

**Colac Otway  
SHIRE**

**AGENDA**

**ORDINARY COUNCIL MEETING  
OF THE  
COLAC-OTWAY SHIRE  
COUNCIL**

**24 JUNE 2009**

**at 3.00 pm**

**COPACC Meeting Room  
Rae Street, Colac**

An audio recording of this meeting is being made for the purpose of verifying the accuracy of the minutes of the meeting. In some circumstances the recording may be disclosed, such as where Council is compelled to do so by court order, warrant, subpoena or by any other law, such as the Freedom of Information Act 1982.'

# COLAC-OTWAY SHIRE COUNCIL MEETING

24 JUNE 2009

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NOTICE is hereby given that the next **ORDINARY COUNCIL MEETING OF THE COLAC-OTWAY SHIRE COUNCIL** will be held in the COPACC Meeting Room, Rae Street, Colac on 24 June 2009 at 3.00 pm.

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## AGENDA

**1. OPENING PRAYER**

*Almighty God, we seek your blessing and guidance in our deliberations on behalf of the people of the Colac Otway Shire. Enable this Council's decisions to be those that contribute to the true welfare and betterment of our community.*

**AMEN**

**2. PRESENT**

**3. APOLOGIES**

**4. MAYORAL STATEMENT**

Colac Otway Shire acknowledges the original custodians and law makers of this land, their elders past and present and welcomes any descendents here today.

Colac Otway Shire encourages active community input and participation in Council decisions. Council meetings provide one of these opportunities as members of the community may ask questions relating to matters being considered by Council at the current meeting. Questions not related to current agenda items can be made in writing and will be addressed if received within two days of the Council meeting. Council meetings also enable Councillors to debate matters prior to decisions being taken.

I ask that we all show respect to each other and respect for the office of an elected representative.

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Thank you, now question time. 30 minutes is allowed for question time.

1. Questions received in writing prior to the meeting
2. Questions from the floor

**5. QUESTION TIME**

**6. DECLARATION OF INTEREST**

**7. CONFIRMATION OF MINUTES**

- Ordinary Meeting of the Colac-Otway Shire Council held on the 26/05/09.

**Recommendation**

That Council confirm the above minutes.

- Special Meeting of the Colac-Otway Shire Council held on the 03/06/09.

**Recommendation**

That Council confirm the above minutes.

**OFFICERS' REPORTS**

**Chief Executive Officer**

OM092406-1 CEO'S PROGRESS REPORT TO COUNCIL  
OM092406-2 ROADS COMMITTEE REVIEW

**Corporate and Community Services**

OM092406-3 INSTRUMENT OF DELEGATION - SPECIAL COMMITTEES  
OM092406-4 INSTRUMENT OF DELEGATION - CHIEF EXECUTIVE OFFICER (CEO)  
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OM092406-9 ADOPTION OF LAND UNDER ROADS POLICY POSITION

**Infrastructure**

OM092406-10 FREIGHT FUTURES – VICTORIAN FREIGHT NETWORK STRATEGY  
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## **Sustainable Planning and Development**

- OM092406-14 ONDIT QUARRY CONSULTATIVE COMMITTEE
- OM092406-15 BIRREGURRA AND FORREST STRUCTURE PLANS AND RURAL LIVING STRATEGY
- OM092406-16 REVISION OF LAND SUBJECT TO INUNDATION OVERLAY AND INTRODUCTION OF THE FLOODWAY OVERLAY INTO THE COLAC OTWAY PLANNING SCHEME - AMENDEMNT C12
- OM092406-17 FORREST TIGER RAIL TRAIL FUNDING AGREEMENT - REGIONAL DEVELOPMENT VICTOIRA AND COLAC OTWAY SHIRE
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## **GENERAL BUSINESS**

### **OM092406-20    General Business**

- OM092406-20.1 ITEM FOR SIGNING AND SEALING - SECTION 173 AGREEMENT, 80 & 90 SHEEHANS RD COROROOKE.
- OM092406-20.2 ITEM FOR SIGNING AND SEALING - SECTION 173 AGREEMENT - 1229 CORANGAMITE LAKE RD, ALVIE

## **REPORTS FROM DELEGATES TO OTHER BODIES**

### **OM092406-21    Reports from Delegates to Other Bodies**

- OM092406-21.1 MAV STATE COUNCIL MEETING 27 MAY 2009 (CR STEPHEN HART)

## **NOTICES OF MOTION**

### **OM092406-22    Notices of Motion**

- OM092406-22.1 NOTICE OF MOTION 153-08/09 - WATER STORAGE: APOLLO BAY AND MARENGO (CR STEPHEN HART)
- OM092406-22.2 NOTICE OF MOTION 154-08/09 HEATHFIELD ESTATE (CR STEPHEN HART)

**Rob Small**  
**Chief Executive Officer**

**CONSENT CALENDAR**

**OFFICERS' REPORT**

D = Discussion  
W = Withdrawal

ITEM	D	W
<p><b><u>CHIEF EXECUTIVE OFFICER</u></b></p> <p><b><u>OM092406-1 CEO'S PROGRESS REPORT TO COUNCIL</u></b></p> <p>Department: Executive</p> <p><b><u>Recommendation(s)</u></b></p> <p><i>That Council receives the CEO's report to Council for information.</i></p>		
<p><b><u>OM092406-2 ROADS COMMITTEE REVIEW</u></b></p> <p>Department: Executive</p> <p><b><u>Recommendation(s)</u></b></p> <ol style="list-style-type: none"> <li>1. <i>That Council disband the Colac Otway Shire Roads Committee and include the business of that Committee in the regular Council Agenda.</i></li> <li>2. <i>That Vic Roads be informed of this decision while emphasising our desire to maintain communication with them relating to strategic roading issues that affect the Colac Otway Shire.</i></li> </ol>		

**Recommendation**

*That recommendations to items listed in the Consent Calendar, with the exception of items ....., be adopted.*

**MOVED** .....

**SECONDED** .....

**OM092406-1 CEO'S PROGRESS REPORT TO COUNCIL**

AUTHOR:	Rob Small	ENDORSED:	Rob Small
DEPARTMENT:	Executive	FILE REF:	GEN00460

**EXECUTIVE****Council Plan**

With the Council Plan being largely established, staff are conducting the process of preparing individual departmental annual business plans. The alignment of these plans with the Council Plan itself is an important part of this process.

**Policies**

A review of Council's policies is under way with the Executive team considering the current documents with some changes to bring them into line with recent changes in legislation. Councillors will be given plenty of opportunity to consider this process ahead of their formal consideration and adoption.

**Regional Strategic Plan**

The State Government is currently preparing a regional strategic plan and this Council is involved in having input to this through both G21 and the Great South Coast Group. We have provided input to key economic and regional development issues.

**Barwon Water Meeting**

A meeting was held with Michael Malouf, Chief Executive Officer at Barwon Water for an update on key issues including the West Barwon Aquifer, Apollo Bay water supply, sewerage schemes at Birregurra and Wye River and the Kwarren Aquifer.

**VicRoads Meeting**

I have also met with Duncan Elliott, Regional Manager for VicRoads and received briefings on Princes Highway West, the Geelong bypass, Colac Lavers Hill Road and Great Ocean Road issues.

**VLGA Liveable and Just Workshop**

Colac Otway Shire hosted the VLGA Liveable and Just Workshop on Monday 15 June 2009 with Moyne Shire Council and Surfcoast Shire Council in attendance. The workshop focussed on improving the capacity of local governments to respond to climate change. Issues such as climate change trends and implications and the social impacts of climate change were discussed.

**CORPORATE AND COMMUNITY SERVICES****Health & Community Services****Otway Soup Festival**

Council's Food Safety Officer attended the Otway Soup Festival in Forrest in his role as council's Food Safety Officer and as a soup Judge. The day was very well attended and considered a great success.

**Pandemic Flu Planning**

Council has prepared a draft Pandemic Flu document which is being discussed with local agencies at the moment. This will be presented to Council at the July meeting for endorsement.



Council's Environmental Health Co Coordinator participated in pandemic flu planning to construct a Regional Pandemic Flu action plan template. It is anticipated that the template will be used as support when applying for state government funding for pandemic flu initiatives across all councils in the Barwon - South West region. Advice, posters and hand sanitisers have been given to Bluewater Fitness Centre staff, Aged & Disability Services Staff and to the Visitor Information Centre Co-ordinators.

### **Whooping Cough Outbreak**

The Department of Human Services is making available a limited supply of free Pertussis (Whooping Cough) vaccine (Boostrix) for new parents. This is a time limited measure in response to current outbreak of Pertussis and will be reviewed quarterly. The vaccine is available to parents of infants born from 15 June 2006.

### **Regulating Children's Services**

Regulations for all Victorian Children's Services commenced rolling out on May 25 2009. This includes Kindergartens, Out of School Hours Care, Family Day Care, Long Day Care and Occasional Care. Over the next three (3) months the Colac Otway Shire will be applying for a provisional license to run the Family Day Care program and within the next 12 months apply for a full license.

### **Internet Training for People with Disability Pilot Project**

Council has been chosen as one of six organisations across Victoria to auspice the 'Internet Training for People with a Disability Pilot Project'. The 'Internet Training for People with a Disability Project' is part of the Victorian Government's *Connecting Communities*: the second wave policy which recognises that due to a range of barriers, the level of Internet uptake in Victoria is unequal across the communities. The Internet Training for People with a Disability will address disadvantage within the community, specifically for people with a disability.

The project is managed by the Department of Planning and Community Development in partnership with Vicnet, a Division of the State Library of Victoria. The funding received provides People with a Disability the necessary skills, equipment and access to the Internet. Further, the project supports some of the major principles set out in The Disability Act 2006, State Disability Plan, Councils Disability Action Plan and the new DHS Quality Framework as it promotes a person centred and an individualised approach.

Council leads the partnership with Colac Otway Disability Accommodation, Otway Community College, Glastonbury Child and Family Services, Colac Neighbourhood House and the DHS Neighbourhood Renewal Project.

The project commenced June 16 with staff from all partnership organisations receiving the necessary training to provide the Internet Training. The Internet Training for People with Disability will commence in July and continue until November with the possibility to extend to until the end of the 2010 financial year.

The broad partnership approach increases opportunity to Access the training which is offered at the Neighbourhood House on weekdays (evenings and mornings), the Botanical Gardens on Saturdays' and Cass House as a residential setting option.

A State Wide Network Conference for the six pilot projects will be held in August, and each Organisation will showcase their project which provides Council with a unique state wide profiling opportunity.

**HACC Protocols for the Barwon Region**

A review of personal care and medication protocols are being conducted for the Barwon South Western service providers. The aim is to have a standard protocol.

**HACC Assessment Manual**

Colac Otway Shire has project managed a Regional alliance development of the Barwon South Western HACC Assessment Manual Version 1.0. The manual covers all aspects of assessment protocols, responsibilities, processes, legislated requirements and obligations.

The 2nd field pilot stage will be completed in late June 09. All assessment staff across the region will have the opportunity to provide feedback on the practical application of the manual.

The Alliance consists of the follow Home and Community Care Lead Assessment Agencies: Colac Otway Shire, City of Greater Geelong, Surf Coast Shire, Borough of Queenscliffe, Moyne Shire, Corangamite Shire, Warrnambool City Council, Barwon Health, Bellarine Community Health Inc, Otway Health & Community Services, Timboon & District Healthcare Services, Southern Grampians Shire and Glenelg Shire.

**Environment Victoria: Eco Wise**

Colac Otway Shires Aged & Disability Services, in partnership with Environment Victoria, have organised a number of workshops targeting seniors for Eco-Wise Action to increase environmental awareness in and around their homes. These workshops focus on generally small, inexpensive changes around the home, which result in tangible environmental savings.

Two workshops have occurred with some 50-60 people attending. 18 people from Apollo Bay were transported to Colac for the sessions.

All A&DS staff have had formal training in the Eco-Wise assessment project. Staff are now currently carrying out some 300 Eco-Wise Assessments. This should be completed in the next two weeks. This will then be collated to assess types of improvements and requirements needed in the home. This project will be completed mid August 2009.

**Kanyana Centre Upgrades**

The Kanyana Centre is currently going through a 3 stage re-development. The first stage has been completed with a new kitchen and appliances. The second stage included the clean-up and rejuvenation of the courtyard at the rear of the main hall. A new fence is to be constructed at the rear boundary and will include a one-way fire exit gate.

Stage 3 has commenced with functional plans having been drawn up and discussed with user groups of the Kanyana centre. Agreement has been reached by these groups for the installation of new male and female toilets, a disabled toilet with shower, a new entrance with suitable wheelchair access, a new office for U3A and a much needed store room, all within the current complex. Working drawings are currently being prepared for tendering the works.

**Training a Priority**

Ongoing training is required for Community Carers to continue to provide the best level of care. These include:

- Training of ten community care workers has been completed in Acquired Brain Injury.
- Four community care works have now completed Train the Trainer in assessment for CPR.

- Eight community care workers are 12 months into their Certificate 1V for Aged Care and Disabilities.
- Two staff are two sessions from gaining their Service Coordination Certificate 1V.
- Administration Officer is now 12 months into Certificate 1V in Business Administration.
- The Coordinator and two Service Delivery Team Officers have completed 6 modules towards Dip: Community Welfare Work specific to HACC Assessments.

The Coordinator continues to be the Colac Otway representative on the Home & Community Care Training Advisory Committee (HACCTAC) for the region.

### **Property Maintenance**

The two year property maintenance program contract has now been completed between Colac Otway Shire and Otway Community College. The option for a third year has been agreed upon, maintaining the same unit cost and mileage costs. This financial year has seen a slight increase in the demand for the property maintenance, particularly to support rails in the home.

### **Current Projects**

The Aged & Disability Services Unit in partnership with Colac Area Health are undertaking three projects together. These include:

- **Knock out the Risks for the elderly**
- **Falls Prevention Program**
- **HACC meeting with CAH Allied Health Professionals, Home Nursing, Rehabilitation, Acute Care. This group is reviewing admission and discharge of shared HACC clients.**

### **Sustainable Water Management Action Plan**

A draft Sustainable Water Management Action Plan has been prepared for the communities of Wye River, Separation Creek and Kennett River. This has been developed by Barwon Water in partnership with Colac Otway Shire and the Department of Human Services.

This has been reviewed by the Regulatory Advisory Committee and will be forwarded to the Wye River, Separation Creek and Kennett River communities for comment. Funding for this project is provided by the Department of Sustainability and Environment and follows on from the water management concept developed by Colac Otway Shire and Hyder Consultants .

### **Recreation Arts and Culture**

#### **Events**

#### **E Team meetings – June**

The June E Team meeting was held on the 9 June to debrief the following events: Apollo Bay Music Festival (28&29/3/09), Kana (14&15/3/09), Keen Adventure Race (28/4 to 2/5) and to have preliminary discussions for the Kona 24 Hour Race (28&29/11/09) and Salvation Army Walking Home (18/11/09).

#### **FReeZA**

FReeZA (Lac & Co Productions) are in the final stages of arranging their event at the Botanic Café (2/7/09) and beginning to work on the production of Battle of the Bands (28/8/09).

**Event Organisers Training Survey**

A half day Events Organisers Workshop was held on 18 June, 2009 covering the topics identified in the 2009 Training Survey including Funding, Sponsorship and Waste Management.

**Traffic Management Course**

A full day traffic management course was held for volunteers, service clubs and community groups on 2 June, 2009 at the Colac Saleyards. The course was run by *ACT – Associated Training Consultants* and participants who successfully completed the course are fully accredited to manage traffic at any events at which they are employed.

**Otway Soup Fest – 7 June**

The Forrest and District Lions Club hosted a Winter Festival using a homemade soup competition as the focus activity. Other items included bush poetry, singing and market stalls promoting the products of the Otways.

**Forrest Fire Festival – Artists of Fire – 20 June**

CFA Children's workshop and fire information festival. Children's Lantern Parade, Fire Sculptures and Community Fire Twirling display followed by food and dancing in the hall.

**Upcoming Events**

Events which will be held throughout Colac Otway in July include Art Arvo (2/7/09), Forrest Australian 6 Hour Race (5/7/09) and the Colac Vets Cycling Race (26/7/09).

**Recreation****State Government Funding**

State Government funding has been secured for the Alvie Recreation Reserve, Eastern Reserve Netball Courts, Birregurra Bowls Club, Lake Colac Oval redevelopment and Forrest Netball Court redevelopment. Council contributions to these projects are being considered within the 2009/2010 budget process. These projects comprise significant cash and in-kind contributions from the respective resident clubs.

**Beechy Precinct**

The construction of the Joint Use Library is underway with fortnightly construction site meetings occurring.

Both the Joint Use Library Operations and Communications Reference Groups are developing their terms of reference and have established regular meeting dates.

Final design elements are being included on the draft Central Reserve Master Plan and the Bluewater Fitness Centre Stadium concept plans.

Training lighting is to be installed at the Central Reserve Hockey Fields which completes the redevelopment project which was fully funded through Sport and Recreation Victoria.

**Leisure Networks Partnership and Club Network**

A Responsible Service of Alcohol course was held on Monday June 15, 2009 at COPACC,

The next proposed Club Network meeting is planned for Wednesday 29 July at COPACC and will focus on the relationship between local Clubs and the media. Potential topics included as part of this session will include: how to attract media attention/interest for those sports/clubs that are not football, identifying what are media worthy stories and what is deemed a good photo opportunity. Clubs will also be informed how they can "use" the media

to promote good news stories and what they have to offer etc. Sporting Clubs are encouraged to attend these meetings.

### **Old Beechy Rail Trail Review and Strategic Action Plan Complete**

A 5-Year Strategic Action Plan for the Old Beechy Rail Trail has been completed following the facilitation of a workshop and consultation undertaken with stakeholders. Representatives of the Rail Trail Committee, Friends Group and other stakeholders (e.g. relevant Council staff, Otway Tourism, private land owners) were invited to provide direct input into the document. This document will be available on the Council website.

### **Bluewater Fitness Centre**

The Learn to Swim Program for Term 2 is into its final weeks. Currently the students are involved in Swim Safety & Survival Week currently in progress. The week starting Monday 15th June, will be Assessment Week, which will allow all students to be assessed on their progress throughout the program. Re-enrolments for Term 3 will begin on the 22nd June, with Term 3 starting on 13th July 2009.

Aqua Aerobics & Deep Water Aerobics have been very well attended this month, with an average of 15 people participating each session.

For June 2009 only a "Lap Swimming Happy Hour" is being offered for the community to swim at a discounted price. This is occurring on Friday's (6pm-7pm) & Saturday/Sunday's (11am-12pm). These times are identified as quiet times and ideal conditions for lap swimming.

Term 3 (14th July 2009) will see the return of the Adult Swimming Squad to Bluewater. Further details are located on the Bluewater Fitness Centre website.

Colac Otway Shire was successfully awarded by the federal government \$300,000.00 to carry out a number of building improvements at Bluewater Fitness Centre. Primary works to be carried out in the coming months are planned for the Indoor Stadium. These works include repairs to the stadium roofing and guttering and the installation of efficient air handling systems.

Inside the stadium this funding will allow a number of refurbishment works to commence with a multipurpose room developed for community programs along with renovations to toilet and change room amenities.

Local contractors have been provided with project briefs and final quotes are currently being sourced. All works will consider the environmental impact, with investigation on energy efficient lighting and heating. Plumbing works will also consider new guttering and downpipe configurations to allow for easy connection to a water tank in the future.

### **Youth Council**

On Monday the 25 May 2009 Youth Councillors attended Mercy Aged Care, playing ten pin bowls, board games and interacting with the elderly. On Friday 19 June 2009 Youth Councillors helped out with a COPACC Morning Music production by serving morning tea to the theatre goers before the production began. On Monday 22 June 2009 a community meeting was held at the Skate Park for ideas and suggestions into the use of the funding receive from the Foundation for Young Australians – Skate Park Stencil Art Project.

## INFRASTRUCTURE AND SERVICES

The Infrastructure Team has been busy completing the end of year projects and maintenance activities. Since the last reporting period the following tenders were opened:

- Tender No. 0908 Waste Drop Off Facility Services
- Tender No. 0817 Gellibrand Landfill Rehabilitation
- Tender No. 0911 Purchase of Photocopiers
- Tender No. 0907 Purchase of Motor Grader

Tenders are at various stages of evaluation and will be evaluated and awarded under delegation or reported to Council as required.

Officers have also been busy developing their Business Plans and keying actions into the Council and Business Plan Reporting System.

Settlement occurred with Skills Connection for the purchase of the lease of the building attached to COPACC, known as 76 Corangamite Street.

Renovation works are being carried out with the intention to relocate the Infrastructure Services area to the new site in the first week of July. Infrastructure customer services will still be managed through the current Rae Street Customer Service Office. The area vacated by Infrastructure will be filled through a relocation of internal and external office staff to the Rae Street site.

## CAPITAL WORKS

- **Special Charge Schemes Update**

- Pound Road, Colac

*Road Construction*

Works recommenced on the week of 15 June 2009, in order to carry out additional pavement base works and apply a seal. Depending on the weather, the contractor anticipated the remaining works will be completed within two (2) weeks.

- Morrison Street, Colac

*Road Construction*

At the April 2009 Council Meeting, Council resolved to abandon the proposal to construct the unsealed shoulders of Morrison Street via a Special Charge Scheme due residents not supporting the proposal.

Residents were advised that the proposal has been abandoned, and the project removed from Council's 10 year Capital Works Program.

- Sinclair Street South, Elliminyt

*Road Construction*

Further to initial discussions with property owners regarding a proposal to construct the unsealed section of Sinclair Street South, between Pound Road and Irrewillipe Road, a number of project scope variations have been discussed with residents.

Due to initial limited support for the construction of the section of Sinclair Street South, between Aireys Street and Irrewillipe Road, it was considered that the scheme area be reduced to only construct the section of Sinclair Street South between Pound Road and Aireys Street.

Residents were advised of the changed scope of the proposal, at which time some residents located between Aireys Street and Irrewillipe Road approached Council to reconsider the proposal and return to the original scope.

As such, Council Officers are in the process of communicating with the residents along Sinclair Street South for the full length between Pound Road and Irrewillipe Road to progress the Special Charge Scheme. It is anticipated that the scheme process will continue with a report to be presented to the August Council Meeting for an intention to declare a special charge scheme for the construction of the unsealed section of Sinclair Street South, between Pound Road and Irrewillipe Road.

- **Swan Marsh Irrewillipe Road** : Works are essentially complete. Some tidying up of earthworks remain which will be left to the summer when conditions are dryer.
- **Pound Road**: Works had been suspended. Works were not restarted as previously advised, however the contractor has advised that they will return to Pound Road during week ending 19 June. It is anticipated that the works will be completed by early July. It is expected that the additional crushed rock required in the pavement will increase the expenditure by approximately 20% over budget. This over-expenditure will be met out of the Roads-To-Recovery funding. There will be no change to the Special Charge Scheme.
- **Elliminyt Drainage Study**: A draft report was received in early June. It is currently under review.

### **ASSET DEPARTMENT**

- **Swan Marsh Hall:**
  - Upgrades –
    - Verandah between hall toilets completed.
    - Security fencing provided.
    - Disabled access to hall and toilets has been provided.
    - Front gate has been relocated.
  - Still to come –
    - Painting (internal and external)
- **Office Accommodation Upgrades:** The project is running ahead of schedule. Major internal renovations have been completed. Painting has been finalised. Still to be finished are lighting, IT fitout and office fitout. Carpeting was completed week ending 12 June. The office space is intended to be operational by Monday 6 July 2009.
- **Routine Road and Footpath Inspections:** Inspections of specific areas of footpath within Colac are presently being undertaken in accordance with the adopted schedule. Minimal number of defects have been identified to date.

Rural roads in the Forrest area and Cape Horn/Wongarra localities were inspected during late May. A small number of defects/hazards were identified. These generally related to missing guideposts and fallen limbs.

- **Rail Crossing Inspections:** Council Officers have commenced compliance inspections of all rail crossings on local roads within the municipality. This follows after significant signage and linemarking upgrades are being completed. The purpose of these audits is to ensure that all works comply with the relevant Australian Standards.

### **COSWORKS**

- **Road Regrading:** Maintenance grading has been completed in all areas as weather permits.
- **Road Pavement Minor Patching:** Ongoing in all areas,
- **Shoulder maintenance:** Nalingal Road, Lake Corangamite Road

- **Gravel Road Re-sheeting:** Undertaken on Biddles, Forans, Illuka, Karingal, Kenneadys, Killala, Riverside, Sunnyside, Telfords Acc, Tuxion, Wild Dog, Wye River, Separation Creek, Kennet River, Marengo Areas, Carlisle – Gellibrand, Frys, Karascays, Old Beech Forest, Old Ocean, Wait a While Roads
- **Major Drainage completed on:** Separation Creek, Wye River, Kennett River, Old Ocean Roads
- **Routine Drainage:** Ongoing program mainly in the Otway areas
- **Vegetation and Tree Maintenance:** In the Otway areas.
- **Township Mowing:** This has been undertaken in all townships as required.
- **Weed Spraying:** This has begun around Roadside furniture.
- **Bridge Maintenance:** Maintenance works undertaken in Otways.
- **Gardens:** General maintenance and tree trimming.
- **Capital Works:**
  - Swan Marsh – Irrewillipe: Completed
  - Cressy Drainage : Completed
  - Binns Road: -. Resheet Completed
  - Barham River Bridge works started
- **Playground Maintenance:** Inspect and repair defects.
- **Old Beechy Line Rail Trail:** Reach Arm mowing and general maintenance / repairs carried out.
- **Saleyards:** Fencing works started.

## **MAJOR CONTRACTS/WASTE DEPARTMENT**

### **E-Waste**

An E-Waste, TV & Small Electrical drop off was run on the 5 & 6 June in Apollo Bay and Colac for people to drop off their goods for recycling and reuse. These goods will be transferred to GDP Industries in Geelong for processing. Council had a more than anticipated response with approx 4-5mtr<sup>3</sup> of goods being dropped off in Apollo Bay on Friday and approx 40-42 mtr<sup>3</sup> dropped off in Colac on Saturday. In response to this staff ordered an additional 2 skips from Western Waste who were supplying skips and transporting goods from Colac to Geelong. Items comprised mainly of Computer screens and boxes, analogue TV, however, people dropped off a variety of electrical goods including small heaters, drills, scanners and even one set of electric hair rollers.



Collection at Noel Street Apollo Bay on Friday 5 June

### **Tender 0908 – Drop off Facilities Service**

The above tender closed on Wednesday 4 June with two tenders being opened. A report will be presented to Council for consideration at the next Council meeting.



**Blinky Bulb Campaign**

In conjunction with Rotary Australia, Regional Waste Groups have launched the Blinky Bulb campaign for recycling of florescent tubes. Drop off points in Colac are Mitre 10 and Budget Furnishings.

**Waste Education**

Ongoing Waste Educational material has been delivered through various high contamination areas of the Shire. These areas include parts of the City of Colac south of Wilson Street, the area surrounding Ballagh Street in Elliminyt and also Barongarook & Gellibrand. Collection times in some areas have been changed (following notification) to ensure that bins are placed out in time for waste inspections.

**Western Boating Coastal Action Plan**

A stakeholder Reference Group meeting was held at Camperdown on Friday 5 June 2009 to discuss strategic boating issues and provide input to the Draft Western Victoria Boating Coastal Action Plan. The representatives of Surf Coast, Colac Otway, Corangamite, Moyne, Warrnambool and Glenelg Shire are members of Boating Reference and Steering Committee. The comments from the Reference Committee will be further discussed by the Steering Committee prior to the draft report being forwarded to Western Coastal Board for adoption. From Colac Otway Shire point of view the draft report identifies the implementation of Apollo Bay Harbour Masterplan as one of the strategic directions and it has been noted that should there be a delay in the implementation of the Apollo Bay Harbour Masterplan, consideration should be given towards the construction and sealing of the carpark adjoining the boat ramp to cater for future parking requirements.

Further work will be undertaken by the Committee members for establishing priorities for level of service, evaluation criteria and the pathway that will need to be followed for strategic proposals.

**Safety and Environment Management Plan (SEMP) Meeting**

The Department of Sustainability and Environment (DSE), called for a SEMP meeting for South Western Local Ports on 4 June 2009. The meeting was held at Parks Victoria office, Williamstown and was attended by the Manager Major Contracts and the Team Leader, Port of Apollo Bay. There is greater emphasis through the SEMP meetings on sharing of information related to port operations, safety and control systems. A consultant has been engaged by DSE for developing a "Risk Library" that will contain a list of various Port activities, associated risks, risk rating and control measures. The intention is to make this library available to all Port Managers through a DSE website link so that information can be shared between the Ports and control measures are discussed, monitored and shared.

The SEMP meetings are quite useful for smaller Ports as it provides opportunity to gain useful information from bigger Ports such as Port Phillip and Gippsland Port. During the meeting information was provided by Parks Victoria on environmental responsibilities, management of berthing and mooring, dredging operations, water issues and wildlife etc. In the month of July a meeting of local ports managers will be held at Gippsland Port incorporating an onsite inspection of various port facilities.

**Transfer Station Contract**

Tenders for the Apollo Bay Transfer Station closed on 16 April 2009 with six (6) tenders received exceeding \$2.0M. Negotiations are continuing with tenderers to review the scope of works in line with available funding. Officers are also in the process of finalising the purchase of the site which must occur prior to awarding of the contract. It is intended that the purchasing arrangements will be finalised and a report presented to the next Council meeting to award a contract for the construction of the Transfer Station.

## **SUSTAINABLE PLANNING AND DEVELOPMENT**

### **Colac and Apollo Bay Car Parking Study**

Consultants were appointed to undertake a Parking Study for the townships of Apollo Bay and Colac in January 2009, and an Issues and Options Paper is currently being prepared, using data collected from parking surveys undertaken late in February. Essential Economics are currently preparing forecasts of retail floor space requirements for each town centre (based on population projections and trends in retail spending) which will contribute to the identification of future parking needs. It is expected that this will be workshopped with Council in the coming months prior to public consultation.

### **Rural Living Strategy and Birregurra/Forrest Structure Plan**

A Rural Living Strategy is being undertaken as a follow-up to the Rural Land Strategy adopted by Council in 2007 to examine appropriate areas for rural residential development, as well as review the boundaries of small towns in the Shire. A Structure Plan for Birregurra and Forrest will also be prepared. There has been a delay in commencing both these projects, however tenders were received in May/June and are being assessed. Consultants are expected to be appointed to commence the projects early in July.

### **Kennett River Wye River and Separation Creek Structure Plan**

Council adopted a Structure Plan for Kennett River, Wye River and Separation Creek early in 2008. Authorisation has been sought by Council from the Minister for Planning to prepare an amendment that modifies the Planning Scheme to implement this Structure Plan. It is expected that public exhibition of the amendment will occur over coming months.

### **Amendments C55, C29 and C17**

Council received notification that the Minister for Planning had approved Amendment C55 and Amendment C17 and refused Amendment C29 on 11 June 2009. This means that the rezoning for the Great Ocean Green development proposal (537 lots) at Marengo will not proceed, however rezoning to enable the Marriners Vue development on the eastern end of Apollo Bay (85 lots) has been approved. These changes were gazetted on 18 June and came into effect on that date.

It also means that Council's major Planning Scheme Amendment (C55), which includes the Colac Structure Plan, the Apollo Bay Structure Plan, the Rural Land Study and the Great Ocean Road Region Landscape Assessment Study (GORRLAS) will now be incorporated into the local provisions of the Planning Scheme.

This will provide clarity for Council and the Planning Officers in considering planning implications in this municipality and it is of particular interest that the neighbourhood character provisions for Apollo Bay now form a formal part of the statutory approval process for applications in Apollo Bay.

### **Heathfield Estate Reserve Public Consultation**

Earlier this year Council sought submissions from the community outlining possible interim uses for the Heathfield Reserve site between Marengo and Apollo Bay. Submissions closed on Friday 17 April 2009, and officers have been reviewing the range of comments and issues raised. This issue will now need to be further reviewed as a result of the recent announcement by the Minister for Planning that the Great Ocean Green proposal will not proceed.

### **Erosion Overlay Mapping**

Officers are currently in the process of finalising changes to the Erosion Management Overlay (EMO). A fast track planning scheme amendment will be sought to implement revised mapping of select urban/township areas provided by the Corangamite Catchment

Management Authority (CCMA) in 2008 which are more accurate and will reduce the level of control in some areas.

Council is now entering a new partnership with the CCMA to review the mapping of land stability throughout the remainder of the Shire, to utilise more up to date landslide susceptibility data, so that controls can be refined elsewhere, further minimising unnecessary planning control. A separate planning scheme amendment will be publicly exhibited later in 2009 that proposes changes to the EMO Schedule. The new schedule will better detail application requirements, decision guidelines, assessment processes and permit condition requirements, and is being developed with input from geotechnical professionals operating in the area.

### **Great South Coast Regional Plan**

Colac Otway Shire is within a group of Councils stretching westwards to the South Australian border known as Great South Coasts (GSC). The GSC is in the initial phase of developing a regional plan that will form the basis for future high level land use, infrastructure and service planning. Officers have been providing input into the first stage of this plan which is due to be completed by end of June, however more detailed work is envisaged later in 2009 and early in 2010. The plan will not incorporate local priorities, but rather will focus on regional outcomes. The Plan will be workshopped with Councillors over the coming months. Colac Otway Shire is also included in the G21 group of Councils which is focussed around Geelong, and officers will similarly participate in refinements to the existing G21 regional plan.

### **Coastal Priorities Project**

The Western Coastal Board is in the process of finalising a Coastal Priorities Project that has been underway over the past few years, involving the collaboration of a number of coastal based municipalities and agencies. Officers have recently participated in a series of workshops to provide local input into the plan, focussing on issues of importance to Colac Otway Shire.

### **Compliance with Swimming Pool Fencing requirements**

Legislation introduced on 8 April 1991 requires swimming pools and spas constructed after that time to be fenced with child safety barriers to accord with Australian Standard AS 1926 and the Building Code of Australia. Barriers are to be incorporated into the relevant building approval for the pool or spa. The legislation also requires pools and spas constructed prior to that date to be retrofitted with child safety barriers that meet specified standards.

Council has a policy of proactively inspecting domestic swimming pools and spas in the Shire to ensure compliance with these requirements given the high risk to child safety arising from non-compliance. Officers are in the process of checking a number of premises in the Colac area as part of an on-going inspection program across the municipality. Many of the barriers inspected of late do not comply with the standards, and the Council's Municipal Building Surveyor is working with land owners to ensure that barriers are upgraded where necessary.

Whilst officers will provide 30 days for rectification works to occur in the first instance, formal Building Notices and Orders are issued where necessary if compliance isn't quickly achieved, and significant fines can apply. It is important that all property owners with swimming pools are aware of the requirements and ensure the on-going compliance of child safety barriers with legislative requirements.

### **Visitor Information Centres**

Both Colac and Apollo Bay VICs experienced higher volumes of visitors through the doors than last year for May, however for the year to date visitor numbers are still marginally below

previous years. For Apollo Bay, the GO Marathon weekend proved successful with the town being much busier than it otherwise would have been on a late Autumn weekend.

The Otway Fly, the rainforests and the Great Ocean Walk are still proving popular attractions for the area, with mountain biking in Forrest attracting more and more people to the township and the region.

Both visitor centres have also recently been through the accreditation process and passed with very few concerns from the Australian Tourism Accreditation Board. Accreditation ensures that a high standard of visitor service is offered wherever the official "I" is displayed and it is a credit to both centres that they continue to do so.

### **Federal Government Jobs Fund**

Three applications were submitted from Council under the recently available Jobs Fund. Council have auspiced an application for Colac Community Hub Inc for the development of a Business and Home Environmental Auditing Team. An application for the Apollo Bay Transfer Station was submitted as well as a project to construct a concrete pathway from CRF to the Bird Reserve along the Lake Colac foreshore. We are expecting to hear of the success of the applications in mid July 2009.

### **Trade Training Centre**

The Colac Otway Schools Cluster is continuing to work towards an application for funding to the Federal Government for this project. The Industry Advisory Committee will be convened by Council again in late May to support the process. A letter of support from Surf Coast Shire has been received to endorse Colac Otway Shire leadership on this project. The Trade Training Centre application needs to show evidence of local government support and one of the cluster schools, Lorne P-12, is in the Surf Coast Shire.

### **Seminars Following Keep Colac Working**

The Economic Development Unit partnered two local businesses in the coordination of two seminars to assist businesses in the current economic climate.

The first seminar, Economic Survival, was held on 2 June 2009 at COPACC with over forty local businesses attending to hear what strategies they can undertake to assist them to cope in this difficult economic downturn and thrive as conditions improve. We thank WHK for their initiative in driving this project

The second seminar is an Industrial Relations Briefing, held in conjunction with Colac Otway WorkForce to provide information on the new Industrial Relations laws which come into effect on 1 July 2009. This seminar was held 4 June 2009 with another great turnout of over fifty local businesses.

These workshops, on the back of the Keep Colac Working Forum in early May, have provided local businesses with a suite of information which they can use to improve their day-to-day operations.

### **Small Town Improvement Program**

An application for funding from Regional Development Victoria has been submitted with the anticipated \$112,500 to be used in conjunction with confirmed contributions from Council (\$25,000) and the local community group (\$12,500 cash and in kind) to establish the Beac Windmill Park and History Walk. The project will see the development of a park with 3 restored windmills, historical shelter, pathways and seating as well as a history walk around the township to highlight the heritage of the area.

The park is to be located on a block of land created by the new subdivision in Beeac and will create a focal point for residents and visitors to discover the history of the region.

Projects are also underway at Barwon Downs and Birregurra to upgrade the township parks. The project at Barwon Downs includes the construction of a Historical Display Centre, including amenities as well as upgrades to the playground, pathways, landscaping and tree planting. The Birregurra project will include the installation of a new BBQ shelter, picnic tables and seating around the park, and an upgrade to the current power supply.

The Forrest Tiger Rail Trail is ready to commence and awaits confirmation of the final funding agreement. The trail will join the township of Forrest with the recreation reserve, as well as providing linkages between the mountain bike trails in Forrest and the trail head at Yaughter.

### **World Environment Day**

World Environment Day is celebrated every year on 5 June in more than 100 countries and is one of the principal vehicles through which the United Nations stimulates worldwide awareness of the environment and enhances political attention and action. The theme for 2009 was climate change and the broader consequences of environmental change, and what societies can do in response.

Colac Otway Shire organised two separate activities to celebrate World Environment Day in 2009.

- The Community disposed of 40 cubic metres of old computers, monitors, televisions and other small electronic equipment by dropping them off at Council's Apollo Bay depot on 5 June 2009, or at Council's Colac carpark on 6 June 2009 between 10am and midday. The electronic waste was delivered to a special recycling plant in Geelong that has the equipment to dismantle and recycle the materials.
- Up to 120 students from Alvie, Cressy, St Brendans and Beeac primary schools were involved in activities including - water monitoring and planting of indigenous grasses at Meredith Park on Lake Colac to help improve Corangamite Water Skink habitat.

### **EcoBuy Awards**

Colac Otway Shire Council was a finalist for the *Green Powered Champion Council Award* at ECO-Buy's 2009 Awards announced at the National Gallery of Victoria on 20 May 2009. Colac Otway Shire Council was selected as a finalist based on expenditure data submitted in your ECO-Buy Annual Report for the 2007/08 financial year. Colac Shire was congratulated for investing the second highest percentage of total Council budget on accredited green power of ECO-Buy's 47 reporting members last financial year.

### **Recommendation(s)**

***That Council receives the CEO's report to Council for information.***

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**OM092406-2 ROADS COMMITTEE REVIEW**

|             |           |           |           |
|-------------|-----------|-----------|-----------|
| AUTHOR:     | Rob Small | ENDORSED: | Rob Small |
| DEPARTMENT: | Executive | FILE REF: | GEN00460  |

**Purpose**

The purpose of this report is to review the status of the Roads Committee.

**Background**

The Roads Committee was appointed as a Section 86 Committee of Council in January 2005. An instrument of delegation was signed and sealed at the formation of this committee.

The Council resolved at the 27 January meeting that:

- “1. A special committee of Council be formed under section 86 of the Local Government Act 1989 to act as an advisory committee and be known as the “Colac Otway Shire Roads Committee”*
- 2. The Committee comprises all Council Members, the following Colac Otway Shire staff officers, Manager Infrastructure and Services, General Manager Cosworks, Asset Management Coordinator, Capital Works Coordinator; and a representative of VicRoads.*
- 3. VicRoads be invited to nominate a representative to be included on the committee and this appointment be until November 2008*
- 4. Council sign and seal the instrument of delegation attached, and as such instrument to remain in place until amended or revoked*
- 5. A copy of the minutes of committee meetings is forwarded to Council meetings is forwarded to Council for its records after each meeting”*

The motivation in establishing the Committee was twofold:

- Provide an effective means of communication between the community and Council in relation to road management function and to guide Council’s advocacy role in relation to strategic roading issues; and
- Act as an advisory Committee to Council to assist in discharging Council’s responsibilities as they relate to the Local Government Act 1989 and Road Management Act 2004.

Subsequently it was acknowledged that there was an ambiguity between the Committee being an advisory committee and a Section 86 Committee with delegation.

As a result the instrument of delegation was revoked by the Council following the Roads Committee meeting on 27 June 2007.

**Council Plan/Other Strategies/Policy**

The review of how this Committee’s functions are discharged is an important Governance process under leadership in the Council Plan.

**Issues/Options**

After just over 4 years of conducting this business through the Roads Committee Meetings, there appears to be little public interest in attending the meetings. The attendance by VicRoads representatives has also not been taken up on a regular basis. Any decisions need to be repeated in the subsequent Council agenda to be adopted by the full Council. Since the Roads Committee also is conducted by full Councillor membership this appears to be an unnecessary duplication of processes and resources.

In discussion at the last Roads Committee meeting, the Councillors indicated that there seemed to be a more appropriate action of including the Roads Committee items as regular part of the monthly Council agenda and treat it as ordinary Council business. Public attendance at Council meetings is certainly higher and the issues would get better public exposure through a Council meeting as a result.

Council may opt to retain the existing Roads Committee and give it stronger delegated powers. This did not appear to be an acceptable option to Councillors present at the last Roads Committee meeting.

### **Proposal**

That the current Colac Otway Shire Roads Committee be disbanded and the matters dealt with at that Committee be referred directly to Council agendas in future.

### **Financial and other Resource Implications**

There is a potential saving of duplicated paper work as well as Councillor and Officer time.

### **Risk Management & Compliance Issues**

Not applicable

### **Environmental Considerations**

Not applicable

### **Communication Strategy/Consultation**

Not applicable

### **Implementation**

Council's decision will remove the duplication of reporting between the two committees. VicRoads will need to be informed of Council's decision. No other actions are required by Council. The instrument of delegation was revoked in 2007.

### **Conclusion**

To disband the Colac Otway Shire Roads Committee and include the matters that they currently deal with in the Ordinary Council Agenda will remove duplication of information and meeting processes.

### **Attachments**

Nil

### **Recommendation(s)**

- 1. That Council disband the Colac Otway Shire Roads Committee and include the business of that Committee in the regular Council Agenda.***
- 2. That Vic Roads be informed of this decision while emphasising our desire to maintain communication with them relating to strategic roading issues that affect the Colac Otway Shire.***

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## CONSENT CALENDAR

### OFFICERS' REPORT

D = Discussion

W = Withdrawal

| ITEM  | D | W |
|---|---|---|
| <p><b><u>CORPORATE AND COMMUNITY SERVICES</u></b></p> <p><b><u>OM092406-3 INSTRUMENT OF DELEGATION - SPECIAL COMMITTEES</u></b></p> <p>Department: Corporate and Community Services</p> <p><b><u>Recommendation(s)</u></b></p> <ol style="list-style-type: none"> <li>1. <i>That Instruments of Delegations for the following Special Committees be signed and sealed:</i> <ul style="list-style-type: none"> <li>- Old Beechy Rail Trail Committee; and</li> <li>- Tirrengower Drainage System Committee.</li> </ul> </li> <li>2. <i>That in accordance with Section 81(2A) of the Local Government Act 1989, Council resolves to exempt members of the committees from being required to submit a Primary or Ordinary "Register of Interest" return.</i></li> </ol>   |   |   |
| <p><b><u>OM092406-4 INSTRUMENT OF DELEGATION - CHIEF EXECUTIVE OFFICER (CEO)</u></b></p> <p>Department: Corporate and Community Services</p> <p><b><u>Recommendation(s)</u></b></p> <p><b><i>That Council,</i></b></p> <ol style="list-style-type: none"> <li>1. <i>approve the change in the delegation to the Chief Executive Officer Clause 4.1 awarding a contract exceeding the value of \$300,000.</i></li> <li>2. <i>In the exercise of the powers conferred by section 98(1) of the Local Government Act 1989 (the Act) and other legislation referred to in the attached Instrument of Delegation, the Colac Otway Shire Council (Council) resolves that –</i> <ol style="list-style-type: none"> <li>(a) <i>There be delegated to the person holding the position, acting in or performing the duties of Chief Executive Officer the powers,</i></li> </ol> </li> </ol> |   |   |



|  |  |  |
|--|--|--|
| <p><i>duties and functions set out in the attached Instrument of Delegation to the Chief Executive Officer, subject to the conditions and limitations specified in that Instrument.</i></p> <p>(b) <i>The Instrument comes into force immediately the common seal of Council is affixed to the Instrument.</i></p> <p>(c) <i>On the coming into force of the Instrument all previous delegations to the Chief Executive Officer are revoked.</i></p> <p>(d) <i>The duties and functions set out in the Instrument must be performed and the powers set out in the Instruments must be executed, in accordance with any guidelines or policies of Council that it may from time to time adopt.</i></p> <p>(e) <i>It is noted that the Instrument includes a power of delegation to members of Council staff, in accordance with section 98(3) of the Act.</i></p> <p>3. <i>Abolish the Contracts Committee on the signing and sealing of the delegation to the Chief Executive Officer.</i></p> |  |  |
| <p><b><u>OM092406-5 COUNCIL PLAN 2009-2013</u></b></p> <p>Department: Corporate &amp; Community Services</p> <p><b><u>Recommendation</u></b></p> <p><i>That following the consideration of the submission received that Council adopt the revised Council Plan 2009-2013 (including the Strategic Resource Plan) and forward the Plan to the Minister for Local Government by 30 June 2009.</i></p>  |  |  |

**OM092406-6 2009-2010 FESTIVAL AND EVENT SUPPORT  
SCHEME ENDORSEMENT OF APPLICATIONS**

Department: Corporate and Community Services

**Recommendation(s)**

1. ***That subject to Budget approval, Council adopts the recommendations made by the Festival and Event Support Scheme Advisory Committee for categories of the various events and funding allocations to events under the Colac Otway Festival and Events Support Scheme 2009-10.***

| <b><u>Event</u></b>   | <b><u>Funding</u></b>    |
|---|--------------------------|
| <b><i>Forrest Festival of Fire<br/>Seed (Community)</i></b>                             | <b><i>\$1,000</i></b>    |
| <b><i>Birregurra Weekend Festival<br/>Platinum (Community)</i></b>                      | <b><i>\$7,500</i></b>    |
| <b><i>Otway Odyssey<br/>Platinum (Commercial)</i></b>                                   | <b><i>\$6,000</i></b>    |
| <b><i>Great Ocean Sports Festival<br/>Gold (Community)</i></b>                          | <b><i>\$5,000</i></b>    |
| <b><i>Colac Cycling Club<br/>Seed (Community)</i></b>                                   | <b><i>\$1,000</i></b>    |
| <b><i>Kana<br/>Platinum (Community)</i></b>   | <b><i>\$7,500</i></b>    |
| <b><i>Otway Soup Fest<br/>Silver (Community)</i></b>                                    | <b><i>\$2,500</i></b>    |
| <b><i>Apollo Bay Music Festival<br/>Platinum (Community)</i></b>                        | <b><i>\$7,500</i></b>    |
| <b><i>GOR Marathon<br/>Platinum (Community)</i></b>                                     | <b><i>\$7,500</i></b>    |
| <b><i>Colac Country Music Festival,<br/>Truck and Ute Show<br/>Gold (Community)</i></b> | <b><i>\$5,000</i></b>    |
| <b><i>Heritage Festival<br/>Seed (Community)</i></b>                                    | <b><i>\$1,000</i></b>    |
| <b><i>Great Vic Bike Ride<br/>Platinum (Commercial)</i></b>                             | <b><i>\$,7500</i></b>    |
| <b><i>World Refugee Day<br/>Seed (Community)</i></b>                                    | <b><i>\$1,000</i></b>    |
| <b><i>Rainforest Ride<br/>Gold (Commercial)</i></b>                                     | <b><i><u>Nil</u></i></b> |
| <b><i>TOTALS</i></b>  | <b><i>\$60,000</i></b>   |

2. ***That Council notes that the Festival and Event Support Scheme Advisory Committee has recommended to Council that event funding allocations will strictly adhere to funding categories and stipulated amounts and that this information should be strongly communicated to the event applicant when funding is administered.***

**OM092406-7 FINANCIAL PERFORMANCE REPORT**

Department: Corporate and Community Services

**Recommendation**

*That the Financial Performance Report to the end of May 2009 be received.*

**OM092406-8 2009-2010 COMMUNITY FUNDING PROGRAM**

Department: Corporate and Community Services

**Recommendation**

*That Council approves the recommendations from the Grants Community Funding Advisory Committee for Council grants from the 2009/2010 Community Funding Program, total expenditure under each of the funding categories as follows:*

***(a) Community Recreation Facilities \$ 72,567***

***Apollo Bay Community Garden/Otway ranges Climate Action Group \$500***

***Apollo Bay Pony Club \$1,265***

***Barwon Downs Community Hall \$575***

***Barwon Downs Tennis Club \$2,518***

***Beeac Tennis Club \$316.87***

***Beech Forest Hall Committee \$600***

***Birregurra Bowling Club \$147.75***

***Cabin by the Sea \$1,200***

***Carlisle River Community Group \$2,390***

***City United Cricket Club \$2,500***

***Colac & District Football League Netball Association \$800***

***Colac Braves Baseball Club \$ 1,446***

***Colac Gun Club \$3,000***

***Colac Lawn Tennis Club \$5,000***

***Colac Mallet Sports Club \$304***

***Colac Motorcycle Club \$3,000***

***Colac Skate park Committee \$2,400***

***Cororooke Tennis Courts/Club \$1,060***

***Cressy Bowling Club \$3,689***

***Irrewarra Cricket Club Inc \$2,080***

***Irrewillipie Sports & Entertainment Complex \$700***

***Larpent Hall Committee \$281***

***Lavers Hill Branch Blue Light Inc \$3,000***

***Otway Cricket Club Inc \$6,589.75***

***Otway Plains Venturer Unit 3<sup>rd</sup>/4<sup>th</sup> Scout Group \$1,500***

***Otway Rural Fire brigade \$3,000***

***Polwarth Group Country Women's Association \$1,013***

|   |  |  |
|---|--|--|
| <p> <b>Rotary Club of Colac West \$2,500</b><br/> <b>Warrion Public Hall \$2,191</b><br/> <b>Warrion Recreation Reserve \$3,300</b><br/> <b>Warrowie Recreation Reserve \$3,200</b><br/> <b>Western eagles Football Netball Club \$6,000</b><br/> <b>Wye River Surf Life Saving Club \$4,500</b> </p> <p> <b>(b) Community Projects \$37,683</b> </p> <p> <b>Apollo Bay Board Riders Club \$1,617.50</b><br/> <b>Beech Forest 7 District Progress Association \$5,000</b><br/> <b>Birregurra Community Group Inc \$2,166</b><br/> <b>Colac Basketball Association \$2,430</b><br/> <b>The Colac Chorale \$1,678.40</b><br/> <b>Colac &amp; District Family History Group Inc \$1,000</b><br/> <b>Colac &amp; District Cricket Umpires Association \$300</b><br/> <b>Colac &amp; District Historical Society Inc \$550</b><br/> <b>Colac City band \$500</b><br/> <b>Colac Golf Club \$2,651.25</b><br/> <b>Colac Night Netball Association – All Abilities \$1,260</b><br/> <b>Colac Old Time Dance Club Inc \$950</b><br/> <b>Colac Swimming Club \$2,677.65</b><br/> <b>Colac Toy Library \$2,000</b><br/> <b>Colac Wood Turners &amp; Wood Crafters Guild Inc \$1,749</b><br/> <b>Gellibrand Rural Fire Brigade \$3,000</b><br/> <b>Hornden-Vale Glenaire Landcare Group \$1,375</b><br/> <b>Lake Colac Rowing Club \$2,277</b><br/> <b>Otway Mountain Bike Club Inc \$1,130.50</b><br/> <b>Otway Ranges Walking Track Association Inc \$2,300</b><br/> <b>Our Local Parish Group of Coragulac \$770</b><br/> <b>The Meeting Place \$300</b> </p> <p> <b>(c) COPACC Assistance \$ 7,218</b><br/> <b>Colac Sudanese Community Inc \$500</b><br/> <b>The Meeting place \$510</b><br/> <b>Colac West Primary \$781.36</b><br/> <b>Colac Secondary College \$547</b><br/> <b>The Colac Players \$1,953</b><br/> <b>3OCR(Colac Otway FM) \$900</b><br/> <b>South West Local Learning &amp; Employment Network \$750</b><br/> <b>Colac South West Primary \$1,276</b> </p> |  |  |
| <p> <b><u>OM092406-9 ADOPTION OF LAND UNDER ROADS</u></b><br/> <b><u>POLICY POSITION</u></b> </p> <p>         Department: Corporate and Community Services       </p> <p> <b><u>Recommendation(s)</u></b> </p> <p> <b><i>That Council agrees to recognise only land under roads acquired or constructed after 1 July 2008 at cost.</i></b> </p>   |  |  |

**Recommendation**

***That recommendations to items listed in the Consent Calendar, with the exception of items ....., be adopted.***

**MOVED** .....

**SECONDED** .....

**OM092406-3 INSTRUMENT OF DELEGATION - SPECIAL COMMITTEES**

|             |                                  |           |                     |
|-------------|----------------------------------|-----------|---------------------|
| AUTHOR:     | Colin Hayman                     | ENDORSED: | Rob Small           |
| DEPARTMENT: | Corporate and Community Services | FILE REF: | GEN0460 Delegations |

**Purpose**

To endorse the Instrument of Delegation for the Tirrengower Drainage System Committee and the Old Beechy Rail Trail Committee and review exemptions in place re: provisions to submit a Primary Return or an Ordinary Return.

**Background**

Council has in place a number of section 86 committees including the Tirrengower Drainage System Committee and the Old Beechy Rail Trail Committee.

Under s.86(7) of the *Local Government Act* (The Act) these committees are classed as Special Committees.

*“A committee that exercises a power, or performs a duty or function, of the Council that has been delegated to that committee under any Act is a special committee for the purposes of this Act.”*

Each of the committees has an Instrument of Delegation which sets out the function, duties or powers of the committee.

Under s.86(6) of the Act, Council is required to *“review delegations to a Special Committee in force under this section within the period of 12 months after a general election.”*

At the May 2009 Council meeting the Instruments of Delegations for committees that manage a Council facility were signed and sealed following a review that had taken place.

**Council Plan/Other Strategies/Policy**

Under the community priority – strong leadership “We are committed to providing strong community leadership, governance and advocacy services which will benefit the community now and into the future.”

Council has a policy “Section 86 Committees” in place. The policy provides guidance to the various Special Committees.

**Issues/Options****Review of Instrument of Delegation**

As per the Act delegations to a Special Committee need to be reviewed within the period of 12 months after a general election.

All of the current Instrument of Delegations to the various committees were reviewed as part of the Governance Review undertaken in 2006.

The Charter for the Old Beechy Rail Trail Committee was also reviewed in May 2007 with a number of changes being made.

As part of the current review and information received from the Delegation and Authorisations Services provided by Maddocks Lawyers, minor changes have been made to the Instruments of Delegation.

### Other Instruments of Delegation

This report only considers the Instrument of Delegations to the 2 Special Committees.

Council previously considered Delegations to the various other Special Committees at the May 2009 meeting.

Separate reports will be provided to Council that consider:

- “Instrument of Delegation to the Chief Executive Officer” (this agenda);
- “Instrument of Delegation to Members of Council Staff”

### Conflict of Interest

Under Section 78B(3)(b) of the Act a person does not have an indirect interest because of a conflicting duty if –

- (b) the person only holds a position in a not-for-profit organisation for which the person receives no remuneration and the person –
  - (i) was appointed or nominated to that position by this Council; or
  - (ii) was appointed to the relevant special committee of the Council to be a representative of the not-for-profit organisation.

### Submission of a Primary Return or an Ordinary Return

Under section 81(2A) of the Act:

*“A Council may exempt a member of a special committee who is not a Councillor from being required to submit a primary return or an ordinary return.”*

Under section 81(2B) of the Act:

*The Council must review any exemptions in force under subsection (2A) within the period of 12 months after a general election.”*

### **Proposal**

That Council resolve to sign and seal the revised Instruments of Delegations for the Tirrenogower Drainage System Committee and the Old Beechy Rail Trail Committee.

That Council confirm the exemptions provided to members of Special Committees that they are not required to submit a primary or ordinary return.

### **Financial and other Resource Implications**

There are no additional costs relating to this item.

### **Risk Management & Compliance Issues**

Risk Management documentation is provided to each of the committees to assist them in the management of the facility.

Under the *Local Government Act* Council is required to review delegations to Special Committees within the period of 12 months after a general election.

Council is also required to review any exemptions in place re. the submission of a primary or an ordinary return.

### **Environmental Considerations**

There are no environmental considerations applicable.

**Communication Strategy/Consultation**

A copy of the reviewed Instrument of Delegation will be forwarded to the various S.86 (Special) Committees.

**Implementation**

Once the Instruments of Delegation have been signed and sealed, updated copies will be included in the Register that is required to be kept.

**Conclusion**

Council is required under the *Local Government Act* to review delegations to Special Committees within the period of 12 months after a general election.

Council is also required to review any exemptions in place regarding the submission of a primary or ordinary return.

Council's Special Committees provide a valuable service for the community and assist Council in managing and monitoring community assets.

**Attachments**

Instruments of Delegation:

- Old Beechy Rail Trail Committee
- Tirrengower Drainage System Committee

**Recommendation(s)**

1. ***That Instruments of Delegations for the following Special Committees be signed and sealed:***
  - ***Old Beechy Rail Trail Committee; and***
  - ***Tirrengower Drainage System Committee.***
  
2. ***That in accordance with Section 81(2A) of the Local Government Act 1989, Council resolves to exempt members of the committees from being required to submit a Primary or Ordinary "Register of Interest" return.***

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**INSTRUMENT OF DELEGATION  
SPECIAL COMMITTEE**

**Old Beechy Rail Trail Committee**

Pursuant to and in the exercise of the power conferred by Section 86 of the Local Government Act 1989, the Colac Otway Shire Council hereby delegates to a Special Committee to be known as the **Old Beechy Rail Trail Committee** established by resolution passed on 26 September 2001, those functions, duties and powers set forth in the schedule titled Old Beechy Rail Trail Committee Charter (as amended).

1. **This Instrument of Delegation** is authorised by a resolution of Council, passed on 24 June 2009;
  
2. **The Delegation:**
  - a) comes into force immediately the common seal of Council is affixed to this Instrument of Delegation;
  - b) remains in force until Council revokes to vary or revoke it;
  - c) is subject to any conditions and limitations set out in the Schedule; and
  - d) must be exercised in accordance with any guidelines or policies which Council from time to time adopts.
  
3. All members of the committee will have voting rights on the committee.

THE COMMON SEAL of the )  
COLAC OTWAY SHIRE COUNCIL )  
was hereunto affixed in accordance )  
with Local Law No. 4 )

..... Chief Executive Officer

# OLD BEECHY RAIL TRAIL COMMITTEE SPECIAL COMMITTEE

## CHARTER

### 1. Definitions

- “Council” means the Colac Otway Shire Council  
“Committee” Means this Special Committee of Council as constituted pursuant to Section 86 of the *Local Government Act* 1989

### 2. Appointment of Committee Members

- 2.1 Committee members shall be appointed annually by Council resolution.
- 2.2 Committee composition may consist of:
- a) two representatives from
    - Gellibrand/Kawarren Progression Association
    - Beech Forest Progress Association
    - the Colac area
    - Council (one Councillor and one Council Officer)
  - b) a representative from
    - Midway Plantations
    - Parks Victoria
    - Department of Sustainability and Environment
    - Otway Scenic Circle Association
    - Landowner representative
    - Friends of the Old Beechy Rail Trail
    - User groups – walking and cycling
- 2.3 The Committee may declare a position vacant where a member has failed to attend 3 consecutive meetings without leave by resolution.
- 2.4 Casual vacancies during the year may be filled by the Committee recommending a replacement for Council resolution.
- 2.5 Temporary appointments to the Committee may be made by Council as required on the recommendation of the Committee.

### 3. Committee Meetings

- 3.1 The Committee shall appoint a chairperson from among its members for a period of 12 months.
- 3.2 In the absence of a chairperson, the Committee may appoint an acting chairperson.
- 3.3 The Committee shall meet at least 4 times each year.
- 3.4 Meetings shall be held at such times and places as fixed by the Committee.
- 3.5 It is anticipated that meetings of the Committee will sometimes need to be closed to the public, as sensitive land management issues, proposed developments and legal

and contractual matters may be discussed which in the opinion of the Committee may prejudice the Council.

- 3.6 Special meetings may be called by the Chairperson or on the written request of at least 3 committee members.
- 3.7 The quorum for a Committee meeting is 5 members at least one of which shall be a Council officer or Councillor.
- 3.8 All Committee members shall have equal voting rights.
- 3.9 Committee members shall have at least 3 clear days written notice of meetings.
- 3.10 The Chairperson shall ensure that minutes of Committee meetings are kept.

#### **4. Power and Delegated Authority**

- 4.1 Set direction and guide the implementation of the development actions of the Old Beechy Rail Trail Concept Report, prepared June 2000 and associated strategic planning.
- 4.2 Develop and implement a Management Plan for the Old Beechy Rail Trail.
- 4.3 Expend the Old Beechy Rail Trail annual and supplementary budgets as provided by Council.
- 4.4 Power to incur expenditure within the income generated, provided the expenditure does not exceed specified budget parameters.
- 4.5 Power to recommend to Council contracts to be entered into in accordance with the Old Beechy Rail Trail Concept Report June 2000 and any associated documents..
- 4.6 Set Committee meeting dates.
- 4.7 Implement operational and strategic policies as outlined in the Old Beechy Rail Trail Concept Report June 2000 and any associated documents.
- 4.8 Authority to appoint advisers to the Committee as appropriate and employ people to carry out works and improvements for the project, within approved budget parameters.
- 4.9 Power to apply for relevant funding opportunities.
- 4.10 Power to negotiate arrangements with a wide range of land owners including private land owners, statutory authorities and government departments to allow for access, management, improvement, enhancement and maintenance of the Old Beechy Rail Trail and related infrastructure.
- 4.11 Power to recommend to Council on licences, leases and to accept the grant of the benefit of easements in favour of Council.
- 4.12 Power to recommend to Council the creation of a public purpose trust to accept gifts, donations and bequests by the public for applying in furtherance of the aims outlined

in the Old Beechy Rail Trail Concept Report June 2000 and any associated documents.

- 4.13 Power to recommend to Council the impounding of livestock and vehicles, removal of trespassers from Old Beechy Rail Trail, power to monitor behaviour and withdraw invitation to enter an Old Beechy Rail Trail.
- 4.14 Make recommendations to Council on planning and other policy matters affecting Old Beechy Rail Trail.

## **5. Corporate Governance Role**

- 5.1 Defining and monitoring strategic direction.
- 5.2 Defining policies and procedures to ensure operation with legal and social responsibilities.
- 5.3 Establishing control and accountability systems.

## **6. Committee Functions**

- 6.1 The Committee will be responsible for the development of strategic plans for the implementation process of the Old Beechy Rail Trail.
- 6.2 Ensure effective means of communication to encourage community participation and ownership.
- 6.3 The committee will be responsible for the management (including maintenance) of the Old Beechy Rail Trail.

## **7. Minutes of Meetings**

- 7.1 Minutes of meetings shall be saved in Council's internal Library system.

## **8. Revocation**

- 8.1 Council may at any time revoke this delegation of powers and functions.



**INSTRUMENT OF DELEGATION  
SPECIAL COMMITTEE**

**Tirrengower Drainage System Committee**

In exercise of the power conferred by Section 86 of the *Local Government Act 1989* ("the Act"), the Colac-Otway Shire Council ("Council") delegates to the Special Committee established by resolution of Council passed on 10 September 1997 and known as the **Tirrengower Drainage System Committee** ("the Committee") the powers set out in the Schedule, and declares that:

1. **This Instrument of Delegation** is authorised by a resolution of Council, passed on 24 June 2009;
2. **The Delegation:**
  - a) comes into force immediately the common seal of Council is affixed to this Instrument of Delegation;
  - b) remains in force until Council revokes to vary or revoke it;
  - c) is subject to any conditions and limitations set out in the Schedule; and
  - d) must be exercised in accordance with any guidelines or policies which Council from time to time adopts.
3. All members of the committee will have voting rights on the committee.

THE COMMON SEAL of the                    )  
COLAC-OTWAY SHIRE COUNCIL            )  
was hereunto affixed in accordance    )  
with its Local Law No. 4                    )

..... Chief Executive Officer

## **SCHEDULE SPECIAL COMMITTEE**

### **Tirrengower Drainage System Committee**

Colac Otway Shire Council has by resolution appointed a Special Committee to develop and implement, in conjunction with Council, the maintenance works required for the upkeep of the Tirrengower Drainage System. That Committee shall be known as the Tirrengower Drainage System Committee, herein after referred to as the Committee. The powers, functions and duties of the Committee are set out in this schedule.

**1. The power to:**

- a) approve expenditure within a Budget established by the Committee and within the limits of the Special Charge Scheme income raised by Council.
- b) undertake required maintenance and rehabilitation of the drainage system in line with the Catchment and Land Protection Act.
- c) operate the drainage system within the limits of licences held or delegations provided by other authorities.
- d) power to employ such persons or contractors as it sees fit for the maintenance and upkeep of the system.

**2. Limitations of power:**

The Committee is not empowered to:

- a) declare a rate or charge;
- b) borrow money;
- c) delegate to any person or persons any of the powers delegated to them by Council.

**3. Consultation:**

For contracts and expenditure of an amount exceeding \$6,000 for any single item the committee shall consult with Council's Infrastructure and Services Department as required.

- 4.** Council shall provide assistance to the Committee in the form of administration and technical advice where appropriate.

**OM092406-4 INSTRUMENT OF DELEGATION - CHIEF EXECUTIVE OFFICER (CEO)**

|             |                                  |           |                     |
|-------------|----------------------------------|-----------|---------------------|
| AUTHOR:     | Colin Hayman                     | ENDORSED: | Rob Small           |
| DEPARTMENT: | Corporate and Community Services | FILE REF: | GEN0460 Delegations |

**Purpose**

The purpose of this report is for Council to consider the updated Instrument of Delegation to the Chief Executive Officer.

**Background**

As part of Section 98(6) of the *Local Government Act* (The Act) Council must review within the period of 12 months after a general election all delegations which are in force and have been made by Council.

Council last reviewed its delegation to the CEO in July 2008.

The Instrument of Delegation to the CEO is based on a pro forma document provided by Maddocks Lawyers as part of its Delegation and Authorisations “package” that is updated on a regular basis as part of a subscription service.

The objectives of the reviews to delegations are:

- To ensure that the delegations provide an effective and efficient mechanism for Council;
- To make minor wording enhancements, where necessary, to improve the documents;
- To make changes in line with the recent *Local Government Act* amendments.

**Council Plan/Other Strategies/Policy**

Under the community priority – strong leadership “We are committed to providing strong community leadership, governance and advocacy services which will benefit the community now and into the future.”

Section 98(1) of the Act details Council’s ability to delegate to a member of its staff any power, duty or function of a Council under the Act or any other Act with certain exceptions.

**Issues/Options**Review of Instrument of Delegation

As per the Act, the various delegations need to be reviewed within the period of 12 months after a general election.

This report only considers the Instrument of Delegation to the Chief Executive Officer.

Council previously considered Delegations to the various Special Committees at the May 2009 meeting.

Separate reports will be provided to Council that consider the:

- (a) “Instrument of Delegation to Members of Council Staff” and the
- (b) “Instrument of Delegation to other Committees” (this agenda).

Changes to Instrument of Delegation to the CEO

As part of the current review only one change is suggested to the delegation.

Currently 4.1 of the delegation states that the CEO cannot award a contract exceeding the value of \$100,000 (except that power is delegated to accept tenders up to \$200,000 within budget in urgent circumstances or where Council contracts committee cannot conveniently meet).

It is recommended that the wording in this clause be amended to state that the CEO cannot award a contract exceeding the value of \$300,000.

The Chief Executive Officer would still have the option of referring the awarding of a contract to Council for decision.

#### Reasons for Change

##### (a) Changes to Public Tender Threshold Levels

The Minister for Local Government has amended Section 186(1) of the *Local Government Act* 1989 and raised the Public Tender Threshold levels effective from 5 August 2008 as follows:

\$150,000 for Goods and Services contracts from the previous level of \$100,000 and \$200,000 for Works (Building & Civil) contracts from the previous level of \$100,000.

This means that for Works (Building & Civil) contracts, Council no longer needs to conduct a public tender process where the contract sum is less than \$200,000 including GST. This can save a considerable amount of time and administrative work in selecting an appropriate contractor. However, Council's current internal financial delegations still mean that a Council report is required for the final approval of any contract amount over \$100,000 which can add weeks to the Contract Award process including commencement and completion dates.

The proposal is to increase the contract amount to \$300,000.

The contracts policy and procedures will be adjusted with the development of a new Procurement policy.

##### (b) Increase in Capital Works Program

The CEO Delegation for the awarding of contracts has not increased since the 1990's when capital expenditure was significantly less than the current levels.

The following provides an indication of the capital work expenditure for various financial years:

|             |                 |
|-------------|-----------------|
| 1997 – 1998 | \$3.4M          |
| 1999 – 2000 | \$5.2M          |
| 2003 – 2004 | \$5.2M          |
| 2006 – 2007 | \$8.3M          |
| 2008 – 2009 | \$9.7M (Budget) |

##### (c) Advantages

- Will assist Council in delivering its Capital Works Program more efficiently and effectively;



- Increasing the financial delegation to the CEO would improve the efficiency and speed of decision making with regard to tender and contract processes, reducing the requirement to await a Council resolution on an issue that was included within previously agreed budget processes.

#### Current Policies

The current Contracts/Tendering policies need to be reviewed as part of the development of a new Procurement Policy. The policies will need to reflect any changed amount in the CEO's delegation.

#### Contracts Committee

The current Contracts Committee can approve contracts in the range from \$100,000 to \$200,000.

The Committee has only met 3 times in the past 3½ years:

- September 2006
- January 2007
- February 2009

As part of this proposal it is recommended that the Contracts Committee be abolished.

#### Benchmarking

As part of the current delegations review, benchmarking was undertaken with other Victorian Councils to compare the financial delegation provided to the CEO. The amounts delegated vary from \$100,000 to \$2m. A number of Councils are currently in the process of undertaking reviews of their delegations

#### **Proposal**

That Council resolves to delegate to the CEO as per the revised Instrument of Delegation and that the Contracts Committee be abolished.

#### **Financial and other Resource Implications**

As noted in the report it is expected that the change to the delegation will assist Council in improving the efficiency and speed of decision making with regard to tender and contract processes.

#### **Risk Management & Compliance Issues**

In order for a Council to effectively delegate its powers, functions and duties to the CEO, a Council must:

- resolve to delegate its powers to the CEO; and
- make an Instrument of Delegation.

Under the Act, Council is required to review delegations within the period of 12 months after a general election.

#### **Environmental Considerations**

There are no environmental considerations applicable.

#### **Communication Strategy/Consultation**

No consultation is required as it is a legislative requirement to review delegations.

A register of delegations to members of Council staff is kept.

Information on Contracts awarded will be regularly reported to Council.

**Implementation**

The Instrument of Delegation from Council to the Chief Executive Officer comes into force immediately the Common Seal of Council is affixed to the Delegation, subject to any conditions and limitations set out in the Schedule and must be exercised in accordance with any guidelines or policies which Council from time to time adopts.

**Conclusion**

The Delegation to the Chief Executive Officer has been reviewed with the recommendation to make one change.

Given the changes to the Public Tender Thresholds in the *Local Government Act*, the financial delegations of the CEO in other Councils and the potential savings in time and administrative efficiencies that can be achieved it is recommended that the increase to \$300,000 is warranted.

**Attachments**

- Instrument of Delegation
- Schedule

**Recommendation(s)**

***That Council,***

1. ***approve the change in the delegation to the Chief Executive Officer Clause 4.1 awarding a contract exceeding the value of \$300,000.***
2. ***In the exercise of the powers conferred by section 98(1) of the Local Government Act 1989 (the Act) and other legislation referred to in the attached Instrument of Delegation, the Colac Otway Shire Council (Council) resolves that –***
  - (a) ***There be delegated to the person holding the position, acting in or performing the duties of Chief Executive Officer the powers, duties and functions set out in the attached Instrument of Delegation to the Chief Executive Officer, subject to the conditions and limitations specified in that Instrument.***
  - (b) ***The Instrument comes into force immediately the common seal of Council is affixed to the Instrument.***
  - (c) ***On the coming into force of the Instrument all previous delegations to the Chief Executive Officer are revoked.***
  - (d) ***The duties and functions set out in the Instrument must be performed and the powers set out in the Instruments must be executed, in accordance with any guidelines or policies of Council that it may from time to time adopt.***
  - (e) ***It is noted that the Instrument includes a power of delegation to members of Council staff, in accordance with section 98(3) of the Act.***
3. ***Abolish the Contracts Committee on the signing and sealing of the delegation to the Chief Executive Officer.***

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## COLAC-OTWAY SHIRE COUNCIL Instrument of Delegation

In exercise of the power conferred by section 98(1) of the *Local Government Act* 1989 (the Act) and all other powers enabling it, the Colac Otway Shire Council (Council) delegates to the member of Council staff holding, acting in or performing the position of Chief Executive Officer, the powers, duties and functions set out in the Schedule to this Instrument of Delegation.

AND declares that

1. this Instrument of Delegation is authorised by a Resolution of Council passed on 24 June 2009.
2. the delegation
  - 2.1 comes into force immediately the common seal of Council is affixed to this Instrument of Delegation;
  - 2.2 is subject to any conditions and limitations set out in the Schedule;
  - 2.3 must be exercised in accordance with any guidelines or policies which Council from time to time adopts; and
  - 2.4 remains in force until Council resolves to vary or revoke it.
3. The member of Council staff occupying the position or title of or acting in the position of Chief Executive Officer may delegate to a member of Council staff any of the powers (other than the power of delegation conferred by section 98(3) of the Act or any other powers not capable of sub-delegation) which this Instrument of Delegation delegates to him or her.

The common seal of the  
Colac Otway Shire Council  
was hereto affixed in accordance  
with Local Law No 4

.....  
Chief Executive Officer

## SCHEDULE

The power to

1. determine any issue;
2. take any action; or
3. do any act or thing

arising out of or connected with any duty imposed, or function or power conferred on Council by or under any Act.

### Conditions and Limitations

The delegate must not determine the issue, take the action or do the act or thing

4. if the issue, action, act or thing is an issue, action, act or thing which involves
  - 4.1 awarding a contract exceeding the value of \$300,000.
  - 4.2 making a local law under Part 5 of the Act;
  - 4.3 approval of the Council Plan under s.125 of the Act;
  - 4.4 adoption of the Strategic Resource Plan under s.126 of the Act;
  - 4.5 preparation or adoption of the Budget or a Revised Budget under Part 6 of the Act;
  - 4.6 adoption of the Auditor's Report, Annual Financial Statements, Standard Statements and Performance Statement under Part 6 of the Act;
  - 4.7 noting Declarations of Impartiality by Valuers pursuant to section 13DH(2) of the Valuation of Land Act 1960;
  - 4.8 determining pursuant to s.37 of the Act that an extraordinary vacancy on Council not be filled;
  - 4.9 exempting a member of a special committee who is not a Councillor from submitting a return under s.81 of the Act;
  - 4.10 appointment of councillor or community delegates or representatives to external organisations; or
  - 4.11 the return of the general valuation and any supplementary valuations;
5. if the issue, action, act or thing is an issue, action or thing which Council has previously designated as an issue, action, act or thing which must be the subject of a Resolution of Council;
6. if the determining of the issue, taking of the action or doing of the act or thing would or would likely to involve a decision which is inconsistent with a
  - 6.1 policy; or
  - 6.2 strategyadopted by Council; or
7. if the determining of the issue, the taking of the action or the doing of the act or thing cannot be the subject of a lawful delegation, whether on account of section 98(1)(a) – (f)(inclusive) of the Act or otherwise; or
8. the determining of the issue, the taking of the action or the doing of the act or thing is already the subject of an exclusive delegation to another member of Council staff.

