



# **Riverside @ Tea Gardens**

**Amended Preferred Project  
Report for Concept Approval  
Number 10-0136**

# Riverside @ Tea Gardens

## Amended Preferred Project Report

SGD 1 Pty Ltd



May 2016

Project No:- 213366

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SGD 1 Pty Ltd

## Riverside @ Tea Gardens

### *Amended Preferred Project Report*

*Reference 213366 – R001004 Preferred Project Report*

May 2016

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## EXECUTIVE SUMMARY

*This Preferred Project Report (PPR) has been prepared in respect of an amended Concept Application for a residential development of approximately 805 dwelling units on 725 lots within an urban zoned site, located at Tea Gardens on the lower mid north coast of NSW. The PPR has been prepared subsequent to the public exhibition of the Concept Application in early 2012 and the Concept Plan Approval on 27<sup>th</sup> June 2013. This Concept Plan is a substantially reduced and revised version of the approved Concept Plan for the same site. The matters dealt with in this PPR relate to the amendment of the Concept Plan as well as specific matters that are either a result of clarifications with Agencies or negotiated agreements with Council and involves the rewording of Schedule 3 for the Requirements for Future Applications.*

*The 2009 application was the subject of a Planning Assessment Commission (PAC) assessment and follow up reports (Minority and Majority report). The PAC report(s) summarised a range of concerns with the (2009) application and provided feedback on issues which would need to be addressed in any new application. Additionally, the Majority PAC report recommended a development footprint within its findings, despite highlighting that its recommendations were based on what it believed to be inadequate baseline mapping.*

*The Minority Report instead, recommended that the baseline mapping be completely re-done before any suggestions of development upon the site could be considered in any detail.*

*Of greatest concern to the PAC at the time, were biodiversity outcomes upon the site in addition to the long term effectiveness and appropriateness of the proposed stormwater management system for the site. The 2009 application received little support from other government agencies. The 2013 approved Concept Plan resolved many of the issues raised in the Majority PAC Report and subsequent to that Concept Approval, significant work has now been completed to allow the final development footprint outcome to be proposed. These works include:-*

- 1. Biodiversity Offsets Package with the securing of all onsite Koala credits.*
- 2. Amended Stormwater and Groundwater Management Plan including an amended flooding report due to the finalisation of the 2014 Lower Myall River and Myall Lakes Flood Study and the lowering of flood impacts.*
- 3. Major reductions in the development footprint with significant increases in important corridor widths.*
- 4. Reorganisation of the residential and commercial interface adjoining Myall Street and the Myall Quays Shopping Village. This will result in the addition of a small area of the Commercial Community Title (DP 270561) into the PPR as well as a reduction of land from DP 270100 that will revert to future commercial lands. The details are indicated in Figure 2.*
- 5. The provision of a Riverside Walk as a proactive protection mechanism to control public access through the wetland and biodiversity area.*

*As part of this amended process, OEH have been widely consulted with respect to both biodiversity offset methodology (prior to more additional mapping being undertaken) as well as to results and conclusions from the biodiversity mapping exercise. The new mapping is far more accurate, more detailed and has been widely reviewed and scrutinized by government agencies.*

*OEH support this Biodiversity Offsets Package for the site.*

*The new Biodiversity Offsets package mapping and assessment work led to the formulation of this revised Concept Plan being prepared and lodged with DoPE.*

*Since the approval of the Concept Plan, significant consultation with government departments and Council has occurred. This has led to a number of further significant amendments to the Concept*

*Plan, as well as the preparation of further supporting materials. These amendments and revised reports have been widely discussed with government departments and Council prior to finalisation within the revised Concept Plan.*

*In particular, the following key issues have been the subject of significant revision.*

## **WATER MANAGEMENT**

*The stormwater management system now proposed for the site – is based upon “at source” treatment controls, rather than “end of line” controls. It demonstrates a nil or beneficial effect on water quality leaving the site, both as groundwater and surface water. The 2012 proposal had been developed in close consultation with NoW, DoPI, OEH and DoPI review consultant - BMT WBM. The same consultants have undertaken the amended report which has been necessitated by a reduction in heights of flood affectation and the overall proposed development footprint. The flood tailwater condition changes between the original report and the amended report is indicated in Table 1 below:-*

*Table 1 – Impacts of the Amended Tailwater Conditions and Flood Impact Changes*

<b>Tailwater Condition</b>	<b>Adopted Level (m AHD)</b>	<b>Level (Previous Riverside Report) (m AHD)</b>	<b>Change</b>
Existing Mean High Water	0.5	0.5	-
2100 Mean High Water	1.4	1.4	-
2100 5yr River Level	2.15	2.0	+0.15
2100 100yr River Level	2.3	2.8	-0.5
2100 'Extreme' River Level	2.5	3.3	-0.8

*The revised water management system in combination with increased setbacks of development from conservation areas, demonstrates a maintenance or improvement of environmental conditions at downstream ecosystem receptors.*

*The proposal has addressed the key concerns of the PAC with regard to Water, and has been performance modelled in accordance with the PAC's and other agencies requirements. The system as proposed is more sustainable and has met the highest water quality performance targets. In addition, the proposed measures utilize proven technology, regular maintenance regimes and due to fragmentation, protect against large scale failure.*

*It should also be noted that the revised water management system has greatly reduced the potential for environmental impacts (such as groundwater drawdowns etc.) extending outside of the development footprint. The need for setbacks to conservation areas is therefore substantially reduced, and changes a key constraint considered by the PAC in the formulation of a suggested development footprint.*

## **ECOLOGY**

*Since the PAC originally assessed the 2009 application;*



- *new Ecology Consultants were appointed to the project team to develop up and provide an enhanced Biodiversity Offsets Package;*
- *additional detailed baseline ecological mapping has been undertaken for the site, in accordance with PAC (both reports) and OEH recommendations and requirements – it is understood the revised Biodiversity Offsets Package mapping has received OEH support. This has led to a greater understanding of the biodiversity values of the site and adjacent lands and has informed the decisions to reduce the overall development footprint and the provision of enhanced ecological corridors;*
- *significant reductions in the proposed development footprint on the site have been made – with the development footprint being reduced by a further 13.1Ha since the Department of Planning approved Concept Plan was issued in 2013. This further reduction provides corresponding increases in ‘on site’ conservation areas and enhance corridor outcomes. These reductions have been strategically located within areas of greatest quality habitat or corridor value – as identified within the revised Biodiversity Offsets Package mapping. It is understood these measures are supported; and*
- *a comprehensive ‘on site’ and ‘off site’ offsetting package is proposed to offset residual impacts in accordance with the legislation. This package will result in approximately 113.86Ha of land being conserved on site (protected in perpetuity) in addition to a yet to be determined offset site(s) that will generate 1,245 ecosystem credits and 267 Wallum Froglet credits.*

*It should be noted that the proposed development footprint does not exactly match the size and shape of the development footprint recommended within the Majority PAC report in 2009 or the approved Concept Plan from the Department of Planning. The new detailed baseline mapping requested by the PAC (both reports) has identified different ecological constraints on the site (as was to be expected), than that which informed the PAC’s initial majority recommendation. The premature nature of indicating a development footprint upon the site (as identified within the Minority PAC Report) appears to have been justified to a degree, given the results of the new Biodiversity Offsets package baseline mapping. For clarity, several plans discussing the areas and the locations of the various overlays are included in this documentation.*

*Due to the flawed baseline data on which the Majority report made its recommendations, variations from the Majority report recommended foot print are contained within the current amended Concept Plan. Some areas suggested by the PAC (majority report) as potentially suitable for development, are instead proposed to be conserved - due to beneficial biodiversity habitat or corridor values in those locations.*

*Alternately, other areas suggested by the PAC (majority report) as potentially suited to conservation, have been assessed to be of lower significance, biodiversity habitat or corridor value (or requiring lesser buffering of potential impacts) and are instead, proposed for development. These beneficial outcomes were not presented to the PAC in the initial application for its consideration but have been calculated in detail in the Biodiversity Offsets Package.*

*Whilst it would be technically possible to further reduce the development footprint or otherwise manipulate it to accord with the area contained within the footprint recommended by the PAC, the result of this would only be to conserve lower quality habitat on site, at the expense of corridor enhancement and a larger area of greater quality habitat which could be preserved within a now agreed biodiversity offsets area. Hence the proposed footprint (and commitment to offsets) represents the preferred approach to enhancing biodiversity outcomes, as a result of development on the site.*

*Once again, these outcomes and benefits did not form part of the initial application reviewed by the PAC in 2009 but has been a fundamental basis of the current amendment to contain all Koala credits within the existing project area. It is understood that these proactive initiatives are also supported by OEH and Great Lakes Council.*

*In addition to the amendments to the proposed development and on-site conservation layout, the amended Concept Plan is accompanied by commitments to the provision of substantial offsite Biodiversity credits.*

*Details are provided within this PPR which outline a two stage approach to the provision of biodiversity offsets. Commitments are made to establishing the on-site BioBank in conjunction with the subdivision of land for residential lots for the first stage of development. Further commitments are provided to the establishment of the off-site BioBank / retirement of credits, prior to development continuing beyond stage 8. In the latter case, all applicable offsite credits are proposed to be provided ahead of impacts occurring.*

*The areas of significant footprint reduction are in the following locations:-*

- 1. Northwest lands adjoining Toonang Road which has been identified as having important Koala corridor attributes.*
- 2. Below Shearwater so that the closest point of the development has been moved some 55m at the closest point to the rural residential lots.*
- 3. The removal of the original Stage 13 Eco-tourist Precinct. This area was indicated in the majority PAC report as being available for some low density development and whilst the Department indicated that it was Concept Approved, further Biodiversity Offset mapping has indicated that it was an important Koala corridor resource.*

## **REORGANISATION OF THE COMMERCIAL PRECINCT**

*Significant, in principle discussions, have been undertaken with Council over several matters that include works on Myall Street and the appropriate and logical economic development of the Myall Quays Shopping Village and extended main road Commercial Precinct. This PPR has utilised the PAC footprint to provide a practical and logical access and servicing strategy for the development of the Riverside lands and the incorporation of part of the Commercial Precinct in that strategy.*

*The main services (access, electrical/communications and water) for the first 4-5 stages of the project will be made available through the extension of those services northwards along Shoreline Drive. Previous upsizing of these services have seen appropriate terminations occurring at the Shoreline Drive/Myall Quays Boulevard roundabout. The total area of the Commercial area that has been included in the overall development footprint is 5.0Ha.*

## **GENERAL**

**Development Footprint** - *Both PAC and Departmental/Agencies comments have led to the modification of the proposed amended Concept Plan, and the provision of additional information in support of the proposal or the inclusion of a commitment within the Statement of Commitments to address issues of concern as part of this Application.*

*The Majority PAC report indicated a total developable area of 84Ha, the Department Concept Approved 108.3Ha (need to add 0.9Ha to this figure to include the additional lots within the Commercial Precinct (i.e. 109.2HA)) and the amended PPR layout plan is proposing 96.1Ha.*

**Traffic** – *A revised Traffic Impact Assessment (TIA) has been completed with the following agreed intersection configurations with Council:-*

1. Both the Myall Quays Boulevard and Riverside Boulevard intersections with Myall Street are now a Section 94 Contribution matter. Both intersections will be signalised when the demand for this servicing is required. All physical modifications to the Riverside Boulevard intersection will be undertaken with the works that involve the connecting of the project directly to Myall Street and currently that is planned at around the 6<sup>th</sup> stage for the Project. It should be noted that the TIA has also modelled the current Myall Quays Boulevard/Myall Street intersection, refer Tables 3 and 4, Annex C, to assess whether it could handle the whole of the development flows as well as some surrounding growth and it has been confirmed that the existing arrangements have a whole of development capacity and that the intersection will still maintain a A/A Level of Service. The actual timing of the proposed intersection works will be undertaken in consultation with Council.
2. Toonang Road has generally been reduced in its importance for the project and it is a Section 94 Contribution intersection. One of the two major linkages has been deleted to create important Koala linkages along the northern part of the project. The intersection will generally remain as per existing with only minor swept path sealing being undertaken.

