

Attachment: Detailed Assessment and Comments – Calderwood Modification 4:

This document forms part of a Submission made by Shellharbour City Council on the proposed Modification 4 of the Calderwood Concept Plan Approval. It should be read in conjunction with Council's covering letter dated 8 November 2018.

1. Land Use Planning:

1.1 Justification

Council does not consider that the proposed modifications are justifiable on planning grounds.

The application is supported by an Environmental Assessment Report (EA) prepared by Ethos Planning.

Council Officers have reviewed this report and would like to make the following comments:

a) The EA supporting the application states:

There are two main reasons for Lendlease proposing to modify the Approved Concept Plan. The first is to enable the delivery of more housing to meet strong demand for new housing in the Wollongong and Shellharbour council areas. The second is to enable Lendlease to continue to deliver more diverse housing types and houses on a greater range of lot sizes, to respond to changing homebuyer preferences and assist with easing housing affordability pressures that are particularly acute in the Illawarra. The increased residential capacity will also ensure that the existing area of urban zoned land at Calderwood is efficiently used for the continued supply of a range of housing types.

With regards to enabling the delivery of more housing to meet strong demand for new housing in the Wollongong and Shellharbour council areas. Council does not believe that the increase in dwellings is necessary to meet the demand for housing from a strategic regional planning perspective. This is supported by the Illawarra/Shoalhaven Regional Plan which states:

"The major regional release areas of West Lake Illawarra and Nowra-Bomaderry will continue to be the long term focus for Greenfield housing in the region. Other established and smaller release areas will add to the diversity of supply such as Shell Cove, Tullimbar, Haywards Bay, South Kiama, West Culburra, Vincentia, Sussex Inlet, Manyana and Milton-Ulladulla.

West Lake Illawarra and Nowra-Bomaderry alone have a combined capacity of 37,600 lots, representing a 30- to 40-year supply of housing. This means that Wollongong, Shellharbour and Shoalhaven Councils have the capacity to meet their projected housing needs for Greenfield land supply well beyond 2036."

The EA also states that:

the shortages of housing supply across the Illawarra region remain in place, particularly for new small lot detached houses that represent affordable price points. The proposed amendment in project yield will contribute to long-term relief from persistent under-supply of Greenfield and infill housing supply. This is particularly true in the next ten – fifteen years where additional density can be delivered in the CUDP whilst other major

projects in the West Dapto Urban Release Area seek the relevant planning approvals and implement the infrastructure required to service that development.

Council does not agree with this position.

The Illawarra-Shoalhaven 2017 Monitoring Report, 813 Greenfield dwellings were approved in the 2016-17 year and 2,482 dwellings were supplied in the 2016/17 year. Greenfield housing supply has increased every year over the last five years. As new developments come online in West Dapto, Tullimbar, Shell Cove, Haywards Bay, South Kiama, West Culburra, Vincentia, Sussex Inlet, Manyana and Milton-Ulladulla this is likely to far exceed the requirements for housing. The Implementation plan, when discussing West Dapto, states that “an additional 2,496 lots are now zoned and service ready for development”.

Shellharbour City Council's LEP provides flexibility in the residential zones in the existing parts of the LGA that have suitable infrastructure and facilities which are well established. The R2 Low Density Residential zone within the Shellharbour LEP 2013 permits both dual occupancies and multi-dwelling housing developments. As a result of the flexible zoning and large residential blocks in established residential areas, which are close to facilities including rail transport to Sydney, there have been a large number of dual occupancies, secondary dwellings and multi-dwelling housing developments constructed in recent years. This increase is already providing a range of housing types and lot sizes to meet market demand.

Shellharbour City Council's current population is predicted to grow from 70,511 (2016) to 87,200 (2036) and 50% of the working population work outside of our Local Government Area. Increasing the population in an area which is poorly serviced by public transport will place an unreasonable impact on the local and regional road network as people will need to travel to their place of employment. The Proponent is proposing an increase in the maximum amount of retail floor space but it has been in ongoing discussions with Council about the provision of mixed use or retail space within the village centre. The Proponent has not proposed any mixed use development within the currently approved village centre, which was to be developed at an early stage, and continues to provide residential development (only) within this space.

The village centre was to incorporate a range of “retail, commercial, business, light industrial, education, entertainment, civic, community, recreation, residential, tourist and visitor accommodation and mixed use employment”. The environmental arguments that formed part of the concept plan were that “the project makes special provision for home based businesses and working from home this will reduce car dependency and trip generation rates”. The village centre was to be “located in an early stage of the project to provide a ready supply of local retail and basic temporary community needs”.

The concern from Council's point of view is that Lendlease appear to be diluting the character and range of uses within the village centre. Council is concerned that, to date, Council has not been presented with an up-to-date plan for the village centre and over time with each approval, there will ultimately be a reduction in the opportunities to provide a village centre. Council is concerned that the village centre will end up being a small-scale supermarket surrounded by residential uses. However, the Proponent is putting forward an argument for increased density based on the presumption that people will be able to work from home or be within walking distance of a range of facilities and uses.

However, the Proponent is proposing to remove these live/work options around the village centre. The DAs that are being lodged or pre-DA meetings being lodged with Council are not matching the concept plan.

b) The EA supporting the application states:

“There is no change proposed to the minimum lot sizes prescribed by the SSP SEPP, Condition B6 and as already prescribed by the DCS.”

This is not correct. The proposal seeks to amend the criteria for integrated and small lot housing.

Condition B6 of the concept plan approval states:

- 8) Residential lots less than 300m² in area are permitted within the General Residential Area (as outlined in the controls for 'Integrated Housing' in the Residential Development Controls table in Appendix G of the PPR) but only where subdivision of these lots occurs after the construction of dwellings and are located where the dwellings directly adjoin or are located directly opposite the following:
- a) public parks at least 0.3ha in size, or
 - b) the Town and Village Centres.

The minimum allotment size can be varied for the subdivision of 'Integrated Housing' under the Exceptions to Development Standards – Other Development clause in the Major Development SEPP.

The proposed modification seeks to make integrated and small lot housing permissible on land being within 800m of the Town Centre and 400m of the Village Centre and also to reduce the public park component to 0.2ha. Therefore, small lot housing may be proposed on a lot 400m away from what may end up being just a small scale supermarket.