**OM092406-5 COUNCIL PLAN 2009-2013**

|                 |                                   |           |                       |
|-----------------|-----------------------------------|-----------|-----------------------|
| AUTHOR:         | Colin Hayman                      | ENDORSED: | Rob Small             |
| DEPARTMENT<br>: | Corporate & Community<br>Services | FILE REF: | GEN01688 Council Plan |

**Purpose**

This report presents for Council's adoption the Council Plan 2009-2013.

**Background**

In accordance with the *Local Government Act 1989*, Council is required to prepare and forward to the Minister for Local Government a four year Council Plan within six months of a general election or by 30 June.

The Council Plan must include:

- The Strategic Objectives of Council;
- Strategies for achieving the objectives for at least the next 4 years;
- Strategic indicators for monitoring the achievement of the objectives; and
- A Strategic Resource Plan that identifies the resources required to achieve these objectives.

At the Special Council Meeting held on 5 May 2009, Council resolved:

1. *That Council adopt the Draft Council Plan 2009-2013 for the purposes of Section 125 of the Local Government Act 1989.*
2. *That public notice be given of the proposed Council Plan 2009-2013 inviting submissions be made in accordance with section 125 of the Local Government Act 1989.*
3. *That Council consider and hear submissions received in respect of the Draft Council Plan 2009-2013 in accordance with section 223 of the Local Government Act 1989 at a Special Meeting of Council to be held on Tuesday, 16 June 2009 at 1.30 pm at COPACC.*

Following the Special Council Meeting a formal consultation process was undertaken. An advertisement was placed in the Colac Herald on Friday, 8 May 2009 inviting the community to provide feedback on the draft Plan.

One submission was received within the timeframe but did not request to be heard, so the Special Council meeting to hear submissions on Tuesday, 16 June 2009 was not required to be held.

**Council Plan/Other Strategies/Policy**

The Council Plan is a legislative requirement and each municipality is required to submit a new 4 year Council Plan to the Minister for Local Government within six months of a general election or by 30 June.

The Council Plan, apart from being a statutory requirement, is a fundamental part of Council's operation as it includes Council's objectives and strategies for the next four years.

Supporting plans such as business plans and specific topic strategies are also aligned to the Council Plan.

## **Issues/Options**

### The Development of the Plan

The Council Plan has been developed via a collaborative process between elected Councillors, the organisation and the Colac Otway Shire community.

During February and March a community engagement process, consisting of a survey on the strategies in the draft Council Plan and eight community forums, was conducted across the municipality.

A total of 750 surveys were registered and 132 ratepayers were consulted at the Forums. Outcomes from the consultation process have provided further input to the Council Plan.

### Vision, Mission and Values

The vision, mission and values have been changed from the previous Council Plan through a series of workshops with Council officers and with Councillors to ensure that the views of Council are accurately defined in the Council Plan.

#### **Our Vision**

Council will work together with our community to create a sustainable, vibrant future.

#### **Our Mission**

Council will work in partnership with our community and other organisations to provide:

- Effective leadership, governance and financial accountability
- Affordable and effective services
- An advocacy and engagement approach to sustainably grow our community.

#### **Our Values**

Council will achieve its Vision and Mission by acting with:

- Respect
- Integrity
- Goodwill
- Honesty
- Trust

Posters that are around the organisation will be updated with the new vision, mission and values.

### Key Result Areas and Objectives

The Council Plan is divided into six Key Result Areas or themes, each with its own objective and set of strategies and key actions that will contribute to the achievement of the objectives.

Council has proposed 38 strategies to deliver on these broad objectives over the next four years.

#### **1. Leadership and Governance**

Council will fulfil its leadership, statutory and legal obligations to its community and staff in a way that is: fair, ethical, inclusive, sustainable, financially responsible and meets the needs and practical aspirations of current and future generations.

- 2. Physical Infrastructure and Assets**  
Council will provide and maintain Council infrastructure and assets that meet community needs now and in the future.
- 3. Land Use and Development**  
Council will engage, plan and make decisions about land use and development that takes into account the regulatory role of Council, its diverse geography, social, community, economic and environmental impacts for current and future generations.
- 4. Environmental Management**  
Council will protect and enhance the environment entrusted to us, demonstrate efficient use of natural resources and minimise climate change impacts.
- 5. Economic Development**  
Council is committed to facilitating a healthy and resilient economy through effective leadership, advocacy and partnership.
- 6. Community Health and Wellbeing**  
Council will promote community health and wellbeing in partnership with other health services. Through a partnership approach, Council will provide a broad range of customer focused health, recreational, cultural and community amenities, services and facilities.

#### Strategic Resource Plan

The Plan incorporates a Strategic Resource Plan that identifies the resources required over the next four years. The Strategic Resource Plan provides information covering both financial and non-financial resources.

The Strategic Resource Plan provides a high-level, medium term view of the resources Council intends to use to support its service provision to the Colac community over the next four years.

The Strategic Resource Plan will be reviewed on an annual basis in conjunction with the review of the Council Plan and annual budget process.

Changes have been made to the Strategic Resource Plan to bring it in line with the Draft Budget for 2009-10 to ensure consistency between the two documents.

#### Strategic Research

Extensive strategic research underpins the development of this Council Plan, with the Strategies and Key Actions for each of the Key Result Areas in the Plan supported by these findings.

A 'snapshot' of the collated results of the research is included as an attachment to the Council Plan. The information, facts and forecasts in the report are posed as Challenges to achieving the Vision and Objectives.

Following is an excerpt from the report:

*"There are numerous positive performance indicators and examples of success throughout the Shire, however, the focus of this report is to capture the things that need to be addressed to achieve the preferred future for the municipality."*

There are two types of 'Challenge' described for each Key Result area, being:

1. *Municipal Wide Challenges – describe the challenges facing the whole municipality, not just the Council as a Local Government authority.*

*Municipal Wide Challenges are not the sole responsibility of one organisation or level of government and therefore require multi-agency collaboration if they are to be addressed. Council therefore has a choice whether it gets involved through a leadership, advocacy, facilitation or participatory role in addressing the challenge.*

2. *Council Specific Challenges – describe the challenges that are directly under the control or responsibility of Council.*

*Council will need to decide if the challenge requires a strategic response and resource allocation.*

*Actions to address the Challenges will often require a combination of Council, community, government and private sector partnerships, funding and collaboration.”*

In addition to the background data and research, the development of the Council Plan is also the outcome of the following inputs:

- Employer obligations
- Statutory requirements
- Contracts and agreements
- Technical and specialist input
- Councillor input
- Staff input
- Community input
- Ideas and feedback
- Council Plan 2005-2009

### Submission

A submission has been received from the Lavers Hill and District Progress Association.

The submission raises three points.

Points 1 and 2 relate to the construction of footpaths in Lavers Hill:

- From the Lavers Hill school, alongside the Great Ocean Road, to the Melba Gully turnoff.
- From the Post Office, down Cobden Cobden Road to service the properties between the Post Office and Morris Track.

### Officer Comment

In relation to the footpath works, officers will include these works as business cases in the preparation of the Capital Works Program in Council's future Capital Works budgets. These works will be prioritised and ranked with works being carried out subject to available funding.

Point 3 relates to the allocation of resources to the Beechy Precinct.

*“Council's proposed funding of several very expensive projects at the Beechy Centre leaves the Council with insufficient funds to adequately fund much needed facilities in outlying townships. This has the effect of concentrating services in Colac and disenfranchising smaller communities in the Shire. Small town halls get a lot of use, particularly Lavers Hill Hall.*



*At times Lavers Hill Hall has one group meeting in the hall and another group meeting in the adjacent supper room, such is the high demand for its facilities. We urge Council to increase its level of funding to small towns, which have been neglected for years."*

#### Officer Comment

The Council Plan indicates a key action with respect to the Beechy Precinct under the Community Health and Wellbeing objective:

*"Continue in partnership with the Colac community and project stakeholders to plan and develop the Beechy Precinct in accordance with Council approvals"*

but also under Economic Development there is a key action:

*"Develop small town/community capability by providing infrastructure and resources, including continued support for the Small Town Improvement Program."*

The Small Town Improvement Program is a successful program. Council at the May 2009 Council meeting allocated \$80,000 to various projects.

#### **Proposal**

The proposal is for Council to adopt the Council Plan 2009-2013.

#### **Financial and other Resource Implications**

The Strategic Resource Plan is a plan of resources required over the four year period 2009-2013 to achieve the strategies and actions detailed in the Council Plan.

The resources available to Council can be grouped into three main sections:

1. Financial Resources
2. Infrastructure
3. Human Resources

#### **Risk Management & Compliance Issues**

In accordance with section 125 of the *Local Government Act 1989* ("the Act") Council is required to prepare and approve a Council Plan before 30 June 2009.

Section 126 of the Act provides details of the Strategic Resource Plan.

In accordance with section 223 of the Act, Council is required to consider and hear submissions received in respect of the draft Council Plan 2009-2013.

An analysis of Risk Management and Compliance Issues will be required to be undertaken for actions in the draft Council Plan.

#### **Environmental Considerations**

The draft Council Plan 2009-2013 includes critical strategies and actions with respect to the Environment and Climate Change.

#### **Communication Strategy/Consultation**

Following the adoption of the Draft Council Plan 2009-2013 at the Special Council meeting held on 5 May 2009 at COPACC, the Draft Council Plan for 2009-2013 was placed on display at the Colac and Apollo Bay Council offices and was also available on Council's website.

Letters from the Mayor were also forwarded to the 759 people who participated in the Community Engagement Program to help shape the Council Plan 2009-2013.

A copy of the community consultation findings were forwarded with each of the letters.

### **Implementation**

Following Council endorsement of the Plan, the Plan will be forwarded to the Minister for Local Government before the 30 June 2009 as per the *Local Government Act 1989*. The Draft Council Plan on the Internet will be replaced by the endorsed document.

Once the document has been officially printed copies will be forwarded to all Councillors, Managers, community groups and to the State and local libraries.

Media releases will be prepared and sent to the Colac Herald and The Echo newspapers.

Staff will be notified of the availability of the Plan and copies placed in staffrooms at Rae Street, Cosworks, Murray Street and Bluewater Fitness Centre. Copies will be made available from both the Colac and Apollo Bay Customer Service Centres.

### **Conclusion**

The Council Plan 2009-2013 represents Council's key strategic objectives, focus areas and strategies for the forthcoming four year period.

The community has had significant input into the development of the Council Plan.

Through the Council Plan which includes the Strategic Resource Plan, the Council has clear financial and non-financial objectives for the next 4 years.