Details of the intersection treatments are attached to this documentation as is a copy of the revised TIA.

**Bushfire Management Plan** – A whole of Project Bushfire Management Plan has been prepared to provide direction for the construction of interim and final Asset Protection Zones for all 16 Stages of the project. There is generally a maximum BAL -19 for the majority of dwellings with only 30 future dwellings requiring the highest BAL – 29 requirements.

**Inclusion of Additional lands** – This PPR is proposing to include some additional lands between the original southern extent of the site and the Myall Quays Shopping Village. These additional lands are being allocated to additional residential lots and as part of the reorganisation of land uses, some previous residential lots between the Commercial Precinct and Riverside Boulevard and fronting Myall Street are to be allocated to a commercial activity. This proposal has Council support and all of the layout plans includes this small amended area.

The overall change in landuse is negligible and Table 2 below provides the details.

Table 2 – Impact of Changes to the Landuse around the Commercial Precinct

Existing Zoning	Existing Area	Proposed Area
B2 Local Centre	7.47ha	7.24ha
B4 Mixed Use	2.89ha	2.91ha

**Integrated Water Cycle Management Strategy** – As part of the amended documentation, the attached IWCMS has been prepared as a final document that will address all aspects of flooding, stormwater and groundwater management.

**Servicing Strategy** – An amended Riverside Servicing Strategy has been updated with the latest amended plans and Service Authority agreed servicing corridors. Refer Annex N.

**Riverside Walk** – As part of the negotiations with Council, it has been proposed that a Riverside Walk through the onsite offset biodiversity lands, be included as part of the development. The Riverside Walk would extend Council's current foreshore access track from the northern part of the older Tea Gardens Village around the Marine Drive/Coupland Avenue intersection to the North

*Shearwater developments north of the Riverside Project. The concept layout plans includes an indicative route for the foreshore walk and its construction and integration will be subject to a further Development Application.*

*This walk would have controlled locations for accessing the cycleway, boardwalk or gravel track built into the physical road and recreation network and it will be maintained and administered under Community Association or Council control.*

## **CONCLUSION**

*This revised Concept Plan has been continually modified over a 3 year period in response to revised biodiversity offset baseline mapping, feedback from the PAC reports and continuing feedback from State Government Agencies and Council. The revised flood impacts have also seen significant reworking of the layout plans. The proposed layout plans have been discussed extensively with all relevant government authorities, and has had the benefit of being informed by two alternative PAC reviews of an earlier, but very different Concept Plan and Project Application on this site. It has been updated significantly in response to the most recent comments received and carefully negotiated agreements.*

*The Concept Plan represents an efficient and effective response to site constraints, and has been demonstrated to achieve a maintenance or improvement of environmental values, post development. The proposal consists not only of the proposed development, but extensive commitments to biodiversity offsets beyond the boundaries of the site.*

*The proposed Concept Plan seeks to develop only 32.9% of the Riverside site for urban development, in addition to a further 13.5% of the site which will be utilised for water management and open space recreation. 53.6% of the site (113.9 Ha) will be set aside in perpetuity for conservation and managed under a conservation agreement. More than half of this conservation area is land that is already zoned for urban uses, being returned to conservation. In addition to this onsite arrangement, there is a requirement to acquire and permanently conserve more strategically located habitat 'off-site' and managed within a further conservation agreement. The retirement of residual offsite biobank credit purchases will see a no net loss goal achieved.*

*The water management system for the site is based on sound proven principles, and is able to be developed in proportion to development. It has been demonstrated to protect downstream environments.*

*The Riverside site has long been a key component of the growth strategy for Tea Gardens, and the Great Lakes area. This proposed compact and efficient development footprint will help to realise this growth whilst protecting and enhancing key ecological assets both on and around the site, and within the region.*

## **1. INTRODUCTION**

### **1.1 Background**

The Department of Planning (DoP) appointed an Independent Hearing and Assessment Panel (IHAP), which was subsequently modified to the Planning and Assessment Commission (PAC), to undertake an expert review of the proposed development. The terms of reference of the PAC were focused on the review on two main areas: the ecological constraints of the site and the hydrological issues associated with groundwater, the SEPP14 wetland and flooding.

The PAC could not reach a unanimous view on recommendations concerning the ecological constraints of the site, and subsequently issued two reports, one being a majority report, the other a minority report. The PAC submitted its reports to the DoP in July 2009. The PAC concluded in its majority report that the vegetation mapping contained within the EAR was “grossly deficient” and that it was “not possible to define the boundaries of the endangered ecological communities and threatened species habitat with certainty”. The PAC strongly suggested that new vegetation mapping and fauna habitat mapping be undertaken with any revised proposal so as to properly inform any impacts upon the site and required mitigation measures.

The majority report issued a plan that indicated a developable footprint and that is represented in Figure 1, together with the proposed layout for the Riverside Project.

The Minister for Planning then determined the Concept Application with a different footprint and that is contained in Figure 2, again with the proposed layout for the Riverside Project as an additional layer.

### **1.2 Outline of Project**

#### **1.2.1 Site Description**

The Riverside at Tea Gardens site (‘the site’) comprises Lot 10 DP 270100, Lot 19 DP 270100, Lot 40 DP 270100, part Lot 1 DP 270100 and part Lot 9 DP 270561 is approximately 212.53 hectares in area. The site is bounded by Myall River to the east and Myall Street to the west. The Shearwater Residential Estate lies to the north of the site and residential development of Tea Gardens is to the south. The site has approximately a one kilometre frontage to Myall Street and two kilometre frontage to the Myall River. State Environmental Planning Policy No. 14 – Coastal Wetlands (SEPP 14) applies to wetlands within a portion of the eastern boundary of the site adjacent to the Myall River. These wetlands were clearly identified along with a buffer to the wetlands and zoned for environment protection when the site was rezoned in 2000.

The site is flat with generally sandy soils. The majority of the site was previously used for a pine plantation and has been substantially partly cleared of native vegetation. Some scattered isolated occurrences of both pines and natives currently exist on the site

#### **1.2.2 Project Description**

Riverside at Tea Gardens will include a residential layout for the site. Approximately 32.9% of the site is proposed to be developed for urban uses, the remaining 67.1% will be set aside for conservation, water management, open space or recreational uses.

The subdivision will occur under Community Title, as part of the existing approved Community Title residential development, or a new Community Scheme.

The key elements of the overall concept plan include residential development of the site which will include the potential to create approximately 805 dwellings.

Other elements of the proposed work include water sensitive urban design (WSUD) measures; open space / wildlife movement corridors; environmental protection areas; drainage reserves and large parks; upgrading of intersections and associated road works; access from Toonang Drive and Myall Street; an internal road network; and associated landscaping and infrastructure works.

The Overall Landuse Plan and amended PPR Concept Plan with indicative staging for Riverside at Tea Gardens is provided in Figures 3 and 4.