This proposed change to the minimum lot sizes should be rejected.

c) The EA supporting the application states:

“The proposed amendment would allow for a larger number of properties that are attractive to investors, in the form of small lot detached homes and apartments, with density located close to the town centre. This housing would be ideal as a mode for rental properties, to meet the needs of tenants who qualify for rental assistance under FACS social housing programs.”

Council's concern, as raised earlier, is that the Proponent has been diluting the village centre and may do the same with the town centre, whenever this comes on-line. Currently there is no identified timeline for the establishment of the town centre. The potential for dense low rental housing in an area with potentially limited or non existent retail or community facilities is a major concern for Council.

d) The EA supporting the application states:

“No changes are proposed that would directly affect lots that have already been subdivided and sold, or those stages with current subdivision development applications (either under assessment by Council or approved).”

It is unclear how the Proponent has made this assumption. The modified concept plan seeks to create new housing options, smaller lots within 400m walking distance to the village centre and also to create different open space requirements within areas which have already been considered by Council.

e) The EA supporting the application states:

“No substantive changes are proposed to the Approved Concept Plan in respect of approved land uses, the urban structure of the development, the road and pedestrian network within the site, the overall range of minimum lot sizes/dwelling types/lot types to be provided, nor the scope of environmental protection outcomes for the land including the quantum and configuration of riparian and environmental corridor and environmental reserve lands.”

Council disagrees with this conclusion. The proposal seeks to create new “land use” concepts such as “village centre – residential” and “town centre – residential”. In essence, what is proposed is a change from the B4 Mixed Use zone to an R3 Medium Density Residential zone. The proposal no longer seeks to create a mix of land use types in these areas, but rather a higher density of residential accommodation. The proposal includes circles on a map to show a 400m radius (village centre) and 800m radius (town centre) walking distance. However, no consideration has been given to the topography in these areas.

- f) The proposal seeks to increase the size of the community facility and provide this in the town centre on a site “that is accessible and visually prominent”. This is supported by Council. However, given that there is no timing around the delivery of the town centre and the community facility will need to be delivered when the 3000th dwelling has a construction certificate or 12 months after the issue of a subdivision certificate (whichever comes first). The community facility may be delivered on an isolated site which is not a good community outcome. Greater clarity and commitment must be given on the timing and delivery by the town centre.
- g) It is unclear how the Department of Education has agreed to the reduction in the school site from 3ha to 2ha and also how the timing being delayed will impact upon traffic during peak hours as people will be travelling outside of the precinct for drop off/pick up. Careful consideration needs to be given to the reduction in space for the school to ensure that this reduction is not reliant on other space within the precinct to provide satisfactory services (e.g. public open space areas, etc.).

1.2 Conditions of Approval

The following comments specifically relate to the proposed and suggested amendments to the conditions of the Concept Plan Approval.

- a) The Proponent is seeking to amend Condition A1 of the Concept Plan approval (on pages 38 and 39 of the Environmental Assessment report) to ensure that residential land uses are identified in the range of permissible uses in the mixed use areas. It is clearly acknowledged by Council that the residential uses are permissible in the mixed use areas. What is not clear is that the Proponent intends to use mixed use areas for increased residential density without providing other uses within these areas. It is not clear how an increase in residential density, at the expense of other land uses (e.g. retail, commercial, etc.) is to be supported without placing pressure on other infrastructure (e.g. road network, community facilities, etc.).
- b) The Proponent is not proposing to amend Condition A2 (3) of the concept plan approval which requires any approval given by Council under Part 4 of the Act “must be consistent with that concept plan”. This should be changed given that this is not a requirement of the Act which only specifies that “a consent authority must not grant

consent under Part 4 for the development unless it is satisfied that the development is generally consistent with the terms of the approval of the concept plan”. The suggested amendment is made in order to reduce confusion.

- c) Condition A4 will need to be amended but has not been referred to by the Proponent. An updated concept plan will be required which takes into consideration all of the amendments proposed under MOD 4.
- d) No changes are proposed to Condition A5 of the concept plan approval. This condition should be modified to refer to the Landscape Master Plan prepared by Taylor Brammer as this is the further agreement that was arranged after the concept plan was approved.
- e) The reasoning for the amendment to Condition B6, as stated on page 40 of the EA:
 - i. *“To provide increased densities (integrated housing and small lot housing on lots less than 300m²) in appropriate/strategic locations and to allow for subdivision certificates to be issued before the completion of dwellings. The amendment to the minimum park size is proposed to reflect the executed agreement with SCC. To make clear that the development standard in respect of minimum lot size is contained in the Concept Plan and a variation request is not required in respect of the minimum lot size control if the development application complies with the development standard contained in condition B6.”*

It is unclear why Council should consider a subdivision certificate before the dwellings are complete. There is no justification provided for this change or why increased density should be considered within 400 metres of a village centre and 800 metres of a town centre. It is unclear where those distances have come from or where they are measured from as the Proponent is proposing parts of the village centre and parts of the town centre only include exclusively residential development.

- f) The Proponent proposes the deletion of the words in Condition B6 which currently states:
 - i. *“The minimum allotment size can be varied for the subdivision of ‘Integrated Housing’ under the Exceptions to Development Standards – Other Development clause in the Major Development SEPP.”*

It is acknowledged that Clause 3B(2)(f) of Schedule 2 of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017 states:

- ii. *“the provisions of any environmental planning instrument or any development control plan do not have effect to the extent to which they are inconsistent with the terms of the approval of the concept plan”,*

However, it is not in the community's best interests to create a situation where the control in a State Environmental Planning Policy no longer continues to apply because a Concept Plan contains separate controls, this only creates confusion. The SEPP should be modified to remove this inconsistency.

- g) No changes are proposed by the Proponent in relation to secondary dwellings, with Condition B6(10) stating:

- 10) Design controls shall be prepared for secondary dwellings and submitted to the Department of Planning for approval

The controls relating to secondary dwellings need to be carefully considered and controlled. An example of what could happen is provided below.

In Stage 3B South, the majority of which is within 400m of the village centre (a part of this stage is within the village centre but is proposed to only be used for residential purposes), the average lot size proposed is 412m². Twenty-eight (28) of the 102 residential allotments have an area of between 400 and 500 metres².