### **Attachments**

Council Plan 2009-2013

### **Recommendation**

***That following the consideration of the submission received that Council adopt the revised Council Plan 2009-2013 (including the Strategic Resource Plan) and forward the Plan to the Minister for Local Government by 30 June 2009.***

~~~~~\ ~~~~~



# Draft Council Plan 2009-2013



Colac Otway  
SHIRE

*Naturally Progressive*

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## Purpose of the Council Plan

The Council Plan is a legislative requirement and each municipality is required to submit a new 4-year Council Plan to the Minister for Local Government, no later than 30 June of the year following a Council election.

The Council Plan is a strategic document outlining the objectives and strategies of Council to the community that the Colac Otway Shire Council, elected in November 2008, has developed to inform the community on the Strategic Actions to deliver its statutory requirements and to reflect the direction Council wishes to take during their electoral term.

Council has developed this Plan in consultation with its key stakeholders - our employees and the community we serve using our Values of Respect, Integrity, Goodwill, Honesty and Trust and the six key result areas of Council as the framework.

Council is pleased to note that over 132 ratepayers were consulted at eight Community Forums around the Shire during March 2009, providing direct input for this Plan.

At the same time, a Community Survey was conducted, resulting in 759 people taking the opportunity to participate in the survey, providing 9,000 pieces of information used to guide the strategies and actions of this Council Plan.

The Plan will underpin and guide our work and establishes the direction and priorities for the organisation for the next four years. Supporting plans such as business plans and specific topic strategies are also aligned to the Council Plan. Progress against the Plan will be measured at least quarterly and annually, in reports to Council and the publication of our Annual Report.

To foster a more proactive approach to our long-term planning the Council Plan is to be reviewed annually. In doing so we are then better able to respond to local and other issues in a more positive and timely manner.

## Strategic 'Snapshot' Report

Attached as an Appendix is a Strategic 'Snapshot' of the Shire. The purpose of this report is to provide information, facts and forecasts about the Colac Otway Shire to inform the development of the Council Plan 2009 to 2013.

The report is presented in the same structure as the Council Plan to enable a quick and easy translation.

The report is based on the best available information about the Shire. In some cases, the information is for wider geographical regions such as the Barwon or Victoria West Regions. Where this is the case, assumptions have been made as to the applicability to Colac Otway.

The report is intended to generate discussion, raise awareness and support the development of strategies and actions that address the challenges facing the municipality.

# Our Vision, Mission and Values

## Our Vision

Council will work together with our community to create a sustainable, vibrant future

## Our Mission

Council will work in partnership with our community and other organisations to provide:

- Effective leadership, governance and financial accountability
- Affordable and effective services
- An advocacy and engagement approach to sustainably grow our community

## Our Values

Council will achieve its Vision and Mission by acting with:

- **R**espect
- **I**ntegrity
- **G**oodwill
- **H**onesty
- **T**rust

## Mayor and CEO's Message

*Photo to be inserted*

It is with great pleasure that we present the 2009 – 2013 Council Plan.

*Cr Brian Crook (left) and Rob Small (right)*

The Council Plan 2009 – 2013 is Colac Otway Shire's key corporate document. We encourage community members to read this document as it identifies Council's key directions and priorities for the next four years.

The Council Plan has been developed via a collaborative process between elected Councillors, the organisation and the Colac Otway Shire community. Also taken into consideration were the results of detailed research undertaken on key factors and issues impacting on the future growth and development of the municipality. We have included this information as an attachment to the Council Plan.

The six Key Result Areas in the Plan are where Council will focus its attention to achieve outcomes for the community. Strategic Objectives are underpinned by Strategies which will determine the way Council manages and delivers services to the Colac Otway community during the four years to 2013.

The Council Plan is closely aligned with the preparation of the annual Budget process, which resources our activities and initiatives. The Council Plan details the Key Actions that Council will pursue during the 4 year period and the indicator targets that will be used to monitor the Strategic Objectives.

**Cr Brian Crook**  
Mayor  
Colac Otway Shire

**Rob Small**  
Chief Executive Officer  
Colac Otway Shire

# Our Council



**Cr Brian Crook**  
Mayor

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**Cr Chris Smith**

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# How Council Operates

Together Councillors make up Colac Otway Shire Council, a statutory body constituted under the Local Government Act 1989. Council is responsible for setting the organisation’s direction and ensuring that it performs effectively on behalf of the Colac Otway Shire community.

## Council Meetings

Council meetings are generally held on the 4<sup>th</sup> Wednesday of each Month and are open to the public. Council meetings are held at the Council offices in Colac, with two meetings a year held in Apollo Bay. Council’s meeting agendas and minutes are available on the Colac Otway Shire website [www.colacotway.vic.gov.au](http://www.colacotway.vic.gov.au).

The Mayor is elected annually by the Councillors. Committee appointments are made annually by Council. Committees of Council are as follows:

| Committee                                              | Purpose/Comments                                                                                                                                                                                                                                       |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Audit Committee<br>(Advisory Committee)                | To review financial and risk management systems and assist Council to carry out its corporate governance responsibilities. It has an independent member as the chairperson. The Chief Executive Officer (CEO) is a non-voting member.                  |
| Australia Day Advisory Committee                       | To review nominations and select Australia Day Award winners in the various categories.                                                                                                                                                                |
| Contracts Committee<br>(Special Committee)             | The purpose of this committee is to approve contracts of the value ranging from \$100,000 to \$200,000.                                                                                                                                                |
| Festival & Events Support Scheme<br>Advisory Committee | To consider the applications received for the Festival & Events Support Scheme and make any recommendations to Council on any strategic directions for specific events or the Support Scheme.                                                          |
| Grants/Community Funding Advisory<br>Committee         | To consider the applications received for the Community Funding program and make recommendations on any strategic directions for the specific projects or funding programs.                                                                            |
| Planning Committee<br>(Special Committee)              | To consider and determine all matters referred to it pursuant to the instrument of delegation, matters relating to strategic issues, receiving regular reports on key performance indicators, and other matters referred to the Committee as seen fit. |
| Roads Advisory Committee                               | To provide an effective means of communication between the community and Council in relation to its road management function and to guide Council’s advocacy role in relation to strategic road issues.                                                |
| Small Town Improvement Program<br>Advisory Committee   | To consider the applications received for the Small Town Improvement Program.                                                                                                                                                                          |

**Note:** A number of the committees include external members and staff.

On an annual basis, Council also appoints Councillors to a number of other committees and external bodies.

## Overview of the Shire

We are fortunate to live in this part of the world, with its natural beauty and diversity of industry. Colac Otway Shire has some of the most picturesque scenery in the State. A large proportion is State Forest and National Park, including beaches, coastline, rainforests, waterfalls, volcanic lakes and craters.

Colac Otway Shire is situated within a two hour drive of Melbourne and is a vibrant and progressive rural, residential and resort area.

Colac is thought to be named after the local Coladjin Aboriginal tribe that once lived in the area and Cape Otway was named by Lieutenant Grant in 1801 after a Captain Otway.

In the northern hinterland much of the rural area is used for timber and agriculture, with farming, cropping and dairying being the main agricultural activities.

A drive south through Colac leads to the Otway Ranges, home to one of Australia's most significant cool climate rainforest areas. The Otways are important to the Shire and the wider region for tourism, timber and water harvesting, with tourism being especially important in the southern section along the Great Ocean Road.

### The Shire at a Glance

The Shire has two main townships; the largest being Colac, the major service town where most community support and health services, retail trade and manufacturing businesses are located. The other major township is Apollo Bay, which serves as the major tourism centre. Dotted throughout the Shire are many small and historic towns with active community associations.

|                                                             |                     |
|-------------------------------------------------------------|---------------------|
| <i>Area:</i>                                                | 3,427 sq kilometres |
| <i>Length of Local Roads:</i>                               | 1,700 kilometres    |
| <i>Number of Rateable Properties (as at 31 March 2009):</i> | 14,264              |

The following data is sourced from the Australian Bureau of Statistics Census 2006:

#### *Employment*

95.4% of the labour force is employed.

The four most popular industry sectors are:

- Retail Trade (1,370 persons or 14.6%)
- Agriculture, Forestry & Fishing (1,334 persons or 14.2%)
- Health and Community Services (1,035 persons or 11.1%)
- Manufacturing (1,028 persons or 11.0%)

In combination, these four industries employed a total of 4,767 people or 50.9% of the employed resident population.

### *Age Structure*

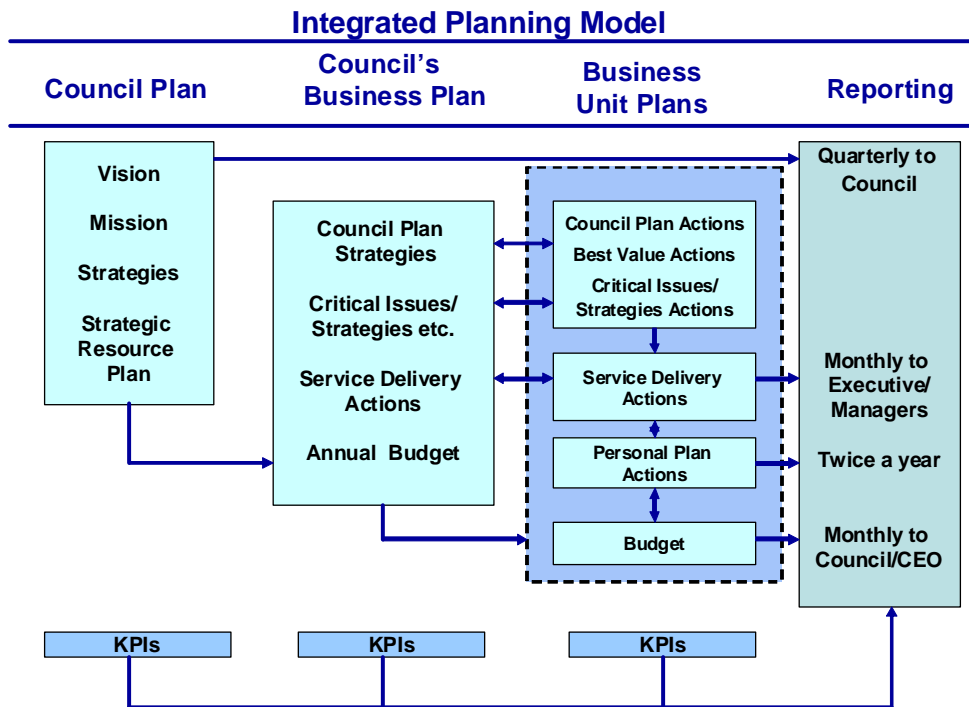
Age structure is an important indicator of an area's residential role and function and how it is likely to change in the future. The age structure of a population is usually indicative of an area's era of settlement and provides key insights into the level of demand for services and facilities, as most services and facilities are age-specific.

|                                          |        |       |
|------------------------------------------|--------|-------|
| Population at 30 June 2006:              | 20,293 |       |
| 0-4 yrs                                  |        | 5.9%  |
| 5-11 yrs                                 |        | 9.5%  |
| 12-17 yrs                                |        | 9.4%  |
| 18-24 yrs                                |        | 7.5%  |
| 25-34 yrs                                |        | 10.2% |
| 35-49 yrs                                |        | 20.8% |
| 50-59 yrs                                |        | 14.1% |
| 60-69 yrs                                |        | 10.2% |
| 70-84 yrs                                |        | 10.2% |
| 85+ yrs                                  |        | 2.2%  |
| Colac Otway residents born in Australia: |        | 87.3% |

# Council’s Planning Framework

Colac Otway Shire’s Council Plan plays a vital role in shaping the future of the municipality over the next four years. It sets out local and regional challenges and opportunities for our community.

This planning document embodies Council’s Plans, Objectives, Strategies and Key Actions that will enable us to achieve our long term vision of a sustainable, vibrant future in partnership with our community.



## Business Plans

The provision of strategic direction through the Council Plan and the allocation of funding through the Budget is not enough by itself to deliver ‘on the ground’ results. This can only be achieved through plans for actions involving all appropriate human, physical and financial resources. For local government this requires detailed planning across the wide range of services it delivers and functions it performs. These internal action plans are prepared annually and are known as Unit Business Plans.

## Continuous Improvement (Best Value)

Best Value is a commitment from Colac Otway Shire to provide best value for the resources we use and the best possible services for our community.

Councils are required by the Local Government Act to ensure their services take into account the following Best Value principles:

- Specific quality and cost standards for every Council service
- Responsiveness to community needs
- Accessibility and appropriately targeted services
- Continuous improvement
- Regular community consultation on all services and activities
- Frequent reporting to the community

Council will apply these principles to continuously improve its strategic and service planning as well as its service delivery. This ongoing improvement will assist Council to maintain its flexibility and provide resources to meet the community's needs, thereby building on our commitment to provide high quality, cost effective services and facilities that promote community wellbeing.

# Development of the Council Plan

## 1. Strategic Research

Extensive strategic research underpins the development of this Council Plan, with the Strategies and Key Actions for each of the Key Result Areas in the Plan supported by these findings.

A 'snapshot' of the collated results of the research is included as an attachment to the Council Plan. The information, facts and forecasts in the report are posed as **Challenges** to achieving the **Vision** and **Objectives**.

Following is an excerpt from the report:

*"There are numerous positive performance indicators and examples of success throughout the Shire; however, the focus of this report is to capture the things that need to be addressed to achieve the preferred future for the municipality.*

*There are two types of "Challenge" described for each Key Result Area, being:*

1. **Municipal Wide Challenges** – describe the challenges facing the whole municipality, not just the Council as a Local Government Authority.

*Municipal wide challenges are not the sole responsibility of one organisation or level of government and therefore require multi-agency collaboration if they are to be addressed. Council therefore has a choice whether it gets involved through a leadership, advocacy, facilitation or participant role in addressing the challenge.*

2. **Council Specific Challenges** – describe the challenges that are directly under the control or responsibility of Council.

*Council will need to decide if the challenge requires a strategic response and resource allocation.*

*Actions to address the Challenges will often require a combination of Council, community, government and private sector partnerships, funding and collaboration."*

In addition to the background data and research, the development of the Council Plan is also the outcome of the following inputs:

- Statutory requirements
- Contracts and Agreements
- Employer obligations
- Technical and Specialist input
- Councillor input
- Staff input
- Community Input
- Ideas and feedback
- Council Plan 2005-2009

## 2. Engagement and Consultation

### A. Council and Organisation Input

In early December 2008, input and endorsement was sought from the newly elected Council on the proposed Council Plan framework, key activities and timetable for completion of the Plan.

A series of five workshops were held with staff from across the organisation, and at all levels, at which a draft framework for the new Council Plan was workshopped.

The views of staff were sought on the 2005-2009 Vision, Mission and Values; what was still current, what had changed and what should be included. The proposed Strategic Objectives were discussed and challenges to achieving the objectives identified. Strategies and Key Actions were identified using the 'MoSCoW' process developed by the City of Melbourne:

- **Must Do**
- **Should Do**
- **Could Do**
- **Won't Do (or Can't Do)**

along with items for consideration as part of a Long-Term Financial Plan

In December 2008 and January 2009, Council workshopped their new Vision, Mission and Values and provided input into the draft Key Result Areas, Strategic Objectives and Strategies in the Council Plan.

In February 2009, Council endorsed the program for consultation with the community on the Strategies proposed for the new Council Plan and to seek the community's views and input on issues of concern.

### B. Community Input

Community consultation and engagement is a core ingredient in Council's planning framework. Council has undertaken an extensive community consultation program in the development of this Council Plan. Two approaches were used; a **Community Survey** and eight **Community Forums**.

The *Community Survey* of 759 resident and non-resident ratepayers targeted people 15 to 80+ years of age in direct proportion to the current demographic distribution and gender balance of the Shire. A variety of methods were used including web, email, direct contact, paper and mail providing a 95% confidence rate in the survey outcomes. The survey covered the Shire by gathering input from all towns and districts using a Zone based approach:

| Zone                           | Towns                                                                                                                                                                                                                                                                                                                                                                                          | 2006          | %           |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|
| <b>Colac Otway Shire TOTAL</b> |                                                                                                                                                                                                                                                                                                                                                                                                | <b>20,293</b> | <b>100%</b> |
| Urban Colac                    | <b>Colac</b> , Elliminyt                                                                                                                                                                                                                                                                                                                                                                       | 11,407        | 56.2%       |
| Rural North                    | Alvie, <b>Beeac</b> , <b>Birregurra</b> , Cororooke, Cressy, Irrewarra and Warrion, and the localities of Balintore, Barunah Plains, Coragulac, Corunnun, Cundare, Cundare North, Dreeite, Dreeite South, Eurack, Ombersley, Ondit, Warncoort, Weering, Whoorel, Winchelsea (part), Wingeel and Wool Wool                                                                                      | 3,346         | 16.5%       |
| Rural South                    | Barongarook, Carlisle River, <b>Forrest</b> , <b>Gellibrand</b> , Larpent, Pirron Yallock and Swan Marsh, and the localities of Barongarook West, Barramunga, Barwon Downs, Bungador, Carpendeit (part), Gerangamete, Irrewillipe, Irrewillipe East, Jancourt East (part), Kawarren, Murroon, Nalangil, Pennyroyal, Simpson (part), Stonyford, Yeo and Yeodene                                 | 2,966         | 14.6%       |
| Great Ocean Rd Otways          | <b>Apollo Bay</b> , <b>Beech Forest</b> , Glenaire, Johanna, Kennett River, Lavers Hill, Marengo, Skenes Creek, Wongarra and Wye River, and the localities of Aire Valley, Cape Otway, Chapple Vale, Ferguson, Gellibrand Lower (part), Grey River, Hordern Vale, Mount Sabine, Petticoat Creek, Separation Creek, Skenes Creek North, Sugarloaf, Tanybryn, Weeaprounah, Wyelangta and Yuulong | 2,584         | 12.7%       |

Eight *Community Forums* were conducted at various times and in seven locations across the Shire (highlighted in blue text in the above table) that included the main towns and population areas. The Forums were run in a 'World Café' style where tables discussed the topics of the day, with the help of a facilitator, and then recorded their input on the survey form.

The nature of the Forums allowed for more topics to be explored and background information to be provided. Wider strategic 'Big Picture' topics such as the Environment, Economy, Community and Population Sustainability were discussed. Whilst these areas are not directly or totally the responsibility of Council, they represent the core sustainability, and therefore the viability, of the Shire and have a significant impact on Council operations i.e. services, infrastructure, rate base and image.

Input and feedback is sought from the community on an ongoing basis in regard to all the major strategies and policies developed and adopted by Colac Otway Shire. Significantly, this consultation is embedded in Council business agendas through the obligation to address the issue of community consultation in all reports and recommendations that come before Council for consideration.

Statutory compliance plays a vital part in ensuring that at least an acceptable level of community consultation is achieved. In terms of the Council Planning framework, the preparation and adoption processes for both the Council Plan and the Budget are subject to compliance with Section 223 of the Local Government Act 1989, which provides for public notices and the receipt and consideration of submissions from the community.



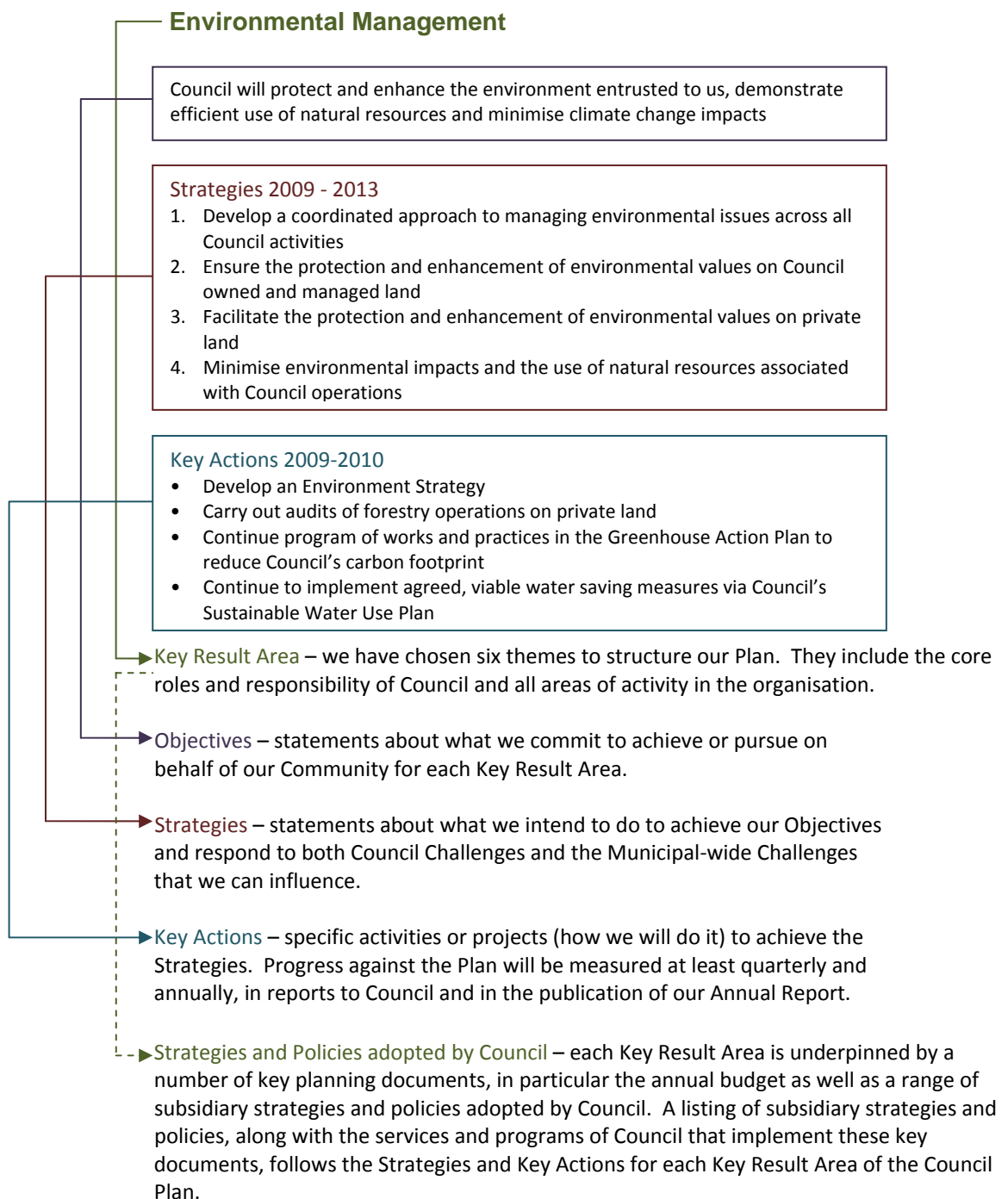
# Using the Plan

The Council Plan is a strategic document that outlines the strategic objectives of Council to the community.

The Council Plan is a legislative requirement and each local government needs to submit a new 4-year Council Plan to the Minister, no later than 30 June of the year following a Council election.

The Council Plan is divided into six Key Result Areas, or themes, each with its own Objective and set of Strategies and Actions that will contribute to the achievement of the Objective. Achievements against the planned Actions will be reported on quarterly to Council and in the Annual Report, thus ensuring Council is accountable and responsible for its performance.

## An Example of how it works



The final two components that complete the Council Plan are:

- **Strategic Indicators:** measures of performance that monitor our progress against the Objectives of the 6 Key Result Areas
- **Strategic Resource Plan:** specifies the financial and non-financial resources required to achieve our Council Plan

# Key Result Areas and Objectives

The following key result areas and objectives guide our decisions and encompass all areas of Council activities.

Council currently provides direct funding and services for each key result area however, in all cases, Council is not the only level of government or organisation involved in service and infrastructure provision.

Council therefore has a fundamental role to lead, advocate and facilitate partnerships on behalf of the community to achieve the following objectives:

**1. Leadership and Governance**

Council will fulfil its leadership, statutory and legal obligations to its community and staff in a way that is: fair, ethical, inclusive, sustainable, financially responsible and meets the needs and practical aspirations of current and future generations.

**2. Physical Infrastructure and Assets**

Council will provide and maintain Council infrastructure and assets that meet community needs now and in the future.

**3. Land Use and Development**

Council will engage, plan and make decisions about land use and development that takes into account the regulatory role of Council, its diverse geography, social, community, economic and environmental impacts for current and future generations.

**4. Environmental Management**

Council will protect and enhance the environment entrusted to us, demonstrate efficient use of natural resources and minimise climate change impacts.

**5. Economic Development**

Council is committed to facilitating a healthy and resilient economy through effective leadership, advocacy, and partnership.

**6. Community Health and Wellbeing**

Council will promote community health and wellbeing in partnership with other health services. Through a partnership approach, Council will provide a broad range of customer focused health, recreational, cultural and community amenities, services and facilities.

## NOTE

For each of the six Key Result Areas, the timing of the following Key Actions to deliver Council Plan Strategies indicates either a commitment to consistent effort over the 4 year Plan period or a specific period within which the Action will be completed. All Actions are subject to the Annual Review of the Council Plan and the allocation of resources through the annual Council Budget.

## 1. LEADERSHIP AND GOVERNANCE

### Objective

***Council will fulfil its leadership, statutory and legal obligations to its community and staff in a way that is: fair, ethical, inclusive, sustainable, financially responsible and meets the needs and practical aspirations of current and future generations.***

Council is committed to achieving the following strategies for **Leadership and Governance**. We will use the associated actions to measure how effectively we implement the strategies.

| Strategies (what)                                                                                               | Key Actions (how)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Timing (when)                                                                            |
|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Lead the community in responding to the current and long term sustainability challenges facing the municipality | <ol style="list-style-type: none"> <li>Pursue the development of a collaboratively developed Sustainable Population Strategy that takes into account the demographic, social, environment, economic, land use and leadership factors that make a great municipality</li> <li>Review of Council's Local Laws</li> <li>Review of Council's Policies</li> </ol>                                                                                                                                                                                                                                                                                                                                                                              | <p>Dec 2011</p> <p>2010-2013</p> <p>2009-2013</p>                                        |
| Improve community engagement to ensure open, accessible, transparent planning and decision making               | <ol style="list-style-type: none"> <li>Continuously improve and implement Council's Community Engagement Policy, Procedure and Toolkit</li> <li>Conduct community forums throughout the Shire</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>2009-2013</p> <p>2009-2013</p>                                                        |
| Provide responsible financial management                                                                        | <ol style="list-style-type: none"> <li>Develop a ten year financial plan that is integrated with Council's Asset Management Strategy</li> <li>Support the Audit Committee and maintain an internal audit program ensuring an Audit Plan is developed and implemented annually based on the outcomes of the Risk Profiling project</li> <li>Implement a new chart of accounts in line with integration of the Financial Management software</li> <li>Facilitate a strategic and integrated approach for grants applications which ensures alignment with the Council Plan and Budget</li> <li>Secure multiple grants for major projects, where possible, to reduce Council's matching contribution from other than rate revenue</li> </ol> | <p>2009-2013</p> <p>2009-2013</p> <p>2009-2010</p> <p>2009 – 2013</p> <p>2009 – 2013</p> |
| Continuously improve the services directly provided by Council                                                  | <ol style="list-style-type: none"> <li>Carry out best value reviews on Council operations and implement the prescribed actions</li> <li>Improve Council's Customer Service capability to increase customer satisfaction</li> <li>Actively promote the delivery of responsive customer service across the organisation</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                          | <p>2009-2013</p> <p>2009-2013</p> <p>2009-2013</p>                                       |

| Strategies (what)                                                                                                                                                             | Key Actions (how)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Timing (when)                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Advocate for improved infrastructure, services and utilities provided to our community by other organisations or levels of Government and in relation to environmental issues | <ol style="list-style-type: none"> <li>1. Advocate and influence the development of water authorities' water supply demand policies and strategies</li> <li>2. Advocate for increased State Government recognition and funding as compensation for the Shire's larger than average area of non-rateable land</li> <li>3. Advocate for appropriate State and Federal Government funding for community priorities</li> <li>4. Participate in G21 and Great South Coast resource sharing forums and negotiations on regional strategic objectives</li> <li>5. Advocate for appropriate fire prevention activities in the Great Otway National park and other public land</li> </ol>                                                                                                                                                              | <p>2009-2013</p> <p>2009-2013</p> <p>2009-2013</p> <p>2009-2013</p> <p>2009-2013</p>                  |
| Attract and retain quality staff                                                                                                                                              | <ol style="list-style-type: none"> <li>1. Negotiate the fifth Colac Otway Shire Enterprise Agreement</li> <li>2. Work in partnership with local and industry groups on employment branding initiatives that enhance the profile and appeal of local government as an "employer of choice"</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>2009-2011</p> <p>2009-2013</p>                                                                     |
| Provide a fair, safe and healthy work environment                                                                                                                             | <ol style="list-style-type: none"> <li>1. Enhance and implement the corporate occupational health and safety systems (SafetyMap) and ensure ongoing compliance with all relevant regulations</li> <li>2. Review Council Offices and Staff Accommodation to ensure appropriate space is provided to accommodate staff</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>2009-2013</p> <p>2009-2012</p>                                                                     |
| Continuously improve operational systems, processes and minimise risk                                                                                                         | <ol style="list-style-type: none"> <li>1. Implement the Risk profiling project (including a review of the Risk Management strategy and implementation of the Risk Register software) to effectively manage and minimise Council's liabilities and eliminate risk</li> <li>2. Review and update Council's Risk Management Policy and Procedures Manual including compliance audits</li> <li>3. Implement the Systems and Processes Review project to ensure that systems and processes are operating effectively and providing support to eliminate risk</li> <li>4. Implement Council's Information Communication Technology strategic plan</li> <li>5. Develop and implement Council's Information Services disaster recovery environment</li> <li>6. Seek opportunities for sharing of resources and expertise across the region</li> </ol> | <p>2009-2010</p> <p>2009-2013</p> <p>2009-2013</p> <p>2009-2013</p> <p>2009-2013</p> <p>2009-2013</p> |
| Communicate regularly, effectively and honestly with the community                                                                                                            | <ol style="list-style-type: none"> <li>1. Provide relevant, timely and accurate information to the community using print, radio and web media, as well as non-media channels such as newsletters and the Colac Otway Shire website</li> <li>2. Ensure Colac Otway Shire's website is accessible, easy to navigate, utilises appropriate web technologies and contains relevant and up-to-date information</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>2009-2013</p> <p>2009-2013</p>                                                                     |

| <b>Strategies (what)</b>                                                                            | <b>Key Actions (how)</b>                                                                                                                                                                                                                                                                                                                                                                                      | <b>Timing (when)</b>                                                |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Meet our statutory obligations for community safety, security and responses to emergency situations | <ol style="list-style-type: none"> <li>1. Implement the Domestic Animal Management Plan</li> <li>2. Implement the Municipal Fire Prevention Plan</li> <li>3. Establish integrated fire management practices</li> <li>4. Undertake an annual review of the Emergency Management Plan (EMP) from a Shire perspective and implement awareness training and readiness programs for community and staff</li> </ol> | <p>2009-2013</p> <p>2009-2013</p> <p>2010-2011</p> <p>2009-2013</p> |

**Leadership and Governance** is supported by the continued delivery of a diverse range of services, projects and programs and specific plans and documents.

| <b>Services that support leadership and governance:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Documents, strategies and plans that support leadership and governance:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Audit Program</p> <p>Communications</p> <p>Corporate Governance</p> <p>Corporate Systems development and improvement.</p> <p>Council &amp; Business Planning</p> <p>Councillor Support</p> <p>Customer Services</p> <p>Document Management Services</p> <p>Domestic Animal Services</p> <p>Emergency Management/Readiness</p> <p>Executive</p> <p>Financial Management Systems and Services</p> <p>Fire Prevention</p> <p>Human Resources Management</p> <p>Information Communication and Technology Services</p> <p>Local Laws Enforcement</p> <p>Occupational Health and Safety</p> <p>Rating/Property Services</p> <p>Risk Management</p> | <ul style="list-style-type: none"> <li>• Annual Budget</li> <li>• Annual Business Plans – Corporate Services</li> <li>• Annual Report and Quarterly Performance reports</li> <li>• Audit Committee Charter</li> <li>• Colac Otway Information Communication and Technology Strategy</li> <li>• Colac Otway Rating Strategy</li> <li>• Colac Otway Shire Enterprise Agreement 2006</li> <li>• Council agendas and minutes</li> <li>• Council Policies</li> <li>• Councillor Code of Conduct</li> <li>• Delegations &amp; Authorisations Register</li> <li>• Domestic Animal Management Plan</li> <li>• Emergency Management Plan – Regional (COS)</li> <li>• Local Government Privacy Guide</li> <li>• Local Law No 1 – Consumption of Alcohol in public places</li> <li>• Local Law No 2 – General Local Law</li> <li>• Local Law No 3 – Livestock</li> <li>• Local Law No 4 – Processes of Local Government</li> <li>• Municipal Fire Prevention Plan</li> <li>• Public Information Register</li> <li>• Risk Management Strategy</li> <li>• Strategic Resource Plan</li> <li>• Style Guidelines</li> <li>• Volunteer Engagement Strategic Plan</li> </ul> |

## 2. PHYSICAL INFRASTRUCTURE AND ASSETS

### Objective

***Council will provide and maintain Council infrastructure and assets that meet community needs now and in the future.***

Council is committed to achieving the following strategies for **Physical Infrastructure and Assets**. We will use the associated actions to measure how effectively we implement the strategies.

| Strategies (what)                                                                                             | Key Actions (how)                                                                                                                                                    | Timing (when) |
|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Ensure infrastructure development, renewal and maintenance plans address current and forecast community needs | 1. Plan and implement infrastructure projects that transform townships and promote economic development and community strengthening                                  | 2009-2013     |
|                                                                                                               | 2. Review and implement Asset Management Plans to ensure that the level of funding for asset development, maintenance and upgrade meets the community's expectations | 2009-2013     |
|                                                                                                               | 3. Develop a 10 year capital works and major projects program according to adopted priorities                                                                        | 2009-2010     |
|                                                                                                               | 4. Review the 10 year capital works and major projects program annually                                                                                              | 2010-2013     |
| Implement and manage Colac Otway Shire's Road Management Plan                                                 | 1. Continue active participation and involvement in the STEP Asset Management Program with the Municipal Association of Victoria                                     | 2009-2013     |
|                                                                                                               | 2. In line with the Road Management Act 2004 requirements, review and update Colac Otway Shire's Road Management Plan                                                | 2010-2013     |
|                                                                                                               | 3. Develop a Strategic Footpath Plan for Colac                                                                                                                       | 2012-2013     |
|                                                                                                               | 4. Review and implement the Strategic Footpath Plan for Apollo Bay                                                                                                   | 2010-2011     |
| Manage Council's buildings and facilities in a responsible, safe and sustainable manner                       | 1. Develop Building Assets Management Plan and implement according to adopted priorities                                                                             | 2010-2011     |
|                                                                                                               | 2. Develop a Land Rationalisation Program                                                                                                                            | 2010-2012     |
|                                                                                                               | 3. Develop a Building Rationalisation Program                                                                                                                        | 2011-2012     |
| Improve local and regional transport networks to ensure safety and accessibility                              | 1. Implement the Transport Linkages program                                                                                                                          | 2009-2013     |
|                                                                                                               | 2. Implement the parts of the G21 Transport Plan relevant to Colac Otway Shire                                                                                       | 2009-2013     |
|                                                                                                               | 3. In partnership with regional councils and VicRoads develop and implement a Road Safety Plan and Council approved road safety initiatives                          | 2012-2013     |
|                                                                                                               | 4. Advocate for duplication of the Princes Highway from Winchelsea to Colac                                                                                          | 2009-2013     |
|                                                                                                               | 5. Advocate for further improvements to the Princes Highway from Colac to the South Australian border                                                                | 2009-2013     |
|                                                                                                               | 6. In partnership with VicRoads identify options and plan for alternative road access through or around Colac, particularly relating to freight movement             | 2010-2011     |
|                                                                                                               | 7. Advocate for improved commuter Rail Services and safe Railway Crossings                                                                                           | 2009-2013     |

| Strategies (what)                                                                                                         | Key Actions (how)                                                                                                                                                                                                                                                                                                                          | Timing (when)                     |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Ensure environmental risks are adequately addressed for Council infrastructure works, including impacts of climate change | <ol style="list-style-type: none"> <li>1. Implement sound procedures to ensure that environmental constraints are adequately considered in the planning and implementation of Council's infrastructure maintenance activities</li> <li>2. Develop a proposed long term management response to sea level rise for Council assets</li> </ol> | <p>2009-2013</p> <p>2009-2013</p> |

**Physical Infrastructure and Assets** is supported by the continued delivery of a diverse range of services, projects and programs and specific plans and documents.

| Services that support physical infrastructure and assets:                                                                                                                                                                                                          | Documents, strategies & plans that support physical infrastructure and assets:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Apollo Bay Harbour Management<br/> Asset Management<br/> Building maintenance, development and upgrades.<br/> Colac Livestock Selling Centre<br/> Contract Management<br/> Engineering Design<br/> Infrastructure Maintenance and upgrades<br/> Road Safety</p> | <ul style="list-style-type: none"> <li>• Amended Road Management Plan</li> <li>• Apollo Bay Sand Study Final Report (2005)</li> <li>• Apollo Bay Strategic Footpath Network Plan (July 2002)</li> <li>• Bridge Asset Management Plan</li> <li>• Building Asset Management Plan</li> <li>• Colac Otway Stormwater Management Plan</li> <li>• Colac Otway Strategic Bicycle Plan (1999)</li> <li>• Great Ocean Road Landscape Assessment Study 2004 (State Government)</li> <li>• Road Asset Management Plan</li> <li>• Road Safety Strategy</li> <li>• Safety &amp; Environment Management Plan (SEMP) Apollo Bay Harbour</li> <li>• Strategic Asset Management Plan</li> <li>• Three Towns Drainage Strategy</li> </ul> |



### 3. LAND USE AND DEVELOPMENT

#### Objective

***Council will engage, plan and make decisions about land use and development that takes into account the regulatory role of Council, its diverse geography, social, community, economic and environmental impacts for current and future generations.***

Council is committed to achieving the following strategies for **Land Use and Development**. We will use the associated actions to measure how effectively we implement the strategies.

| Strategies (what)                                                                                                           | Key Actions (how)                                                                                                                                                                  | Timing (when) |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Ensure a partnership approach to land use planning that reflects the needs, values and aspirations of the community         | 1. Prepare an updated residential and industrial land supply analysis for Colac, and seek to have Colac Otway Shire included in the State Government urban land monitoring program | 2009-2013     |
|                                                                                                                             | 2. Advocate for more detailed mapping of the Erosion Management Overlay by State Government                                                                                        | 2009-2013     |
|                                                                                                                             | 3. Finalise a Rural Living Strategy and implement findings                                                                                                                         | 2010-2011     |
|                                                                                                                             | 4. Finalise and implement a car parking study for Colac & Apollo Bay                                                                                                               | 2009-2011     |
|                                                                                                                             | 5. Finalise and implement Birregurra and Forrest Structure Plans                                                                                                                   | 2009-2011     |
|                                                                                                                             | 6. Prepare a precinct plan for Elliminyt                                                                                                                                           | 2009-2013     |
|                                                                                                                             | 7. Prepare a precinct plan for East Colac                                                                                                                                          | 2011-2013     |
|                                                                                                                             | 8. In conjunction with the State Government, and subject to external funding, exhibit a Planning Scheme amendment for the Apollo Bay Harbour Master Plan                           | 2009-2013     |
| Ensure that responsible planning mechanisms are used to control development in areas potentially affected by climate change | 1. Work with State Government to develop appropriate planning controls that respond to predicted sea level rise                                                                    | 2009-2013     |
| Ensure all Council land use plans and strategies are current and responsive                                                 | 1. Undertake a four year review of the Planning Scheme                                                                                                                             | 2009-2011     |
|                                                                                                                             | 2. Regularly update and improve the Colac Otway Planning Scheme through Planning Scheme amendments                                                                                 | 2009-2013     |
|                                                                                                                             | 3. Prepare a Commercial Strategy for Colac                                                                                                                                         | 2009-2013     |
| Enforce planning and building regulations to meet legislative requirements                                                  | 1. Implement comprehensive monitoring of the Essential Safety legislative requirements                                                                                             | 2009-2013     |
|                                                                                                                             | 2. Review practices for monitoring swimming pool fencing                                                                                                                           | 2009-2011     |
|                                                                                                                             | 3. Implement mechanisms to improve knowledge of building and planning requirements/responsibilities                                                                                | 2009-2013     |
| Ensure consistent and timely decision making for building and planning applications that meet Council's policy framework    | 1. Document and continuously improve processes and procedures for assessment and determination of building and planning permit applications                                        | 2009-2011     |
|                                                                                                                             | 2. Prepare and develop a more comprehensive Information Kit on building and planning application requirements                                                                      | 2009-2011     |
|                                                                                                                             | 3. Provide improved access to building and planning information on Council's website                                                                                               | 2009-2013     |

| Strategies (what)                                                                         | Key Actions (how)                                                                                                                                                                                                                                                                                                               | Timing (when)                     |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Ensure that environmental risks are adequately addressed for new development and land use | <ol style="list-style-type: none"> <li>1. Work with State Government to develop and introduce planning controls that accurately reflect areas known to potentially have acid sulfate soils</li> <li>2. Appropriately respond to Salinity risks through the Planning Scheme, Building legislation or other mechanisms</li> </ol> | <p>2009-2013</p> <p>2009-2013</p> |

**Development and Land Use** is supported by the continued delivery of a diverse range of services, projects and programs and specific plans and documents.

| Services that support development and land use                        | Documents, strategies & plans that support development and land use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Building Control Services<br>Statutory Planning<br>Strategic Planning | <ul style="list-style-type: none"> <li>• Apollo Bay Car Parking Strategy (2002)</li> <li>• Apollo Bay Structure Plan (2007)</li> <li>• Barongarook Covenant Property Management Plan – Bush Tender (April 2006)</li> <li>• Colac Central Business Area Strategy Plan</li> <li>• Colac Otway Heritage Study (2003)</li> <li>• Colac Otway Planning Scheme</li> <li>• Colac Structure Plan (2007)</li> <li>• Great Ocean Road Landscape Assessment Study 2004 (State Government)</li> <li>• Kennett River, Wye River and Separation Creek Structure Plans (2008)</li> <li>• Rural Land Strategy (2007)</li> <li>• Skenes Creek, Kennett River, Wye River and Separation Creek Neighbourhood Character Study (2005)</li> </ul> |

## 4. ENVIRONMENTAL MANAGEMENT

### Objective

***Council will protect and enhance the environment entrusted to us, demonstrate efficient use of natural resources and minimise climate change impacts.***

Council is committed to achieving the following strategies for **Environmental Management**. We will use the associated actions to measure how effectively we implement the strategies.

| Strategies (what)                                                                                                     | Key Actions (how)                                                                                                                                                                                                                                                                                                                                                                                                              | Timing (when)                                                |
|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Develop a coordinated approach to managing environmental issues across all Council activities                         | <ol style="list-style-type: none"> <li>Finalise the development of an Environment Strategy</li> <li>Implementation of the Environment Strategy</li> <li>Development of annual Action Plans for the Environment Program</li> </ol>                                                                                                                                                                                              | 2009-2010<br>2009-2013<br>2010-2013                          |
| Ensure the protection and enhancement of environmental values on Council owned and managed land                       | <ol style="list-style-type: none"> <li>Develop and implement action plans to manage the threats to environmental assets on Council managed land</li> <li>Continue to implement the Lake Colac Management Plan and the Re-vegetation and Weed Control Master Plan</li> </ol>                                                                                                                                                    | 2009-2013<br><br>2009-2013                                   |
| Facilitate the protection and enhancement of environmental values on private land                                     | <ol style="list-style-type: none"> <li>Continue to carry out audits of forestry operations on private land</li> <li>Continue to raise the awareness of private landholders on their responsibilities in relation to the environment</li> </ol>                                                                                                                                                                                 | 2009-2013<br><br>2009-2013                                   |
| Minimise environmental impacts and the use of natural resources associated with Council operations                    | <ol style="list-style-type: none"> <li>Continue program of works and practices in the Greenhouse Action Plan to reduce Council's carbon footprint</li> <li>Continue to implement agreed, viable water saving measures via Council's Sustainable Water Use Plan</li> <li>Implementation of the planning scheme and Council processes to manage environmental issues associated with Council works</li> </ol>                    | 2009-2013<br><br>2009-2013<br><br>2009-2013                  |
| Promote environmental values in the broader community and work with other stakeholders on managing large scale issues | <ol style="list-style-type: none"> <li>Coordinate a range of environmental events across the region</li> <li>Promote awareness of environmental issues through various media and forums</li> <li>Advocate where appropriate community views on environmental issues outside the direct responsibility of Council</li> <li>Encourage energy efficiency including the use of renewable and alternative energy sources</li> </ol> | 2009-2013<br><br>2009-2013<br><br>2009-2013<br><br>2009-2013 |
| Minimise, recycle and manage residential waste                                                                        | <ol style="list-style-type: none"> <li>Implement the Landfill Rehabilitation Plan</li> <li>Implement the Waste Management Plan and review current contractual arrangements</li> <li>Implementation of the Waste Water Management Strategy</li> </ol>                                                                                                                                                                           | 2009-2013<br>2010-2011<br><br>2009-2013                      |

**Environmental Management** is supported by the continued delivery of a diverse range of services, projects and programs and specific plans and documents.

| <b>Services that support strong environmental management:</b>                                                                                                          | <b>Documents, strategies &amp; plans that support environmental management:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment Education/Promotion<br>Environment Planning<br>Natural Resource Management<br>Sustainability Management<br>Transfer Stations/Recycling<br>Waste Management | <ul style="list-style-type: none"> <li>• Domestic Wastewater Management Plan</li> <li>• Greenhouse Action Plan</li> <li>• Lake Colac Management Plan</li> <li>• Poorneet Road Grassland Management Plan</li> <li>• Roadside Vegetation Management Plan</li> <li>• Sewering of Skenes Creek report</li> <li>• Sustainable Water Use Plan</li> <li>• Waste Water Issues Paper – Beeac</li> <li>• Waste Water Issues Paper – Forrest</li> <li>• Waste Water Management Birregurra – Issues Paper</li> <li>• Waste Water Management Kennett River – Issues Paper</li> <li>• Waste Water Management Strategy</li> <li>• Waste Water Management Wye River, and Separation Creek – Issues Paper</li> <li>• Weed Management Strategy</li> </ul> |

## 5. ECONOMIC DEVELOPMENT

### Objective

***Council is committed to facilitating a healthy and resilient economy through effective leadership, advocacy, and partnership.***

Council is committed to achieving the following strategies for **Economic Development**. We will use the associated actions to measure how effectively we implement the strategies.

| Strategies (what)                                                                                     | Key Actions (how)                                                                                                                                                                                                                      | Timing (when) |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Support the development of a diverse, skilled and capable workforce                                   | 1. Work with industry sectors on strategic workforce planning initiatives, including training and education                                                                                                                            | 2009 – 2013   |
|                                                                                                       | 2. Participate in local and regional task groups to improve access to vocational education and training and post compulsory education and training                                                                                     | 2009 – 2013   |
| Work with business to recognise growth potential from climate change and renewable energy initiatives | 1. Form a climate change business reference group and participate in regional networks and initiatives that promote sustainable economic development and growth in 'green collar employment' and 'green economy' workforce development | 2010 – 2011   |
|                                                                                                       | 2. Encourage and promote renewable and alternative energy opportunities for the Colac Otway Shire                                                                                                                                      | 2009 – 2013   |
| Support local business to develop and succeed                                                         | 1. Implement new business support and facilitation services that make it easy to do business in the Shire                                                                                                                              | 2009 – 2013   |
|                                                                                                       | 2. Enhance Colac's regional service centre status through the development of a Marketing strategy                                                                                                                                      | 2009 - 2011   |
|                                                                                                       | 3. Develop a Master Plan to support the redevelopment of the Colac Central Business District streetscape including traffic management, parking and the Memorial Square                                                                 | 2009 – 2011   |
|                                                                                                       | 4. Continue to provide world standard tourism support services                                                                                                                                                                         | 2009 – 2013   |
|                                                                                                       | 5. Implement Business Development training programs, networking events and Business Awards                                                                                                                                             | 2009 – 2013   |
|                                                                                                       | 6. Provide on line information for customers and potential investors to access businesses in the Shire                                                                                                                                 | 2009 - 2013   |
| Lead, support and/or participate in regional and local development networks and partnerships          | 1. Promote and encourage the development of infrastructure to support nature based tourist development of Great Otway National Park/Otway Forest Park and Great Ocean Walk                                                             | 2009 - 2013   |
|                                                                                                       | 2. Promote and encourage the development of infrastructure to support Lake Colac tourism and community use                                                                                                                             | 2009 – 2013   |
|                                                                                                       | 3. Support local business associations such as Otway Business Inc, Apollo Bay Chamber of Commerce and Tourism                                                                                                                          | 2009 – 2013   |

|                                                                                                                                                                |                                                                                                                                                                                                       |             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Participate in regional and Shire based marketing and promotion initiatives designed to promote 'brand awareness' of Colac Otways and Great Ocean Road region. | 1. Promote the Shire's strengths and competitive advantages to attract new investment                                                                                                                 | 2009 – 2013 |
|                                                                                                                                                                | 2. Identify the capacity, demand and rating of accommodation in Colac including the attraction of a high end quality star hotel                                                                       | 2011 – 2013 |
|                                                                                                                                                                | 3. Facilitate the development of services and a calendar of business events / industry conferences designed to attract and engage external business and job opportunity for families and young people | 2010 – 2013 |
|                                                                                                                                                                | 4. Continue to provide strategic support to tourism including operation of the Colac and Apollo Bay Visitor Information Centres and provision of funding to Otways Tourism                            | 2009 - 2013 |
| Facilitate the development of infrastructure for business investment, growth and liveability.                                                                  | 1. Support the Apollo Bay Harbor Precinct development                                                                                                                                                 | 2009 – 2013 |
|                                                                                                                                                                | 2. Undertake streetscape planning for Apollo Bay to integrate with the proposed harbor development                                                                                                    | 2012 – 2013 |
|                                                                                                                                                                | 3. Develop small town / community capability by providing infrastructure and resources, including continued support for the Small Town Improvement Program                                            | 2009 – 2013 |
|                                                                                                                                                                | 4. Develop a strategy to establish a mini technology/ business facility in Apollo Bay to service local knowledge based and visitor requirements                                                       | 2009 – 2013 |
|                                                                                                                                                                | 5. Lobby for improved telecommunications in the Colac Otway Shire for broadband and mobile coverage                                                                                                   | 2009 – 2013 |
| Work in partnership with business, industry groups, government and agencies on sustainable economic growth.                                                    | 1. Develop improved educative material on Council policy and practices to assist business with development proposals                                                                                  | 2009 – 2013 |
|                                                                                                                                                                | 2. Review business attraction and local business development policies                                                                                                                                 | 2009 – 2013 |

**Economic Development** is supported by the continued delivery of a diverse range of services, projects and programs and specific plans and documents.

| Services that support economic development:                                       | Documents, strategies & plans that support economic development:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Business Development<br>Economic Development<br>Small Town Improvement<br>Tourism | <ul style="list-style-type: none"> <li>• Action Agenda for Economic Development 2009 – 2013 (under development)</li> <li>• Affordable Housing Strategy (2007)</li> <li>• Apollo Bay and Marengo Neighbourhood Character Study (2003)</li> <li>• Apollo Bay Harbour Precinct Master Plan (2007)</li> <li>• Barwon Downs Township Master Plan (2006)</li> <li>• Beeac Township Master Plan (2001)</li> <li>• Birregurra Township Master Plan (2003)</li> <li>• Carlisle River Township Master Plan (2004)</li> <li>• Colac Otway Shire Tertiary Opportunity Study</li> <li>• Colac Otway Tourism Review (2006)</li> <li>• Cressy Township Master Plan (2007)</li> <li>• Economic Development and Tourism Strategy</li> <li>• Feasibility Study into Economic Activity in Forrest</li> <li>• Forrest Township Master Plan (2007)</li> <li>• Geelong and Colac Region Skills Research Project – Part 1 (2005)</li> <li>• Gellibrand Township Master Plan (2004)</li> <li>• Lake Colac Commercial Development Report (2007)</li> <li>• Lavers Hill Township Master Plan (2006)</li> <li>• Port of Apollo Bay Future Capacity Study Summary Report (2006)</li> <li>• Swan Marsh Township Master Plan (2001)</li> </ul> |

## 6. COMMUNITY HEALTH AND WELLBEING

### Objective

***Council will promote community health and wellbeing in partnership with other health services. Through a partnership approach, Council will provide a broad range of customer focused health, recreational, cultural and community amenities, services and facilities.***

Council is committed to achieving the following strategies for **Community Health and Wellbeing**. We will use the associated actions to measure how effectively we implement the strategies.

| Strategies (what)                                                                                             | Key Actions (how)                                                                                                                                                                                                    | Timing (when) |
|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Provide, facilitate or advocate for a range of health, recreation, community services and facilities          | 1. Develop a 10 year upgrade works program for Colac Otway Performing Arts and Cultural Centre                                                                                                                       | 2009–2010     |
|                                                                                                               | 2. Develop a 10 year capital upgrade works program for Blue Water Fitness Centre                                                                                                                                     | 2009–2010     |
|                                                                                                               | 3. Develop a 10 year capital upgrade works facility improvement program for all recreation facilities and investigate external funding options to assist with these works, with priority to Council owned facilities | 2009–2010     |
|                                                                                                               | 4. Continue in partnership with the Colac Community and project stakeholders to plan and develop the Beechy Precinct in accordance with Council approvals                                                            | 2009–2013     |
|                                                                                                               | 5. Implement the recommendations from the “Apollo Bay Library and Facility Development Project” including the development of a permanent Library facility in Apollo Bay                                              | 2010-2013     |
|                                                                                                               | 6. Review and implement the Council Community Grants Program guidelines                                                                                                                                              | 2009–2013     |
|                                                                                                               | 7. Implement Council’s Recreation Strategy                                                                                                                                                                           | 2009–2013     |
|                                                                                                               | 8. Develop an Open Space Strategy                                                                                                                                                                                    | 2009–2011     |
|                                                                                                               | 9. Develop a Bicycle Strategy                                                                                                                                                                                        | 2009–2012     |
| Promote and facilitate cultural and community events throughout the municipality                              | 1. Implement the Arts and Cultural Strategy                                                                                                                                                                          | 2009–2013     |
|                                                                                                               | 2. Implement the Festival and Events Strategy                                                                                                                                                                        | 2009–2013     |
|                                                                                                               | 3. Work with event organisers and community groups to develop a broad range of community festivals and events                                                                                                        | 2009–2013     |
| Adopt a partnership approach to addressing the current and future health and wellbeing needs of the community | 1. Implement and promote the Municipal Public Health Plan                                                                                                                                                            | 2009–2013     |
|                                                                                                               | 2. Implement the Positive Ageing Strategy                                                                                                                                                                            | 2009–2013     |
|                                                                                                               | 3. Develop and implement an Early Years Plan                                                                                                                                                                         | 2009–2013     |
|                                                                                                               | 4. Develop and implement an Access and Inclusion Plan                                                                                                                                                                | 2009–2013     |
|                                                                                                               | 5. Review the provision of Youth Services in the Shire                                                                                                                                                               | 2011–2012     |
| Support local communities to develop, grow and be great places to live                                        | 1. Implement the Transport Connections Strategy                                                                                                                                                                      | 2009–2013     |
|                                                                                                               | 2. Liaise with local Real Estate Industry to monitor the local market and encourage diversity in housing choice                                                                                                      | 2009–2013     |
|                                                                                                               | 3. Participate in local and regional Affordable Housing task groups                                                                                                                                                  | 2009–2013     |
|                                                                                                               | 4. Work with Developers to create livable, affordable and sustainable housing                                                                                                                                        | 2009-2013     |



**Community Health and Wellbeing** is supported by the continued delivery of a diverse range of services, projects and programs and specific plans and documents.

| Services that support community health and wellbeing:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Documents, strategies & plans that support community health and wellbeing:                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Aged &amp; Disability Services<br/>           Bluewater Fitness Centre (BWFC)<br/>           Colac Otway Performance Arts Centre (COPACC)<br/>           Community Transport<br/>           Economic Development (part)<br/>           Environmental Health Services<br/>           Family and Childrens Services<br/>           Festivals and Events<br/>           Immunisation Services<br/>           Maternal &amp; Child Health Services<br/>           Primary Care Partnerships<br/>           Public Health planning<br/>           Recreation, culture planning, services and centres<br/>           Rural Access<br/>           Transport Connections<br/>           Youth Services</p> | <ul style="list-style-type: none"> <li>• Access and Inclusion Plan 2009/2013</li> <li>• Arts and Cultural Strategy 2007/2011</li> <li>• Colac Otway Regional Cricket Plan</li> <li>• Festival and Events Strategy 2007/2011</li> <li>• Municipal Early Years Plan 2009/2013</li> <li>• Municipal Public Health Plan 2007/09</li> <li>• Positive Ageing Strategy 2008/12</li> <li>• Recreation Strategy 2006/2010</li> </ul> |

## Strategic Indicators

The following details the Measures (or means) and Milestones of monitoring achievement against each Strategic Objectives

- Milestones: specific projects or activities being completed by a set time
- Measures: Council's success in this Plan will be measured numerically against the following targets

| Objectives                                                                                                                                                                                                                                                                                  | Strategic Indicators                                              | Target 2009/10                             | Source                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------|------------------------------------|
| <b>Leadership and Governance</b><br><br>Council will fulfil its statutory and legal obligations to its community and staff in a way that is: fair, ethical, inclusive, sustainable, financially responsible and meets the needs and practical aspirations of current and future generations | Achievement of Council Commitments and Key Actions                | 100%                                       | Council Plan Progress Report       |
|                                                                                                                                                                                                                                                                                             | Community satisfaction with the Overall Performance of Council    | 62%                                        | DPCD Community Satisfaction Survey |
|                                                                                                                                                                                                                                                                                             | Community satisfaction with Council's Advocacy role               | 63%                                        | DPCD Community Satisfaction Survey |
|                                                                                                                                                                                                                                                                                             | Community satisfaction with Council's Community Engagement        | 62%                                        | DPCD Community Satisfaction Survey |
|                                                                                                                                                                                                                                                                                             | Community satisfaction with Council's Customer Contact            | 73%                                        | DPCD Community Satisfaction Survey |
|                                                                                                                                                                                                                                                                                             | Risk Liability Assessment                                         | 87%                                        | CMP Risk Management Audit          |
|                                                                                                                                                                                                                                                                                             | Liquidity Ratio                                                   | 1.50:1(Est AIFRS Adj)                      | Audited Financial Statements       |
|                                                                                                                                                                                                                                                                                             | Audit Opinion issued on Financial Statements                      | Compliance with all statutory requirements | Audited Financial Statements       |
| <b>Physical Infrastructure and Assets</b><br><br>Council will provide and maintain Council infrastructure and assets that meet community needs now and in the future                                                                                                                        | Achievement of Council Commitments and Key Actions                | 100%                                       | Council Plan Progress Report       |
|                                                                                                                                                                                                                                                                                             | Percentage of Capital Works expenditure projects completed        | 85%                                        | Capital Works Progress Report      |
|                                                                                                                                                                                                                                                                                             | Capital Works expenditure actual compared to budgeted expenditure | 85%                                        | Capital Works Progress Report      |
|                                                                                                                                                                                                                                                                                             | Asset renewal sustainability index                                | 80%                                        | Audited Financial Statements       |

| Objectives                                                                                                                                                                                                                                                                                                                | Strategic Indicators                                                                                                                                                                  | Target 2009/10                                                                                                                                       | Source                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <p><b>Land Use and Development</b></p> <p>Council will engage, plan and make decisions about land use and development that takes into account the regulatory role of Council, its diverse geography, social, community, economic and environmental impacts for current and future generations.</p>                        | <p>Achievement of Council Commitments and Key Actions</p> <p>Building permits processed within statutory timeframes</p> <p>Planning permits processed within statutory timeframes</p> | <p>100%</p> <p>70%</p> <p>70%</p>                                                                                                                    | <p>Council Plan Progress Report</p> <p>Council Plan Progress Report</p> <p>Council Plan Progress Report</p>             |
| <p><b>Environmental Management</b></p> <p>Council will protect and enhance the environment entrusted to us, demonstrate efficient use of natural resources and minimise climate change impacts.</p>                                                                                                                       | <p>Achievement of Council Commitments and Key Actions</p> <p>Increased Environmental Sustainability</p>                                                                               | <p>100%</p> <ul style="list-style-type: none"> <li>• Milestone 5 (Cities for Climate Protection Program)</li> <li>• Eco Buy Accreditation</li> </ul> | <p>Council Plan Progress Report</p> <p>ICLEI Report</p> <p>Eco Buy Report</p>                                           |
| <p><b>Economic Development</b></p> <p>Council is committed to facilitating a healthy and resilient economy through effective leadership, advocacy, and partnership.</p>                                                                                                                                                   | <p>Achievement of Council Commitments and Key Actions</p> <p>Completion of Master Plan priorities for all small towns</p>                                                             | <p>100%</p> <p>80%</p>                                                                                                                               | <p>Council Plan Progress Report</p> <p>Council Report</p>                                                               |
| <p><b>Community Health and Wellbeing</b></p> <p>Council will promote community health and wellbeing in partnership with other health services. Through a partnership approach, Council will provide a broad range of customer focused health, recreational, cultural and community amenities, services and facilities</p> | <p>Achievement of Council Commitments and Key Actions</p> <p>Community satisfaction with Health and Human Services</p> <p>Community satisfaction with Recreational Facilities</p>     | <p>100%</p> <p>77%</p> <p>66%</p>                                                                                                                    | <p>Council Plan Progress Report</p> <p>DPCD Community Satisfaction Survey</p> <p>DPCD Community Satisfaction Survey</p> |

**COLAC OTWAY SHIRE**

**Strategic Resource Plan**

**2009 to 2013**

## **INTRODUCTION**

Council is required under the Local Government Act to prepare a Strategic Resource Plan (SRP) covering both financial and non-financial resources, for at least the next four years to support the Council Plan.

The Strategic Resource Plan provides a high-level, medium-term view of the resources Council intends to use to support its service provision to the Colac Otway community over the next four years. The SRP serves as the link between the 2009-2013 Council Plan and the 2009-10 Budget.

The Strategic Review Plan will be reviewed on an annual basis in conjunction with the review of the Council Plan and annual budget process.

## **LINK WITH COUNCIL PLAN**

The Strategic Resource Plan is developed within an overall planning framework which guides the Council in identifying community needs and aspirations over the long term, converting these into medium (Council Plan) and short-term (Budget) goals and objectives.

The Strategic Resource Plan summarises the financial impacts of those goals and objectives and determines whether Council can afford those plans. The annual budget is framed within the Financial Plan, taking into account the activities and initiatives of the current year that contribute to achieving the strategic objectives specified in the Council Plan.

The Strategic Resource Plan is not a 'stand alone' document. The SRP links with other Council strategies.

## **RESOURCES**

The resources available to Council can be grouped into three main sections:

1. Financial Resources
2. Infrastructure
3. Human Resources

### **1. FINANCIAL RESOURCES**

The financial outcomes and forecast long-term financial statements provided in the Strategic Resource Plan are reviewed on an annual basis.

The Strategic Resource Plan has been prepared on the basis of a number of challenges, targets and principles including:

## FINANCIAL CHALLENGES

Challenges facing the Council are:

- Ageing infrastructure and a backlog of asset renewal
- Extensive local roads system
- Funding of capital expenditure investment
- Environmental obligations including climate change
- Maintaining operating surpluses
- Maintenance of existing liquidity levels
- Managing financial risks prudently in regard to debts, assets and liabilities
- Development of rating policies that provide reasonable stability and equity in the level of the rate distribution
- Financial capacity to fund major infrastructure projects

Other challenges which also need to be considered:

- Availability of appropriately skilled staff
- Changing demographics and an ageing population resulting in a changing demand for existing Council services and changing Community expectation to enhance existing services
- Diverse Township and rural environments creating diverse wants and needs requiring flexible strategies to deal with them
- Increasing government regulation placing demands on Council particularly in public risk, health and safety, planning, building, asset management and environmental management
- Dealing with reduced levels of federal and state government funding

## LONG TERM FINANCIAL PLAN

Council will need to develop a Long Term Financial Plan which will provide further details on :

- Long Term Borrowing Strategy
- Rating and Other Revenue Strategy
- Long Term Reserve Strategy
- Asset Management/Asset Renewal Strategy

The Plan will be a document that will enable Council to better manage its financial resources.

Long-term financial planning enables councils to better plan and understand their long-term financial requirements, which includes consideration of sustainability, service provision levels and the creation, upgrading and renewal of infrastructure.

The Long Term Financial Plan will also need to further consider major projects including:

- Office Accommodation;
- Beechy Precinct Developments;
- Colac Central Business District; and
- Apollo Bay Streetscape.

## TARGETS

Targets to be achieved to address the challenges are:

- Ensure asset renewal gap capital commitments are met in real terms for each year of the Strategic Resource Plan
- Achieve consistent operating surpluses
- Achieve strong working capital and liquidity positions
- Ensure cash balances are equal or above statutory and reserve levels
- Ensure funding is available to meet the Shire's current and future environmental obligations
- Ensure funding is available to meet the Shire's current and future accommodation obligations
- Review user fees and charges on an annual basis for equity and fairness

These targets will:

- Meet the strategic objectives proposed in the Council Plan
- Continue to address the infrastructure funding gap issues of Council
- Provide a reasonable degree of consistency and stability in the level of rates burden
- Enhance the longer term financial sustainability of Council

## STANDARD STATEMENTS

The following Standard Statements form a special purpose financial report prepared specifically to meet the requirements of the Local Government Act 1989, as amended by the Local Government (Democratic Reform) Act 2003, relating to Standard Statements.

These statements provide information in relation to an aspect of Council's financial management. They should be read in conjunction with one another to obtain an overall understanding of Council's financial position and management.

The Standard Statements of Income, Balance Sheet, Cash Flows and Capital Works are prepared on bases consistent with the Budget and the Financial Statements.

## Standard Income Statement

The Standard Income Statement for the Strategic Resource Plan shows what is expected to happen during the next four years in terms of revenue, expenses and other adjustments from all activities. The 'Total Changes in Equity' or 'bottom line' shows the total difference between the financial position at the beginning and the end of each year.

The Standard Income Statement requires revenues to be separately disclosed where the item is of such a size, nature or incidence that its disclosure is relevant in explaining the performance of the Council.

The Standard Income Statement also shows the movement in equity, so that a separate Statement of Changes in Equity is not necessary. The most common disclosures under this category are movements in asset revaluation reserves, which arise upon revaluations of assets and adjustments to opening accumulated surplus due to adoption of a new accounting standard.

| <b>STANDARD INCOME STATEMENT</b>           |                   |                   |                   |                   |
|--------------------------------------------|-------------------|-------------------|-------------------|-------------------|
|                                            | <b>2009/2010</b>  | <b>2010/2011</b>  | <b>2011/2012</b>  | <b>2012/2013</b>  |
|                                            | <b>\$'000</b>     | <b>\$'000</b>     | <b>\$'000</b>     | <b>\$'000</b>     |
|                                            | <b>PROJECTION</b> | <b>PROJECTION</b> | <b>PROJECTION</b> | <b>PROJECTION</b> |
| <b>OPERATING REVENUE</b>                   |                   |                   |                   |                   |
| Rates & Charges                            | <b>18,736</b>     | 19,860            | 21,051            | 22,314            |
| Grants Commission                          | <b>5,110</b>      | 5,279             | 5,453             | 5,633             |
| Grants - Recurrent                         | <b>2,357</b>      | 2,428             | 2,501             | 2,576             |
| Grants - Non recurrent                     | <b>4,666</b>      | 4,806             | 4,950             | 5,099             |
| Charges, Fees & Fines                      | <b>3,720</b>      | 3,848             | 3,981             | 4,118             |
| Reimbursements & Contributions             | <b>349</b>        | 356               | 363               | 370               |
| Donated Assets                             | <b>0</b>          | 139               | 139               | 139               |
| Interest Revenue                           | <b>325</b>        | 124               | 218               | 340               |
| <b>TOTAL OPERATING REVENUE</b>             | <b>35,263</b>     | 36,840            | 38,656            | 40,614            |
| <b>OPERATING EXPENSES</b>                  |                   |                   |                   |                   |
| Employee Expenses                          | <b>10,273</b>     | 10,733            | 11,109            | 11,553            |
| Depreciation                               | <b>8,029</b>      | 8,218             | 8,665             | 9,110             |
| Borrowing Costs                            | <b>323</b>        | 369               | 362               | 338               |
| Materials & Services                       | <b>12,116</b>     | 12,540            | 13,104            | 13,694            |
| Grants and Donations                       | <b>415</b>        | 429               | 443               | 458               |
| Plant Expenses                             | <b>1,307</b>      | 1,350             | 1,395             | 1,441             |
| LESS Property, Plant & Equipment Write Off | <b>150</b>        | 150               | 150               | 150               |
| <b>TOTAL OPERATING EXPENSES</b>            | <b>32,613</b>     | 33,789            | 35,228            | 36,744            |
| Net profit (loss) from Asset Sales         | <b>38</b>         | 0                 | 0                 | 0                 |
| <b>SURPLUS/(DEFICIT) for the year</b>      | <b>2,688</b>      | <b>3,051</b>      | <b>3,428</b>      | <b>3,845</b>      |



## Standard Balance Sheet

The Balance Sheet for the SRP shows a snapshot of the expected financial situation at the end of each of the next four years. It shows the total of what is owned (assets) less what is owed (liabilities). The 'bottom line' of this statement is net assets, which is the net worth of Council.

The change in net assets between two year's Standard Balance Sheet shows how the financial position has changed over that period which is described in more detail in the Standard Income Statement.

The assets and liabilities are separated into current and non-current. Current means those assets or liabilities, which will fall in the next twelve months.

### STANDARD BALANCE SHEET

|                                             | 2009/2010<br>\$'000<br>PROJECTION | 2010/2011<br>\$'000<br>PROJECTION | 2011/2012<br>\$'000<br>PROJECTION | 2012/2013<br>\$'000<br>PROJECTION |
|---------------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| <b>CURRENT ASSETS</b>                       |                                   |                                   |                                   |                                   |
| Cash                                        | 3,946                             | 4,835                             | 6,183                             | 8,576                             |
| Receivables                                 | 2,031                             | 2,021                             | 2,009                             | 2,001                             |
| Inventories                                 | 92                                | 93                                | 94                                | 95                                |
| Prepayments                                 | 84                                | 87                                | 90                                | 94                                |
| <b>TOTAL CURRENT ASSETS</b>                 | <b>6,153</b>                      | <b>7,036</b>                      | <b>8,376</b>                      | <b>10,766</b>                     |
| <b>NON-CURRENT ASSETS</b>                   |                                   |                                   |                                   |                                   |
| Property, Infrastructure, Plant & Equipment | 235,756                           | 237,908                           | 239,520                           | 240,560                           |
| Investment in Associates                    | 433                               | 418                               | 403                               | 388                               |
| Receivables                                 | (1)                               | (1)                               | (1)                               | (1)                               |
| <b>TOTAL NON-CURRENT ASSETS</b>             | <b>236,188</b>                    | <b>238,326</b>                    | <b>239,923</b>                    | <b>240,948</b>                    |
| <b>TOTAL ASSETS</b>                         | <b>242,341</b>                    | <b>245,362</b>                    | <b>248,299</b>                    | <b>251,714</b>                    |
| <b>CURRENT LIABILITIES</b>                  |                                   |                                   |                                   |                                   |
| Payables                                    | 690                               | 687                               | 684                               | 681                               |
| Employee Entitlements                       | 2,102                             | 2,175                             | 2,250                             | 2,339                             |
| Provision for Landfill Rehabilitation       | 235                               | 220                               | 150                               | 150                               |
| Interest Bearing Liabilities                | 369                               | 347                               | 371                               | 347                               |
| <b>TOTAL CURRENT LIABILITIES</b>            | <b>3,396</b>                      | <b>3,429</b>                      | <b>3,455</b>                      | <b>3,517</b>                      |
| <b>NON-CURRENT LIABILITIES</b>              |                                   |                                   |                                   |                                   |
| Employee Entitlements                       | 117                               | 121                               | 125                               | 130                               |
| Provision for Landfill Rehabilitation       | 2,026                             | 1,806                             | 1,656                             | 1,506                             |
| Interest Bearing Liabilities                | 5,075                             | 5,228                             | 4,857                             | 4,510                             |
| <b>TOTAL NON-CURRENT LIABILITIES</b>        | <b>7,218</b>                      | <b>7,155</b>                      | <b>6,638</b>                      | <b>6,146</b>                      |
| <b>TOTAL LIABILITIES</b>                    | <b>10,614</b>                     | <b>10,584</b>                     | <b>10,533</b>                     | <b>10,403</b>                     |
| <b>NET ASSETS</b>                           | <b>231,727</b>                    | <b>234,778</b>                    | <b>238,206</b>                    | <b>242,076</b>                    |
| <b>EQUITY</b>                               |                                   |                                   |                                   |                                   |
| Accumulated Funds                           | 95,676                            | 98,727                            | 102,155                           | 106,000                           |
| Asset Revaluation Reserves                  | 133,730                           | 133,730                           | 133,730                           | 133,730                           |
| Other Reserves                              | 2,321                             | 2,321                             | 2,321                             | 2,321                             |
| <b>TOTAL EQUITY</b>                         | <b>231,727</b>                    | <b>234,778</b>                    | <b>238,206</b>                    | <b>242,051</b>                    |

## Standard Cash Flow Statement

The Standard Cash Flow Statement of for the SRP shows what is expected to happen during the next four years in terms of cash. It explains what cash movements are expected to result in the difference in the cash balance at the beginning and the end of the year. The net cash flows from operating activities, shows how much cash is expected to remain after paying for providing services to the community which may be invested in things such as Capital Works.