Figure 1- Majority PAC Report Developable Footprint with PPR Layout

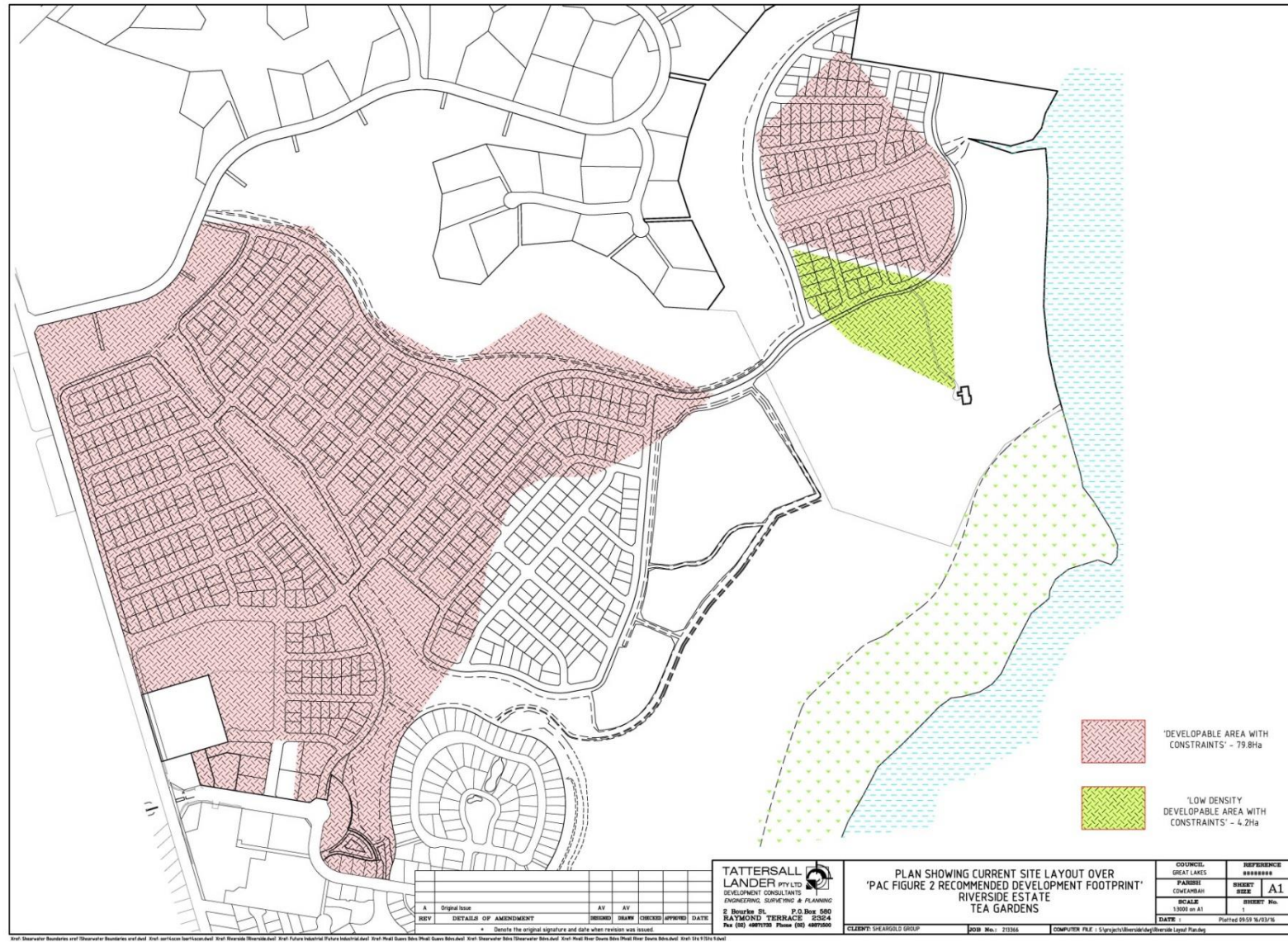
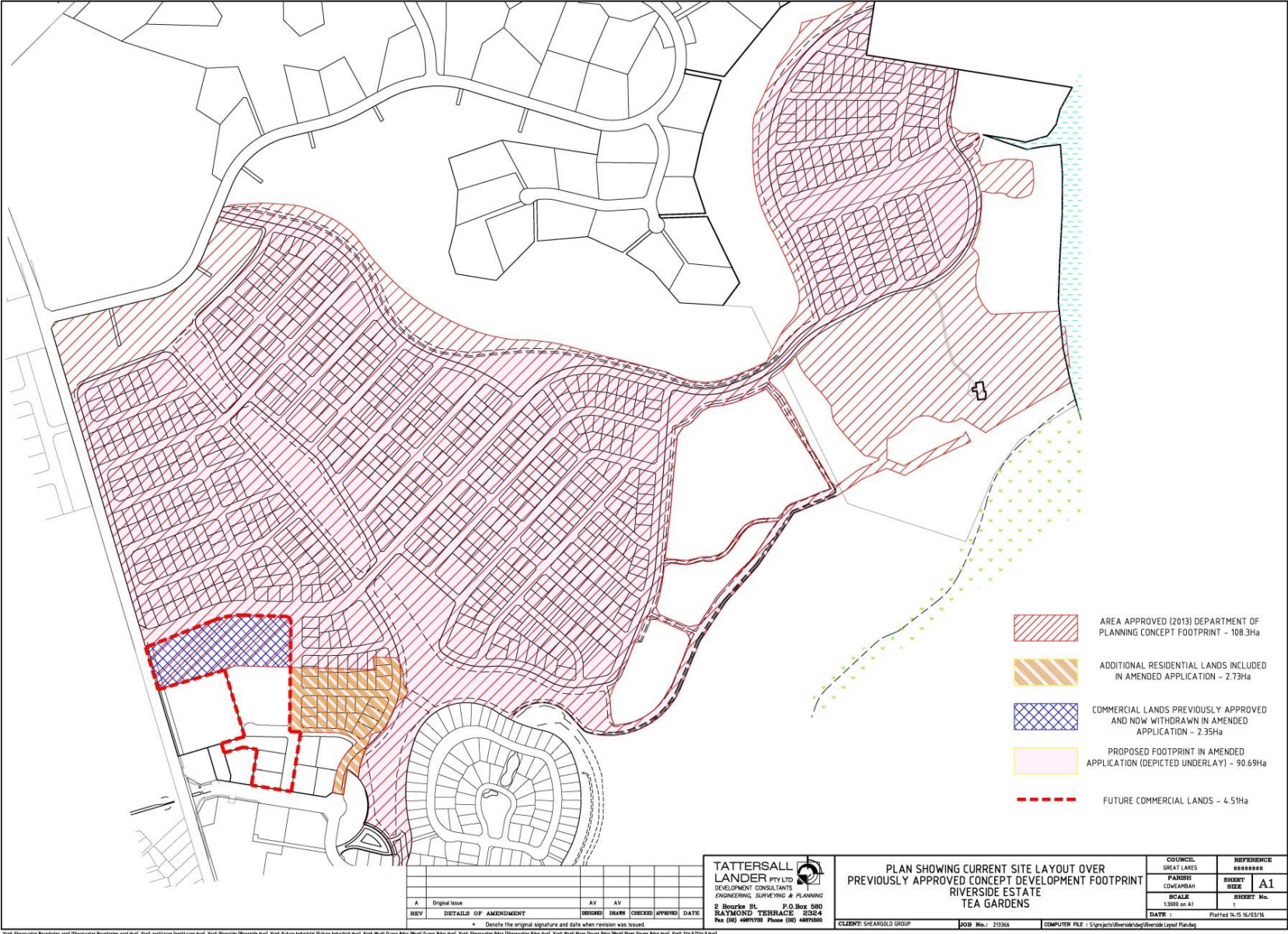




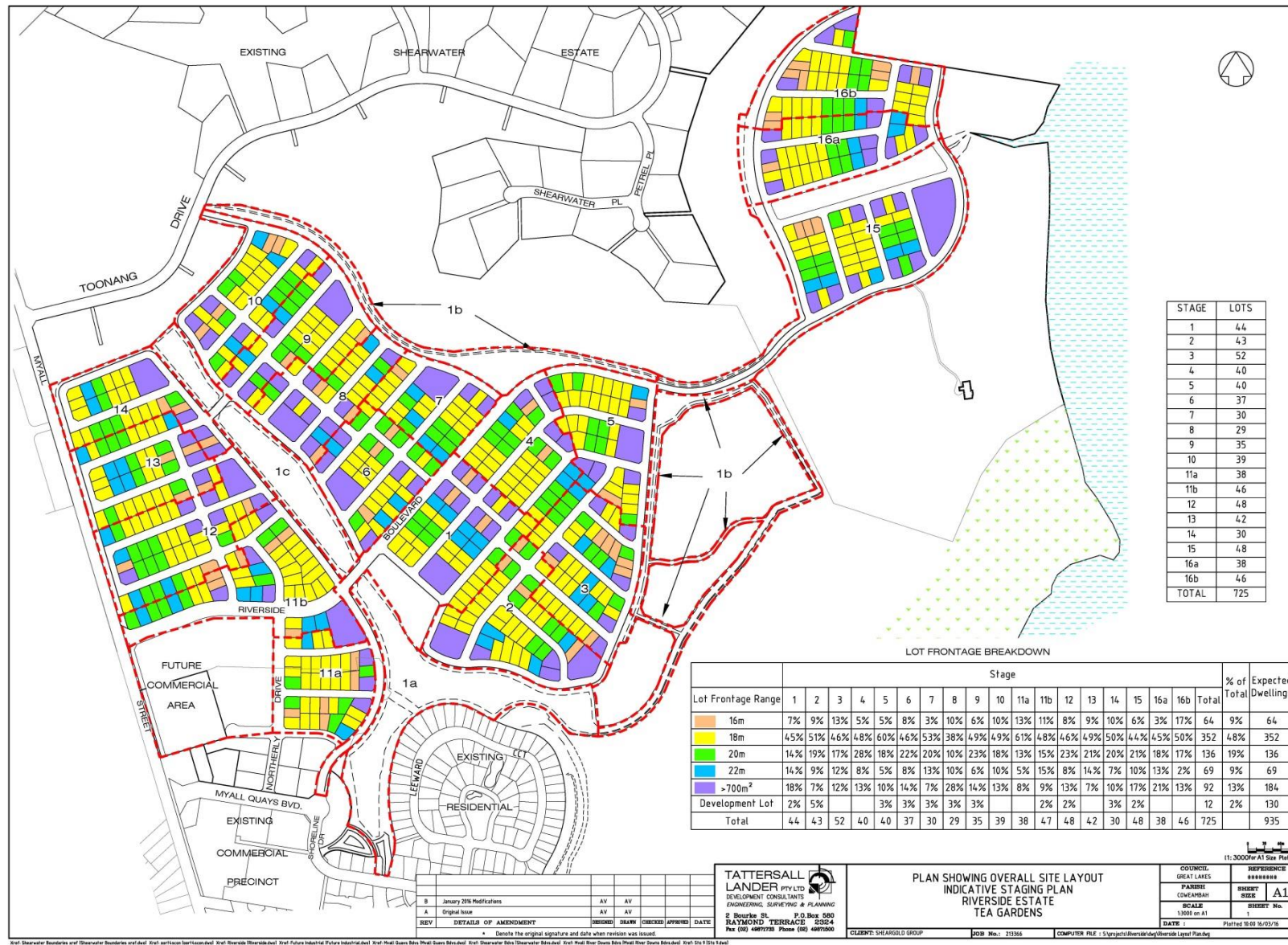
Figure 2- DoP Concept Plan Approved Developable Footprint with PPR Layout





[illegible]

Figure 4 – Amended PPR Concept Plan layout including indicative Staging



## 2. PREFERRED PROJECT

### 2.1 Introduction

Following consideration of the issues previously raised by government agencies, Council and the local community, a number of amendments have been made to the project to further minimise any potential negative environmental impacts and enhance the creation of sustainable urban outcomes. These amendments are discussed in detail in the following pages. The amendments are also described in respect of the way in which they have addressed the issues raised by the PAC in its July 2009 report(s) and how these relate to the PAC suggested footprint.

### 2.2 Proposed Amendments to the Project

The project has been amended as follows:-

- A series of amended Concept Plans are attached as Annex A and these include amended plans for:-

RC 01	Context
RC 02	Site Analysis
RC 03	Concept Layout
RC 04	Transport & Access
RC 05	Street Hierarchy
RC 06	Open Space Network
RC 07	Staging
RC 08	Community Title Structure
- The overall development footprint from the DoP approved Concept Plan (inclusive of both the development area and water management area) has been reduced by a total of 17.61 Ha. This amendment has been made in order to enhance biodiversity outcomes on the site and to achieve all of the Koala credits onsite. It should be noted that this represents a reduction of the development footprint of 43.71 Ha from the proposal which was lodged in 2009 and assessed by the PAC. The footprint has effectively been retracted on all edges that front ecological corridors, refer Figure 2.
- The eco-tourist precinct has been deleted.
- The surface water management concept for the site has been redesigned as per the previous, peer review consultant, BMT WBM requirements. The revised water management system focuses totally on 'at source' treatment and infiltration. A final and detailed whole of development Integrated Water Cycle Management Strategy has been completed and is attached as Annex B.
- The PPR layout now has 16 stages, refer Figure 5 and Annex A, and it is to be noted that the staging is not intended to be a sequential arrangement as market acceptance will be the driving force for the long-term development of the land.
- In conjunction with the development of Stages 2-5, it is proposed to undertake bulk earthworks in stages 15 and 16 to win fill material for the development of these initial stages, refer Figure 6, for an indication of the intended movement of fill material around the site. Stage 1 and the proposed embankment and drainage corridor works are effectively a cut fill



operation and the Bulk Earthworks Table associated with Figure 6 confirms this arrangement. Stages 2-5 require the importation of fill and logically this will be sourced from the adjoining Stages 15 and 16 where additional sand fill over and above the design surfaces exist. Stages 15 and 16 will be future development stages that will be fully stabilised to ensure a zero impact on adjoining biodiversity lands and the Myall River. It is expected that all bulk earthworks for the future development of Stages 15 and 16 will be undertaken at this initial stage so that the construction of roads and services will not disturb the overall residential lot surface that will be created. Figure 7 is a Cut and Fill Plan that indicates the specifics of the engineering designs.