Pursuant to the amended Condition B6, each of these 28 lots could be further subdivided for the purposes of integrated housing or a dual occupancy. Using a conservative measure of 2 dwellings on each of the 28 lots, the dwelling density could go from 28 dwellings to 56 dwellings, just on the 400 to 500 metres² lots within Stage 3B South. If each of the lots above the 400m² have dual occupancy proposed, this would increase the project dwelling total from 42 dwellings (one on each lot) to 84 dwellings. Combined with the 60 dwellings on the lots 300 to 400m² this is already 144 dwellings. Then there is the super lot which has an area of 1,626.4m² and then the B4 zoned lot which has an area of 18,249.8m². It is likely that the 156 anticipated dwellings will be far exceeded under the proposed controls.

Secondary dwellings and the possibility of further subdivision of lots within the approved/proposed subdivisions requires careful consideration as it is likely that with the change in controls the anticipated dwellings numbers are incorrect.

- h) It is questioned whether Condition C12(c) needs to still require consultation with the Department of Planning. Voluntary Planning Agreements (with each Council and the State Government) will need to be in place for the provision of local roads. If VPAs are in place is there a continuing need to consult with the Department?

1.3 Statement of Commitments

The following comments specifically relate to the proposed amendments to the Statement of Commitments of the Concept Plan Approval.

- a) General comment – the appendices referenced in the tracked changes document in the modification application need to be checked as some of them appear to be incorrect;
- b) Commitment 2 – Council have not agreed to take ownership of the Johnston's Spur Area. Therefore this matter remains unresolved.

However, an alternate wording for Commitment 2 is as follows:

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 H of the Consolidated Concept Plan prepared by JBA dated March 2011 (previously referenced as Appendix I of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010) to the Department of Lands or relevant local council and "under reserve" on a stage by stage basis, subject to the

negotiation and agreement of the Department of Lands or relevant Council to take ownership of this land.

If the Department of Lands or Council 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 implementation of a Vegetation Management Plan or other embellishment and a suitable period of maintenance (eg 5 years).

- c) Commitment 3 – A new land ownership map should be prepared to accompany MOD 4. The ownership map should only show land that is proposed to be dedicated back to Council and the remainder should be private ownership (i.e. all of the riparian corridors should be shown as purple and not orange or light blue). Also, the colours used should be easier to identify between Shellharbour City Council and Wollongong City Council. These lands will stay in private ownership until or unless agreements are made so the ownership map should show purple (private) unless it relates to a park or a wetland which is required for local drainage.

Council have not agreed to take ownership of environmental reserves. Therefore this matter remains unresolved. However an alternative wording for Commitment 3 is as follows:

The Proponent will dedicate the environmental reserves identified as Items E2 04 and E2 05 on the Land Ownership Options Plan included at Appendix H of the Consolidated Concept Plan prepared by JBA dated March 2011 (previously referenced as Appendix I of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010) to the Department of Lands or the relevant local council and “under reserve” on a stage by stage basis, subject to the negotiation and agreement of the Department of Lands or relevant Council to take ownership of this land.

If the Department of Lands or Council 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 implementation of a Vegetation Management Plan or other embellishment and a suitable period of maintenance (eg 5 years).

- d) Commitment 4 – As per the comment above – this should remain purple as the Proponent has had 8 years to arrange a separate ownership arrangement and this should stay purple (private) until such an agreement is in place.

Council have not agreed to take ownership of riparian corridors. However an alternative wording for Commitment 4 is as follows:

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 H of the Consolidated Concept Plan prepared by JBA dated March 2011 (previously referenced as Appendix I of the Preferred Project Report prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010) prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010 to the Department of Lands or

relevant local council and “under reserve” on a stage by stage basis, subject to the negotiation and agreement of the Department of Lands or relevant Council to take ownership of this land.

If the Department of Lands or relevant local 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. 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 implementation of a Vegetation Management Plan or other embellishment and a suitable period of maintenance (eg 5 years).

- e) Commitment 5 – The proposed changes to the commitment are not accepted by Council as they are part of a wider unresolved issue relating to the application of the VPA and the appropriate provision of community infrastructure. The Department should not determine the application until this issue is resolved to the satisfaction of Council.
- f) Commitment 6 – Council is currently not in a position to agree with Appendix J as it relates to unsettled issues of open space provisions, embellishment and delivery. The Department should not determine the application until this issue is resolved to the satisfaction of Council.
- g) Commitment 7 – Council is currently not in a position to agree with Appendix J as it relates to unsettled issues relating to the provision of community infrastructure.
- h) Commitment 8 – Council is currently not in a position to agree with Appendix J as it relates to unsettled issues relating to the provision of community infrastructure.
- i) Commitment 9 – Council is currently not in a position to agree with Appendix J as it relates to unsettled issues relating to the provision of community infrastructure.
- j) Commitment 19 – The proposed changes to the commitment cannot be accepted as Council has not approved the modified DCS.
- k) Commitment 20 – The proposed changes to the commitment cannot be accepted as Council has not approved the modified DCS.
- l) Commitment 21 – The proposed changes to the commitment cannot be accepted as Council has not approved the modified DCS.
- m) Commitment 23 – These measures should be consolidated so readers of the document don’t need to look through the old documents to find what the Proponent is required to do.
- n) Commitment 24 – It is unclear how this be achieved. It is also unclear what “community” this will this apply to. The Proponent has provided a list of initiatives they will be “investigating” but there is no specificity in regards to outcomes. It is also unclear as to whether the star rating applies to the entire precinct or just that part which is constructed after the MOD 4 application is determined.
- o) Commitment 27 – It is unclear whether best practice measures include the adoption of technologies to reduce the demand or need for servicing.

- p) Commitment 28 – Proposed to be deleted. This commitment must remain as it refers specifically to Environmentally Significant Lands, which are not referred to in the Condition C3 of the Concept Plan.
- q) Commitment 35 – Proposed to be deleted. This commitment must remain as it refers specifically to Environmentally Significant Lands, which are not referred to in the Condition C3 of the Concept Plan.
- r) Commitment 37 – Refers to surveying for the Illawarra Greenhood Orchid which is proposed to be deleted as surveys have been conducted. As the project spans 20 years, surveys conducted at the start of the project are no longer valid. Surveys must be conducted as required at each stage of the development and the commitment must remain.

The following comments relate to existing statement of commitments that are not proposed to be amended by the proposed modification but should be considered by the Department:

- Commitment 25 – This should be expanded as it is difficult to measure at the subdivision stage as it is difficult to measure compliance with this commitment;
- Commitment 26 – Dwellings can be subject to CDCs – BASIX is not relevant at the subdivision stage – is this commitment really necessary?
- Commitments 29 and 30 – The commitments should detail what a “riparian corridor” actually means – it should be provided in accordance with the relevant guidelines produced by NRAR. This includes planting.
- Commitment 47 – is this required at the DA stage or CC stage?