The information in a Standard Cash Flow Statement assists in the assessment of the ability to generate cash flows, meet financial commitments as they fall due including the servicing of borrowings, fund changes in the scope or nature of activities and obtain external finance.

| <b>STANDARD CASH FLOW STATEMENT</b>                                   |                   |                   |                   |                   |
|-----------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
|                                                                       | <b>2009/2010</b>  | <b>2010/2011</b>  | <b>2011/2012</b>  | <b>2012/2013</b>  |
|                                                                       | <b>\$'000</b>     | <b>\$'000</b>     | <b>\$'000</b>     | <b>\$'000</b>     |
|                                                                       | <b>PROJECTION</b> | <b>PROJECTION</b> | <b>PROJECTION</b> | <b>PROJECTION</b> |
| <b>CASH FLOWS FROM OPERATING ACTIVITIES</b>                           |                   |                   |                   |                   |
| Rates and Charges                                                     | 18,736            | 19,821            | 21,009            | 22,270            |
| Government Grants                                                     | 12,133            | 12,513            | 12,904            | 13,308            |
| Council User charges & reimbursements                                 | 4,069             | 3,903             | 4,034             | 4,169             |
| Contributions and donations received                                  | 0                 | 356               | 363               | 370               |
| Employees costs                                                       | (10,273)          | (10,656)          | (11,030)          | (11,459)          |
| Materials and consumables                                             | (12,116)          | (14,132)          | (14,726)          | (15,293)          |
| Interest received                                                     | 325               | 124               | 218               | 340               |
| Finance costs                                                         | (323)             | (369)             | (362)             | (338)             |
| Council Grants and Donations paid                                     | (415)             | (429)             | (443)             | (458)             |
| Other Expenses                                                        | (1,307)           | 16                | 16                | 16                |
| <b>Net cash provided by operating activities</b>                      | <b>10,829</b>     | <b>11,147</b>     | <b>11,983</b>     | <b>12,925</b>     |
| <b>CASH FLOWS FROM INVESTING ACTIVITIES</b>                           |                   |                   |                   |                   |
| Payments for asset acquisition                                        | (15,666)          | (11,086)          | (11,031)          | (10,945)          |
| Proceeds from disposal of assets                                      | 1,300             | 705               | 743               | 784               |
| <b>Net cash used in investing activities</b>                          | <b>(14,366)</b>   | <b>(10,381)</b>   | <b>(10,288)</b>   | <b>(10,161)</b>   |
| <b>CASH FLOWS FROM FINANCING ACTIVITIES</b>                           |                   |                   |                   |                   |
| Repayment of borrowings                                               | (368)             | (369)             | (347)             | (371)             |
| Proceeds from borrowings                                              | 3,350             | 500               | 0                 | 0                 |
| <b>Net cash used in financing activities</b>                          | <b>2,982</b>      | <b>131</b>        | <b>(347)</b>      | <b>(371)</b>      |
| Net increase/(decrease) in cash held                                  | (555)             | 897               | 1,348             | 2,393             |
| Cash at the beginning of the financial year                           | 4,501             | 3,938             | 4,835             | 6,183             |
| <b>CASH AND CASH EQUIVALENTS<br/>AT THE END OF THE FINANCIAL YEAR</b> | <b>3,946</b>      | <b>4,835</b>      | <b>6,183</b>      | <b>8,576</b>      |

## 2. INFRASTRUCTURE

Council manages \$310 million in land, property and infrastructure assets on behalf of the community. These assets directly support the services that Council delivers to the community and may include roads, drainage, parks and gardens, reserves and community facilities such as pre-schools and maternal and child health centres.

The table below shows the most recently available asset valuation for major infrastructure assets. It also identifies depreciation within each asset grouping and the written down value of each asset class as at 30 June 2008.

### FIXED ASSET SUMMARY AS AT 30 JUNE 2008

|                           | Value          | Accumulated<br>Depreciation | Written Down<br>Value |
|---------------------------|----------------|-----------------------------|-----------------------|
|                           | \$'000         | \$'000                      | \$'000                |
| Land                      | 29,784         | 0                           | 29,784                |
| Buildings                 | 47,358         | 23,995                      | 23,363                |
| Plant & Machinery         | 7,908          | 3,928                       | 3,980                 |
| Furniture & Equipment     | 1,900          | 468                         | 1,432                 |
| Roads & Streets           | 157,594        | 31,115                      | 126,479               |
| Bridges                   | 15,560         | 4,149                       | 11,411                |
| Footpaths                 | 7,738          | 2,424                       | 5,314                 |
| Kerb & Channelling        | 18,478         | 6,862                       | 11,616                |
| Parks & Gardens           | 4,781          | 2,179                       | 2,602                 |
| Drainage                  | 18,777         | 6,673                       | 12,104                |
| Equipment under Lease     | 187            | 146                         | 41                    |
| <b>TOTAL FIXED ASSETS</b> | <b>310,065</b> | <b>81,939</b>               | <b>228,126</b>        |

### Financial Summary

In general, Council has the following priorities with respect to expenditure on assets:

- **Maintain** the existing assets in a 'reasonable condition' and provides an affordable level of service. These maintenance activities include:
  - Asset **maintenance** activities; and
  - Asset **renewal** activities
- **Upgrading** of existing assets
- Accept **donated** assets from developers to extend the network

## Standard Statement of Capital Works

The Standard Capital Works Statement sets out all expected capital expenditure in relation to non-current assets for each of the next four years. It also shows the amount of Capital Works expenditure which is expected to be renewing, upgrading, expanding or creating new assets. This is important because each of these categories has a different impact on Council's future costs.

- Capital renewal expenditure reinstates existing assets, it has no impact on revenue, but may reduce further operating and maintenance expenditure if completed at the optimum time.
- Capital upgrade expenditure enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operating and maintenance expenditure in the future because of the increase in Council's asset base.
- New capital expenditure does not have any element of renewal, expansion or upgrade of existing assets. New capital expenditure may or may not result in additional revenue for Council and will result in an additional burden for future.

### STANDARD STATEMENT OF CAPITAL WORKS

|                            | 2009/2010<br>\$'000<br>PROJECTION | 2010/2011<br>\$'000<br>PROJECTION | 2011/2012<br>\$'000<br>PROJECTION | 2012/2013<br>\$'000<br>PROJECTION |
|----------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Land                       | 1,300                             | 0                                 | 0                                 | 0                                 |
| Buildings                  | 6,449                             | 1,826                             | 1,599                             | 1,065                             |
| Roads & Streets            | 5,319                             | 5,915                             | 6,183                             | 6,465                             |
| Parks & Gardens            | 215                               | 550                               | 401                               | 508                               |
| Furniture & Equipment      | 136                               | 450                               | 450                               | 450                               |
| Drainage                   | 441                               | 83                                | 87                                | 92                                |
| Bridges                    | 120                               | 215                               | 226                               | 239                               |
| Footpaths                  | 180                               | 212                               | 223                               | 236                               |
| Kerb & Channelling         | 58                                | 485                               | 512                               | 540                               |
| Plant & Machinery          | 1,450                             | 1,350                             | 1,350                             | 1,350                             |
| <b>TOTAL CAPITAL WORKS</b> | <b>15,666</b>                     | <b>11,085</b>                     | <b>11,032</b>                     | <b>10,945</b>                     |
| <b>Represented by:</b>     |                                   |                                   |                                   |                                   |
| Renewal                    | 7,742                             | 7,878                             | 8,523                             | 8,737                             |
| Upgrade                    | 1,718                             | 2,528                             | 2,077                             | 1,675                             |
| New                        | 6,207                             | 678                               | 432                               | 533                               |
| <b>TOTAL CAPITAL WORKS</b> | <b>15,666</b>                     | <b>11,085</b>                     | <b>11,032</b>                     | <b>10,945</b>                     |

### 3. HUMAN RESOURCES

The range of services undertaken by Council involves the abilities, efforts and competencies of staff. As at 30 June 2008 Council's workforce was 289, of which 128 are fulltime, 95 are part time, 59 are casual and 7 are temporary. This equates to 199 full time positions.

Council recognises the vital contribution of our workforce to Colac Otway Council's diverse operations and is committed to recruiting, retaining and developing staff with a wide range of qualifications and abilities.

Council seeks to maximise the skills and productivity of staff and to utilise the most up-to-date and relevant technology to deliver quality services.

There are a number of staff resource challenges that the Council faces into the future. Issues such as an ageing workforce and ageing community, both locally and nationally, are expected to impact on our ability to recruit.

The situation is magnified by the impending retirement for a number of staff in these areas. Increasingly, we are having difficulty locating, attracting and retaining staff with specialist skills. These include engineers, accountants and planners to name a few.

To address some of these demographic issues and labour shortages, an emphasis will be placed on more targeted recruitment programs. Further, Council will be developing strategies to address the ageing workforce, succession planning and attraction and retention of skilled employees.

Council will focus on increasing its status of an employer of choice through implementing social responsibility and health and wellbeing programs as well as promoting flexible modes of employment and diversity in the workplace and improved staff accommodation.

Staff numbers have increased slightly in recent times. This is due to: an increase in Government funded positions for a variety of projects; new and demanding legislative requirements and an increasing risk management focus.

The proposed increase in staff levels in future budgets is based on improvements in service delivery and the need for succession planning - recognising in particular an ageing workforce.

The Local Authorities Award and the Colac Otway Shire Enterprise Agreement 2006 govern the employment of Council staff. These documents encourage multi-skilling, flexibility and effective application of staff capability.

The following table summarises the costs of employees and the number of EFT over the 4 year period: 2009/10 to 2012/13.

|                          | PROJECTION<br>2009/10 | PROJECTION<br>2010/11 | PROJECTION<br>2011/12 | PROJECTION<br>2012/13 |
|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Projected staffing costs | \$10.2m               | \$10.7m               | \$11.0m               | \$11.5m               |
| Projected staff (EFT)    | 204                   | 206                   | 207                   | 208                   |

# Appendix 1



## COLAC OTWAY SHIRE



10<sup>th</sup> March  
2009

## STRATEGIC 'SNAPSHOT'

The purpose of this report is to provide information, facts and forecasts about the Colac Otway Shire to inform the development of the Council Plan 2009 to 2013.

The report is presented in the same structure as the Council Plan to enable a quick and easy translation.

The report is based on the best available information about the Shire. In some cases, the information is for wider geographical regions such as the Barwon or Victoria West Regions. Where this is the case, assumptions have been made as to the applicability to Colac Otway.

The report is intended to generate discussion, raise awareness and support the development of strategies and actions that address the challenges facing the municipality.

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# COLAC OTWAY SHIRE STRATEGIC SNAPSHOT

## Overview

The Council Plan contains the **Vision**: “Council will work together with our community to create a sustainable, vibrant future”.

The Council Plan contains the six sections called **Key Result Areas** listed below. Each section has a specific **Objective** to be achieved over the four year life of the Plan.

1. Leadership and Governance
2. Physical Infrastructure and Assets
3. Land Use and Development
4. Environmental Management
5. Economic Development
6. Community Health and Wellbeing

The reason for using this structure is to provide an integrated approach to Council Planning that recognises the interrelated elements that make a great municipality.

In many cases, Council is in direct control of the topic (e.g. physical infrastructure) but in other cases (e.g. environment) Council is not in direct control and will need to decide if it will help address the challenges through leadership, advocacy or specific actions.

The information, facts and forecasts in this report are posed as **Challenges** to achieving the **Vision** and **Objectives**.

There are numerous positive performance indicators and examples of success throughout the Shire; however, the focus of this report is to capture the things that need to be addressed to achieve the preferred future for the municipality.

There are two types of “Challenge” described for each Key Result Area, being:

1. **Municipal Wide Challenges** – describe the challenges facing the whole municipality, not just the Council as a Local Government Authority

Municipal wide challenges are not the sole responsibility of one organisation or level of government and therefore require multi-agency collaboration if they are to be addressed. Council therefore has a choice whether it gets involved through a leadership, advocacy, facilitation or participant role in addressing the challenge

2. **Council Specific Challenges** – describe the challenges that are directly under the control or responsibility of Council

Council will need to decide if the challenge requires a strategic response and resource allocation

Actions to address the Challenges will often require a combination of Council, community, government and private sector partnerships, funding and collaboration.



## Key Result Area

# 1. Leadership and governance

### Objective:

*Council will fulfil its leadership, statutory and legal obligations to its community and staff in a way that is: fair, ethical, inclusive, sustainable, financially responsible and meets the needs and practical aspirations of current and future generations.*

### Municipal wide challenges:

#### Population Sustainability

The consequences of this challenge have been emerging for many years with the following broad issues already taking effect and expected to continue unless interventions are adopted:

- The working age group (18 to 60) will increase at only one sixth the rate of the retirement age group (60 plus) placing increased pressure on the already tight skills and labour market <sup>(Id Profile)</sup>
- Business and private capital investment is often related to the availability of labour and skills and is therefore likely to continue at relatively low to negative growth levels
- Population growth generally follows and is supported by employment growth however, the net Colac Otway Shire (COS) population has not grown between 2001 and 2006 (-25 people) but 652 new jobs were recorded from 2001 to 2006. This is a 7% increase on the 2001 workforce base of 8,714 supported by 238 people growth in the 18 to 64 age group <sup>(Id Profile)</sup>
- This is one reason why COS has a higher Labour force participation rate of 61.9% compared to Victoria of 60.8% and Regional Victoria at 59.4% <sup>(ABS 2006)</sup> The current and forecast age structure will see increased pressure placed on skills and labour supply to industry. Industry surveys already prove this to be a significant issue impacting growth and sustainability <sup>(Vic Government, 2007)</sup>
- Business investment and growth relies on the availability of labour and skills.
- Business profitability is already lower than average and this will be under further pressure with less people (relatively) in employment with disposable incomes
- A significant increase of 32% in the 60 plus age group by 2021 will not contribute to profitability as this group has restricted disposable incomes compared to the working age group of 18 - 60 years
- Average weekly incomes and social disadvantage rankings are consistently lower in the municipality than for Victoria and will most likely deteriorate <sup>(ABS Wage and Salary)</sup>
- Service level increases of 30% by 2021 will be needed to cater for similar forecast increases in the 60 plus age group. Services include areas such as aged care, hospital beds for acute care and meals on wheels <sup>(DHS BSW)</sup>

### We know this is a challenge because:

- Colac Otway has a forecast annual population growth rate to 2021 of 0.67% <sup>i (Id Profile)</sup>
- The annual forecast average growth rate for Victoria is 1.3% <sup>(DPD)</sup>
- In general terms, this means Colac Otway will grow at half the rate for Victoria which amounts to a net relative decline
- The highest and lowest annual forecast growth rates in the Great South Coast Region (GSC) are Corangamite at 0.14% and Warrnambool at 1.3% <sup>(Id Profile)</sup>

- The Australian State of Region Report 2007-08 Ranks GSC “Population Sustainability” as 61 of 64 regions in Australia. This is the lowest ranking of all Victorian Regions <sup>(SoR, 2007-08)</sup>
- The most recent State of Regions Report 2008-09 now ranks VIC West as 51 of 64 Regions however the region has been extended to include the Surf Coast and Golden Plains Shires. Both shires are forecast to grow well above the State average at 2.6% and 1.66% per annum respectively <sup>(SoR, State of Region Report, 2008-09)</sup>
- The “Population Sustainability” index includes: % growth since 1995; pop under 55; aged migration; estimated growth of 55+; demographic stress; family/youth migration; fertility ‘baby bounce’; working elderly
- For comparison, the Geelong Region now ranks 18 of 64 regions for Population Sustainability mainly influenced by it rating as number one region for growth since 1995
- The author of the State of Region Report does NOT provide data for every Local Government Area (LGA) but it is known that Warrnambool was ranked at 158 of 632 LGAs and Corangamite at 518 of 632 LGAs in the 2007-08 Report
- Based on current and forecast growth rates it can be assumed that COS would rank somewhere between 400 to 500 of 632 Australian LGAs
- The State of Regions Report 2008-09 also contains three “Stylised Facts” that generally describe what is happening in the COS:
  - The young are leaving low income, high unemployment regions and migrating to high income, low unemployment regions
  - The old are leaving high income (high cost) regions and low unemployment rate regions and migrating to low income (low cost) and high unemployment regions
  - Low productivity regions are rapidly ageing, while high productivity regions are ageing relatively slowly
- By 2021, the age structure of Colac Otway is forecast to change significantly with a 13.6% net shift in the age structure from young to older people in just 15 years – this is less than one generation
- For Colac Otway this means that by 2021, the 60 plus age group will increase in real terms by 32% or 1,643 people from a base of 5,067 in 2006
- At the same time the Colac Otway “working age” of 18 to 59 years will increase by just 5.2% or 595 people from a base of 11,520 people in 2006. Years 0 to 17 will hardly change with a 1.1% increase or 56 people

## Responding to Major Emergencies

Events such as bushfires, floods and storm events are expected to become more frequent and severe due to climate change. The consequences of this challenge include:

- Responding to major emergencies is a very stressful experience for the people directly affected and the people who are called upon to help
- The strain on community members, emergency management and response groups that need to cope with the extra workload is demanding in both mental and physical terms
- The positive consequences are that emergency events can help galvanise communities which can enable many initiatives to be undertaken that would not normally be possible and it allows emergency response systems to be implemented and improvements made

## We know this is a challenge because:

- The average annual temperatures will increase by a minimum 0.8C by 2030 on top of the 1.0C increase in Victoria since 1950 <sup>(CSIRO)</sup>

- The highest temperature ever recorded in Victoria was on Saturday 7<sup>th</sup> February 2009 at Laverton near Geelong at 47.9C triggering the most devastating fires in Victorian history
- At the same time, record rain and flood levels were being experienced in the northern Queensland Townsville region
- There has been a 12% decline in the region's rainfall between the periods 1961-1990 and 1998-2007 <sup>(CSIRO)</sup>
- Run off into the major waterways in the region is expected to decrease by between 10% and more than 50% by 2070 <sup>(CSIRO)</sup>
- A sea level rise of a minimum 0.8mtr is anticipated in 100 years <sup>(CSIRO)</sup>

### Council specific challenges:

- **Decision making of Council** is always a challenge of balancing technical data, diverse views and opinions all within an affordability/sustainability context
- There are always major issues at hand that may divide the community with the challenge being how to best move forward with the interest of current and future generations in mind
- **Council Services and Infrastructure** are constantly under pressure from increased demand or maintaining the (changing) standards expected by the community
- Increased or improved levels of service come at a cost that must be contained within an affordability model normally underpinned by a combination of councils rating strategy and user pay policy
- To continue to improve fire prevention across the region and to move toward an integrated fire management model
- To provide the level, continuity of leadership and funding to effectively develop and implement a **Sustainable Population Strategy** for the municipality that requires multi-agency, community support
- The Federal, State Local Government along with public and private sector service providers collectively contribute to creating the environment for sustainable growth in any region or municipality. However, none of these groups have long term sustainable growth as a core responsibility and therefore the topic is most often not directly subject to the focus or resourcing it warrants
- In addition, the continuous change cycle of elected members and senior officers for all the above mentioned groups does not support the continuity of leadership needed to address such a topic
- Human resources or budgets are not currently available for Sustainable Population Strategy work by Council
- There is a general lack of awareness and understanding of leaders specifically and the community generally about the real state of performance of the municipality
- Not having this understanding makes the development of strategic responses impossible. The imperative for change is not understood by the wider community
- The Community Satisfaction Survey 2008 shows the "Overall Performance of Council as 51% compared to 60% for Large Rural Shires <sup>(DPCD, Community Satisfaction Survey)</sup>
- The Community Satisfaction Survey 2008 shows the "Advocacy" role of Council as 54% compared to 62% for Large Rural Shires <sup>(DPCD, Community Satisfaction Survey)</sup>
- The Community Satisfaction Survey 2008 shows the "Customer Contact" role of Council as 69% compared to 70% for Large Rural Shires <sup>(DPCD, Community Satisfaction Survey)</sup>

- The Community Satisfaction Survey 2008 shows the “Engagement” role of Council as 45% compared to 58% for Large Rural Shires (DPCD, Community Satisfaction Survey)
- The Victorian Community Indicators 2007 report that 74% of COS people have participated in a community engagement activity in the previous year compared to 68.1% for the Barwon SW and 53.8 for Victoria. This could indicate a challenge to improve the quality and outcomes of engagement rather than the number of opportunity to engage (DPCD, Community Indicators, 2007)
- The Community Satisfaction Survey 2008 shows the “Enforcement of Local Laws” role of Council as 61% compared to 64% for Large Rural Shires (DPCD, Community Satisfaction Survey)

## Key Result Area

# 2. Physical Infrastructure and Assets

### Objective:

*Council will provide and maintain Council infrastructure and assets that meet community needs now and in the future.*

### Municipal wide challenges:

#### Climate Change Impact on Infrastructure

##### We know this is a challenge because:

- See Section 4 Environmental Management for evidence of Climate Change
- Higher temperature ranges impact on the service life and maintenance schedules of infrastructure such as road surfaces, rail, drains and subterranean pipes including water, gas and sewage
- Sea level rises will mean buildings and infrastructure near the coast may be subject to inundation and/or damage e.g. paths, harbours, jetties, retaining walls and land previously used for recreation and open space may disappear
- Storm events and fires result in damage, destruction to property and infrastructure as well as significant human impact – physical, resources and emotional
- Infrastructure providers will need to consider the effects of climate change and energy conservation with long term assets maintenance and planning
- Buildings, infrastructure and assets may need to be altered or upgraded to cope with the impacts of higher and more extreme temperatures.

#### Public Transport Limitations

Good public transport and transport infrastructure enhances the ability for people to access and move within the municipality for business, tourism, jobs and service provision.

There is evidence of severe limitations in the provision of public transport within the Colac Otway Shire

This situation is common for regional cities and towns that do not have the critical mass of population needed to support higher levels of service.

Critical mass is most often regarded as around 20,000 people or similar populations to Warrnambool. Colac central has approximately half this population.

##### We know this is a challenge because:

The Colac Neighbourhood Renewal Survey 2007 included 300 people surveyed in Neighbourhood Renewal Areas (NRA) and 150 people in Non-Neighbourhood Renewal Areas:

- For "what is your main form of transport" in NRA, there was:
  - a 12% drop in people using a car from 77% in 2004 to 65% in 2007
  - 1% recorded public transport in 2007 compared to 0% in 2004
  - Taxis use dropped from 5% to 3% in 2007
  - Walking stayed the same at 14%
  - Cycling is a low 1% in 2007

- For "How would you generally rate public transport services for people in your neighbourhood?"
  - 76% of NRA respondents rated it as Poor or Average in 2007 compared to 73% in 2004
  - 81% of Non NRA respondents rated it as Poor or Average in 2007 compared to 70% in 2004
- For the open question "What do you think needs to be done to improve public transport services for people in your neighbourhood"
  - 48% commented on "having a bus service, more buses and more bus routes"
  - 15% said "improve taxi service/more taxis"
  - 10% said "more information about what (public Transport) is available"
  - 18% of COS people surveyed in the Victorian Community Indicators 2007 said they "experienced limitations or restrictions to their day to day transportation in the previous 12 months". This result compared to 16.4% for the Barwon South West and 20.3% for Victoria

### Council specific challenges:

- The Community Satisfaction Survey 2008 shows the Local Roads and Footpaths for Council as 44% compared to 51% for Large Rural Shires (DPCD, Community Satisfaction Survey)
- The Community Satisfaction Survey 2008 shows the Appearance of Public Areas for COS as 64% compared to 68% for Large Rural Shires (DPCD, Community Satisfaction Survey)
- Providing sufficient funding to maintain the existing assets at levels which are acceptable to the community
- The current asset renewal gap could increase to \$1.2M per year over the next 20 years, if not addressed
- Council will need to work with the community to develop an appropriate set of strategies to minimise the renewal gap to acceptable and affordable levels
- Improve the condition of local roads and footpaths to match community expectations of levels of service
- Balance the needs of current residents/users whilst planning for future generations
- Build new and upgrade existing assets that meet the current and future needs of the community
- Build new Council infrastructure to meet the future impacts of climate change
- Advocate for an increased standard of transport and main road networks that provide connectivity to the community both locally and regionally

## Key Result Area

# 3. Land Use and Development

### Objective:

*Council will engage, plan and make decisions about land use and development that takes into account the regulatory role of Council, its diverse geography, social, community, economic and environmental impacts for current and future generations.*

### Municipal wide challenges

#### Sustainable Strategic Land Use Planning and Development

Whilst predominantly a challenge for Council, sustainable planning and development is constantly influenced by demographic change but Climate Change has now emerged as a higher profile consideration.

This challenge area involves and affects residents, investors, developers and services providers as the Shire operates in a market driven, supply and demand environment.

#### We know this is a challenge because:

- Housing types will need to cater for the forecast increase in the 60 plus age group of 40% or 1870 people by 2031 from a base of 4,634 in 2006 <sup>(Id Profile)</sup>
- Lone person households will increase from 27.5% in 2006 to 32.6% in 2030. This is a net increase of 1163 households by 2030 <sup>(Id Profile)</sup>
- Families with dependants will decrease from 29.2% in 2006 to 25.7% in 2030. This will still see a net increase in the number of households of 280 <sup>(Id Profile)</sup>
- Household sizes are forecast to decrease from 2.43 persons per household average in 2006 to 2.29 in 2030 <sup>(Id Profile)</sup>
- Urban development in the COS generally follows the pattern for Australia of expanding through relatively low density, new greenfield site subdivision development rather than urban infill
- The two largest contributors to Greenhouse Emissions are Energy (electricity) and Transport (vehicles) with both influenced by strategic land use planning <sup>(Greenhouse, 2007)</sup>
- There have been energy efficiency gains in recent years through a combination of increased energy rating requirements for buildings and product energy efficiency improvements
- However, these gains have been offset by population growth characterized by less people, living in larger houses, using increased transport and number of electrical appliances including air conditioning
- Scientific predictions of increased sea levels associated with climate change – the Victorian Coastal Strategy 2008 requires planning to take account of a minimum 0.8m sea level rise
- Long term shift in farming patterns in the northern part of the Shire particularly due to reduced rainfall

Lake Colac dried up early in 2009, with more intense weather events such as drought, flooding and fire

## Managing the Demand for Rural Residential Lifestyle

There is an increased demand on land use from people seeking out the “tree change” or rural residential lifestyle.

This places increased pressure on protecting productive agricultural/rural land and long term economic sustainability.

### We know this is a challenge because:

- Strong demand for rural residential living – numbers of dwellings approved on rural lots in past years
- Ageing farmers retiring and disposing of land in multiple land parcels to maximise financial gain, fragmenting larger farming units
- Increasing numbers of planning applications for dwellings on smaller sub standard lots in rural areas (outside of townships)
- Reduced farm income of 60% or \$70m since 2004 to 2008 and a similar increase of 60% for interest paid per annum, per capita during the same period

## Increased Planning Scheme Complexity and Regulatory Requirements

### We know this is a challenge because:

- Increased extent of controls applying under the Planning Scheme over recent years, partly as a result of local initiatives, but mainly due to State Government decisions reflecting environmental risks such as landslip and wildfire, and policies for coastal and rural protection
- Lack of understanding in the general community about the strategic directions for the Shire and purpose of planning controls
- Lack of understanding of how the Planning Scheme operates and/or the basis for decisions being made

### Council specific challenges:

- Undertaking strategic planning that positions Council for future growth, including planning to accommodate future residential and commercial growth in Colac and Apollo Bay
- Considering the impact of climate change on planning decisions
- Preservation of productive rural areas for agriculture and direct rural residential development to defined areas
- Preservation of scenic and cultural landscapes
- Planning for climate change and development tools to address sea level rise
- Balance coastal growth with township character consistent with the Victorian Coastal Strategy and local structure plans and neighbourhood character studies
- Ensuring high quality development and attractive streetscapes
- Responding appropriately to environmental risks such as landslip, wildfire, flooding, salinity and acid sulfate soils
- Maintain an update to date and streamlined Planning Scheme that effectively conveys local planning policies
- Planning for the long term sustainability of the smaller townships through structure plans
- Educating the community on planning and building controls



- Increase awareness of information requirements and processes in planning and building approvals
- Appropriate resourcing for ensuring compliance with planning and building regulations and discouragement of illegal buildings/works

## Key Result Area

# 4. Environmental Management

### Objective:

*Council will protect and enhance the environment entrusted to us, demonstrate efficient use of natural resources and minimise climate change impacts.*

### Municipal wide challenges:

#### Climate Change

The negative consequences of Climate Change are not unique to Colac Otway Shire. However, Climate Change will affect the Shire and community in areas of the economy, agriculture, biodiversity, land use, emergency response, infrastructure provision and maintenance.

Climate Change is characterised by average and extreme temperature increases, lower rainfall, increased storm events and raised sea levels.

This challenge has two elements with the first being the most difficult to influence locally in:

- Minimising the prime cause of Climate Change in greenhouse gas emissions
- Managing and mitigating against the impacts of climate change

There may be positive consequences and opportunities of Climate Change that could include new agriculture opportunities and carbon trading.

#### We know this is a challenge because:

- Climate Change is the direct result of greenhouse gas emissions with the following four sectors being the primary contributors for Victoria in 2005:
  - Energy Industries (66.77 Mt CO<sup>2</sup> –e<sub>2</sub>)
  - Transport (20.57 Mt CO<sup>2</sup> –e<sub>2</sub>)
  - Agriculture (15.73 Mt CO<sup>2</sup> –e<sub>2</sub>)
  - Land Use (-3.49 Mt CO<sup>2</sup> –e<sub>2</sub>)<sup>13</sup>
- Whilst the greenhouse emission profile for Colac Otway is not separated from Victoria, it can be assumed transport, agriculture and land use would provide the major regional impacts. (note: land use is positive due to carbon sequestration)
- <sup>ii</sup>The CSIRO Climate Change Report shows there has been a marked decline in the region's rainfall over the past decade. Between 1998 and 2007 the region's average rainfall was 12% below the 1961 to 1990 average<sup>11</sup>
- Reductions in the total average annual rainfall of around 4% are expected, with the greatest reductions occurring in spring (7%)<sup>11</sup>
- CSIRO reports run off into the major waterways in the region are expected to decrease by between 10% and more than 50% by 2070. This includes the Barwon, Moorabool, Cumberland, Wye and Leigh Rivers, Lake Corangamite, Hopkins and Glenelg Rivers<sup>11</sup>
- By 2030, average annual temperatures in the region will be around 0.8°C warmer with winters warming slightly less than the other seasons (0.6°C). The number of hot days (days over 30°C) is also expected to increase<sup>12</sup>

- The average global temperature has increased by 0.6°C over the past century and by about 1.0°C in Victoria since 1950. In the future, the average global temperature is expected to increase by between 1.1 and 6.4°C by 2100<sup>12</sup>
- Bushfire risk is also expected to increase<sup>12</sup>
- Although average annual and seasonal total rainfall is expected to decline, the intensity of heavy daily rainfall is likely to rise in most seasons. However, fewer rain-days are anticipated with more droughts<sup>12</sup>
- Some impact studies have already been carried out, and have identified:
  - increased heat stress on dairy cattle, reducing milk production unless management measures such as shade sheds and sprinklers are adopted
  - heavy rains and winds from storm events will also contribute to crop damage and soil erosion
  - declining rainfall presents a risk to some traditional agricultural industries, tourism ventures and the ability to sustain the growing population<sup>12</sup>
- The Victorian Coastal Strategy 2008 recommends planning for sea level rise of not less than 0.8 metres by 2100
- The Future Coasts Work of the Victorian Government is not yet completed. This work will assess the vulnerability of Victoria's coastline to sea level rises to support the development of strategies to help communities and industry respond and adapt at a local level
- The Annual Cost of Climate Change for the Great South Coast including Colac Otway is \$1,926 per household which Ranks 34/64 Australian Regions<sup>(SoR, State of Region Report, 2008-09)</sup>

## Sustainable Energy and Water Use

Energy produced and used in the form of electricity from coal fire generators and fuels for transport are the two largest contributors to greenhouse emissions. Both are forecast to increase with population growth and the higher reliance on transport and products such as air conditioners, computers and entertainment systems.

Water supply from rainfall and runoff to streams and catchments is forecast to reduce whilst demand due to population growth and industry development is forecast to increase.

The challenge is therefore to reduce water consumption and energy use per capita.

### We know this is a challenge because:

- The Colac Otway municipal district provides a significant proportion of the Barwon Region's water supply catchment capability
- Demand is increasing due to population growth in major urban areas around Geelong and the Surf Coast with annual forecast growth rates to 2021 of 1.55% and 2.66% respectively
- Whilst Colac Otway is expected to grow at 0.6% per annum to 2021, in real terms this is 2200 people compared to 53,000 for Greater Geelong and 11,000 for Surf Coast
- Water supply has decreased and is forecast to decrease due to climate change, less rainfall and below average streamflows into catchments
- Barwon Water Supply Demand Strategy released in August 2007 includes:
  - Urban water shortfall – continued average inflows will mean a 467 ML/year shortfall for Colac's water supply by 2030 however
  - Water provided by actions in the Supply Demand Strategy will realise 1,046 ML/year when implemented

- The Supply Demand Strategy includes hierarchy of actions of: Conservation & Efficiency; Augmenting Supply; Reuse & Recycling; Infrastructure/Other options
- Energy profiling is not yet available for Colac Otway as this is a difficult and expensive task for one Council to undertake due to the numerous and private sources of input information e.g. electricity wholesalers and retailers
- However it is expected that, as for suburban Melbourne, energy efficiency gains have been offset by less people living in larger houses that have more appliances than ever before
- Urban development in Colac Otway follows the general pattern for Australia and relies on expanding the urban footprint (Greenfield sites) rather than urban infill at higher density rates. This later approach is a far more energy efficient approach and supports the provision of affordable housing however, planning practices and community attitudes must change to effect this change
- The challenge is that there are entrenched housing supply and demand behaviours reinforced by property buyers and developers that perpetuate 'traditional' housing and settlement patterns that are unsustainable
- Dispersed residential development forces people to travel for work, education and access to general services. It continues the increased reliance on transport and subsequent energy consumption

## **Pest, Plant and Animal Control**

### **We know this is a challenge because:**

- The DPI Noxious Weed Review for the Corangamite region found 246 noxious weed species in the region
- Serrated tussock, gorse, ragwort and blackberry are all wide spread. All of these weeds are very difficult to control once they have infested an area
- The Corangamite Regional Catchment Strategy 2003-2008 states that rabbits and foxes have thrived on both public and private land in the region and that the Calicivirus did not have the same impact on the rabbit population as seen in the drier parts of Australia

## **Native Plants, Animal and Habitat Protection and Enhancement**

### **We know this is a challenge because:**

- Over three quarters of the region has been cleared. Habitat destruction is the greatest threat to native fauna
- The Corangamite Regional Catchment Strategy 2003-2008 states that the greatest loss to the region's native vegetation is attributed to land clearing and that habitat destruction results from a wide range of activities including land clearing; cultivation; grazing of stock on roadsides and wetlands; coastal sub-divisions; inappropriate forest management practices; and impacts of public utilities
- NOTE: The Victorian Government DSE is developing a "**Biodiversity White Paper**" due for release in 2009 to:
  - Set the direction for Victorian Government policy and investment priorities in natural resource management, land health and biodiversity for the next 20-50 years
  - Consider how environment and natural resource management activity at the regional, catchment, local and farm scale, and on public land, is contributing to Victoria's overall environmental health

## Waterway Protection and Enhancement

### We know this is a challenge because:

- River condition was reassessed by the Index of Stream Condition in April-May 2004. In the Otway Coast Basin, which has 60 per cent forest cover, the waterways are in good or excellent condition
- Overall, the condition of waterways in the Lake Corangamite Basin is either marginal or poor. This is due largely to past clearing for agricultural pursuits and drainage of wetlands
- In the Barwon Basin most of the waterways are in marginal to poor condition with the few streams in excellent or good condition mainly in the water supply catchment areas
- The Corangamite Regional Catchment Strategy 2003-2008 states the degradation of stream condition is widespread, with removal of streamside vegetation, bed and bank erosion, obstructions to fish passage, extensive woody weed invasion and reduced water flows being the major causes
- The condition of the lakes and wetlands in the region are also degraded. These areas are important habitat for many migratory species
- Management of wetlands on private land is very difficult because many are located on private land where they have been drained to allow agriculture to be undertaken

## Coastal and Marine Protection and Enhancement

### We know this is a challenge because:

- The Great Ocean Road coastline is an internationally recognised icon, the protection of which is made complex due to the amount of tourism and residential development pressure
- The dune systems, estuaries and marine environment along the coast are generally in good condition because of the majority of these areas being located on public land however the Victorian Coastal Strategy has identified that three major issues that threaten this condition is climate change; population growth; and marine ecological integrity

## Council specific challenges:

- The Community Satisfaction Survey 2008 shows the “Waste Management” role of Council as 67% (DPCD, Community Satisfaction Survey)
- Advocating on behalf of the community on issues outside of Council’s control
- Protection of environmental values on Council owned and managed land
- Protection of environmental values on private land through provision of planning advice
- Diversity of our built and natural environments
- Diversity of land use across the region
- Recruiting and retaining suitably qualified staff
- The scope of climate change issues and the limitations on Council’s influence
- Development of a Colac Otway Shire Environment Strategy
- Address the future Waste and Recycling needs of the municipality

## Key Result Area

# 5. Economic Development

### Objective:

*Council is committed to facilitating a healthy and resilient economy through effective leadership, advocacy, and partnership.*

### Municipal wide challenges:

#### Improve Economic Performance

The economy of the municipality is comparatively average to below average in the areas of business income, construction investment, average wages and productivity.

#### We know this is a challenge because:

- The State of Regions Report 2008-09 data for COS shows a 33% decline in Total Business Income from \$164m in 2004 to \$110m in 2008
- Farm Income is part of Total Business Income and has recorded a significant decline of 60% from \$120m in 2004 to \$50m in 2008
- The exact reasons for this significant drop in Business and particularly Farm Income need to be established
- The dairy industry is a major producer in COS and these income figures DO NOT include recently announced drops in the farm gate price for milk and milk solids
- The dairy industry has seen average per litre milk prices of 30c/ltr from 2001 to 2007 and 50c/ltr in 2007/08
- Interest Paid per capita has risen 60% between 2004 and 2008 recording \$2,130 and \$3,380 respectively
- The top industries for employment in 2006 are: Retail (1,369); Agriculture (1,337); Health & Community Services (1,031); Manufacturing (1,030); Construction (660); Property and Business Services (617)
- The largest increase in employment between 2001 and 2006 has been in Government Administration and Defence with 50% growth of 239 people
- Property and Business Services grew 34.5% or 213 people followed by Construction with growth of 24.1% or 159 jobs
- Agriculture Forestry and Fishing declined by 170 jobs or 12.7% between 2001 and 2007
- Industry Output and Forecasting is how regional product, value add and efficiency is measured however this data is not yet available for COS. It will come available as part of the Great South Coast Municipalities Strategic Plan development process schedule for 2009
- Average weekly incomes for Colac Otway are 20.5% below the State average at \$32,115
- Average wages per capita have risen 17% between 2004 and 2008 recording \$13,200 and \$15,400 respectively
- During the same period of 2004 to 2008, Business Value Add per Capita has decreased slightly from \$21,000 to \$20,600 respectively

- The total combined value of residential and non residential construction has decreased 10% from \$62m in 2003 to \$56m in 2008. It is forecast to drop to \$42m in 2009
- Impact of the Global Financial Crisis is not known e.g. Retail is vulnerable to rapid economic shifts due to reliance on income and discretionary spending
- The 2007-8 State of Regions Report shows Colac Otway as part of the VIC West Region which was ranked 41 of 64 Regions for Business **Productivity** and 36 of 64 for Business **Value Add**

### Availability of Skilled and Capable Workforce

The short and long term provision of a skilled and capable workforce has a major impact on the Shire's economy as it limits current output and hampers further development and investment.

#### We know this is a challenge because:

- Unemployment rate for the September 2008 quarter for the Colac Statistical Local Area (SLA) was 4.2%, a decrease of 1.5% for the same period in 2007. This is below the Victorian average of 4.5% but higher than the national average of 4%
- When the Colac North and South SLA's are included, the unemployment rate drops to 3.1% for the September 2008 quarter
- Labour Force Participation is 61.9% and higher than the Victorian average of 60.8%
- By 2021, the working age group of 18 to 60 years will grow at a rate that is one sixth the growth to be experienced in the 60 plus age group
- Government (DPCD and DEWR) Surveys show skills shortages in all key industry sectors in the Geelong and Colac Local Government Areas <sup>(Vic Government, 2007)</sup>
- An average of 14 per cent of the 1,078 vacancies in the Geelong and Colac LGA's remained unfilled over the previous 12 months, however this varied significantly across industries
- Vacancies in the Property and Business Services industry were the least likely to be filled, with one quarter (25 per cent) of the 113 vacancies remaining unfilled
- Employers in the Transport and Storage and Manufacturing industries also had significant difficulty filling vacancies with around one-fifth of vacancies in both industries remaining unfilled
- Employers in the Health and Community Services and Construction industries reported that they were able to fill most of their vacancies with less than six per cent remaining unfilled in each industry
- Around one-fifth (22 per cent) of employers had one or more unfilled vacancies in their business

#### Council specific challenges:

- The Community Satisfaction Survey 2008 shows the "Economic Development" role of Council as 59%, the same rating as for all Victorian Large Rural Shires <sup>(DPCD, Community Satisfaction Survey)</sup>
- Council is but one player in the economy of the municipality and has limited funding and ability to directly influence economic outcomes
- Council does however have a powerful leadership and advocacy role that can influence economic outcomes for the Shire

•

## Key Result Area

# 6. Community Health & Wellbeing

### Objective:

*Council will promote community health and wellbeing in partnership with other health services. Through a partnership approach, Council will provide a broad range of customer focused health, recreational, cultural and community amenities, services and facilities.*

### Municipal wide challenges:

#### Creating Higher Levels of Community 'Advantage'

The Colac Otway local government area has a long term trend of social disadvantage. The level of disadvantage is measured by the Federal Government ABS Social Economic Index For Areas (SEIFA). It shows the prevalence of disadvantage in the Colac central part of the shire.

Colac's SEIFA Index can be compared to other places in Victoria such as Corio, Whittington, Morwell, Moe and Camperdown.

Socio-economic indicators for Colac Otway show long term negative trends. These trends are consistently below average and likely to continue to decline unless interventions are introduced.

#### We know this is a challenge because:

The State of Region Report demonstrates a direct correlation between broadband access, productivity, employment and average weekly incomes.

There is also direct correlation between education levels, broadband use, innovation, value adding, productivity, average wages and social disadvantage with the following providing some headline indicators:

- Average annual incomes for Colac Otway are 20.5% below the State at \$32,115 compared to \$40,393
- 42% of Colac Otway adults have Broadband Internet Access at Home. This is 19% below the Victorian average of 61% and the lowest in the Barwon West (DPCD, Community Indicators, 2007)
- The State of Regions Report 2008-09 shows the VIC West Region at 54 of 64 for Business Innovation
- The Colac Otway municipality performs badly for the highest year of school completed. People aged 20 to 24 record (ABS 2006) are: (Cooke, 2009)
  - 100% more likely to have completed Year 8 than the average for Victoria
  - 164% more likely to have completed for Year 9
  - 84% more likely to have completed Year 10
  - 125% more likely to have completed Year 11 and
  - 28% LESS likely to have completed Year 12
- The Colac Otway Shire SEIFA Social Disadvantage index of 967.3 is the second worst in the Barwon West behind Glenelg at 962 (Id Profile)
- The Great Ocean Road-Otways and Rural South are rated as Socially Advantaged with 1008.8 and 1003.7 respectively



- By contrast, the major population area of Colac Central has a SEIFA Social Disadvantage Index of 921.6
- The State of Region Report 2008-09 shows Business Value add per capita for COS has remained approximately the same from 2002 to 2008 at \$20,600. This is below the average for the VIC West of \$22,642

## **Servicing the Needs of an Ageing and Changing Population**

Service standards and volumes are continually changing as the shires demographic profile and growth forecasts change.

### **We know this is a challenge because:**

- Whilst the population is not growing significantly at 0.67% per annum there are increases of around 30% expected for the 70 plus age group in just 15 years
- The Department of Human Services estimates that people aged more than 70 years account for nearly one third of separations (29%) and nearly half (47%) of bed days for acute services

## **Improving Population Health**

### **We know this is a challenge because:**

Department of Human Service data for Colac Otway shows notable differences between COS and the average for Victoria in the following health related areas:

- Male Injuries (+32%)
- Male rate per 1000 -Cancer (+6%), Cardiovascular (+6%), Mental disorder (6.3%)
- Dental conditions per 1000 – +58.6%
- Life expectancy Males – minus 4%
- Life expectancy Females – minus 1.4%
- Death rate per 1000 from cardiovascular disease - +33.7%
- Death rate per 1000 from cancers - +23.6%

32% of residents believe drugs and alcohol are the main reasons that affect people’s health and wellbeing

## **Housing Affordability**

Housing Affordability is one of the main reasons people come to live in the COS.

Quality of Life, Jobs and Liveability are some of the other reasons people come to live in the municipality however, current performance data shows they are at risk of becoming challenges rather than competitive advantages.

### **We know this is a challenge because:**

- <sup>iii</sup>The “reason people come to live in their current house in the shire” for 300 people surveyed in 2007 show that 52% do so for low cost housing (21%), public housing (19%) and no other housing available (12%) (Colac Neighbourhood Renewal)
- Bankwest Ranks the Housing Affordability for all Australian LGAs. Bankwest “House Price to Worker Earning Ratio” shows a ratio for COS of 1:3.4. A ratio below 1:5 is regarded as “affordable”
- The ABS “Percentage of Households with Housing Costs Greater than 30% of Gross Income” records COS at 13.4% which is below the Victorian average of 17.7% but getting close to the Country Victoria average of 14.9%

- The Colac Otway Housing Audit June 2007 shows increased pressure on private rentals with:
  - An increased of 40% in median rents between in June 2001 and June 2006; and
  - Housing and support workers report “high demand and low supply” of private rental properties, and that what is available is “expensive”
- The 2008 Bankwest “Quality of Life” index takes into account 10 factors that rank Colac Otway as 133 of 590 Local Government Authorities in Australia. The lower the ranking number, the better the ranking

### Council specific challenges:

- The Community Satisfaction Survey 2008 shows the “Health and Human Services” role of Council as 73%, above the rating of 72% for all Victorian Large Rural Shires (DPCD, Community Satisfaction Survey)
  - The Community Satisfaction Survey 2008 shows the “Recreation Facilities” role of Council as 55% compared to 66% for Large Rural Shires (DPCD, Community Satisfaction Survey)
  - Recruiting and retaining suitably qualified staff
  - Limited local service provider alternatives i.e. service providers both private and government
  - Geographically spread community
  - Demand on Council provided services and associated cost pressures
-

**OM092406-6 2009-2010 FESTIVAL AND EVENT SUPPORT SCHEME ENDORSEMENT OF APPLICATIONS**

|             |                                  |           |              |
|-------------|----------------------------------|-----------|--------------|
| AUTHOR:     | Vicki Jeffrey                    | ENDORSED: | Colin Hayman |
| DEPARTMENT: | Corporate and Community Services | FILE REF: | GEN0338      |

**Purpose**

The purpose of this report is to seek Council endorsement of recommendations made by the Festival and Event Support Scheme Advisory Committee for applications received under the Colac Otway Festival and Events Support Scheme 2009-10.

**Background**

Thirteen applications were received under the 2009-2010 Colac Otway Festival and Events Support Scheme. Following a request in 2008 from Bicycle Victoria for financial support of the 2009 Great Victorian Bike Ride (GVBR) advance funding of \$7,500 was approved at the Ordinary Council Meeting 28 October, 2008, therefore taking the total number of applications to fourteen.

A new element of the funding program for 2009-10 was the introduction of Seed Funding of up to \$1,000 for new events.

A total of fourteen applications were received under the 2009-2010 Festival and Support Scheme comprising the following events:

1. Forrest Festival of Fire, February 2010
2. Birregurra Weekend Festival, October 2010
3. Otway Odyssey, February 2010
4. Great Ocean Sports Festival, February 2010
5. Colac Cycling Club South West Series, August 2009
6. Colac Kana Festival, March 2010
7. Otway Soup Fest, June 2010
8. Apollo Bay Music Festival, March 2010
9. Great Ocean Road Marathon, May 2010
10. Colac Country Music Festival, Truck and Ute Show, February 2010
11. Heritage Festival, February 2010
12. Great Victorian Bike Ride, December 2009
13. World Refugee Day, June 2010
14. Rain forest Ride, November 2009

A meeting of the Festival and Events Support Scheme Advisory Committee was held on 3 June 2009 consisting of Cr Crook, Cr Russell, Cr Buchanan, Cr Smith, Darren Chirgwin (Otway Tourism), Ian Seuren (Regional Development Victoria) and Vicki Jeffrey (Events Officer – Colac Otway Shire) to review the above applications at which;

- Darren Chirgwin (Otway Tourism) declared an interest in the GOR Marathon
- Cr Buchanan declared an interest in the GOR Marathon
- Vicki Jeffrey declared a past interest in Birregurra Weekend Festival

**Council Plan/Other Strategies/Policy**

The development of the Colac Otway Festival and Events Support Scheme 2009-10 is a direct outcome of the recommendations contained in the 2007-2011 Festivals and Events Strategy, endorsed by Council in January 2007.

**Issues/Options**

There are three options for Council consideration;

1. Oppose the adoption of the recommendations made by the Advisory Committee for applications received under the Colac Otway Festival and Events Support Scheme 2009-10. Adopting these recommendations will enable a growing number and range of events held within the municipality to access funding to assist with the continued growth and development of events.
2. Undertake further assessment of the recommendations and return to Council for further consideration. A delay in adopting the recommendations made by the Advisory Committee for Events Funding and Support will be detrimental to the funding process as it may negatively impact in the ability of some organisers to secure funding from other agencies and/or deliver their events on time.
3. Adopt the recommendations made by the Advisory Committee and provide identified funding allocations to the recommended event organisers/groups acknowledging the process and assessments completed.

**Proposal**

It is proposed that Council adopts the recommendations made by the Festival and Events Support Scheme Advisory Committee to provide event funding for the identified event organisers/groups under the Colac Otway Festival and Events Support Scheme 2009-10.

**Financial and other Resource Implications**

The proposed Colac Otway Festival and Events Support Scheme 2009-10 has dedicated funds through the development of specific project budget lines under the 2009-10 budget process.

A total budget allocation of \$60,000 has been provided, comprising of \$60,000 cash which includes expenditure from Cosworks towards event specific requirements. Costs associated with services provided by Cosworks have been included in each individual allocation. A new category of seed funding was introduced for first time events in 2009 -2010.

**Risk Management & Compliance Issues**

Endorsement of the Colac Otway Festival and Events Support Scheme 2009-10 recommendations will reduce the risk to Council by ensuring that a fair, equitable and transparent process is applied to the administering of Council funding for events.

All events funded under this scheme are required to undertake Council's Event Approval process which specifically addresses risk management and compliance issues specific to each event.

**Environmental Considerations**

The Colac Otway Festival and Events Support Scheme 2009-10 guidelines specify that it is a condition of all successfully funded applicants that they ensure their events are 'Waste Wise' which requires the event to meet set criteria regarding event waste management. Other environmental considerations are identified throughout the approval process and are dealt with accordingly.

### Communication Strategy/Consultation

There has been ongoing consultation and information provided for current and prospective Event Organisers regarding the implementation of the funding scheme. The process of communication and consultation was achieved through paid advertisements in local newspapers and newsheets, articles in the Colac Otway Shire news column, access to these documents on the Colac Otway Shire website and distribution of the Festival and Events Support Scheme application and guidelines at the Customer Service Centres in both Colac and Apollo Bay.

The 2009-2010 Festival and Events Support Scheme application and guidelines were presented to Council for endorsement at the February Council Meeting 2009.

### Implementation

Fourteen event applications were received under this Scheme. Implementation for 2009-10 began with

- Applications open Friday 27 March 2009
- Closing date for applications Friday 8 May 2009
- Evaluation of applications Wednesday 3 June 2009
- Notification of funding July 2009 (subject to budget approval)
- Project completion, evaluation forms returned May 2010

The final recommendations from the Festival and Events Support Scheme Advisory Committee for events under the Colac Otway Festival and Events Support Scheme 2009-10 are as follows:

| <b>Event</b>                                        | <b>Funding</b>  | <b>Category</b>       |
|-----------------------------------------------------|-----------------|-----------------------|
| Forrest Festival of Fire                            | \$1,000         | Seed (Community)      |
| Birregurra Weekend Festival                         | \$7,500         | Platinum (Community)  |
| Otway Odyssey                                       | \$6,000         | Platinum (Commercial) |
| Great Ocean Sports Festival                         | \$5,000         | Gold (Community)      |
| Colac Cycling Club                                  | \$1,000         | Seed (Community)      |
| Kana                                                | \$7,500         | Platinum (Community)  |
| Otway Soup Fest                                     | \$2,500         | Silver (Community)    |
| Apollo Bay Music Festival                           | \$7,500         | Platinum (Community)  |
| GOR Marathon                                        | \$7,500         | Platinum (Community)  |
| Colac Country Music Festival,<br>Truck and Ute Show | \$5,000         | Gold (Community)      |
| Heritage Festival                                   | \$1,000         | Seed (Community)      |
| Great Vic Bike Ride                                 | \$7,500         | Platinum (Commercial) |
| World Refugee Day                                   | \$1,000         | Seed (Community)      |
| Rainforest Ride                                     | NIL             | Gold (Commercial)     |
| <b>Totals</b>                                       | <b>\$60,000</b> |                       |

All decisions made by the Festival and Events Support Scheme Advisory Committee were unanimous with recommended funding provided to all applicants with the exception of the Rain Forest Ride. This event was ineligible for funding as the scheme does not support fundraising events, activities or projects.

The Committee has recommended to Council that event funding allocations will strictly adhere to funding categories and stipulated amounts and that this information should be strongly communicated to the event applicant when funding is administered. It is proposed

applicants will be notified immediately of the outcome of their submission, subject to Council adopting the recommendations made by the Festival and Events Support Scheme Advisory Committee for applications received under the Colac Otway Festival and Events Support Scheme 2009-10. Funding will be released to successful applicants upon the receipt of a tax invoice.

### **Conclusion**

It is expected that in the future, all applicants must apply under the relevant prescribed event category contained in the application form with relevant funding allocations. The Colac Otway Festival and Events Support Scheme 2009-10 (guidelines, application and acquittal form) will ensure clarity, transparency and accountability in administering future Council funding in relation to events.

### **Attachments**

There are no attachments to this report.

### **Recommendation(s)**

1. ***That subject to Budget approval, Council adopts the recommendations made by the Festival and Event Support Scheme Advisory Committee for categories of the various events and funding allocations to events under the Colac Otway Festival and Events Support Scheme 2009-10.***

| <b><u>Event</u></b>                                                | <b><u>Funding</u></b>  | <b><u>Category</u></b>              |
|--------------------------------------------------------------------|------------------------|-------------------------------------|
| <b><i>Forrest Festival of Fire</i></b>                             | <b><i>\$1,000</i></b>  | <b><i>Seed (Community)</i></b>      |
| <b><i>Birregurra Weekend Festival</i></b>                          | <b><i>\$7,500</i></b>  | <b><i>Platinum (Community)</i></b>  |
| <b><i>Otway Odyssey</i></b>                                        | <b><i>\$6,000</i></b>  | <b><i>Platinum (Commercial)</i></b> |
| <b><i>Great Ocean Sports Festival</i></b>                          | <b><i>\$5,000</i></b>  | <b><i>Gold (Community)</i></b>      |
| <b><i>Colac Cycling Club</i></b>                                   | <b><i>\$1,000</i></b>  | <b><i>Seed (Community)</i></b>      |
| <b><i>Kana</i></b>                                                 | <b><i>\$7,500</i></b>  | <b><i>Platinum (Community)</i></b>  |
| <b><i>Otway Soup Fest</i></b>                                      | <b><i>\$2,500</i></b>  | <b><i>Silver (Community)</i></b>    |
| <b><i>Apollo Bay Music Festival</i></b>                            | <b><i>\$7,500</i></b>  | <b><i>Platinum (Community)</i></b>  |
| <b><i>GOR Marathon</i></b>                                         | <b><i>\$7,500</i></b>  | <b><i>Platinum (Community)</i></b>  |
| <b><i>Colac Country Music Festival,<br/>Truck and Ute Show</i></b> | <b><i>\$5,000</i></b>  | <b><i>Gold (Community)</i></b>      |
| <b><i>Heritage Festival</i></b>                                    | <b><i>\$1,000</i></b>  | <b><i>Seed (Community)</i></b>      |
| <b><i>Great Vic Bike Ride</i></b>                                  | <b><i>\$,7500</i></b>  | <b><i>Platinum (Commercial)</i></b> |
| <b><i>World Refugee Day</i></b>                                    | <b><i>\$1,000</i></b>  | <b><i>Seed (Community)</i></b>      |
| <b><i>Rainforest Ride</i></b>                                      | <b><i>Nil</i></b>      | <b><i>Gold (Commercial)</i></b>     |
| <b>TOTALS</b>                                                      | <b><u>\$60,000</u></b> |                                     |

2. ***That Council notes that the Festival and Event Support Scheme Advisory Committee has recommended to Council that event funding allocations will strictly adhere to funding categories and stipulated amounts and that this information should be strongly communicated to the event applicant when funding is administered.***

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**OM092406-7 FINANCIAL PERFORMANCE REPORT**

|             |                                  |           |                 |
|-------------|----------------------------------|-----------|-----------------|
| AUTHOR:     | Melissa Garner                   | ENDORSED: | Colin Hayman    |
| DEPARTMENT: | Corporate and Community Services | FILE REF: | GEN0392 General |

**Introduction**

The following Financial Performance Report is for the eleven month period to the end of May 2009.

**Budget Variances**

Rates and Charges of \$20.7m raised. Projected accumulated cash deficit of \$0.28m, due to increased compliance costs on Cressy-Shelford (\$0.5m); increased recruitment costs (\$0.15m); increased Blue Water Fitness Centre wages (\$0.1m) & Apollo Bay Leisure Centre costs (\$0.04m).

**Cash Position**

Net cash outflow of approx \$0.74m for the month of May. Improved cash position of \$0.41m compared to previous year.

**Rates Debtors**

Rates to the value of \$18.0m raised. Percentage collected slightly down to previous year at 92.60 % compared to 93.50% for 2007/8. Final instalments were due 31 May.

**Trade Creditors**

Total creditors paid \$1.90m for month of May, compared to \$2.22m previous year.

**Interest on Investment**

Interest received for the month of May of \$16,208. Current interest rate is 2.90%. Falling interest rates have resulted in lower interest income.

**Capital Works to May 2009**

|  | \$      |
|--|---------|
| Cosworks Unsealed Roads Rehabilitation | 950,328 |
| Plant Replacement                      | 661,548 |
| Eliminyt Gas Project                   | 651,516 |
| Resealing Program                      | 549,730 |
| Swan Marsh-Irrewillipe Rd              | 406,816 |
| Purchase of Skills Connection Lease    | 325,000 |
| Binns Road Bridge                      | 322,038 |
| Binns Road                             | 292,401 |
| Larpent Rd                             | 276,121 |
| Cosworks Drainage Works                | 221,772 |
| Cosworks Plant Replacement             | 214,308 |
| Cosworks Sealed Rds Rehab Program      | 203,448 |
| Swan Marsh-Irrewillipe Rd              | 189,042 |
| Pound Rd                               | 169,534 |
| Larpent Rd                             | 147,000 |
| Slater Street                          | 133,032 |
| Various Footpaths                      | 128,758 |
| Footpaths - Birregurra                 | 106,653 |
| Cosworks Supply/Cart Aggregate (Cap)   | 91,810  |

|  |        |
|--|--------|
| Gallop Street                                    | 91,304 |
| Purchase of Computer Equipment                   | 86,552 |
| Bus Shelters Colac                               | 84,054 |
| Poornet Road                                     | 79,735 |
| Footpaths - Apollo Bay                           | 66,756 |
| Virtualisation Project                           | 60,242 |
| Landslide Mapping NDMP                           | 57,365 |
| Council Building Assets Renewal Program          | 56,722 |
| Apollo Bay Transfer Station - Design & Construct | 48,568 |
| Apollo Bay Transfer Station - Land Acquisition   | 44,798 |
| Irrewillipe Road Final Seal                      | 43,398 |
| Air Conditioning Unit Replacement                | 42,932 |
| Server Replacement                               | 42,858 |
| Drainage - Bromfield Street                      | 41,800 |
| Saleyards Gates Replacement                      | 37,806 |
| Slater Street Construction                       | 36,211 |
| Road Furniture Upgrade                           | 35,449 |
| Marks Street                                     | 33,810 |
| Hiders Access                                    | 33,468 |
| Bluewater - Sauna/Spa Refurbishment              | 30,634 |

**Attachment**

Financial Performance Report for month of May 2009.

**Recommendation**

***That the Financial Performance Report to the end of May 2009 be received.***

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**FINANCIAL PERFORMANCE REPORT**  
**FOR MONTH OF MAY 2009**

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**BUDGET VARIANCES**  
**Net Cost to Council**

**Summary by Service**

|                                | <b>Actual<br/>31-May-09</b> | <b>Budget</b>      | <b>Forecast</b>    | <b>% Actual<br/>of Forecast</b> |
|--------------------------------|-----------------------------|--------------------|--------------------|---------------------------------|
| <b>GOVERNANCE</b>              | \$3,669,624                 | \$4,160,126        | \$4,700,921        | 78.06%                          |
| <b>INFRASTRUCTURE</b>          | \$3,864,728                 | \$5,573,556        | \$5,286,199        | 73.11%                          |
| <b>STRATEGIC DEVELOPMENT</b>   | \$4,359,756                 | \$5,143,800        | \$5,415,807        | 80.50%                          |
| <b>DEBT SERVICES</b>           | \$678,312                   | \$682,700          | \$682,700          | 99.36%                          |
| <b>CAPITAL WORKS</b>           | \$4,355,218                 | \$6,014,029        | \$6,256,810        | 69.61%                          |
| <b>RATES</b>                   | (\$15,736,638)              | (\$15,542,939)     | (\$15,520,898)     | 101.39%                         |
| <b>OTHER INCOME</b>            | (\$4,989,873)               | (\$4,950,351)      | (\$4,989,873)      | 100.00%                         |
| <b>Net from Revenue</b>        | <u>(\$3,798,873)</u>        | <u>\$1,080,921</u> | <u>\$1,831,666</u> |                                 |
| <b>APPROPRIATION</b>           | (\$1,551,009)               | (\$1,551,009)      | (\$1,551,009)      |                                 |
| <b>(SURPLUS)/DEFICIT C/FWD</b> | <u>(\$5,349,882)</u>        | <u>(\$470,088)</u> | <u>\$280,657</u>   |                                 |

**Points to Note**

**Governance**

- Insurance premiums paid.
- Community Minor Projects Grants provided
- Workcover premiums paid

**Infrastructure**

- Approx \$1.99m Cosworks maintenance.
- Waste Management Charges raised for the full year.

**Strategic Development**

- Tourism Memberships paid
- Building fees higher than budgeted
- Minor Recreation Facilities Projects Grants provided

**Debt Services**

- No new loan borrowings for year
- Loan 5 has now been extinguished as at 28/04/2009

**Capital Works**

- Approx \$1m carried forward expenditure on Marengo Transfer Station

**Rates**

- Total rates of \$15.8m raised.

**Other Income**

- Third and fourth quarter Grants Commission funding received.

**Appropriation**

- Accumulated cash surplus brought forward from 2007/08 of \$1.55m

## OPERATING STATEMENT

|                                                   | May<br>YTD ACTUAL   | BUDGET              | FORECAST            | NOTE |
|---------------------------------------------------|---------------------|---------------------|---------------------|------|
| <b>OPERATING REVENUE</b>                          |                     |                     |                     |      |
| Rates                                             | \$13,600,508        | \$13,454,089        | \$13,426,898        |      |
| Garbage Charge                                    | \$2,145,392         | \$2,143,599         | \$2,156,000         |      |
| Municipal Charge                                  | \$2,011,716         | \$2,003,850         | \$2,009,000         |      |
| Grants Commission                                 | \$4,989,873         | \$4,950,351         | \$4,989,873         |      |
| Recurrent Grants & Subsidies                      | \$2,485,552         | \$2,525,619         | \$2,612,779         |      |
| Non-recurrent Grants & Subsidies                  | \$3,590,715         | \$3,095,871         | \$4,803,116         | 1    |
| Charges Fees & Fines                              | \$3,455,148         | \$3,862,919         | \$3,890,386         | 2    |
| Reimbursements & Contribution                     | \$538,173           | \$442,923           | \$747,480           | 3    |
| Interest Revenue                                  | \$311,171           | \$420,000           | \$480,000           |      |
| Donated assets                                    | \$127,417           | \$139,000           | \$127,417           |      |
| <b>TOTAL OPERATING REVENUE</b>                    | <b>\$33,255,665</b> | <b>\$33,038,221</b> | <b>\$35,242,949</b> |      |
| <b>OPERATING EXPENDITURE</b>                      |                     |                     |                     |      |
| Employee Costs                                    | \$9,368,649         | \$10,875,000        | \$10,744,189        |      |
| Materials & Services                              | \$9,825,834         | \$11,671,000        | \$12,833,177        | 4    |
| Plant Costs                                       | \$626,988           | \$427,000           | \$548,955           |      |
| Loan Interest                                     | \$182,343           | \$190,500           | \$190,600           |      |
| Grants & Donations                                | \$136,582           | \$140,900           | \$149,400           |      |
| Other                                             | \$799,720           | \$936,883           | \$977,914           |      |
| Depreciation                                      | \$7,452,500         | \$8,430,000         | \$7,452,500         |      |
| Written Down Value - Assets Sold                  | \$504,167           | \$550,000           | \$550,000           | 5    |
| <b>TOTAL OPERATING EXPENDITURE</b>                | <b>\$28,896,783</b> | <b>\$33,221,283</b> | <b>\$33,446,735</b> |      |
| <b>NET SURPLUS/(DEFICITS)<br/>FROM OPERATIONS</b> | <b>\$4,358,882</b>  | <b>(\$183,062)</b>  | <b>\$1,796,214</b>  |      |
| Proceeds from Sales                               | \$647,517           | \$550,000           | \$563,000           |      |
| Property, Plant & Equipment Write Off             | (\$137,500)         | (\$150,000)         | (\$137,500)         |      |
| <b>RESULTING FROM OPERATIONS</b>                  | <b>\$4,868,899</b>  | <b>\$216,938</b>    | <b>\$2,221,714</b>  |      |

### Notes

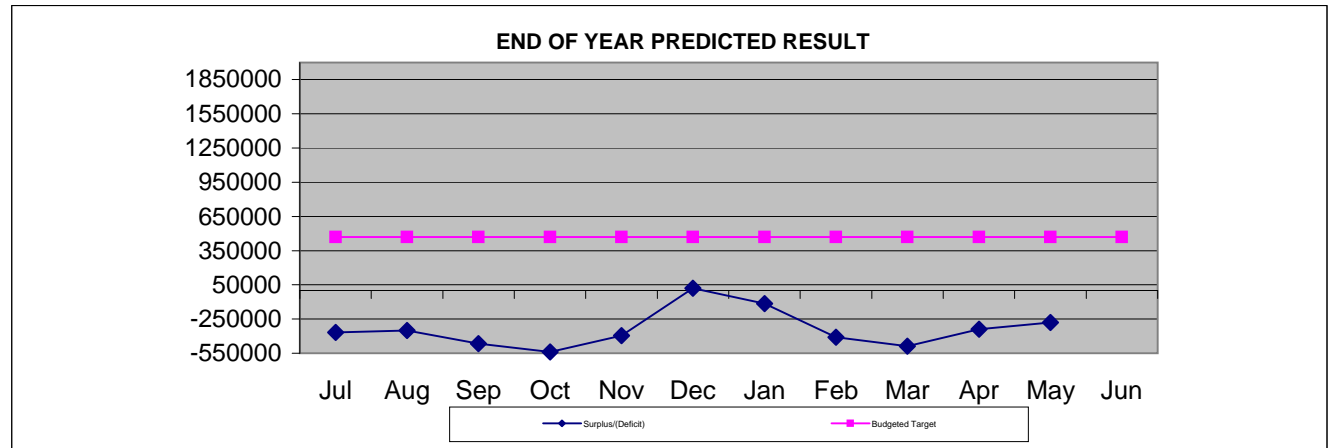
- 1 Non-Recurrent Grants & Subsidies
  - Veteran Affairs Health Care Subsidy \$0.1m
  - Fire Prevention Grant \$0.3m
- 2 Charges, Fees & Fines
  - Council Property rentals raised
- 3 Reimbursements and Contributions
  - Increased Private Scheme charges (Marks St)
- 4 Materials & Services
  - Additional \$0.5m contingency for roadworks
- 5 Written Down - Value of Assets Sold
  - Slight gain expected on Sale of Land

**END OF YEAR PROJECTED RESULT**

Predicted accumulated cash surplus/deficit position as at 31/05/2009.

**Comments**

Estimated accumulated cash surplus \$0.4m  
 Projected cash deficit as at 31/05/2009 forecast at approx \$0.28m



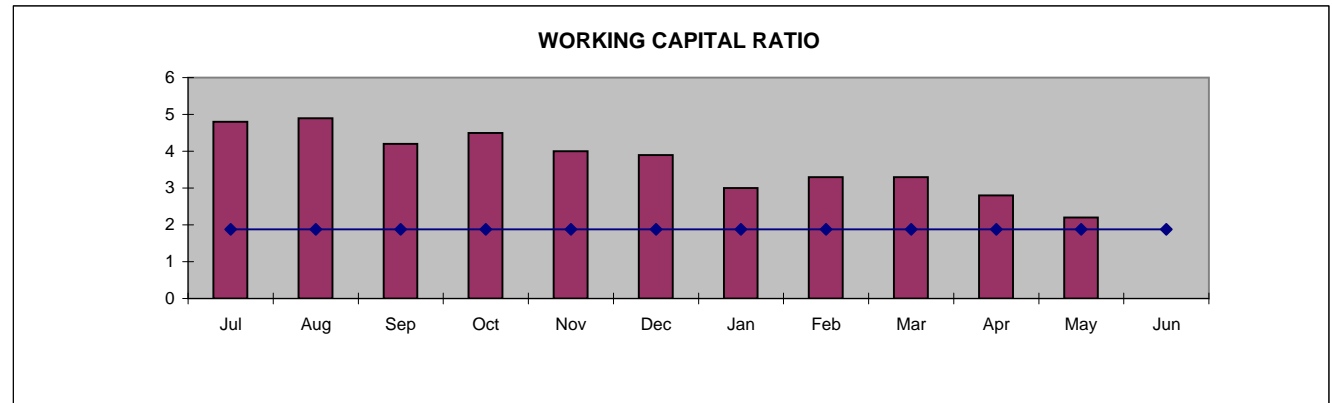
**WORKING CAPITAL RATIO**

To assess Council's ability to meet current commitments.

**Comment**

Current Ratio of 2.2:1 as at 31/05/09

Estimated to be 1.88:1 at 30/06/09



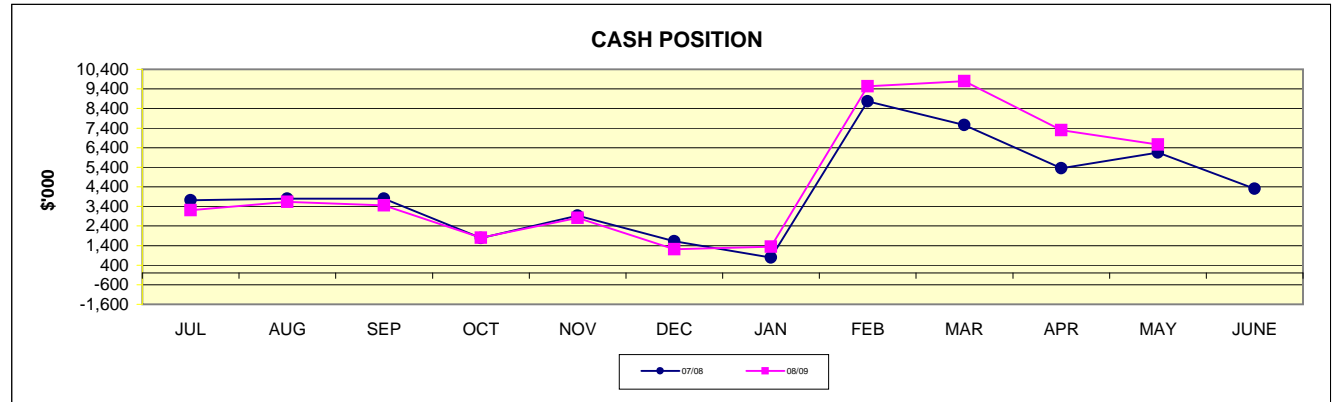
## CASH POSITION

Comparison of General Account Bank balance at the end of month compared to previous year. Does not include Port of Apollo Bay or LSL investments.

### Comment

Net cash outflow approx. \$0.74m for May 2009. Increased cash position of approx \$0.41m as compared to previous year.

|         | 2008/09  | 2007/08  |
|---------|----------|----------|
| Income  | \$2.80m  | \$3.75m  |
| Exp.    | -\$3.54m | -\$2.98m |
| Net     | -\$0.74m | \$0.77m  |
| Balance | \$6.56m  | \$6.15m  |



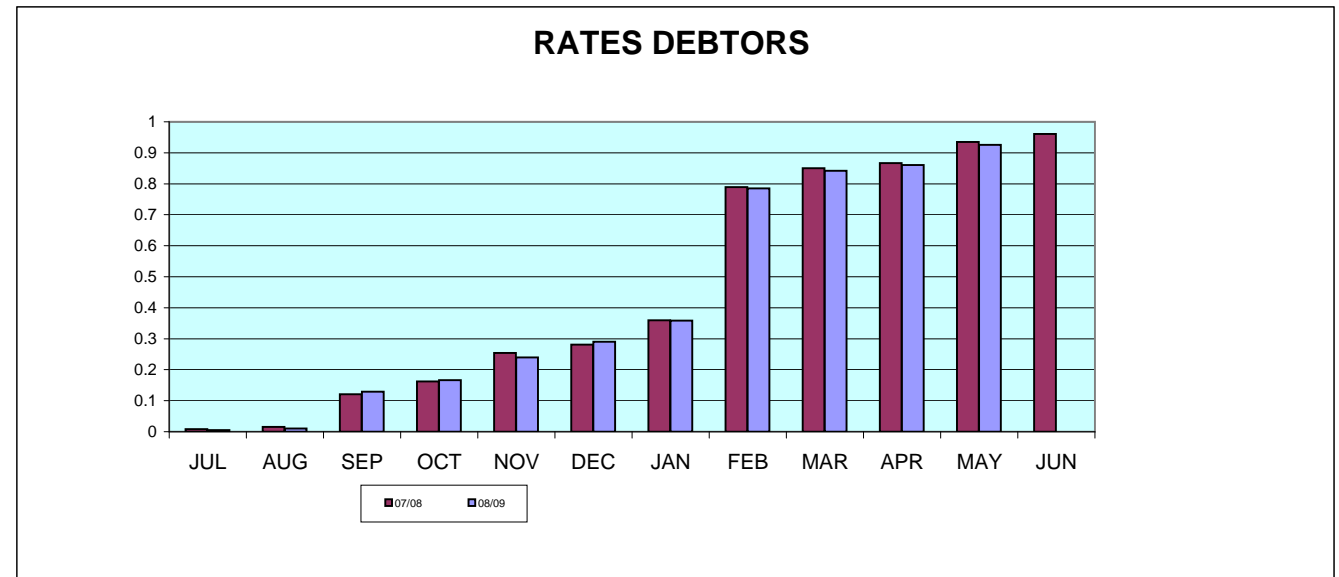
## RATES DEBTORS

Progressive % rates collection at end of month compared to previous year.

### Comment

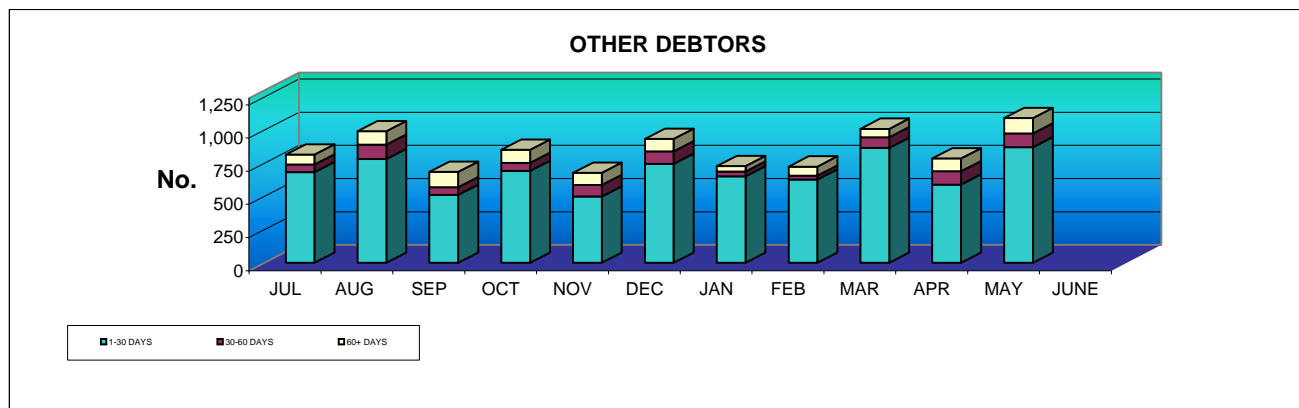
Rates to the value of \$18.0m raised. Collection % slightly lower to previous year.

|           | 000's    | 2008/09 | 2007/08 |
|-----------|----------|---------|---------|
| July      | \$17,928 | 0.50%   | 0.80%   |
| August    | \$17,841 | 1.00%   | 1.60%   |
| September | \$15,687 | 12.90%  | 12.10%  |
| October   | \$15,027 | 16.60%  | 16.19%  |
| November  | \$13,681 | 24.00%  | 25.40%  |
| December  | \$12,797 | 29.00%  | 28.10%  |
| January   | \$11,569 | 35.80%  | 36.00%  |
| February  | \$3,864  | 78.50%  | 78.90%  |
| March     | \$1,022  | 84.20%  | 85.00%  |
| April     | \$331    | 86.10%  | 86.70%  |
| May       | \$1,170  | 92.60%  | 93.50%  |
| June      |          |         |         |



## OTHER DEBTORS

Balance outstanding of other debtors excluding rates and special charges by 30 days and over.



|                      | NUMBER      | AMOUNT             | % OF TOTAL  |
|----------------------|-------------|--------------------|-------------|
| 1-30 Days^           | 96          | \$998,605          | 55%         |
| 30-60 Days^          | 11          | \$13,851           | 1%          |
| 60+ Days^            | 40          | \$116,871          | 6%          |
| Payment Arrangements | 1           | \$5,167            | 0%          |
| Final Notice         | 0           | \$0                | 0%          |
| Debt Collectors      | 1           | \$3,104            | 0%          |
| Other Debtors*       | 933         | \$181,596          | 10%         |
| Private Schemes      | -           | \$261,126          | 14%         |
| Harbour              | 12          | \$242,253          | 13%         |
| <b>TOTAL</b>         | <b>1094</b> | <b>\$1,822,572</b> | <b>100%</b> |

|                 | WORKS           | MISC               | TOTAL              | % OF TOTAL  |
|-----------------|-----------------|--------------------|--------------------|-------------|
| 1-30 DAYS       | \$27,577        | \$971,028          | \$998,605          | 55%         |
| 30-60 DAYS      | \$1,609         | \$12,242           | \$13,851           | 1%          |
| 60+ DAYS        | \$14,555        | \$110,587          | \$125,142          | 7%          |
| Other Debtors*  | -               | -                  | \$181,596          | 10%         |
| Private Schemes | -               | -                  | \$261,126          | 14%         |
| Harbour         | -               | -                  | \$242,253          | 13%         |
| <b>TOTAL</b>    | <b>\$43,741</b> | <b>\$1,093,857</b> | <b>\$1,822,572</b> | <b>100%</b> |

\* Please note Other Debtors include CRLC, Superannuation Debtors and Pension Rebates.

^ Values are for Works & Miscellaneous debtors only

Major debtors outstanding greater than \$20,000.

|                                              | 1-30 DAYS             | 30-60 DAYS         | 60+ DAYS           | TOTAL                 | COMMENT                                                   |
|----------------------------------------------|-----------------------|--------------------|--------------------|-----------------------|-----------------------------------------------------------|
| St Laurence Community Services Inc           | \$341,000.00          | \$0.00             | \$0.00             | \$341,000.00          | Sale of Property 101 Queen Street Colac                   |
| Vic Roads - South Western Region             | \$326,829.80          | \$0.00             | \$0.00             | \$326,829.80          | Final Claim Binns Road                                    |
| Department of Sustainability and Environment | \$235,000.00          | \$0.00             | \$0.00             | \$235,000.00          | Slipway rails, sand study grant & Breakwater re-armouring |
| Regional Development Victoria                | \$66,000.00           | \$0.00             | \$0.00             | \$66,000.00           | Barwon Downs park upgrade stage one payment               |
| Sport & Recreation Victoria                  | \$66,000.00           | \$0.00             | \$0.00             | \$66,000.00           | Birregurra Bowls Club synthetic surfaces program fund     |
| Vicroads                                     | \$52,366.57           | \$0.00             | \$0.00             | \$52,366.57           | Reimbursement of agency salaries                          |
| Department of Sustainability and Environment | \$49,500.00           | \$0.00             | \$0.00             | \$49,500.00           | Forrest Tiger Rail Trail                                  |
| Wheelie Waste                                | \$11,921.83           | \$11,960.00        | \$17,339.85        | \$41,221.68           | Tipping Fees & Bins                                       |
|                                              | <b>\$1,148,618.20</b> | <b>\$11,960.00</b> | <b>\$17,339.85</b> | <b>\$1,177,918.05</b> |                                                           |

## TRADE CREDITORS

Payments to trade creditors for the month.

Creditor Voucher No.s 39523 - 39632 for \$674,444.28 and Electronic Funds Transfers Nos. 43535 - 43907 for \$1,901,032.97 for the month of May were approved by the Chief Executive officer under delegated authority on Wednesday 28th of May 2009

Major creditor payments for the month comprising 63% of total payments were:

|                                  |                                        |                |
|----------------------------------|----------------------------------------|----------------|
| Skills Connection Inc            | Purchase of Lease                      | \$359,724.00   |
| Cemex Australia Pty Ltd          | Materials (Road Sealing)               | \$177,585.53   |
| VEC Civil Engineering            | Contract 0801 Binns Road               | \$160,009.09   |
| Australian Taxation Office       | Employee Tax                           | \$151,593.00   |
| Wheelie Waste P/L                | Waste Collection March & April 09      | \$148,067.81   |
| Bartons Waste Collection Pty Ltd | Transfer Station Operation             | \$83,025.71    |
| Porter Plant Hire                | Shoulder Material                      | \$76,943.25    |
| Clifford Excavations             | Various Grading                        | \$71,082.00    |
| Rondo Building Services          | Guide Posts                            | \$46,876.50    |
| Derham Transport P/L             | Cartage                                | \$39,998.20    |
| Armco Barriers                   | Guardrails                             | \$37,484.82    |
| J Chisholm P/L                   | Diesel                                 | \$35,344.13    |
| Leda Vannaclip P/L               | Security Gate                          | \$34,647.80    |
| CAM Management Solutions         | Annual Licence                         | \$31,911.37    |
| Colac Toyota                     | Vehicle Purchase                       | \$30,860.41    |
| Moyne Shire                      | Primerseal                             | \$30,607.50    |
| AGL Electricity                  | Electricity Consumption                | \$29,603.59    |
| WHK Horwarth P/L                 | Fraud Control Audit and Grant Aquittal | \$27,313.00    |
| City of Greater Geelong          | Recycling Fees                         | \$24,043.23    |
| Turfcare and Hire P/L            | Prog Claim Hockey Field Redevelopment  | \$21,600.70    |
|                                  |                                        | <hr/>          |
|                                  |                                        | \$1,618,321.64 |

## LOAN LIABILITY

Level of loan liability, new loans and loan redemption for the year.

### Comments

No new loans forecast.

Loan 5 has been extinguished as at 28/04/2009

| LOAN NO. | BAL<br>01/07/08    | NEW<br>LOANS | PROJ.<br>REDEMP.<br>2007/2008 | YTD<br>ACTUAL    | BAL<br>30/06/09    |
|----------|--------------------|--------------|-------------------------------|------------------|--------------------|
| C.O.S. 5 | \$231,833          | \$0          | \$232,000                     | \$232,006        | \$0                |
| C.O.S. 6 | \$694,303          | \$0          | \$45,600                      | \$45,575         | \$648,703          |
| C.O.S. 7 | \$1,259,919        | \$0          | \$67,300                      | \$67,282         | \$1,192,619        |
| C.O.S. 8 | \$234,118          | \$0          | \$89,200                      | \$89,234         | \$144,918          |
| C.O.S. 9 | \$558,687          | \$0          | \$83,800                      | \$62,402         | \$474,887          |
|          | <b>\$2,978,860</b> | <b>\$0</b>   | <b>\$517,900</b>              | <b>\$496,499</b> | <b>\$2,460,960</b> |

## INTEREST ON INVESTMENT

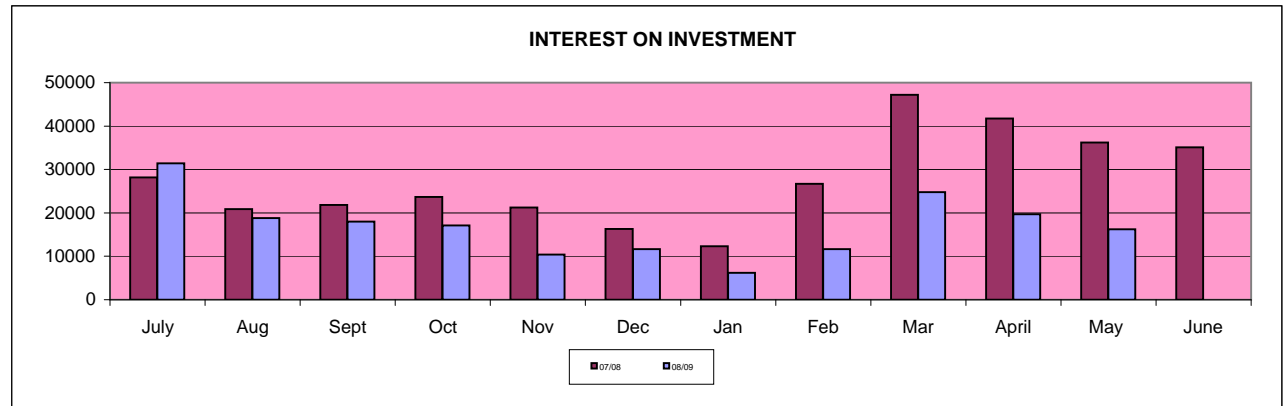
Comparison of interest earned on credit balances of Colac Otway Shire's bank accounts at the end of each month to previous year.

### Comment

Progressive 2008/09 to 31/05/2009 \$185,919

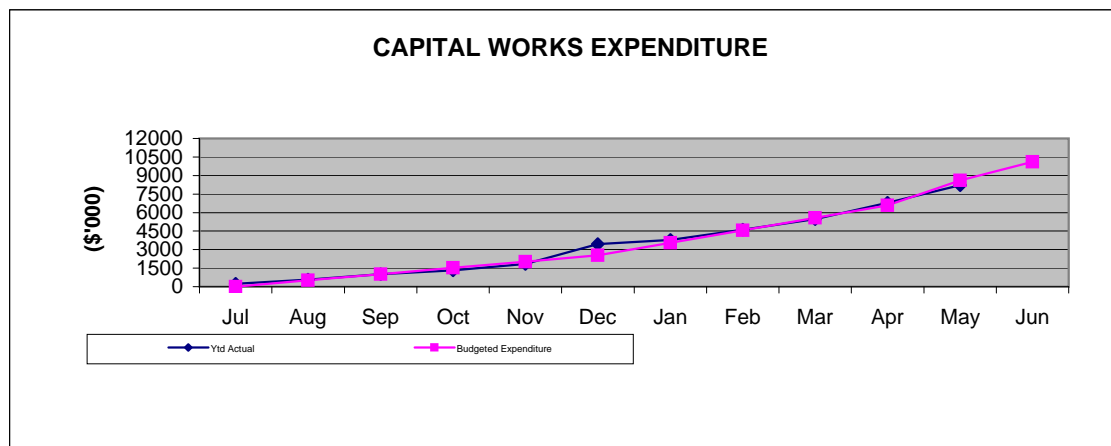
Progressive 2007/08 to 31/05/2008 \$296,301

Current Interest Rate 2.90%





## CAPITAL WORKS



### MAJOR PROJECTS PROGRESS REPORT

#### Roads to Recovery

Capital works priorities ongoing

Irrewillipe Rd Final Seal - complete

Cape Otway Rd - complete

Conns Lane Rehab - complete

Rifle Butts Rd - complete

#### Local Roads

Cosworks Local roads program - ongoing

Cosworks Drainage program - ongoing

Road Furniture Upgrade - ongoing, items being upgraded as identified

Marks Street - Complete

Bus Shelters - Complete

Bromfield Street Pollution Trap - complete

Slater Street Construction - complete

Guardrail Mitchel Grove - complete

Hennigans Crescent Landslide Rehab - complete

School Bus Route Program - complete

Poorneet Rd - complete

Larpent Rd -

Guardrail Old Beech Forest Rd - complete

Guardrail Swan Marsh - complete

Carpendeit Rd Final Seal - complete

Drainage Bromfield St GPT - complete

Binns Road (Better Roads) - ongoing

#### Other

Gellibrand Landfill Rehab Design - Underway, ongoing

Cressy Landfill Rehab Design - Underway, ongoing

BWFC Sauna & Spa Upgrade - Complete

Playground Improvement Program - Underway - ongoing as needs identified

IT Virtualisation project - complete

IT Strategic Plan - underway, draft report received, ongoing

COPACC Meeting Room Audio & Visual System - installed

Special Charge Scheme - Slater St - approaching finalisation

Hesse St Comfort Station Upgrade - complete

BWFC Roof Access - complete

Air Conditioning Unit Replacement - complete

IT Server Replacement - complete

Kindergartens Improvements - complete

COPACC Civic Hall Roof - complete

Elliminyt Gas Project - works complete, private scheme details being finalised

**OM092406-8 2009-2010 COMMUNITY FUNDING PROGRAM**

|             |                                  |           |              |
|-------------|----------------------------------|-----------|--------------|
| AUTHOR:     | Jodie Fincham                    | ENDORSED: | Colin Hayman |
| DEPARTMENT: | Corporate and Community Services | FILE REF: | GEN0374      |

**Purpose**

The purpose of this report is to seek Council approval for recommendations from the Grants Assessment Advisory Committee for Council grants from the 2009/2010 Community Funding Program.

**Background**

The Council Community Funding Program is available to not-for-profit community organisations. Applications for Council grants closed on 8 May 2009 with a total of 75 submissions being received. Although superficially this represents a decrease in the number of applicants received in comparison to last year, it should be noted that 5 applications were received for seed funding for events under the 2008-2009 Funding Program. Following amendments to the Festival and Events Support Scheme, all event related funding is provided through a separate funding stream. Therefore, applications under the 2009-2010 have slightly experienced an increase over the previous year.

The Community Funding Advisory Committee met on 9th June 2008 to assess applications. Cr Smith, Cr Hart, Cr Hart and Cr Crook attended (together with Council officers Jodie Fincham, Karen Patterson), Lisa Loughnane and Hege Eier who had prepared the preliminary recommendations.

There were 8 applications for a total of \$7,217.86 towards assisting organisations to conduct activities/events at COPACC on a 50% subsidy rate of hire charges from a fund of \$7,500.

There were 25 requests for Community Projects totalling a further \$56,979. These 25 requests will be funded from a total pool of \$40,000.

There were 42 submissions requesting a total of \$181,155 for the maintenance and improvement of recreation facilities from the available Community Recreation Facilities funding. The total funding pool for this category was \$70,000.

The Community Funding Advisory Committee recommended 63 grants for 2009/2010. Unsuccessful applicants will be referred to alternative funding agencies, encouraged to rework incomplete applications and resubmit in the next round, or were ineligible due to not meeting the funding criteria – refer attachments.

At the Council meeting held on 25<sup>th</sup> February 2009 Council endorsed the Community Funding Program process up to the current funding levels as follows:

|                                 |          |
|---------------------------------|----------|
| Community recreation Facilities | \$70,000 |
| Community Projects              | \$40,000 |
| COPACC Assistance               | \$7,500  |

And also endorsed the Council Community Funding Program and Festival and Events Support Scheme guidelines and application forms.

**Council Plan/Other Strategies/Policy**

The Council Community Funding Program supports Council's commitment to encouraging community sport, recreation, cultural and arts activities and facilitating the maintenance and improvement of Council sporting and recreation facilities.

The 2006-2010 Colac Otway Recreation Strategy, 2007-2011 Colac Otway Festival and Events Strategy and 2007-2011 Colac Otway Arts and Culture Strategy identify the benefits to community development and the valuable economic input the Council Community Funding Program contributes across the Shire. Each of the three strategies identified the importance of this funding, which further supports the volunteer input provided to each of the community projects.

### **Issues/Options**

There are two options for Council:

1. Approve the recommendations from the Community Funding Advisory Committee for Council grants from the 2009/2010 Community Funding Program.

Approval of the recommendations will result in a total estimated value of \$659,395 of works / activities to be undertaken in 63 projects across the Shire throughout the 2009/2010 program.

2. Do not approve the recommendations from the Community Funding Advisory Committee for Council grants from the 2009/2010 Community Funding Program.

The Community Funding Program assists groups to partner with Council to achieve capacity building projects, membership growth, group development and community development initiatives that would not otherwise occur if either the community groups or Council had to fully finance them.

### **Proposal**

It is proposed that Council approves the attached recommendations from the Community Funding Advisory Committee for Council grants from the 2009/2010 Community Funding Program, recognising the processes applied.

### **Financial and other Resource Implications**

The Council Community Funding Program allocated a total of \$117,500 across the three funding categories. The implication of total expenditure for the 2009-2010 program under each of the funding categories is as follows:

- COPACC Assistance \$7,218
- Community Projects and Events \$37,683
- Community Recreation Facilities \$72,567

The total funding allocation amount is included in the Draft Budget for 2009-2010.

### **Risk Management & Compliance Issues**

Grant recipients are responsible for the risk management of their projects. Risk Assessment templates were included with each grant application. Job Safety Analysis (JSA's) sheets will also be requested from contractors prior to commencement of projects. An Internal Referral process was introduced for the first time this year to provide an integrated approach between Departments involved in the process (Building, Planning, Environment and Infrastructure).

### **Environmental Considerations**

Several applications responded to current drought conditions seeking to mitigate or provide alternative solutions. Some of the proposed projects add to beautification or improvement of local environs and more sustainable energy use. Council's Environment Department have provided further advice to applicants where relevant.

### **Communication Strategy/Consultation**

Application forms and guidelines were advertised across the Shire in early March 2009 for Colac Otway Shire's 2009/2010 Community Funding Program. Council hosted two information sessions in Colac and Apollo Bay to enable groups to discuss the funding program with Council's Recreation and Events Coordinator. Application forms were made available from Council's Customer Service Centres in Colac and Apollo Bay, via the website and through direct database mail. Email application lodgement was offered to make the process easier for applicants to submit applications electronically.

### **Implementation**

It is proposed to advise all applicants in writing following Council's adoption of the recommendations. A civic reception will be held at COPACC on July 20 to present the grant cheques to successful applicants or notification of contributions subject to completion of compliance requirements. The timelines are designed to enable the grant recipients to have maximum time to undertake projects and meet project acquittal requirements.

### **Conclusion**

The Community Funding Program assists groups to partner with Council to achieve capacity building projects, membership growth, group development and community development initiatives that would not otherwise occur if either the community groups or Council had to fully finance them. Approval of the recommendations will result in a total value of \$659,395 of works / activities to be undertaken in 63 projects across the Shire throughout the 2009/2010 program.

### **Attachments**

- COPACC Assistance recommendations,
- Community Projects and Events recommendations,
- Community Recreation Facilities recommendations,

### **Recommendation**

***That Council approves the recommendations from the Grants Community Funding Advisory Committee for Council grants from the 2009/2010 Community Funding Program, total expenditure under each of the funding categories as follows:***

#### ***(d) Community Recreation Facilities \$ 72,567***

|                                                                             |                        |
|-----------------------------------------------------------------------------|------------------------|
| <b><i>Apollo Bay Community Garden/Otway ranges Climate Action Group</i></b> | <b><i>\$500</i></b>    |
| <b><i>Apollo Bay Pony Club</i></b>                                          | <b><i>\$1,265</i></b>  |
| <b><i>Barwon Downs Community Hall</i></b>                                   | <b><i>\$575</i></b>    |
| <b><i>Barwon Downs Tennis Club</i></b>                                      | <b><i>\$2,518</i></b>  |
| <b><i>Beeac Tennis Club</i></b>                                             | <b><i>\$316.87</i></b> |
| <b><i>Beech Forest Hall Committee</i></b>                                   | <b><i>\$600</i></b>    |
| <b><i>Birregurra Bowling Club</i></b>                                       | <b><i>\$147.75</i></b> |
| <b><i>Cabin by the Sea</i></b>                                              | <b><i>\$1,200</i></b>  |
| <b><i>Carlisle River Community Group</i></b>                                | <b><i>\$2,390</i></b>  |
| <b><i>City United Cricket Club</i></b>                                      | <b><i>\$2,500</i></b>  |
| <b><i>Colac &amp; District Football League Netball Association</i></b>      | <b><i>\$800</i></b>    |
| <b><i>Colac Braves Baseball Club</i></b>                                    | <b><i>\$ 1,446</i></b> |
| <b><i>Colac Gun Club</i></b>                                                | <b><i>\$3,000</i></b>  |
| <b><i>Colac Lawn Tennis Club</i></b>                                        | <b><i>\$5,000</i></b>  |
| <b><i>Colac Mallet Sports Club</i></b>                                      | <b><i>\$304</i></b>    |
| <b><i>Colac Motorcycle Club</i></b>                                         | <b><i>\$3,000</i></b>  |
| <b><i>Colac Skate park Committee</i></b>                                    | <b><i>\$2,400</i></b>  |
| <b><i>Cororooke Tennis Courts/Club</i></b>                                  | <b><i>\$1,060</i></b>  |

|                                                                             |                   |
|-----------------------------------------------------------------------------|-------------------|
| <b>Cressy Bowling Club</b>                                                  | <b>\$3,689</b>    |
| <b>Irrewarra Cricket Club Inc</b>                                           | <b>\$2,080</b>    |
| <b>Irrewillipie Sports &amp; Entertainment Complex</b>                      | <b>\$700</b>      |
| <b>Larpent Hall Committee</b>                                               | <b>\$281</b>      |
| <b>Lavers Hill Branch Blue Light Inc</b>                                    | <b>\$3,000</b>    |
| <b>Otway Cricket Club Inc</b>                                               | <b>\$6,589.75</b> |
| <b>Otway Plains Venturer Unit 3<sup>rd</sup>/4<sup>th</sup> Scout Group</b> | <b>\$1,500</b>    |
| <b>Otway Rural Fire brigade</b>                                             | <b>\$3,000</b>    |
| <b>Polwarth Group Country Women's Association</b>                           | <b>\$1,013</b>    |
| <b>Rotary Club of Colac West</b>                                            | <b>\$2,500</b>    |
| <b>Warrion Public Hall</b>                                                  | <b>\$2,191</b>    |
| <b>Warrion Recreation Reserve</b>                                           | <b>\$3,300</b>    |
| <b>Warrobie Recreation Reserve</b>                                          | <b>\$3,200</b>    |
| <b>Western eagles Football Netball Club</b>                                 | <b>\$6,000</b>    |
| <b>Wye River Surf Life Saving Club</b>                                      | <b>\$4,500</b>    |

**(e) Community Projects \$37,683**

|                                                         |                   |
|---------------------------------------------------------|-------------------|
| <b>Apollo Bay Board Riders Club</b>                     | <b>\$1,617.50</b> |
| <b>Beech Forest 7 District Progress Association</b>     | <b>\$5,000</b>    |
| <b>Birregurra Community Group Inc</b>                   | <b>\$2,166</b>    |
| <b>Colac Basketball Association</b>                     | <b>\$2,430</b>    |
| <b>The Colac Chorale</b>                                | <b>\$1,678.40</b> |
| <b>Colac &amp; District Family History Group Inc</b>    | <b>\$1,000</b>    |
| <b>Colac &amp; District Cricket Umpires Association</b> | <b>\$300</b>      |
| <b>Colac &amp; District Historical Society Inc</b>      | <b>\$550</b>      |
| <b>Colac City band</b>                                  | <b>\$500</b>      |
| <b>Colac Golf Club</b>                                  | <b>\$2,651.25</b> |
| <b>Colac Night Netball Association – All Abilities</b>  | <b>\$1,260</b>    |
| <b>Colac Old Time Dance Club Inc</b>                    | <b>\$950</b>      |
| <b>Colac Swimming Club</b>                              | <b>\$2,677.65</b> |
| <b>Colac Toy Library</b>                                | <b>\$2,000</b>    |
| <b>Colac Wood Turners &amp; Wood Crafters Guild Inc</b> | <b>\$1,749</b>    |
| <b>Gellibrand Rural Fire Brigade</b>                    | <b>\$3,000</b>    |
| <b>Holden-Vale Glenaire Landcare Group</b>              | <b>\$1,375</b>    |
| <b>Lake Colac Rowing Club</b>                           | <b>\$2,277</b>    |
| <b>Otway Mountain Bike Club Inc</b>                     | <b>\$1,130.50</b> |
| <b>Otway Ranges Walking Track Association Inc</b>       | <b>\$2,300</b>    |
| <b>Our Local Parish Group of Coragulac</b>              | <b>\$770</b>      |
| <b>The Meeting Place</b>                                | <b>\$300</b>      |

**(f) COPACC Assistance \$ 7,218**

|                                                           |                 |
|-----------------------------------------------------------|-----------------|
| <b>Colac Sudanese Community Inc</b>                       | <b>\$500</b>    |
| <b>The Meeting place</b>                                  | <b>\$510</b>    |
| <b>Colac West Primary</b>                                 | <b>\$781.36</b> |
| <b>Colac Secondary College</b>                            | <b>\$547</b>    |