- An area of 9.94 Ha has been withdrawn from the Concept Plan, refer Figure 3, at the northeast part of the project and fronting the Myall River. This site will be the subject of a further tourist based Application that is being considered by Sheargold.
- A Riverside Walk has been proposed to traverse the eastern part of the site and to link up with the Marine Street cycleway to the south and North Shearwater in the north. RC 04 in Annex A shows the indicative location and it should be noted that a separate Development Application for this facility will be made in conjunction with the roll out of the residential component of the Riverside Project.
- There has been significant discussions with Council about the treatment of Myall Street and in particular the arrangements with respect to the intersections at:-
  - Toonang Road
  - Riverside Boulevard
  - Myall Quays Boulevard

The two proposed intersections have been redesigned with Myall Street now remaining as a two lane road. The individual signalised intersections are now a Section 94 Contribution item and Riverside Boulevard will be physically designed and constructed to allow a simple retrofit for a signalised intersection to be inserted at some time in the future. Details of the arrangements are contained in Figures 8-10.

Figure 8 provides the relevant details for the agreed intersection treatments and in particular the lane configuration and proposed works to allow for these intersections to be signalised when the traffic volumes require that level of service. An amended Traffic Impact Assessment from Seca Solutions has been prepared to support the proposed changes and is attached as Annex C. It should be noted that Myall Street will generally remain as existing and that the previous 4 lane option for part of Myall Street will not proceed.

- A Revised Biodiversity Offsets Package, refer Annex D has been completed with significant OEH involvement. The assessment has provided significant advice for the reorganisation of the Concept Layout and has organised that all Koala credits will be provided onsite.
- An amended Bushfire Management Plan (BMP) has been prepared for the amended layout and it has incorporated all the required interim and final Asset Protection Zone (APZ) requirements for the future roll out of the entire project. This BMP has been attached as Annex E. This BMP confirms that no part of the required APZ's extend into the Conservation Zone.
- A final Cultural Heritage Management Plan (CHMP) for the management of all cultural heritage for the whole of the site has been completed. This CHMP is attached as Annex F

## **2.3 *Proposed Amendments to Schedule 2 Requirements***

### **2.3.1 *General Amendments***

- Amend Schedule to acknowledge the attached PPR Layout Plans and amended staging arrangements (A1 & A2)
- Amend Schedule to acknowledge the PPR (A3).

Specific amendments to the following sections:-

### **2.3.2 *Limits of Approval (A5)***

Clause 3 – Removal of all reference to Phase 1-3 in accordance with the proposals incorporated in this PPR.

Clause 4 – Delete.

#### **Part B – Modifications to the Concept Plan**

### **2.3.3 *Development Footprint (B1)***

Eco-tourist precinct is not proceeding – delete condition.

### **2.3.4 *Domestic Animals (B3)***

Remove the condition. The keeping of cats and the control of feral animals is adequately addressed in the Environment Management Plan (EMP) contained in Annex G. The current edge of development that exists in the residential areas to the south and north of the project area already contains many domestic cats. The issue of feral cats is acknowledged, however the EMP has described a full suite of measures that will actively remove the potential threat from this domestic arrangement.

### **2.3.5 *Existing Water Basins (B4)***

Delete condition, the issue of the basins will be addressed with Council in the initial Development Application.

### **2.3.6 *Intersection Upgrades (B5)***

The issue of the intersections is addressed in Section 2.4.8 below. The TIA, refer Annex C, has confirmed that the whole of the project can utilise the existing Myall Quays Boulevard intersection but in any event the intersections have now been incorporated into Council's Section 94 Contribution Plan. The timing of works in relation to the development is a matter for Council. Removal of the condition is recommended.

### **2.3.7 *Earthworks (B6)***

This matter is specifically addressed in 2.2 above and it is requested that this condition be deleted.

## **2.4 *Proposed Amendments to Schedule 3 Requirements***

#### **2.4.1 General Amendments**

- Amend Schedule to acknowledge the attached PPR Layout Plans and amended staging arrangements.
- Update Schedule to include the relevant zones and controls within Great Lakes Council LEP 2014 & DCP 2014.
- Remove all reference to:-
  - Koala Management Strategy
  - Stormwater Concept Plan(C8)
  - Groundwater Management(C8)
  - Cultural Heritage Management Plan (C14)
  - Vegetation Management Plan
  - Feral Animal Management Plan
  - Threatened Species Management Plan
  - Flooding and Climate Change (C9)
  - Bushfire Assessment (C11)

as the relevant final Plans and documentation is attached to this report.

#### **2.4.2 Acid Sulphate Management Plan and Geotechnical Assessment (C7 and C10)**

Reference is made to the attached Geotechnical Assessment by Martens & Associates and attached in Annex H. The assessment is specific and addresses the geotechnical issues and provides the relevant advice to manage development risks.

It is requested that C7 and C10 be rewritten to acknowledge that this report addresses the geotechnical risks and that all future work be within the framework of this report.

#### **2.4.3 Contamination Assessment (C13)**

A Phase 1 Contamination Assessment was undertaken by ERM in 2010. The findings of that report are both logical and consistent with past practices on the land. The report assessed the following conclusions:-

- the site was assessed as being free of potential contaminants or past and present contaminating activities likely to have a significant adverse impact on human health or the environment;
- the site, although disturbed in parts by former use as a commercial pine plantation, is currently free from development;
- no evidence of former development was noted; and
- as the site is largely uncontrolled it cannot be discounted that illegal dumping of potentially contaminating materials has occurred, however based on the information reviewed it is considered that the potential for such dumping is low.

Potential for existing site contamination therefore is considered to be low and if encountered, contamination is likely to be limited in extent to localised zones within the site. Therefore the site is considered to have low potential to adversely affect human health or the environment either on surrounding properties or local receiving waters. The Phase 1 ESA undertaken for the Riverside at Tea Gardens site did not identify any significant potential for site contamination. The site is therefore considered suitable for the proposed development.

In relation to the above and the ESA report itself and its conclusions, the following is considered relevant:-

- The project area has seen the construction of the immediately adjoining Myall Quays Lake which is acknowledged by both the local Fisheries and the Marine National Parks as being a superior breeding ground for estuarine fishes. This situation is fairly unique within NSW and is a testament to the pristine conditions of the surrounding landuses and stormwater management controls within the existing development. The lake itself has had a history of monitoring to show that it is a healthy aquatic environment.
- The whole of the land has been generally locked away with perimeter fencing and locked gates from any illegal dumping since the early 1990's when the remnants of the pine plantation were cleared.
- The site is and has been generally and routinely slashed and inspected on a regular basis for over 25 years so that any possibility of previous activities would have been uncovered and actively addressed.

It is respectively requested that the previously submitted Phase 1 ESA has adequately dealt with the possibility of any site specific contamination and in accordance with the relevant OEH Guidelines, a Phase 2 Assessment is not warranted or justified.

#### **2.4.4 Land Zoned E2 (C14)**

The management of the previously identified E2 lands has been incorporated into the Biodiversity Conservation Lands and the attached Environmental Management Plan (EMP), refer Annex G addresses all relevant matters with the management of these lands. It is the intention of Sheargold to have this EMP adopted with the initial Development Application for the development and the Biodiversity Lands are being discussed with Council with a view that Council will administer these lands. It is recommended that this condition be deleted.

#### **2.4.5 Tourist Precinct (C15)**

To be deleted.

#### **2.4.6 Sewer and Water Supply (C17)**

Condition is generally irrelevant as it is a requirement of Council that all lands will be appropriately serviced. The Development Application process with Council will trigger relevant clauses to ensure that appropriate servicing is undertaken. It should be noted that MidCoast Water are required to sign any Development Application and to issue relevant conditions to Council for inclusion in Notices of Determination.

Recycled water is no longer a requirement of MidCoast Water and a copy of the confirmation letter is included as Annex K.

#### **2.4.7 Road Traffic Noise Impact Assessment**

It is suggested that this requirement is generally irrelevant. The entire road arrangements will be systematically changed by Council so that the full frontage of Myall Street will reduce the current speed environment from 80km/hr to 50km/hr. Residential lots will not front or gain access off Myall Street. The distance from any of the 15 lots to the travel lane on Myall Street is between 15.7m and 32.8m and it should be noted that there is

proposed to be a fully rehabilitated landscape area along the full frontage of Myall Street, that will include some mounding and vegetation plantings to ensure that the high quality natural vista is maintained. Only 6 lots are at the shorter distance of ~16m and 9 lots are at a distance of >32.8m.

Given that the distance from the travel lane for the whole of the Myall Street residential lands inside the Village of Tea Gardens is < 10m and in some cases only 7.5m, it is contended that such a noise assessment is both meaningless and a waste of resources.

#### **2.4.8 Roadworks**

##### **2.4.8.1 Myall Street/Myall Quays Boulevard Intersection**

Council has agreed that this intersection geometry will be as per Figure 8 below. Annex M contains that confirmation. The construction and signalisation of the intersection is now a Section 94 Contribution and the installation of the signalisation of the intersection will be a matter that is determined by Council. Further discussions with Council are to be undertaken to determine whether this intersection is a matter for the development or it will be an undertaking by Council. Matters relating to the timing of the intersection and signalisation works have been addressed above.

##### **2.4.8.2 Myall Street/Second Access (Riverside Boulevard) Intersection**

The intersection geometry of Riverside Boulevard has been confirmed by Council and is shown in Figure 9 below. Matters relating to the timing of the intersection in relation to the development staging and signalisation works have been addressed above.

##### **2.4.8.3 Myall Street/Toonang Drive Intersection**

The intersection geometry of Toonang Drive has been confirmed by Council and is shown in Figure 10 below. Matters relating to the timing of the intersection in relation to the development staging works have been addressed above.

##### **2.4.8.4 General**

All Myall Street intersections are now included in the Council's Section 94 Contribution Plans and matters relating to the timing of works and any signalisation works will be in accordance with Council timetables.

#### **2.5 Proposed Amendments to Schedule 4 Statement of Commitments**

Reference is made to the attachment in Annex I and the following specific clarifications are made:-

##### **2.5.1 General Amendments**

- Amend Schedule to acknowledge the attached PPR Layout Plans and amended staging arrangements.
- Update Schedule to include the relevant zones and controls within Great Lakes Council LEP 2014 & DCP 2014.
- Remove all reference to:-
  - Tourist Development (Item 2)



- Telstra (replace with Communications Provider)
- Ownership of Conservation Lands (discussed below)

#### **2.5.2 *Ownership of Conservation Lands (Item 4)***

OEH have confirmed that the ownership of the Conservation Lands can include the Community Association. Since that confirmation, Council has also been engaged and have confirmed that subject to the usual authorisations, the staff of Council positively supports the transfer of the Riverside Biobank Lands, refer Figure 3, to the ownership of Council. A copy of Council's confirmation/position is included in Annex L.

#### **2.5.3 *Acid Sulphate Soils (Item 7)***

The attached Geotechnical Assessment contained with Annex H addresses this matter. Item 7 needs to be written to confirm agreement with this report.

#### **2.5.4 *Ecology (Item8)***

A final Biodiversity Offsets package has been undertaken and is included in Annex D. The package now provides for all of the Koala credits on site and provides the credit requirements for the remaining species. It is proposed that the whole of the Biodiversity Lands will be isolated from the Community Development lot and either transferred to Council as per 2.3.2 above or incorporated into the Community Association Community lands (Lot 1).