2. Watercycle and Flood Management Strategy:

- a) A new flood model – as part of this Mod 4, Lendlease has engaged a new flood consultant to review the flood modelling undertaken as part of the previous approvals. This new modelling is based on Council’s Flood Study (adopted in 2017). Lendlease’s consultant J. Windum Prince has incorporated as-constructed aspects of the Calderwood development into the model. It is evident from the model results that various points in the statement of commitments are now shown to be inconsistent with respect to flood risk and management of that risk.(e.g. Commitment 41). Specifically, the bridge over the rivulet built as part of stage 1 was intended to be designed such that it would provide flood free access. However, the new modelling indicates that this is not the case (see image below).

Council believes that Lendlease must address this issue and provide details regarding what remedial works they propose to undertake in the floodplain to ensure that the flood free access can be met and that all commitments in the statement of commitments are being satisfied.

Furthermore, Council is now examining what notations it should be placing on planning certificates whilst this issue is being resolved. This may include placing a notation on those properties that are now identified as flood prone that under the original Flood Management Strategy were not flood affected.



- b) Flood Impacts – It is evident from the flood maps that there may be significant and far reaching flood impacts in some areas downstream of the development.
- c) The Rienco Flood Model – The MOD 4 application proposes to be informed by the new flood modelling (which is based on Council’s Adopted Flood Study model). Council is unclear about what this means for the developers within the non-core lands that are currently seeking DA approval for applications that are based on the previous Rienco/Cardno modelling. Are these developers expected to abort all work done using the Rienco model and use only the new JW Prince model that is based on Council adopted flood study? The possible implications of developments currently being assessed should be addressed prior to the determination of the modification to the Concept Plan approval.
- d) The Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-Use Planning Decisions is referenced in the Watercycle and Flood Management Strategy and has been recommended by EPA/OEH. The report incorrectly states that

“Neither Shellharbour City nor Wollongong City Councils indicated that this work had already been performed for the Lake Illawarra catchment and did not indicate expectations that the proponent would develop or apply such a framework to the CUDP.”

Shellharbour and Wollongong Council are working together with OEH to have the Risk based Framework implemented as part of the Draft Lake Illawarra Coastal Management Program (CMP). The Department needs to consider how the Risk Based Framework will be enforced when the Lake Illawarra CMP is approved by the Minister.

- e) It's unclear whether Council can reasonably manage the large increase in Stormwater treatment devices that will be handed over to Council as a result of the MOD4. (proposed total of 27 wetlands which is an increase of 15 wetlands compared to the existing approval) It is likely to have a large impact on Council ability to be Fit For the Future. Comments from the EPA suggest options for ongoing maintenance of stormwater improvement measures should be investigated, however the report provides no suggested solutions other than Council to manage.
- f) The assumed fraction impervious for residential areas appears to be too low (50-60%) Councils experience in Calderwood is that Residential areas typically have a fraction impervious of 70-80%. This would impact the Stormwater Quality Modelling performed as part of this report.
- g) Although Council has licenced our adopted Macquarie Rivulet Flood Model to JW Prince for the purpose of undertaking this exercise, Council has had no assurance that there has been any quality assurance checks as to the updates made and any changes made to the model to support this application. It is suggested that a quality assurance check be performed by a peer reviewer to ensure that any changes made to the model are in accordance with industry standards and the TUFLOW user manual and guidelines.
- h) The flood modelling submitted with the MOD4 does not include any changes to Calderwood Road in terms of alignment (Horizontal and vertical) and form. However, other documentation within the MOD4 indicates that Calderwood road is required to be upgraded to accommodate the new development intensity. Council's knowledge of flooding and the floodplain attributes within Macquarie Rivulet means we have significant concern regarding the impacts detrimental upstream flood impacts that would occur if this road was required to be modified. As a large length of the road currently acts as a significant hydraulic structure, any raising of the road would have a significant and widespread backwater effect and impact on properties outside of the CUDP. This impact must be quantified and additional information can demonstrate how or if those impacts can be managed prior to any determination of this application.
- i) There is little detail in the report about how flood risk above the 1% AEP will be managed and how risk to life is to be mitigated. In this regard, the question arises, will dwellings be subject to unacceptable flood hazard in extreme events and, will they be structurally sound enough to withstand forces of floodwater in extreme events?
- j) There appears to be a real opportunity to incorporate Stormwater Harvesting and reuse within the development area, as there are a number of nearby potential users of harvested stormwater for irrigation (eg. Sports fields, schools etc.) This would result in a significant reduction in nutrient load and have a positive impact on the receiving waters including Lake Illawarra.

3. Traffic and Transport:

- a) The Traffic and Transport Report (T&TR) for Mod 4 uses land use projections for the TRACKS modelling which is consistent with the agreed residential and employment forecasts used in the Albion Park Rail Bypass – Addendum Traffic and Transport Assessment Report September 2017.

It is noted that the T&TR is using vehicle trip generation rates that are consistent with those previously used by Cardno in their modelling for other stages in Calderwood. The T&TR indicates that an additional 1645 trips will be generated in the peak hour of which 1316 will be by vehicles. However the actual trips generated in the AM and PM peaks is well below what is expected for an additional 1700 dwellings. Figure 4-10 and Figure 4-11 in the T&TR show that in the AM peak only an additional 525 vehicles are added to the external road network and in the PM peak only an additional 614 vehicles. This is in stark contrast to the Traffic Report submitted with the Stage 1 application (Cardno – 4 March 2010) which indicates that the proposed 442 dwellings would result in an additional 497 vehicles in the AM peak and 519 vehicles in the PM peak on the external road network. On that basis more than half of the claimed vehicle trips are missing from the traffic modelling projections in the T&TR. The traffic modelling results appear erroneous and should be reviewed and rerun. One of the most questionable claims of the traffic modelling results shown in Figure 4-11 is that in the AM peak the proposed development of an additional 1700 dwellings will only result in an additional 40 vehicle using the M1, north of Fowlers Road Dapto which is roughly only 3% of the total trips generated. This is contrary to the, Census Journey to Work data provided in the Traffic Impact Assessment Report (Cardno 11 April 2017) submitted with Calderwood Stage 3C which indicated that 40.2% of trips generated using the external road network should be using this section of the M1. Additionally that report indicates 57.8% of external trips would use the Princes Highway south of Tongarra Road (or Albion Park Rail Bypass when completed) yet Figure 4-11 shows only an additional 34 vehicles using this route which represents again only about 3% of the total trips generated. These results question the credibility of the traffic modelling conducted for the T&TR.