| <b>The Colac Players</b>                                  | <b>\$1,953</b>  |
| <b>3OCR(Colac Otway FM)</b>                               | <b>\$900</b>    |
| <b>South West Local Learning &amp; Employment Network</b> | <b>\$750</b>    |
| <b>Colac South West Primary</b>                           | <b>\$1,276</b>  |

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TOTAL FUNDS	\$7,500.00
TOTAL PROJECT RECOMMENDATIONS	\$7,217.36
AVAILABLE FUNDS	\$282.00

## COPACC ASSISTANCE 2009/10

APP NO	ORGANISATION	PROJECT	AMOUNT REQUESTED	TOTAL PROJECT COST	Org Cash Cont	Org In Kind Cont	Other Funds	COUNCIL ENDORSED COMMENTS	COUNCIL RECOMMENDATIONS \$
1	Colac Sudanese Community Inc	World Refugee Day	\$500.00	\$10,500.00		\$4,000.00	Ticket \$1,000 Events \$1,000 Otway Comm College \$3,000 VMC \$1,000	Linked to World Refugee Day. Multi-cultural event. June 20 2010 (late acquittal). Also applied for Festival and Event Support Scheme. Proactive community, support by Colac Otway College. Acknowledges cultural maintenance and include cross regional connections.	\$500
2	The Meeting Place	"Ants Pantz Performance	\$510.00	\$1,510.00		\$1,000.00		Disability community involvement. Lower maintenance event therefore lower costs and resource requirements. School communities involved.	\$510
3	Colac West Primary	School Concert	\$781.36	\$2,562.72	\$781.36		Tickets \$1,000	Whole school community. Demographic not normally linked to COPACC. Fourth year of COPACC funding. School staff support the event. Reuse of resources from other activities e.g.. Kana.	\$781.36
4	Colac Secondary College	Films about health	\$547.00	\$7,094.00	\$1,547.00		\$5,000 Grant	Secured \$5,000 from an external grant. Second time event. Well supported by Catholic Education System. Good reach to youth. Drug and alcohol prevention and awareness.	\$547.00
5	The Colac Players	One Amateur Theatre Show	\$1,953.00	\$57,739.00	\$1,941.00	\$46,285.00	Ticket \$7,560	Ticket sales contribute to costs. Language and primary aged children development.	\$1,953.00
6	3COM (Colac Otway FM)	Community Radio Expo and Showcase	\$900.00	\$3,800.00		\$2,650.00	Entry fee \$250	New project. Supported by Community Broadcasting Association of Victoria linking to another similar exhibition to be staged at COPACC.	\$900
7	South West Local Learning & Employment Network	Careers EXPO Market Day	\$750.00	\$3,750.00	\$3,000.00			Follow on from the "It's Your Career" Expo. Youth and school involved and inviting other regions (Camperdown). Potential for Youth Council to be involved.	\$750
8	Colac South West Primary	School Musical	\$1,276.50	\$4,276.50			Ticket \$3,000	Ticket sales contribute to costs. Language and primary aged children development.	\$1,276.36
			\$7,217.86	\$91,232.22	\$7,269.36	\$53,935.00	\$22,810		\$ 7,217.72

<b>TOTAL FUNDS</b>	<b>\$40,000.00</b>
<b>TOTAL PROJECT RECOMMENDATIONS</b>	<b>\$37,682.30</b>
<b>AVAILABLE BALANCE</b>	<b>\$2,317.70</b>

## COMMUNITY PROJECTS 2009/10

APP NO	ORGANISATION	PROJECT	AMOUNT REQUESTED	TOTAL PROJECT COST	Org Cash Cont	Org In Kind Cont	LAND OWNERSHIP STATUS	COUNCIL ENDORSED COMMENTS	COUNCIL RECOMMENDATIONS
1	30CR - Colac FM	"School Waves" - Students from local and regional upper Primary & Secondary Schools training and participating in community radio broadcasting.	\$8,880.00	\$18,360.00	\$0.00	\$8,880.00	N/A	Project considered beyond program scope. Not supported for funding on this basis.	\$0.00
2	Apollo Bay Board Riders Club Inc	Purchase an enclosed multi-use trailer to store/transport equipment for competition and club days.	\$1,617.50	\$3,250.00	\$1,617.50	\$0.00	N/A	Application has clear community group outcomes - will increase Club flexibility. Recommend full funding.	\$1,617.50
3	Beech Forest & District Progress Association Inc	Install artist sculpted chair and picnic tables & chairs to enhance playground & Information Centre at John Gardner Reserve.	\$5,000.00	\$10,000.00	\$1,000.00	\$4,000.00	N/A	Highly creative response to lack of seating at Reserve. Will compliment new playground. Recommend \$5,000 funding for artist carved seat.	\$5,000.00
4	Birregurra Community Group Inc	Purchase of a custom made trailer to store and transport chairs, tables and umbrellas.	\$2,166.00	\$4,332.00	\$1,146.00	\$1,020.00	N/A	Reduces manual handling, improves volunteer safety. Strong community affiliations. Cash contribution and in kind provided. Recommend full funding	\$2,166.00
5	Colac Basketball Association Inc	Bounce into Basketball' - come and try program - aimed at primary school children.	\$2,430.00	\$5,860.00	\$1,300.00	\$2,655.00	N/A	Provides skills and training, collaborative approach from a number of clubs. Identified project venue is Bluewater Fitness Centre. Recommend full funding	\$2,430.00
6	The Colac Chorale	Purchase of Choir Stands.	\$1,678.40	\$3,356.80	\$1,678.40	\$0.00	N/A	Project benefits multiple groups performing outdoors including Chorale, City Band, Colac Players. Recommend full funding.	\$1,678.40
7	Colac & District Family History Group Inc	Computer upgrade & Networking of group's computer.	\$1,000.00	\$2,360.10	\$1,360.10	\$0.00	N/A	Provides support for community and research opportunities. Group contributing over 50% cash. Recommend full funding	\$1,000.00
8	Colac & District Historical Society Inc	Purchase of microfilm to archive Colac Herald Newspapers.	\$1,400.00	\$1,400.00	\$0.00	\$0.00	N/A	Application considered lower priority as does not increase participation and has limited in kind contribution towards project. No cash contribution from applicant. Not supported on this basis.	\$0.00
9	Colac & District Historical Society Inc	Purchase of computer program to computerise the Historical Society's files	\$550.00	\$550.00	\$0.00	\$0.00	N/A	Council considered this a worthwhile project and recommends \$550.	\$550.00
10	Colac & District Cricket Umpires Association	To accredit Colac & District Cricket Umpires to a level 2 Cricket Australia Standard	\$300.00	\$600.00	\$0.00	\$300.00	N/A	Project has excellent outcomes. Well supported by local cricket industry. Recommend full funding	\$300.00
11	Colac City Band	Upgrade of music compositions	\$500.00	\$1,000.00	\$500.00	\$0.00	N/A	Project provides benefits to both the Band (all members) and wider community. Recommend full funding	\$500.00
12	Colac Golf Club	Purchase Junior Golf clubs	\$2,651.25	\$5,302.50	\$2,651.25	\$0.00	N/A	Supports junior development and community need. Open to partial funding. Recommended full funding \$2,651.25	\$2,651.25

AP P NO	ORGANISATION	PROJECT	AMOUNT REQUESTED	TOTAL PROJECT COST	Org Cash Cont	Org In Kind Cont	LAND OWNERSHIP STATUS	COUNCIL ENDORSED COMMENTS	COUNCIL RECOMMENDATIONS #
13	Colac Night Netball Association - All Abilities	Funding to help with stadium hire, catering and trophies for the All Abilities Netball Competition	\$1,260.00	\$7,970.00	\$1,000.00	\$1,050.00	N/A	A worthwhile project which has run successfully In the past. Blue Water Fitness Centre used as venue. Has contributions form other sponsors/grants. Recommend full funding.	\$1,260.00
14	Colac Old Time Dance Club Inc	To purchase a laptop computer , software and speakers to play music at weekly dance.	\$950.00	\$1,900.00	\$950.00	\$0.00	N/A	Project assists in preserving difficult to source music and eliminates manual handling issues. Recommend full funding	\$950.00
15	Colac Swimming Club Inc	New equipment and Marshalling Board for the Colac Swimming Club.	\$2,677.62	\$5,355.25	\$2,677.62	\$0.00	N/A	Project will deliver community benefits. 50/50 cash contribution. Has support of Blue Water Fitness Centre. Recommend full funding. .	\$2,677.65
16	Colac Toy Library	Purchase of new toys	\$2,000.00	\$4,000.00	\$0.00	\$2,000.00	N/A	Project has good community outcomes. Seeking \$2,000 (50% in-kind) Recommend full funding	\$2,000.00
17	Colac Woodturners & Woodcrafters Guild Inc.	Purchase of a 8 Jointer and a 15 Thicknesser with spare set of blades for both machines.	\$1,749.00	\$3,498.00	\$1,749.00	\$0.00	N/A	Project satisfies all funding criteria requirements. Club contribution 50% cash. Recommend full funding	\$1,749.00
18	Cressy & District Neighbourhood Centre	Social Activity Program - bus trips	\$800.00	\$1,610.00	\$100.00	\$630.00	N/A	Outside scope of program funding. Not supported	\$0.00
19	Gellibrand Rural Fire Brigade	4WD Ultra Light Tanker	\$3,000.00	\$102,000.00	\$3,000.00	\$0.00	N/A	Council recommends \$3,000 towards purchase of 4WD Light Tanker project	\$3,000.00
20	Horden-Vale Glenaire Landcare Group	Trailer replacement (for mounted weed spray unit)	\$5,783.00	\$13,963.00	\$3,000.00	\$180.00	N/A	In light of acceptance of partial funding, project supported for \$1,375	\$1,375.00
21	Lake Colac Rowing Club	Rowing machines	\$4,554.00	\$9,231.00	\$2,277.00	\$2,400.00	N/A	Council recommends \$2,277 for the purchase of one rowing machine.	\$2,277.00
22	Otway Mountain Bike Club Inc	Purchase trailer for club members' bikes to various events	\$1,130.50	\$2,261.00	\$1,130.50	\$0.00	N/A	Project demonstrates clear community group outcomes and will increase Club flexibility. Recommend full funding.	\$1,130.50
23	Otway Ranges Walking Track Association Inc	Create a business case for the Trans Otway Waterfall Walk	\$2,300.00	\$6,000.00	\$500.00	\$1,800.00	N/A	Business plan to be developed for specific sections of the walk. Recommend full funding subject to outcome of discussions with Parks Victoria.	\$2,300.00
24	Our Local Parish Group of Coragulac	Install storage facilities	\$770.00	\$2,413.82	\$1,044.00	\$600.00	N/A	Provides benefits to user groups and facility users. In-kind and cash contributions from applicant.	\$770.00
25	The Meeting Place	Showcase and promote "The Meeting Place"	\$2,000.00	\$4,000.00	\$1,000.00	\$1,000.00	N/A	Application considered to be used for operational purposes for which the position is funded. Partial funding recommended ( 50% contribution of the costs associated with delivery of DVD's, booklet etc (\$300 in total)	\$300.00
			<b>\$57,147.27</b>	<b>\$220,573.47</b>	<b>\$29,681.37</b>	<b>\$26,515.00</b>			<b>\$ 37,682.30</b>



<b>TOTAL FUNDS</b>	<b>\$70,000.00</b>
<b>TOTAL PROJECT RECOMMENDATIONS</b>	<b>\$72,566.37</b>
<b>AVAILABLE BALANCE</b>	<b>-\$2,566.37</b>

## 2009/10 COMMUNITY/RECREATION FACILITIES

APP NO	ORGANISATION	PROJECT	PERMITS/ PERMISSION REQUIRED Building=B Planning =P Infrastructure=I	AMOUNT REQUESTED	TOTAL PROJECT COST	Org Cash Cont	Org In Kind Cont	COUNCIL ENDORSED COMMENTS	COUNCIL RECOMMENDATIONS \$
1	Apollo Bay Community Garden/Otway Ranges Climate Action Group	Implement irrigation system and gardening equipment		\$1,101.20	\$2,236.20	\$0.00	\$1,135.00	Fund \$500 consisting of \$200 for equipment and \$300 towards the purchase of a tank.	\$500.00
2	Apollo Bay Pony Club	Install fencing at Pony Club	Planning Building	\$1,265.00	\$2,530.00	\$1,265.00	\$0.00	Sound reasoning for upgrade of fencing. Recommended full funding at \$1,265.	\$1,265.00
3	Apollo Bay Mechanics Hall	Replace roof of Mechanics Hall	Building, Planning	\$10,000.00	\$45,716.00	\$14,666.00	\$5,050 Donation	Project beyond scope of this funding program. Councillors recommended consideration of alternative funding options e.g.State and Federal Government.	\$0.00
4	Barwon Downs Community Hall	Install 3 ceiling fans and upgrade 3 power circuits to the Barwon Downs Community Hall	Infrastructure	\$575.00	\$1,845.00	\$500.00	\$770.00	Well supported project that would bring benefit to community groups and user groups. Hall is a council owned facility. Recommend full funding.	\$575.00
5	Barwon Downs Tennis Club	Tree Root Preventative Maintenance Project	Infrastructure Environment	\$2,518.00	\$3,803.00	\$25.00	\$1,260.00	Tree Root Preventative Maintenance Project will have good outcomes. Consideration should be given to the repair of courts and that suggested consideration in the 2009/2010 Tennis Audit. Recommend full funding	\$2,518.00
6	Beeac Tennis Club	Purchase new tennis nets and practice tennis balls		\$316.87	\$633.75	\$316.87	\$0.00	Project a valuable asset with sustainable benefits to the community and user groups. Recommend full funding	\$316.87
7	Beech Forest Hall Committee	Community Hall Enhancement - Purchase BBQ, micro-fibre mop, fridge and oven, tables, jug and first aid kit	Health	\$600.00	\$3,069.00	\$2,330.00	\$139.00	Provision of much needed items for the ongoing functioning and viability of the hall's use. All identified items supported by a broad range of community members. Recommend full funding	\$600.00
8	Birregurra Bowling Club	Electrical installation at Bowling Club		\$147.75	\$295.50	\$117.75	\$30.00	Project provides benefits to Club members. Meets OH&S issues. Recommended full funding	\$147.75
9	Birregurra Golf Club	Purchase and install storage shed	Planning Building	\$6,420.00	\$12,840.00	\$6,420.00	\$0.00	The application was rated as a lower priority compared to other applications.	\$0.00
10	Cabin by the Sea Inc	Install wheelchair compliant access doors to the facility		\$2,400.00	\$10,728.00	\$7,478.00	\$3,250.00	Project provides benefits to a number of members of the community. Recommended funding \$1,200 for installation of two all abilities access doorways.	\$1,200.00
11	Carlisle River Community Group	Removal of one disused court and upgrade of one tennis court surrounds	Planning Environment Infrastructure	\$7,220.00	\$14,637.00	\$1,102.00	\$6,315.00	Partial funding to complete calvert installation, fencing, weed removal and tree planting as the priority. Recommend partial funding project at \$2,390.	\$2,390.00

APP NO	ORGANISATION	PROJECT	PERMITS/ PERMISSION REQUIRED Building=B Planning =P Infrastructure=I	AMOUNT REQUESTED	TOTAL PROJECT COST	Org Cash Cont	Org In Kind Cont	COUNCIL ENDORSED COMMENTS	COUNCIL RECOMMENDATIONS \$
12	City United Cricket Club	Remove and replace old carpet on concrete cricket pitch.	Cosworks	\$2,500.00	\$5,000.00	\$235.00	\$2,265.00	Project has single purpose needs and addressed aged wicket facilities. Project will maintain the level of participation particularly for junior cricket. Fully funded \$2,500.	\$2,500.00
13	Colac & District Football League Netball Assoc Inc	Junior Development/Volunteer Enhancement - purchase of fixed goal rings and wireless laptop computer	Cosworks	\$1,060.70	\$2,121.40	\$1,060.70	\$0.00	Purchase of fixed goal rings was a worthwhile project and will further increase participation of both active young netballers and volunteers. Purchase of a laptop supported. Fund goalrings at \$300 and laptop at \$500.	\$800.00
14	Colac Braves Baseball Club	New kitchen facilities equipment purchases (microwave/pie warmer)	Health	\$1,446.00	\$2,231.00	\$0.00	\$785.00	Project will create fundraising opportunities for a struggling association with strong membership. All equipment to stay at the facility. Fully fund project \$1,446.	\$1,446.00
15	Colac Gun Club	Install concrete footpaths		\$4,097.00	\$9,192.00	\$1,000.00	\$4,095.00	Solid application that met all criteria. Project has the support of the Land owner and addresses identified risk issues. Fund \$3,000.	\$3,000.00
16	Colac Football Netball Club	Shelter development - Central Reserve	Planning Building Cosworks	\$2,130.00	\$4,260.00	\$1,410.00	\$720.00	Project not consistent with the Central Reserve Master Plan and inconsistent with intent to encourage family attendance and open viewing.	\$0.00
17	Colac Football Netball Club Inc	To build new Coaches Boxes at Central Reserve	Planning Building Cosworks	\$23,750.00	\$47,500.00	\$11,875.00	\$11,875.00	Project not consistent with the Central Reserve Master Plan and beyond the scope of this program.	\$0.00
18	Colac Lawn Tennis Club	Construction of curator/maintenance/storage shed	Planning Building	\$5,066.32	\$10,132.65	\$5,066.33	\$0.00	Project supports ongoing growth of club membership and participation through the provision of quality facilities. Recommend funding \$5,000	\$5,000.00
19	Colac Little Athletics Centre	Build extension on to existing structure for storage/operational shed	Planning Building Cosworks	\$3,000.00	\$6,000.00	\$2,390.00	\$610.00	Project not consistent with the Central Reserve Master Plan. Project would intrude on open and car parking space. Not recommended for funding	\$0.00
20	Colac Mallet Sports Club Inc	Purchase new trestle tables		\$304.00	\$608.00	\$304.00	\$0.00	Ensures ongoing use/access of the facilities for both meeting and social functions. Reduces risk to users. Fully fund \$304.	\$304.00
21	Colac Motorcycle Club	Install water system to the Motocross track.		\$10,000.00	\$22,240.15	\$11,240.15	\$1,000.00	Club seeking substantial amount - staging the project supported. Club prepared to accept partial funding. Fund \$3,000.	\$3,000.00
22	Colac Skate Park Committee	Development of plans for extension to existing Central Reserve Skate park	Infrastructure	\$2,400.00	\$2,400.00	\$0.00	\$0.00	Demonstrated initiative and commitment from a young group embarking on an effort to improve local facilities. Group unable to contribute. Recommend full funding \$2,400	\$2,400.00

APP NO	ORGANISATION	PROJECT	PERMITS/ PERMISSION REQUIRED Building=B Planning =P Infrastructure=I	AMOUNT REQUESTED	TOTAL PROJECT COST	Org Cash Cont	Org In Kind Cont	COUNCIL ENDORSED COMMENTS	COUNCIL RECOMMENDATIONS \$
23	Cororooke Tennis Courts/Club	Upgrade of Cororooke Tennis Courts		\$15,755.29	\$24,755.29	\$0.00	\$9,000.00	Partially fund for \$1,060 towards plumbing works to hand basins and septic and repairs to existing toilets.	\$1,060.00
24	Cressy Bowling Club Inc	Concrete north and south banks of Bowling Green		\$3,689.00	\$7,603.00	\$0.00	\$3,900.00	Strong need for the project to be completed and recognises the Clubs contributions to the new synthetic greens. Recommend full funding	\$3,689.00
25	Gellibrand/Kawarren Progress Association	Gellibrand River Township Master Plan		\$11,327.00	\$16,247.00	\$0.00	\$4,920.00	Application duplicates the Old Beechy Rail Trail - not appropriate planning recognising the duplication of community assets and unnecessary drain on ongoing resources.	\$0.00
26	Irrewarra Cricket Club Inc	Centre cricket wicket replacement	Cosworks	\$2,080.00	\$4,080.00	\$400.00	\$1,600.00	Good outcomes & support from the Club to improve facilities for the benefit of community users. Fully fund this project.	\$2,080.00
27	Irrewillipe Sports and Entertainment Complex	Purchase and install blinds at Irrewillipe Hall	Infrastructure	\$700.00	\$1,400.00	\$700.00	\$0.00	Valuable project with good facility improvements. Fully fund this project.	\$700.00
28	Kennett River Association	Replace Kennett River tennis court fence and gates		\$0.00	\$15,756.00	\$0.00	\$0.00	Project exceeded budget and no supporting documentation. Nor considered for funding.	\$0.00
29	Larpent Hall Committee	Purchase folding tables (4) and Urn		\$281.00	\$562.00	\$281.00	\$0.00	Valuable project that clearly addressed risk and management issues. Opportunity to increase the use of the facility. Fully fund	\$281.00
30	Lavers Hill Branch Blue Light Inc	Lavers Hill Blue Light Gym		\$6,495.00	\$6,495.00	\$0.00	\$0.00	A worthwhile project - facility has support of community members. The remoteness of the facility and lack of other opportunities for young people in the area. Partial funding of \$3,000.	\$3,000.00
31	Otway Cricket Club Inc	Practice cricket wicket construction	Infrastructure	\$6,589.75	\$13,179.50	\$3,014.75	\$1,575.00	Project addresses risk issues. Club has been proactive in successfully applying for other grants. Fully fund this project.	\$6,589.75
32	Otway Plains Venturer Unit 3rd/4th Scout Group	Paint internal and external walls of 3rd/4th Scout Hall	Infrastructure	\$5,296.75	\$6,796.75	\$0.00	\$1,500.00	Worthwhile project with good outcomes for users. Partially fund \$1,500	\$1,500.00
33	Otway Districts Football Netball Club Inc	Establishment of toilet block for netball courts	Building	\$0.00	\$0.00	\$0.00	\$0.00	Club's failure to successfully acquit a previously funded project under the 2008-09 Community Funding Program funding could not be obtained through this year's program. It was noted that there had been planning and building delays and that the new Internal Referral Process was designed to help prevent such delays in the future. It was suggested that they could reapply through next year's Community Funding Program.	\$0.00

APP NO	ORGANISATION	PROJECT	PERMITS/ PERMISSION REQUIRED Building=B Planning =P Infrastructure=I	AMOUNT REQUESTED	TOTAL PROJECT COST	Org Cash Cont	Org In Kind Cont	COUNCIL ENDORSED COMMENTS	COUNCIL RECOMMENDATIONS \$
34	Otway Rural Fire Brigade	Water storage tank for Otway RFB		\$3,000.00	\$6,000.00	\$0.00	\$3,000.00	Project addresses water catchment for summer's periods. Agreed to fund at \$3,000.	\$3,000.00
35	Polwarth Group Country Women's Association	Repairs/maintenance & fire/safety upgrade to Colac CWA Hall		\$6,846.00	\$13,412.00	\$1,000.00	\$2,783.00	Active community group. Partial funding of \$1,013 for equipment items only.	\$1,013.00
36	Rotary Club of Colac West	Joseph Paatsch Park Development	Environment Economic Development Planning	\$6,000.00	\$12,490.00	\$3,000.00	\$2,880.00	Partial funding approved \$2,500 conditional on club not receiving funds through Economic Development.	\$2,500.00
37	St Johns' Anglican Church Colac	Purchase commercial dishwasher for Church Hall kitchen		\$3,388.65	\$6,777.30	\$3,388.65	\$0.00	Project would not increase participation or provide formal or informal opportunities. Not recommended for funding	\$0.00
38	Warrion Public Hall	Hall repairs and improvements	Infrastructure	\$2,191.00	\$4,381.00	\$1,240.00	\$950.00	Councillors considered this a valuable project resulting in facility improvements to council owned building. Councillors agreed to fund at \$2,191.	\$2,191.00

APP NO	ORGANISATION	PROJECT	PERMITS/ PERMISSION REQUIRED Building=B Planning =P Infrastructure=I	AMOUNT REQUESTED	TOTAL PROJECT COST	Org Cash Cont	Org In Kind Cont	COUNCIL ENDORSED COMMENTS	COUNCIL RECOMMENDATIONS \$
39	Warrion Recreation Reserve	Electrical and safety improvements at Warrion Recreation Reserve	Infrastructure	\$3,608.00	\$7,216.00	\$3,608.00	\$0.00	Project will improve the electrical safety at a Council owned Recreation Reserve. Project addressed OH&S issues. Fund \$3,300.	\$3,300.00
40	Warrowie Recreation Reserve	Reline interior of Warrowie Hall	Infrastructure Health	\$3,590.00	\$7,180.00	\$1,000.00	\$2,590.00	Benefits to a significant number of user groups in a Council owned facility. Fund at \$3,200.	\$3,200.00
41	Western Eagles Football Netball Club Inc	Netball Court Shelter Upgrade	Building	\$7,000.00	\$18,521.00	\$2,196.00	\$9,325.00	Good facility improvements and outcomes for participants. Recommend \$6,000 funding	\$6,000.00
42	Wye River Surf Life Saving Club	Fire Protection Equipment for Wye River Surf Life Saving Club building	Building	\$5,000.00	\$15,750.00	\$10,000.00	\$750.00	Project reflects evidence of strong community support and benefit. Fund \$4,500 of total project cost	\$4,500.00
				<b>\$181,155.28</b>	<b>\$398,620.49</b>	<b>\$98,630.20</b>	<b>\$79,022.00</b>		<b>\$72,566.37</b>

**OM092406-9 ADOPTION OF LAND UNDER ROADS POLICY POSITION**

AUTHOR:	Brett Exelby	ENDORSED:	Colin Hayman
DEPARTMENT:	Corporate and Community Services	FILE REF:	GEN00392 Finance

**Purpose**

To adopt Council's Land Under Roads Policy in compliance with the Australian Accounting Standard AASB 1051 – Land Under roads issued by the Australian Accounting Standards Board.

**Background**

The Australian Accounting Standards Board (AASB) has mandated that from 1 July 2008 local government entities must report the value of land under roads in their financial statements. This requirement is set out under AASB1051 Land Under Roads.

AASB1051 Land Under Roads has been introduced as part of the AASB's move to develop a set of sector-neutral Accounting Standards. A part of this move involves the phasing out of the public sector specific Accounting Standards such as AAS 27 Financial Reporting for Local Governments, which has now occurred.

In effect AASB1051 requires Local Governments to recognise all land under roads acquired after the commencement date of 1 July 2008 as any other class of land. This means that land under roads will be treated as land as per the requirements of AASB116 Property, Plant and Equipment.

However, AASB 1051 does allow for some transitional exceptions to the usual recognition of land assets under AASB116. What AASB 1051 does is to allow Council to choose whether to recognise all land under roads under Council control as at 1 July 2008, or to recognise only land under roads acquired post 1 July 2008, that is to recognise only land under new roads constructed or acquired after that date.

It must also be remembered that AASB 116 allows an asset to be recognised at cost or at fair value. The implications here of course are that if Council elects to recognise land under roads at cost, their value in Council's financial statements will remain at that cost for the life of the asset, whereas if Council elects to recognise land under roads at fair value, then these values will be subject to regular re-valuations.

Essentially then, Council has four options in the recognition of land under roads:

- (i) Recognise land under all roads existing at 1 July 2008 and new roads at cost;
- (ii) Recognise land under all roads existing at 1 July 2008 and new roads at fair value;
- (iii) Recognise only land under roads acquired or constructed post 1 July 2008 at cost; or
- (iv) Recognise only land under roads acquired or constructed post 1 July 2008 at fair value.

In accordance with AASB 1051 Council must have adopted a policy position prior to the 30<sup>th</sup> June 2009.

**Council Plan/Other Strategies/Policy**

Under the Council's priority of strong leadership is the following objective - we are committed to providing strong community leadership, governance and advocacy services which will benefit the community now and into the future.

**Issues/Options**

At this stage Council has not formulated or adopted a formal policy position on the valuation of land under roads.

Council has until 30 June 2009 to consider four options for the recognition treatment of land under roads:

- (i) Recognise land under all roads existing at 1 July 2008 and new roads at cost;
- (ii) Recognise land under all roads existing at 1 July 2008 and new roads at fair value;
- (iii) Recognise only land under roads acquired or constructed post 1 July 2008 at cost; or
- (iv) Recognise only land under roads acquired or constructed post 1 July 2008 at fair value.

Our preferred option would be to implement option (ii), '*Recognise land under all roads existing at 1 July 2008 and new roads at fair value*'.

The rationale for this is twofold:

- (i) To bring the recognition and valuation of land under roads into line with the methods and policies used to recognise and value all other land assets in Council's balance sheet; and
- (ii) This method provides an accurate and up to date value of all assets on Council's balance sheet, therefore providing more certainty and accuracy as to Council's true asset and financial position.

However, it is recognised that *at this point in time it will not be possible* for Council to implement this option.

Of the four (4) above mentioned options, at this point in time, it is not practical to adopt any option other than point three (iii) '*Recognise only land under roads acquired or constructed post 1 July 2008 at cost*'. The reasons for this being:

- There is insufficient existing data in Council's current property database to be able to effectively recognise all existing road reserve parcels which would relate to that land under roads. (This is largely due to our current database being property based rather than parcel based, with the result that existing road reserves that are not regarded as being individual properties are not recognised within the database);
- There are significant resource issues in collating and maintaining this information;
- There may be significant valuation and re-valuation costs incurred by Council as a result of valuing and re-valuing of all land under roads existing under Shire control.

**Proposal**

That Council adopts the Land Under Roads policy and recognises only land under roads acquired or constructed post 1 July 2008 at cost.

**Financial and other Resource Implications**

There are no additional finance and resource implications at this time if the policy is adopted in its current form.

**Risk Management & Compliance Issues**

Not applicable.

**Environmental Considerations**

Not applicable.

**Communication Strategy/Consultation**

The policy approach has been approved by the Audit Committee and is an internal policy document.

**Implementation**

If passed, Council will recognise those land assets under roads that have been acquired after 30 June 2008 and include these details in the general purpose financial statements prepared by Council.

**Conclusion**

The most prudent approach is to recognise only land under roads acquired or constructed after 1 July 2008.

**Attachments**

Nil

**Recommendation(s)**

***That Council agrees to recognise only land under roads acquired or constructed after 1 July 2008 at cost.***

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**CONSENT CALENDAR****OFFICERS' REPORT**

D = Discussion

W = Withdrawal

ITEM	D	W
<p><b><u>INFRASTRUCTURE</u></b></p> <p><b><u>OM092406-10 FREIGHT FUTURES – VICTORIAN FREIGHT NETWORK STRATEGY</u></b></p> <p>Department: Infrastructure</p> <p><b><u>Recommendation(s)</u></b></p> <p><b><i>That Council:</i></b></p> <ol style="list-style-type: none"> <li><b><i>1. Receives this report for information; and</i></b></li> <li><b><i>2. Supports the MAV's position on the introduction of High Productivity Freight Vehicles to local roads and requires the Chief Executive Officer to write a letter of support to the MAV requesting that they continue to represent Local Government and Councils' interests.</i></b></li> </ol>		
<p><b><u>OM092406-11 COUNCIL RESPONSIBILITIES UNDER THE ELECTRICAL SAFETY ACT 1998</u></b></p> <p>Department: Infrastructure</p> <p><b><u>Recommendation(s)</u></b></p> <p><b><i>That Council receives the report Council Responsibilities Under the Electrical Safety Act 1998, for information.</i></b></p>		

**OM092406-12 STRUCTURAL ASSESSMENT OF COUNCIL BRIDGES**

Department: Infrastructure

**Recommendation(s)**

***That Council:***

1. ***Endorse the proposal to implement the following load limits:***

<b><u>Bridge No.</u></b>	<b><u>Road Name</u></b>	<b><u>Load Limit</u></b>
CS022	Upper Gellibrand Road	12 tonnes
CS044	Apollo Bay Recreation Reserve	5 tonnes
CS051	Rollings Access	12 tonnes
CS052	Veseys Access	8 tonnes
CS055	Raffertys Road	6 tonnes
CS060	Scorcis Access	5 tonnes
CS249	Upper Gellibrand Road	12 tonnes
CS084	J Barrys Road	2 tonne axle load

***Subject to complying with Section 223 of the Local Government Act 1989 and a six week notification period.***

- a. ***If no submissions or objections are received, instruct the General Manager Infrastructure and Services to implement the load limits as recommended.***
- b. ***If submissions are received, these will be heard by Council at 2.00pm on Wednesday 9 September 2009 in accordance with Section 223 of the Local Government Act 1989.***
- c. ***If required a final decision shall be made by Council following preparation of a report by the General Manager Infrastructure and Services, to the following Council meeting.***
2. ***Refer the work to rehabilitate each of the structures to Council's Capital Works and Major Projects Program for detailed costing and prioritisation within the relevant programs.***

**OM092406-13 ROAD MANAGEMENT PLAN REVIEW**

Department: Infrastructure

**Recommendation(s)**

***That Council adopts the draft Road Management Plan (version 2.0) with notices of adoption being placed in the Victoria Government Gazette, the Colac Herald and the Apollo Bay News.***

**Recommendation**

***That recommendations to items listed in the Consent Calendar, with the exception of items ....., be adopted.***

**MOVED** .....

**SECONDED** .....

**OM092406-10 FREIGHT FUTURES – VICTORIAN FREIGHT NETWORK STRATEGY**

AUTHOR:	Adam Lehmann	ENDORSED:	Neil Allen
DEPARTMENT:	Infrastructure	FILE REF:	GEN00569 - General

**Purpose**

The purpose of this report is to provide Council with background information in relation to the State Government's Freight Network Strategy.

**Background**The Freight Task

The domestic road based freight task across Australia is expected to double during the period 2000 to 2020. This will place increasing pressure on the road network. The State Government is responding through the Freight Network Strategy by establishing a Principal Freight Network integrating the use of the arterial road network, the rail network and a number of strategically located intermodal freight terminals.

Recognising that road vehicles are required to collect or deliver freight from or to the farm gate, factory, shop, business or household, the local government sector will need to play an important role in responding to this growing freight task. As an industry, Councils need to support the continuous improvement of the freight transport system.

A key aspect of the improvement process is to ensure that changes in road vehicles and road usage enables rail freight to achieve its potential within the network.

The Australian domestic freight task has been growing at a rate of 5.8% per annum since 1971. The Bureau of Transport & Regional Economics (BTRE) predicts the freight task (including by air and sea) will increase by 80% from 378 to 682.63 billion tonne-kilometres between 2000 and 2020. They estimate that road and rail transport will almost double over the same period, increasing from 268 to 523 billion tonne-kilometres.

Road and rail are seen as complementary transport modes for freight movement and initiatives are being developed to encourage greater use of rail however road transport will remain the dominant mode.

To deliver the best outcomes for the nation, it is important that the utilisation of each mode is optimised, with seamless interfaces at terminals.

Heavy road vehicles offer a flexible door-to-door service capable of handling small shipment sizes, which is suited to managing the service demands of logistics chains. There is no alternative mode for the bulk of freight movements to warehouses, retail outlets, construction sites and homes, which are not located adjacent to a rail terminal.

The impact of freight growth will be greatest in urban areas. Given the current negative perception about heavy vehicles within some sections of the community, it is highly unlikely that doubling the number of trucks on the existing infrastructure will be welcomed. The performance of trucks needs to better match the expectations of the community and improved productivity and efficiency gains need to be promoted within the use of the road system through safer and more freight-efficient vehicles.

### Freight Futures

Freight Futures is the Victorian Government's long-term strategy to shape an efficient and sustainable freight network for Victoria that supports the prosperity and liveability of the State.

Freight Futures provides a blueprint for a properly planned freight infrastructure network to industry which supports; a growing economy and productivity; population growth; growing regional areas; and building sustainable communities.

The strategy responds to the many factors that are driving changes in patterns of supply and demand. It provides industry with long term security through a clear statement of what the principal freight network is now and in the future, and a more predictable policy and regulatory environment.

Freight Futures has been designed to complement the six key priorities set out in The Victorian Transport Plan. These priority areas are:

- Shaping Victoria – Linking jobs, services, and homes;
- Linking rural, regional and metro Victoria – Strengthening the connections between regional, rural, and metropolitan Victoria so all parts of the State share in prosperity;
- Creating a Metro System – Taking practical steps to increase the capacity, frequency, reliability, and safety of trains and trams, and move towards a modern Metro system;
- Moving around Melbourne – Linking our communities by closing gaps, reducing congestion, and improving safety on the road network;
- Taking practical steps to a Sustainable Future – Moving towards a sustainable and lower emissions transport system to help Victorians preserve their environment; and
- Strengthen Victoria's and Australia's Economy – Enabling efficient and effective access for people to jobs and services, and freight to markets.

In responding to the looming freight task challenge, Freight Futures identifies and sets out 20 Strategic Directions that provide a foundation of the State Government's in establishing a freight network which promotes efficiency, capacity, and sustainability. These broader transport issues need to be addressed with a whole of government approach, including establishing close linkages with industry.

Of the 20 Strategic Directions, there six (6) actions which appear to be specifically relevant to Council. These are:

- Identify and develop a Principal Freight Network for Victoria;
- Plan for growth in regional freight;
- Improve planning for the 'last kilometre' of freight journeys;
- Invest in the Principal Freight Network – Roads; and
- Invest in the network and trial next generation High Productivity Freight Vehicles (HPFVs).

### Identify and develop a Principal Freight Network for Victoria

While freight has always travelled (and will continue to travel) on shared transport infrastructure, particularly on arterial roads and railways, Victoria has never had a clearly identified Principal Freight Network (PFN). This has historically meant that freight transport requirements are not always given sufficient priority.

Freight Futures has identified a PFN for Victoria. The PFN is that part of the larger transport network over which the movement of freight will be encouraged. This will be achieved by upgrading the capacity of the network to move freight, while ensuring that the network is managed efficiently to reduce freight travel times and increase the reliability of freight movement.

The criteria for inclusion of links on the PFN include volumes of freight currently utilising the link, projected future freight volumes, functionality within the network (e.g. contribution to connectivity between Freight Activity Centres, avoidance of route duplication) and suitability of the infrastructure for the present and future freight task.

VicRoads will encourage use of roads on the PFN for freight movements and discourage use of roads off the PFN through its road space allocation and traffic signal control systems. Priority for freight movements will be balanced with the demands of other users of roads on the PFN, particularly during periods of peak commuter activity.

The PFN will need to be upgraded and extended over time and will require substantial investment if it is to reach its full productive potential. Priorities for investment on the network will be determined and funding targeted accordingly. Adequate maintenance funding will also need to be allocated to the network to ensure that it continues to provide a high level of service to road vehicles and trains that are moving freight.

Of note to Council is the inclusion of the Princes Highway West and the Melbourne to Warrnambool rail line as part of the overall Principal Freight Network.

#### Plan for growth in regional freight

Across regional Victoria, strong growth is occurring in a number of existing and new commodity industries, including mineral sands, horticulture, dairy, and timber. The critical freight actions for regional Victoria will be to continue regulatory reforms to ensure the efficient working of supply chains from farms and processing plants to trading ports and domestic markets. It is also important to plan and prioritise key infrastructure upgrades, including access to the 'last kilometre' of local road and bridge networks for heavy freight vehicles.

In order to maximise the ability of key regional areas to respond to commodity growth, it is proposed that Freight Action Plans for regions that are facing particular freight challenges are developed. These plans will map out a series of actions for maximising the positive benefits of the anticipated significant growth in a number of key commodities across regional Victoria.

As a first example of this approach, a Freight Action Plan is now being finalised for the Green Triangle region of Victoria/ South Australia. The plan will detail the actions necessary to enable the efficient movement of timber plantation products and other commodities that are forecast to experience strong growth over the coming years.

It is intended that the Freight Action Plan developed for the Green Triangle Region be used as a model for other regions of Victoria. Individual region plans would be prepared as appropriate in partnership with Local Government and industry to support the growth of key product sectors.

### Improve planning for the 'last kilometre' of freight journeys

Local governments and communities are often exposed to the issues associated with the last segments of heavy freight journeys from the Principal Freight Network, particularly in urban locations where freight journeys may encounter narrower local roads and a lower level of free flowing movements through residential and community areas.

It is important that the State Government work closely with both industry and Local Government to address community concerns and achieve efficient and sustainable outcomes for the 'first' and 'last' kilometre of heavy freight journeys. Funding for local road upgrades also needs to be provided to local government in order to address productivity and economic development issues.

### Invest in the Principal Freight Network – Roads

Roads and associated infrastructure will need ongoing upgrading to support the development and growth of regional industries. Regional Victoria plays a vital role in the economies of Victoria and Australia, particularly in the areas of manufacturing, agriculture and tourism. Victoria's regional roads will continue to carry a high proportion of the state's freight task into the future and are also heavily used by increasing numbers of tourists and for commuter travel.

Through The Victorian Transport Plan, the State Government proposes to continue to assist local industry with support for the expansion of the Local Roads to Markets program. The Local Roads to Markets Program provides local councils funding assistance to improve the links between local primary producers to various local and regional processing facilities and markets.

The Colac Otway Shire has been successful in completing key upgrades to Larpent Road through funding from the Local Roads to Markets Program in 2008/09. A funding offer has also been made to assist with the widening of separate sections of Irrewillipe Road. This program has enabled Council to address capacity and safety issues which exist across parts of local road network, however it is imperative that that this type of funding be continued to deliver and upgrade local road infrastructure which provides suitable connections to the Primary Freight Network.

### Invest in the network and trial next generation High Productivity Freight Vehicles (HPFVs)

Freight Futures recognises the important benefits of HPFVs, such as B-Doubles, from economic, efficiency, safety, environmental and amenity perspectives.

At its 17th meeting in Canberra on February 10th, 2006 the Council of Australian Governments (COAG) committed to "Performance Based Standards" (PBS) as a key transport productivity reform. COAG said a more flexible approach to regulation will "enable continuous productivity gains and technological improvement, whilst meeting reasonable safety, road asset protection and environmental standards".

A performance based standards approach is a way to regulate heavy vehicles whilst allowing innovative design in the development of high productivity vehicles for use on the road network, whilst at the same time guaranteeing safety and protection of infrastructure.

Performance Based Standards (PBS) is a new national management method to 'match' vehicles to roads. It offers the potential for heavy vehicle operators to achieve higher productivity and safety through innovative vehicle design.

These gains are typically not available under conventional 'one size fits all' prescriptive mass and dimension rules or the state-based permit system. By achieving higher productivity from each vehicle, it will reduce the growth in vehicle numbers required to meet the growing freight task.

PBS sets minimum vehicle 'performance' standards to ensure trucks are stable on the road and can turn and stop safely. It focuses on how well the vehicle behaves on the road, rather than how big and heavy it is. These vehicles have been tagged SMART trucks – because they work in a 'smarter' manner.

At the Federal level, the Australian Local Government Association (ALGA) has signed a memorandum of understanding with the Federal Government supporting the introduction of Performance Based Standards on local roads.

PBS for the trucking industry is being introduced across the nation with the State Government, through VicRoads, currently commencing introduction in Victoria. Local Government is a crucial partner with State Government in planning improved future freight operations.

The Municipal Association of Victoria (MAV) has recently released a discussion paper focussing on the likely impacts of the introduction of HPFVs to the local road network. This discussion paper has been developed with considerable input from local government.

The MAV acknowledges that the freight task is growing and that local government must be part of the process to improve efficiencies in the transport system. As an outcome, the following position has been adopted:

1. Local Government strongly supports the use of rail as a freight transport medium and enquires any freight task efficiency improvement initiative to recognise the importance of rail and to develop programs which allow road and rail to complement each other rather than compete. This will include the improved integration of land use and transport planning where possible, including, for example, locating industrial estates in conjunction with long term transport interchanges/hubs.
2. The MAV and (a selection of) Councils be represented on any task force or industry and established to implement or overview the introduction of Performance Based Standards or Higher Productivity Vehicles onto the Victorian road network.
3. Local Government supports the rapid introduction and extensive use of Higher Productivity Vehicles, designed under the National Transport Commission's Performance Based Standards, on the Victorian road network, subject to:
  - a. Council's retaining responsibility for the Heavy Vehicle Access Classification of their local road network;
  - b. A support agency being created (or nominated), funded by the State or Federal Government, to collate and disseminate information on performance based standards and approved higher productivity vehicle types to Local Government. This agency must also be available to provide expert advice to Council officers to assist them to assess applications for road heavy vehicle classification reviews; and
  - c. A compliance framework be established and enforced to ensure heavy vehicles only travel on approved roads (e.g.: Intelligent Access Program with GPS tracking).



4. Local Government supports the introduction of the National Transport Commission's four level Performance Based Standard road classification system and agrees that:
  - a. The general access local road network will be initially classified as Level 1 access;
  - b. Any gazetted B-Double route will be classified as Level 2A access;
  - c. Any request to review a heavy vehicle road classification will be assessed based on the National Transport Commission's guidelines and the relevant Council's Road Network Strategy or transport plan (where available);
  - d. A Council retains the right to exclude a local road from heavy vehicle access should it be deemed unsafe, too narrow, have insufficient manoeuvring areas or be incapable of safely carrying the heavier load;
  - e. Each Council would show, on a detailed map, the approved heavy vehicle classification for each of its roads and make this information available to the transport industry;
  - f. An agency be nominated, funded by the State or Federal Government, to collate information and maintain a central database to show the heavy vehicle access classification for each road across Victoria. Information in this database would then be made available to the freight transport industry, road authorities and all other interested parties; and
  - g. Each Council would make their heavy vehicle road classification information available to the agency charged with maintaining the state wide or national database of road access classifications.
  
5. Local Government, supported by other key stakeholders, gain funding commitment from the State and Federal Governments for first and last mile upgrade requirements, including to assess and to strengthen roads and bridges on key local roads where a higher heavy vehicle classification is warranted due to load and/or dimension restrictions.

Council has previously provided support to the position established by the sector.

#### **Corporate Plan/Other Strategies/Policy**

As stated in the Colac Otway Shire Council Plan, Council is committed to improving and renewing our roads and other infrastructure services.

#### **Issues/Options**

The South West region of Victoria is at present experiencing strong economic growth, placing considerable demand on inadequate transport infrastructure.

The need and importance of improving local transport infrastructure to enhance the competitiveness of industry in the local and global marketplaces is acknowledged and should be supported by any initiatives which provide economic development opportunities. The use of high efficiency vehicles such as B-Doubles should be encouraged on local roads where it is deemed safe for such vehicles to operate. However, this needs to be balanced against the substantial investment required in local road infrastructure in order to provide a suitable transport network which supports the use of these types of vehicles. It is imperative that other levels of Government provide a commitment to funding the necessary improvements to this infrastructure.

#### **Proposal**

It is intended that Council continue to support the MAV in their efforts to gain a funding commitment from the State and Commonwealth Governments for 'first' and 'last' kilometre upgrade requirements.

**Financial Implications**

There is no additional cost to Council.

**Risk Management Implications**

Not applicable.

**Environmental Considerations**

Not applicable.

**Communication Strategy/Consultation**

Information in relation to Freight Futures – Victorian Freight Network Strategy was presented to the Roads Committee at its meeting of 3 June 2009.

The Department of Transport (DoT) are also running a series of interactive forums across Victoria during May 2009. The forum will provide participants with further information relating to Freight Futures and what it means for each region. The forums are proposed to be interactive to allow stakeholders the opportunity to provide feedback on local freight issues.

**Implementation**

This report is provided for the information of Council. It is intended that any future developments in relation local or regional transport issues extending from the Victorian Freight Network Strategy be communicated to Council as necessary.

**Conclusion**

The Victorian Freight Network Strategy is a long term strategy to shape an efficient and sustainable freight network for Victoria. It complements the Victorian Transport Plan, providing a more detailed action plan for delivery of freight infrastructure projects and policy development.

Local Government is a key stakeholder in any freight task solution as:

- A provider of road based infrastructure. Its local road network provides the linkages from the freight terminals and freight sources to the arterial road and rail networks; and
- Its communities have a critical dependency on freight for community sustainability (goods and services).

As such, it is important for the sector to lobby both State and Federal Governments for adequate funding to provide for local roads which complements the overall objectives of achieving a efficient and safe transportation network across Victoria.

**Attachments**

Nil

**Recommendation(s)*****That Council:***

- 1. Receives this report for information; and***
- 2. Supports the MAV's position on the introduction of High Productivity Freight Vehicles to local roads and requires the Chief Executive Officer to write a letter of support to the MAV requesting that they continue to represent Local Government and Councils' interests.***

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**OM092406-11 COUNCIL RESPONSIBILITIES UNDER THE ELECTRICAL SAFETY ACT  
1998**

|             |                |           |                                   |
|-------------|----------------|-----------|-----------------------------------|
| AUTHOR:     | Adam Lehmann   | ENDORSED: | Neil Allen                        |
| DEPARTMENT: | Infrastructure | FILE REF: | GEN00127 –<br>Powerline Clearance |

**Purpose**

The purpose of this report is to provide Council information in relation to its statutory responsibilities under the Electrical Safety Act 1998 with particular reference to the management of vegetation in the vicinity of overhead powerlines.

**Background**

Council has recently received correspondence from the Minister for Energy and Resources reconfirming Council's obligations with respect to the pruning and clearance of vegetation under and around overhead electric lines.

In April 2008 an extreme wind storm hit Victoria damaging trees and other buildings as well as electricity infrastructure. It has been reported that six hundred thousand people across the State lost power for a period of time due to the widespread and extensive damage to power poles and electric lines. Some individuals were without power for several days.

Council has a statutory responsibility in relation to vegetation management under the Electrical Safety Act 1998 (the 'Act'). The Act specifies those persons and authorities responsible for the management of public land and a Code of Practice for Electric Line Clearance.

Section 84 of the Act specifies who is responsible for the maintenance of electric lines.

In regard to public lands, Section 84 (4) specifies that "a person responsible for the management of public land in an area declared under section 81 is responsible for the keeping of the whole or any part of a tree situated on the land clear of an electric line other than a private electric line".

Section 81 specifies that:

- (1) The Governor in Council, by Order published in the Government Gazette, may declare an area of land in an urban area for the purposes of this Part.
- (2) An Order under subsection (1) must contain a description sufficient to identify the land concerned which may include a description by reference to a map held by Energy Safe Victoria.
- (3) Energy Safe Victoria must make a copy of any map referred to in an Order under subsection (1) available at its office during business hours for any person to inspect free of charge.

For the purposes of Section 81 of the Act the City of Colac is a declared area for which the Colac Otway Shire is responsible for vegetation management of trees on streets and other public land which it manages. Powercor Australia is responsible for all other areas outside of this boundary.

The Code of Practice is prescribed by the Electricity Safety (Electric Line Clearance) Regulations 2005 (The 'Regulations') and sets out the clearance distances in relation to

electric lines, trees, and other vegetation throughout Victoria in order to minimise the risks of vegetation contacting electric lines for a range of weather conditions.

Clearance distance or space means a space surrounding an electric line which must be clear of vegetation. The clearance space varies with the type of electric line (e.g. aerial bundled cable, insulated cable, etc) and the risk of ignition of fire at that location.

The Code contains the clearance space dimensions in the form of charts outlining the minimum safe distances between powerlines and vegetation. All dimensions have been determined through the application of engineering standards and outline the minimum distances required for safety.

The most common method of keeping vegetation clear of electric lines involves both pruning and clearing. These methods may differ significantly according to variations in topography, vegetation species, vegetation density, and climatic conditions.

### **Corporate Plan/Other Strategies/Policy**

As a responsible authority for electric line clearance, Council is required to have an approved Management Plan prepared in accordance with Clause 9 of the Regulations.

The Management Plan is to be prepared and submitted annually for the next financial year to the Director, Energy Safe Victoria (ESV) for approval before 28 February in each year. Once ESV has approved the management plan the plan will cover the period from July of the same year until June of the following year.

The specific requirements of the management plan are prescribed in the Regulations and must be addressed by the plan. These requirements include:

- Contact details of the person who is responsible for the preparation of the plan;
- Contact details of the persons who are responsible for carrying out the plan;
- The objectives of the plan;
- A description and map of the land to which the management plan applies;
- Details of the methods that will be used to avoid and minimise the impact on vegetation;
- The long term strategies to minimise:
  - The risk of electric lines starting fires or causing electrocution;
  - The adverse effects of electric lines on surrounding vegetation; and
  - The risk to the safe operation of electric lines due to vegetation that is likely to grow into or encroach on the clearance space required by the Code of Practice;
- The methods proposed to be adopted for maintaining the clearance space required by the Code of Practice between electric lines and vegetation;
- The length of the period between each pruning or clearing of vegetation;
- The qualifications, proficiency and experience that the responsible person will require of the persons who are to carry out the pruning or clearing of vegetation;
- Details of the technical standards that the responsible person will apply or have regard to in connection with electric line clearance work; and
- The management procedures to be adopted by the responsible person to ensure compliance with the Code of Practice.

Council has prepared and submitted its Electric Line Clearance Management Plan annually since the Regulations came into effect on 28 June 2005. Council received conditional approval from ESV in October 2008 for its Electric Line Clearance Plan submitted for 2008-09.

This meant that ESV was satisfied that the submitted management plan largely met with the approval criteria adopted for the 2008-2009 year, and was deemed to satisfy the requirements of Clause 9(4) of the Regulations. A number of minor amendments were identified as part of ESV's audit of the Plan, these generally related to an update of references to Australian Standards and inconsistencies between the maps submitted by Council and those held by the electrical Distribution Business.

ESV requested that, in conditionally approving the plan, Council complete a review having regard to the identified items and update the Plan accordingly in future.

In terms of implementation and compliance with Council's Electric Line Clearance Management Plan, staff undertake the following activities:

- An annual inspection of the declared area by Council staff to identify the work required to meet the requirements of the Code of Practice;
- Identified works assessed by surveillance officer including any works advice from other interested parties. Annual programming of works completed to meet clearance space requirements prescribed by the Code of Practice;
- Assessment of regrowth by surveillance officer to determine pruning extent and frequency;
- Emergency clearing process provided to ensure any requests received from Powercor are dealt with on a timely basis in order to comply with Code requirements; and
- Random audits are conducted to ensure that all requirements outlined in Council's Electric Line Clearance Management Plan and the Code of Practice are being met.

ESV conducts a small number of audits on an annual basis to evaluate the level of the compliance with the management plan achieved by a relevant authority. ESV completed 16 such audits of councils in 2008. It was found that there is a substantial difference in compliance between councils. In some instances some councils did not achieve the clearances required by the Code leaving insufficient space between electricity assets and vegetation. The Colac Otway Shire's operational activities are yet to be audited.

### **Issues/Options**

Council Officers have submitted the Electrical Line Clearance Management Plan for the year 2009-10. The Regulations require that the Plan for this period be submitted by 28 February 2009 for review by ESV. Limited staff resources and existing workload priorities within the Infrastructure and Service Department have delayed the preparation of the Plan for the 2009-10 period.

### **Proposal**

Infrastructure and Services Staff have completed the preparation of the Electrical Line Clearance Management Plan for 2009-10. This document was largely developed based on previous years Plans but addresses the items of non-conformance identified by ESV during the review of the 2008-09 Plan.

### **Financial Implications**

An annual allocation is provided specifically for the electric line clearance. The budget amount for 2008/09 was \$63,000. This budget is subject to review to ensure that allocations are matched to annual works programs which adequately address the requirements for clearance space.

**Risk Management Implications**

Trees growing adjacent to electric lines and other power assets have the potential to cause blackouts or power surges, and present very real risks of fires and electrocution. A number of strategies have been incorporated in Council's Electric Line Clearance Management Plan aimed at maintaining and enhancing the existing tree population while ensuring the risk of electric lines starting fires and causing electrocution are minimised. These strategies include:

- Continuing to provide a management structure that delivers the services required to achieve objectives of the Plan;
- Providing management processes which enable the inspection, planning; implementation, surveillance, and monitoring of power line clearance activities;
- A responsive process for dealing with notified locations of non compliance with the code;
- Determining where pruning is required to maintain clearance;
- Determining safe access near power lines;
- An ongoing review of safe work practices and implementing improvements to reduce risk exposure;
- Provide systems for the notification of proposed works including consultation and dispute resolution for affected residents; and
- Implementation of audit processes ensuring effectiveness of all related practices and processes.

In order to minimise the risk to the safe operation of electric lines due to encroaching vegetation an annual inspection of the declared area managed by Council is completed by Council staff to identify work required to meet the specific requirements of the Code to maintain clearance space. Annual works programs are then developed and implemented based on the assessment of inspection outcomes.

Council's nominal pruning cycle is biennially. This is dependent on location and species, however, pruning or clearing required through an emergency response or otherwise is conducted as required to ensure ongoing compliance with the Code compliance. Ongoing monitoring of potential regrowth is completed by relevant surveillance personnel to determine the extent of pruning and the frequency as to which it is undertaken.

All Council staff and/or contractors employed to prune trees from overhead powerlines are sufficiently qualified, trained and experienced to carry out the works and are required to have a Tree Clearance for Non Electrical Personnel Certificate or appropriate substitute that legally entitles them to undertake the work.

Where personnel require licences or operating certificates to use machinery or equipment, they must ensure that the licence or certificate is current and relevant to the machinery or equipment being used.

All personnel operating an elevated work platform (EWP) have undergone an accredited training course and obtained a EWP operators certificate. Any onsite staff or contractors are also required to have the necessary knowledge of traffic control measures sufficient to meet the Traffic Management Code of Practice.

Any personnel employed to prune trees away from overhead powerlines are also required to hold a current certification in accordance with NUE260 – Electrical Systems Identification and Powerline Clearance Distances.

The following certificates appropriate for the individual tasks carried out are the minimum standard for any workers onsite.

- NUE 260 Electrical Systems Identification and Powerline Clearance Distances;

- Chipper Operators Certificate;
- Chainsaw Operators Certificate;
- EWP Operators Certificate;
- Occupational Health and Safety; and
- Worksite Traffic Management.

### **Environmental Considerations**

All tree pruning activities are performed to the highest arboricultural standard so as to leave a safe, healthy, well-balanced tree of good form and aesthetically pleasing appearance. The minimum benchmark standard for pruning trees is Australian Standard AS 4373 - 2007 Pruning of Amenity Trees.

The Team Leader, Parks and Gardens conducts inspections of the work carried out by Shire staff throughout the period that active pruning is taking place to ensure quality standards are met.

The clearance of vegetation in the vicinity of an electric line is an exempt activity under the Planning Scheme provided that all trimming works are undertaken in accordance with the Code of Practice.

There are no specific areas of vegetation of botanical or ecological significance nominated in the Colac Otway Planning Scheme. It is also noted that there are no powerlines within the declared area which pass through habitats containing rare or endangered species.

### **Communication Strategy/Consultation**

In general terms, the Code requires a responsible authority to consult or notify affected persons before undertaking certain tasks. The required consultation or notification are prescribed requirements of the Code and could be deemed to be a breach of the Act if not undertaken.

However, as Council is the responsible authority for the management of clearance space within a declared urban area, the requirement for the notification or consultation of the owner or occupier of the land abutting a street or public land is not required providing that:

- There is no change to the established pruning practice for the particular area; and
- The normal practice for notification and consultation in regard to statutory planning permits and street works is undertaken where the established pruning practices are changed or the vegetation is to be removed rather than trimmed.

At present no notification of Council's proposed annual electric line clearance program is provided. This has been identified as an improvement opportunity and it is proposed to give public notification of such works in the future.

Council's Electric Line Clearance Management Plan provides a detailed dispute resolution procedure should the situation arise where there a matters of difference between Council, in its capacity as a responsible authority for electric line clearance, and the general public.

Council is also required to make its Electric Line Clearance Management Plan available to relevant officers, ESV, and the general public. Council's Management Plan is available to internal staff via its document management system. The public are able to access the Plan at Council's Rae Street Customer Service Centre during normal office hours.

**Implementation**

The Regulations require that Council annually prepares a Management Plan which demonstrates how vegetation around electric lines will be managed in accordance with the Code of Practice. Such a plan must be submitted to Energy Safe Victoria for approval.

The Electrical Line Clearance Management Plan for 2009-10 has been submitted to ESV. This Plan will cover the period of 1 July 2009 to 30 June 2010. The Plan documents current operational procedures to manage existing vegetation within the vicinity of powerlines located within the City of Colac boundary. It is intended that operational procedures and activities will remain unchanged.

**Conclusion**

There are legal, insurance and public safety implications for non-compliance with the Regulations and subsequent concerns that Council may face significant liability. It is imperative that Council continue to manage vegetation under and around overhead powerlines within its declared area to ensure its statutory obligations are met on a consistent basis.

**Attachments**

Nil

**Recommendation(s)**

***That Council receives the report Council Responsibilities Under the Electrical Safety Act 1998, for information.***

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**OM092406-12 STRUCTURAL ASSESSMENT OF COUNCIL BRIDGES**

|             |                |           |                    |
|-------------|----------------|-----------|--------------------|
| AUTHOR:     | Adam Lehmann   | ENDORSED: | Neil Allen         |
| DEPARTMENT: | Infrastructure | FILE REF: | GEN00016 - Bridges |

**Purpose**

The purpose of this report is to provide Council an update of the outcomes of recent structural assessments completed on a number of Council's bridges.

**Background**

Council's 2008/09 budget provides an allocation for bridge assessments and inspections. The following structures were included for evaluation as part of a rolling program of assessments.

| <b>Bridge No</b> | <b>Road Name</b>              | <b>Locality</b> |
|------------------|-------------------------------|-----------------|
| CS022            | Upper Gellibrand Road         | Barramunga      |
| CS044            | Apollo Bay Recreation Reserve | Apollo Bay      |
| CS051            | Rollings Access               | Kawarren        |
| CS052            | Veseys Access                 | Kawarren        |
| CS055            | Raffertys Road                | Gellibrand      |
| CS060            | Scorcis Access                | Johanna         |
| CS249            | Upper Gellibrand Road         | Barramunga      |
| CS084            | J Barrys Road                 | Elliminyt       |

Due to the specialist nature of this type of work, consulting Engineers were engaged to complete testing of each of these bridges using non destructive testing methods to determine their safe load bearing capacity.

The same method of testing carried out on a structure is used whether it is a concrete, timber, or steel bridge. The assessment comprises the following methods.

1. A visual survey and photographic documentation - This condition survey is undertaken by a qualified engineer.
2. A measurement of the bridge dimensions and of the main structure - This a measurement of length, width, member sizes and types, etc.
3. Dynamic testing of abutments, pier, and piles if present - This is a non destructive test using low energy impact source.
4. A dynamic test on the deck of the bridge - This is a passive recording of bridge vibrations due to either impact or the passage of traffic.

**Attachment 1** details a summary of the testing outcomes and the recommended treatment options. A summary of the engineers recommendations are as follows:

| Bridge No. | Road Name                     | Summary of Recommendations   |
|------------|-------------------------------|--|
| CS022      | Upper Gellibrand Road         | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the passage of B-Double trucks, T-44 trucks and only rigid axle trucks of GVM 12t.</li> <li>2. The two central piers need strengthening in the longitudinal direction, though the decking was strong and suitable.</li> <li>3. We would recommend either replacement of the timber piles at Abutment B, with either the steel piles and crosshead of the repaired Abutment A, or encasement of the piles with a concrete collar and a steel crosshead.</li> <li>4. From the visual survey it was noted that there may be some concern with slope stability problems and we would consider the use of stone filled rock gabions as a means to stop slope movement affecting the performance of the bridge.</li> <li>5. It is recommended to replace the existing guard rails with W beam or Armco type barriers.</li> </ol> |
| CS044      | Apollo Bay Recreation Reserve | <ol style="list-style-type: none"> <li>1. The bridge not was sufficient for the passage of legally loaded B-Double and T-44 trucks.</li> <li>2. Though we measured GVM weight of 10 tonnes for span 1, we would recommend a maximum GVM weight of 5 tonnes for the bridge due to the defective nature of the supports.</li> <li>3. We would recommend the client consider whether a bridge is needed in this location and if so if a pre cast concrete box cell culvert may sufficient</li> <li>4. To maintain the present either like for like replacement or new steel piles and steel cross heads to all of the supports.</li> <li>5. The main beams would need to be re-protected should the bridge remain in this configuration.</li> <li>6. An Armco style safety barrier is recommended due to the high risk of drowning.</li> </ol>  |
| CS051      | Rollings Access               | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the passage of all legally loaded B-Double and T-44 trucks</li> <li>2. Though we measured a safe GVM weight of 12 tonnes for rigid axle trucks, due to the highly defective pile supports at the abutments, we would consider that a GVM weight limit of 6 tonnes be imposed until repairs can be undertaken.</li> <li>3. As to the repairs the abutment piles need concrete collars or preferably a concrete abutment with the steel beams resting on the concrete. If concrete collars are preferred then a steel crosshead would be required.</li> <li>4. New cross deck planking would be required and possibly running planks if the bridge is required for the safe loading for T 44 trucks.</li> <li>5. We would recommend a new safety barrier using the Armco style barrier.</li> </ol>                           |
| CS052      | Veseys Access                 | <ol style="list-style-type: none"> <li>1. At present only sufficient for rigid axle trucks, articulated multi axles should be restricted or only allowed under permit.</li> <li>2. The abutments need repairing soon as the lack of cross bracing and the pile deficiency need to be addressed with two new support channels and/or concreting in of the</li> <li>3. abutments.</li> <li>4. In the event of a high speed vehicle going over the bridge the RSJ's could roll over and cause the bridge to fail.</li> </ol>  |

| Bridge No. | Road Name             | Summary of Recommendations  |
|------------|-----------------------|---|
|            |                       | <ol style="list-style-type: none"> <li>5. The abutments though they are in a state of distress have a present load capacity for medium to light rigid axle trucks of GVM 8t and this the recommended limit for the bridge.</li> <li>6. General maintenance including timber protection and guard rails are recommended if the present bridge gate is removed.</li> </ol>  |
| CS055      | Raffertys Road        | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the legally loaded B-Double trucks, T-44 trucks</li> <li>2. Though we measured a safe GVM weight of 8 tonnes we would recommend a GVM weight for fixed axle trucks of 6 tonnes.</li> <li>3. All the pile/columns need strengthening or replacement with steel piles and cross heads as for bridge 022 Upper Gellibrand Road.</li> <li>4. We would recommend an Armco style safety barrier, with end posts.</li> <li>5. We would recommend treating all the exposed timbers with anti termite treatments.</li> </ol>   |
| CS060      | Scorcis Access        | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the passage of any vehicle exceeding a GVM weight of 5 tonnes and we would restrict the bridge until repairs have been affected to an occasional</li> <li>2. use by private cars.</li> <li>3. The client may consider that the bridge could be substituted with pre cast concrete box cell culverts, or if the bridge is to be retained a new abutment A would be required and new steel main beams and the timber deck substituted with steel trough decking.</li> <li>4. We would recommend an Armco style safety barrier for either construction.</li> </ol>   |
| CS249      | Upper Gellibrand Road | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the passage of all multi axle trucks and a maximum GVM weight of 12 tonnes for fixed axle trucks.</li> <li>2. The low load results was due to scour exposing the piles at Abutment B and both these piles need strengthening with encasement, preferably using a geotextile sock to avoid pollution of the water way.</li> <li>3. We would recommend installing a W beam or Armco type barrier.</li> <li>4. We would also suggest regular maintenance including termite treatment of all exposed timber and banding of the timber piles, as some are split.</li> </ol>  |
| CS084      | J Barrys Road         | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the passage of B-Double trucks or T-44 truck, but was sufficient for the passage of fixed axle trucks not exceeding a GVM weight of 8 tonnes.</li> <li>2. The bridge is at near end of life.</li> <li>3. The load limit of 2 tonnes now applied would appear to be safe and suitable.</li> <li>4. If no repairs are undertaken to the bridge then continued corrosion could render the bridge redundant within two years.</li> <li>5. The bridge could be repaired and if so the loadings could increase dramatically.</li> <li>6. The steel main beams need to be strengthened at the points of support from the under slung truss, with new steel deck cross beams.</li> <li>7. All the remaining steel to be protected and a dense bituminous layer constructed over the complete deck area of the bridge to prevent further corrosion.</li> </ol> |

**Corporate Plan/Other Strategies/Policy**

The annual bridge inspection program is consistent with Council's objective to manage its roads and associated infrastructure in accordance with its Road Management Plan. The Road Management Plan defines minimum frequencies at which condition inspections are completed for Council's bridge stock.

**Issues/Options**

There are three (3) options available in responding to the recommendations extending from the testing of the nominated structures. These are:

1. Close the bridges to all public traffic;
2. Maintain existing use and not apply load limits; or
3. Impose load limits consistent the Consultants Engineer's recommendations until such time that structural repairs are able to be undertaken.

1. Close Bridges to Public Traffic

Based on the outcomes of these structural assessments and noting their condition, the option to close each bridge to all general traffic is available to Council. It is not in Council's best interest to implement this option due to the detrimental impacts to both accessibility and ongoing service provision.

2. Maintain Existing Use

Council has the option not to apply load limits to these bridges. Imposing load limits has the potential to severely restrict the types of vehicles that can access a bridge. The majority of the bridges assessed provide direct access to rural properties and any limits imposed over an extended period of time may impede farming operations or other land use needs. However, Council has an obligation to provide a safe road network to its community and to not respond to the knowledge of the condition of these bridges exposes it to an increased level of liability in the event failure.

Now that Council is aware of the issues with each of these bridges, it may be liable if it does not act in a reasonable manner should there be an accident which results in property damage, personal injury, or in extreme circumstances, death.

In addition, Council may have trouble obtaining insurance coverage for any accident where it has knowledge of problems and has failed to act. Indeed Council's insurance policy requires that its acts in a reasonable manner.

3. Application of Load Limits

In order to mitigate any risk potential it is prudent that load limits be applied to each of the nominated structures until such time that major repairs can be completed to ensure their safe operation into the future. It is acknowledged that this may cause difficulty amongst the community and abutting landowners but is the preferred option to limit risk to road users.

Rehabilitation works on the structures will be prioritised within Council's annual bridge renewal program.

Council has the statutory power to impose load limits or restrict vehicles of a certain size from using its roads including bridges. Clause 12 of Schedule 11 of the Local Government Act 1989 (the 'Act') states that:

12. Power to restrict use of road by vehicles of a certain size etc.

- (1) A Council may prohibit or restrict the use of a road by any motor vehicle of, or over, a certain size or weight.
- (2) Despite anything to the contrary in Section 223, if in the opinion of the Council the use of a road by motor vehicles of, or over, a certain weight poses an immediate risk of danger to people or damage to property (including damage to the road itself), the Council may exercise a power under this clause before it makes a final decision on the exercise of the power.

Load limits are enforceable by law.

Prior to Council imposing a load limit on a road or bridge it is required to engage with all effected parties. Any submissions received are required to be considered in accordance with Section 223 of the Act. This may lead to some issues given the immediacy that is required in restricting access across structures which may be in a condition that does not safely cater for heavy traffic. For critical structures and for the purposes of safety it may be advisable to implement load limits immediately followed by a period of public engagement.

### Proposal

It is intended to seek Council resolution in order to apply load limits to the following bridges:

| Bridge No. | Road Name                     | Load Limit        |
|------------|-------------------------------|-------------------|
| CS022      | Upper Gellibrand Road         | 12 tonnes         |
| CS044      | Apollo Bay Recreation Reserve | 5 tonnes          |
| CS051      | Rollings Access               | 12 tonnes         |
| CS052      | Veseys Access                 | 8 tonnes          |
| CS055      | Raffertys Road                | 6 tonnes          |
| CS060      | Scorcis Access                | 5 tonnes          |
| CS249      | Upper Gellibrand Road         | 12 tonnes         |
| CS084      | J Barrys Road                 | 2 tonne axle load |

The application of these restrictions will follow a period of consultation with relevant key stakeholders; including those property owners which directly have access to each of these bridges.

Upon any resolution, appropriate signage will be installed at each bridge detailing the restrictions in effect. This will be inclusive of any advance warning signs where required. Alternative routes will be nominated where available.

**Financial Implications**

An allocation of \$120,000 has been included in Council's draft 2009/10 budget specifically for the rehabilitation of its bridges and major drainage structures. This proposed program is intended to address the overall renewal needs of this asset group, however, the cost of repairing the bridges have not yet been determined.

The annual bridge renewal program will be determined on a priority basis which considers over all investment benefits, risk to Council and road users, road network and community needs. The structures assessed during the 2008/09 inspection program will be considered against other competing priorities for inclusion in future years of this program, after a detailed cost analysis has been determined for all the structures.

**Risk Management Implications**

The application of load limits to each of the bridges detailed previously is proposed primarily in order to reduce and manage Council's risk in the event of catastrophic failure. This risk also extends to road users.

**Environmental Considerations**

No environmental considerations are applicable at this time.

**Communication Strategy/Consultation**

Prior to the implementation of any vehicle restrictions on these bridges it is important to firstly promote awareness amongst the community as to the challenges that Council faces in managing its extensive portfolio of assets and the actions that it must take in some instances to ensure public safety.

To facilitate this it is intended to advise all key stakeholders, including landowners and industry, of the results of the recent bridge inspections and to give an indication of the options available to Council in order to ensure safety to road users. Any submissions received will need to be considered pursuant to Section 223 of the Act.

**Implementation**

It is intended to apply load limits to a number of bridges subject to complying with Section 223 of the Local Government Act. Property owners and other stakeholders whom may be directly impacted will be provided with information in relation to the outcomes of the recent structural testing and possible Council responses.

**Conclusion**

Good asset and risk management practices include having a detailed knowledge of the condition of Council's varying types of infrastructure. Such information supports strategic decision making to ensure against failure to critical assets and to mitigate the impacts of such failure on service delivery.

Council's ongoing bridge inspection program provides for the assessment of overall structural condition and to prioritise future bridge rehabilitation programs. Where in some instances it is not possible to address structural issues imposing load limits on certain structures is an appropriate management response for the purposes of ensuring public safety.

As a result of this testing it has been recommended that load limits be applied to all of the bridges listed previously in order to preserve and extend their useful life and also in order to manage the risks associated with their condition.

**Attachments**

1. Summary of recommendations
2. Locality plans

**Recommendation(s)*****That Council:***

1. ***Endorse the proposal to implement the following load limits:***

| <b><u>Bridge No.</u></b> | <b><u>Road Name</u></b>              | <b><u>Load Limit</u></b> |
|--------------------------|--------------------------------------|--------------------------|
| <b>CS022</b>             | <b>Upper Gellibrand Road</b>         | <b>12 tonnes</b>         |
| <b>CS044</b>             | <b>Apollo Bay Recreation Reserve</b> | <b>5 tonnes</b>          |
| <b>CS051</b>             | <b>Rollings Access</b>               | <b>12 tonnes</b>         |
| <b>CS052</b>             | <b>Veseys Access</b>                 | <b>8 tonnes</b>          |
| <b>CS055</b>             | <b>Raffertys Road</b>                | <b>6 tonnes</b>          |
| <b>CS060</b>             | <b>Scorcis Access</b>                | <b>5 tonnes</b>          |
| <b>CS249</b>             | <b>Upper Gellibrand Road</b>         | <b>12 tonnes</b>         |
| <b>CS084</b>             | <b>J Barrys Road</b>                 | <b>2 tonne axle load</b> |

***Subject to complying with Section 223 of the Local Government Act 1989 and a six week notification period.***

- a. ***If no submissions or objections are received, instruct the General Manager Infrastructure and Services to implement the load limits as recommended.***
  - b. ***If submissions are received, these will be heard by Council at 2.00pm on Wednesday 9 September 2009 in accordance with Section 223 of the Local Government Act 1989.***
  - c. ***If required a final decision shall be made by Council following preparation of a report by the General Manager Infrastructure and Services, to the following Council meeting.***
2. ***Refer the work to rehabilitate each of the structures to Council's Capital Works and Major Projects Program for detailed costing and prioritisation within the relevant programs.***



## Structural Assessment – Summary of Engineers Recommendations

| Bridge No. | Road Name                     | Locality   | Existing Load Limit | Proposed Load Limit | Summary of Recommendations   | Notes   |
|------------|-------------------------------|------------|---------------------|---------------------|--|---|
| CS022      | Upper Gellibrand Road         | Barramunga | 5 tonne             | 12 tonne            | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the passage of B-Double trucks, T-44 trucks and only rigid axle trucks of GVM 12t.</li> <li>2. The two central piers need strengthening in the longitudinal direction, though the decking was strong and suitable.</li> <li>3. We would recommend either replacement of the timber piles at Abutment B, with either the steel piles and crosshead of the repaired Abutment A, or encasement of the piles with a concrete collar and a steel crosshead.</li> <li>4. From the visual survey it was noted that there may be some concern with slope stability problems and we would consider the use of stone filled rock gabions as a means to stop slope movement affecting the performance of the bridge.</li> <li>5. It is recommended to replace the existing guard rails with W beam or Armco type barriers.</li> </ol> | Piles at one (1) abutment and at piers have been replaced with steel piles in the recent past. This work has increased load carrying capacity of structure. |
| CS044      | Apollo Bay Recreation Reserve | Apollo Bay | No load restriction | 5 tonne             | <ol style="list-style-type: none"> <li>1. The bridge not was sufficient for the passage of legally loaded B-Double and T-44 trucks.</li> <li>2. Though we measured GVM weight of 10 tonnes for span 1, we would recommend a maximum GVM weight of 5 tonnes for the bridge due to the defective nature of the supports.</li> <li>3. We would recommend the client consider whether a bridge is needed in this location and if so if a pre cast concrete box cell culvert may sufficient</li> <li>4. To maintain the present either like for like replacement or new steel piles and steel cross heads to all of the supports.</li> <li>5. The main beams would need to be re-protected should the bridge remain in this configuration.</li> <li>6. An Armco style safety barrier is recommended due to the high risk of drowning.</li> </ol>  | Single access bridge  |
| CS051      | Rollings Access               | Kawarren   | No load restriction | 12 tonnes           | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the passage of all legally loaded B-Double and T-44 trucks</li> <li>2. Though we measured a safe GVM weight of 12 tonnes for rigid axle trucks, due to the highly defective pile supports at the abutments, we would consider that a GVM weight limit of 6 tonnes be imposed until repairs can be undertaken.</li> <li>3. As to the repairs the abutment piles need concrete collars or preferably a concrete abutment with the steel beams resting</li> </ol>   | Single access bridge  |



## Structural Assessment – Summary of Engineers Recommendations

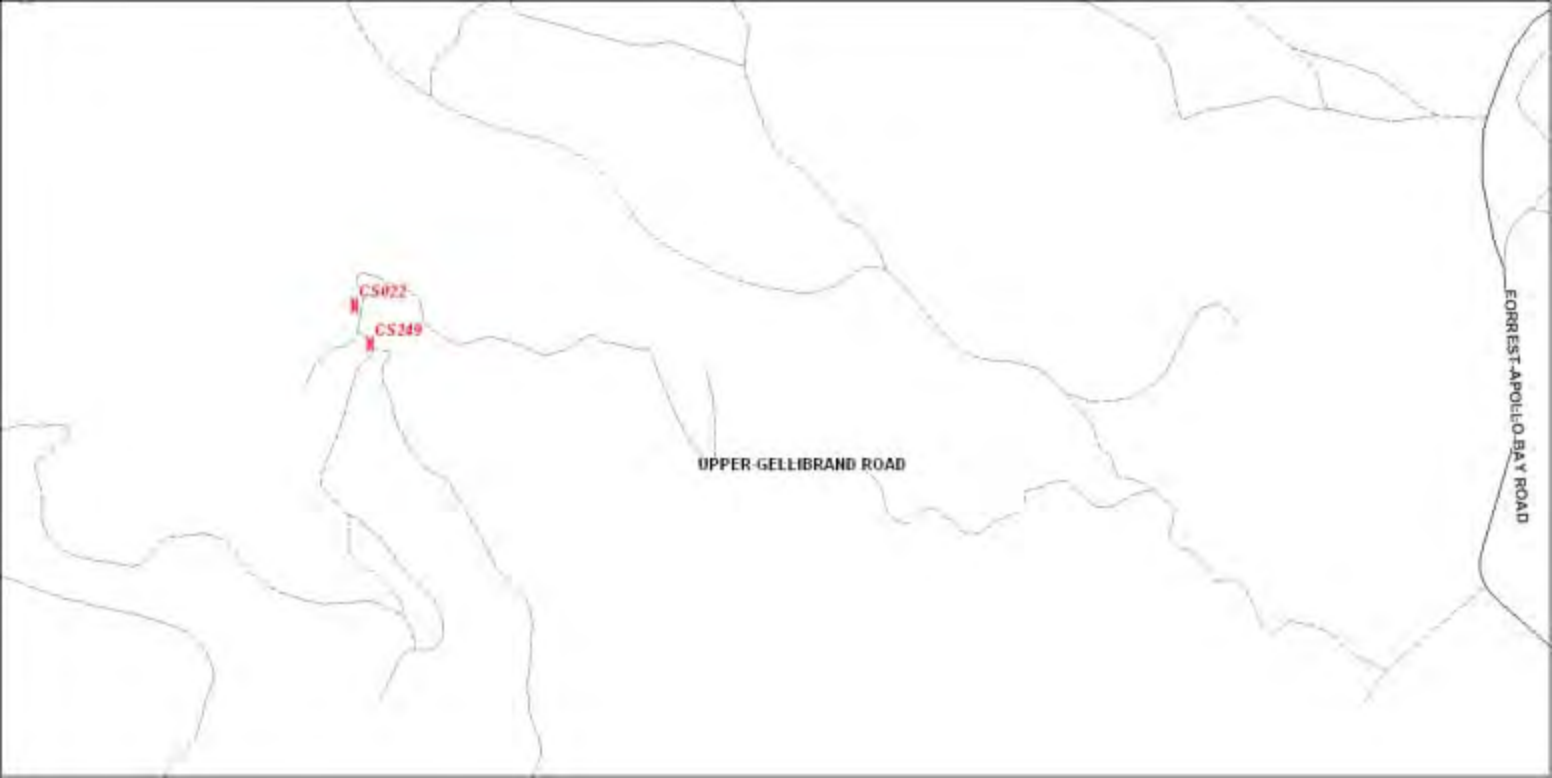
| Bridge No. | Road Name      | Locality   | Existing Load Limit | Proposed Load Limit | Summary of Recommendations   | Notes                |
|------------|----------------|------------|---------------------|---------------------|--|----------------------|
|            |                |            |                     |                     | <p>on the concrete. If concrete collars are preferred then a steel crosshead would be required.</p> <ol style="list-style-type: none"> <li>4. New cross deck planking would be required and possibly running planks if the bridge is required for the safe loading for T 44 trucks.</li> <li>5. We would recommend a new safety barrier using the Armco style barrier.</li> </ol>  |                      |
| CS052      | Veseys Access  | Kawarren   | No load restriction | 8 tonnes            | <ol style="list-style-type: none"> <li>1. At present only sufficient for rigid axle trucks, articulated multi axles should be restricted or only allowed under permit.</li> <li>2. The abutments need repairing soon as the lack of cross bracing and the pile deficiency need to be addressed with two new support channels and/or concreting in of the abutments.</li> <li>3. abutments.</li> <li>4. In the event of a high speed vehicle going over the bridge the RSJ's could roll over and cause the bridge to fail.</li> <li>5. The abutments though they are in a state of distress have a present load capacity for medium to light rigid axle trucks of GVM 8t and this the recommended limit for the</li> <li>6. bridge.</li> <li>7. General maintenance including timber protection and guard rails are recommended if the present bridge gate is removed.</li> </ol> | Single access bridge |
| CS055      | Raffertys Road | Gellibrand | 10 tonnes           | 6 tonnes            | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the legally loaded B-Double trucks, T-44 trucks</li> <li>2. Though we measured a safe GVM weight of 8 tonnes we would recommend a GVM weight for fixed axle trucks of 6 tonnes.</li> <li>3. All the pile/columns need strengthening or replacement with steel piles and cross heads as for bridge 022 Upper Gellibrand Road.</li> <li>4. We would recommend an Armco style safety barrier, with end posts.</li> <li>5. We would recommend treating all the exposed timbers with anti termite treatments.</li> </ol>  | Single access bridge |

### Structural Assessment – Summary of Engineers Recommendations

| Bridge No. | Road Name             | Locality   | Existing Load Limit | Proposed Load Limit | Summary of Recommendations  | Notes   |
|------------|-----------------------|------------|---------------------|---------------------|---|---|
| CS060      | Scorcis Access        | Johanna    | No load restriction | 5 tonne             | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the passage of any vehicle exceeding a GVM weight of 5 tonnes and we would restrict the bridge until repairs have been affected to an occasional use by private cars.</li> <li>2. use by private cars.</li> <li>3. The client may consider that the bridge could be substituted with pre cast concrete box cell culverts, or if the bridge is to be retained a new abutment A would be required and new steel main beams and the timber deck substituted with steel trough decking.</li> <li>4. We would recommend an Armco style safety barrier for either construction.</li> </ol>  | Single access bridge  |
| CS249      | Upper Gellibrand Road | Barramunga | No load restriction | 12 tonne            | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the passage of all multi axle trucks and a maximum GVM weight of 12 tonnes for fixed axle trucks.</li> <li>2. The low load results was due to scour exposing the piles at Abutment B and both these piles need strengthening with encasement, preferably using a geotextile sock to avoid pollution of the water way.</li> <li>3. We would recommend installing a W beam or Armco type barrier.</li> <li>4. We would also suggest regular maintenance including termite treatment of all exposed timber and banding of the timber piles, as some are split.</li> </ol>  | Provides access to Stevensons Fall camp grounds. Bridge utilised by Barwon Water and Parks Victoria |
| CS084      | J Barrys Road         | Elliminyt  | 2 tonne axle load   | 2 tonne axle load   | <ol style="list-style-type: none"> <li>1. The bridge was not sufficient for the passage of B-Double trucks or T-44 truck, but was sufficient for the passage of fixed axle trucks not exceeding a GVM weight of 8 tonnes.</li> <li>2. The bridge is at near end of life.</li> <li>3. The load limit of 2 tonnes now applied would appear to be safe and suitable.</li> <li>4. If no repairs are undertaken to the bridge then continued corrosion could render the bridge redundant within two years.</li> <li>5. The bridge could be repaired and if so the loadings could increase dramatically.</li> <li>6. The steel main beams need to be strengthened at the points of support from the under slung truss, with new steel deck</li> </ol> | Single access bridge  |

### Structural Assessment – Summary of Engineers Recommendations

| Bridge No. | Road Name | Locality | Existing Load Limit | Proposed Load Limit | Summary of Recommendations  | Notes |
|------------|-----------|----------|---------------------|---------------------|---|-------|
|            |           |          |                     |                     | cross beams.<br>7. All the remaining steel to be protected and a dense bituminous layer constructed over the complete deck area of the bridge to prevent further corrosion. |       |



CS022

CS249

UPPER GELLIBRAND ROAD

FORREST APOLLO BAY ROAD



GS044

Apollo Bay Recreation Reserve

GREENWOOD ROAD



CAMPIGLIS ROAD

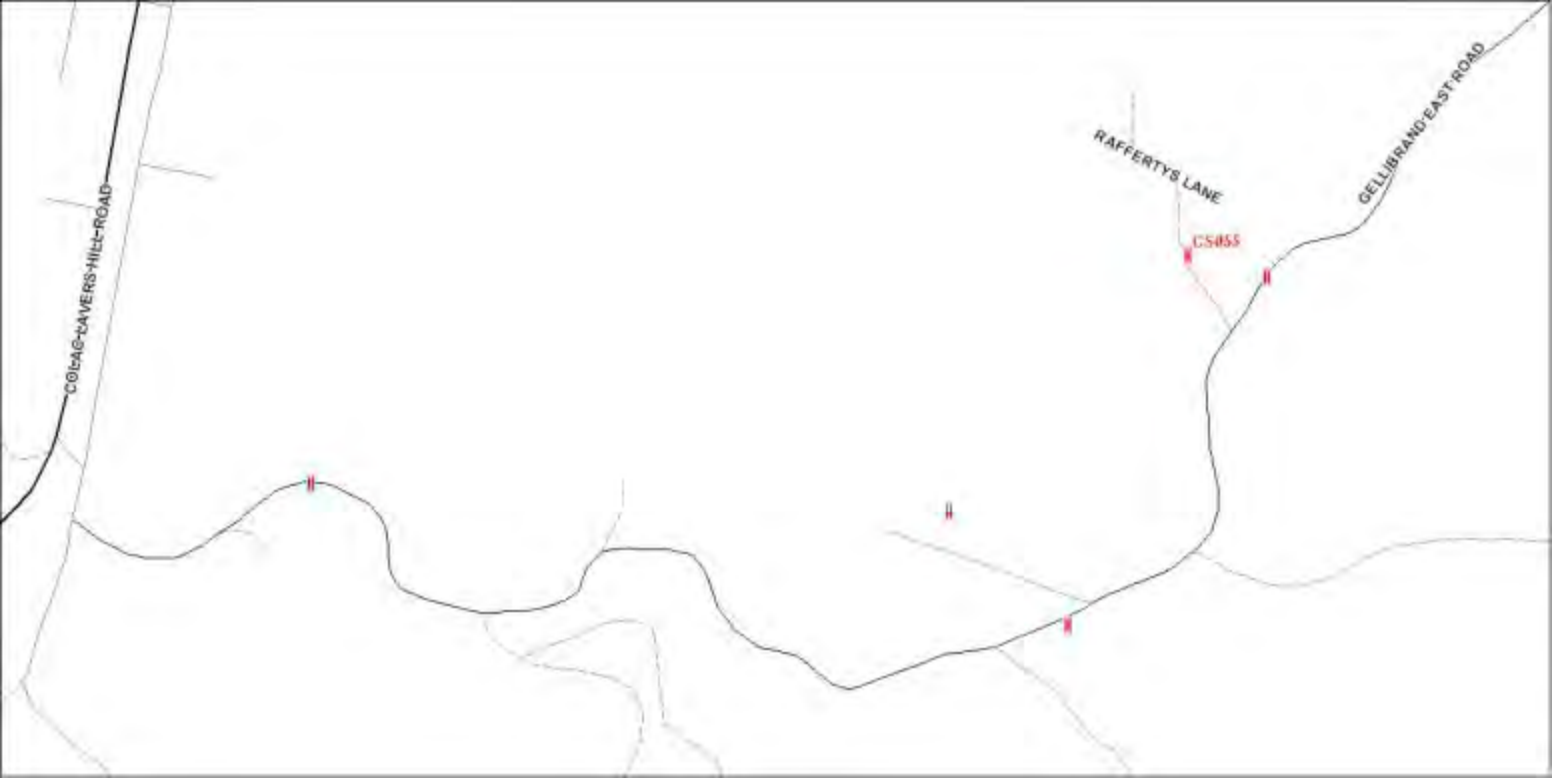
ROLLINGS ACCESS

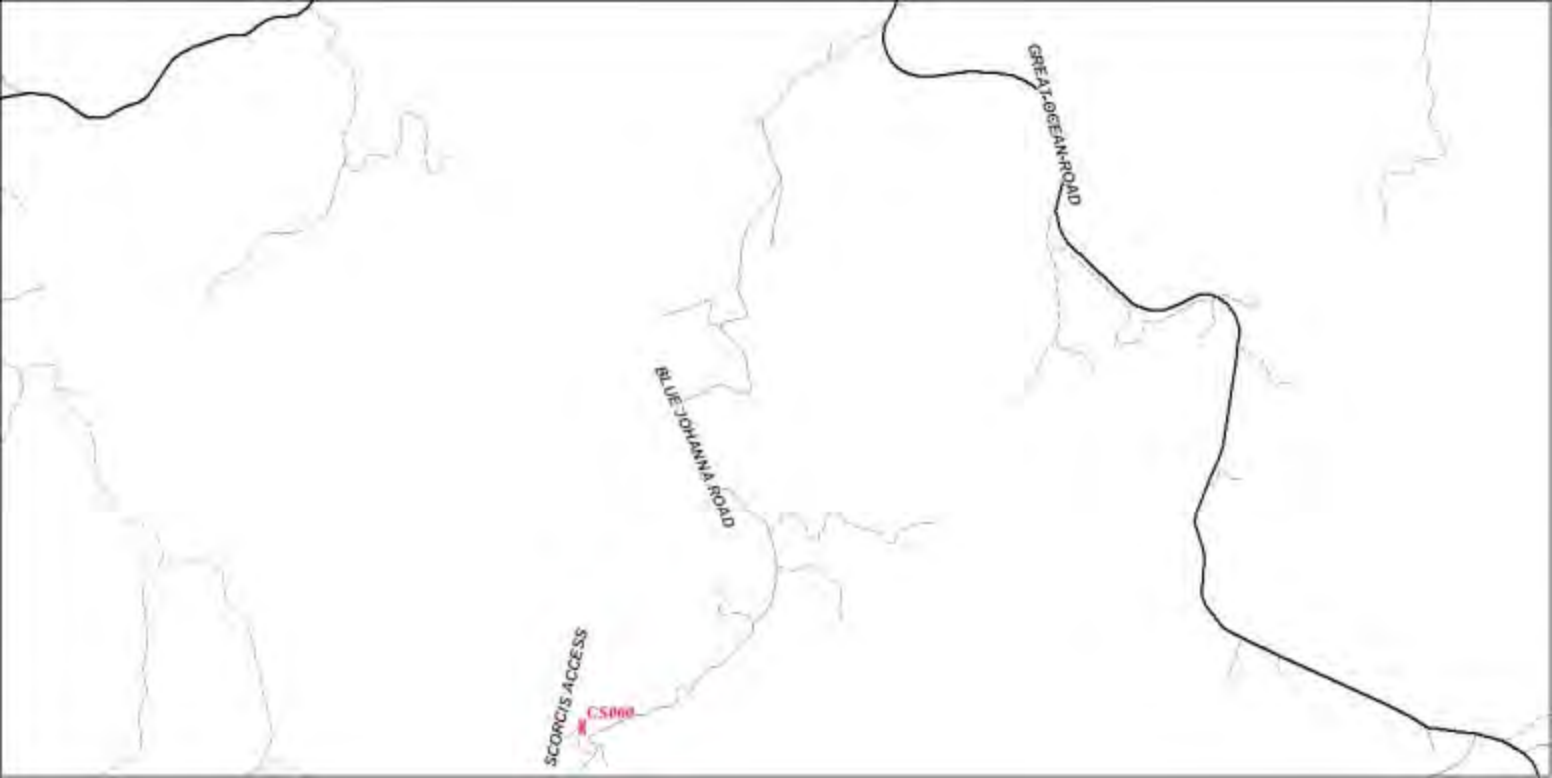
CS051

VESEYS ACCESS

CS052

WONGA ROAD





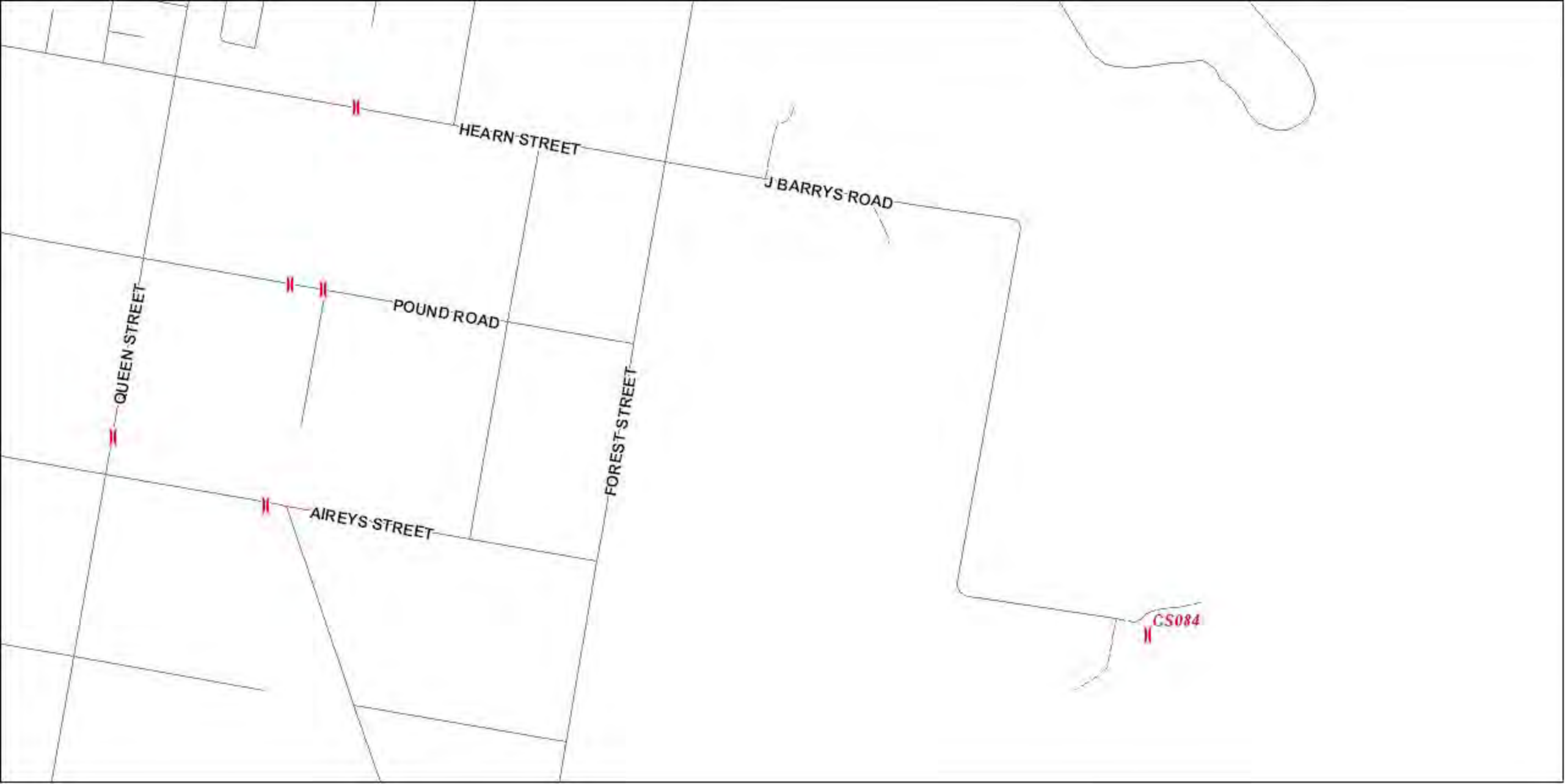
GREAT LOGEAN ROAD

BLUE JOHANNA ROAD

SCORCIS ACCESS

CS000





**OM092406-13 ROAD MANAGEMENT PLAN REVIEW**

|             |                |           |                                 |
|-------------|----------------|-----------|---------------------------------|
| AUTHOR:     | Adam Lehmann   | ENDORSED: | Neil Allen                      |
| DEPARTMENT: | Infrastructure | FILE REF: | GEN01716 – Road Management Plan |

**Purpose**

The purpose of this report is to present to Council the proposed draft Road Management Plan (Version 2.0) for formal adoption.

**Background**

A review of Council's current Road Management Plan (Version 1.1) is required under the provisions of the Road Management Act 2004 (the 'Act') and Road Management (General) Regulations 2005.

The Act requires that Council's Road Management Plan must be reviewed at prescribed intervals. In the case of a Road Management Plan made before 29 November 2008 Council must commence a review its plan by 1 January 2009 and complete this review by 30 June 2009. The review of the current Road Management Plan (Version 1.1) has now been finalised in accordance with the schedule previously reported to Council.

The draft Road Management Plan (Version 2.0) was presented to Council at its meeting of 22 April 2009 seeking endorsement to place the draft plan on public exhibition. At that meeting Council resolved to:

1. Endorse the Draft Road Management Plan (Version 2.0).
2. Place the Draft Road Management Plan on exhibition until Friday 29 May 2009 in accordance with Section 223 of the Local Government Act and invites submissions to the Draft Plan.
3. Hear submissions on 10 June 2009 in accordance with Section 223 of the Local Government Act, if required.
4. No submissions were received.

Council's draft Road Management Plan (v2.0) was advertised in the Victoria Government Gazette on 30 April 2009, the Colac Herald on 27 April 2009 and the Apollo Bay News on 1 May 2009 seeking public submissions.

No public submissions were received in respect of the draft Plan and consequently the meeting scheduled to hear submissions on 10 June 2009 was not required.

**Corporate Plan/Other Strategies/Policy**

The Road Management Plan is an essential document in Council's overall strategic planning objectives and is structured to meet the requirements of the Act from its operational commencement date of 1 July 2004.

The purpose of the Road Management Plan is to establish a management system for public roads that are Council's responsibility in order to meet the needs of road users and the broader community. Council road management functions are based on policy and operational objectives which consider the resource limitations faced by Council in inspecting, maintaining, and repairing its road infrastructure. The levels of service specified in the current Road Management Plan, by necessity, provide a balance between reasonable road safety and affordability.

The Road Management Plan does not apply to new works as these are determined as part of the Council's annual capital works budget process.

### Issues/Options

The review undertaken aimed to examine a number of key principles within the existing Road Management Plan. These aspects included:

- Council's Public Road Register;
- Legislative compliance under the Road Management Act 2004;
- Suitability of inspection frequencies;
- Service level standards;
- Road and footpath hierarchies; and
- Risk exposure to Council.

Internal review of the current Road Management Plan (v1.1) highlighted the following matters which needed addressing. These issues were either identified through advice from Council's insurer or through operational implementation of the current Plan since its adoption.

| Issue   | Description   | Response   |
|---|---|--|
| General review of Road Management Plan Service Levels   | Maintenance services to be reviewed to assess risk levels, inspection frequencies, service provision, and temporary and rectification works timeframes. This review will include an analysis of delivery performance. | Minor changes to service delivery criteria (e.g. response time for signage repairs amended to reflect actual time to repair). Such issues were identified through implementation of the Plan and have been previously identified through ongoing performance monitoring. |
| Review of Road Hierarchy                                | Management of 'fire access' and limited use roads to be clearly defined   | Standards and responsibilities for 'Fire Access' and limited use roads defined.  |
| Update to Footpath Hierarchy                            | Inclusion of a classification for 'Shared Paths' within footpaths hierarchy as recommended by CMP.  | 'Shared Use Path' classification included with relevant service level definitions.   |
| Updates to the Public Road Register and hierarchy plans | Update of public road register to reflect additional roads for which Council now acts as a Road Authority.  | Municipal Public Road Register revised to include all roads for which Council as a Road Authority (e.g. new roads created through land development)  |
| Inclusion of 'Force Majeure' clause                     | As there are wide range of intervening events that can frustrate the ability to comply with the standards of the Road Management Plans CMP have   | Exceptional circumstances clause included. Council has the right to suspend compliance with its Road   |

| Issue                                       | Description   | Response   |
|---|---|--|
|   | advised that a Force Majeure type clause should be included in the Plan.  | Management Plan in the event of a natural disaster or similar. This is in accordance with the provisions of the Victorian Wrongs Act 1958.                     |
| Definitions of road and road related assets | The Road Management Act 2004 clearly defines road assets and road related assets. Update of plan required to ensure service delivery is aligned with the intent of the Act (e.g. responsibility for cattle grids, etc). | Definition of responsibilities for various non-road assets which exist within the road reserve (e.g. driveways, utility assets, rail crossings, etc) provided. |

### Issues Summary

An external audit of the draft Road Management Plan (v2.0) was also completed by Echelon Risk Management Services. The scope of this review included a number of key elements:

- Compliance with:
  - Relevant sections of the Road Management Act 2004
  - The Code of Practice for Road Management Plans
- Alignment with Risk Management principles;
- Accessibility and readability of the Road Management Plan;
- Comparative analysis utilising existing Road Management Plans from similar or like councils.

The following comments are noted from the analysis and review undertaken by Echelon:

*'In regards to compliance, this review has considered relevant documentation and it is evident that Colac-Otway Shire Council has taken into consideration their legislative obligations when reviewing the RMP.'*

*The risk based approach to frequency of inspections and prioritisation of works is a solid foundation for efficient allocation of resources. Colac-Otway Shire Council has utilised the risk management process in their approach to this particular area of asset management.*

*In regards to accessibility of the RMP to internal stakeholders and the wider community, Colac-Otway's revised RMP, developed in 2009, is concise and the general readability of the document is good for people that are unfamiliar with risk management functions and practices.'*

Based on the outcomes of the external audit by Echelon, a number of suggested amendments have been made to the current Plan to improve the consistency and accessibility of the document. Other ambiguities in relation to the definition of service level definitions have been corrected to provide more specific criteria.

Other general changes have also been made to reflect operational arrangements which have been implemented since its adoption. The intent of the revised Plan and its adherence to the requirements of the Act does not differ from the original Road Management Plan.

A report summarising the amendments is included as an appendix the Plan.

**Proposal**

A review of the current Road Management Plan has been completed to ensure that all statutory time frames are met.

**Financial Implications**

The Road Management Plan has required Council to clearly specify its levels of service which can be achieved within existing levels of funding. The Act requires that a road authority must achieve full compliance with these standards. It is therefore critical that suitable funding levels are sustained within Council's budget for all operational and maintenance activities identified within the Plan.

The Plan has been reviewed in consultation with relevant service providers to ensure that the documented standards are deliverable within existing budget allocations whilst at the same time providing a reasonably safe road network.

**Risk Management Implications**

Risk identification, assessment, and management are an important requirement of the Road Management Plan which provides an effective way for Council to manage its risk as a road authority.

Council is exposed to an increase to claims of negligence if it fails to deliver the standards specified in the Road Management Plan. This is the overriding factor when determining appropriate standards for the inspection, maintenance, and repair of Council's roading assets to ensure that they can be delivered in current budget allocations.

**Environmental Considerations**

No environmental considerations are applicable at this time.

**Communication Strategy/Consultation**

The draft Road Management Plan (Version 2.0) was presented to Council at its meeting of 22 April 2009 seeking endorsement to place the draft plan on public exhibition. At that meeting Council resolved to:

1. Endorse the Draft Road Management Plan (Version 2.0).
2. Place the Draft Road Management Plan on exhibition until Friday 29 May 2009 in accordance with Section 223 of the Local Government Act and invites submissions to the Draft Plan.
3. Hear submissions on 10 June 2009 in accordance with Section 223 of the Local Government Act, if required.

Council's draft Road Management Plan (v2.0) was advertised in the Victoria Government Gazette on 30 April 2009, the Colac Herald on 27 April 2009, and the Apollo Bay News on 1 May 2009 seeking public submissions.

Copies of the draft Plan were sent to each of the various township Progress Associations and other community representative groups throughout the municipality. The draft Plan was also included on Council's website.

No public submissions were received in respect to the draft Plan.

**Implementation**

A review of the current Road Management Plan has been finalised for approval by Council.

The required process under the Act following the adoption of the draft Plan is to place a notice of adoption in the Government Gazette and in a newspaper generally circulating in the municipality.

The draft Plan takes effect immediately upon resolution by Council.