#### **2.5.5 *Conservation Lands (Item 9A)***

It is proposed that the Offsite conservation lands will be provided prior to the commencement of the 8<sup>th</sup> Stage of the development. It is requested that this commitment be rewritten to allow the developer to seek a Development Application for the development of the land that contains the latter stages of the project and that any works on that Application be constrained until the offsite biobank lands are secured to the satisfaction of the Secretary. It is suggested that this Commitment be worded so that this constraint be targeted at Council for the issuance of a Construction Certificate for any works on >8<sup>th</sup> stage.

#### **2.5.6 *Conservation Lands (Item 9B)***

It is proposed that the Offsite conservation lands will be provided prior to the commencement of the 8<sup>th</sup> Stage of the development. It is requested that this commitment be rewritten to allow the developer to seek a Development Application for the development of the land that contains the latter stages of the project and that any works on that Application be constrained until the offsite biobank lands are secured to the satisfaction of the Secretary. It is suggested that this Commitment be worded so that this constraint be targeted at Council for the issuance of a Construction Certificate for any works on >8<sup>th</sup> stage. It is noted that if this condition remains as written the developer would need to have the Off-site Offset lands secured, obtain the approval of the Secretary then lodge a Development Application, then seek a Construction Certificate for the development of the project lands. Given the usual delays that would be expected it is not unreasonable to have this initial process to take up to 12 months and this sort of delay is considered both unacceptable and unreasonable.

#### **2.5.7 *Onsite Conservation Lands (Item 10B)***

Condition to be rewritten as per the proposed timing ie as per the creation of Stage 1.

**2.5.8 Offsite Conservation Lands (Item 10B)**

It is requested that this condition be reworded so that the developer can seek a Development Application for latter stages but not commence their development, ie limitations on the issuance of a Construction Certificate, until the offsite credits are secured to the satisfaction of the Secretary.

**2.5.9 Bushfire Management (Item 11)**

Reword condition to accept that the attached BMP, refer Annex E has been completed.

**2.5.10 Aboriginal Management (Items 12 & 13)**

Reword conditions to acknowledge that the Cultural Heritage Management Plan incorporated in Annex F, addresses this issue.

**2.5.11 Water Cycle Management (Item 14)**

Reword condition to acknowledge the Integrated Water Cycle Management Strategy, incorporated in Annex B, addresses this issue.

**2.5.12 Water Quality (Item 15)**

Reword condition to acknowledge the Integrated Water Cycle Management Strategy, incorporated in Annex B, addresses this issue.

**2.5.13 Flooding (Items 16-18)**

Reword condition to acknowledge the Integrated Water Cycle Management Strategy, incorporated in Annex B, addresses this issue.

**2.5.14 Reticulated Services (Item 21 & 22)**

Conditions to be amended and /or deleted as per MidCoast Water confirming that it will not be a requirement for recycled water reticulation, refer Annex K.

**2.5.15 Traffic (Item 25)**

Request that this condition be deleted to acknowledge that the TIA, incorporated in Annex C, addresses this issue.

**2.5.16 Traffic (Item 26)**

Condition to be deleted as this item is now a Section 94 Contribution item and under the control of Council.

**2.5.17 Traffic (Item 27)**

Condition to be deleted as this item is now a Section 94 Contribution item and under the control of Council. Figure 10 provides the Council agreed position.

**2.5.18 Traffic (Item 29)**

Condition to be deleted as this item is now a Section 94 Contribution item and under the control of Council.

**2.5.19 Subdivision Layout (Item 31)**

To be deleted as the layout has already achieved the density levels requested and duplex sites are identified.

The site plan illustrates the layout of the Riverside Estate Tea Gardens. It features a central area divided into 16 numbered lots, with sub-lots labeled 1a, 1b, 1c, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11a, 11b, 12, 13, 14, 15, 16a, and 16b. The plan is bounded by Toonang Drive to the north, Myall Street to the west, and Myall Quays Bvd to the south. Key streets include Shearwater Pl, Retreat Pl, Leeward, and Shoreline Dr. The plan also shows a Future Commercial Area, an Existing Residential area, and an Existing Commercial Precinct. A north arrow and a scale bar (1:3000 for A1 Size Plan) are located in the top right corner.

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
1	Original Issue	AV	AV			
2	January 2016 Modifications	AV	AV			

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PLAN SHOWING OVERALL SITE LAYOUT  
INDICATIVE STAGING PLAN  
RIVERSIDE ESTATE  
TEA GARDENS

COUNCIL	REFERENCE
GREAT LAKES	8888888

PROJECT	SHEET
CONTEMPORARY	A1

SCALE	SHEET No.
1:3000 on A1	

DATE	Printed
16/03/16	16/03/16



BULK EARTHWORKS			
SITE	CUT (m³)	FILL (m³)	NETT EARTHWORK (m³)
<b>RECHARGE BASINS</b>	43,090	1,550	41,540
<b>COLLECTION DRAINS</b>	10,660	1,310	9,350
<b>RESERVE</b>	20,880	460	20,420
<b>DIVERSION BANK</b>	550	21,980	-21,430
<b>DIVERSION BANK</b>	0	18,660	-18,660
<b>STAGE 1</b>	1,480	40,900	-39,420
<b>STAGE 2</b>	770	36,160	-35,390
<b>STAGE 3</b>	10	46,730	-46,720
<b>STAGE 4</b>	0	41,560	-41,560
<b>STAGE 5</b>	350	25,810	-25,460
<b>STAGE 6</b>	0	36,690	-36,690
<b>STAGE 7</b>	0	38,260	-38,260
<b>STAGE 8</b>	0	32,210	-32,210
<b>STAGE 9</b>	120	26,260	-26,140
<b>STAGE 10</b>	3,340	8,800	-5,460
<b>STAGE 11a</b>	80	23,400	-23,320
<b>STAGE 11b</b>	0	51,870	-51,870
<b>STAGE 12</b>	0	69,230	-69,230
<b>STAGE 13</b>	0	45,840	-45,840
<b>STAGE 14</b>	60	27,750	-27,690
<b>STAGE 15</b>	70,760	2,990	67,770
<b>STAGE 16a</b>	56,760	0	56,750
<b>STAGE 16b</b>	27,780	870	26,910
<b>TOTAL</b>	236,690	599,300	-362,610

**BULK EARTHWORKS PLAN**

NOTE: OVERALL NETT VOLUMES ONLY. NO ALLOWANCE FOR TOPSOIL OR IMPORTED MATERIALS SUCH AS ROAD BASE OR BIOFILTER MEDIA.

TATTERSALL LANDSERV Pty Ltd  
COMPUTER FILE : I:\projects\Berrisley\dbs\Battersby.dwg