- b) The T&TR indicates that the only necessary network upgrades required are the provision of 4 travelling lanes on Calderwood Road and the installation of traffic signals at the intersection of Calderwood Road and Tripoli Way in place of a roundabout. Again this is in stark contrast the Traffic Impact Assessment Report (Cardno 11 April 2017) submitted with Calderwood Stage 3C which identified that the intersection of Tongarra Road, Calderwood Road and Macquarie Street needed to be upgraded. The report draws the following conclusion.

The Illawarra Highway / Calderwood Road / Macquarie Street will require optimisation of its existing phasing sequence and upgrades to the intersection configuration to accommodate the additional traffic generated by the CUDP Stage 3C development.

- c) The T&TR also indicates that an upgrade of the Illawarra Highway, Yellow Rock and Escarpment Drive intersection is not required. Again this is in stark contrast to Traffic Report (prepared by Cardno 12 July 2018) in support of a proposal for the development of an additional 275 lots in Tullimbar which indicated.

By 2026 and with all the Tullimbar development in place, the intersections of Illawarra Highway / Yellow Rock Road and Tongarra Road / Broughton Avenue will fail. SIDRA results indicate that both intersections will be overcapacity and oversaturated, operating at a level of service of F in both peak periods.

- d) Whilst not directly related to the T&TR, Mod 4 does not propose alternative access arrangements in place of the existing Illawarra Highway and North Macquarie Road intersection. A recent assessment in conjunction with a development application for non-core land in the CDUP identified that the existing junction could not be upgraded to meet the necessary AUSTROAD alignment and sight distance design criteria. In the assessment of Mod 4 an alternative the Illawarra Highway and North Macquarie access point needs to be investigated and an alternative solution found.

- e) Council is of the opinion that details of the required upgrade of the following intersections must be provided prior to any determination of the application
 - i) Tongarra Road, Calderwood Road and Macquarie Street intersection
 - ii) The Illawarra Highway, Yellow Rock and Escarpment Drive intersection.
- f) The illustrated additional collector road between the Broughton Avenue and Escarpment Drive roundabouts has not been mentioned in any document.
- g) There is also no mention of the required North Macquarie Road / Illawarra Highway intersection upgrade, which has been determined during the assessment of current development applications.

4. Environment:

4.1 General Comments:

- a) The Biodiversity Report prepared by Ecological states that 'Significant impacts on Illawarra and South Coast Lowland Forest and Woodland are unlikely'. Full surveys detailing the extent of EPBC Act listed matters are required to support this statement and to Council's knowledge they have not been conducted.

It is proposed to remove over 11 hectares of potential Illawarra and South Coast Lowland Forest and Woodland and cause habitat disturbance to both The Australian Painted Snipe and Swift Parrot.

Referral to the Commonwealth regarding EPBC is required as these species have been listed since the original concept plan. EPBC listing is retrospective and impacts on Matters of National Environmental Significance must be considered prior to any works commencing.

- b) An assessment of the impact of the proposal on DPI Fisheries mapped key fish habitat of Marshall Mount Creek, Macquarie Rivulet and Lake Illawarra is required in accordance with the Policy and guidelines for fish habitat - conservation and management (DPI, 2013) in the Ecological (2018) report.
- c) A number of Statements of Commitment are proposed to be changed which will have negative impacts on the long term management of significant biodiversity at the site. Details on changes and their impacts are provided earlier in this submission.
- d) Impacts on Riparian corridors and ESL by the increasing of flood mitigation has not been adequately assessed. Areas proposed for regrading- decreased elevation, adjacent to ESL require further assessment for impacts on ESL and biodiversity of Riparian River Oak Forest.

The removal of Stream Reach 15 has not been addressed. The Proponent states that there is no modification to the Concept Plan Approval Riparian Corridor Network. This is incorrect. The removal of Stream Reach 15 must be included in the Riparian Corridor Network and an updated Riparian Consistency Report is required.

- e) Public Domain Report, New Open Space areas. Figure 4 Calderwood Open Space Design Analysis (MOD 4):

CW3- has been moved into Citywide Bushland (from the 2011 Landscape Masterplan), this area is unsuitable for Open Space- Passive due to the steepness of the terrain

CW3- extension- Part of Johnson's Spur is proposed to be changed to open space from ESL and E2, E3 to passive open space. This conflicts with the objectives of ESL and the zoning. The altered management regime to accommodate passive open space requires environmental assessment. The SOC's require Vegetation Management Plans (VMP's) to regenerate these areas, the objectives of which would be inconsistent should the area be passive open space. Additionally, a number of areas have approved VMP's, which are currently being implemented. A change in land use would conflict with the objectives of the VMP's.

D4- Non-core Land. This District Park is located in a Riparian Corridor, Evidence as to how this land use aligns to riparian corridor objectives is required.

CW2 is located in a water body (see Figure 6- Watercycle Management), which is not consistent with the requirements of passive open space.

Link D4 to L11- this is a steep embankment leading to flood runners and unsuitable for passive open space.

No areas of ESL should be utilised as public open space. Further assessment is required for any proposed creek/rivulet crossings.

It is recommended that further consultation on suitable passive open space locations be undertaken with Council.

- f) Water Cycle and Flood Management Strategy – further detail is required on the level of cut and fill that is required in order to make a full assessment of the impacts on both Groundwater Dependent Ecosystems and wider biodiversity.

Water quality targets outlined in the Risk Based Framework for Water Quality issued by the Office of Environment and Heritage, as included in the Illawarra Shoalhaven Regional Plan must be addressed.

Not all ESL has been included in Figure 3 of the Water Cycle and Flood Management Strategy prepared by J Wydhm Prince. This figure states it is for Marshall Mount Creek, however it covers the whole of the Concept Plan area including Macquarie Rivulet so all ESL should be illustrated.

