the southern and eastern interface of Marshall Mount House and Barn is take into consideration height and lot size to provide a sense of openness evoking the historic rural context of the House and view sharing.	To be demonstrated by the proponent at the time of any relevant detailed application
	61	Future detailed subdivision design is to consider the use of radial streets in the vicinity of Marshall Mount House to create view corridors down the hill side, and deep setbacks to dwellings fronting Marshall Mount Road to open views to and from the east.	To be demonstrated by the proponent at the time of any relevant detailed application
	62	The Marshall Mount Methodist Cemetery, which is to be retained in private ownership, is to be situated within a future park or surrounded by a private open space buffer to retain, as much as possible, an atmosphere of contemplation and peacefulness appropriate to a memorial place. The nature of any new buffer between the cemetery and new development is to demonstrate an appropriate integration between the cemetery and the new community that will form around it.	To be demonstrated by the proponent at the time of any relevant detailed application
	63	The future detailed subdivision design adjoining the Methodist Cemetery will consider opportunities to provide visual links from the cemetery towards Johnston's Spur and the escarpment.	To be demonstrated by the proponent at the time of any relevant detailed application
	64	Should any European historical archaeology be discovered during any site excavation works, the required steps under the relics provisions of the NSW Heritage Act and contacts will be followed.	To be demonstrated by the proponent at the time of any relevant detailed application

	65	If the Proponent is undertaking the relevant works, the detailed design of any road works/ upgrading works required to be undertaken to Marshall Mount Road, Marshall Mount Road North and / or the new intersection of Marshall Mount Road and Marshall Mount Road North is to ensure an appropriate curtilage and setting is provided between Marshall Mount School, Residence and Progress Hall and the roadway.	To be demonstrated by the proponent at the time of any relevant detailed application
Acid sulphate soils	66	Maximum excavation depths are to be identified (for any development involving excavation) within the properties shown on Figure 18 of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd and dated March 2010. During the detailed design process, potential conflict with Potential Acid Sulphate Soils / Acid Sulphate Soils will be avoided wherever possible by adoption of the following site specific management strategies: <ul style="list-style-type: none"> <li>- Avoiding any disturbance of PASS by adjusting the design invert levels for the wetlands;</li> <li>- Ensuring, where possible, the design maintains a significant depth of water and soil cover over PASS to prevent acid generation;</li> <li>- Maintain a minimum water level in the wetlands by installing water level control devices. (This aims to dilute any acidity, and contain any acidity in the soil profile by maintaining a relatively constant watertable level around the wetland);</li> <li>- The potential strategic addition of limestone/recycled concrete to the wetland to neutralise any acidity that either enters the wetland or forms in the wetland;</li> <li>- Monitor water and spoil during construction ;</li> <li>- Neutralise excavated material if necessary with fine aglime; and</li> <li>- Ongoing Monitoring of wetland for identified period immediately following construction.</li> </ul>	To be demonstrated by the proponent at the time of any relevant detailed application
	67	Future detailed applications will include a commitment that if, during construction activities, any Potential Acid Sulphate Soils or Acid Sulphate Soils are disturbed on site, an Acid Sulphate Soil Management Plan will be prepared and certified as appropriate by a suitably qualified PA	To be demonstrated by the proponent at the time of any relevant detailed application
Geotechnical	68	Development within the areas shown as 'Less Stable Land' and 'Moderately Unstable Land' on Figure 17 of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd and dated March 2010 is to demonstrate good engineering practice for hillside slopes.	To be demonstrated by the proponent at the time of any relevant detailed application
Groundwater	69	Future detailed applications will include a commitment, that where cuts greater than 2 metres in depth are proposed in areas located below RL 20, during detailed design and construction activities a suitably qualified PCA will certify that wetland base levels are appropriately positioned relative to the level of the ground water table, lining of wetlands has been provided if necessary, and, should the base of the wetlands intercept the groundwater table, then the groundwater table will be temporarily lowered to facilitate construction.	To be demonstrated by the proponent at the time of any relevant detailed application
Contamination	71	Field investigation is to be undertaken at the time of any future application relating to land within an 'Area of Concern' identified on Drawing 10 at Appendix A of the Contamination Assessment prepared by Douglas Partners and included at Appendix FF of the Concept Plan Environmental Assessment Report prepared by JBA demonstrating suitability of the land for the development proposed." Appropriate scopes of work and sample quality plans are to be prepared for each Area of Concern. Consideration is to be given to the engagement of a DECW accredited auditor prior to commencement of fieldwork.	To be demonstrated by the proponent at the time of any relevant detailed application
	72	Prior to any proposed demolition works, a Hazardous Materials assessment is to be undertaken for any building proposed to be removed. This will allow the	To be demonstrated by the proponent at the time of any relevant detailed

		creation of a register of hazardous materials, which will directly influence the method of demolition.	application
	73	Prior to the commencement of any earthworks, an Unexpected Finds Protocol relating to the potential existence of isolated occurrences of contamination is to be developed.	To be demonstrated by the proponent at the time of any relevant detailed application
Bushfire	74	Bushfire Asset Protection Zones at known areas of bushland / development interface are to be in accordance with the bushfire protection measures required by the Acceptable Solutions of Planning for Bushfire Protection 2006 as generally illustrated by revised Concept Plan Drawing xxx included at Appendix X of the Preferred Project Report prepared by JBA Urban Planning Consultants dated August 2010. The final placement of Asset Protection Zones will be as required in relation to the nature of the specific land use at each interface segment.	To be demonstrated by the proponent at the time of any relevant detailed application
Social and Community Initiatives	75	The proponent will implement a Community Development Strategy including: <ul style="list-style-type: none"> <li>- distribution of resident information packages through a welcome program,</li> <li>- engagement of a community development worker,</li> <li>- establishment of a Community Initiatives Fund to encourage and support community initiatives, programs and activities that will enhance the life of the community and quality of life of its residents.</li> </ul>	Refer to Statement of Commitment 5
	76	The first stage of development will include early provision for retail facilities that provide for convenience shopping, and assist in the establishment of a sense of place, subject to consent for such facilities being given in the relevant application.	To be demonstrated by the proponent at the time of the detailed application relating to the first stage of residential subdivision
	77	An on-going program of information to and consultation with the surrounding community is to be implemented as planning for the site continues. This will include regular updates (for example via a project website) or press articles to keep people informed of progress, and further consultation with key stakeholders around the detailed design of the development.	Proponent, ongoing.