DATE : 28/03/16  
DATE : 28/03/16

Figure 7 – PPR Cut and Fill Plan

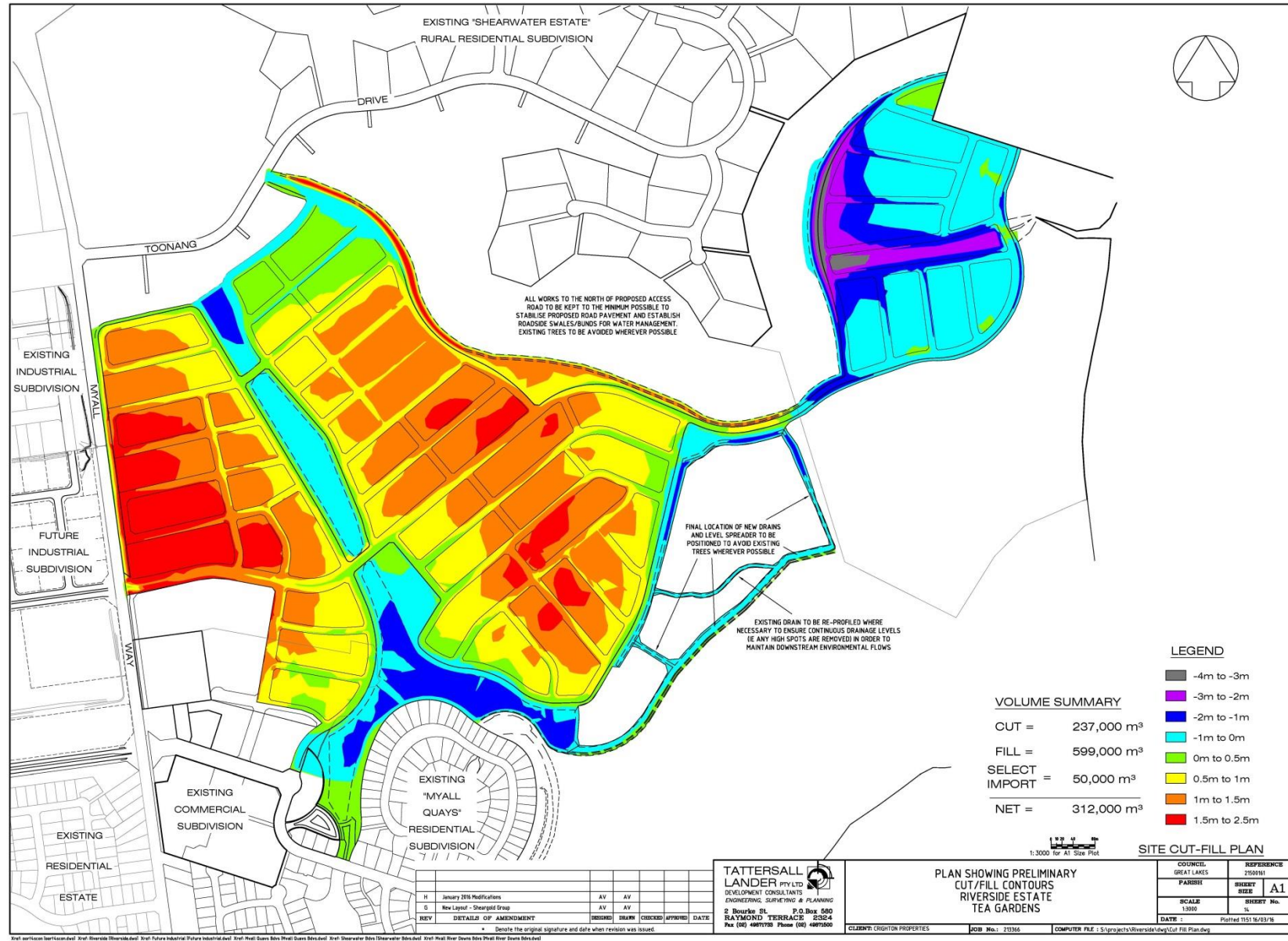


Figure 8 – Proposed Intersection Treatment at Myall Quays Boulevard

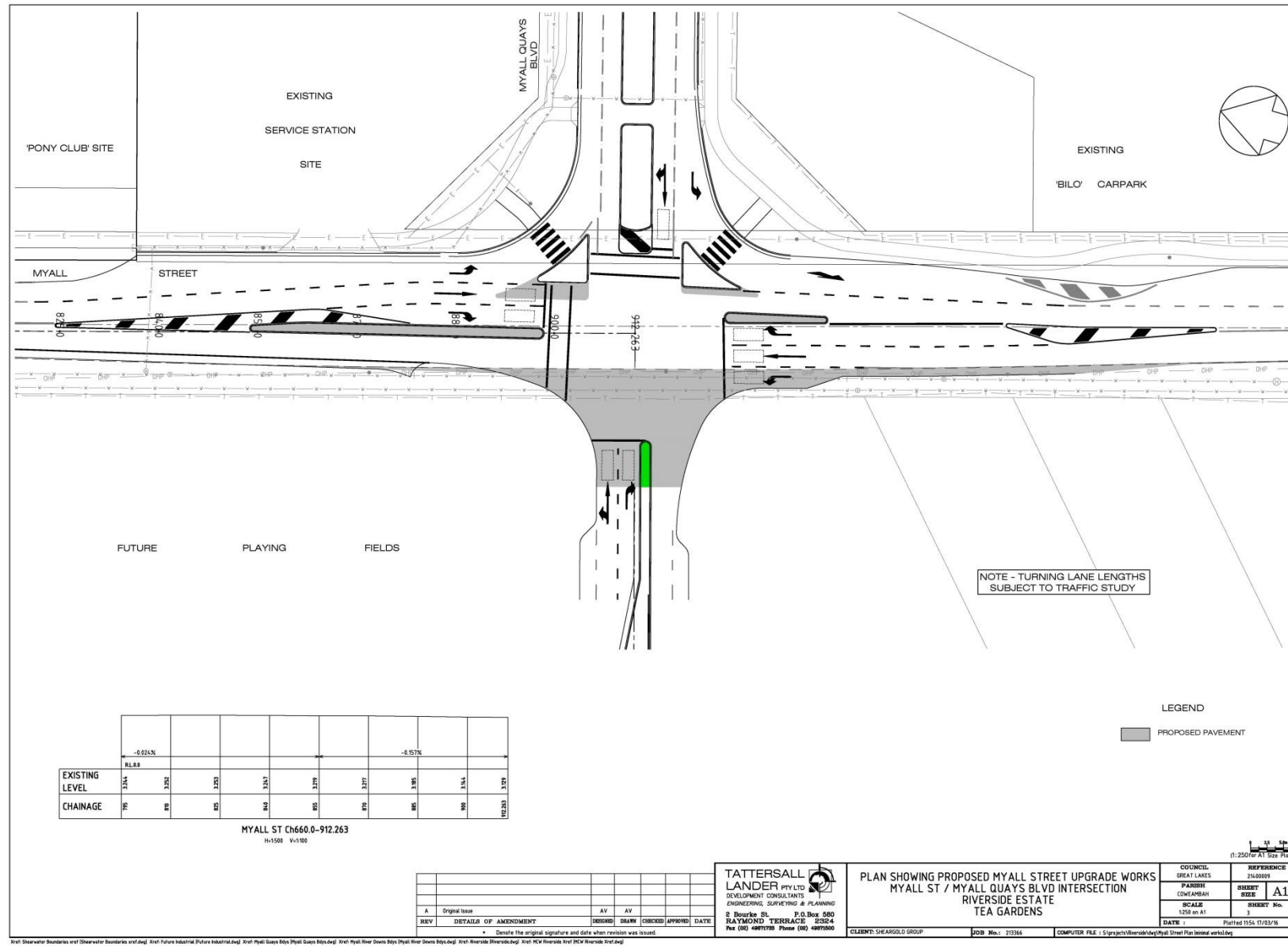




Figure 9 – Proposed Intersection Treatment at Riverside Boulevard

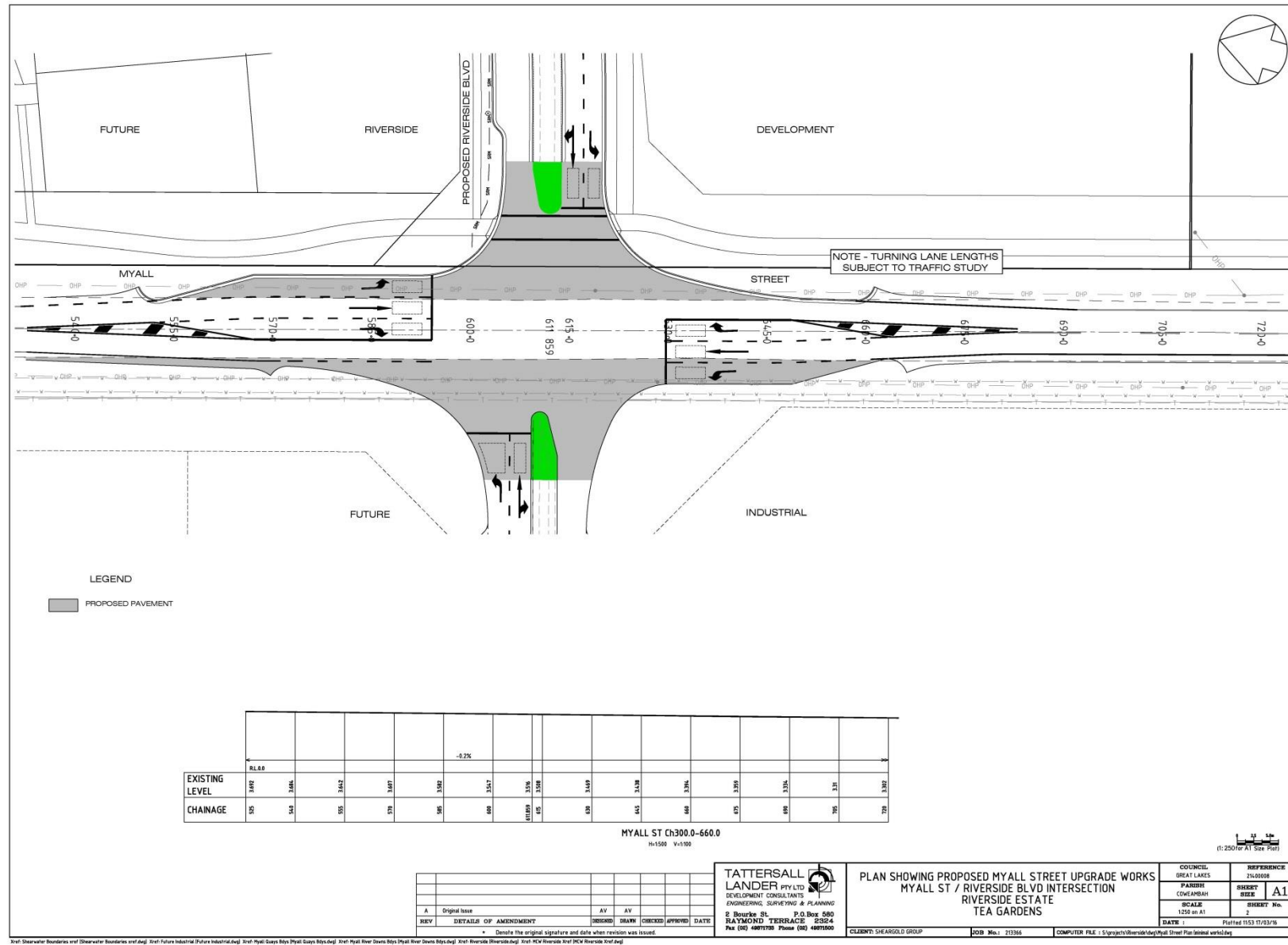
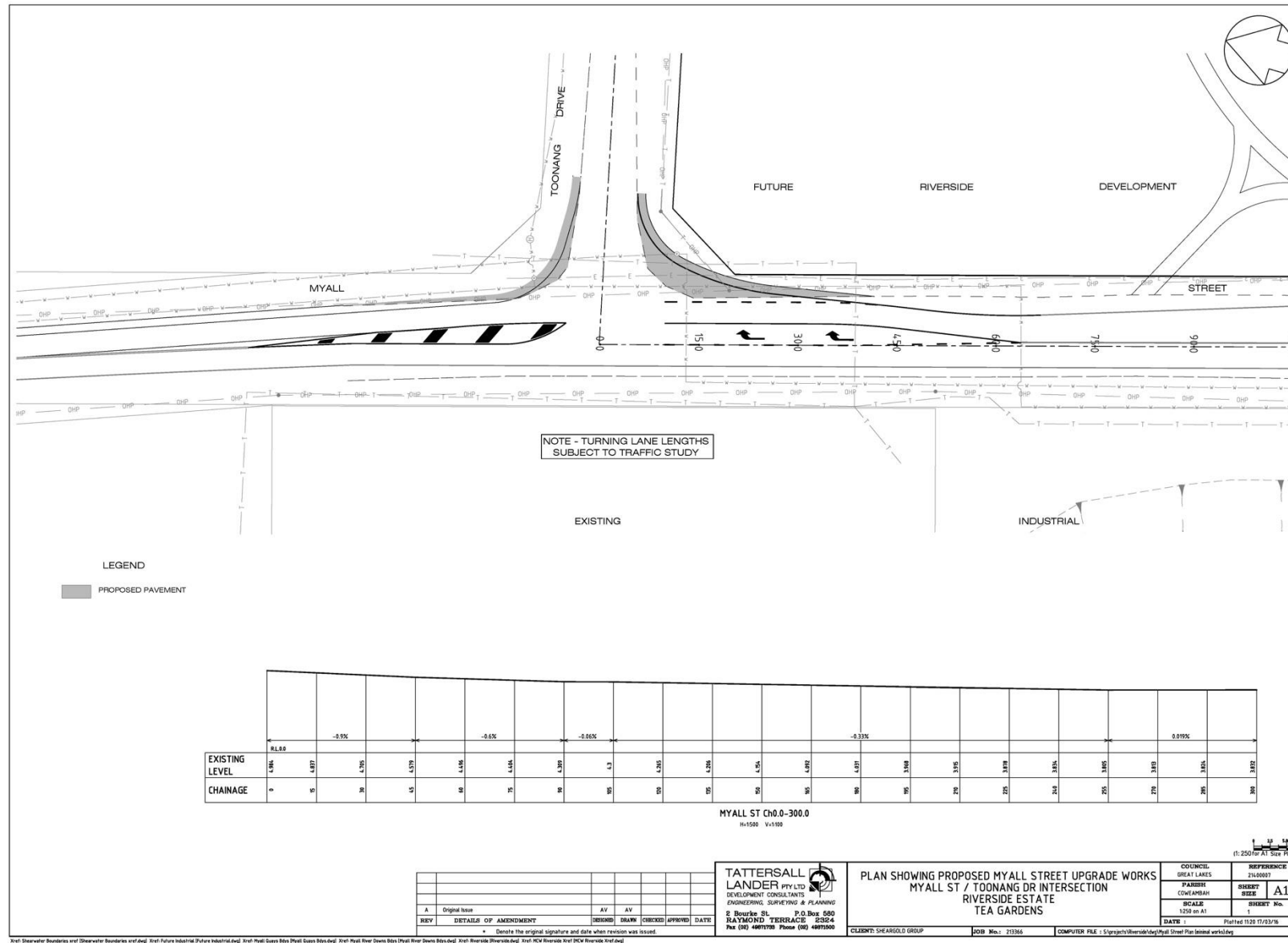


Figure 10 – Proposed Intersection Treatment at Toonang Road





## 2.6 PREFERRED PROJECT

The following provides a more detailed summary of the changes made to the PPR in respect of the key concerns which were raised and describes how they respond to the PAC and agency submissions.