- g) Concept Plan:

- The proposal intends to remove the green corridor along North Macquarie Road between the Clover Hill development and Stage 3B south. No justification as to the removal is provided in documentation.
- The proposal increases the width of Calderwood Road from 2 to 4 lanes. No environmental assessment on the impact of this has been conducted.
- Sportsfields & Detention basin – Stage 1. Conflicting land uses are illustrated on various plans. Clarification is sought on the exact proposal in this location.
- Riparian Corridor SP1 south of Town Centre – School/Residential East. Concept Plan does not illustrate a riparian corridor to the north of proposed sportsfields. It

is not clear how sportsfields can be accommodated in this area. The riparian corridor will be required to be regenerated in accordance with SOC requirements. The riparian corridor must be illustrated on all Concept Plans.

h) Development Control Strategy:

- Bush Edge Buffer - Proposed to delete Benching is to be minimised with homes built with consideration of the terrain and alter the minimum lot size amendments. Benching in the bush edge buffer will deteriorate the intention of the buffer and lead to poor biodiversity outcomes. A reduction in lot size in E3 & E2 land will deteriorate the intention of the zoning.
- Green Star Rating - The SOC is proposed to be amended to remove reference to a Solar Farm and Co/tri generation, with the proposal now to achieve a 5/6 star green star rating. Comprehensive information should be included as to how the town centre will achieve this rating.

- i) Comparison of the proposed modification to existing concept plans is difficult as lines on maps do not match up – new concept plans cover different areas and are not the same scale as old plans. It is difficult to make comparisons where discrepancies occur. Maps also have various colours missing or incorrect keys.
- j) It is not clear how non-core land impacts have been considered in the amended proposal.

5. Open Space Provision:

5.1 General Comments:

- a) The proposal modification generates the requirement to provide additional open space. There is a concern that the Proponent has not adequately demonstrated how an additional 14.2ha of both active and passive open space should be and could be incorporated into zones that are zoned for other uses such as environmental and rural zones. In its current form, the modification application appears to be proposing more open space than is needed and is not designated RE1 zoned land. This will place an additional burden on Shellharbour Council with the potential uptake of additional land identified for active and open space, particularly if it were to be located on E3 Environmental Zoned land.
- b) The Calderwood Development Lands have been zoned in accordance with studies that demonstrated justification for those appropriate zones as part of the original application. While there may be circumstances where environmental zones and rural zones may be suitable for recreational uses, to place the whole required amount of open space for the proposal in lands not zoned for recreation is not considered best practice. It has also not been adequately demonstrated by the Proponent that it is appropriate in this specific circumstance.
- c) As per the Shellharbour Open space, Recreation and Community Facilities Needs Study Report (2010). Council generally does not count environmental reserves, ancillary reserves (ie, Linear Links) towards the provision of open space as it may not provide any recreational value.
- d) The Calderwood Site zoning layer in the SEPP should be updated to adequately identify the open space allocation, the Proponent should also demonstrate that the additional 14.2ha of suggested additional land contains an acceptable level of

purpose for recreational users or standards of provision. In this regard, it is considered that the provision of open space could be in a less environmental significant zone such as Residential.

The existing Landscape master plan should be reviewed and indicate suitable embellishment.

- e) There is an additional 0.4173ha of additional passive open space identified to be provided in Local Park 11 and Local Park 8. These parks have already been delivered.

The Proponent should be required to demonstrate how these parks can be increased in size when they already take up the land that was required for open space. The Proponent should also address what implications this may have in regards to the existing VPA between Council and Lendlease.

- f) Proposed additional open space that is located within the non-core lands (Local Park 13, Local Park 7, District Park 2 and District Park 5).

The proponent should be required to demonstrate how they can provide certainty with regards to the provision of the land on the non-core land site, particularly when the increase in lot yield is proposed on the Lendlease land.

- g) The location of the parks listed below vary between the existing approved concept plan and the proposed MOD 4. The Modification is also inconsistent with following current development applications being assessed by Council.

- a. Local Park 7 – DA No 290/2018
- b. Local Park 12 – DA No 167/2017 (Stage 3C)
- c. Local Park 13 – DA No 577/2017
- d. District Park 2 – DA 290/2018
- e. District Park 5 – DA 577/2017

The proponent should be required to explain why some of the locations of parks have been slightly moved and how this actually benefits the development and the land it has been moved to.

- h) Comparison of approved Concept Plan and proposed modified Concept Plan Pg 6 Indicative Open Space Network. Typo – refers to CW Park 4 when it should be CW Park 3.

5.2 Existing Sports Ground SP1 and proposed Sports Ground SP2

The application proposes additional active open space in the existing SP1 Sports Fields by encroaching into the land zoned E3 to the west. This poses the question about suitability of land for a district sporting field, as it would appear that the proposed SP2 is insufficient in area for a sports field in accordance with the requirements of the Open Space, Recreation and Community Needs study 2010 (the study) of 1.7ha per 1000 people. Further, Council taking on the future management of E3 land is not supported.

The study also requires that sportsfields require appropriate design, solar orientation, wind protection, desire lines and safety/traffic implications, usability, and maintenance. Other considerations include parking, amenities, all-inclusive, gradient, flooding requirements

The Proponent must demonstrate the reasoning and benefits of including E3 zones land in a sports field site, as well as how the proposed sports fields in SP2 can meet the requirements ie, flooding. The current bulk earth works DA being assessed by Council indicated a detention basin in the location of the proposed additional sports fields, The Proponent should be required to demonstrate that these use are compatible

5.5 Calculations

Based on an additional population of 4,350 persons equating to 12.3105ha of Open Space (2.83ha per 1000 people).

Current split of active = 15.84ha

Current split of passive = 17.36ha

$45.5\text{ha} / 2 = 22.75\text{ha}$

Therefore using the 50/50 would mean

6.91ha active open space

5.39 for passive open space

The mod is proposing 6.7707ha for the sporting field (active)

The mod is proposing 7.445ha for passive open space

This seems **under** the requirement for active and **over** the requirement for passive open Space.

Areas required under the Shellharbour Open space, Recreation and Community Facilities needs study are:

2.83 ha per 1000 people for open space equating to;

0.33 ha per 1000 people for local parks = 1.44ha

0.5 ha per 1000 people for district parks = 2.175ha

0.3 ha per 1000 people for city wide = 1.31ha

1.7 ha per 1000 people for sporting grounds = 7.395ha

Given the inconsistencies shown above the Proponent should be required to confirm the methods used to determine the areas specified within the application.