A review of all Council's road management activities will be undertaken to monitor the level of compliance with the Plan. The need for any ongoing amendments to the Plan will be reported periodically for separate resolution according to the statutory process detailed by the Act.

### **Conclusion**

The Road Management Plan enables Council to meet its statutory requirements as a road authority under the Road Management Act 2004 and ensures that it takes a proactive approach to its management of public roads.

By completing the review of this document Council has now satisfied its legal obligations whilst ensuring that all defined levels of service are relevant and achievable given existing budget allocations.

### **Attachments**

- Road Management Plan (Version 2.0)
- Echelon Service Audit Report

### **Recommendation(s)**

***That Council adopts the draft Road Management Plan (version 2.0) with notices of adoption being placed in the Victoria Government Gazette, the Colac Herald and the Apollo Bay News.***

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# **Road Management Plan**

Version 2.0  
Adopted – October, 2004  
Draft Amendment – April, 2009

# Road Management Plan

## GENERAL

### Distribution

The General Manager of Infrastructure and Services shall be responsible for the:

- Control of this Plan,
- Distribution of the Plan, and
- Control and issue of any amendments.

### Amendment Register

| Issue       | Date        | Details                      | Amendment By                                                           |
|-------------|-------------|------------------------------|------------------------------------------------------------------------|
| Version 1.1 | April, 2006 | Amendment No. 1 – Appendix B | Gary Dolan<br><b>General Manager<br/>Infrastructure &amp; Services</b> |
| Version 2.0 | April, 2009 | Amendment No. 2 – Appendix C | Neil Allen<br><b>General Manager<br/>Infrastructure &amp; Services</b> |
|             |             |                              |                                                                        |
|             |             |                              |                                                                        |



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**APPENDIX A – MAINTENANCE PERFORMANCE CRITERIA & RESPONSE**

**APPENDIX B – RECORD OF AMENDMENTS TO ROAD MANGEMENT PLAN, OCTOBER 2004 (VERSION 1.0)**

**APPENDIX C – RECORD OF AMENDMENTS TO ROAD MANAGEMENT PLAN, APRIL 2006 (VERSION 1.1)**

## 1.0 INTRODUCTION

### 1.1 Background

Colac Otway Shire is the road authority for those roads within the municipality for which it accepts management responsibility. Colac Otway Shire exercises its duty of care to the public in a number of ways, including planning and undertaking repairs and maintenance to the road network that it manages.

Colac Otway Shire demonstrates its duty of care through having in place a reasonable regime to:

- Inspect the road network to discover defects, and
- Plan and implement repairs to overcome these defects

Where a dangerous condition in the road network is shown to exist, Council may satisfy its duty of care to road users which may include taking one or more of the following actions, depending on the circumstances of any particular case:

- Prioritising the condition in a capital works or maintenance program,
- Installing appropriate signs warning of the dangers,
- Closing the road, or
- Repairing the dangerous condition completely.

#### 1.1.1 History

Negligent repairs and maintenance were known as *misfeasance*. Road authorities in the past may have been liable for injuries and loss caused by misfeasance.

Where a road authority fails to construct, repair or maintain a road under its control, this is known as *nonfeasance*. Under this long-standing common law rule, road authorities in Victoria were protected from findings of negligence in respect of the condition of a road due to any failure to maintain or carry out remedial or improvement works. The High Court of Australia abolished the nonfeasance immunity of highway authorities in May 2001 after their decision in the case of *Brodie vs Singleton Shire Council*.

In response, the State Government introduced legislation to temporarily reinstate this immunity, the *Transport (Highway Rule) Act 2002*. This immunity sunset on the 1 January 2005. The Road Management Act is seen as the long-term solution to road management issues.

For Council to show that it has satisfied its duty of care to road users, it is required to demonstrate that it has in place a reasonable regime for inspecting the road network to discover defects and a reasonable system for planning and implementing repairs to overcome those defects.

#### 1.1.2 Legislative Requirements

Council has many obligations specified and its activities must fall within the powers provided by Acts of Parliament, associated Regulations and common law.

The foremost legislative powers and duties in relation to Council's management of its road assets are:

- *Local Government Act 1989*
- *Road Management Act 2004*
- *Transport Act 1983*

### 1.1.3 Local Government Act 1989

This Plan has been developed to reflect the purposes and objectives of Council as specified in Sections 6 and 7 of the *Local Government Act 1989*. Section 6 (1) of this Act describes the purposes of a Council that includes the following:

- To provide equitable and appropriate services and facilities for the community and to ensure that those services and facilities are managed efficiently and effectively, and
- To manage, improve and develop the resources of its district efficiently and effectively.

The *Local Government Act 1989* contains the legislation relating to the care and management of all public highways vested in the Council and all roads that are the subject of a declaration under Section 204(2).

Section 205(2) states 'A Council that has the care and management of a road:

- a) Must ensure that if the road is required for public traffic, it is kept open for public use (subject to the exercise of any powers that it has to the contrary under Schedules 10 and 11),
- b) May carry out work on the road, and
- c) Is not obliged to do any particular work on the road, and in particular, is not obliged to carry out any surface or drainage work on an unmade road.

### 1.1.4 Victorian Road Management Act 2004

The *Road Management Act 2004* ('the Act') establishes improved road management legislation to provide a more efficient and safer road network for all road users.

The aim of the Act is to establish for road management authorities, management systems for the public road network that they manage. The Act assists Council, as a road authority, to determine its own appropriate management plan and standards in order to manage civil liability by defining and achieving its responsibilities.

The objectives of the Act are to:

- Specify the general rights of road users and their obligations in relation to responsible road use,
- Establish a system for the management of safe and efficient public roads that best meets the needs and priorities of the community within the limitations of Council's resources and budgetary frameworks,
- Establish a system of road classification for the division of responsibilities between State and local road authorities,
- Provide for the keeping of a register which records public roads to be constructed, maintained and managed by Council, and
- Clarify the law relating to civil liability for the management of public roads and other public highways.

As a Road Authority, Council has the general management functions of:

- Provision and maintenance of a network of public roads for use by the community,
- Management of the use of public roads having regard that the primary purpose of a road is use by member of the public,
- Management traffic on public roads, and
- Coordinating the installation of infrastructure on public roads in such a way to minimise adverse impacts on the provision of utility services.

### 1.1.5 Transport Act 1983

In response to the abolishment of 'Highway Rule' in May 2001 by the High Court of Australia, the Victorian State Government passed amendments to the *Transport Act 1983* in November 2002. These amendments temporarily reinstate the former 'Highway Rule' until 1 January 2005. This allows a road authority to operate under the former law while adopting the new road management requirements as legislated by the *Road Management Act 2004*.

### 1.2 Duties of the Road User

A road user has specific duties in the respect to the use of a public highway, including having regards to the rights of other road users. A road user must also take all due care to avoid causing the risk of damage to a public highway or any infrastructure located in the road reserve.

A person who drives a motor vehicle on a public highway must drive in a safe manner having regard to all the relevant factors including the:

- Standard of construction of the road,
- Prevailing weather conditions,
- Level of visibility,
- Condition of the motor vehicle,
- Prevailing traffic conditions,
- Relevant road laws and advisory signs, and
- Physical and mental condition of the driver.

The *Road Safety Act 1986* requires other road users (other than those driving a motor vehicle) to use a road in a safe manner, having regard to all the relevant factors. Other obligations of road users are also set out in the *Road Safety Act 1986* in regard to relationships with other road users and damage to road infrastructure.

### 1.3 Road Management Plan

The Road Management Plan ('the Plan') sets the relevant standards and policy decisions in relation to the discharge of Council's duties in the performance of its road management functions.

This Plan details the management systems that Council will implement to maintain, upgrade and operate its physical road assets cost-effectively.

Colac Otway Shire through the Plan accomplishes its duties by combining engineering principles with sound business practices, and providing tools to facilitate an organised logical approach to decision making.

The following basic elements are included in Council's Road Management Plan:

- The relevant standards and policies in relation to Council's performance of its road management functions,
- Descriptions of the road asset management systems that Council has established and will implement to effectively provide a road network that is appropriate and meets the needs of road users and the community,
- A schedule of maintenance processes and standards, taking into account affordable community needs, and
- Reference to all relevant Codes of Practice.

---

## 1.4 Codes of Practice

Council is guided in their application of the Plan through Codes of Practice, as part of the Act. The codes set out benchmarks of good practice in relation to the road management duties of councils and allow scope for individual councils to set standards and allocate road maintenance priorities according to their particular level of resources.

The Plan should include matters that a relevant Code of Practice specifies.

A Code of Practice objectives include:

- To set benchmarks for exercise of powers and conduct of utilities, service providers and infrastructure managers,
- To clarify and determine operational responsibility for different parts of the road reserve, and
- To provide practical guidance in determining how to allocate resources, develop policies, set priorities and make road management plans

A Code of Practice cannot:

- Impose a duty,
- Direct how operations may be done,
- Create an enforceable legal right, or
- Impose a liability or penalty.

## 2.0 COUNCIL OBJECTIVES/POLICY

The Colac Otway Shire is committed to continual improvement in the way it manages its road network and associated assets. A fundamental component of this task is maintenance or the management of the ongoing performance and condition of this infrastructure.

This Road Management Plan provides a vision for how Council plans to manage its road network. This vision will ensure that the community is provided with a road system that returns optimum economic benefit for the life of the asset while recognising social, safety, environmental and user needs.

This document provides a policy framework to guide Council's management of the road infrastructure under its authority. It defines roles and responsibilities for decision making, outlines the way management requirements should be assessed, and addresses appropriate methodologies for roads based funding.

### 2.1 Key Stakeholders

A stakeholder represents any groups or individuals having an interest, in this case, the service provided by Council's road network.

The stakeholders in the management of Council's road and other related assets are many and often their needs are wide-ranging. The relevant key stakeholders are:

- Local residents including private car drivers, cyclists, pedestrians, etc,
- Industrial and commercial operators and other transport services,
- Emergency services,
- Enforcement agencies,
- Primary producers,
- Land developers,
- Other Government Departments,
- Tourists and visitors to the area.
- Utilities as prescribed in Section 3 of the *Road Management Act 2004*, and
- Council as the custodian of the network, including all internal and external support staff.

The community's needs and expectations are subject to change frequently and are becoming more demanding manifested by demands for services that provide better quality, value for money, environmental awareness and relevant value adding.

### 2.2 Key Outcome Areas

The specific objectives of Council's vision are:

- To ensure sound road management decisions,
- To ensure that Council's road assets perform effectively throughout their service lives, to appropriate standards, which have been set with due consideration of community expectations,
- To enable a sound basis for establishing road funding requirements, and
- To ensure sound allocation decisions between capital works and maintenance.

### 2.3 Policy Framework

This policy framework provides that Colac Otway Shire apply a systematic approach to its road management responsibilities.

Maintenance and construction performance criteria are defined to ensure that a safe and efficient road network is provided to the community. Council approved funding levels corresponding to these performance criteria are allocated to achieve such standards.

## 2.4 Council Plan

The Road Management Plan is a key document in Council's overall strategic planning objectives and is structured to meet the requirements of the *Road Management Act 2004* from its operational commencement date of 1 July 2004.

The draft Council Plan 2009 – 2013 outlines the principles that support Council's commitments over the period and serves as a standard by which community outcomes can be assessed. The Council Plan is a dynamic document which is updated annually to reflect changing priorities and impacts of external factors.

The Colac Otway Shire's Road Management Plan is consistent with Council's commitment to providing and maintaining infrastructure and assets that meet community needs now and in the future, whilst providing Best Value to the community.

The specific strategies and outcomes identified in the draft Council Plan 2009 – 2013 include:

- Ensure infrastructure development, renewal and maintenance plans address current and forecast community needs;
- Implement and manage Colac Otway Shire's Road Management Plan;
- Manage Council's buildings and facilities in a responsible, safe and sustainable manner; and
- Improve local and regional transport networks to ensure safety and accessibility

## 2.5 Council Policies & Strategies

The Colac Otway Shire applies a 'whole of life' approach to the management of its Infrastructure Assets. This provides for an encompassing view of asset management through the application of an Asset Management Policy and a Strategic Asset Management Plan.

In its simplest terms, asset management is about the way in which we look after the assets around us, both on a day-to-day basis (maintenance and operations) and in the medium to long term (strategic and forward planning).

## 2.6 Best Value

In association with Best Value, Council is required to comply with the Best Value Principles as defined by the *Local Government Act 1989, Section 208B*. Council has considered these fundamental principles in developing the relevant standards, policy and operational objectives as they relate to this Plan.

The principles that Council must observe are as follows:

- There must be quality and cost standards set for all services that a council provides to the community,
- All services provided by a council must be responsive to the needs of the community,
- Each service provided by a council must be accessible to those members of the community for whom the service is intended,
- A council must achieve continuous improvement when providing services to the community,
- A council must develop a program of regular consultation with its community in relation to the services it provides, and
- A council must report regularly to its community on its achievements in relation to the Best Value Principles.



## **2.7 Asset Management Policy**

The Asset Management Policy states Council's commitment to working towards implementing Advance Asset Management principles to ensure that assets are planned, created, operated, maintained, replaced or disposed in accordance with Council's priorities for the service it delivers.

This policy provides a framework and guiding principles for the processes involved in managing Council assets. The policy provides clarity of expectations when planning, creating, maintaining/operating and reviewing Council's Assets.

## **2.8 Strategic Asset Management Plan**

The Strategic Asset Management Plan outlines and guides Council's asset response to its service requirements, through the development of an asset portfolio, risk management strategies and asset performance measures.

The principal objective of strategic asset management is to ensure that Council meets its service delivery objectives efficiently and effectively.

This objective will be achieved by:

- Maximising the service potential of existing assets by ensuring they are appropriately used and maintained;
- Reducing the demand for new assets through demand management techniques and consideration of alternative service delivery options;
- Achieving greater value for money through a rigorous project initiation and evaluation process which takes into account life cycle costing, value management techniques and private sector involvement;
- Eliminating unnecessary acquisition and holding of assets by ensuring agencies are aware of, and required to pay for, the full costs of holding and using assets; and
- Focusing attention on results by clearly assigning responsibility, accountability and reporting requirements in relation to asset management.

This outcome will be supported by a comprehensive Strategic Asset Management Plan that address capital investment, the operation and maintenance of existing assets, and the rationalisation and disposal of assets.

## **2.9 Road Asset Management Plan**

The objective of Council's Road Asset Management Plan is to outline the particular actions and resources necessary to manage the local road network and associated assets to provide a defined level of service in the most cost effective manner. A significant component of the plan is a long-term cash flow projection for the activities.

The aim of this plan is to:

- Identify all assets within the class of roads and associated infrastructure,
- Develop a level of service to which these assets will be developed and maintained,
- Determine lifecycle costs based on current management techniques,
- Assess risks involved in the operation of these assets,
- Develop management strategies to enable Council to operate a sustainable road network that meets the communities expectations for performance, and
- Identify a short and long term improvement program so that financial costs and information may be modeled and refined.

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## **2.10 Risk Management Policy**

The Colac Otway Shire is committed to managing risk by logically and systematically identifying, analysing, assessing, treating and monitoring risks that are likely to adversely impact on Council's operations.

The purpose of this policy is to provide a framework for risk management, and to define the responsibilities of staff and management in the risk management process.

The Colac Otway uses the Risk Management Standard AS/NZ 4360 – Risk Management. For all significant risks associated with Council's road infrastructure appropriately planned actions are determined and implemented. These actions include capital development, maintenance and/or operational enhancement.

## **2.11 Road Management Review (Policy 13.6)**

Council, as part of its overall objective of establishing clear and equitable policies for its community, has determined to review the functions and purpose of its entire local road network.

This review includes the establishment of construction and maintenance criteria for each particular classification.

This review also incorporates consideration of issues pertinent to road closure, road renaming and the establishment of processes to allow community feedback on these issues.

### 3.0 BUDGET PROCESS

This aim of Council's Financial Strategic Resource Plan is to assist it in understanding the medium to long term implications of its policies and strategies which are proposed each year and subsequently adopted in the annual budget process.

The Financial Strategy is closely aligned to the Council Plan and it provides Council with a broader understanding of the financial implications of its strategic decisions. It guides Council and management in the preparation of future corporate strategies and associated allocation of budgets.

#### 3.1 Maintenance Funding

Maintenance is all actions necessary for retaining an asset as near as possible to its original condition, excluding rehabilitation or renewal.

Maintenance activities are not only important to ensuring the maximum 'useful' life of an asset is achieved, but also impacts directly on aspects of risk management and the delivery of expected levels of service to the community.

Roads deteriorate as a result of repeated traffic loading and environmental influences such as climate and soils. Maintenance is a 'day to day' activity to provide an acceptable level of service for the road user and allow road assets to continue to function as built, taking into account seasonal conditions and activities.

Road maintenance involves remedying the defects that occur from time to time and providing treatments that retard the rate of deterioration. Also included under the heading of maintenance is the upkeep of road shoulders, verges, drainage facilities, signs, line marking and road furniture.

In most cases, the commencement of a maintenance or operational activity is triggered by the asset showing certain measurable defects or conditions. This trigger is termed the Maintenance Performance Criteria. Examples of these defects include size of potholes or corrugations in a road, or the length of grass on a roadside.

The principles outlined in this Road Management Plan ensure that the standard condition to which Council's assets are maintained will provide an appropriate and efficient road network.

Budget constraints may result in undesirable asset deterioration. Council is responsible to ensure that budget funding levels are allocated adequately to ensure undesirable asset deterioration does not occur.

Funding for roads must compete against a wide range of services that Council delivers. The following factors will be considered by Council during its annual budget process to determine and review its road maintenance funding levels:

- The ability to meet the specified levels of service in regards to its adopted maintenance performance criteria within the limitations of funding levels,
- Maximisation of asset life and reduction in whole of life costs,
- Priorities for maintenance are consistent with the objectives of the Road Management Plan,
- All relevant information relating to the gap between what maintenance works are funded by Council and listings of any deferred maintenance required to be completed, and
- Annual Community Satisfaction Survey outcomes (Council Plan – performance indicators)

## 3.2 Capital Works

Capital Works can be defined as expenditure that either creates a new asset or improves or restores the current function of an existing asset, e.g. reconstruction of a road or bridge.

Capital Works may be split into three distinct categories, Renewal, Expansion and Upgrade. Capital Works, as it relates to Councils road related infrastructure includes renewal, expansion and upgrade of the following asset classes:

- Road Infrastructure
- Stormwater Drainage, Kerb & Channel and Footpaths
- Bridges and Major Culverts

### 3.2.1 Renewal

Capital renewal is those works required to refurbish or replace an existing asset with an asset of equivalent capacity or performance capability eg reconstruction of a 5-metre wide road to match the existing width and levels is considered a renewal project.

Some maintenance activities may also be considered as renewal. These activities significantly impact upon the condition and useful life of an asset. Only those maintenance activities that result in replacement of a significant asset or asset component are considered renewal.

Examples of such activities are:

- Gravel road resheeting
- Major patching of a failed section of sealed pavement
- Road resealing

#### 3.2.1.1 Funding of Asset Renewal

Prioritised programs are developed in support of the budget. In the development of these programs, consideration is given to the following factors:

- Asset condition assessments,
- Asset hierarchy,
- Analysis of maintenance costs,
- Relative risk to the travelling public, and
- Available funding

Additional funding for asset renewal is available from Roads to Recovery funding. This is designed to bring forward renewal programs which would otherwise be difficult to fund.

The program has previously been used for rehabilitation of failed road pavements and replacement of bridges having a low load bearing capacity.

These funds could also be used to contribute to the upgrade of assets which could otherwise become backlog items. This is especially important where network capacity improvements are required to accommodate the effects of growth and demand changes.

### 3.2.2 Upgrade

Capital upgrade is work designed to deliver an improved level of service to existing ratepayers.

For example, the widening of an existing 5-metre wide road to a width of 7-metres, or the installation of a roundabout at an intersection to improve safety can be defined as capital upgrade projects.

Upgrade projects improve service delivery to the community; however, consideration must be given to their long-term sustainability. Most of the projects that fall into this category are fully or partially funded by external contributions.

### 3.2.3 Expansion

Capital expansion may be best described as the creation of new assets to service new ratepayers.

An example of this would be the construction of new infrastructure (e.g. roads, footpaths, drainage, etc) as part of a new subdivision development.

All expansion work is externally funded, and in some cases, can be termed as 'donated assets'. Long term operation, maintenance and renewal of these assets may be of concern because, as the asset portfolio increases, the annual cost of sustaining that portfolio increases respectively.

#### 3.2.3.1 Funding of Asset Creation

Funding of new assets can come from:

- Developer contributions,
- Rate revenue and
- Special Charge Schemes targeted at specific improvements for property owners who gain special benefit from those improvements.

Whilst road asset acquisition through donated assets does not in itself create a capital cost it does create an on-going maintenance cost which must be factored into Council's long-term finance allocations.

### 3.2.4 Summary

All three classifications of Capital Investment, Renewal, Upgrade and Expansion are warranted in differing circumstances:

- Renewal works maintain assets,
- Expansion projects accommodate growth, and
- Upgrade works satisfy changes in demand or rectify assets that are perceived as insufficient in meeting community needs

Council has a current Budget strategy that responds to community demand and asset renewal requirements. Council's current emphasis is on asset renewal expenditure rather than asset development.

## 3.3 Evaluation of Capital Works

Council's Capital Evaluation Process provides the framework for an objective evaluation process for all projects to be considered for the Capital Works Program.

This process enables projects of competing priority being considered for inclusion within the Capital Investment Program to be evaluated in a coordinated approach involving the collation of project information, costings and business case assessments.

The outcome of this process provides a prioritised list of projects forming the basis of the Annual Capital Investment Program and future years within the Ten (10) - Year Capital Works and Major Projects Program.

Capital Works Projects are assessed on the following criteria:

- Community Priority Survey
- Corporate Plan references
- Population benefiting
- Health and social issues
- Best Value process
- Risk level
- Legal liability
- Works funding
- Future maintenance costs
- Capital works expenditure type (i.e. renewal, upgrade, or new)

### **3.3.1 Funding of Capital Works**

Funding for Capital Works is viewed as an essential component of the Ten (10) - Year Capital Works and Major Projects Program. Traditionally, Council's approach to Capital Works and other major non-recurrent expenditure have been to include funding in the Capital Works and Major Projects Program where identifiable. Identifiable Capital Works funding is regularly incorporated for most infrastructure expenditure.

## 4.0 COLAC OTWAY MUNICIPAL PUBLIC ROAD REGISTER

### 4.1 Introduction

A reliable inventory of road features is the basic component of any road management system. The most obvious road items that are normally recorded in a network asset register are the carriageway, footpaths, signage, kerb and channel, amongst many others.

### 4.2 Register of Municipal Public Roads

The *Road Management Act* requires Council to keep and maintain a register of municipal public roads, and ancillary areas for which it has the responsibility for managing operational functions.

As prescribed by *Clause 19* and *Schedule 1* of the Act, Council will record the following information in its municipal public roads register as it relates to those roads for which it is the principle authority.

The register must include:

- (a) The name of each public road or, if a road is unnamed, a description which enables the particular road to be easily identified;
- (b) If a road becomes a public road after 1 July 2004, the date on which the road became a public road;
- (c) If a public road ceases to be a public road, the date on which the road ceased to be a public road;
- (d) The classification, if any, of the public road;
- (e) The reference of any plan or instrument made on or after 1 July 2004 that fixes or varies the boundaries of a public road;
- (f) Any ancillary areas;
- (g) A reference to any arrangement under which road management functions in respect of any part of a public road or ancillary area is transferred to or from another road authority;
- (h) Any matter required to be included by the relevant road Minister under section 22;
- (i) Any other matter required to be included by this Act;
- (j) Any other matter which is prescribed for the purpose of this clause.

Council's Register of Municipal Public Roads is available for public inspection upon request. This document may be viewed at both the Colac and Apollo Bay Customer Service Centres during normal business hours.

Assets on municipal public roads that the Colac Otway Shire is responsible for and which this Road Management Plan incorporates include:

- Road surface, pavement, and earth formation;
- Surface and underground drainage systems;
- Signs, guideposts, line marking, barriers, and retaining walls;
- Footpaths and shared pathways;
- Parking areas,
- Bridges and major drainage structures, and
- Street furniture.

#### 4.2.1 Amendments to the Register of Municipal Public Roads

Developers generally fund the construction of new infrastructure e.g. roads, footpaths, drainage, etc as part of new subdivision developments. This leads to an expansion in Council's asset portfolio for which it is responsible for.

The Colac Otway Shire assumes responsibility of public highways created through expansion at registration of subdivision, providing that all infrastructure is constructed to meet Council's minimum specifications.

A public highway is not a public road for the purposes of the Act unless and until it is registered on Council's register of municipal public roads.

The register of municipal public roads will need to be maintained on an ongoing basis. It is proposed that the register of municipal public roads be maintained under delegation to ensure it is readily updated on a regular basis.

Council gives the right to review the status of public highways as public roads, should they not appear on its register of public roads.

As standard practice following completion of construction work on subdivision infrastructure all related information shall be documented and formally handed over to Council's maintenance staff. For example, drawings clearly showing as-constructed pavement details, locations of hidden features such as underground drainage systems, and other information critical to the ongoing management of the asset.

#### **4.3 Road Discontinuance**

Council may in accordance with *Schedule 10(3)* of the *Local Government Act 1989* discontinue a public highway or part of a public highway via a notice published in the *Government Gazette*.

Prior to gazettal, Council is obligated by its statutory process to call for public submissions. In addition, all abutting property owners shall be advised of the proposal in writing and advised of their right to make submission. All submissions will be considered in accordance with the provisions of *Section 223* of the *Local Government Act 1989*.

If a road or part of a public road is discontinued, Council must specify all details in its register of public roads.

#### **4.4 Road Naming and Renaming**

Where a road is required to be named or renamed the *Local Government Act 1989* provides an administrative procedure for Road Renaming.

The *Local Government Act 1989* clearly sets out the procedures for road naming, but the Road Renaming process is a very sensitive issue due to local residents, history, and pioneers of the district or acceptance of the existing name for keepsakes.

The provisions of the *Local Government Act 1989* relating to the naming of roads are contained in *Section 206* and *Schedule No. 10 Clause 5*.

With respect to Road Renaming, *Schedule No. 10, Clause 5* - The Council has the power to name roads, erect signs and require premises to be numbered:

A Council may:

- Approve, assign or change the name of a road,
- Erect signs on a road,
- Approve, assign and change the number of a road and any premises next to a road, and
- Require people to number their premises and to renew those numbers.



In exercising its power under *Clause 5*, Council must act in accordance with the guidelines in force for the time being under the *Geographic Place Names Act 1998* and must advise the Registrar under that Act of the naming or renaming of a road.

#### 4.5 Road Hierarchy

Colac Otway Shire is a unique municipality with major topographical, climatic and geological differences within the shire that have a direct impact on the ability of Council to provide a suitable road network. If Council is to provide a sustainable road network system, its Road Classification system must take into account these differences. A Classification system and Hierarchy was adopted as part of this Plan.

A 'Functional' classification system has been adopted rather than a 'Structural' system. This is on the basis that current structural standards do not necessarily reflect the use and purpose of each road in the network. A functional classification system enables each road to be critically assessed based on agreed criteria to determine whether the road system is capable of meeting the needs of the road users.

In a Functional Road Classification system, it is also necessary to clearly differentiate between the Urban and Rural road network. This allows consideration to be taken of the differences in use, intensity of abutting land development, speed and mass of vehicles and traffic volumes.

The Colac Otway Planning Scheme, Victorian Grants Commission and VicRoads definitions were reviewed for applicability to the Urban and Rural areas of the Colac Otway Shire.

##### 4.5.1 Local Road Classification

The model detailed below takes into consideration the above key issues and establishes a clear distinction between each classification. A separate 4-tier functional classification system, for the Urban and Rural road networks is adopted with sub-functions, clearly defining the current use of a particular road within each category.

The 4-tier system is primarily based on the functions of **Link, Collector, Access** and **Minor** within the road system. The model below identifies each category and the criteria proposed to be used in evaluating each road in the network. The Technical Support Document identifies in detail how the classification system is applied in terms of the road function and its current or proposed use (sub-function). The classification system is divided into Rural & Urban localities to reflect the varying needs of these areas.

**Rural Road Network**

| Hierarchy |            | Name            | Explanatory Notes                                                                                                                                                                                                                                                                               | Road Surface                                        |
|-----------|------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Network   | Identifier |                 |                                                                                                                                                                                                                                                                                                 |                                                     |
| Rural     | RL         | Rural Link      | Roads of this classification primarily provide a direct linkage between significant population centres and major traffic generators such as Residential, Industrial, Commercial, Agricultural and Tourist areas and/or Declared Roads. These roads have an Identifiable Origin and Destination. | Generally a sealed surface, may be a gravel surface |
|           | RC         | Rural Collector | Roads of this classification primarily provide a route between, and through, Residential, Industrial, Agricultural, Tourist and Forest traffic nodes and the Rural Link and /or Declared road network.                                                                                          | May be either sealed or gravel surface              |
|           | RA         | Rural Access    | A road in this category provides direct access for abutting properties and generally connects into the Collector road network. There is minimal to no through traffic.                                                                                                                          | May be either sealed or gravel surface              |
|           | RM         | Rural Minor     | These roads generally provide occasional access to non-residential property only.                                                                                                                                                                                                               | Generally either gravel, formed or natural surface  |

**Urban Road Network**

| Hierarchy |            | Name            | Explanatory Notes                                                                                                                                                                                                   | Road Surface                                       |
|-----------|------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Network   | Identifier |                 |                                                                                                                                                                                                                     |                                                    |
| Urban     | UL         | Urban Link      | Roads of this classification primarily provide a linkage between significant Residential, Industrial and Commercial nodes and or the declared road network. These roads have an identifiable Origin and Destination | Sealed surface                                     |
|           | UC         | Urban Collector | Roads of this classification primarily provide a route between and through Residential, Industrial and Commercial areas and convey traffic to the Urban Link or Declared Road network system.                       | Sealed surface                                     |
|           | UA         | Urban Access    | A road, street, court or laneway that primarily provides direct access for abutting Residential, Industrial and Commercial properties to their associated nodes                                                     | Maybe either sealed or gravel surface              |
|           | UM         | Urban Minor     | Provides secondary access to residential properties or provides access to non-residential property                                                                                                                  | Generally either gravel, formed or natural surface |

### Footpath Network

| Hierarchy  | Name              | Explanatory Notes                                                                                                                                                                                                                                                                                                                                                   | Footpath Surface                                               |
|------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Identifier |                   |                                                                                                                                                                                                                                                                                                                                                                     |                                                                |
| H          | High Use Area     | Footpaths of this classification are primarily located in the near vicinity of shopping precincts, aged care centres, senior citizen centres, schools, kindergartens, hospitals and other community facilities.                                                                                                                                                     | Generally concrete, asphalt or modular paving                  |
| S          | Standard Use Area | Footpaths of this classification provide pedestrian access in local residential streets.                                                                                                                                                                                                                                                                            | Maybe concrete, asphalt, sealed or gravel                      |
| L          | Low Use Area      | These are seldom-used areas where there exist paths known by Council to be used by the public. Inspections on areas of this type are to identify specific defects. No additional maintenance is undertaken.                                                                                                                                                         | Generally natural surface                                      |
| SP         | Shared Use Path   | Shared use paths can be described in simple terms as off road trails, tracks or paths that provide for access for a range of activities such as walking, bike riding or horse riding. Council has a combination of pathways, including those within public areas and private land (under agreement), those on public reserves, and those located on arterial roads. | Maybe concrete, brick paved, asphalt, sealed or gravel surface |

In demonstrating 'reasonable care' it is logical practice, in risk management terms, to consider the likelihood and consequence of an incident, and have a management system in place that caters for these eventualities.

It is suggested that the degree of risk on a footpath can be linked directly to the usage patterns and volumes of pedestrian traffic. To account for the risk associated with a footpath when determining maintenance programs, the above footpath hierarchy was developed considering the three defined risk or use categories.

## 4.6 Demarcation of Responsibility

Council is responsible for the majority of the roads within the municipality. These are known as Local Roads and are listed on Council's Register of Municipal Public Roads.

Previously, VicRoads were responsible for the management, maintenance and development of the major arterial component of Victoria's road network, known as the 'Declared Road Network'. These declared roads were classified as Freeways, State Highways, Main Roads, Tourists' Roads and Forest Roads under the *Transport Act 1983*.

From the 1 July 2004 VicRoads are the responsible road authority for all arterial roads within the Colac Otway Shire. An arterial road means a public road that is declared to be an arterial road under *Section 14* of the *Act*. The arterial roads for which VicRoads are responsible include all roads that were previously categorised as Declared Main Roads.

Other roads in areas such as parks and forests within the municipality are managed by organisations such as the Department of Sustainability & Environment and Parks Victoria.

The *Act* assists road authorities to define and achieve their road maintenance responsibilities as a defence to the threat of civil liability. Each road authority may formulate its own road management plan, which includes the setting of appropriate and reasonable road management standards.

A Road Management Plan establishes the standards of care for the purposes of judging civil liability. Failure to protect or maintain a road to an appropriate standard may result in a road authority being found liable in the event of personal injury or loss as a direct result of inadequate inspection and maintenance systems.

The register of municipal public roads and associated maps define the roads for which Council has operational duties as a road authority. Operational functions for the purposes of this road management plan relate to the establishment of standards for the construction, inspection, maintenance and repair of road infrastructure.

### 4.6.1 Urban Areas

In the situation where the public road is an arterial road, VicRoads is the coordinating road authority, excepting the following instances where Council has responsibility for all local components of the road system. These are:

- Service road traffic lanes and shoulders,
- Pathways outside of through carriageways and central medians,
- Indented parking bays and any other part of the roadway located 'kerb to kerb' that could not be made available for through traffic (being located either on the side of the road, in the outer separator or in the central median), and adjacent kerb and channel,
- Drainage pits and underground drainage outside of through carriageways or outer separators and underground drainage that is part of a municipal drainage scheme,
- Off road bicycle paths,
- Off road furniture at bus stops,
- Road markings for all parking bays, plus road markings on service roads,
- Nature strips including vegetation,
- Local signage including street name signs, local direction signs, parking signs for the control of stopping or parking, and advance warning (but not advance direction) signs on municipal roads,
- pedestrian fencing outside of central medians,
- Tactile Ground Surface Indicators (TGSI's) in footpaths and kerb ramps and at bus stops (except at central medians), and
- Plantation reserves where council holds the title.

An urban region as defined by *Section 3* of the Act, is an area in which -

- A speed limit of 60 kilometres per hour or less applies not being a speed limit that applies only because of a temporary reason such as roadworks or a street event;
- There are buildings on land next to the road, or there is street lighting, at intervals not exceeding 100 metres for:
  - a distance of at least 500 metres; or
  - if the length of the road is less than 500 metres, over the length of the road.

#### 4.6.2 Rural Areas

Council is responsible for service roads, off road bicycle paths, pathways, associated local signage, and underground drainage that is part of a municipal drainage scheme.

For definition of the limits of responsibility between VicRoads and Council, where local roads intersect with arterial roads in an urban and rural environment, refer to the Code of Practice - Physical Limits of Responsibility for Declared Freeways and Arterial Roads.

#### 4.7 Shared Responsibilities

The Act requires that a road authority be responsible for the operational functions of a road. In the instance of boundary roads with other municipalities, the responsibility is allocated according to an agreement between each municipality.

#### 4.8 Non-Council Assets

Various infrastructure assets, for which Council has no management responsibility, may exist within the local road network. These assets are owned and managed by service authorities, individuals and other statutory bodies.

##### 4.8.1 Utility Assets

Many Utility Agencies utilise a road for their infrastructure. Non-road infrastructure within the road reserve is the responsibility of the person or body that is responsible for the provision, installation, maintenance, or operation of that particular asset.

A listing of typical utility assets found within a road reserve, and the relevant management authority is given below.

| Asset Type                              | Management Responsibility                    |
|-----------------------------------------|----------------------------------------------|
| Street Lights                           | Powercor                                     |
| Telecommunication infrastructure assets | Telstra                                      |
| Gas infrastructure assets               | Tenix Gas                                    |
| Water & Sewerage infrastructure assets  | Barwon Water                                 |
| Electricity infrastructure assets       | Powercor                                     |
| Traffic Signal Installations            | VicRoads                                     |
| Rail Crossings                          | V/Line and Australian Rail Track Corporation |

Assets or services within a municipal public road for which Council is not responsible for include gas pipes, water and sewerage pipes, cables, electricity poles, public telephones, and mail boxes. Any person who has an issue with one of these assets should refer it to the relevant Infrastructure Manager (e.g. external service authority)

## **4.8.2 Rail Crossings**

Within the Colac Otway Shire V/Line and Australian Rail Track Corporation are responsible for installing and maintaining all infrastructure located at rail crossings (e.g. crossing position signs together with other signs, barriers, gates, flashing lights, etc). Railway authorities are also responsible for the roadway immediately adjacent to the railway line (i.e. within 2.1-metres each side of the rail).

Council is responsible for the erection and maintenance of advance warning signs and all pavement markings associated with the approaches to rail crossings on all municipal roads.

Council will continue to maintain and respond to issues identified within the Australian Level Crossing Assessment Model (ALCAM) database as administered by the Department of Transport within its annual budget cycle.

## **4.8.3 Other Assets**

In relation to provision of access from adjoining properties, there are a number of assets within a road reserve for which Council has no obligation to construct or maintain. Assets of these types are described as follows.

### **4.8.3.1 Vehicle Crossings**

The portion of a vehicle crossing (i.e. driveway) located between the carriageway and the property boundary is the responsibility of the adjoining property owner to construct and maintain to Council's minimum specifications.

The property owner is also responsible for maintenance of the immediate surrounds impacted on by the vehicle crossing in a safe condition.

### **4.8.3.2 Nature Strips, Infill Areas and Vegetation**

Nature strips and infill areas are those residual areas between the edge of road or back of kerb and the property boundary not occupied by a footpath or vehicle crossing. These are normally sown to grass and may contain other features such as street trees and utility poles and underground services.

Nature strips are not recognised as a road related asset and are therefore not formally inspected or maintained to a standard defined under Council's Road Management Plan. Consequently, Council may only undertake works on a nature strip where there is an obvious safety or amenity issue either reported as a customer request or identified through programmed inspection activities.

Responsibility for maintenance of the nature strip areas is generally left to the abutting property owner as part of the presentation of their property and general appearance of the local streetscape.

Service authorities have an obligation to reinstate any disturbed nature strip areas to a condition which existed prior to any excavation works in relation to the installation or maintenance of their infrastructure.

Street trees within the road reserve are however managed by Council. An abutting owner has the responsibility to keep a road or footpath clear of vegetation growing from their property. Council may direct the property owner to trim any overhanging branches under provisions of its Local Laws.

#### **4.8.3.3 Property Stormwater Drains**

Property stormwater drains are constructed within the road reserve from the property boundary to a discharge outlet in the kerb, table drain or connected directly to Council's underground drainage system. Property drainage lines directly benefits the property and as such are the responsibility of the owner of the property being served to maintain.

#### **4.8.3.4 Stock Underpasses**

A stock underpass is generally a box culvert type structure constructed for the purpose of providing a safe under road crossing.

A landowner that constructs a stock underpass on a local road must first sign a Section 173 Agreement (*Planning and Environment Act 1987*) with Council that includes requirements for the landowner to maintain the structure. A cattle underpass shall be designed in accordance with all relevant VicRoads Guidelines, Australian Standards, and other applicable design codes.

Council has a responsibility to maintain the road pavement areas, seal markings and guideposts across the stock underpass. Responsibility for the maintenance of the structure, including attachments such as guardrail, stock lanes, fencing and stock underpass drainage remains with the landowner for the duration of the agreement.

Regardless of maintenance obligations, Council has a duty of care to ensure that that these assets are in a condition safe to the general community. There often exists a point of conflict with residents who have an expectation that Council will maintain these assets as they are within the road reserve.

#### **4.8.3.5 Cattle Grids**

A cattle grid is a type of obstacle used to prevent livestock from passing along a road which penetrates the fencing surrounding an enclosed piece of land. Cattle grids generally consist of a depression in the road covered by a transverse grid of bars or rails, normally constructed of metal and firmly fixed to the ground on either side of the depression, such that the gaps between them are wide enough for animals' legs to fall through, but sufficiently narrow not to impede a wheeled vehicle.

The landowner benefiting from the use of a cattle grid is required to enter into a Section 121 Agreement (*Road Management Act 2004*) for the construction, maintenance, repair, and insurance of the cattle grid. This agreement defines the roles and responsibilities of both Council and the landowners for the ongoing management of the cattle grid.

Cattle grids located on municipal roads are to be inspected and maintained in accordance with Council's relevant policy.]

#### **4.8.3.6 Fire Access Roads**

Designated fire access roads throughout the Colac Otway Shire, which are open for traffic under a controlled level of service, however are infrequently used or dry weather access only. Maintenance of these roads is only carried out as directed by Council's Fire Prevention Officer.

Traditionally Council maintains these tracks to a standard that will cater for farm machinery and fire fighting vehicles to travel to and from non-residential properties as and when weather conditions allow.

These types of roads are damaged by inappropriate use by motorists during wet weather periods when conditions do not support the movement of any vehicles.

## 5.0 RISK MANAGEMENT MODEL

### 5.1 Introduction

The purpose of this section is to describe Council's risk management model and the manner in which it will manage risk associated with its road network and associated infrastructure.

It essential to note that it is not possible for Council to address all defects and eliminate all risks through remedial action. Rather, this model provides a basis for identifying and managing risks within the resources available to the community through clear priority setting and an appropriate system of responses.

### 5.2 Objective

Council's objective of road management to ensure that a safe and efficient road network is provided primarily for use by the members of the public and is available for other appropriate uses.

### 5.3 Systems Approach

Council manages risk in relation to roads by performing its road construction and maintenance activities in accordance with this plan.

In ensuring that programmed inspections and work activities are completed pursuant to the standards of Council's Road Management Plan, road users are offered a reasonable level of safety during the use of the local road network.

Council's road management functions are based on policy and operational objectives which consider the resource limitations faced by Council in inspecting, maintaining, and repairing its road infrastructure. Council is able to minimise its risk from litigation resulting from claims of negligence by delivering on the standards specified in the Road Management Plan.

Levels of service for inspections and maintenance activities are specified for each category within Council's road and footpath classification systems. In general terms, higher classification roads and footpaths are inspected more frequently and issues identified are responded to more promptly.

The adopted Colac Otway Shire risk management process is consistent with Australian Standard AS/NZS 4360:2004 – Risk Management which defines risk assessment and management.

The approach taken in developing Council's risk management system for its road network is to:

- Require routine inspections of the road network and associated assets at specified intervals to identify defects,
- Initiate additional inspections, as required, of issues raised by the community or Council employees through Council's corporate customer request system, MERIT,
- Record defects that may result in a potential hazard to the public, or fail to meet Council's adopted Maintenance Performance Targets,
- Assess the potential risk to road users due to defects identified,
- Prioritise maintenance activities based on assessment of risk, taking into account the need to complete work in an efficient and cost effective manner, and the need to preserve the assets condition,
- Prepare appropriate work schedules,
- Undertake scheduled maintenance, and
- Record and document all actions taken at various stages throughout this process.



## 6.0 MANAGEMENT SYSTEMS

### 6.1 Maintenance Management

Maintenance management is a systematic approach to the planning and execution of maintenance activities. This management method delivers the benefits of operational efficiencies and reduced maintenance costs. Council's maintenance management process addresses the following areas:

- Inspection and data collection,
- Condition rating of road infrastructure to support strategic asset management,
- Keeping of proper records,
- Program preparation including proper planning, prioritising and scheduling, and
- Effective execution of maintenance operations

Roads are designed to varying standards and built out of natural processed materials to meet the needs of the community they serve. Like all other structures, they are subject to deterioration.

Ideally, maintenance would ensure that a road functioned as efficiently as when it was first constructed. However, when planning maintenance due regard must be paid to the limitations of the available resources. For this reason, maintenance programs are adjusted to control the rate of deterioration and to ensure the serviceability of the road, or related asset, does not fall below an adopted minimum standard. This is dependent on resources and policy decisions.

In determining the appropriate standards of road maintenance, existing practices, community expectations, use and function of the road, affordability and equity have all been considered. This is because the Colac Otway Shire road network supports a diverse industry including dairying, agriculture, forestry, timber processing, and tourism. These competing uses and operating expectations need to be considered in determining applicable maintenance standards, whilst providing a safe and sustainable road network.

Poor maintenance costs the community. The costs of major rehabilitation and replacement far outweigh the costs associated with continual good maintenance practices. Poor standard roads also incur a cost to road users through increased running and repair costs to vehicles. Safety of road users can also be compromised if the network is not maintained at a satisfactory level.

### 6.2 Maintenance Program

The are two main components of the Council's Maintenance Programs, these are:

- Proactive Routine Maintenance – programmed routine maintenance and repair work, and
- Reactive Maintenance – work carried out to rectify defects that are identified as exceeding 'tolerable levels' or where an emergency response is required.

#### 6.2.1 Strategies for Planning Maintenance Work

A systematically planned approach is undertaken to ensure maintenance is effective. This includes the implementation of a maintenance strategy to key asset types, such as pavements, bridges, drainage, and other road related infrastructure.

For a particular asset type, the maintenance strategy includes the following considerations:

- A sound maintenance policy as a basis for planning all maintenance activity on that asset type,
- Consideration at both the design and constructions phases in order to reduce potential maintenance problems and in-service costs,

- A maintenance management system, including:
  - A current inventory for the asset type in question (e.g. pavements, signs, bridges, etc)
  - A regime of asset inspections to satisfy adopted schedules,
  - An effective asset condition and inspection recording system to produce informed decisions with regard to maintenance requirements, and
  - Maintenance performance criteria for the road network with consideration to community expectations.

### **6.2.2 Maintenance Policies**

Council's maintenance policies for specific asset types are based upon the following principles:

- Road infrastructure assets being maintained to ensure that their whole-of-life performance is maximised, having regard to safety, community benefits, environmental and funding considerations,
- A collaborative approach taken to improve the performance and reduce maintenance costs of Council's road assets through team work by the Infrastructure and Services Units,
- A systematic, efficient and sustainable approach to maintenance management and work practices utilising best practice,
- Regular planned inspections of Council's assets undertaken to identify and monitor their overall condition over time, and
- Accessible information systems implemented for inventory control, condition identification of selected assets, and recording of inspections, service requests and all actions relating to maintenance activities.

### **6.2.3 Prioritising Works**

Maintenance activities are objectively planned in order to achieve cost and operational efficiencies. The works program and schedule is based on seasonal/annual events and routine servicing.

The most effective maintenance is, based on forecasting a need and scheduling the available and proper resources and corrective actions at the appropriate time to achieve best results.

The following factors will be considered in preparing programs and scheduling of maintenance activities:

- Distance of work sites from the base of operations and time and expense to transport personnel, materials and equipment to sites,
- Weather conditions,
- Availability of suitable personnel, materials and equipment to handle intended jobs,
- Size and grouping of each work package and relationship to other works required on that area of the network,
- Response time requirements and defect ranking for prioritising the correction of defects that are either identified through customer requests or routine inspections, and
- Unplanned incidents and other emergencies that generally require immediate action by maintenance staff.

### **6.2.4 Maintenance Records**

Accurate data is collected in order to make reliable judgments in relation to future network maintenance needs which consider funding requirements. Council's maintenance records are computer-based for ease of transfer, communication, and analysis.

The type and frequency of data collected during inspections is a direct reflection of the resources made available for this activity.

- **Inventory Registers** give information on assets such as location and type. Council's inventory registers include the following records, type of asset, dimensions, location, date of construction, and any specific features.
- **Inspection Records** document maintenance activities. Council's Inspection regimes include requirements for the format, scope, and storage of records of inspections against each particular asset.
- **Cost Records** or time cards are regarded also as a type of maintenance record. Time cards are able to detail the date, location and type of remedial work on defects identified by inspection or customer requests. Council's Financial system is able to generate reports to assist in identifying areas of relatively high expenditure.

Keeping current and comprehensive records of inspections and maintenance activities, including accurate location information, is essential for Council to perform its statutory duties as a road authority.

In many cases, litigation can be commenced a number of years after the event which is subject of the claim. It is not possible to predict the timing or location of events that may become the subject of litigation against Council. Council must therefore ensure that records be kept of all maintenance inspections and activities and will be adequately archived for future reference.

### 6.3 Asset Inspections

In order for Council to carry out effective planning and competent management of its road infrastructure, both in a strategic and operational sense, it is essential to collect maintenance-related information through disciplined and regular inspections of the whole of the network.

Council's inspection activities can be grouped into the following categories based on definition and purpose:

- Routine Inspections,
- Request Inspections,
- Incident Inspections, and
- Condition Inspections

#### 6.3.1 Routine Inspections

Inspections undertaken in accordance with the formal inspection schedule to determine if road asset complies with the levels of service as specified by the Maintenance Performance Criteria.

Identified defects are rated against the criteria adopted for routine maintenance works on the asset. These performance criteria indicate the magnitude of the undesirable condition for each defect requiring remedial action.

A record of each street/road is completed detailing the name of the inspector, the inspection date, time, road name/asset description and report of any defects found that are at the 'tolerable' defects level as defined by Council's Maintenance Performance Criteria.

In addition, a notation is recorded of any road/asset inspected where no defect was apparent under the specific rigour of the inspection.

### 6.3.2 Request Inspections

A maintenance request is any request to undertake maintenance on an infrastructure asset. Customers or users of the asset generally make these requests. To provide the highest level of service, Council's objective in relation to maintenance requests is to inspect and prioritise the work requests within the time frames as specified.

Upon record of a request for maintenance or report of a defect received from the public, Council Officers or Councillors, an inspection will be carried by an appropriately experienced Council Officer within **10 working days** of notification, dependant on assessed urgency. As with routine maintenance inspections, any recorded defects beyond the maintenance performance criteria for that particular asset will be prioritised and rectified to satisfy established response times.

Council aims to obtain best value for its maintenance budget within the constraint of the resources made available. Maintenance works delivered under an 'Emergency Response' will inevitably cost more than maintenance delivered under the Routine or Periodic Maintenance Programs.

To ensure that the best value is obtained for the available maintenance dollar, work of the same nature must be grouped in a given area so that work is completed efficiently. Therefore, most maintenance work will be completed on the Routine and Periodic Maintenance Programs. Only true emergency works will be actioned immediately.

The benefit of adopting such a strategy means that for example, over a year, more potholes may be repaired from the limited funds available than if completed on a reactive basis. This provides an improved overall level of service and consequently reduces the risk to the community

If works identified are beyond what is considered maintenance, then the project will be referred to and be considered for inclusion in Council's 3-year Capital Investment Program. Council reviews projects for its Capital Investment Program annually, in conjunction with its budget planning process.

### 6.3.3 Incident Inspections

If a person proposes to commence legal proceedings or wishes to make a claim for damages in relation to an incident arising from the condition of a public road or infrastructure on a public road then the person must give written notice of the incident to Council within 30 days of its occurrence. This notice must provide sufficient information to enable Council to undertake an inspection and prepare a condition report. Details to included, but not limited to, are:

- Nature of, and any defect that may have contributed to the incident,
- Brief description of the location of the incident,
- Date, time and prevailing weather conditions at which the incident occurred, and
- Any other information that may be deemed to be applicable.

Within 14 days of receipt of this notice, an inspection of the road or associated infrastructure specified in the notice will be undertaken by the Asset Inspection Officer or suitably qualified Council Officer. A report will then be prepared detailing the outcomes of this inspection, providing the following:

- A description of the condition of the relevant section of the public road or infrastructure, providing adequate photographic evidence of the site of the incident,
- Reference to Council's Road Management Plan and in particular its construction and maintenance criteria relating to the public road or infrastructure,
- A summary of, or any reference to, any records relating to the condition of the road or infrastructure from inspections and reports, and

- 
- A summary of inspections relating to the condition and maintenance of that part of the public road or infrastructure conducted in the 12 months prior to the incident.

A copy of this report will be filed in Council's Electronic Document System for future reference.

#### **6.3.4 Condition Inspections**

Condition inspections are undertaken specifically to identify deficiencies in the structural integrity of the various components of the road infrastructure that if untreated, are likely to adversely affect network values. The deficiencies may well impact on short-term serviceability as well as the ability of the component to continue to perform at the level of service for the duration of its intended useful life.

The condition inspection process must also meet the requirements for accounting regulations and asset management.

Regular or periodic assessment, measurement and interpretation of the resulting condition data is required so as to determine the need for any preventive or remedial action and is used in the development of relevant programs of rehabilitation or renewal works.

The table below details the type of programmed and reactive inspections undertaken by Council in relation to its road infrastructure assets, the inspection frequency, and the resources utilised for the inspection.

| Asset Class                                                       | Hierarchy         | Inspection Type, Maximum Inspection Interval & Responsibility |                           |                |                           |
|-------------------------------------------------------------------|-------------------|---------------------------------------------------------------|---------------------------|----------------|---------------------------|
|                                                                   |                   | Routine                                                       | Relevant Department       | Condition      | Relevant Department       |
| <b>Urban Road Network</b><br>* Includes sealed and unsealed roads | Urban Link        | Not Applicable                                                |                           | Not Applicable |                           |
|                                                                   | Urban Collector   | 4 months                                                      | Infrastructure & Services | 3 years        | Infrastructure & Services |
|                                                                   | Urban Access      | 6 months                                                      | Infrastructure & Services | 3 years        | Infrastructure & Services |
|                                                                   | Urban Minor       | 2 years                                                       | Infrastructure & Services | 3 years        | Infrastructure & Services |
| <b>Rural Road Network</b><br>* Includes sealed and unsealed roads | Rural Link        | 3 months                                                      | Infrastructure & Services | 3 years        | Infrastructure & Services |
|                                                                   | Rural Collector   | 4 months                                                      | Infrastructure & Services | 3 years        | Infrastructure & Services |
|                                                                   | Rural Access      | 12 months                                                     | Infrastructure & Services | 3 years        | Infrastructure & Services |
|                                                                   | Rural Minor       | 3 years                                                       | Infrastructure & Services | 3 years        | Infrastructure & Services |
| <b>Footpath</b>                                                   | High Use Area     | 6 months                                                      | Infrastructure & Services | 2 years        | Infrastructure & Services |
|                                                                   | Standard Use Area | 12 months                                                     | Infrastructure & Services | 2 years        | Infrastructure & Services |
|                                                                   | Low Use Area      | Request Inspection                                            | Infrastructure & Services | No Inspection  | Not Applicable            |
|                                                                   | Shared Pathways   | 6 months                                                      | Infrastructure & Services | 2 years        | Infrastructure & Services |

| Asset Class               | Hierarchy                              | Inspection Type, Maximum Inspection Interval & Responsibility |                           |                                                              |                           |
|---------------------------|----------------------------------------|---------------------------------------------------------------|---------------------------|--------------------------------------------------------------|---------------------------|
|                           |                                        | Routine                                                       | Relevant Department       | Condition                                                    | Relevant Department       |
| <b>Kerb &amp; Channel</b> | All Road Categories (where applicable) | 12 months                                                     | Infrastructure & Services | 3 years                                                      | Infrastructure & Services |
| <b>Bridges</b>            | All Road Categories                    | Level 1 Inspection (Basic visual inspection)<br>12 months     | Infrastructure & Services | Level 2 Inspection (Detailed condition inspection)<br>3years | Infrastructure & Services |
| <b>Road Furniture</b>     | Guard Rail                             | 12 months                                                     | Infrastructure & Services | 3 years                                                      | Infrastructure & Services |
|                           | Bus Shelters                           | 12 months                                                     |                           |                                                              |                           |
|                           | Traffic Management Devices             | 2 years                                                       |                           |                                                              |                           |
|                           | Signs & Other Furniture                | As per frequency for road category                            |                           |                                                              |                           |
| <b>Vegetation</b>         | Roadside Vegetation                    | As per frequency for road category                            | Infrastructure & Services | No Inspection                                                | Not Applicable            |
|                           | Urban Vegetation                       | As per frequency for footpath category                        | Infrastructure & Services | 3 years                                                      | Infrastructure & Services |
| <b>Parking Areas</b>      | All Off Street Car Parks               | 12 months                                                     | Infrastructure & Services | 3 years                                                      | Infrastructure & Services |
|                           | On-street Parking Areas                | 12 months                                                     | Infrastructure & Services | 3 Years                                                      | Infrastructure & Services |
| <b>Rail Crossings*</b>    | All Road Categories                    | 3 Months                                                      | Infrastructure & Services | 2 years                                                      | Infrastructure & Services |

**Note\*** - Relates only to the inspection of advance warning signs and all pavement markings associated with the approaches to rail crossings located on all municipal roads.

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## 6.4 Customer Request System Description

Requests for maintenance of Council's engineering infrastructure assets are recorded on Council's Corporate Customer Request System, MERIT. These requests are generally made by the public, Councilors and Council staff. Each request will be inspected to meet the established response time as detailed for that asset class.

The MERIT system records each action associated with a particular maintenance request and is able to show its history through to completion. The costs, location, date and nature of the work completed by the Maintenance Department is recorded in Council's Job Card System.

The Customer Request System described above is able to provide management with measures of effectiveness by giving valuable data on the workload and the level of service being achieved in a given time period. MERIT provides the ability to report on:

- Time taken to complete inspection,
- Priority allocation made at inspection,
- An indication of the number of requests received for a particular locality,
- Number of requests complete,
- Average number of days to completion,
- Requests for each maintenance activity, and
- Responsiveness



## 7.0 LEVELS OF SERVICE

The foundation of the Road Management Plan includes setting of appropriate and reasonable standards as they relate to maintenance and construction of road assets.

Council has established maintenance and construction performance criteria that are equitable, sustainable and reflect the requirements for management of its road assets.

The defined levels of service have regard to:

- Community needs and aspirations,
- Industry standards,
- The need to provide a safe and efficient road network, and
- The Council's and its community's ability to fund such standards.

The implementation of an equitable road classification system also enables the community to readily identify the road system and have clear expectations as to the standard of construction and maintenance of the road system.

### 7.1 Community Consultation

An important objective of this Plan is to match the level of service provided by Council's road infrastructure with the expectations of its community given financial, technical and legislative constraints

#### 7.1.1 Best Value Consultation

During 2003, Council completed a Best Value Review of the delivery of road services in accordance with the requirements of the *Local Government Act 1989*. Direct inputs from the community have been included in the preparation of the Road Management Plan and the development of the defined levels of service for Council's road network.

#### 7.1.2 Future Consultation

Council, as a continued improvement process, will measure and review both its capacity to deliver road services and actual performance of its road network against a number of key outcome areas. These are:

- Annual Community Satisfaction Survey Outcomes (Council Plan – Performance Indicators),
- Quarterly Customer Surveys,
- Levels of expenditure and funding gaps,
- Analysis of Customer requests and responses (MERIT), and
- Ongoing development of Council Policies

Community input into service delivery needs to be considered against its willingness to fund a desired level of service. It is also important that any decision to adopt any changes to the defined maintenance and construction performance criteria is in the best interest of the overall community.

The defined levels of service have in built performance measures that apply to the maintenance and construction performance criteria and response levels. These aspects will be monitored on an on-going basis and will be reviewed when required.

### 7.2 Maintenance Performance Criteria

The proposed maintenance standard is recommended to be generally the same across the network, whether the road is in the rural or urban area or its classification. The actual

maintenance effort required is directly effected by the amount of traffic using a particular road, the type of pavement and materials used together with its location.

A defect refers to the visible evidence of an undesirable condition in the road infrastructure asset. A defect may affect the safety, serviceability, structural capacity or appearance of the asset.

Council's maintenance performance criteria indicate the magnitude of the undesirable condition for each defect requiring maintenance work to be initiated. Standards relating to road network performance and Council's response upon notification of identification are specified in Appendix A – Maintenance Performance Criteria and Response.

Council, as part of its overall objective of establishing clear and equitable policies for its community, has determined to review the functions and purpose of its entire local road network.

### **7.3 Construction Performance Criteria**

An integral part, in the establishment of the road classification model, is the inter-relationship with various physical and social factors, assessment of risk and applying industry benchmarks in a practical manner.

Topography, extent of vegetation, soil conditions, traffic volumes and type, practical width of roads, availability of suitable material, accident records, horizontal and vertical alignment, property access and what can practically be achieved at specific locations are all important factors that must be taken into consideration for road construction standards. Each road classification and in particular the sub-function, is directly related to (AADT) Annual Average Daily Traffic. The type of vehicles and axle loading on a pavement are considered as a separate exercise when designing the pavement. Depth and type of materials to be used will vary depending on whether heavy transport or light vehicles etc uses the road.

In assessing the requirements of the future road network, the Council needs to determine which roads it wishes to be used for the various functions. Undertaking an overall Traffic Management exercise is paramount, as this will provide the means to restrict or increase the traffic volumes to meet the designated road classification. Road standards need to match actual or proposed usage to ensure the limited funds available are expended in the most effective, efficient and equitable manner. Until this is undertaken the adopted Road Hierarchy will be utilised.

Council's construction standard models have been developed to identify the various standards necessary to accommodate the Urban and Rural road network. The model takes into consideration the extensive work previously undertaken by the various professional and industry bodies such as:

- Victorian Code for Residential Development 1992
- Rural Roads Design – Austroads 1989
- Pavement Design – Austroads 1992
- VicRoads Road Design Guidelines
- VicRoads Road Design Manual
- VicRoads Traffic Engineering Manual Vol 1 – Traffic Management 1997
- VicRoads Traffic Engineering Manual Vol 2 – Signs and Markings
- Existing Council standards

In considering any model, differing circumstances will determine the final road standard. For instance, a minimum standard has been developed for all roads in the network identified as being a transport route to provide for an increased dimensional capacity. School bus routes and Industrial roads

In instances where property owners and/or road users require a higher standard than

designated, and are prepared to meet the costs of this increased standard of construction, Council may be prepared to consider constructing the road at that standard.

Detailed standard drawings for each classification and standard are provided within Councils Road Asset Management Plan. Minimum widths are provided for in extenuating circumstances where the desired standard cannot be achieved. This may be due to a number of factors such as the non-availability of practical road reserve width, as occurs in steep terrain such as that exists in the Coastal areas of the municipality.

It is recognised that Rural and Urban areas have vastly different requirements. This is due to the nature, speed and volumes of vehicles, the density of development, distances to facilities etc. Road usage is also different with far greater intensity of pedestrian and bicycle movements on urban roads.

The implementation of consistent, practical and achievable standards, which provide for the safe passage of vehicles and pedestrians, is paramount. However, whereas minimum standards have been developed there may be special circumstances, which do not allow these standards to be achieved. In these instances attention to appropriate signage of roads particularly with roads of minimal standard is required.

#### **7.4 Exceptional Circumstances**

Council, under a normal operating environment, will make every endeavour to deliver all aspects of its Road Management Plan.

However, in the event of natural disasters and other events including, but not limited to, fires, floods, droughts or similar, together with human factors, such as a lack of Council staff or suitably qualified Contractors, because of Section 83 of the *Victorian Wrongs Act 1958*, as amended, Council reserves the right to suspend compliance with its Road Management Plan.

In the event that the CEO of Council, has to, pursuant to Section 83 of the above Act, consider the limited financial resources of Council and its other conflicting priorities, meaning the standards Council's Plan cannot be met, the General Manager Infrastructure and Services will be advised in writing that some, or all, of the services delivered under the Plan are to be suspended until further notice.

Once the events beyond the control of Council have abated, or if the events have partly abated, Council's CEO will provide direction to the General Manager Infrastructure and Services as to which aspects of Council's Plan are to be reactivated and when.

## 8.0 COORDINATION OF WORKS

The primary purpose of public highway is for use by the public for transport. The provision of utility infrastructure is to be managed in such a way so as to minimise, as far as reasonably practicable, interference with a road primary purpose. In particular:

- Ensure that risks to the safety and property of road users and the public are minimised,
- Minimise any damage to roads and related infrastructure,
- Minimise disruption to road users, and
- Require that roads and related infrastructure be reinstated by utility and service providers to a condition as near as practicable to their prior condition.

### 8.1 Road Openings

All works carried out within the road reserve, including those by service authorities, are recorded on Council's Road Openings Register.

For private individuals, upon completion of a Non Utility Minor Works within Municipal Road Reserves Application Form and payment of the appropriate fee, Council's consent to works is generally issued.

Council's consent to works allows contractors to perform civil works in a road reserve or make a connection to a drain, water main, gas, sewer or telecommunications service, or construct a vehicle crossing.

The issue of consent signifies to Council that the proponent undertakes to comply with the relevant conditions of Council's general conditions of consent. These conditions also relate to all temporary and permanent reinstatement works.

Council Officers inspect the works after four weeks from the date of proposed opening to ensure that reinstatement works have been completed adequately and that the area of works has not exceeded that as indicated on the application for consent.

Council requires that road crossings be bored rather than opened trenched unless consent is granted.

### 8.2 Service Authorities

Service Authorities are required under the relevant legislation to provide Council with prior notification of planned works before commencement.

Council may make comment, in writing, regarding the impact of the proposed works on native vegetation, Council assets, safety and location. For Service Authorities, no Road Opening Permit is required for works; however a consent notice is issued providing Council with a record of the works.

Where Council is not satisfied with some aspects of the proposal outlined in the notice, it may provide consent to the works proceeding, subject to the utility/service provider complying with certain conditions. These conditions may involve:

- Management of traffic,
- Timing of works to minimise disruption to road users, and
- Timing of reinstatement, etc

In such cases Council will provide written advice to the utility/service provider that it consents to the proposed works subject to certain conditions.

## 9.0 PLAN IMPROVEMENT & MONITORING

The Act requires that Council's Road Management Plan be formally reviewed at prescribed intervals. However, it is proposed that Council review its Plan more frequently as part of the continuous improvement process being applied to this new road management system.

The Plan improvement and monitoring process is proposed as follows.

### 9.1 Internal Monitoring

The processes that are to be audited internally per annum are as follows:

- Collection and storage of condition information,
- Recording of complaints/requests in an appropriate database in the manner required,
- Each complaint/request is inspected and/or assessed in relation to safety & specified maintenance intervention levels,
- That programmed inspections are carried out as scheduled,
- Relevant inspection reporting & recording mechanisms are in place,
- That reported defects are being properly recorded in the system,
- Where required, appropriate rectification responses are determined and works orders issued,
- Where customer requests require scheduling of works onto annual maintenance programs or capital works programs, that the required listing takes place,
- Record of maintenance activities is made in the database against the asset, including actual date of completion,
- Record that maintenance works have been delivered as intended (i.e. someone has signed off on the satisfactory completion of the work),
- Procedure is in place for collecting and storing information regarding road asset condition for developing future maintenance programs,
- Management system in place to record and respond to customer enquiries, and
- Asset handover/update process is being managed as required.

The outcome of the internal audit is to be reported to the General Manager, Infrastructure & Services

### 9.2 Annual Performance Review

It is intended that this Plan will be updated on an annual basis in line with changes to the budget and results of predictive modelling of elements of Council's road infrastructure assets.

Council shall ensure that there is ongoing review of its asset management practices to ensure continued suitability and effectiveness having regard to:

- Asset performance following delivery of maintenance and construction programs,
- The level of achievement of Council's asset management strategies, and
- The consideration of any external factors, including legislative requirements, ongoing development of Council Policies and other major system implementations, that may effect the contents of this Plan.

The review will include, but not limited to:

- Audit and review of maintenance response times (to confirm whether maintenance works were delivered on time),
- Review of inspection frequencies (to ensure appropriateness),
- Review of levels of service (to ensure appropriateness),
- Review of road classifications (to ensure appropriateness),
- Review of customer feedback/contact, and

- Random audit of maintenance works (to confirm whether maintenance works were delivered to the specified quality).

**9.2.1 Performance Measures**

The following performance measures have been adopted to provide an indication of the levels of service meet community requirements in terms of satisfaction of delivery.

| Performance Measure                                                                              | Target            |
|--------------------------------------------------------------------------------------------------|-------------------|
| Routine inspections completed as per schedule                                                    | 100% as specified |
| Response times for remedial work as assessed against Council's Maintenance Performance Criteria* | 85% as specified  |

\*Note – Includes provision of appropriate warning of an identified hazard

**9.3 Periodic Review**

The Road Management Plan is a dynamic document and is subject to continuous improvement based on:

- The Council's 'Best Value' Review program,
- Changing legislative and government policy requirements,
- Economic, social and environmental impacts,
- Changing traffic patterns and community expectations,
- New road assets being continually acquired through subdivision of land,
- Updated assessments of the condition of road assets, and
- Updated predictive modelling of the funding requirements of road assets.

Should the need arise to update the Plan due to changing circumstances then this will be carried out at the relevant time.

**9.4 Road Management Plan Amendment**

To ensure the effective development and implementation of this plan all reviews will be undertaken in accordance with Part 3 of the *Road Management (General) Regulations 2005*.

Subject to the results of any review all amendments required to be made to the Plan will be undertaken pursuant to Section 54 of the *Road Management Act 2004*.

Records of all reviews and plan amendments will be maintained.

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## 10. REFERENCES

Draft Colac Otway Shire Council Plan 2009 – 2013

Asset Management Policy

Strategic Asset Management Plan 2006 – 2008

Risk Management Policy

Road Management Review (Policy 13.6)

Strategic Resource Plan (2007/08 – 2010/11)

Road Asset Management Plan

Bridge Asset Management Plan

# Appendix A

## Maintenance Performance Criteria & Response



## Defects Response Codes

| Response Code | Target Response Time                                                                                                                                                                                                            | Action, Response & Control                                     |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 2D            | Within <b>2 working days</b> of defect identification via inspection or notification                                                                                                                                            | Inspect and rectify defect within defined target response time |
| 1W            | Within <b>1 week</b> of defect identification via inspection or notification                                                                                                                                                    | Inspect and rectify defect within defined target response time |
| 2W            | Within <b>2 weeks</b> of defect identification via inspection or notification                                                                                                                                                   | Inspect and rectify defect within defined target response time |
| 3W            | Within <b>3 weeks</b> of defect identification via inspection or notification                                                                                                                                                   | Inspect and rectify defect within defined target response time |
| 1M            | Within <b>1 month</b> of defect identification via inspection or notification                                                                                                                                                   | Inspect and rectify defect within defined target response time |
| 2M            | Within <b>2 months</b> of defect identification via inspection or notification                                                                                                                                                  | Inspect and rectify defect within defined target response time |
| 3M            | Within <b>3 months</b> of defect identification via inspection or notification                                                                                                                                                  | Inspect and rectify defect within defined target response time |
| PW            | Programmed Works - Long term maintenance works program (3-5 years) developed on a priority basis having regard to available resources and annual budget limitations.                                                            |                                                                |
| N/A           | Not Applicable                                                                                                                                                                                                                  |                                                                |
| *             | Appropriate response within <b>1 working day</b> if defect is assessed as exposing the travelling public to a high level of risk exposure. Inspect, rectify defect if practicable, or provide appropriate warning. <sup>#</sup> |                                                                |

**# Note** – Where, because of the nature of the repair, availability of resources required or existing workload, it is not possible to rectify a defect within its prescribed response time, appropriate warning of the hazard is to be provided until necessary repairs can be completed.

An appropriate warning may include, but is not limited to –

- Provision of warning signage,
- Traffic control action,
- Diversion of traffic around the site,
- Lane closure,
- Restriction of use of road by vehicles of a certain size (eg. Load limit), or
- Temporary Road Closure.

An intermediate response of this type is to manage any risk associated with a particular defect until further remedial action may be undertaken.

## MAINTENANCE PERFORMANCE CRITERIA

| ACTIVITY                          | DEFINITION / DESCRIPTION                                                                                                                                                                                                                    | LEVEL OF SERVICE                                                                                                                                                                                                       | TARGET RESPONSE TIMES |           |        |       |           |        |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                                   |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                        | Urban                 |           |        | Rural |           |        |
|                                   |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                        | Link                  | Collector | Access | Link  | Collector | Access |
| <b>SEALED ROADWAY MAINTENANCE</b> |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                        |                       |           |        |       |           |        |
| <b>Minor Patching</b>             |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                        |                       |           |        |       |           |        |
| Potholes                          | Surface patching of potholes in travelled way using bituminous and other appropriate materials to restore riding surface to a smooth condition.                                                                                             | Repair when pothole exceeds 50mm in depth and/or 300mm in diameter or likely to deteriorate rapidly                                                                                                                    | 2W*                   | 3W*       | 1M*    | 2W*   | 3W*       | 1M*    |
| Seal Edge Breaks                  | Repair of fretting along edge of seal to maintain correct overall pavement width.                                                                                                                                                           | Repair when edge break exceeds 100mm from the average existing seal width, or when drop off of pavement exceeds 75mm measured over a 20m length.                                                                       | 2W*                   | 3W*       | 1M*    | 2W*   | 3W*       | 1M*    |
| Stripped Seals                    | Loss of aggregate from a seal which can become sticky in hot weather and slippery when wet or frosty.                                                                                                                                       | Emergency treatment where wearing course becomes hazardous to traffic, particularly on horizontal curves or approaches to intersections, or not waterproof. Other areas to be considered within annual reseal program. | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| Bleeding Surface                  | Surfaces resulting from too much bitumen on the surface, which becomes 'sticky' in hot weather, and often slippery in wet or frosty weather.                                                                                                |                                                                                                                                                                                                                        | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| Slick Surfaces                    | Slick, fatty or smooth surfaces resulting from loss of aggregate or the wearing down of the aggregate with age, accompanied by an upward movement of bitumen to form a hard, smooth surface with little grip to motor tyres in wet weather. |                                                                                                                                                                                                                        | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |



| ACTIVITY                               | DEFINITION / DESCRIPTION                                                                                                                                                                              | LEVEL OF SERVICE                                                                                                                                                                                                                                                                 | TARGET RESPONSE TIMES |           |        |       |           |        |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                                        |                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                  | Urban                 |           |        | Rural |           |        |
|                                        |                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                  | Link                  | Collector | Access | Link  | Collector | Access |