### 2.6.2 Ecology

The PAC was issued with terms of reference that included a focus on matters of ecology and water management. With respect to the ecological constraints, the PAC provided two reports which were presented for consideration by DoPE in response to the Concept Plan (a minority report and majority report). Both PAC submissions suggested that new vegetation mapping and fauna habitat mapping be undertaken with any revised proposal so as to properly inform any impacts upon the site and required mitigation measures. Irrespective of this recommendation, the majority PAC report provided a suggested development footprint based upon the vegetation mapping provided at that time and this is shown in Figure 1 above. The PAC minority report advised against this based on the fact that ecological data (in particularly the vegetation mapping) was inadequate to complete such a task, and instead did not suggest a development footprint.

In response, GHD were appointed and these same consultants were re-engaged to provide advice on obtaining a better ecological outcome. The project has been again substantially amended significantly to reduce the biodiversity impacts on the site and these changes are indicated in Figure 2 above.

GHD were engaged to undertake an amended BioBanking assessment to facilitate the biodiversity assessment of the project. BioBanking was chosen (on the recommendation by OEH) as it is an independent, robust and scientific methodology for assessing a projects biodiversity values, impacts and determining suitable offsets. The BioBanking methodology uses specific ecological data and assigns vegetation types according to specific floristics and habitat features. The PAC had noted that vegetation mapping presented in the 2009 application was inadequate and this was one of the reasons the use of BioBanking was supported by the applicant and then reused to assess the amended PPR layout. This assessment was supported by consultation with OEH to provide an agreed vegetation distribution and condition map for the site (see Figure 3), quantify impacts and confirm applicable offsetting measures. The final vegetation distribution map has since been supported by OEH and has formed the basis of consultation with government agencies to determine the final development footprint.

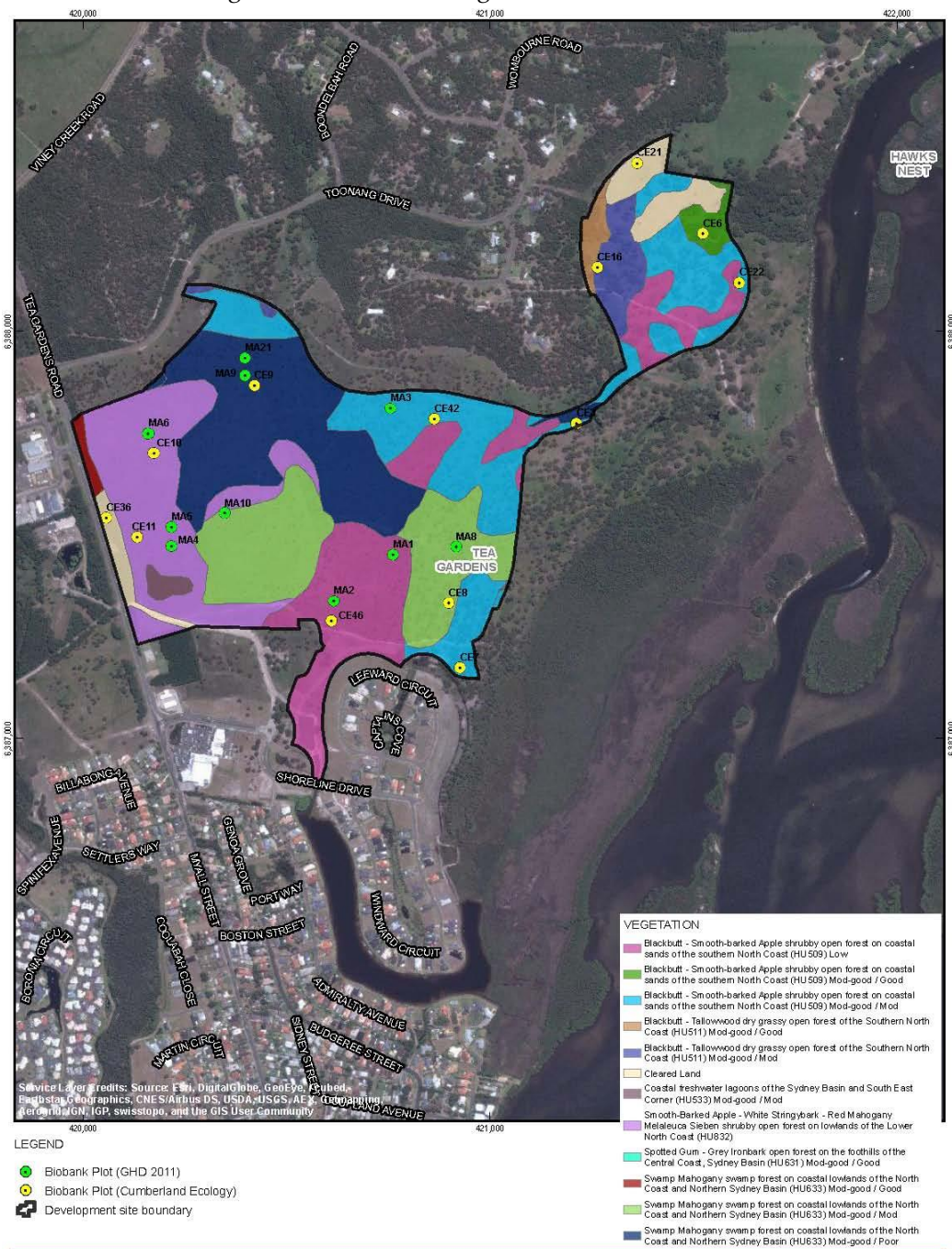
This task was completed in order to help determine a balanced outcome between the level of development and biodiversity conservation at Riverside. The final development footprint has been modified through a staged approach comparing the BioBanking assessment results of multiple site layout options, including consideration of a development footprint recommended by the PAC (shown on Figure 1) and that Determined by the DoPE (Figure 2). The assessments and results which support the final, preferred development footprint for the project are presented in the GHD (March 2016) Riverside at Tea Gardens Biodiversity Offsets Package, refer Annex C.

The approach to the BioBanking assessment was developed in consultation with the OEH BioBanking unit and OEH Hunter Region Biodiversity Officer, Steve Lewer and also after the Commonwealth Department of the Environment (DotE) had requested that all of

the Koala impacts be resolved on site and this report has received in principal support from the OEH. The results of BioBanking calculations for a final, preferred development footprint were presented to OEH during a meeting held at the OEH, Newcastle.

The final BioBanking assessment included revisions to vegetation community and threatened species habitat mapping, refer Figure 11, for the site which were developed in consultation with the OEH.

Figure 11 – Riverside Vegetation Zones



The BioBanking assessment has sought to address PAC concerns in order to better inform the assessment of ecological impacts upon the site and the required mitigation measures as follows:

- revised mapping of vegetation type and condition, threatened fauna habitats and conservation significance;
- detailed assessment of habitat connectivity and requirements for maintaining vegetated corridors;
- assessment of the quantum of biodiversity offsets required for impacts of the project and an offset strategy for delivering these conservation outcomes;
- a staged approach to delivering an appropriate balance between development and conservation outcomes based on a robust methodology; and
- ongoing consultation with OEH to develop a project and an offset strategy that meets all agency requirements.

#### 2.6.2.1 BioBanking Assessment Results

Four potential development site layout options are presented in Table 3 below with the current PPR and the 2012 biobank results compared in the GHD Report. The table compares:-

- the original development footprint based on the 2009 concept plan for the site;
- the proposed PAC boundary development footprint;
- the development footprint, based on a 2012 concept design, which was developed with reference to the ongoing BioBanking assessment, supplementary GHD site survey data, detailed mapping and consultation with agencies to minimise impacts on native biodiversity, and
- The current PPR layout that has sought to minimise ecological impacts and with significant OEH consultation.

BioBanking has been used to estimate the impact of development on biodiversity and the quantum of offsets that would be required to compensate for such impacts arising from the project (see Table 3).

Table 3 Comparison between the Development Footprint Options: Credits Required and BioBank Credits Contribution.

Detail	Final Development Footprint PPR	DoPE Approved Development Footprint 2012	PAC Development Footprint	Original Development Footprint
Developable Area (Ha)	96.1	101.77	73.66	114.64
Ecosystem Credits Required	2169	2882	2151	3281
Biobank Area (Ha)	113.86	107.35	119.18	66.86
Ecosystem Credits Generated	924	847	949	611
Ecosystem Credit Balance	-1245	-2035	-1202	-2670
Koala Population Species Credits	40	-269	145	-734
Wallum Froglet Species Credits	-267	-405	-224	-572

Note (1) The final development footprint is 30.5% larger than the PAC footprint but includes all of the stormwater structures through the conservation lands that will feed water to the groundwater dependent EEC's in the east of the project. The actual residential area of the site is 69.99Ha

The final development site layout was identified based on consideration of the biodiversity credit requirements for development impacts and the biodiversity credits generated by conservation of on-site BioBanks. The preferred development layout presents a considerable reduction in biodiversity impacts from the original and 2012 site layout and Table 3 clearly indicates that the biodiversity credits from the PPR Layout and the majority PAC layout are fairly closely aligned. Any further reduction would only impact on lower quality habitat, consume greater areas of land and the resultant reduction in lot yield would impact the viability of the project such that it would potentially be compromised.

Figure 1 presents a comparison between the final and PAC site layouts, including areas of development outside the PAC boundary of the recommended development footprint and areas that would be conserved within the PAC recommended development footprint.

The key areas of variation between the final and PAC recommended development footprints highlighted on Figure 12 are:

- Area 1- development outside the PAC boundary development footprint, comprising residential development in the east of the southern development parcel. The suggested development footprint contained within the majority PAC report, suggested that this area remain undeveloped. It is clear that this recommendation was based upon 3 key constraints:

The presence of vegetation in this area (*Eucalyptus Robusta*) which was originally mapped (2009) as the "Swamp Sclerophyll on Coastal Floodplain" EEC. Subsequent mapping (by Cumberland Ecology and GHD has confirmed it to be Swamp Mahogany swamp forest on coastal lowlands and Blackbutt - Smooth-barked Apple in shrubby open forest) has questioned EEC mapping on the site. It should be noted that its definition of EEC or otherwise makes no difference in consideration of impacts utilising the BioBanking methodology. Of greater importance is the fact that the vegetation in this area is degraded, with the mid storey removed and the lower storey impacted by introduced pasture, due to continual impacts from grazing and slashing. GHD's revised mapping has determined that the vegetation in this area is in generally a 'moderate' condition, and has no greater biodiversity values than many other areas on the site proposed for development.

The presence of hollow bearing trees scattered throughout this area – particularly in the East. Proposed development in this area has been reduced. In doing so, through careful design, all but two of the identified hollow bearing trees are able to be maintained within the proposed conservation area. The trees to be impacted are isolated trees some distance from the existing conservation areas, and will be offset with hollows augmented within the offsetting package.