6. Assets and Maintenance:

6.1 Necessary Additional Road Upgrades Required

Based on the revised traffic modelling, the following additional road upgrades are considered necessary to mitigate the impacts of the CUDP Yield Review:

- Widen Calderwood Road from two lanes to four lanes between Tripoli Way and the eastern boundary of the CUDP. It is recommended that the Calderwood Road upgrade is completed on the opening of the town centre (retail) and completion of the Tripoli Way bypass, which is anticipated to occur around 2026-2028.
- Upgrade Illawarra Highway / Broughton Avenue from roundabout to signalised intersection.

- Upgrade Calderwood Road / Tripoli Way from roundabout to signalised intersection.(Cardno, 2018)

Further to these upgrades, Council believe that the following are as a result of the yield increase, and disagree with some of the findings of the modification.

Council would like to work with the Department as well as Lendlease to ensure that all requirements as a result of the modification are fully met, and that fairness is ensured to all parties including the residents of Shellharbour.

Noted within the EA is that Lendlease will negotiate with Council in good faith, Council believes given the above discrepancies, these negotiations must be completed and agreed to prior to any approval of the modification.

a) Calderwood Road

The need to upgrade to four lane is more than just widening of the road within the confines of the existing road reserve and will require realignment and land acquisitions. This is especially pertinent at the location of the bridge over the Macquarie Rivulet. As the bridge needs to be widened, to reinstate on the current angle would create an unsafe bend immediately South of the bridge. As a flow-on effect, the intersection with Tripoli Way may need to be relocated westward, and require signalisation of the Calderwood Road and Tripoli Way intersection earlier than both adopted and draft Council concepts designs. This is especially problematic as it will require further multiple land acquisitions and costly redesign of Tripoli Way. These changes are not recognised within the findings of the Traffic and Transport assessment undertaken, or the Environmental Assessment (EA) for the modification.

b) Tripoli Way

Tripoli Way will require four lanes for the full length by 2026-28 based on the Traffic and Transport Report. It is unclear whether, if this assumption was not made, could suitable performance of the local traffic network be achieved. This is different to the original TMAP with regards to timing, as well as previous Council concept designs. The statement *“the design of Tripoli Way (Albion Park bypass) is consistent with Council’s current preferred configuration”* is incorrect. The original 2007 Albion Park Traffic Study assumed one lane in each direction, and since that time, Council has not endorsed any concept to the contrary. Council can provide a timeline of the Tripoli Way Design if required. The latest concept plans currently being developed in conjunction with Cardno, also only cater for four lanes East of Calderwood road, yet the four lane requirement were only identified due to updated modelling from Cardno, for both Calderwood Concept Approval and the SPIR model, in lieu of widening Tongarra Rd identified within the APTS. Prior to this, endorsed plans from Council were for two lanes only.

Based on the most recent draft concept plans developed for Council by Cardno in 2017, Tripoli Way only required two lanes (one each way) for the section between the Illawarra Highway and Calderwood Road. Contained within the Traffic and Transport Report is the assumption of four lanes for this section. This has major implications for possible land acquisitions, land contributions, and the construction cost of Tripoli Way. Council is willing to share these models with the Department to confirm the discrepancy.

To construct four lanes on this section would *materially alter* the alignment and width of the proposed land to be contributed as part of the existing VPA. Currently a 50m corridor has been nominated, however this may be need to be widened in the order of 10-20m to accommodate the extra width. Furthermore, it requires compulsory land acquisitions of private land to Lot: 1 DP: 559819. It is unclear as to how this would be enabled and whether it would add further costs to Council to undertake.

c) Update of the Voluntary Planning Agreement

In general, Lendlease propose to update the VPA, and Council support this to achieve a fair and equitable outcome. Though in the Environmental Assessment it is undefined as to the exact changes that will happen, simply that “*Lendlease will negotiate in good faith with Shellharbour Council to deliver these works to coincide with opening of retail component of the Calderwood Town Centre and Tripoli Way works*” – Appendix J – Updated Schedule of Local Contributions.

The current VPA determined a contribution amount for Tripoli Way. This was based on the findings of the Stage One court approval, and apportionment within the TMAP. Council believe contributions should be calculated and determined prior to the approval to specify the true contributions required as a result of the modification. This should include provisions for widening of Tripoli Way to four lanes, relocation of the Tripoli Way and Calderwood Road intersections, and costs associated with extra widening into private lands.

d) Contribution towards maintenance costs:

Any proposed revised or new VPA must contain provisions for maintenance of the surrounding local road network as a result of the increase. An agreement outside of the VPA was previously reached with Lendlease regarding the maintenance of Calderwood Road from the development to the intersection with Tripoli Way, this has now ceased. Until such time as Calderwood Road is widened and Tripoli Way is constructed, Council believe that the developers of the land should contribute to the local road maintenance associated with the increase in traffic and particularly additional truck movements. This is also true for the extra open spaces, reserves, wetlands and stormwater infrastructure associated with the modification.

e) Greater Certainty Required on the Design of Calderwood Road and Tripoli Way as a result of the Modification Yield Increase

Council believes that there needs to be certainty of the design of Calderwood Road and Tripoli Way to better assess the impacts of the modification. This would enable Council to progress further with the design of Tripoli Way and avoid costly redesign. Council has already spent significant amounts of public funds on the design of Tripoli Way, as well as previously engaged in land acquisitions that may now be inadequate and require further negotiations as a result of the modification. Furthermore, the delays to the project as a result of the modification and redesigns caused by the upgrades required are future costs not recognised within the EA.

f) Proposed Mechanisms for Land Acquisitions

Council would like to see greater certainty of the proposed mechanism for land acquisition for the required upgrades. It is well established within the EA and Traffic and Transport Report that land acquisitions are required:

“It is recommended to upgrade Calderwood Road section between Tripoli Way and eastern boundary to a four-lane road, two in each direction. The profile and cross-section of this road is yet to be determined. It may be desirable to reduce the overall carriageway width on the widened section of Calderwood Road to limit third party land acquisition.” (Cardno, 2018)

Council questions the mechanisms for undertaking this. Should negotiations with adjoining landowners fail, Lendlease will be unable to undertake the required upgrades. Council have previously commence negotiations with adjoining landowners who have been reluctant to provide land. It is assumed that Council must undertake the land acquisitions as its role as the Local Roads Authority, therefore Council would requires recognition of all associated costs. These costs must be identified, and an agreement with Council in place prior to any approval, and must borne by the developers of the land. How this will be achieved must also be addressed prior to determination of the modification application.