| Surface Waving or Shoving              | Surface waving or shoving is caused by traffic shoving on unstable bitumen mixtures, resulting in shallow waves and hollows. Surface patching and regulation of adjacent surface irregularities <5sqm | Regulate if rutting depression holds water or exceeds 75mm in 60 km/h speed zones and 75mm in open speed zones under a 3m straight edge longitudinally.                                                                                                                          | 2W*                   | 3W*       | 1M*    | 2W*   | 3W*       | 1M*    |
| Deformation or Heaving and Depressions | Depressions in the traffic lanes, with bulging of the surface outside the wheel tracks. Surface patching and regulation of adjacent surface irregularities <5sqm                                      | Regulate if depression holds water or mounding exceeds 75mm in 60 km/h speed zones and 75mm in open speed zones under a 3m straight edge longitudinally.                                                                                                                         | 2W*                   | 3W*       | 1M*    | 2W*   | 3W*       | 1M*    |
| <b>Mechanical Pavement Cleaning</b>    | Suction sweeping/cleaning of pavement surface including; intersections, kerb & channel, etc                                                                                                           | When accumulation of aggregate*, dirt, or debris at critical locations<br><br>*Note – Removal of access resealing aggregate or excess asphalt after spraying/laying is the responsibility of the relevant contractor under direction of the Infrastructure & Services Department | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Manual/Mechanical Sweeping</b>      | Cleaning of pavement at intersections                                                                                                                                                                 | When accumulation of crushed rock, dirt, or debris at critical locations                                                                                                                                                                                                         | 1W*                   | 2W*       | 2W*    | 1W*   | 2W*       | 2W*    |

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| ACTIVITY              | DEFINITION / DESCRIPTION                                                                                                                                   | LEVEL OF SERVICE                                                                                                                                                                                                                                                  | TARGET RESPONSE TIMES |           |        |       |           |        |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                       |                                                                                                                                                            |                                                                                                                                                                                                                                                                   | Urban                 |           |        | Rural |           |        |
|                       |                                                                                                                                                            |                                                                                                                                                                                                                                                                   | Link                  | Collector | Access | Link  | Collector | Access |
| <b>Major Patching</b> | Treatment of failed pavement over large areas requiring excavation of pavement and/or subgrade with plant and specialised repair procedures and materials. | When a failed area presents a hazard to the public, the sealed surface no longer holds, extensive shoving has occurred and road surface drainage is no longer effective. Repair when treatments have failed to solve problem or other treatment is inappropriate. | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Resealing</b>      | The rejuvenation of a sealed surface through the fresh application of bitumen and aggregate or asphalt overlay.                                            | Programmed basis only on a projected cycle of 12 years, or based on visual inspection, subject to budget approval.                                                                                                                                                | PW                    | PW        | PW     | PW    | PW        | PW     |



| ACTIVITY                    | DEFINITION / DESCRIPTION                                                                                                                                                                                                                                              | LEVEL OF SERVICE                                                                                                                                                                                                                                                                 | TARGET RESPONSE TIMES |           |        |       |           |        |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                             |                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                  | Urban                 |           |        | Rural |           |        |
|                             |                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                  | Link                  | Collector | Access | Link  | Collector | Access |
| <b>SHOULDER MAINTENANCE</b> |                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                  |                       |           |        |       |           |        |
| <b>Shoulder Grading</b>     | The regular grader maintenance of unsealed shoulders in accordance with the appropriate intervention levels, including spot gravelling to avoid pavement drop off, reworking existing materials to remove shoulder surface irregularities and maintain shoulder shape | Shoulders, potholed, rutted, holding water, pavement unsupported, drop from pavement > 100mm measured over a 20m length *Note - Grading of unsealed shoulders will only take place when moisture content of materials is sufficient to maintain cohesiveness of soil aggregates. | 2W*                   | 3W*       | 1M*    | 2W*   | 3W*       | 1M*    |
| <b>Resheeting Shoulders</b> | The application of gravel or other approved imported material strengthening and reshaping unsealed shoulders                                                                                                                                                          | Insufficient shoulder material to maintain shoulder at pavement levels, over 40% of road length.                                                                                                                                                                                 | PW                    | PW        | PW     | PW    | PW        | PW     |



| ACTIVITY                            | DEFINITION / DESCRIPTION                                                                                                                                                   | LEVEL OF SERVICE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | TARGET RESPONSE TIMES            |           |            |            |            |            |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------|------------|------------|------------|------------|
|                                     |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Urban                            |           |            | Rural      |            |            |
|                                     |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Link                             | Collector | Access     | Link       | Collector  | Access     |
| <b>UNSEALED ROADWAY MAINTENANCE</b> |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                  |           |            |            |            |            |
| <b>Potholing</b>                    | The application of gravel or appropriate material to potholes exceeding 300mm in diameter and 75mm in depth where moisture content is too high for regular grading         | Repair when pothole exceeds 75mm in depth and/or 300mm in diameter or likely to deteriorate rapidly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | N/A                              | N/A       | 2W*        | 2W*        | 3W*        | 1M*        |
| <b>Grading Roads</b>                | Treatment to reduce corrugations, potholes, and rutting to maintain shape and crossfall of unsealed roadways and road shoulders and restore trafficable surface condition. | <p>Grading unsealed roads may be conducted on a regular basis, however roads that are in a good trafficable condition will be excluded from the grading cycle. The frequency of programmed road grading is based upon the road classification within the adopted road hierarchy.</p> <p>Road grading is generally not conducted in response to customer requests but may be initiated in response to emergency situations or under circumstances which present an unacceptable risk to road users.</p> <p>Road surface, scoured, potholed, rutted, corrugated to depth of 75mm over 30% of any 1km length of road. Treatment may include spot gravelling with appropriate materials.</p> <p><b>*Note</b> - Grading of unsealed roads will only take place when moisture content of pavement materials is sufficient to maintain cohesiveness of soil aggregates.</p> | <b>Average Grading Frequency</b> |           |            |            |            |            |
|                                     |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N/A                              | N/A       | 2 per year | 3 per year | 2 per year | 2 per year |

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| ACTIVITY                    | DEFINITION / DESCRIPTION                                                                                                                                                                                                                                                        | LEVEL OF SERVICE                                                                                                | TARGET RESPONSE TIMES |           |        |       |           |        |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                             |                                                                                                                                                                                                                                                                                 |                                                                                                                 | Urban                 |           |        | Rural |           |        |
|                             |                                                                                                                                                                                                                                                                                 |                                                                                                                 | Link                  | Collector | Access | Link  | Collector | Access |
| <b>Emergency Resheeting</b> | The application of gravel or crushed rock to the wearing surface to strengthen and reshape the surface. Includes cleaning and reshaping of table drains.                                                                                                                        | Emergency treatment where road subgrade is exposed creating soft or slippery areas creating a hazard to traffic | N/A                   | N/A       | 2W*    | 2W*   | 3W*       | 1M*    |
| <b>Resheeting</b>           | The application of gravel or other approved imported material to the pavement strengthening and reshaping pavement while maintaining all weather trafficable road conditions. Approved materials will include but are not limited to soil aggregates, scoria and quarry rubble. | Road subgrade is exposed over 25% of section length or resheeting requirement is assessed by visual inspection. | N/A                   | N/A       | PW     | PW    | PW        | PW     |



| ACTIVITY                                                                                                                              | DEFINITION / DESCRIPTION                                                                                                                                                   | LEVEL OF SERVICE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | TARGET RESPONSE TIMES |           |        |       |           |        |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                                                                                                                                       |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Urban                 |           |        | Rural |           |        |
|                                                                                                                                       |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Link                  | Collector | Access | Link  | Collector | Access |
| <b>ROAD FURNITURE</b>                                                                                                                 |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |           |        |       |           |        |
| <b>Signs – Statutory Signs</b>                                                                                                        | The minor repair, re-erection, straightening, and cleaning of signs and sole purpose supports.                                                                             | <ul style="list-style-type: none"> <li>▪ Straighten sign support when it becomes noticeable that it is not vertical.</li> <li>▪ Replace when damage renders either the sign or support ineffective.</li> <li>▪ Clean/ replace the sign face when:                             <ul style="list-style-type: none"> <li>- There is a noticeable accumulation of dirt.</li> <li>- Graffiti covers more than 10% of sign or message on sign is defaced</li> </ul> </li> <li>▪ Replace missing or if incorrect sign is in place.</li> <li>▪ Replace if sign is illegible at 150m under low beam or in daylight</li> </ul> | 1W                    | 1W        | 1W     | 1W    | 1W        | 1W     |
| <b>Signs – Guide, Warning &amp; Information</b> (excluding rail crossing signs)                                                       |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3M                    | 3M        | 3M     | 3M    | 3M        | 3M     |
| <b>Signs – Rail Crossing Warning Signs</b> (includes only those signs on the approach to a crossing for which Council is responsible) |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1M                    | 1M        | 1M     | 1M    | 1M        | 1M     |
| <b>Guard Rail</b>                                                                                                                     | The re-alignment, repair and replacement of isolated guardrail sections less than 10m in length, posts and hardware that is defective. Includes the cleaning of guardrail. | Replace damaged guard rail sections, end terminals and support posts, subject to the availability of materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1M*                   | 2M*       | 2M*    | 1M*   | 2M*       | 2M*    |



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| ACTIVITY                                                            | DEFINITION / DESCRIPTION                                                                                                     | LEVEL OF SERVICE                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | TARGET RESPONSE TIMES |           |        |       |           |        |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                                                                     |                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Urban                 |           |        | Rural |           |        |
|                                                                     |                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Link                  | Collector | Access | Link  | Collector | Access |
| <b>Guide Posts / Delineators</b>                                    | Reinstatement, repair, cleaning of guide posts and delineators to ensure safe and acceptable condition.                      | Any missing or damaged guide posts (where existing) making them substantially ineffective in a hazardous location for the travelling public                                                                                                                                                                                                                                                                                                                                          | N/A                   | N/A       | N/A    | 2W    | 3W        | 1M     |
| <b>Guide Post Installation Program</b>                              | Prioritised installation of new guide posts and delineators along road lengths to improve delineation.                       | Annual installation program subject to budget allocations                                                                                                                                                                                                                                                                                                                                                                                                                            | PW                    | PW        | PW     | PW    | PW        | PW     |
| <b>All Street Furniture e.g. Seating, Bollards, Bike Racks, etc</b> | Covers reinstatement, repair, cleaning, and painting of street furniture to ensure aesthetic, safe and acceptable condition. | <p>Provide emergency repairs or response depending on the extent of the damage when:</p> <ul style="list-style-type: none"> <li>- Asset becomes non-functional or becomes a hazard to the public</li> <li>- Not fixed correctly to the ground or relevant support</li> <li>- Does not conform to Council's or manufacturer's specification and / or becomes unattractive in appearance</li> </ul> <p>Replacement of infrastructure considered as part of Annual Renewal Program.</p> | PW*                   | PW*       | PW*    | N/A   | N/A       | N/A    |
| <b>Bus Shelters</b>                                                 | Reinstatement, repair, cleaning and painting of shelters, associated infrastructure and surrounds to ensure safe condition.  | Bus shelters, infrastructure and surrounds kept serviceable, safe, neat and tidy in appearance.                                                                                                                                                                                                                                                                                                                                                                                      | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |

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| ACTIVITY                 | DEFINITION / DESCRIPTION                                                                              | LEVEL OF SERVICE                                                                                                     | TARGET RESPONSE TIMES |           |        |       |           |        |
|--------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                          |                                                                                                       |                                                                                                                      | Urban                 |           |        | Rural |           |        |
|                          |                                                                                                       |                                                                                                                      | Link                  | Collector | Access | Link  | Collector | Access |
| <b>Pavement Markings</b> |                                                                                                       |                                                                                                                      |                       |           |        |       |           |        |
| Centre Line              | Defined as remarking of all illegible/defective road marked symbols, signs, line work where existing. | When markings lack definition, loss of reflectivity and/or legibility at safe sight distances at critical locations. | 3 Year Program        |           |        |       |           |        |
| STAT Cons                |                                                                                                       |                                                                                                                      | PW                    | PW        | PW     | PW    | PW        | PW     |
| School Crossings         |                                                                                                       |                                                                                                                      | PW                    | PW        | PW     | PW    | PW        | PW     |
| Railway Crossings        |                                                                                                       | PW                                                                                                                   | PW                    | PW        | PW     | PW    | PW        |        |
| Parking Bays             |                                                                                                       | Reinstate line marking to ensure effective visibility.                                                               | 2 Year Program        |           |        |       |           |        |
| Bicycle Lanes            |                                                                                                       |                                                                                                                      | 3 Year Program        |           |        |       |           |        |



| ACTIVITY                                      | DEFINITION / DESCRIPTION                                                                                                                                                                            | LEVEL OF SERVICE                                                                                                                                                                                                                                                            | TARGET RESPONSE TIMES |           |        |       |           |        |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                                               |                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                             | Urban                 |           |        | Rural |           |        |
|                                               |                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                             | Link                  | Collector | Access | Link  | Collector | Access |
| <b>VEGETATION MAINTENANCE</b>                 |                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                             |                       |           |        |       |           |        |
| <b>Line Clearance</b>                         | Prune street trees to provide adequate clearance around overhead cables. (This activity includes pruning within Arterial and Municipal Road Reserves, and Nature Strips).                           | Line Clearance in accordance with Code of Practice for Electrical Line Clearance (Vegetation) 1999.                                                                                                                                                                         | PW                    | PW        | PW     | N/A   | N/A       | N/A    |
| <b>Tree &amp; Shrub Obstruction - Roadway</b> | The cyclic maintenance of trees and shrubs in road reserves not in urban areas, control provides for fuel reduction as part of annual fire prevention program.                                      | Prune road side trees to comply with the following clearance limits:<br>- Height Clearance: min. 5.0m above carriageway<br>- Lateral Clearance: min. 1.0m from guide posts, back of shoulder, or kerb<br>- Maintenance of safe sight distances at intersections and curves. | PW                    | PW        | PW     | PW    | PW        | PW     |
| <b>Tree &amp; Shrub Obstruction - Other</b>   | Prune trees and/or shrubs to provide for long term desired height, lateral and sight clearances.                                                                                                    | Tree obstructing safe sight distances, restricts viewing of warning signage, or assessed to be in an unsafe condition causing hazard to traffic or public.                                                                                                                  | 2W                    | 1M        | 2M     | 1M    | 2M        | 3M     |
| <b>Vegetation Control</b>                     | The control of vegetation growth, predominantly grass growth not including tree maintenance, in municipal road reserves. Control also provides for fuel reduction.                                  | Areas where grass height restricts design sight distance to intersections, or obstructs viewing of warning signage, guideposts, etc                                                                                                                                         | N/A                   | 1M        | 1M     | PW    | PW        | PW     |
| <b>Fuel Reduction (Fire Management)</b>       | Slashing carried out to reduce fire fuel loads and manage potential fire hazards on strategic network roads. CFA and Roadside Fire Management Guidelines set the selection and areas on these roads | Slashing or roadside areas as included within annual fire prevention program.                                                                                                                                                                                               | N/A                   | N/A       | N/A    | PW    | PW        | PW     |

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| ACTIVITY                                            | DEFINITION / DESCRIPTION                                                                                                                        | LEVEL OF SERVICE                                                                                                                                                       | TARGET RESPONSE TIMES |           |        |       |           |        |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                                                     |                                                                                                                                                 |                                                                                                                                                                        | Urban                 |           |        | Rural |           |        |
|                                                     |                                                                                                                                                 |                                                                                                                                                                        | Link                  | Collector | Access | Link  | Collector | Access |
| <b>BRIDGE AND STRUCTURES MAINTENANCE</b>            |                                                                                                                                                 |                                                                                                                                                                        |                       |           |        |       |           |        |
| <b>Routine Maintenance – Deck Cleaning</b>          | Cleaning and clearing of deck, expansion joints, drainage scuppers, etc.                                                                        | Clear and clean when any accumulation of material causes interruption to the escape of drainage water or the operation of expansion joints.                            | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Routine Maintenance – Substructure Clearance</b> | Cleaning and clearing of dirt and debris from superstructure and substructure, and vegetation from in and around bridge.                        | Clear and clean when stream flows are obstructed at structure.                                                                                                         | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Minor Repair / Painting</b>                      | Minor repair and minor painting, including repair of spalled posts and parapets. Includes repair, tightening and painting of railing.           | Undertake minor repair or replacement, painting, etc to ensure safe and effective condition of bridge components.                                                      | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Running Deck Repair</b>                          | Treatment of timber running planks rotted at the ends or edges, severely split and/or cracked through significantly loose or highly weathered.  | Repair deck when timber running planks very loose, defective or missing to ensure safe running surface. Includes retightening of coach screws or re-driving of spikes. | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Major Repairs</b>                                | Replace or undertake major repairs or replacement when structure condition suggests that infrastructure is beyond repair and/or non- functional | Structure in dangerous condition, not serviceable, structurally unsound or unsafe.                                                                                     | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |

| ACTIVITY                              | DEFINITION / DESCRIPTION                                                                                                                                      | LEVEL OF SERVICE                                                                                                                                                                                                | TARGET RESPONSE TIMES |           |        |       |           |        |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                                       |                                                                                                                                                               |                                                                                                                                                                                                                 | Urban                 |           |        | Rural |           |        |
|                                       |                                                                                                                                                               |                                                                                                                                                                                                                 | Link                  | Collector | Access | Link  | Collector | Access |
| <b>DRAINAGE MAINTENANCE</b>           |                                                                                                                                                               |                                                                                                                                                                                                                 |                       |           |        |       |           |        |
| <b>Surface Drains</b>                 | Cleaning and minor reshaping of isolated ditches and surface drains >50 m long to maintain adequate drainage. Includes verge drains and back drains.          | Reshape when there is ponding in drains or the drain is not functioning to 80% capacity.                                                                                                                        | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Sub-Surface Drains</b>             | The removal of dirt and debris from sub-surface drain outlets and pits to ensure water is removed from subgrade. Includes checking of rodent and flood flaps. | Inspect and clean subsoil drains annually. Inspect known problem areas and free flowing subsoil drains at scheduled intervals.                                                                                  | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Underground Storm Water Drains</b> | Removal of dirt, tree roots and debris from underground pipes to maintain adequate drainage.                                                                  | Inspect and clean underground drains annually. Inspect regularly known problem areas at scheduled intervals.                                                                                                    | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Culvert And Pit Cleaning</b>       | The removal of dirt and debris from culverts and pits to maintain adequate drainage.                                                                          | Inspect and clean culverts and pits based on Annual Program. Inspect regularly known problem areas after heavy rain, and mouths of pits keeping such free of blockages. Inspect catch basins after heavy rains. | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Kerb And Channel Cleaning</b>      | Clearance of any debris fouling the surface between the face of the kerb and 2.4-metres from the invert of the channel.                                       | Clearance of kerb and channel undertaken to ensure effective drainage.                                                                                                                                          | 1M                    | 1M        | 1M     | 1M    | 1M        | 1M     |
| <b>Culvert And Pit Repair</b>         | The minor repair of damaged culverts and pits due to concrete deterioration or damage.                                                                        | Repair or replace culverts and pits when they are damaged to the extent that they are hazardous or become non-functional.                                                                                       | 2D                    | 2D        | 2D     | 1W*   | 2W*       | 1M*    |

INFRASTRUCTURE DEPARTMENT

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| ACTIVITY                                 | DEFINITION / DESCRIPTION                                                    | LEVEL OF SERVICE                                                                                                                                                                                                                                                                                                                                                                                    | TARGET RESPONSE TIMES |           |        |       |           |        |
|------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------|-------|-----------|--------|
|                                          |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                     | Urban                 |           |        | Rural |           |        |
|                                          |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                     | Link                  | Collector | Access | Link  | Collector | Access |
| <b>Kerb And Channel Repair</b>           | Repair of damaged kerb and channel due to concrete deterioration or damage. | Replace or undertake repairs when: <ul style="list-style-type: none"> <li>- Uplift section of 20mm in tray and water ponds for greater than 10 m in channel</li> <li>- Lateral displacement of top of kerb and tilted tray by more than 50mm</li> <li>- Broken pieces greater than 200mm missing</li> <li>- Sites where repairs exceed +10% are to be referred to Project implementation</li> </ul> | PW*                   | PW*       | PW*    | PW*   | PW*       | PW*    |
| <b>Pit Lid – Damaged Or Missing</b>      | Replacement or reseating of pit lid.                                        | Damaged or missing pit lids, surrounds, or grates in pedestrian areas and traffic lanes.                                                                                                                                                                                                                                                                                                            | 2D                    | 2D        | 2D     | 1W*   | 2W*       | 1M*    |
| <b>Pit Surround – Damaged Or Missing</b> | Replacement or reseating of pit surround.                                   |                                                                                                                                                                                                                                                                                                                                                                                                     | 2D                    | 2D        | 2D     | 1W*   | 2W*       | 1M*    |

| ACTIVITY                                        | DEFINITION / DESCRIPTION                                                                                                                                                                                             | LEVEL OF SERVICE                                                                                                                                                                  | TARGET RESPONSE TIMES |              |                                                     |                |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|-----------------------------------------------------|----------------|
|                                                 |                                                                                                                                                                                                                      |                                                                                                                                                                                   | High Use              | Standard Use | Low Use                                             | Shared Pathway |
| <b>FOOTPATH AND SHARED USE PATH MAINTENANCE</b> |                                                                                                                                                                                                                      |                                                                                                                                                                                   |                       |              |                                                     |                |
| <b>Differential Settlement/Raised Area</b>      | Replacement, repair, regulation and surface patching of footpath to ensure uniform safe condition.                                                                                                                   | Repair or regulate footpath surface where vertical displacement between concrete bays exceeds 20mm.                                                                               | 1W                    | 1M           | Reactive response to specific defect identification | 1M             |
| <b>Potholes (Sealed Surface)</b>                | Repair of potholes in hard paved areas to restore the surface to a smooth and safe condition.                                                                                                                        | Repair or regulate where potholes exceed 25mm in depth.                                                                                                                           | 1W                    | 1M           | Reactive response to specific defect identification | 1M             |
| <b>Potholes (Unsealed Surface)</b>              | Spot patching of potholes in unsealed surfaces to restore smooth trafficable surface.                                                                                                                                | Repair when pothole exceeds <b>25mm</b> in depth and/or <b>300mm</b> in diameter or likely to deteriorate rapidly                                                                 | 1W                    | 1M           | Reactive response to specific defect identification | 1M             |
| <b>Depressions</b>                              | Regulation of subsided areas exceeding 1-sqm and less than 5-sqm to restore the surface to a smooth and safe condition.                                                                                              | Repair or regulate where depressions exceed 30mm in depth over a 2 metre straight edge.                                                                                           | 1W                    | 1M           | Reactive response to specific defect identification | 1M             |
| <b>Shoving</b>                                  | Regulation of raised surface exceeding 1-sqm and less than 5-sqm to ensure uniform safe condition.                                                                                                                   | Repair when mounding exceeds 50mm in height over a 2 metre straight edge.                                                                                                         | 1W                    | 1M           | Reactive response to specific defect identification | 1M             |
| <b>Footpath - Tree &amp; Shrub Obstruction</b>  | Street tree and/or shrub shaping to control future growth, provide for long term stability/health, and maintain desired height, lateral and sight clearances. Pruning to address dead/diseased and/or damaged limbs. | Prune street trees and shrubs to comply with the following clearance limits:<br>- Height Clearance: min. 2.4m above footpath<br>- Lateral Clearance: min. 500mm from edge of path | 1M                    | 1M           | Reactive response to specific defect identification | N/A            |
| <b>Footpath - Vegetation Control</b>            | The control of vegetation growth, predominantly grass growth not including tree maintenance.                                                                                                                         | Areas where grass encroaches across greater than 30% of footpath width or obstructs viewing of signage, guideposts, etc                                                           | 1W                    | 1M           | N/A                                                 | N/A            |



| ACTIVITY                                        | DEFINITION / DESCRIPTION                                                                                                                  | LEVEL OF SERVICE                                                                                                                                                                                                                                    | TARGET RESPONSE TIMES |              |                                                     |                |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|-----------------------------------------------------|----------------|
|                                                 |                                                                                                                                           |                                                                                                                                                                                                                                                     | High Use              | Standard Use | Low Use                                             | Shared Pathway |
| <b>FOOTPATH AND SHARED USE PATH MAINTENANCE</b> |                                                                                                                                           |                                                                                                                                                                                                                                                     |                       |              |                                                     |                |
| <b>Corrugations (Unsealed Surface)</b>          | Repair surface of unsealed footpaths to a safe and acceptable condition.                                                                  | Repair of surface if corrugations exceed 25mm in depth at a critical location on the approach to intersection or curve.                                                                                                                             | 1W                    | 1M           | Reactive response to specific defect identification | 1M             |
| <b>Emergency Resheeting (Unsealed Surface)</b>  | The application of gravel or crushed rock to unsealed surface.                                                                            | Emergency treatment where soft or slippery areas create a hazard to pedestrians or cyclists.                                                                                                                                                        | 1W*                   | 2W*          | Reactive response to specific defect identification | 2W*            |
| <b>Brick Paved Areas</b>                        | The maintenance of paved areas of various construction to remove and defects that may constitute a hazard to pedestrians and other users. | Distressed area where:<br>- There are loose, missing, or dislodged pavers,<br>- This is vertical displacement greater than 20mm, or<br>- There are gaps exceeding 25mm<br>Consideration given to replacement of paved areas within annual programs. | PW*                   | PW*          | N/A                                                 | PW*            |
| <b>Edge Repair</b>                              | Treatment to reduce depressions, holes or drop-off at the interface (edge) of constructed asphalt, concrete or brick paved footpaths.     | Provide repair of depressions exceeding 75mm in depth at the interface of the nature strip and surrounding constructed paths with topsoil, gravel or sand                                                                                           | 1W                    | 1M           | N/A                                                 | 1M             |





| ACTIVITY                                                                        | DEFINITION / DESCRIPTION                                                                                                                                                                                             | LEVEL OF SERVICE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | TARGET RESPONSE TIMES |              |         |                |
|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|---------|----------------|
|                                                                                 |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | High Use              | Standard Use | Low Use | Shared Pathway |
| <b>FOOTPATH AND SHARED USE PATH MAINTENANCE</b>                                 |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                       |              |         |                |
| <b>Shared Use Pathway Guide Posts / Delineators</b>                             | Reinstatement, repair, cleaning of guide posts and delineators to ensure safe and acceptable condition.                                                                                                              | Any missing or damaged guide posts (where existing) at a critical location making them substantially ineffective.                                                                                                                                                                                                                                                                                                                                                                                             | N/A                   | N/A          | N/A     | 1M             |
| <b>Shared Use Pathway Signs – Guide, Information, Regulatory &amp; Warning.</b> | The minor repair, re-erection, straightening, and cleaning of signs and sole purpose supports.                                                                                                                       | <ul style="list-style-type: none"> <li>▪ Straighten sign support when it becomes noticeable that it is not vertical.</li> <li>▪ Replace when damage renders either the sign or support ineffective.</li> <li>▪ Clean/ replace the sign face when:                             <ul style="list-style-type: none"> <li>- There is a noticeable accumulation of dirt.</li> <li>- Message on sign is defaced by graffiti etc.</li> </ul> </li> <li>▪ Replace missing or if incorrect sign is in place.</li> </ul> | N/A                   | N/A          | N/A     | 3M             |
| <b>Shared Use Pathway - Tree &amp; Shrub Obstruction</b>                        | Street tree and/or shrub shaping to control future growth, provide for long term stability/health, and maintain desired height, lateral and sight clearances. Pruning to address dead/diseased and/or damaged limbs. | Prune street trees and shrubs to comply with the following clearance limits: <ul style="list-style-type: none"> <li>- Height Clearance: min. 2.4m above path</li> <li>- Lateral Clearance: min. 500mm from edge of path</li> </ul>                                                                                                                                                                                                                                                                            | N/A                   | N/A          | N/A     | 1M             |

INFRASTRUCTURE DEPARTMENT

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| ACTIVITY                                                       | DEFINITION / DESCRIPTION                                                                                                                                                                                                                               | LEVEL OF SERVICE                                                                                                                                                                                                | TARGET RESPONSE TIMES |              |         |                |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|---------|----------------|
|                                                                |                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                 | High Use              | Standard Use | Low Use | Shared Pathway |
| <b>FOOTPATH AND SHARED USE PATH MAINTENANCE</b>                |                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                 |                       |              |         |                |
| <b>Shared Use Path - Vegetation Control</b>                    | The control of vegetation growth, typically grass and/or undergrowth not including tree maintenance.                                                                                                                                                   | Areas where grass encroaches across greater than 30% of footpath width or obstructs viewing of signage, guideposts, etc                                                                                         | N/A                   | N/A          | N/A     | PW*            |
| <b>Shared Use Pathway Infrastructure Maintenance - General</b> | Involves maintenance of all shared path/trail infrastructure, including: <ul style="list-style-type: none"> <li>▪ Gates,</li> <li>▪ pedestrian bridges,</li> <li>▪ bollards,</li> <li>▪ seats,</li> <li>▪ shelters</li> <li>▪ barriers, etc</li> </ul> | Structure or pedestrian facility in poor condition, not serviceable, structurally unsound or has safety implications based on assessment.                                                                       | N/A                   | N/A          | N/A     | 1M*            |
| <b>Shared Use Path - Emergency Response</b>                    | Emergency situations or circumstances which present an unacceptable risk to users (e.g. tree across path, etc)                                                                                                                                         | Inspect, rectify defect if practicable, or provide appropriate warning. An appropriate warning may include, provision of warning signage, or path closure, etc until further remedial action may be undertaken. | N/A                   | N/A          | N/A     | 1W*            |

# **Appendix B**

## **Record of Amendments to Road Management Plan, October 2004**

## Variations between the Road Management Plan, October 2004 and the Revised Plan – April 2006

### Table of Contents

#### Section 2

Item 2.4 changed from **Corporate Plan to Council Plan**.

#### Section 7

Item 7.2 and Item 7.3 – the word **Standards** changed to **Criteria**.

#### Section 4

4.8.2.5 Fire Access Roads added

#### Section 9

Section 9 **Review** is now headed **Plan Improvement and Monitoring** and reads as follows:

- 9.1 Internal Monitoring
- 9.2 Annual Performance Review
- 9.3 Periodic Review
- 9.4 Road Management Plan Amendment

#### 2.4 Council Plan

2.4 should now read **Council Plan** and not **Corporate Plan**.

Paragraph 3 now reads:

*The specific strategies and outcomes identified in the Council's Plan 2005-2009 include:*

- *Continue increased funding of infrastructure asset renewal, particularly on rural road resheeting, drainage, timber bridges and footpaths.*
- *Advocate for improved Infrastructure services:*
  - *Upgrade Turtons Tract as a major sealed 2WD Touring route,*
  - *Upgrade of the main access roads between Princes Hwy and the Great Ocean Road including the Colac-Forrest Road, Birregurra – Forrest Road, Forrest - Skenes Creek Road and the Colac-Lavers Hill Road consistent with actions contained in the Great Ocean Road Regional Strategy.*
  - *Location of the Geelong By-Pass connection with the Princes Highway to enable a continuous 100kmh speed zone.*
  - *Construction of a dual carriageway Princes Highway from Geelong to Colac and then beyond to the South Australian border.*
  - *Development of an alternative heavy vehicle route for the City of Colac.*
  - *Identification of a designated route for the future location of a Colac By-Pass along the Princes Hwy.*
- *Implementation of Road Safety Plan and Council approved road safety initiatives in partnership with Vic Roads and other agencies.*
- *Develop and implement the Asset Management Plans and Asset Management Systems for all infrastructure categories.*

## 2.8 Strategic Asset Management Plan

2.8 now reads:

*The Strategic Asset Management Plan outlines and guides Council's asset response to its service requirements, through the development of an asset portfolio, risk management strategies and asset performance measures.*

*The principal objective of strategic asset management is to ensure that Council meets its service delivery objectives efficiently and effectively.*

*This objective will be achieved by:*

- *Maximising the service potential of existing assets by ensuring they are appropriately used and maintained;*
- *Reducing the demand for new assets through demand management techniques and consideration of alternative service delivery options;*
- *Achieving greater value for money through a rigorous project initiation and evaluation process which takes into account life cycle costing, value management techniques and private sector involvement;*
- *Eliminating unnecessary acquisition and holding of assets by ensuring agencies are aware of, and required to pay for, the full costs of holding and using assets; and*
- *Focusing attention on results by clearly assigning responsibility, accountability and reporting requirements in relation to asset management.*

*This outcome will be supported by a comprehensive Strategic Asset Management Plan that address capital investment, the operation and maintenance of existing assets, and the rationalisation and disposal of assets.*

## 3. BUDGET PROCESS

1<sup>st</sup> Paragraph, last sentence, now reads **2005/2006 Budget**.

### 3.1 Maintenance Funding

5<sup>th</sup> Paragraph, 2<sup>nd</sup> sentence, word **Standard** now reads **Criteria**.

8<sup>th</sup> Paragraph, 1<sup>st</sup> dot point, word **Standards** now reads **Criteria**.

### 4.2 Register of Public Roads

2<sup>nd</sup> Paragraph, 1<sup>st</sup> sentence, now reads **Clause 19** and not **Clause 19(1)**

Dot points now removed. Replaced with the following:

*The register must include –*

- (a) *The name of each public road or, if a road is unnamed, a description which enables the particular road to be easily identified;*
- (b) *If a road becomes a public road after 1 July 2004, the date on which the road becomes a public road;*
- (c) *If a public road ceases to be a public road, the date on which the road ceased to be a public road;*
- (d) *The classification, if any, of the public road;*
- (e) *The reference of any plan or instrument made on or after 1 July 2004 that fixes or varies the boundaries of a public road;*
- (f) *Any ancillary areas;*
- (g) *A reference to any arrangement under which road management funding in respect of any part of a public road or ancillary area is transferred to or from another road authority;*

- (h) Any matter required to be included by the relevant road Minister under Section 22;
- (i) Any other matter required to be included in this Act;
- (j) Any other matter which is prescribed for the purpose of this clause.

#### 4.2.1 Amendments to the Register of Public Roads

3<sup>rd</sup> Paragraph, 2nd sentence deleted. New sentence added:

*The register of public roads will need to be maintained on an ongoing basis. It is proposed that the register of public roads be maintained under delegation to ensure it is readily updated on a regular basis.*

#### 4.8.2.1 Vehicle Crossings

1<sup>st</sup> Paragraph, 1<sup>st</sup> sentence (*ie. driveway*) now to read (*i.e. driveway*).

#### 4.8.2.6 Fire Access Roads

New Paragraph included:

*Designated fire access roads throughout the Colac Otway Shire, which are open for traffic under a controlled level of service, however are infrequently used or dry weather access only. Maintenance of these roads is only carried out as directed by Council's Fire Prevention Officer.*

*Traditionally Council maintains these tracks to a standard that will cater for farm machinery and fire fighting vehicles to travel to and from non-residential properties as and when weather conditions allow.*

*These types of roads are damaged by inappropriate use by motorists during wet weather periods when conditions do not support the movement of any vehicles.*

#### Local Road Classification

Page 19 - Rural Minor Explanatory Note previously stated:

*These roads generally provide occasional access to non-residential property only. Includes those roads identified as providing 'fire access'.*

This has been changed to read,

*These roads generally provide occasional access to non-residential property only*

#### 6.2.1 Strategies for Planning Maintenance Work

2<sup>nd</sup> Paragraph, 3<sup>rd</sup> dot point, 4<sup>th</sup> indent point – **standards** now reads **criteria**

#### 6.3.2 Request Inspections

2<sup>nd</sup> Paragraph, 2<sup>nd</sup> sentence – **standard** now reads **criteria**

### Inspection Type, Frequency & Responsibility

Page 30 previously read:

| Asset Class                                                       | Hierarchy       | Inspection Type, Frequency & Responsibility |
|-------------------------------------------------------------------|-----------------|---------------------------------------------|
|                                                                   |                 | Routine                                     |
| <b>Urban Road Network</b><br>* Includes sealed and unsealed roads | Urban Link      | Not Applicable                              |
|                                                                   | Urban Collector | 3 months                                    |
|                                                                   | Urban Access    | 6 months                                    |
|                                                                   | Urban Minor     | 2 years                                     |
| <b>Rural Road Network</b><br>* Includes sealed and unsealed roads | Rural Link      | 3 months                                    |
|                                                                   | Rural Collector | 4 months                                    |
|                                                                   | Rural Access    | 12 months                                   |
|                                                                   | Rural Minor     | 3 years                                     |

Now reads:

| Asset Class                                                       | Hierarchy       | Inspection Type, Frequency & Responsibility |
|-------------------------------------------------------------------|-----------------|---------------------------------------------|
|                                                                   |                 | Routine                                     |
| <b>Urban Road Network</b><br>* Includes sealed and unsealed roads | Urban Link      | Not Applicable                              |
|                                                                   | Urban Collector | 4 months                                    |
|                                                                   | Urban Access    | 6 months                                    |
|                                                                   | Urban Minor     | 2 years                                     |
| <b>Rural Road Network</b><br>* Includes sealed and unsealed roads | Rural Link      | 3 months                                    |
|                                                                   | Rural Collector | 4 months                                    |
|                                                                   | Rural Access    | 12 months                                   |
|                                                                   | Rural Minor     | 3 years                                     |

#### 6.3.3 Incident Inspections

2<sup>nd</sup> Paragraph, 2<sup>nd</sup> dot point – **standards** now reads **criteria**

#### 7.1.2 Future Consultation

2<sup>nd</sup> Paragraph, 2<sup>nd</sup> sentence - **standards** now reads **criteria**

3<sup>rd</sup> Paragraph, 1<sup>st</sup> sentence - **standards** now reads **criteria**

#### 7.2 Maintenance Performance Standards now reads **Maintenance Performance Criteria**

3<sup>rd</sup> Paragraph, 1<sup>st</sup> sentence – **standards** now reads **criteria**

3<sup>rd</sup> Paragraph, 2<sup>nd</sup> sentence - specified in *the Road Management Review (Policy 13.6)* now reads specified in **Appendix A – Maintenance Performance Criteria and Response.**

5<sup>th</sup> Paragraph deleted.

**7.3 Construction Performance Standards** now reads  
**Construction Performance Criteria**

7<sup>th</sup> Paragraph, 1<sup>st</sup> sentence - within *Council's Road Management Review (Policy13.6)* now reads *within Councils Road Asset Management Plan.*

**9. REVIEW** now reads **PLAN IMPROVEMENT & MONITORING**

**9.1, 9.2, and Annual Update** now reads as follows –

The Act requires that Council's Road Management Plan be formally reviewed at prescribed intervals. However, it is proposed that Council review its Plan more frequently as part of the continuous improvement process being applied to this new road management system.

The Plan improvement and monitoring process is proposed as follows:

**9.1 Internal Monitoring**

The processes that are to be audited internally per annum are as follows –

- Collection and storage of condition information,
- Recording of complaints/requests in an appropriate database in the manner required,
- Each complaint/request is inspected and/or assessed in relation to safety & specified maintenance intervention levels,
- That programmed inspections are carried out as scheduled,
- Relevant inspection reporting & recording mechanisms are in place,
- That reported defects are being properly recorded in the system,
- Where required, appropriate rectification responses are determined & works orders issued,
- Where customer requests require scheduling of works onto annual maintenance programs or capital works programs, that the required listing takes place,
- Record of maintenance activities is made in the database against the asset, including actual date of completion,
- Record that maintenance works have been delivered as intended (i.e. someone has signed off on the satisfactory completion of the work),
- Procedure is in place for collecting and storing information regarding road asset condition for developing future maintenance programs,
- Management system in place to record and respond to customer enquiries, and
- Asset handover/update process is being managed as required.

The outcome of the internal audit is to be reported to the General Manager, Infrastructure & Services.

**9.2 Annual Performance Review**

It is intended that this Plan will be updated on an annual basis in line with changes to the budget and results of predictive modelling of elements of Council's road infrastructure assets.

Council shall ensure that there is ongoing review of its asset management practices to ensure continued suitability and effectiveness having regard to –

- Asset performance following delivery of maintenance and construction programs,
- The level of achievement of Council's asset management strategies, and
- The consideration of any external factors, including legislative requirements, ongoing development of Council Policies and other major system implementations, that may effect the contents of this Plan.



The review will include, but not limited to –

- Audit and review of maintenance response times (to confirm whether maintenance works were delivered on time),
- Review of inspection frequencies (to ensure appropriateness),
- Review of levels of service (to ensure appropriateness),
- Review of road classifications (to ensure appropriateness),
- Review of customer feedback/contact, and
- Random audit of maintenance works (to confirm whether maintenance works were delivered to the specified quality).

**Periodic Update** now reads –

### **9.3 Periodic Review**

3<sup>rd</sup> Paragraph, deleted.

New Point added –

### **9.4 Road Management Plan Amendment**

To ensure the effective development and implementation of this plan all reviews will be undertaken in accordance with Part 3 of the *Road Management (General) Regulations 2005*.

Subject to the results of any review all amendments required to be made to the Plan will be undertaken pursuant to Section 54 of the *Road Management Act 2004*.

Records of all reviews and plan amendments will be maintained.

## **10. REFERENCES**

Colac Otway Shire Council Plan 2003 – 2006 now reads **Colac Otway Shire Council Plan 2005 – 2009**

Financial Strategic Plan 2003 – 2004 now reads **Financial Strategic Plan 2005 – 2006**

# **Appendix C**

## **Record of Amendments to Road Management Plan, Version 1.1 – April 2006**

## Variations between the Road Management Plan v1.1, April 2006 and the Revised Plan – v2.0 April 2009

### **Page 6 – 1.2 Duties of the Road User**

Inclusion of new 3<sup>rd</sup> para (after dot points) –

The *Road Safety Act 1986* requires other road users (other than those driving a motor vehicle) to use a road in a safe manner, having regard to all the relevant factors. Other obligations of road users are also set out in the *Road Safety Act 1986* in regard to relationships with other road users and damage to road infrastructure.

### **Page 6 – 1.3 Road Management Plan**

4<sup>th</sup> para, dot point two:

- Descriptions of the road asset management systems that Council has established and will implement to effectively provide a road network that is *safe* and meets the needs of road users and the community,

Changed to:

- Descriptions of the road asset management systems that Council has established and will implement to effectively provide a road network that is *appropriate* and meets the needs of road users and the community,

### **Page 8 – 2.1 Key Stakeholders**

2<sup>nd</sup> para, inclusion of extra dot points after 'Emergency Services'. New dot points are:

- Enforcement agencies,
- Primary producers,
- Land developers,
- Other Government Departments,
- Tourists and visitors to the area,
- Utilities as prescribed in Section 3 of the *Road Management Act 2004*, and
- Council as the custodian of the network, including all internal and external support staff.

### **Page 9 – 2.4 Council Plan**

1<sup>st</sup> para, 2<sup>nd</sup> sentence, include *2004* after *Road Management Act*

Inclusion of new 2<sup>nd</sup> para –

The draft Council Plan 2009 – 2013 outlines the principles that support Council's commitments over the period and serves as a standard by which community outcomes can be assessed. The Council Plan is a dynamic document which is updated annually to reflect changing priorities and impacts of external factors.

3<sup>rd</sup> para (which was 2<sup>nd</sup> para) updated -

Deletion of words after .....Council's commitment – 'and goals to plan, develop and maintain a sustainable road network'.

Insertion of words after ....Council's commitment – 'to providing and maintaining infrastructure and assets that meet community needs now and in the future'

4<sup>th</sup> para (which was 3<sup>rd</sup> para) updated –

Inserted 'draft' before Council Plan.

Deleted 2005 – 2009 and include 2009 – 2013

Deleted the following dots points:

- Continue increased funding of infrastructure asset renewal, particularly on rural road resheeting, drainage, timber bridges and footpaths.
- Advocate for improved infrastructure services -
  - Upgrade Turtons Track as a major sealed 2WD Touring route,
  - Upgrade of the main access roads between Princes Hwy and the Great Ocean Road including the Colac – Forrest Road, Birregurra - Forrest Road, Forrest – Skenes Creek Road and the Colac – Lavers Hill Road consistent with actions contained in the Great Ocean Road Regional Strategy.
  - Location of the Geelong By-Pass connection with the Princes Highway to enable a continuous 100kmh speed zone.
  - Construction of a dual carriageway Princes Highway from Geelong to Colac and then beyond to the South Australian border.
  - Development of an alternative heavy vehicle route for the city of Colac.
  - Identification of a designated route for the future location of a Colac By-Pass along the Princes Hwy.
- Implementation of Road Safety Plan and Council approved road safety initiatives in partnership with Vic Roads and other agencies.
- Develop and implement the Asset Management Plans and Asset Management Systems for all infrastructure categories.

Included the following dot points:

- Ensure infrastructure development, renewal and maintenance plans address current and forecast community needs;
- Implement and manage Colac Otway Shire's Road Management Plan;
- Manage Council's buildings and facilities in a responsible, safe and sustainable manner; and
- Improve local and regional transport networks to ensure safety and accessibility.

### **Page 11 – 2.9 Road Asset Management Plan**

Deleted 3<sup>rd</sup> para – Council's intention is to have this document finalised and adopted by March 2006.

### **Page 12 – 3.0 Budget Process**

1<sup>st</sup> para. Deleted last sentence – The principles of this Strategy were incorporated into the 2005/2006 Budget.

Deleted entire 3<sup>rd</sup> para –

Council's Annual Budget Process is based on the following principles -

1. Deliver the results sought by Council as specified in the outcome statements in each program area.
2. Deliver outcomes as identified in Council's Annual Plan.
3. Reflect Council's capital expenditure priorities as identified in the Three-Year Capital Investment Program, including no new major capital projects.
4. Emphasise the implementation of adopted strategies and priorities identified in Business Plans.
5. Increase funding levels for infrastructure asset renewal and maintenance.
6. Increase working capital and cash reserves.
7. Minimise rates and charges increases.
8. Not exceed existing staff levels.
9. Undertake no new loan borrowing's

## **Page 12 – 3.1 Maintenance Funding**

6<sup>th</sup> para -

The principles outlined in this Road Management Plan ensure that the standard condition to which Council's assets are maintained will provide a *safe* and efficient road network.

Changed to:

The principles outlined in this Road Management Plan ensure that the standard condition to which Council's assets are maintained will provide an *appropriate* and efficient road network.

## **Page 15 – 3.3 Evaluation of Capital Works**

3<sup>rd</sup> para –

Deleted – 3-Year Capital Investment Program.

Inserted – Ten (10) – Year Capital Works and Major Projects Program.

4<sup>th</sup> para, last dot point -

Deleted – Capital Works type

Inserted – Capital works expenditure type (ie renewal, upgrade, or new)

## **Page 15 - 3.3.1 Funding of Capital Works**

1<sup>st</sup> para, 1<sup>st</sup> line –

Deleted – Three-year Capital Investment Plan.

Inserted - Ten (10) – Year Capital Works and Major Projects Program.

1<sup>st</sup> para, 3<sup>rd</sup> line –

Deleted – Capital Investment Plan

Inserted – Capital Works and Major Projects Program

## **Page 16 – 4.0 Colac Otway Municipal Public Road Register**

Inserted word 'Public' in heading above

### **4.2 Register of Municipal Public Roads**

Inserted word 'Municipal' in heading above

1<sup>st</sup> para, 1<sup>st</sup> line

Inserted 'municipal' before public roads,

2<sup>nd</sup> para, 2<sup>nd</sup> line

Inserted 'municipal' before public roads

4<sup>th</sup> para, 1<sup>st</sup> line

Inserted 'municipal' before Public Roads

Inserted new 5<sup>th</sup> para

Assets on municipal public roads that the Colac Otway Shire is responsible for and which this Road Management Plan incorporates include:

- Road surface, pavement, and earth formation;
- Surface and underground drainage systems;
- Signs, guideposts, line marking, barriers and retaining walls;
- Footpaths and shared pathways;
- Parking areas;
- Bridges and major drainage structures, and
- Street furniture.

**4.2.1 – Amendments to the Register of Municipal Public Roads**

Inserted word ‘Municipal’ before Public Roads in heading above

**Page 17 – Amendments to the Register of Municipal Public Roads**

3<sup>rd</sup> para, 2<sup>nd</sup> line

Inserted word ‘municipal’ before public roads

4<sup>th</sup> para, 1<sup>st</sup> line

Inserted word ‘municipal’ before public roads

4<sup>th</sup> para, 2<sup>nd</sup> line

Inserted word ‘municipal’ before public roads

**Page 20 – Footpath Network**

1<sup>st</sup> column of table 3<sup>rd</sup> row  
Deleted R from SR

2<sup>nd</sup> column of table 3<sup>rd</sup> row  
Deleted word Risk  
Inserted word Use

1st column of table 4<sup>th</sup> row  
Deleted R from LR

2nd column of table 4<sup>th</sup> row  
Deleted word Risk  
Inserted word Use

Inserted new 5<sup>th</sup> row of table

|    |                 |                                                                                                                                                                                                                                                                                                                                                                     |                                                                 |
|----|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| SP | Shared Use Path | Shared use paths can be described in simple terms as off road trails, tracks or paths that provide for access for a range of activities such as walking, bike riding or horse riding. Council has a combination of pathways, including those within public areas and private land (under agreement), those on public reserves, and those located on arterial roads. | Maybe concrete, brick paved, asphalt, sealed or gravel surface. |
|----|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|

2<sup>nd</sup> para (after table) end of 2<sup>nd</sup> line

Inserted words 'or use' after risk and before categories

**Page 21 – 4.6 Demarcation of Responsibility**

1<sup>st</sup> para 2<sup>nd</sup> line

Inserted word 'Municipal' before Public Roads

3<sup>rd</sup> para, 4<sup>th</sup> line

Deleted words 'are currently'

Inserted words 'were previously categorised as'

7<sup>th</sup> para, 1<sup>st</sup> line

Inserted word 'municipal' before public roads

**4.6.1 Urban Areas**

1<sup>st</sup> para, 1<sup>st</sup> line

Deleted word 'responsible' before road authority

Inserted word 'coordinating' before road authority

**Page 22 – 4.8.1 Utility Assets**

1<sup>st</sup> para, Inserted new 2<sup>nd</sup> sentence

Non-road infrastructure within the road reserve is the responsibility of the person or body that is responsible for the provision, installation, maintenance, or operation of that particular asset.

New 1<sup>st</sup> line added to table

|               |          |
|---------------|----------|
| Street Lights | Powercor |
|---------------|----------|

2<sup>nd</sup> column, 4<sup>th</sup> line

Deleted TRUenergy

Inserted Tenix Gas

2<sup>nd</sup> column, 8<sup>th</sup> line

Deleted Freight Australia

Inserted V/Line and Australian Rail Track Corporation

2<sup>nd</sup> para (after table)

Deleted

Freight Australia is responsible for maintaining all rail crossings (ie level crossings) in the Colac Otway Shire in the immediate vicinity of the railway line. Council is responsible for maintaining the road and signage on the approaches to the railway line on all local roads.

Inserted

Assets or services within a municipal public road for which Council is not responsible for include gas pipes, water and sewerage pipes, cables, electricity poles, public telephones, and mail boxes. Any person who has an issue with one of these assets should refer it to the relevant Infrastructure Manager (eg external service authority).

**Page 23**

Inserted new 4.8.2

#### **4.8.2 Rail Crossings**

Within the Colac Otway Shire V/Line and Australian Rail Track Corporation are responsible for installing and maintaining all infrastructure located at rail crossings (e.g. crossing position signs together with other signs, barriers, gates, flashing lights, etc). Railway authorities are also responsible for the roadway immediately adjacent to the railway line (i.e. within 2.1-metres each side of the rail).

Council is responsible for the erection and maintenance of advance warning signs and all pavement markings associated with the approaches to rail crossings on all municipal roads.

Council will continue to maintain and respond to issues identified within the Australian Level Crossing Assessment Model (ALCAM) database as administered by the Department of Transport within its annual budget cycle.

#### **4.8.2 Other Assets now becomes 4.8.3**

##### **4.8.2.1 Vehicle Crossings now becomes 4.8.3.1**

##### **4.8.2.2 Nature Strips, Infill Areas and Vegetation now becomes 4.8.3.2**

1<sup>st</sup> para 2<sup>nd</sup> sentence 3<sup>rd</sup> line

Deleted 'with responsible for maintenance of the area generally left to the abutting property owner'.  
Inserted 'and may contain other features such as street trees and utility poles and underground services'.

Inserted new 2<sup>nd</sup>, 3<sup>rd</sup> and 4th paragraphs

Nature strips are not recognised as a road related asset and are therefore not formally inspected or maintained to a standard defined under Council's Road Management Plan. Consequently, Council may only undertake works on a nature strip where there is an obvious safety or amenity issue either reported as a customer request or identified through programmed inspection activities.

Responsibility for maintenance of the nature strip areas is generally left to the abutting property owner as part of the presentation of their property and general appearance of the local streetscape.

Service authorities have an obligation to reinstate any disturbed nature strip areas to a condition which existed prior to any excavation works in relation to the installation or maintenance of their infrastructure.

#### **Page 24**

##### **4.8.2.3 Property Stormwater Drains now becomes 4.8.3.3**

##### **4.8.2.4 Cattle Underpasses now becomes 4.8.3.4 Stock Underpasses**

Inserted new 1<sup>st</sup> para

A stock underpass is generally a box culvert type structure constructed for the purpose of providing a safe under road crossing.

2<sup>nd</sup> para, 1<sup>st</sup> line

Deleted word 'cattle' before underpass  
Inserted word 'stock' before underpass

2<sup>nd</sup> para 1<sup>st</sup> line

Inserted words after 'must first sign.....'  
A Section 173 Agreement (*Planning and Environment Act 1987*)

2<sup>nd</sup> para 4<sup>th</sup> line

Inserted word 'applicable' before design codes.



Inserted new 3<sup>rd</sup> para

Council has a responsible to maintain the road pavement areas, seal markings and guideposts across the stock underpass. Responsibility for the maintenance of the structure, including attachments such as guardrail, stock lanes, fencing and stock underpass drainage remains with the landowner for the duration of the agreement.

#### Inserted **4.8.3.5 Cattle Grids**

A cattle grid is a type of obstacle used to prevent livestock from passing along a road which penetrates the fencing surrounding an enclosed piece of land. Cattle grids generally consist of a depression in the road covered by a transverse grid of bars or rails, normally constructed of metal and firmly fixed to the ground on either side of the depression, such that the gaps between them are wide enough for animals' legs to fall through, but sufficiently narrow not to impede a wheeled vehicle.

The landowner benefiting from the use of a cattle grid is required to enter into a Section 121 Agreement (*Road Management Act 2004*) for the construction, maintenance, repair and insurance of the cattle grid. This agreement defines the roles and responsibilities of both Council and the landowners for the ongoing management of the cattle grid.

#### **4.8.2.5 Fire Access Roads now becomes 4.8.3.6**

### **Page 26 – 5.3 Systems Approach**

Inserted 5 new paragraphs at the beginning of this section.

Council manages risk in relation to roads by performing its road construction and maintenance activities in accordance with this plan.

In ensuring that programmed inspections and work activities are completed pursuant to the standards of Council's Road Management Plan, road users are offered a reasonable level of safety during the use of the local road network.

Council's road management functions are based on policy and operational objectives which consider the resource limitations faced by Council in inspecting, maintaining, and repairing its road infrastructure. Council is able to minimise its risk from litigation resulting from claims of negligence by delivering on the standards specified in the Road Management Plan.

Levels of service for inspections and maintenance activities are specified for each category within Council's road and footpath classification systems. In general terms, higher classification roads and footpaths are inspected more frequently and issues identified are responded to more promptly.

The adopted Colac Otway Shire risk management process is consistent with Australian Standard AS/NZS 4360:2004 – Risk Management which defines risk assessment and management.

6<sup>th</sup> para, 2<sup>nd</sup> dot point, 2<sup>nd</sup> line

Deleted 'request system Colac Otway Request System (CORS)'

Inserted 'customer request system, MERIT'

### **Page 27 - 6.2.4 Maintenance Records**

1<sup>st</sup> para –

Accurate data is collected to make meaningful decisions and for the basis for making reliable judgements in the future. Records are computer-based, for ease of transfer and communication, as well as access and analysis.

Changed to:

Accurate data is collected in order to make reliable judgments in relation to future network maintenance needs which consider funding requirements. Council's maintenance records are computer-based for ease of transfer, communication, and analysis.

**Page 30 - 6.3.2 Request Inspections**

2<sup>nd</sup> para, 3<sup>rd</sup> line.

Deleted "1 day"  
Inserted "10 days"

**6.3.3 Incident Inspections**

3<sup>rd</sup> para 1<sup>st</sup> line

After "A copy of this report.....Deleted "shall be provided within 21 days to the person giving notice and"  
Inserted "will be filled in Council's Electronic Document System for future reference".

**Page 32 – Table**

4<sup>th</sup> column "Relevant Department"  
Entire column – for every section  
Deleted "Cosworks"  
Inserted "Infrastructure & Services"

1<sup>st</sup> column "Asset Class" - Footpath

Inserted new line across table

|          |                 |          |                           |         |                           |
|----------|-----------------|----------|---------------------------|---------|---------------------------|
| Footpath | Shared Pathways | 6 months | Infrastructure & Services | 2 years | Infrastructure & Services |
|----------|-----------------|----------|---------------------------|---------|---------------------------|

**Page 33 – Table cont/....**

Inserted new line/columns at end of table

|                 |                     |          |                           |         |                           |
|-----------------|---------------------|----------|---------------------------|---------|---------------------------|
| Rail Crossings* | All Road Categories | 3 months | Infrastructure & Services | 2 years | Infrastructure & Services |
|-----------------|---------------------|----------|---------------------------|---------|---------------------------|

Note\* - Relates only to the inspection of advance warning signs and all pavement markings associated with the approaches to rail crossings located on all municipal roads.

**Page 34 – 6.4 Customer Request System Description**

1<sup>st</sup> para, 2<sup>nd</sup> line  
Deleted word "CORS"  
Inserted word "MERIT"

2<sup>nd</sup> para, 1<sup>st</sup> line  
Deleted "Colac Otway Request System (CORS)"  
Inserted "MERIT system"

3<sup>rd</sup> para, 3<sup>rd</sup> line, 1<sup>st</sup> sentence  
Deleted "CORS can report on."  
Inserted "MERIT provides the ability to report on:"

**Page 35 - 7.1.2 Future Consideration**

1<sup>st</sup> para, 4<sup>th</sup> dot point  
Deleted (CORS)  
Inserted (MERIT)

**Page 37 –  
New section inserted**

**7.4. Exceptional Circumstances**

Council, under a normal operating environment, will make very endeavour to deliver all aspects of its Road Management Plan.

However, in the event of natural disasters and other events including but not limited to, fires, floods, droughts or similar, together with human factors, such as a lack of Council staff or suitably qualified Contractors, because of Section 83 of the *Victorian Wrongs Act 1958*, as amended, Council reserves the right to suspend compliance with its Road Management Plan.

In the event that the CEO of Council, has to, pursuant to Section 83 of the above Act, consider the limited financial resources of Council and its other conflicting priorities, meaning the standard, Council's Plan cannot be met, the General Manager Infrastructure and Services will be advised in writing that some, or all, of the services delivered under the Plan are to be suspended until further notice.

Once the events beyond the control of Council have abated, or if the events have partly abated, Council's CEO will provide direction to the General Manager Infrastructure and Services as to which aspects of Council's Plan are to be reactivated and when.

**Page 38 – 8.1 Road Openings**

2<sup>nd</sup> para 1<sup>st</sup> sentence  
After For private individuals upon completion of a–  
Deleted "Road Opening Application Form and payment of the appropriate fee, a Road Opening Permit is issued".  
Inserted "Non Utility Minor Works within Municipal Road Reserves Application Form and payment of the appropriate fee, Council's consent to works is generally issued".

3<sup>rd</sup> para 1<sup>st</sup> sentence  
Deleted "A Road Opening Permit"....  
Inserted "Council's consent to works"....

3<sup>rd</sup> para 2<sup>nd</sup> line  
After "telecommunications service".  
Inserted "Or construct a vehicle crossing".

4<sup>th</sup> para  
Deleted whole paragraph  
Inserted new paragraph  
The issue of consent signifies to Council that the proponent undertakes to comply with the relevant conditions of Council's general conditions of consent. These conditions also relate to all temporary and permanent reinstatement works.

5<sup>th</sup> para end of 3<sup>rd</sup> line  
Deleted "permit application".  
Inserted "application for consent".

**Page 40 – New section added**

**9.2.1 Performance Measures**

The following performance measures have been adopted to provide an indication of the levels of service meet community requirements in terms of satisfaction of delivery.

| Performance Measure                                                                              | Target            |
|--------------------------------------------------------------------------------------------------|-------------------|
| Routine inspections completed as per schedule                                                    | 100% as specified |
| Response times for remedial work as assessed against Council’s Maintenance Performance Criteria* | 85% as specified  |

\*Note – Includes provision of appropriate warning of an identified hazard

**echelon**



**ROAD MANAGEMENT PLAN  
COMPARATIVE ANALYSIS AND REVIEW**

**ECHELON RISK MANAGEMENT SERVICES**

**COLAC-OTWAY SHIRE COUNCIL**

**JUNE 2009**



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# 1 EXECUTIVE SUMMARY

Echelon Risk Services has been requested to:-

1. Review the draft of a proposed Road Management Plan (RMP) to be adopted by Colac-Otway Shire Council.
2. Provide a detailed overview of the proposed document.
3. Comment on whether or not the document responds appropriately to the requirements of the Road Management Act 2004 and the Code of Practice and suggest any amendments that may be deemed necessary.

The scope of this review is outlined on the following page.

Echelon Risk Services has completed a desk top examination of the draft RMP having particular regard to compliance, risk management principles and comparatively to other similar council's plans.

From the draft RMP and the supporting documentation supplied by Colac-Otway Shire Council (detailed in Appendix 2), it is apparent to Echelon that Colac-Otway's own review process has considered resources and costs associated with the implementation of the standards contained within the RMP.

In regards to compliance, this review has considered relevant documentation and it is evident that Colac-Otway Shire Council has taken into consideration their legislative obligations when reviewing the RMP.

The risk based approach to frequency of inspections and prioritisation of works is a solid foundation for efficient allocation of resources. Colac-Otway Shire Council has utilised the risk management process in their approach to this particular area of asset management.

In regards to accessibility of the RMP to internal stakeholders and the wider community, Colac-Otway's revised RMP, developed in 2009, is concise and the general readability of the document is good for people that are unfamiliar with risk management functions and practices.

More comprehensive comments on this aspect of the plan can be found in Sections 6 & 7 of this document.

As part of this review, Echelon reviewed the draft RMP, as well as two comparable Road Management Plans developed by other Councils. More detailed comments on this comparison can be found in Sections 8 & 9 of this document, however it can be generally stated that Colac-Otway's inspection and maintenance timeframes fall within the bounds of these other documents.



## 2 SCOPE OF REVIEW

The Review will comment on the effectiveness of the proposed documents from the following perspectives:

1. **Compliance** – Does the proposed RMP comply with the:
  - Code of Practice
  - relevant sections of the Road Management Act (Vic) 2004
  - STEP Consultant framework
  
2. **Risk Management Principles** – Do the proposed measures contained within the draft RMP adhere to the process as outlined in AS/NZS 4360:2004 (Risk Management)? General comments on the risk management elements of the draft RMP will be examined and commented on in Section 9 of this document.
  
3. **Accessibility** – can the text and charts be read and easily understood by internal stakeholders and the wider community who are unfamiliar with the relevant legislation and/or risk management practices? This issue will be considered in Sections 6 & 7.

### 3 DISCLAIMER

This report does not:

- Comment on whether or not a Court will find the Plan to be '*reasonable*'. Obviously the interpretation of this issue will be dependent on the individual Judge and the circumstances being considered in a particular instance. As the Road Management Act 2004 is largely untested legislation it is not possible to provide meaningful guidance as to how the Courts may choose to interpret what is '*reasonable*'.
- Comment on whether or not the proposed Plan is an accurate reflection of the budgetary constraints Council operates under. We are not privy to this information and must, therefore, base our observation on the assumption that the Plan represents a true indication of what public works Colac-Otway Shire Council is reasonably able to undertake.
- The review is an evaluation of the draft RMP provided by Colac-Otway Shire Council and identifies possible improvements based on the available material. This review does not comment on whether or not Council has the technical competency or financial resources to comply with the proposed asset management practices.

## 4 COMPLIANCE

- **ROAD MANAGEMENT ACT (VIC) 2004 (RMA)**

For the purposes of this review, the focus is on Part 4, Division 5 of the RMA. This particular division relates to Road Management Plans.

Section 49 of the RMA states that a road authority may develop and publish a road management plan in accordance with Division 5.

The purposes of a road management plan are having regard to the principal object of road management and the works and infrastructure principles to establish a management system for road management functions based on policy and operational objectives. The purpose is also to set the relevant standard in relation to these road management functions.

Subject to and without limiting the relevant sections of the Act, standards of inspection and repair may also be included in a road management plan.

Section 52 of the RMA sets out what the contents of a road management plan may be. These include setting relevant standards or policies in relation to the discharge of duties of road management functions, details of the management system used to discharge these duties, specification of relevant policies and priorities adopted by the road authority, and any matters that a relevant Code of Practice specifies should be in the road management plan.

Section 53 states that a road management plan may apply, adopt or incorporate any matter contained in any document, code, standard, rule, specification or method in part or in full, amended or verbatim.

Section 54 sets out the procedure for making or amending a road management plan that a road authority must comply with. A road authority must give a notice stating the purpose and general purport of the plan, where a copy can be obtained, the process for anyone aggrieved by the plan to make a submission and allow a 28 day period for the making of submissions. This notice must be published in the Government Gazette, a daily newspaper generally circulated in the relevant area and any other manner prescribed for the purposes of this section.

This section also states a road management plan must be reviewed in accordance with regulations, and an authority may amend its plan in accordance with the regulations.

There are also provisions for notice of making of the road management plan, and the place where copies can be inspected or obtained.

Colac-Otway Shire Council are complying with their obligations under Section 301 of the Road Management (General) Regulations as they apply to review of road management plans.

Comments on the content of Colac-Otway's road management plan are more closely dealt with in the Code of Practice section along with the comments on accessibility in Parts 6 & 7 of this document.

It is also considered worthwhile mentioning that Section 302 (5) of the Road Management (General) Regulations 2005 states that:

*'After a road authority has completed a review of its road management plan, it must -*

- (a) Produce a written report summarising the findings and conclusions of the review; and*
- (b) make the report available for copying or inspection at the place where the road management plan may be inspected or obtained in accordance with section 55(1) (b) of the Act.'*

Colac-Otway Shire Council should take steps to ensure this legislation obligation is satisfied.

- **CODE OF PRACTICE FOR ROAD MANAGEMENT PLANS (SEPT. 2004)**

According to the Code of Practice, a Road Management Plan should contain the following five elements (detailed in the Code's Section 7):

1. Determination of Standards

Colac-Otway's draft RMP contains clear standards for inspection, maintenance and repair as well as the prioritisation of these standards. This prioritisation follows a risk management process, that considers both the road and defect types.

2. Listing of road infrastructure in a road management plan or in an asset register

Council has a Register of Public Roads which is a separate document to the RMP. This Register includes details of road name, asset identification, locality, network type, classification and ownership details.

The RMP states that the register of municipal public roads will be maintained on an ongoing basis. Council should ensure that the register of public roads is maintained and readily updated on a regular basis.

The draft RMP includes descriptions of road classifications utilised throughout the RMP.

3. Standards for inspection

Council has determined road inspection timeframes according to road hierarchy. It is evident that Council has worked through a process of determining what resources are required to completed relevant inspections, and have taken this into account when determining the timeframes.

Council has also documented details of the scope for inspections in the RMP (page 28).

4. Standards for maintenance and repair

The RMP has specific intervention levels at which point maintenance is required. The timeframe for maintenance is prioritised according to risk level, and job descriptions for maintenance have been outlined.

Council has also specified appropriate response levels for defects assessed as exposing the travelling public to a high level of risk exposure.

5. A management system for inspection, maintenance and repair

While comment on this is largely outside the scope of this report, it is evident through details contained in the RMP that Colac-Otway Shire has considered factors such as strategies for planning maintenance work, performance management and review, incident response, allocation of resources and relevant Government transport and other policies.

- **‘STEP’ CONSULTANCY FRAMEWORK**

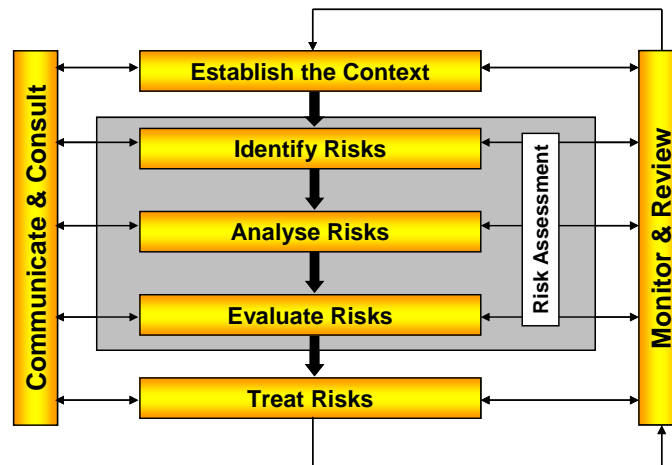
The MAV STEP Program checklist is based on the above-mentioned Code of Practice for Road Management Plans.

It appears evident that Colac-Otway Shire has referred to both the STEP checklist and the Code of Practice during the development of their Road Management Plan.

As the main purposes of the Code of Practice are to (in part as stated in s24(1) of the RMA) provide practical guidance on benchmarks of good practice, determine the operational responsibility for different parts of the road reserve and to determine how to allocate resources and set priorities, Echelon considered it appropriate to focus on the Code of Practice for specific comments in relation to Colac-Otway’s RMP.

This is particularly relevant considering that, as stated in Section 27 of the RMA, a Code of Practice is admissible in evidence in any proceedings relating to the Act.

## 5 RISK MANAGEMENT PRINCIPLES



1. Within Council's RMP, Risk Management is covered under section 2.10 Risk Management Policy and under section 5.0 Risk Management Model.
2. Colac-Otway has effectively utilised a Risk Management Approach so that generally, *“higher classification roads and footpaths are inspected more frequently and issues identified are responded to more promptly”*. For some assets Council has provided for an emergency response if the defect is assessed as a high level of risk to road users (detailed further in Section 9 – Maintenance Standards).
3. In section 2.10, the Standard should be correctly referred to as *AS/NZS 4360:2004*. This is the consistent format for referring to Australian Standards.
4. The new International Standard for Risk Management, ISO 31000 *‘Risk management – Guidelines on principles and implementation of risk management’*, is due for release shortly. Colac-Otway Shire Council should consider including reference to this draft Standard in Section 2.10 and/or Section 5.0 of the RMP as it is intended that the international Standard will eventually replace the Australian Standard.

## 6 ACCESSIBILITY & USE OF 'PLAIN ENGLISH'

The following Sections refer to the general 'readability' of the document for people that are unfamiliar with risk management functions/practices. These comments are offered for Council's consideration as the proposed change may make the plan more 'user friendly' and easier to understand . This is, of course, a matter for Council.

### 1.3 Road Management Plan

We suggest that Council reconsider the sentence in the second bullet point which reads:

*“Descriptions of the road asset management systems that Council has established and will implement to effectively provide a road network that is safe and meets the needs of roads users and the community...”*

The word 'safe' is highly subjective and we suggest that 'appropriate' might be more accurate.

It should also be noted that the word 'safe' is used in paragraph 6 of section 3.1 Maintenance Funding. A similar amendment to the recommendation above may also be appropriate.

### 2.4 Council Plan

Paragraph 2 states:

*“The draft Council Plan 2009 – 20013...”*

It appears that there is a typographical error in the paragraph and the sentence should read '2009 – 2013'.

### 4.2 Register of Municipal Public Roads

This section's bullet point states:

*“Assets on municipal public roads that Colac Otway shire is responsible for .....include..... Road Surface, pavement.....urban street trees, street furniture and tree guards.”*



As the RMA is silent on the issue of inspection and/or maintenance of trees we suggest this issue should not be included in your RMP.

It is also worth noting the term pavement (referring to the asphalt surface of the road) may be confusing to members of the public who may assume '*pavement*' refers to footpath and not road.

#### **6.2.4 Maintenance Records**

The opening paragraph of this section appears confusing and unclear. It is recommended Council reword this paragraph in plain English.

#### **6.3. Asset Inspections**

The Inspection table documented on Page 32, in Section 6.3, has urban street trees documented as part of Council's inspection hierarchy.

As the RMA is silent on the issue of inspection and/or maintenance of trees, we suggest this issue should not be included in your RMP.

## 7 GENERAL COMMENTS

### SECTION 4.8 - NON COUNCIL ASSETS

#### 4.8.2 – Rail Crossings

- Amendments to the Road Safety Act (RSA) introducing provisions relating to Safety Interface Agreements (SIA's) become operational on 1 July 2010.
- It is noted that Council has inserted new section on Rail Crossings within its draft RMP, which appears to be adequately worded. The responsibilities of V/Line, Australian Rail Track Corporation have been summarised and details of Council's responsibilities have been documented, for the erection and maintenance of advance warning signs and all pavement markings associated with the approaches to rail crossings on all municipal roads. We suggest Council adheres to its responsibilities documented in the RMP and that any SIAs (from 1 July 2010) are adhered to, in line with the Road/Rail Safety Interface Agreements PTSV Rail Safety Guidelines (May 2009 – Version 2).

#### 4.8.3.5 – Cattle Grids

- Section 4.8.3.5 of Council's RMP states that cattle grids located on municipal roads are to be inspected and maintained in accordance with Council's relevant policy. It should be noted that although no legal decision in relation to cattle grids and the RMA has been made, it could be argued that cattle grids are defined as *'infrastructure which forms part of a roadway'* in the RMA, which would require Council to include the inspections and maintenance of cattle grids within its RMP duties. If Council has taken the decision to not inspect and maintain its cattle grids as part of its RMP duties, we suggest that this inspection and maintenance system is conducted as part of its common law duties, to ensure that any potential liabilities concerning the gates are addressed.

#### 4.8.3.6 – Fire Access Roads

- It is noted there are designated fire access roads documented in Councils RMP and in Council's Municipal Road Register. In the road register, there are five fire access roads listed, of which three are classified as *'Rural Fire Access'* and two are classified as *'Rural Minor'*.

- In Section 6 of the RMP, the asset class table (Page 31) details Rural Minor roads under the hierarchy, inspection type, maximum inspection interval and responsibility, i.e. two of the fire access roads listed are inspected routinely every 3 years as 'Rural Minor Roads'. However, there is no listing for fire access roads. Council should consider an additional listing or comment on this page to clarify the inspection details for any remaining fire access roads (alternatively this could be listed under Section 4.8.3.6 due to the minimal number of fire access roads within the municipality).