The site plan illustrates the layout of the Riverside Estate Tea Gardens. It features a large area shaded in light blue, representing the 'Developable Area with Constraints' (79.8ha), and a smaller area shaded in light green, representing the 'Low Density Developable Area with Constraints' (4.2ha). The plan is divided into numbered sections (1-8) and includes a legend in the bottom right corner. The plan is titled 'PLAN SHOWING CURRENT SITE LAYOUT OVER 'PAC FIGURE 2 RECOMMENDED DEVELOPMENT FOOTPRINT' RIVERSIDE ESTATE TEA GARDENS'.

**LEGEND:**

- 'DEVELOPABLE AREA WITH CONSTRAINTS' - 79.8ha
- 'LOW DENSITY DEVELOPABLE AREA WITH CONSTRAINTS' - 4.2ha

**PLAN SHOWING CURRENT SITE LAYOUT OVER 'PAC FIGURE 2 RECOMMENDED DEVELOPMENT FOOTPRINT' RIVERSIDE ESTATE TEA GARDENS**

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 2 Bourke St, 7/3 New St  
 RAYMOND TERRACE, 2024  
 Ph (06) 44011703 Fax (06) 44011800

**CLIENT:** SHEARWOLD GROUP **JOB No.:** 20304 **COMPUTER FILE:** C:\projects\shearwold\Riverside Layout Plan.dwg

COUNCIL: GREAT LAKES		REFERENCE: A1
PROJECT: COMEAMBAH		REVISION: 1
SCALE: 1:1000 (as AT)		DRAWN BY: J
DATE: 11/10/2016		PLOTTED BY: J

\* Denote the original signature and date when revision was issued.

Part of this area was identified as Wallum Froglet Habitat. This area of habitat was small in size and fragmented from the much larger areas of Froglet Habitat in the east (which are proposed to be conserved). In addition, the proposed new Water Management Strategy which relies on large areas of new forested infiltration zones has the potential to provide new froglet habitat opportunities through time, with far greater connectivity to existing higher quality habitat to the east.

In consideration of these constraints and proposed development response, development in this area would maintain a suitable environmental corridor along the eastern portion of the site and associated biodiversity values as agreed with OEH. It should be noted that the corridor is at its southern extent at this location. Historical records and the relative sparseness of the feed tree Swamp Mahogany (*Eucalyptus robusta*) suggest that the value of this area for Koalas (*Phascolarctos cinereus*) would be limited. It is argued that within the current PPR Layout plan (which represents a 70% reduction of development in this area, it would be appropriate to develop this area as proposed and include an alternative biodiversity offset off site in better condition and location as part of the offset package;

- Area 2 – Previously part of the Tourist development site (partial vegetation removal and development) within the PAC boundary development footprint. Revised vegetation mapping defines the area as low quality Blackbutt - Smooth-barked Apple. The suggested development footprint was contained within the majority PAC report, and the area contains no habitat trees.
- Area 3 - development outside the PAC boundary development footprint, comprising residential development in the northern portion of the study area. Vegetation in this area has a largely degraded/absent lower and mid storey. The development layout in this area has considered the rezoning plans to the immediate north and has maintained vegetated corridors that are at least as wide as those outside the site to the north. Restricting development in this area would not provide the biodiversity outcomes previously anticipated due to the residential development proposed to the immediate north. In addition, perimeter roads in these locations have been designed to connect with / service development to the North (this is a requirement of the GLC DCP);
- Area 4 – drainage corridor and recharge basin with general vegetation removal outside the PAC boundary development footprint. This area would contain facilities to support the groundwater dependent ecosystems to the east. This area is largely devoid of native vegetation. The development will seek to replace cleared vegetation with additional plantings proposed.
- Area 5 – Additional conservation as an on-site BioBank within the area proposed for development by the PAC footprint. The final development footprint includes this area for conservation as a biodiversity offset as it has higher biodiversity values than land in location 1, particularly in relation to native species richness in the lower storey. Conservation of this area would also maintain a wider east-west

vegetated corridor than that proposed by the PAC to assist fauna movement it is also instrumental in redirecting the corridor toward the areas of greatest biodiversity value as explained in Area 1 above.

Increasing the width of this corridor was considered important by relevant government agencies; and

- Area 6 – Additional conservation as an on-site BioBank within the area proposed for development by the PAC footprint. The final development footprint includes this area for conservation as a biodiversity offset as it has higher biodiversity values than land in other locations. The vegetation in this area is Swamp Mahogany swamp forest on coastal lowlands and its preservation has allowed the development to address all Koala credits on site. The increase in the corridor width in this location also has positive ecological benefits.

Conservation of this area would also maintain a wider east-west vegetated corridor than that proposed by the PAC to assist fauna movement and it is also instrumental in redirecting the corridor toward the areas of greatest biodiversity value as explained in Area 1 above.

- Area 7 – An area of development that has now been withdrawn from the PPR. This site was included by the PAC and in discussions with Council has been identified as having a Commercial focus with its direct operational location adjoining the Myall Quays Shopping Village and major access roads to the development.
- Area 8 – An area that was included as part of a reduced development capacity within the PAC footprint and was part of the previous eco-tourist area. This eco-tourist concept has been withdrawn and this area of good condition variable vegetation types that includes Swamp Mahogany has been returned to the Bio-Bank area.
- Area 9 - An area that was included as part of a reduced development capacity within the PAC footprint and was part of the previous eco-tourist area. The area is now withdrawn from the PPR Layout.

This BioBanking assessment has been able to realise a more efficient development footprint while achieving economies in the number of biodiversity credits required by concentrating development in poorer condition vegetation; the preferred development footprint is 30.5% larger than the PAC development footprint but would result in an 8% increase in the number of ecosystem credits required.

For the development footprint options considered, there is an overall biodiversity credit deficit i.e. an additional off-site BioBank site(s) would be required to compensate for biodiversity impacts of the project. Koala credits are positive.

### 2.6.3 *Justification of Final Development Layout*

The final site layout is considered the most appropriate balance between development and conservation outcomes for the study area based on the following:

- a reduction in the credit impact of 1425 ecosystem credits when compared to the original development footprint due to additional avoidance measures adopted by the project since this time, including:
  - removing development proposed in areas of higher value vegetation in the east, central and northern parts of the site and adding these lands to the proposed onsite BioBank; and
  - reducing the development scale in the north of the site and providing additional lands for conservation, which would maintain the east-west vegetated corridor at a minimum width of 200 m throughout, and directing the corridor to secure the preferred biodiversity outcomes.
- Provision of a minimum 410m wide corridor along the Myall River.
- achieving economies in the number of biodiversity credits required by concentrating development in poorer condition vegetation as shown by:
  - an overall ratio of 31.0 credits per hectare for the proposed development footprint, versus; and an overall ratio of 29.2 credits per hectare for the PAC development footprint.
- The development footprint considers the distribution of over-cleared vegetation types on the site. Some areas proposed for development within the PAC boundary impacted on over-cleared landscapes while conserving areas of vegetation of a lesser conservation status (this is understandable given the shortcomings of the original vegetation mapping carried out for the site – as identified by the PAC). The final development footprint would:
  - concentrate development in locations where existing vegetation is in poorer condition while including those areas of biodiversity values within the proposed environmental corridor network and an on-site BioBank; and
  - reduce the development area along the east-west corridor (referred to as Areas 5 & 6 on Figure 12) to maintain a wider corridor than that proposed by the PAC.
- the proposed BioBank includes all vegetation types being impacted within the development footprint. This ensures that all ecological resources removed by the development would be conserved on site in some capacity;
- the proposed BioBank would generate a credit for all nine of the vegetation types in the study area, including a credit surplus for three of the four over cleared vegetation types present in the study area;
- the largest offset deficit is with respect to *Melaleuca sieberi* - Tall Sawsedge closed shrubland. The majority of the affected vegetation is in moderate or low condition and has been degraded by tree removal and grazing;
- the proposed final development/conservation footprint provides:
- an ‘east-west corridor’ of a minimum 200 m wide ensuring suitable connection of the conservation lands in the east of the development to areas of high conservation value to the north and west. This is one of the key differences between the PAC and final development footprint and the provision of this corridor has been supported by OEH, DotE and GLC;



- a minimum 410 m wide corridor along the Myall River in the east of the site through until the cleared area of the north-eastern corner; and
- the PAC minority report referenced wildlife corridors as a key consideration in establishing a development footprint. This has been recognised and the proposed footprint adjusted accordingly by the proponent.
- The development will provide resources to invest in the rehabilitation and management of the on-site BioBank, improving its condition and biodiversity values. These lands will also be conserved in perpetuity by a BioBanking agreement as agreed with OEH.

### 3. CONCLUSIONS

The BioBanking assessment has provided an additional re-mapping of biodiversity values on the site since initial consideration by the PAC and the initial Concept Approval issued by the Department. A number of avoidance and mitigation strategies have been implemented (as outline above) prior to the reconsideration of appropriate offsets. The BioBanking assessment has addressed the PAC requirements for the assessment of ecological impacts upon the site through revised mapping of vegetation, threatened fauna habitats and conservation significance and a more detailed assessment of habitat connectivity.

The BioBanking assessment approach has delivered a development layout that achieves an appropriate balance between development and conservation outcomes based on robust methodology. The final development site layout is an efficient and accurate response to a greater understanding of biodiversity values on the site than either of the previous three layout options (original and PAC suggested development footprint) allowing for both ecological conservation and a reasonable development outcome from the site. It delivers an decrease in the development lot yield while achieving economies in the number of biodiversity credits required by concentrating development in poorer condition vegetation. The final development footprint is 30.5% larger than the PAC development footprint but would result in a 8% increase in the number of ecosystem credits required (GHD, 2016). The final BioBank would conserve the most valuable habitat in the study area both in terms of the condition of vegetation and habitat connectivity. The final BioBank maximises the width of an east-west fauna movement corridor and estuarine and floodplain habitats adjoining the Karuah River.

The BioBanking assessment also delivers an estimate of the quantum of biodiversity offsets required for impacts of the project and an offset strategy for delivering these conservation outcomes. Whilst it would be technically possible to reduce the development footprint further to match the quantified area contained within the footprint recommended by the PAC, the result of this would only be to conserve lower quality habitat on site, at the expense of greater quality (and potentially, more strategically located) habitat which could be preserved within an offsite BioBank area. Hence the proposed footprint (and commitment to offsets) represents the best approach to enhancing biodiversity outcomes, as a result of development upon the site.

Further, the offset strategy would ensure appropriate management of the onsite BioBank and security of title for conservation in perpetuity.

## LIST OF ANNEXURES

- A - Concept Plans
- B - Integrated Water Cycle Management Strategy
- C - Traffic Impact Assessment
- D - Biodiversity Offset Package
- E - Bushfire Management Plan
- F - Cultural Heritage Management Plan
- G - Environmental Management Plan
- H - Geotechnical Assessment
- I - Summary of Schedule of Proposed Changes
- J - Email from OEHL confirming CA can administer Biodiversity Lands
- K - MCW Confirmation re Recycled Water
- L - GLC – confirming possible arrangement for Biodiversity Lands
- M - GLC – Confirming Myall Street Minimal works.
- N – Riverside Servicing Strategy