6.2 Suitability and Maintenance of proposed dedicated lands:

- a) It is understood that the additional proposed sportsfield adjacent to Stage 1A will be dual purpose, for use as infrastructure and as active open space. This area is currently under DA assessment for use as a water detention basin. Council is concerned about numerous issues associated with the dual purpose use such as:
 - i. Flood immunity
 - ii. Damage caused by flooding events
 - iii. Ongoing clean-up maintenance following significant flooding events

The additional proposed area adjacent to the original sportsfield is not considered appropriate for use as active open space due to a high embankment, steep slopes, flood affectation, intense landscaping requirements and substantial maintenance costs.

- b) The future land ownership proposal for the CW 3 extension, new linear parks and link between D4 and L11 is unclear. There are issues such as flooding and intense vegetation management associated with these parks which may lead to high maintenance costs for either Council if they were to become the future owners.
- c) The proposed linear parks may have implications relating to flooding through the riparian lands due to obstruction and decreased roughness factors.
- d) The extension of SP1 adjacent to Stage 2C was formerly classified as an E3 zone and may not be appropriate for use as passive open space.
- e) Although located within the WCC LGA, residents of the SCC LGA have voiced concerned about parks being located underneath powerlines due to potential health risks. The re-location of District Park 1 and Local Park 3 to within the overhead powerline easement requires further assessment

7. Voluntary Planning Agreement:

7.1 General comments:

The proposed modification involves a significant intensification of the development, which can only be supported if there is sufficient assurance that the extra dwellings are accompanied by

appropriate local infrastructure. At this stage, Council does not have this assurance. Whilst the assessment report submitted by Lendlease includes a number of recommendations to amend the Planning Agreement with Council, these have not been discussed or presented to Council and therefore Council cannot advise that it is satisfied that the proposed additional infrastructure will be adequate.

Therefore, Council is of the opinion that if the Department were of a mind to approve the proposed modification that any approval for the modification be withheld pending further discussions with Lendlease about the matters to be included in the VPA. In particular it is recommended that approval should not be granted until either a Deed of Variation to the VPA has been exhibited or a formal Letter of Offer has been submitted and agreed to by Council and has been exhibited to seek community feedback.

7.2 The Need for a Formal letter of Offer

As noted above the proposed modification involves a significant intensification of the development to which the executed VPA applies. A Deed of Variation (DoV) to the existing VPA will be needed. The EA states (pge 71) that a letter of offer will be provided and which would detail the amendments to be made to the VPA. It is however important that the letter and any amendments to the Draft VPA be fully resolved and agreed to before any approval is given to the modification. Whilst the EA includes an Appendix (Appendix J – Updated Schedule of local Contributions) which provides some information about the additional local infrastructure that will be provided, this needs to be filled out with a lot more detail before it can form the basis of a Letter of Offer for the DoV. This will require significant negotiations with Lendlease to resolve the infrastructure that is needed to support the development.

7.4 Open Space

Additional open space will be required for the development. It is essential that the land provided be unencumbered and fit for purpose.

A revision of the Landscape Masterplan, which currently forms part of the existing VPA between Council and Lendlease, must be included in any letter of offer to amend the VPA. The revised Landscape Masterplan must demonstrate how the proposed areas are fit for purpose.

- a) The proposed additional open space is largely made up of ‘linear parks’ that provide linkages across riparian corridors. Some of these cross through identified environmentally sensitive lands. Lendlease should be required to demonstrate the facilities they will be providing in these areas and how they can be achieved based on the constraints on the land.
- b) There is a significant expansion of City-Wide Park 3 (CW3), which is located at Johnson’s Spur. In accordance with the Better Outcomes Clause contained in the existing VPA, Lendlease and Council agreed to a reduction of facilities to be provided at this City Wide Park and a transfer of funds that were allocated for those facilities to the more central and accessible District Park 4. It was agreed that due to the remote location, this park would be embellished to a lower level than other citywide parks as it would not receive the same level of use. It is also noted that the area into which it will be extended has substantial tree cover and has been identified as environmentally sensitive – Lendlease would need to demonstrate what they intend doing with this area and how this will provide acceptable recreation opportunities whilst protecting the environment.

- c) The proposed additional sports field has limited useability as it is remote from current approved sports fields and may be significantly affected by flooding. It will also require its own amenities and car parking which is an ongoing maintenance liability.
- d) It is also noted that car parking has been removed from the list of embellishment for district parks. This is not acceptable due to the catchment of such a facility.

7.5 Social Infrastructure

Additional social infrastructure will be required for the development. The extent of what is required is set out in Appendix S. The works proposed include an expansion of the onsite multipurpose community facility and a further increase of the floor space for Albion Park Library. As both these will be Council assets it is important that the extent of what is being proposed and whether it can be contained within existing sites etc should be discussed with Council. To date, no such discussions have taken place.

7.6 Road and Traffic Upgrades:

An updated traffic assessment of the increase dwelling yield prepared by Cardno finds that the following additional road upgrades will be required as an outcome of the increased yields from the development:

- a) Widening of Calderwood Rd from two lanes to four lanes between Tripoli way and the eastern boundary of the CUDP
- b) Upgrade the Illawarra highway/Broughton Ave from roundabout to a signalised intersection
- c) Upgrade Calderwood Rd/Tripoli Way from roundabout to a signalised intersection including upgrade of the bridge over Macquarie Rivulet

It is also understood that some of the road upgrades will occur on land located outside the existing road alignment and may require acquisition. This should be at the expense of Lendlease and the lands required for acquisition should be identified and included in the VPA.

It is understood that Lendlease will construct the roadworks. However, the timing of all roadworks needs to be resolved as presently it is only vaguely specified. The roadworks need to be done before the nominated stage of the development has been completed.

7.7 Drainage Water Quality and Flooding.

Clarification is needed whether the water management strategy (quantity and quality) involves dedication to Council of any structures or the land on which they are located. If so they need to be identified and included in the VPA.

If there are any such structures to be dedicated then as was mentioned in the previous section, they will impose a long-term maintenance liability on Council. The inclusion of a maintenance contribution in the VPA must be considered.

7.8 Non-Core Lands

Currently there is ambiguity about how the non-core landowners are able to contribute to the local infrastructure requirements. This is a major issue and must be resolved prior to any determination of the application to modify the Concept Plan Approval.