- It should also be noted that for fire access roads that are not recorded on Council's Municipal Road Register, under the RMA, Council does not have a statutory duty to inspect these roads. However, Council will still have a common law duty to ensure that these types of roads are at a standard that will cater for fire fighting vehicles to travel to and from non-residential properties as and when weather conditions allow.

#### **SECTION 7.4 – Exceptional Circumstances**

- It is noted that Colac-Otway Shire Council has inserted an Exceptional Circumstances section into the draft RMP to act as a '*Force Majeure*' clause in the event of natural disasters and/or other events occurring.
- The wording of this section satisfactorily mirrors the recommended wording advice provided by Michael Beasley, Civic Mutual Plus (CMP) Legal Adviser as part of the Legal Guidance Section of the CMP Victorian Best Practice Forum presentations provided in July 2007.
- Flood, fires, natural events, strikes, lack of contractors and terrorism, can result in a municipality being unable to meet its RMP. While Force Majeure clauses are mainly used in project, constructions, building agreements and other contractual documents, to preserve Council's position under the RMA, it is recommended that the Exceptional Circumstances clause in Section 7.4 be included in Colac-Otway's RMP to assist Council in the event of natural disasters and/or other events occurring.

#### **SECTION 9 – PLAN IMPROVEMENT & MONITORING**

- In Council's RMP, it states that regular internal monitoring will be conducted to monitor compliance with Colac-Otway's RMP and the outcomes of the internal audit will be reported to the General Manager of Infrastructure & Services.

- Colac-Otway Shire Council provided Echelon with documentation that included the Road Management Plan Compliance Report conducted for the periods 1 July 2008 to 30 September 2008 and 1 October 2008 to 31 December 2008.
- It is noted that from the RMP Compliance Report conducted by Council, a review of performance compliance is measured against the service levels as defined by the current version of Council's RMP. Where any key issues are identified, these are reported in relation to the ongoing management of Council's road and footpath assets and it is proposed by Council that these are addressed through the revision of Council's RMP. The review also looks at Financial Implications, Risk Management Implications and other Environmental Considerations.
- From our review of the report provided to Echelon, it can be shown that Council analyses data on defects identified and repaired outside intervention, together with inspection and maintenance performance measures. The report shows that internal reviews are conducted and that findings/results of these internal reviews are provided to Senior Management. Where Council identifies RMP non-compliance issues, we suggest that there is a documented an action plan put in place to assist in addressing any identified issues going forward.

## 8 COMPARATIVE ANALYSIS

- **SCOPE OF ASSESSMENT**

A comparative assessment was conducted on Colac Otway Shire Council’s (“Colac-Otway”) Maintenance Performance Criteria and Response Standards contained in their draft Road Management Plan (“RMP”). The assessment involved comparing Colac-Otway’s standards against two similar Victorian Councils. The purpose of the assessment was to provide feedback on intervention levels and response times used and to identify any improvement opportunities based on how Colac-Otway’s RMP compares to other Council RMP’s (current as of 1 June 2009).

- **METHODOLOGY**

The assessment began by selecting similar Councils. Councils were chosen based on their similarity to Colac-Otway in the following areas; population, size of the municipality, length of roads and footpath assets and operating and capital works budget allocated for the 2008/2009 financial year.

We then identified the most common defects and types of inspections included in Council RMP’s, which are listed below. These defects comprise the items utilised for the comparative assessment.

| <b>Inspection Type</b>          | <b>Road Infrastructure Defect</b>  |
|---------------------------------|------------------------------------|
| Proactive Inspection – Road     | Potholes                           |
| Condition Inspection – Road     | Bitumen Failure                    |
| Proactive Inspection - Footpath | Edge Failure                       |
| Condition Inspection – Footpath | Raised/Cracked/Broken Concrete     |
|                                 | Footpath                           |
|                                 | Missing/Damaged Signage            |
|                                 | Missing/Damaged Pit Lids           |
|                                 | Bridge Damage                      |
|                                 | Displaced/Damaged Kerb and Channel |
|                                 | Tree & Shrub Obstruction           |

We have presented the comparative assessment in a series of tables, which follow the general observations section of the report. Each table represents a new inspection type or asset defect. A road and footpath hierarchy has been used for the assessment, which has been designed to closely reflect the hierarchies used by the Council RMP's, which formed part of the assessment (see Table 1 below). The hierarchy applies to both rural and urban roads.

In the comparison, we have stated the response times for defects on urban and rural roads (in the relevant Council RMP) separately, if identified as different. When response times for urban and rural defects were identified as the same, the distinction was not made.

| Road Hierarchy   | Footpath Hierarchy |
|------------------|--------------------|
| <b>Link</b>      | <b>High Use</b>    |
| <b>Collector</b> | <b>Medium Use</b>  |
| <b>Access</b>    | <b>Low Use</b>     |
| <b>Minor</b>     | <b>Shared</b>      |

Table 1 *CMP Road and Footpath Hierarchies used in the Comparative Assessment*

## 9 GENERAL OBSERVATIONS

### • INSPECTION STANDARDS

#### 1. Frequency

- The inspection frequencies identified in Colac-Otway's draft RMP are generally consistent with other Councils. In some instances, more frequent (for example Council's proactive footpath inspections for High and Medium Use footpaths).
- It is noted that Colac-Otway does not perform condition inspections of its low use footpaths or proactively inspect them. Council may consider reviewing its decision not to inspect low use footpaths based on a comparison with Council 1, which has nominated both a proactive and condition inspection timeframe in its plan.

#### 2. Comprehension

- Council has utilized tables to present information on its inspection frequencies for its various asset classes. The tables are in an accessible format allowing the information to be easily understood.
- It is noted that Council has described routine inspections for its bridge assets as requiring a 'Level 1 Inspection' and for condition inspections a 'Level 2 Inspection'. Members of the public may not be aware of what these inspections involve or the difference between a Level 1 and Level 2 inspection. It is important that Council clearly defines these terms.
- It is also noted that Council has labelled an asset class as 'Ancillary Areas'. Council should avoid using broad descriptions of its assets or provide further details of what is to be considered an 'ancillary area'.

#### 3. Level of Coverage

- Colac-Otway's draft RMP includes the common types of inspections carried out by other Councils that is, condition and proactive/routine inspections of its roads and footpaths. Colac-Otway's draft RMP also

includes inspections that were not found in the RMP's of Councils' 1 and 2. For example, road furniture, vegetation, urban street trees and rail crossings.



- **MAINTENANCE STANDARDS**

- 1. **Intervention Level Criteria & Comprehension**

- Colac-Otway has determined its road maintenance standards by considering “existing practices, community expectations, use and function of the road, affordability and equity”. Council has also utilised a Risk Management Approach so that generally, “higher classification roads and footpaths are inspected more frequently and issues identified are responded to more promptly”. For some assets Council has provided for an emergency response if the defect is assessed as a high level of risk to road users. This approach has also been taken by Council 1 and appears to be best practice amongst similar Councils.
- It is noted that under the table heading ‘Activity’ both defects and maintenance activities are listed. For example ‘Potholes’ (defect) and ‘Mechanical Pavement Cleaning’ (maintenance activity) are both situated under this heading. Council should consider separating defects from general maintenance activities. Also, Council should consider whether a heading such as ‘defect’ or ‘hazard’ may be more suitable.
- Council should avoid placing intervention level criteria in the ‘definition/description’ column as potential inconsistencies or confusion may arise. For example this issue may arise in relation to the “Kerb and Channel Repair” defect.

In the Definition/Description column for this defect it states:

- *Repair of damaged kerb and channel due to concrete deterioration or damage*

In the Level of Service column it states:

- *Replace or undertake major repairs when condition suggests that kerb and channel is non functional*

It is apparent that the definition/description refers to intervention level criteria, which is not equivalent to the level of service to be provided.

- Council should ensure that definitions utilized in the tables are easy to comprehend. For example the definition for 'Pavement Markings' is *'reinstate line marking to ensure and effective visibility/condition, subject to assessment'*, which is unclear in its meaning.
- Where possible Council should avoid using subjective language in its intervention level criteria. The use of phrases, such as 'danger to public' and 'substantially ineffective' should be reassessed with consideration had to more specific criteria.
- It is noted that Council has included surplus information in its intervention level criteria for some defects. Removal of this type of information will make for a simpler and more reader friendly document.

For example the Level of Service for the defect 'Brick Paved Areas' includes the statement *'distressed area kept in safe state of repair protecting pedestrians from injury due to tripping and falling'*. This statement does not describe the intervention level for a maintenance response and therefore is not required.

- Council's intervention level for the defect 'Raised/Cracked/Broken Footpath' is a vertical displacement between concrete bays greater than 20mm. The criterion used is consistent with Council 1. It is noted that Council 2 has a 50mm intervention level, which is uncommonly high for this type of defect.
- The comparison shows opportunities available for Council to improve its intervention level criteria by providing more specific criteria.

For example Council could provide measurements similar to Council 1 and Council 2 for the Bitumen Failure defect. However, it is noted that Council has provided more detailed and extensive criteria for some defects, such as Damaged Signage.

- Generally, Council's intervention level criteria for the defects chosen for comparison appear consistent with similar Councils.

## **2. Response Time**

- It is noted that for the defects Bitumen Failure and Bridge Damage Colac-Otway has nominated 'program works' as the appropriate response timeframe. However, Council 1 and 2 have nominated specific response timeframes, indicating that similar Councils assess these types of defects as presenting a "higher risk" requiring a more urgent maintenance response. Council should consider reviewing its response timeframes for these defects. It may be appropriate for Council to separate the defects into different risk categories. If the defect is assessed at a high risk level as opposed to a low risk level, a more urgent response than 'program works' may be required.

## **3. Level of Coverage**

- Colac-Otway's RMP provides extensive coverage of road infrastructure defects and maintenance activities. It includes defects for both sealed and unsealed roads and also considers shared pathways separately from footpaths. When compared to Council 1 and 2, Colac-Otway has incorporated more defects in its RMP, such as "Kerb & Channel" defects. Moreover, general maintenance activities, such as 'shoulder grading' and 'potholing' are covered in Colac-Otway's RMP but are not found in similar Council's.

## APPENDIX 1: COMPARATIVE ANALYSIS

### INSPECTION STANDARDS – ROADS

| Proactive Inspections – Roads | Frequency |          |           |       |           |           |           |         |
|-------------------------------|-----------|----------|-----------|-------|-----------|-----------|-----------|---------|
|                               | Link      |          | Collector |       | Access    |           | Minor     |         |
|                               | Urban     | Rural    | Urban     | Rural | Urban     | Rural     | Urban     | Rural   |
| Colac-Otway Draft RMP         | N/A       | 3 Months | 4 Months  |       | 6 Months  | 12 Months | 2 Years   | 3 Years |
| Council 1                     | 4 Months  |          | 4 Months  |       | 24 Months | 12 Months | 12 Months |         |
| Council 2                     | 6 Months  |          | 12 Months |       | 2 Years   |           | 3 Years   |         |

| Condition Inspections – Roads | Frequency |         |           |       |        |       |       |       |  |
|-------------------------------|-----------|---------|-----------|-------|--------|-------|-------|-------|--|
|                               | Link      |         | Collector |       | Access |       | Minor |       |  |
|                               | Urban     | Rural   | Urban     | Rural | Urban  | Rural | Urban | Rural |  |
| Colac-Otway Draft RMP         | N/A       | 3 Years |           |       |        |       |       |       |  |
| Council 1                     | 3 Years   |         |           |       |        |       | N/A   |       |  |
| Council 2                     | 3 Years   |         |           |       |        |       |       |       |  |

## INSPECTION STANDARDS – FOOTPATHS

| Proactive Inspections – Footpaths | Frequency   |            |                    |                                   |
|-----------------------------------|-------------|------------|--------------------|-----------------------------------|
|                                   | High Use    | Medium Use | Low Use            | Shared                            |
| Colac-Otway Draft RMP             | 6 Months    | 12 Months  | Request Inspection | 6 Months                          |
| Council 1                         | 12 Months   | 24 Months  | 36 Months          | 12 Months (Rail Trail & Off Road) |
|                                   |             |            |                    | 4 Months (On Road)                |
| Council 2                         | Not Covered |            |                    |                                   |

| Condition Inspections – Footpaths | Frequency   |            |               |                                 |
|-----------------------------------|-------------|------------|---------------|---------------------------------|
|                                   | High Use    | Medium Use | Low Use       | Shared                          |
| Colac-Otway Draft RMP             | 2 Years     |            | No Inspection | 2 Years                         |
| Council 1                         | 4 Years     |            |               | 4 Years (Rail Trail & Off Road) |
|                                   |             |            |               | 3 Years (On Road)               |
| Council 2                         | Not Covered |            |               |                                 |

## MAINTENANCE STANDARDS – ROADS

| Road – Pot Hole<br>(Sealed Roads) | Intervention Level                                                                                   | Response Time |            |          |          |
|-----------------------------------|------------------------------------------------------------------------------------------------------|---------------|------------|----------|----------|
|                                   |                                                                                                      | Link          | Collector  | Access   | Minor    |
| <b>Colac-Otway Draft RMP</b>      | Repair when pothole exceeds 50mm in depth and/or 300mm in diameter or likely to deteriorate rapidly  | 2 Weeks       | 3 Weeks    | 1 Month  | –        |
| <b>Council 1</b>                  | Repair when pothole >75mm in depth and >300mm in width or rapid deterioration is likely              | 2 Days        | 4 Days     | 2 Weeks  |          |
| <b>Council 2</b>                  | Potholes in traffic lane of road pavement greater than 300mm in diameter and greater than 100mm deep | 4 Weeks       | Two Months | 6 Months | 6 Months |

| Road – Pot Hole<br>(Unsealed Roads) | Intervention Level                                                                                  | Response Time  |         |           |         |         |         |                 |       |
|-------------------------------------|-----------------------------------------------------------------------------------------------------|----------------|---------|-----------|---------|---------|---------|-----------------|-------|
|                                     |                                                                                                     | Link           |         | Collector |         | Access  |         | Minor           |       |
|                                     |                                                                                                     | Urban          | Rural   | Urban     | Rural   | Urban   | Rural   | Urban           | Rural |
| <b>Colac-Otway Draft RMP</b>        | Repair when pothole exceeds 75mm in depth and/or 300mm in diameter or likely to deteriorate rapidly | N/A            | 2 Weeks | N/A       | 3 Weeks | 2 Weeks | 1 Month | –               |       |
| <b>Council 1</b>                    | Road surface scoured, potholed, rutted, corrugated to a depth of 100mm in excess of 20m length      | Add to program |         |           |         |         |         | –               |       |
| <b>Council 2</b>                    | Potholes in traffic lane of road pavement greater than 500mm diameter and 150mm deep                | 2 Months       |         | 6 Months  |         |         |         | 12 to 24 Months |       |

| Road – Bitumen Failure       | Intervention Level                                                                                                                                                                                                                                                | Response Time                         |                                       |                                       |       |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------|
|                              |                                                                                                                                                                                                                                                                   | Link                                  | Collector                             | Access                                | Minor |
| <b>Colac-Otway Draft RMP</b> | When a failed area presents a hazard to the public, the sealed surface no longer holds, extensive shoving has occurred and road surface drainage is no longer effective. Repair when treatments have failed to solve problem or other treatment is inappropriate. | Program Works                         |                                       |                                       | -     |
| <b>Council 1</b>             | Rectify when the failed area reaches the following intervention levels<br>a) Rectify rutting & depressions >5m <sup>2</sup><br>b) Rectify broken out pavement >5m <sup>2</sup><br>c) Sweep loose stones (>10mm stone) >10m <sup>2</sup> at intersections          | a) 2 Weeks<br>b) 2 Weeks<br>c) 5 Days | a) 3 Weeks<br>b) 3 Weeks<br>c) 5 Days | a) 6 Weeks<br>b) 6 Weeks<br>c) 5 Days | -     |
| <b>Council 2</b>             | Deformations greater than 100mm under a 3m straight edge                                                                                                                                                                                                          | 2 Months                              | 6 Months                              |                                       |       |

| Road – Edge Failure          | Intervention Level                                                                                                                              | Response Time |       |           |       |          |         |       |       |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------|-----------|-------|----------|---------|-------|-------|
|                              |                                                                                                                                                 | Link          |       | Collector |       | Access   |         | Minor |       |
|                              |                                                                                                                                                 | Urban         | Rural | Urban     | Rural | Urban    | Rural   | Urban | Rural |
| <b>Colac-Otway Draft RMP</b> | Repair when edge break exceeds 100mm from the average existing seal width, or when drop off of pavement exceeds 75mm measured over a 20m length | 2 Weeks       |       | 3 Weeks   |       | 1 Month  |         | -     |       |
| <b>Council 1</b>             | Repair when edge break exceeds 150mm laterally, for a 20m length                                                                                | 1 Week        |       | 2 Weeks   |       | 8 Weeks  | 4 Weeks | -     |       |
| <b>Council 2</b>             | Edge drop offs onto unsealed shoulder greater than 100mm                                                                                        | 2 Months      |       |           |       | 6 Months |         |       |       |

## MAINTENANCE STANDARDS – FOOTPATHS

| Footpath – Raised/Cracked/Broken Concrete | Intervention Level                                                                                 | Response Time                                                                                                                                                                                        |                                                                                                                                                                                                      |                                                                                                                                       |                                                                                                                                            |
|-------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|                                           |                                                                                                    | High Use                                                                                                                                                                                             | Medium Use                                                                                                                                                                                           | Low Use                                                                                                                               | Shared                                                                                                                                     |
| <b>Colac-Otway Draft RMP</b>              | Repair or regulate footpath surface where vertical displacement between concrete bays exceeds 20mm | 1 Week                                                                                                                                                                                               | 1 Month                                                                                                                                                                                              | Reactive response to specific defect identification                                                                                   | 1 Month                                                                                                                                    |
| <b>Council 1</b>                          | Vertical displacement<br>a) 15mm – 25mm<br>b) >25mm<br>c) Holes >100mm diameter and 50mm in depth  | a) Grind or ramp with premix within 20 days or temporary ramp and add to replacement program<br>b) Grind or ramp with premix within 10 days and add to replacement program<br>c) Treat within 2 days | a) Grind or ramp with premix within 20 days or temporary ramp and add to replacement program<br>b) Grind or ramp with Premix within 15 days and add to replacement program<br>c) Treat within 2 days | a) Add to prioritized program<br>b) Grind or ramp with premix within 20 days and add to replacement program<br>c) Treat within 2 days | a) Add to prioritized program<br>b) Safety mark within 2 hours and grind or ramp with premix within 20 days and add to replacement program |
| <b>Council 2</b>                          | Defective pedestrian areas with a step greater than 50mm                                           | 4 Weeks                                                                                                                                                                                              |                                                                                                                                                                                                      | 2 Months                                                                                                                              |                                                                                                                                            |



## MAINTENANCE STANDARDS – OTHER

| Missing/Damaged Signage      | Intervention Level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Response Time |       |           |       |        |       |                          |       |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------|-----------|-------|--------|-------|--------------------------|-------|
|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Link          |       | Collector |       | Access |       | Minor                    |       |
|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Urban         | Rural | Urban     | Rural | Urban  | Rural | Urban                    | Rural |
| <b>Colac-Otway Draft RMP</b> | <ul style="list-style-type: none"> <li>▪ Straighten sign support when it becomes noticeable that it is not vertical</li> <li>▪ Replace when damage renders either the sign or support ineffective</li> <li>▪ Clean/replace the sign face when:               <ul style="list-style-type: none"> <li>○ There is a noticeable accumulation of dirt</li> <li>○ Graffiti covers more than 10% of sign or message on sign is defaced</li> </ul> </li> <li>▪ Replace missing or if incorrect sign is in place</li> <li>▪ Replace if sign is illegible at 150m under low beam or in daylight</li> </ul> | 1 Week        |       |           |       |        |       | -                        |       |
| <b>Council 1</b>             | Replace missing or illegible regulatory signs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5 Days        |       | 10 Days   |       | -      |       | 10 Days (Limited Access) |       |
| <b>Council 2</b>             | Safety signs missing, illegible or damaged making them substantially ineffective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 4 Weeks       |       | 2 Months  |       |        |       |                          |       |

| Missing/<br>Damaged Pit Lid  | Intervention Level                                                                                                              | Response Time  |        |                |         |                |         |       |       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------|--------|----------------|---------|----------------|---------|-------|-------|
|                              |                                                                                                                                 | Link           |        | Collector      |         | Access         |         | Minor |       |
|                              |                                                                                                                                 | Urban          | Rural  | Urban          | Rural   | Urban          | Rural   | Urban | Rural |
| <b>Colac-Otway Draft RMP</b> | Repair or replace and pit lids and surrounds when they have deteriorated or are damaged to the extent that they become a danger | 2 Working Days | 1 Week | 2 Working Days | 2 Weeks | 2 Working Days | 1 Month | -     |       |
| <b>Council 1</b>             | Not Covered                                                                                                                     |                |        |                |         |                |         |       |       |
| <b>Council 2</b>             | Damaged or missing drainage pit lids, surrounds, grates, in pedestrian areas or traffic lanes                                   | 24 Hours       |        |                |         | 2 Weeks        |         |       |       |

| Bridge Damage                | Intervention Level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Response Time    |                                       |         |       |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------|---------|-------|
|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Link             | Collector                             | Access  | Minor |
| <b>Colac-Otway Draft RMP</b> | a) Clear and clean when any accumulation of material causes interruption to the escape of drainage water or the operation of expansion joints<br>b) Clear and clean when stream flows are obstructed at structure<br>c) Undertake minor repair or replacement, painting etc. to ensure safe and effective condition of bridge components.<br>d) Repair deck when timber running planks very loose, defective or missing to ensure safe running surface. Includes retightening of coach screws or re-driving of spikes.<br>e) Structure in dangerous condition, not serviceable, structurally unsound or unsafe. | Programmed Works |                                       |         |       |
| <b>Council 1</b>             | <b>Timber Bridges (Only)</b><br>a) Replace missing bridge decking planks<br>b) Replace or tighten loose bridge decking planks that can fly up and damage underside of vehicle<br>c) Repair/replace damaged or missing barrier rail                                                                                                                                                                                                                                                                                                                                                                              |                  | a) Next Day<br>b) 5 Days<br>c) 5 Days |         |       |
| <b>Council 2</b>             | Damage affecting structural performance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  | 2 Weeks                               | 4 Weeks |       |

| Broken/Displaced<br>- Kerb & Channel | Intervention Level                                                                                 | Response Time |           |        |       |
|--------------------------------------|----------------------------------------------------------------------------------------------------|---------------|-----------|--------|-------|
|                                      |                                                                                                    | Link          | Collector | Access | Minor |
| <b>Colac-Otway Draft RMP</b>         | Replace or undertake major repairs when condition suggests that kerb and channel is non functional | Program Works |           |        | -     |
| <b>Council 1</b>                     | Not Covered                                                                                        |               |           |        |       |
| <b>Council 2</b>                     | Not Covered                                                                                        |               |           |        |       |

| Tree & Shrub<br>Obstruction  | Intervention Level                                                                                                                                         | Response Time |         |           |         |          |          |       |       |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------|-----------|---------|----------|----------|-------|-------|
|                              |                                                                                                                                                            | Link          |         | Collector |         | Access   |          | Minor |       |
|                              |                                                                                                                                                            | Urban         | Rural   | Urban     | Rural   | Urban    | Rural    | Urban | Rural |
| <b>Colac-Otway Draft RMP</b> | Tree obstructing safe sight distances, restricts viewing of warning signage, or assessed to be in an unsafe condition causing hazard to traffic or public. | 2 Weeks       | 1 Month | 1 Month   | 2 Month | 2 Months | 3 Months | -     |       |
| <b>Council 1</b>             | Cyclic Maintenance                                                                                                                                         |               |         |           |         |          |          |       |       |
| <b>Council 2</b>             | Trees, shrubs or grasses that have grown to restrict design sight distance to intersections or restrict viewing of safety signs                            | 4 Weeks       |         |           |         | 2 Months |          |       |       |

## **APPENDIX 2: LIST OF COUNCIL REFERENCE DOCUMENTS**

1. Council's Road Management Plan – Draft Amendment April 2009
2. Council's Roads Committee Meeting – Road Management Plan Compliance Report March 2009.
3. Municipal Register of Public Roads for Colac Otway Shire Council

## REFERENCES

1. RMA (VIC) 2004
2. Code of Practice for Road Management Plans, 13 September 2004
3. MAV STEP Road Management Plan Framework
4. RM (General) Regulations 2005
5. Road/Rail Safety Interface Agreements PTSV Rail Safety Guidelines (May 2009 – V2).
6. Rail Safety Act 2006
7. CMP Legal Presentation - R.M. Plans & Events Beyond Your Control, July 2007
8. Vic Roads Guidelines for the Selection of Stock Crossing Sites, and the Placement of Signs when Stock are on Roads – September 1998

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## CONSENT CALENDAR

### OFFICERS' REPORT

D = Discussion

W = Withdrawal

| ITEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | D | W |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <p><b><u>SUSTAINABLE PLANNING AND DEVELOPMENT</u></b></p> <p><b><u>OM092406-14 ONDIT QUARRY CONSULTATIVE COMMITTEE</u></b></p> <p>Department: Sustainable Planning and Development</p> <p><b><u>Recommendation(s)</u></b></p> <p><b><i>That Council:</i></b></p> <ol style="list-style-type: none"> <li><b><i>1. Place the draft Terms of Reference for the Oudit Quarry Consultative Committee on public exhibition for six weeks.</i></b></li> <li><b><i>2. Consider a further report on submissions to the document at the conclusion of the exhibition period.</i></b></li> </ol> |   |   |
| <p><b><u>OM092406-15 BIRREGURRA AND FORREST STRUCTURE PLANS AND RURAL LIVING STRATEGY</u></b></p> <p>Department: Sustainable Planning and Development</p> <p><b><u>Recommendation(s)</u></b></p> <p><b><i>That Council nominate Cr..... as its representative on the Steering Committees for the Rural Living Strategy and Birregurra and Forrest Structure Plan.</i></b></p>                                                                                                                                                                                                         |   |   |

**OM092406-16 REVISION OF LAND SUBJECT TO  
INUNDATION OVERLAY AND INTRODUCTION  
OF THE FLOODWAY OVERLAY INTO THE  
COLAC OTWAY PLANNING SCHEME -  
AMENDEMNT C12**

Department: Sustainable Planning and Development

**Recommendation(s)**

***That:***

1. ***Council request that the Minister for Planning appoint an independent panel to consider all submissions to Amendment C12 to the Colac Otway Planning Scheme.***
2. ***Council officers present revised amendment documentation at the Panel hearing showing the removal of the schedule to the FO, a reduction in the scope of permit exemptions contained with the schedule to the LSIO and the inclusion of all uncovered 'islands' in the LSIO.***

**OM092406-17 FORREST TIGER RAIL TRAIL FUNDING  
AGREEMENT - REGIONAL DEVELOPMENT  
VICTOIRA AND COLAC OTWAY SHIRE**

Department: Sustainable Planning and Development

**Recommendation(s)**

***That Council endorse the funding agreement between Regional Development Victoria and Colac Otway Shire and affix the Common Seal of the Colac Otway Shire to the two (2) funding agreements between Regional Development Victoria and the Colac Otway Shire in order to officially ratify the \$108,000 of funding received by Council for the Forrest Tiger Rail trail project.***



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <p><b><u>OM092406-18 STANDPIPE MANAGEMENT</u></b></p> <p>Department: Sustainable Planning and Development</p> <p><b><u>Recommendation(s)</u></b></p> <p><b><i>That Council:</i></b></p> <ol style="list-style-type: none"> <li><b><i>1. Support the closure of five standpipes at Barpinba, Pirron Yallock, Yeo, Cressy and Alvie.</i></b></li> <li><b><i>2. Support the implementation of a key system at the Birregurra standpipe.</i></b></li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
| <p><b><u>OM092406-19 BROILER FARM PROPOSAL – 210 PIERCES ROAD, BEEAC</u></b></p> <p>Department: Sustainable Planning and Development</p> <p><b><u>Recommendation(s)</u></b></p> <p><b><i>That Council:</i></b></p> <ol style="list-style-type: none"> <li><b><i>1. Advise the Victorian and Civil Administrative Tribunal at the review hearing on 26 June 2009, that Council does not support the amended proposal for a single 640,000 bird capacity broiler farm as it has not been demonstrated by the Environmental Risk Assessment that the odour risk is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.</i></b></li> <li><b><i>2. Advise the Victorian and Civil Administrative Tribunal at the review hearing on 26 June 2009, that Council does not support the original planning proposal for two 320,000 bird capacity broiler farms as it has not been demonstrated by the Environmental Risk Assessment that the odour risk is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.</i></b></li> <li><b><i>3. Advise the Victorian and Civil Administrative Tribunal at the review hearing on 26 June 2009, that Council would support the use and development of 210 Pierces Road, Beeac (CA 140, 141, 148, 149, 152 and 153, Parish of Ondit) for a single 320,000 bird capacity broiler farm which complies with the requirements of the Victorian Code for Broiler Farms 2001 providing an Environmental Risk Assessment is undertaken for odour, dust and noise and demonstrates that the risk from odour, dust and noise is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.</i></b></li> </ol> |  |  |

**Recommendation**

***That recommendations to items listed in the Consent Calendar, with the exception of items ....., be adopted.***

**MOVED** .....

**SECONDED** .....

**OM092406-14 ONDIT QUARRY CONSULTATIVE COMMITTEE**

|             |                                      |           |                                 |
|-------------|--------------------------------------|-----------|---------------------------------|
| AUTHOR:     | Doug McNeill                         | ENDORSED: | Jack Green                      |
| DEPARTMENT: | Sustainable Planning and Development | FILE REF: | Property 75 Potters Road, Ondit |

**Purpose**

To propose a draft Terms of Reference for the Ondit Quarry Consultative Committee which has operated for a number of years in accordance with planning permit requirements for the Ondit Quarry in Potters Road, Ondit.

To recommend that the draft Terms of Reference be exhibited for community feedback prior to formal consideration by Council.

**Background**

The Ondit Quarry is located at 75 Potters Road, Ondit on the corner of Potters Road and Ondit Warrion Road. The quarry has operated for approximately 35 years extracting basalt which is used both within local and regional markets, and is currently run by Cemex Australia P/L.

A planning permit (PP230/07) was issued in March 2008 for an extension of the quarry into land adjoining the site to the south of approximately 40 hectares. The following conditions were included in the permit, reflecting conditions that had been included on previous permits authorising the quarry operations:

19. The Responsible Authority shall provide for secretarial support for a Quarry Consultative Committee, comprising;
  - a. A Convenor and one person (who may be the Secretary) nominated by and representing the Responsible Authority.
  - b. One or two representatives of the permit holder.
  - c. A representative of the Department of Natural Resources and Environment (with quarry responsibility).
  - d. Two representatives of local residents.
20. Meetings of the Quarry Consultative Committee shall be convened on a regular basis and at least twice per year by the Responsible Authority, and shall be attended by at least one representative of the Responsible Authority and at least one representative of the permit holder to the satisfaction of the Responsible Authority.
21. The Consultative Committee shall record and consider all matters raised by representatives which reasonably pertain to the impact of the quarry operations and the permit holder shall have regard to the recommendations of the Consultative Committee, to the satisfaction of the Responsible Authority.
22. The reasonable costs of the Consultative Committee shall be borne by the permit holder to the satisfaction of the Responsible Authority.

The Consultative Committee originated in the 1990s when VCAT determined a planning permit application where there had been concerns expressed by nearby residents in relation to issues including noise, dust, groundwater and blasting, and compliance of the quarry with permit conditions relating to these matters. The two local resident representatives on the Committee were objectors to that application.

Cr Higgins is the current Councillor Representative, and meetings are generally held in May/June and November/December each year to consider reports on environmental monitoring produced by the company under the Work Authority issued by the Department of Primary Industries (DPI), and the planning permit conditions.

### **Corporate Plan/Other Strategies/Policy**

The Consultative Committee operates under the requirement of various planning permits authorising the use of the site at 75 Potters Road for a quarry.

### **Issues/Options**

The Consultative Committee is not an Advisory Committee or Section 86 Committee of Council. Rather, it operates under the auspices of a number of planning permits issued for the Ondit Quarry.

Council could choose to retain the status quo and continue to administer the Committee in accordance with permit requirements without any additional direction, however the disadvantages of this are that there are few guidelines for how the Committee should operate, and no indication of how land owners should be represented on the Committee (ie who is represented and how long is the term of representation).

There are significant advantages to Council of adopting a Terms of Reference for the Committee, including:

- Firm guidance on representation, particularly for land owners (refer above).
- Guidance for frequency and timing of meetings.
- Clarity of purpose for the Committee and its scope.
- Longer term guidance as to the Committee's operation – it currently relies on knowledge of the current members for its administration.

It is recommended the draft Terms of Reference be subjected to public exhibition before Council considers its adoption, and any submissions received.

### **Proposal**

It is proposed that Council publicly exhibit a draft Terms of Reference for the Ondit Quarry Consultative Committee.

### **Financial and other Resource Implications**

There are only minor administrative costs incurred by Council in the administration of the Committee. The planning permit conditions for the quarry require the Council to be compensated for any reasonable costs associated with the Committee.

### **Risk Management & Compliance Issues**

The planning permits issued for the extraction of stone from the Ondit Quarry have required a Consultative Committee comprising Council officers, local land owners and agency representatives to meet infrequently to monitor compliance with the permit conditions. As noted in this report however, there is little guidance as to how the Committee operates on a day to day basis. A Terms of Reference will provide guidance to all parties in the future as

to matters such as meeting frequency, method of choosing land owner representation, and so on.

### **Environmental Considerations**

The underlying purpose of the Committee is to ensure that conditions of planning permits relating to the Ondit Quarry are met, and that there is a local process for identifying and resolving issues that arise in respect of issues such as groundwater, dust, noise and vibration from blasting. The Committee monitors bi-annual reports of compliance with standards for these matters.

### **Communication Strategy/Consultation**

Council officers have discussed a draft version of the Terms of Reference with the Consultative Committee, and have incorporated various feedback.

It is proposed that the document is now placed on public exhibition to seek wider community feedback. In addition to newspaper notices, land owners in the vicinity of the quarry, as well as previous objectors to the quarry operations will be notified by direct letter.

### **Implementation**

Notices will be placed in the Colac Herald and sent by mail to land owners in the vicinity of the quarry, as well as previous objectors to the quarry operations. Comment will be sought over a six week period before a further report to Council for formal consideration. The further views of the Consultative Committee will be sought if significant issues arise during the course of the exhibition process.

### **Conclusion**

A Terms of Reference will help guide the future operation of the Ondit Quarry Consultative Committee. It is recommended that Council place the draft document on public exhibition for a period of six weeks.

### **Attachments**

Draft Terms of Reference

### **Recommendation(s)**

#### ***That Council:***

- 1. Place the draft Terms of Reference for the Ondit Quarry Consultative Committee on public exhibition for six weeks.***
- 2. Consider a further report on submissions to the document at the conclusion of the exhibition period.***

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# **ONDIT QUARRY CONSULTATIVE COMMITTEE**

## **TERMS OF REFERENCE**

**JUNE 2009**

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**REPORT NUMBER : TOR011**

| REV | DESCRIPTION               | ORIG  | REVIEW | APPROVAL | DATE  |
|-----|---------------------------|-------|--------|----------|-------|
| A   | Issue for Internal Review | _____ | _____  | _____    | _____ |
| B   | For final internal Review | _____ | _____  | _____    | _____ |
|     |                           | _____ | _____  | _____    | _____ |

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**RELEASE STATEMENT:**           Unclassified (Shared without Restrictions)

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**REVIEW STATUS:**               Review Period 1 Year

## **1 BACKGROUND**

The Ondit Quarry Consultative Committee (the Committee) is a review body created by the Colac Otway Shire as a condition of operation for the Ondit Quarry under its planning permit. Its primary function is to review the operator's environmental performance and enhance communication between the quarry operator, industry, government agencies and the community.

The Committee has been operating for a number of years. Since inception the scope of the Committee's interests has grown from a focus on purely environmental matters to other matters of relevance to the community. As a result the ability of the Committee to act as an effective body for review and communication has also grown.

## **2 FUNCTIONS OF THE COMMITTEE**

The role of the Committee is one of consultation, not consent. The Committee cannot approve a Work Plan or discharge any other legislated authority. Recommendations from the Committee can assist the regulating agencies including the Council in the enforcement of permit conditions and assessment of proposed changes to the operation, and can influence the licensee in its management of the operation. However, the Committee and its members are not legally liable for any actions of the company or a Government agency.

The Committee should confine their review to those areas and activities under the control or direct responsibility of the company and within the mining licence or work authority area. This aside, it is normal practice for the Committee to deal with monitoring stations or local community inquiries that may be some distance from the site provided they relate to the operation.

The key role of the committee is to review the performance of the operator against the requirements of legislation, the licence, planning permit and the EMP. The committee may also act as a forum for discussion amongst government agencies, the community and the company. Subsidiary roles include:

- provision of feedback on any environmental problems associated with the quarry operation;
- enabling consultation on Work Plans, Work Plan Variations and changes to planning permits and planning permit conditions; and
- improving community understanding about quarrying and mechanisms of government.



## **3 GENERAL**

### **3.1 Membership**

The Committee is chaired by a Colac Otway Shire Councillor and Executive support is provided by a Council Officer.

The membership of the Committee is:

- Colac Otway Shire Councillor (Chair);
- Department of Primary Industries;
- Local residents (no more than two representatives);
- Representatives of the Quarry planning permit holder (one or two representatives); and
- Colac Otway Shire Planning and Building Manager or Environment and Community Safety Manager (Executive Officer); and

Nominations will be sought by Council for the two local resident representatives upon adoption by Council of the Terms of Reference. The representatives will hold this position for three years, at which time fresh nominations will be sought. Representatives should demonstrate a direct interest in the quarry operation as a land owner/occupier.

Other bodies may be invited by agreement of the committee on a short or long term basis for specific issues or where the local situation warrants. e.g. Department of Sustainability and Environment (DSE) may be required for projects which have impacts on threatened species. Other groups such as the Victorian Farmer's Federation, local environmental groups, or Aboriginal associations may also be useful contributors for some projects.

### **3.2 Meeting Frequency**

The group shall meet at least two times per year, in line with the release of ground water testing results, but may meet more regularly if required. The Committee will therefore aim to meet in May/June and November/December each year.

### **3.3 Chair**

The Chairperson will convene all meetings and provide feedback to the Committee in accordance with the agreed principles or direction of the group.

If the designated Chair is not available, then the Executive Officer will assume the role of Acting Chair and will be responsible for convening and/or conducting that meeting. The Acting Chair is responsible for informing the Chair as to the salient points/decisions raised or agreed to at that meeting.

Meetings of the group shall at all times be under the control of the Chair and shall be conducted in accordance with good meeting procedures.

### **3.4 Executive Officer**

The Executive Officer will be responsible for minutes, agendas, meeting papers, etc. In the event that Executive Officer is unavailable, he/she will designate these responsibilities to another member of Colac Otway Shire staff and notify the Chair of such arrangements.

### **3.5 Decision Making**

Voting will be used to accept minutes and other resolutions where necessary. The group should aim to achieve consensus on any decisions (where required). Where this cannot be attained, the Chair has the casting vote. This vote may be undertaken at the following meeting, if further advice is required.

### **3.6 Conflict of Interest**

Members of the group shall notify the Chair where potential conflicts of interest may arise at the earliest possible convenience, in accordance with good meeting practice. Such conflicts shall be recorded in meeting minutes.

### **3.7 Agenda Items**

All agenda items should be forwarded to the Executive Officer by C.O.B. five working days prior to the next scheduled meeting.

The agenda, with attached meeting papers will be distributed at least three working days prior to the next scheduled meeting by the Executive Officer. For documents requiring review, appropriate time will be allowed between document distribution and expected submittal of review.

The meeting agenda will include outstanding action items from the previous meeting and any relevant new issues for consideration as submitted by the members. Members may raise an item under 'Other Business' as time permits and at the discretion of the Chair.

### **3.8 Minutes & Meeting Papers**

The minutes of each meeting will be prepared by the Executive Officer. Full copies of the minutes, including attachments, will be provided to all members no later than 10 working days following each meeting. Minutes including attendance, apologies, issues discussed, resolutions made and action items will all be recorded for each meeting by the Executive Officer.

All out-of-session decisions will be recorded in the minutes of the next scheduled Steering Committee meeting.

### **3.9 Guests**

The group may invite guests to appear at the meeting via the approval of the Chair and a majority of members. Guests may include any persons whom provide technical or other insight as appropriate from time to time. The group is encouraged to make use of guests where particular skills/experience can be provided, however guests do not have voting capacity.

Meetings will be open to the public.

### **3.10 Quorum Requirements**

A minimum of four members is required for the meeting to be recognised as an authorised meeting for the recommendations or resolutions to be valid.

DRAFT

## OM092406-15 BIRREGURRA AND FORREST STRUCTURE PLANS AND RURAL LIVING STRATEGY

|             |                                      |           |   |
|-------------|--------------------------------------|-----------|---|
| AUTHOR:     | Paul Marsden                         | ENDORSED: | Jack Green  |
| DEPARTMENT: | Sustainable Planning and Development | FILE REF: | GEN00451 Birregurra & Forrest Structure Plans & Rural Living Strategy |

### Purpose

To advise Council of the commencement of the Rural Living Strategy and Birregurra and Forrest Structure Plans, and to seek the appointment of a Councillor representative on the Steering Committee for both projects.

### Background

The 2008/09 budget includes funds for the development of a Rural Living Strategy and completion of structure plans for the townships of Birregurra and Forrest.

Tenders were called late in May 2009, and it is anticipated that the successful consultant will be identified and appointed by early July. Draft issues and opportunities reports are expected to be completed for Council consideration in the latter part of the year.

The Rural Living Strategy will develop an integrated land use framework to guide current and future rural residential development within the Shire. The strategy will review boundaries and zones within small towns throughout the Shire as well as reviewing appropriate locations for rural residential development.

The Birregurra and Forrest Structure Plans will provide a long-term vision and planning framework for each of the townships. This vision will be based on a thorough analysis of residential, commercial, industrial and recreational needs and the social and physical infrastructure that supports these land uses.

Steering Committees have been established for both projects comprising:

- General Manager Sustainable Planning and Development
- Manager Planning and Building
- Strategic Planner
- Statutory Planning Co-ordinator
- Manager Recreation, Arts and Culture
- Manager Capital Works
- Environmental Planner
- Economic Development Officer
- Council representative (yet to be nominated)

These Committees include a mix of internal representatives to ensure that all relevant departments contribute to the development of the Study. Both projects will involve a collaborative process, inclusive of stakeholder and community interests. Residents, local businesses and community groups will be consulted directly during the process to ensure their interests are taken into account.

It is anticipated that project inception meetings will be held with the Steering Committee for each project early in July/August 2009 after Council has confirmed its nominated representative. The methodology and time frames of the Studies will be confirmed at this meeting.

### **Corporate Plan/Other Strategies/Policy**

The 2005 – 2009 Council Plan identifies the following Community Priority for Planning and Development:

*The completion of Neighbourhood Character Studies, Structure Plans, policy development and a review of the impact of the transfer of agricultural land to forestry use.*

It is considered that the completion of the Birregurra and Forrest Structure Plans and Rural Living Strategy will assist in the achievement of the above community priority.

Council also completed a Rural Land Strategy in 2007. The strategy involved a review of all rural land within the municipality and sought to inform new rural policy and the implementation of the new Rural Zones. The suite of new rural zones was introduced into the Victoria Planning Provisions via Amendment VC24 in July 2004 and included new Farming, Rural Conservation, Rural Activity and Rural Living Zones.

The Rural Land Strategy identified that there is an increasing demand for rural lifestyle opportunities within the Shire and that currently there are no areas zoned for Rural Living. It was suggested that this demand for rural lifestyle properties has led to *de facto* rural living in the Farming Zone.

To better manage this growing demand, the final Rural Living Strategy included a recommendation that Council undertake a Rural Living Strategy to identify candidate areas for the application of the Rural Living Zone, including an evaluation as per Ministerial Direction No. 6. This recommendation was supported by the Panel for Amendment C55 and was subsequently adopted by Council.

### **Issues/Options**

It is desirable that a Councillor be represented on the project Steering Committees to assist Council in understanding the projects and contribute to their development through the process.

The objectives, scope and outcomes of the Birregurra and Forrest Structure Plans and the Rural Living Strategy are likely to be closely interrelated. It is therefore considered appropriate for Council to nominate one representative to sit on both steering committees.

In this way it will be possible to facilitate a coordinated and integrated approach to both projects. However, if considered more appropriate, Council could choose to nominate a different representative for each of the projects. Alternatively, Council could choose not to be represented, and rely on briefings on the project throughout the process.

### **Proposal**

It is proposed that Council nominate a Councillor to attend meetings of the Steering Committees for the Birregurra and Forrest Structure Plans and the Rural Living Strategy.

**Financial and other Resource Implications**

The Rural Living Strategy and Birregurra and Forrest Structure Plans are funded within the 2008/09 budget.

**Risk Management & Compliance Issues**

There are no risk management issues relevant to this report.

**Environmental Considerations**

There are no environmental considerations relevant to the report. Environmental issues will be considered throughout the completion of both projects.

**Communication Strategy/Consultation**

The Steering Committee will meet with the project consultants in July/August 2009 to commence the project. Details of broader engagement and consultation with the community will be determined upon appointment of the successful consultants.

**Implementation**

The nominated Councillor representative will be advised of the date, time and location of the Steering Committee meetings.

**Conclusion**

It is desirable that a Councillor be represented on the project Steering Committees to assist Council in understanding the projects and contribute to their development through the process.

It is considered preferable for Council to nominate one representative to sit on both steering committees in light of their close interrelationship in terms of scope and likely outcomes. In this way it will be possible to facilitate a coordinated and integrated approach to both projects. However, if considered more appropriate, Council could choose to nominate a different representative for each of the projects or could choose not to be represented, and rely on briefings on the projects throughout the process.

This report asks Council to nominate a representative.

**Attachments**

Nil

**Recommendation(s)**

***That Council nominate Cr..... as its representative on the Steering Committees for the Rural Living Strategy and Birregurra and Forrest Structure Plan.***

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**OM092406-16 REVISION OF LAND SUBJECT TO INUNDATION OVERLAY AND INTRODUCTION OF THE FLOODWAY OVERLAY INTO THE COLAC OTWAY PLANNING SCHEME - AMENDEMNT C12**

|             |                                      |           |                           |
|-------------|--------------------------------------|-----------|---------------------------|
| AUTHOR:     | Paul Marsden                         | ENDORSED: | Jack Green                |
| DEPARTMENT: | Sustainable Planning and Development | FILE REF: | GEN00451<br>Amendment C12 |

### **Purpose**

To present submissions received during exhibition of Amendment C12 - Revision of Land Subject to Inundation Overlay (LSIO) and introduction of Floodway Overlay (FO) to the Colac Otway Planning Scheme for Council's consideration and determination in accordance with sections 22 and 23 of the *Planning and Environment Act 1987*.

To seek a resolution of Council to request that the Minister for Planning appoint an independent panel to consider submissions received by Council in relation to Amendment C12 to the Colac Otway Planning Scheme.

### **Background**

In 2007 Council undertook a review of the areas within the municipality which are subject to flooding. The review recommended variations to the extent of the Land Subject to Inundation Overlay (LSIO) and the introduction of the Floodway Overlay (FO) into the Planning Scheme. The review also recommended changes to the Schedule to the Land Subject to Inundation Overlay to specify buildings and works that are exempt from the requirement of a planning permit.

This background strategic work and the recommendations contained within the review serve to underpin the form and content of Amendment C12 (Revision of Land Subject to Inundation Overlay and Introduction of Floodway Overlay). The Amendment was prepared in conjunction with the Corangamite Catchment Management Authority and forms part of a state wide approach aimed at ensuring flood information contained in planning schemes is as relevant as possible.

Amendment C12 to the Colac Otway Planning Scheme was formally adopted by Council at its meeting on 27 of May 2008. A copy of the exhibited Explanatory Report can be found at **Attachment 1**. Following its formal adoption, Council requested the Minister's authorisation to prepare and exhibit an amendment to the Colac Otway Planning Scheme to:

- Modify the Land Subject to Inundation Overlay maps to align with updated flood mapping provided by the Corangamite Catchment Management Authority (CCMA).
- Amend the Schedule to the Land Subject to Inundation Overlay to specify buildings and works that are exempt from the requirement of a planning permit.
- Introduce the Floodway Overlay to areas of the Shire identified as having the greatest risk and frequency of being affected by flooding.
- Introduce a schedule to the Floodway Overlay to specify buildings and works that are exempt from the requirement of a permit;

Authorisation from the Minister was received on 17 July 2008. Amendment C12 was subsequently exhibited from 12 September 2008 to 27 October 2008 and a total of 13 submissions were received. Each submission is considered in more detail in **Attachment 2**.

An officer's report was put to the May 2009 Council meeting but was subsequently deferred at the request of Council pending a more detailed briefing. Council was briefed on the content of the report at a Councillor briefing session on Wednesday 13 May 2009. A subsequent workshop was also conducted with Council on this matter in June 2009. The briefing was also attended by the CCMA's Floodplain Manager, Tony Jones.

A number of issues were raised by Councillors at the briefing session relating to:

- The coverage of the LSIO over the Barham River Floodplain and the appropriateness of small 'islands' that were excluded from the LSIO in this area.
- The appropriateness of the exemptions included in the Schedule to the FO and LSIO.
- Consideration of images received by Council showing historical floods on the Barham River floodplain and possible referral to the CCMA.

As a result of the concerns raised by Council, officers undertook a review of the exhibited amendment documentation. This review included a meeting with the CCMA's Floodplain Manager and Statutory Functions Co-ordinator on Tuesday 26 May 2009. The changes recommended as a result of this review are outlined further under the *Issues/Options* section of this report.

### **Corporate Plan/Other Strategies/Policy**

The 2005 – 2009 Council Plan includes a community planning priority to:

*Undertake a comprehensive review of the Colac Otway Planning Scheme and prepare an updated Municipal Strategic Statement and Local Planning Policy Framework to address the recommendations arising from the Planning Scheme Review.*

The proposed planning scheme amendment will contribute towards the implementation of the Council Plan.

### **Issues/Options**

In accordance with Section 22 of the *Planning and Environment Act* (1987), Council is now required to consider all submissions made during the exhibition period. Under Section 23 of the Act, "Decisions about submissions", the following is required:

#### **23. Decisions about submissions**

- (1) *After considering a submission which requests a change to the amendment, the planning authority must –*
  - (a) *change the amendment in the manner requested; or*
  - (b) *refer the submission to a panel appointed under Part 8; or*
  - (c) *abandon the amendment or part of the amendment.*

A total of 9 submissions were received by Council during the exhibition period and 4 late submissions were received after the exhibition period ended. All 13 submissions were referred to the CCMA for comment. Referral comments were received back from CCMA on the 17 February and the 6 April 2009. These comments have been used to assist Council in its consideration of the submissions received.

A number of common themes emerged from the submissions received by Council. These themes are outlined in more detail below. Full consideration of each submission can also be seen at **Attachment 2 – Consideration of Submissions Report**.



- ***The exemptions for minor buildings and works contained within the proposed schedule to the LSIO and FO are inappropriate and could alter flood flow and velocity.***

The exhibited schedules to the LSIO and FO introduced exemptions from the need to obtain a planning permit for certain minor buildings and works. The proposed exemptions related to works or development for which the CCMA had no objection or specific requirements. It was considered that the inclusion of such exemptions would assist in reducing the resource and administrative costs for Council in administering the LSIO.

As already mentioned, Council officers undertook a review of the exhibited schedules as a result of concerns raised by Council at the briefing session held in May. This review included a meeting with CCMA's Floodplain Manager and Statutory Functions Coordinator. A number of changes to the exhibited schedules were recommended as a result of this meeting and ongoing discussions with CCMA.

The purpose of the FO is to identify waterways, flood paths, drainage depressions and high hazard areas which have the greatest risk of flooding. It is the opinion of Council officers and the CCMA that it would be inappropriate to exempt any buildings and works in these areas given the intensity and velocity of the flood hazard. Accordingly, it is considered appropriate to remove the FO schedule entirely.

Council also raised concerns over the scope of exemptions included within the schedule to the LSIO. Whilst it is considered appropriate to exempt some minor works within the schedule to this overlay, both CCMA and Council officers agreed that the scope of the exhibited exemptions needed to be reassessed.

The inclusion of exemptions reduces the resource and administrative cost to Council and the community. However, this benefit is not justified if it results in inappropriate development in flood prone areas. Accordingly, the exemptions contained within the exhibited schedule will be scaled back to address the concerns raised by Council.

- ***The proposed amendment does not take into consideration the future impacts of climate change.***

The delineation for the proposed LSIO for maps 29 and 30 utilises the most accurate flood data currently available to Council and has considered the potential impacts of climate change including extreme storm events, sea level rise and tidal surges.

It is considered that the coverage of the LSIO effectively addresses the issue of potential sea flooding stemming from anticipated future sea level rises. The Victorian Coastal Strategy 2008 recommends that '*...a policy of planning for sea level rise of not less than 0.8 metres by 2100 should be implemented*'. The flood mapping has been designed to accommodate a future sea level rise of 0.8 metres and an estimated 1 in 100 year sea surge level of 3 metres AHD.

It is also worth noting that Amendment C12 has not been designed as a tool to map the future impacts of climate change. Rather, it seeks to place appropriate controls on areas identified as liable to flooding to ensure inappropriate development does not occur. Other Local, State and Federal government initiatives such as the Future Coasts Program and the Victorian Coastal Strategy will develop specific tools and mapping data required to effectively manage the impacts of climate change.

- ***The mapping is flawed as it does not apply the Floodway Overlay to all coastal waterways.***

The decision not to include the FO on all coastal waterways is not based on the belief that they do not flood. Rather, the floodway mapping has been undertaken based on a 1 in 100 year flood event and has therefore been designed around this level of frequency and severity.

In order to apply the FO to all coastal waterways it would be necessary for Council to implement a FO based on an estimated 1 in 10 year flood event. Both CCMA and COS would require a significant amount of additional funding and resources in order to obtain the necessary flood data to account for a 1 in 10 year flood event. The importance of the FO is acknowledged, however it is not feasible to implement it in its entirety as part of this amendment due to the absence of relevant flood data.

In its current form, Amendment C12 ensures that all coastal waterways are covered by the LSIO. The controls contained within the LSIO trigger the need for a Planning Permit and require referral of all development applications to the CCMA. This level of control is considered appropriate given the fact that development is highly unlikely to take place on coastal waterways as a result of obvious environmental constraints and existing zoning and overlay controls.

- ***The reduced area of the LSIO is unjustifiable and does not represent a conservative estimate.***

In some areas of the Shire the extent of the LSIO has been reduced. This is largely as a result of imprecise data used to inform the previous application of the overlay. It is considered that Amendment C12 presents Council with an opportunity to correct any anomalies that have been detected in the coverage of the existing LSIO.

Ongoing discussions with CCMA have revealed that the existing LSIO coverage was based on 10m contour intervals whereas the exhibited mapping for C12 is based on more precise, 1m contours. The availability of this refined data has resulted in the perimeter of the LSIO receding in some areas. Ultimately, any such reduction in the coverage of the LSIO proposed by Amendment C12 is simply a reflection of the more detailed and accurate data now available to Council.

As already mentioned, Council officers have undertaken a review of the exhibited amendment documentation as a result of concerns raised by Council at the briefing session held in May. A number of changes to Maps 29 and 30 were recommended as a result of this review and ongoing discussions with CCMA.

The exhibited LSIO mapping provided by CCMA included several uncovered 'islands' in the coverage of the overlay on the Barham River Floodplain. The appearance of these islands is a direct result of the use of more refined flood data that has been modelled on 1m contours. At the Council briefing in May, concerns were raised over the exclusion of these islands from the overlay given the fact that they are located on the floodplain.

There is no apparent disadvantage associated with the inclusion of these 'islands' in the coverage of the LSIO. Rather, given the fact that a flood event would render these areas inaccessible via land, it seems appropriate that they be included in the overlay. It is also considered that such a decision would make it easier for Council to administer the LSIO.

In light of the above the CCMA have now agreed that all uncovered 'islands' contained within the exhibited LSIO mapping will now be included in the LSIO. Council officers support this recommendation.

As part of the review, Council officers also sourced additional images of flood events from submitters and the president of the Apollo Bay Historical Society. It was hoped that this could either confirm or deny the appropriateness of the proposed LSIO and FO coverage. A number of photos were received and subsequently referred to CCMA for consideration.

The poor quality of the photos coupled with a lack of reliable historical data make it difficult to determine the precise extent of the flooding. Consequently, no additional changes to the exhibited mapping were recommended as a result of the images sent to CCMA.

### **Proposal**

The submissions to the proposed amendment have been discussed in detail in this report. Having reviewed the content and intent of each submission, it is considered unlikely that all suggested changes could be implemented. It is therefore recommended that all submissions be referred to a Panel in accordance with Section 23 of the Act. This will give all submitters the opportunity to raise their concerns before an independent Panel hearing.

It is further recommended that Council officers present revised amendment documentation at the Panel hearing showing the removal of the schedule to the FO, a reduction in the scope of permit exemptions contained with the schedule to the LSIO and the inclusion of all uncovered 'islands' in the LSIO.

It is therefore proposed that:

- All submissions received to Amendment C12 to the Colac Otway Planning Scheme are considered as relevant.
- All submissions are referred to a Panel.
- Council officers present the proposed changes to the exhibited amendment documentation at the Panel hearing.

### **Financial and other Resource Implications**

Costs associated with the amendment are budgeted for in the Sustainable Planning and Development Department budget.

### **Risk Management & Compliance Issues**

Section 21(2) of the Planning and Environment Act 1987 states:

*The planning authority must make a copy of every submission available at its office for any person to inspect during office hours free of charge until the end of two months after the amendment comes into operation or lapses.*

All submissions to the amendment are therefore publicly available documents and are on display at the Council offices.

Council's consideration of this report satisfies Council's obligations under sections 22 and 23 of the Planning and Environment Act of 1987 to consider and make a decision about submissions.

**Environmental Considerations**

The Amendment will not alter the manner in which environmental issues are considered when assessing planning permit applications triggered by the LSIO and FO.

**Communication Strategy/Consultation**

Submitters will be invited to attend the Council meeting. If the Planning Committee chooses to refer submissions to a panel, Council and those whose submissions are referred to a Panel will have the opportunity to be heard at the Panel hearing. All submitters will be advised of the Council's decision and the Panel will send invitations to the hearing.

A media release will be issued after the Council decision to make the broader community aware of any changes Council has considered to the amendment.

**Implementation**

If adopted, the resolution will be implemented by referring all submissions to a panel. The Minister for Planning will be requested to appoint a panel under Part 8 of the *Planning and Environment Act 1987*.

**Conclusion**

Based on an analysis of the submissions received by Council and the referral comments received from the CCMA, it is considered that the amendment cannot be changed in a manner that accommodates all matters raised within the submissions.

Council officers have also undertaken a review of the exhibited amendment documentation as a result of concerns raised by Council at the briefing session held in May. A number of changes to the exhibited amendment documentation are recommended as a result of this review. It is proposed that these changes be presented at the Panel hearing for further consideration.

To enable the amendment to proceed, it is recommended that Council request that the Minister for Planning appoint an independent panel to consider all submissions to Amendment C12 to the Colac Otway Planning Scheme. This will provide submitters with an opportunity to raise their concerns before an independent panel appointed by the Minister for Planning.

Once the Panel Hearing and associated Panel Report have been completed, a further report will be prepared for Council. At this point Council would be required to resolve whether to adopt, abandon or make changes to the amendment as proposed.

**Attachments**

**Attachment 1:** Amendment C12 – Explanatory Report

**Attachment 2:** Consideration of Submissions Report

**Recommendation(s)****That:**

1. ***Council request that the Minister for Planning appoint an independent panel to consider all submissions to Amendment C12 to the Colac Otway Planning Scheme.***
  
2. ***Council officers present revised amendment documentation at the Panel hearing showing the removal of the schedule to the FO, a reduction in the scope of permit exemptions contained with the schedule to the LSIO and the inclusion of all uncovered 'islands' in the LSIO.***

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*Planning and Environment Act 1987*

## **COLAC OTWAY PLANNING SCHEME**

### **AMENDMENT C12**

#### **EXPLANATORY REPORT**

#### **Who is the planning authority?**

This amendment has been prepared by the Colac Otway Shire Council, which is the planning authority for this amendment.

The amendment has been made at the request of Colac Otway Shire Council.

#### **Land affected by the amendment.**

The amendment applies to all land within the Colac Otway Shire affected by flooding.

#### **What the amendment does.**

The amendment:

- Modifies the Land Subject to Inundation Overlay maps to align with updated flood mapping provided by the Corangamite Catchment Management Authority.
- Introduces Floodway Overlay maps to implement flood mapping provided by the Corangamite Catchment Management Authority.
- Amends the Schedule to the Land Subject to Inundation Overlay to specify buildings and works that are exempt from the requirement of a planning permit.
- Introduces the Floodway Overlay to the Colac Otway Planning Scheme and inserts a schedule to specify buildings and works that are exempt from the requirement of a planning permit.

#### **Strategic assessment of the amendment**

- **Why is the amendment required?**

As a result of a review of the areas of the municipality which are subject to flooding, the extent of the Land Subject to Inundation Overlay (LSIO) is proposed to be varied and the Floodway Overlay (FO) introduced into the Planning Scheme. The LSIO mapping in the current scheme is in some cases incomplete or inaccurate. The Council in association with the Corangamite Catchment Management Authority has now reviewed and updated the application of the overlay as a result of more accurate information on flooding obtained under the Flood Data Transfer Project, which was managed by the former Department of Natural Resources and Environment for regional Victoria.

The Flood Data Transfer Project has collected and reviewed all flood data information currently available with the objective of producing high quality, consistent and comprehensive flooding information. The data was collected from the former NRE and other organisations, local government and water authorities.

The Floodway Overlay has been applied to areas that have the greatest risk and frequency of being affected by flooding. A floodway is identified as the channel, stream and that portion of land subject to inundation necessary to convey the main flow of floodwater, and are often, but not necessarily, the areas of deeper flow or the areas where higher velocities occur. It includes areas that convey active flood flows or store floodwater.

The areas included in the Land Subject to Inundation Overlay are likely to be affected by a 1 in a 100 year flood. Flooding in these areas is less severe although some property damage may occur. The Overlay seeks to ensure that development maintains the free passage of floodwaters, minimises flood damage, is compatible with flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity. The area covered by the overlay is based on the most accurate available information.

Colac Otway Shire Council's three year Planning Scheme Review Report, prepared pursuant to Section 12B(1) of the *Planning and Environment Act 1987* identified that:

*"The LSIO schedule presently serves little useful purpose and will need to be modified pending updated advice, mapping and the requirements of the Corangamite Catchment Management Authority. It is noted that there is some inconsistency between Council's local flood mapping and that of the CMA. Moreover, some of the provisions of Clause 802 of the Building (Interim) Regulations 2005 need to be reflected in any LSIO schedule."*

The proposed amendment seeks to respond to this issue.

The amendment will assist Colac Otway Shire Council and the Corangamite Catchment Management Authority in carrying out more effective planning and management of land affected by flooding. The amendment will provide clearer guidance for proposals in flood affected areas, streamline decision making and provide greater certainty for landowners.

- **How does the amendment implement the objectives of planning in Victoria?**

The amendment implements the objectives of planning in Victoria as outlined in the *Planning and Environment Act, 1987*. In particular it implements the objectives of Section 4(1)(a) by providing for the fair and orderly development of land, Section 4(1)(b) by ensuring a safe working, living and recreational environment, and Section 4(1)(f), by facilitating development in accordance with these objectives.

- **How does the amendment address the environmental effects and any relevant social and economic effects?**

The Amendment will have positive effects on the environment by controlling development in areas affected by flooding and also by ensuring that the environmental significance of floodplains is protected.

The Amendment is not expected to have any detrimental economic or social effects. Rather, it is expected to have positive effects because flood risks to life, property and community infrastructure can be minimised and appropriate minor buildings and works will be exempted from the need to obtain a planning permit.

- **Does the amendment comply with the requirements of any Minister's Direction applicable to the amendment?**

The amendment is of local significance only and complies with all Minister's Directions under Section 12 of the *Planning and Environment Act 1987*.

The amendment is not directly affected by Minister's Directions for the *Melbourne 2030 Strategy*, that is *Minister's Direction No 9, Metropolitan Strategy* and *Minister's Direction No 10, Urban Growth Strategy*.

The amendment complies with Minister's Direction No 11, *Strategic Assessment of Amendments*. All requirements to be met under the direction have been considered and met in the preparation of the amendment.

The amendment is consistent with the *Ministerial Direction on the Form and Content of Planning Schemes* under section 7(5) of the Act.

• **How does the amendment support or implement the State Planning Policy Framework?**

State Planning Policy states the following objective for floodplain management (15.02-1):

*“To assist the protection of:*

- *Life, property and community infrastructure from flood hazard.*
- *The natural flood carrying capacity of rivers, streams and flood ways.*
- *The flood storage function of floodplains and waterways.*
- *Floodplain areas of environmental significance”.*

The Implementation clause (15.02-2) includes amongst other things that:

*“Land affected by flooding, including floodway areas, as verified by the relevant floodplain management authority, should be shown on the planning scheme maps. Land affected by flooding is land inundated by the 1 in 100 year flood event or as determined by the floodplain management authority”*

The amendment will assist in implementing these aspects of State Policy.

• **How does the amendment support or implement the Local Planning Policy Framework?**

The amendment supports and assists in implementing Clause 21.04-02 (Natural Resources and Cultural Heritage Management) of the Local Planning Policy Framework. The Clause lists the following objective, strategy and selected implementation measures:

***Key objective***

*To manage the natural and cultural resources of the Shire in a sustainable manner to balance the needs of the future with protection for the key elements of the natural and cultural environment which are fundamental to the prosperity of the Shire.*

***Strategy to achieve the objective:***

*Minimise environmental hazards.*

***Implementation will be achieved by:***



- *Promoting floodplain management policies, which minimise loss and damage, maintain the function of the floodway to convey and store floodwater and protect areas of environmental significance.*
- *Encouraging the use of "constructed wetlands" as a means of storing floodwater, improving water quality and adding to natural habitats.*
- *Including over areas subject to inundation a Land Subject to Inundation Overlay.*
- *Using the findings of the Shire's Floodplain Management Project to manage flood prone areas, floodplains and wetlands.*

The accurate application of the FO and the LSIO will assist in planning for and managing waterways, marine environments and areas of environmental hazards, resulting in a positive outcome for catchments and the Shire generally.

- **Does the amendment make proper use of the Victoria Planning Provisions?**

The amendment makes proper use of the Victoria Planning Provisions. The amendment proposes to amend the Land Subject to Inundation Overlay maps and schedule to introduce exemptions from the need to obtain a planning permit for appropriate minor buildings and works, as well as introduce Floodway Overlay mapping and corresponding schedule into the Planning Scheme. These are the most appropriate tools to achieve these changes to the Colac Otway Planning Scheme, and are in accordance with the DPCD Practice Note: *'Applying the Flooding Provisions in Planning Schemes'*.

- **How does the amendment address the views of any relevant agency?**

The amendment has been prepared in conjunction with the Corangamite Catchment Management Authority and is part of a state wide approach to ensure that flood information contained in planning schemes is as relevant as possible.

- **What impact will the new planning provisions have on the resource and administrative costs of the responsible authority?**

The amendment is not expected to cause a significant impact on the resource and administrative costs of the Responsible Authority. The amendment will assist local government and catchment management authorities in carrying out more effective planning and management of land affected by flooding. The amendment will provide clearer guidance for proposals in flood affected areas, streamline decision making and provide greater certainty for landowners.

### **Where you may inspect this Amendment.**

The amendment is available for public inspection, free of charge, during office hours at the following places.

- **Colac Otway Shire Council**  
2-6 Rae Street,  
Colac Vic 3250
- **Colac Otway Shire Council**  
Apollo Bay Customer Service Centre  
69 Nelson Street,  
Apollo Bay Vic 3233
- On Council's website at [www.colacotway.vic.gov.au](http://www.colacotway.vic.gov.au)
- The amendment can also be inspected free of charge at the Department of Planning and Community Development web site at [www.dpcd.vic.gov.au/planning/publicinspection](http://www.dpcd.vic.gov.au/planning/publicinspection)

Any submission about the amendment must:

- Be made in writing giving the submitter's name, address and, if practicable, a phone number for contact during office hours.
- Set out the views on the amendment, that the submitter wishes to put before Council and indicate what changes (if any) the submitter wishes made to the amendment.

Please be aware that copies of objections / submissions received may be made available to any person for the purpose of consideration as part of the planning process under the Planning and Environment Act, 1987.

The closing date for submissions is Monday 27<sup>th</sup> October, 2008. A submission must be sent to the **General Manager, Sustainable Planning and Development, Colac Otway Shire Council** either by mail at PO Box 283, COLAC VIC 3250 or by email [inq@colacotway.vic.gov.au](mailto:inq@colacotway.vic.gov.au).

Enquiries about the amendment can be made by contacting the Planning Department on (03) 5232 9400.

**Jack Green**  
General Manager, Sustainable Planning & Development

**44.03**15/09/2008  
VC49**FLOODWAY OVERLAY**

Shown on the planning scheme map as **FO** or **RFO** with a number (if shown).

**Purpose**

To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.

To identify waterways, major floodpaths, drainage depressions and high hazard areas which have the greatest risk and frequency of being affected by flooding.

To ensure that any development maintains the free passage and temporary storage of floodwater, minimises flood damage and is compatible with flood hazard, local drainage conditions and the minimisation of soil erosion, sedimentation and silting.

To reflect any declarations under Division 4 of Part 10 of the Water Act, 1989 if a declaration has been made.

To protect water quality and waterways as natural resources in accordance with the provisions of relevant State Environment Protection Policies, and particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria).

**44.03-1**15/09/2008  
VC49**Buildings and works**

A permit is required to construct a building or to construct or carry out works, including:

- A fence.
- Roadworks.
- Bicycle pathways and trails.
- Public toilets.
- A domestic swimming pool or spa and associated mechanical and safety equipment if associated with one dwelling on a lot.
- Rainwater tank with a capacity of not more than 4500 litres.
- A pergola or verandah, including an open-sided pergola or verandah to a dwelling with a finished floor level not more than 800mm above ground level and a maximum building height of 3 metres above ground level.
- A deck, including a deck to a dwelling with a finished floor level not more than 800mm above ground level.
- A non-domestic disabled access ramp

This does not apply:

- If a schedule to this overlay specifically states that a permit is not required.
- To flood mitigation works carried out by the responsible authority or floodplain management authority.
- To the following works in accordance with plans prepared to the satisfaction of the responsible authority:
  - The laying of underground sewerage, water and gas mains, oil pipelines, underground telephone lines and underground power lines provided they do not alter the topography of the land.
  - The erection of telephone or power lines provided they do not involve the construction of towers or poles.

- To post and wire and post and rail fencing.

#### **44.03-2 Subdivision**

19/01/2006  
VC37

A permit is required to subdivide land. A permit may only be granted to subdivide land if the following apply:

- The subdivision does not create any new lots, which are entirely within this overlay. This does not apply if the subdivision creates a lot, which by agreement between the owner and the relevant floodplain management authority, is to be transferred to an authority for a public purpose.
- The subdivision is the resubdivision of existing lots and the number of lots is not increased, unless a local floodplain development plan incorporated into this scheme specifically provides otherwise.

#### **44.03-3 Application requirements**

19/01/2006  
VC37

##### **Local floodplain development plan**

If a local floodplain development plan has been developed for the area and has been incorporated into this scheme, an application must be consistent with the plan.

##### **Flood risk report**

If a local floodplain development plan for the area has not been incorporated into this scheme, an application must be accompanied by a flood risk report to the satisfaction of the responsible authority, which must consider the following, where applicable:

- The State Planning Policy Framework and the Local Planning Policy Framework.
- The existing use and development of the land.
- Whether the proposed use or development could be located on flood-free land or land with a lesser flood hazard outside this overlay.
- The susceptibility of the development to flooding and flood damage.
- The potential flood risk to life, health and safety associated with the development. Flood risk factors to consider include:
  - The frequency, duration, extent, depth and velocity of flooding of the site and accessway.
  - The flood warning time available.
  - The danger to the occupants of the development, other floodplain residents and emergency personnel if the site or accessway is flooded.
- The effect of the development on redirecting or obstructing floodwater, stormwater or drainage water and the effect of the development on reducing flood storage and increasing flood levels and flow velocities.
- The effects of the development on environmental values such as natural habitat, stream stability, erosion, water quality and sites of scientific significance.

#### **44.03-4 Exemption from notice and review**

19/01/2006  
VC37

An application under this overlay is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

**44.03-5 Referral of applications**

19/01/2006  
VC37

An application must be referred to the relevant floodplain management authority under Section 55 of the Act unless in the opinion of the responsible authority the proposal satisfies requirements or conditions previously agreed in writing between the responsible authority and the floodplain management authority.

**44.03-6 Decision guidelines**

19/01/2006  
VC37

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- The local floodplain development plan or flood risk report.
- Any comments of the relevant floodplain management authority.

**Notes:** *Refer to the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement, for strategies and policies which may affect the use and development of land.*

*Check the requirements of the zone which applies to the land.*

*Other requirements may also apply. These can be found at Particular Provisions.*

--/20--  
C12

## **SCHEDULE TO THE FLOODWAY OVERLAY**

Shown on the planning scheme map as **FO**.

### **1.0**

#### ***Permit requirement***

--/20--  
C12

A permit is not required to construct or carry out the following:

#### **Buildings**

- A non-habitable building (other than industrial and commercial) with a floor area less than 100 square metres.
- An extension to a non-habitable building (other than industrial and commercial), provided that the total ground floor area of the building is less than 100 square metres.
- An extension to an existing dwelling provided that the floor area of the extension is less than 40 square metres and is less than 50% of the existing floor area.
- A pergola, verandah, carport or swimming pool.
- A hay shed with open sides.

#### **Works**

- Earthworks that do not raise ground level topography by more than 200 millimetres.
- Repairs and routine maintenance that do not affect the height, length or location of a levee, embankment or road.
- Open type fencing (excluding paling fencing, brick and concrete walls) and a replacement fence of the same type and materials as the existing fence.
- Works associated with apiaries and vine or horticultural trellises or watering systems.
- Sports grounds with no grandstands or raised viewing areas.
- Golf courses, playgrounds, picnic shelters and barbeques.
- A protective wall or levee bank around an existing dwelling and its curtilage, providing it protects an area (including the foot print of the protective wall and levee bank) less than 200 square metres.

### **2.0**

#### ***Referral of applications***

--/20--  
C12

An application for a permit is not required to be referred to the floodplain management authority if the application is in accordance with an adopted local floodplain development plan.

**44.04**15/09/2008  
VC49**LAND SUBJECT TO INUNDATION OVERLAY**

Shown on the planning scheme map as **LSIO** with a number (if shown).

**Purpose**

To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.

To identify land in a flood storage or flood fringe area affected by the 1 in 100 year flood or any other area determined by the floodplain management authority.

To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.

To reflect any declaration under Division 4 of Part 10 of the Water Act, 1989 where a declaration has been made.

To protect water quality in accordance with the provisions of relevant State Environment Protection Policies, particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria).

**44.04-1**15/09/2008  
VC49**Buildings and works**

A permit is required to construct a building or to construct or carry out works, including:

- A fence.
- Roadworks.
- Bicycle pathways and trails.
- Public toilets.
- A domestic swimming pool or spa and associated mechanical and safety equipment if associated with one dwelling on a lot.
- Rainwater tank with a capacity of not more than 4500 litres.
- A pergola or verandah, including an open-sided pergola or verandah to a dwelling with a finished floor level not more than 800mm above ground level and a maximum building height of 3 metres above ground level.
- A deck, including a deck to a dwelling with a finished floor level not more than 800mm above ground level.
- A non-domestic disabled access ramp

This does not apply:

- If a schedule to this overlay specifically states that a permit is not required.
- To flood mitigation works carried out by the responsible authority or floodplain management authority.
- To the following works in accordance with plans prepared to the satisfaction of the responsible authority:
  - The laying of underground sewerage, water and gas mains, oil pipelines, underground telephone lines and underground power lines provided they do not alter the topography of the land.
  - The erection of telephone or power lines provided they do not involve the construction of towers or poles.

- To post and wire and post and rail fencing.

**44.04-2**19/01/2006  
VC37**Subdivision**

A permit is required to subdivide land.

**44.04-3**19/01/2006  
VC37**Application requirements****Local floodplain development plan**

If a local floodplain development plan has been developed for the area and has been incorporated into this scheme, an application must be consistent with the plan.

**44.04-4**19/01/2006  
VC37**Exemption from notice and review**

An application under this overlay is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

**44.04-5**19/01/2006  
VC37**Referral of applications**

An application must be referred to the relevant floodplain management authority under Section 55 of the Act unless in the opinion of the responsible authority, the proposal satisfies requirements or conditions previously agreed in writing between the responsible authority and the floodplain management authority.

**44.04-6**19/01/2006  
VC37**Decision guidelines**

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- Any local floodplain development plan.
- Any comments from the relevant floodplain management authority.
- The existing use and development of the land.
- Whether the proposed use or development could be located on flood-free land or land with a lesser flood hazard outside this overlay.
- The susceptibility of the development to flooding and flood damage.
- The potential flood risk to life, health and safety associated with the development. Flood risk factors to consider include:
  - The frequency, duration, extent, depth and velocity of flooding of the site and accessway.
  - The flood warning time available.
  - The danger to the occupants of the development, other floodplain residents and emergency personnel if the site or accessway is flooded.
- The effect of the development on redirecting or obstructing floodwater, stormwater or drainage water and the effect of the development on reducing flood storage and increasing flood levels and flow velocities.
- The effect of the development on environmental values such as natural habitat, stream stability, erosion, water quality and sites of scientific significance.



**Notes:** *Refer to the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement, for strategies and policies which may affect the use and development of land.*

*Check the requirements of the zone which applies to the land.*

*Other requirements may also apply. These can be found at Particular Provisions.*

--/20--  
C12

## SCHEDULE TO THE LAND SUBJECT TO INUNDATION OVERLAY

Shown on the planning scheme map as **LSIO**.

### 1.0 *Permit requirement*

--/20--  
C12

A permit is not required to construct or carry out the following:

#### **Buildings**

- A non-habitable building (other than industrial and commercial) with a floor area less than 100 square metres.
- An extension to a non-habitable building (other than industrial and commercial), provided that the total ground floor area of the building is less than 100 square metres.
- An extension to an existing dwelling provided that the floor area of the extension is less than 40 square metres and is less than 50% of the existing floor area.
- A pergola, verandah, carport or swimming pool.
- A hay shed with open sides.

#### **Works**

- Earthworks that do not raise ground level topography by more than 200 millimetres.
- Repairs and routine maintenance that do not affect the height, length or location of a levee, embankment or road.
- Open type fencing (excluding paling fencing, brick and concrete walls) and a replacement fence of the same type and materials as the existing fence.
- Works associated with apiaries and vine or horticultural trellises or watering systems.
- Sports grounds with no grandstands or raised viewing areas.
- Golf courses, playgrounds, picnic shelters and barbeques.
- A protective wall or levee bank around an existing dwelling and its curtilage, providing it protects an area (including the foot print of the protective wall and levee bank) less than 200 square metres.

### 2.0 *Referral of applications*

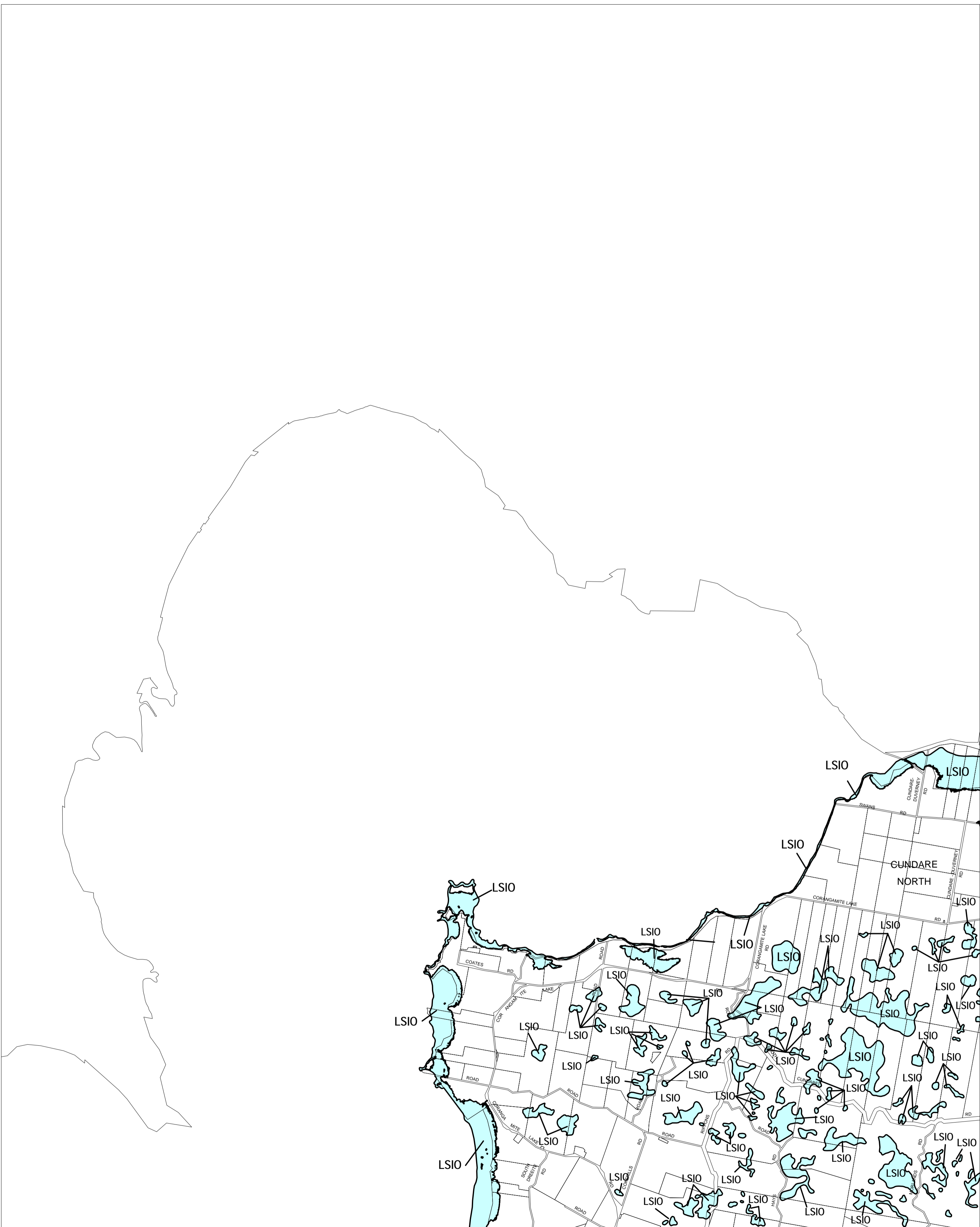
--/20--  
C12

An application for a permit is not required to be referred to the floodplain management authority if the application is in accordance with an adopted local floodplain development plan.

**SCHEDULE TO CLAUSE 61.03****Maps comprising part of this scheme**

- 1, 1ESO2, 1ESO4, 1HO, 1LSIO-FO, 1SLO, 1VPO2
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- 5, 5DDO, 5ESO2, 5ESO4, 5HO, 5LSIO-FO, 5PAO, 5VPO1
- 6, 6HO, 6LSIO-FO, 6PAO, 6VPO1
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- 11, 11DDO, 11EMO, 11ESO2, 11HO, 11LSIO-FO, 11PAO, 11SLO1, 11VPO1, 11WMO
- 12, 12EMO, 12ESO4, 12HO, 12LSIO-FO, 12PAO, 12VPO2, 12WMO
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- 14, 14ESO4, 14EMO, 14HO, 14LSIO-FO, 14VPO1, 14VPO2, 14WMO
- 15, 15EMO, 15ESO1, 15ESO2, 15ESO3, 15HO, 15LSIO-FO, 15SLO, 15VPO1, 15VPO2, 15WMO
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- 25, 25EMO, 25ESO2, 25ESO3, 25ESO4, 25HO, 25LSIO-FO, 25SLO1, 25VPO1, 25VPO2, 25WMO
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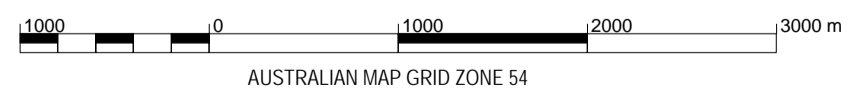
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- 30, 30AEO, 30EMO, 30ESO2, 30LSIO-FO, 30VPO1, 30WMO



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**Overlays**

LSIO Land Subject to Inundation Overlay

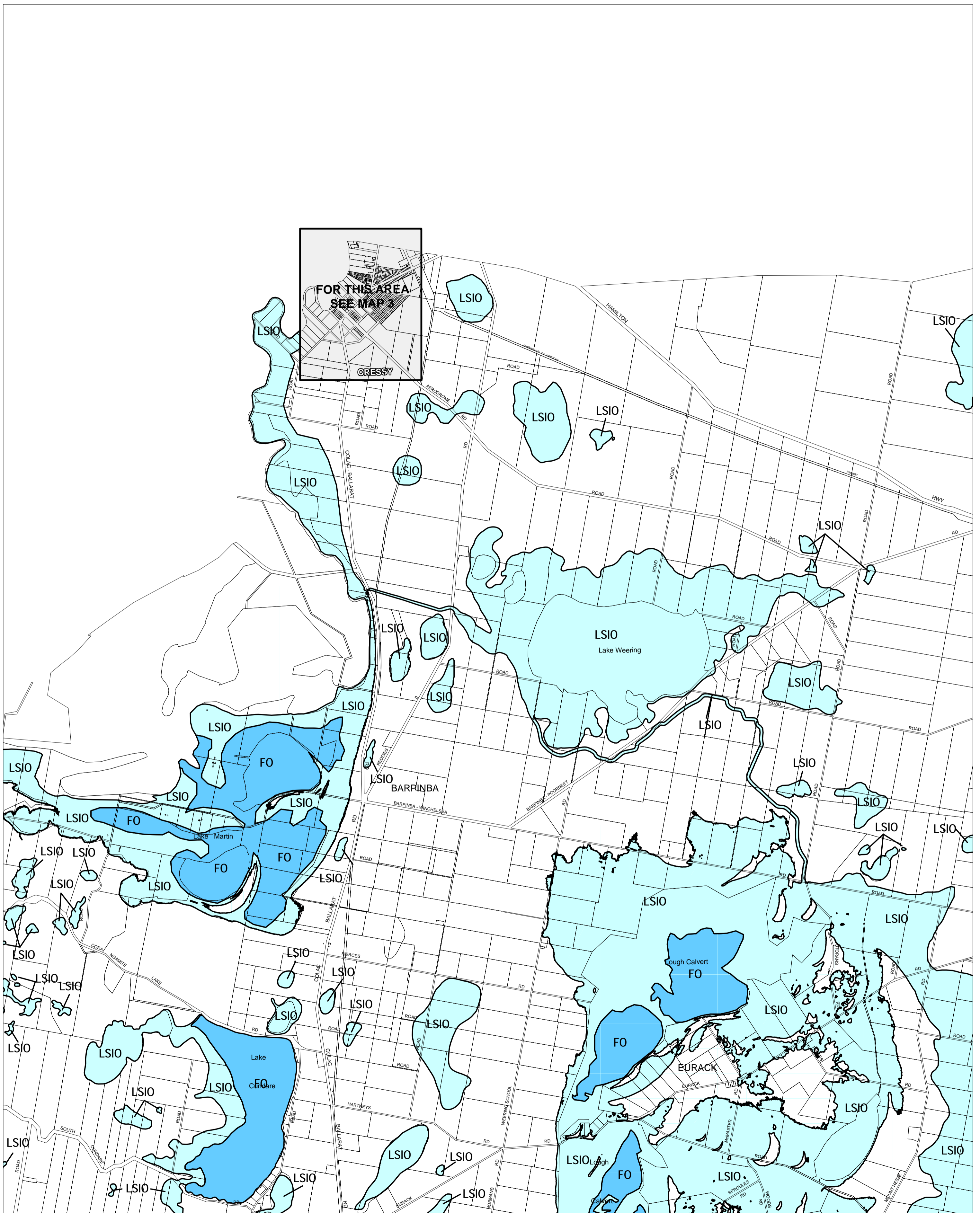


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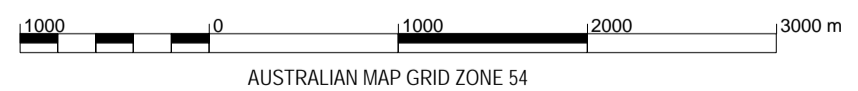
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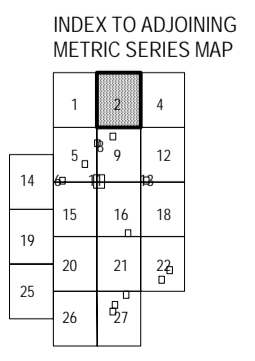
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**Overlays**

- Floodway Overlay
- Land Subject To Inundation Overlay



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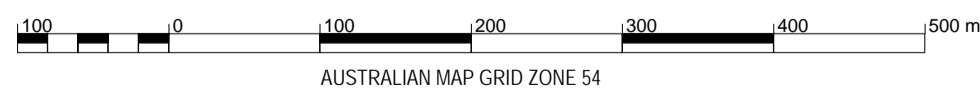


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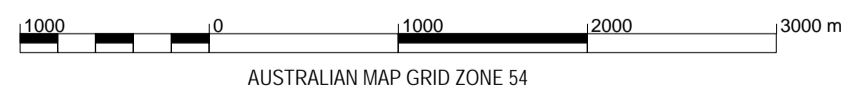
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**Overlays**

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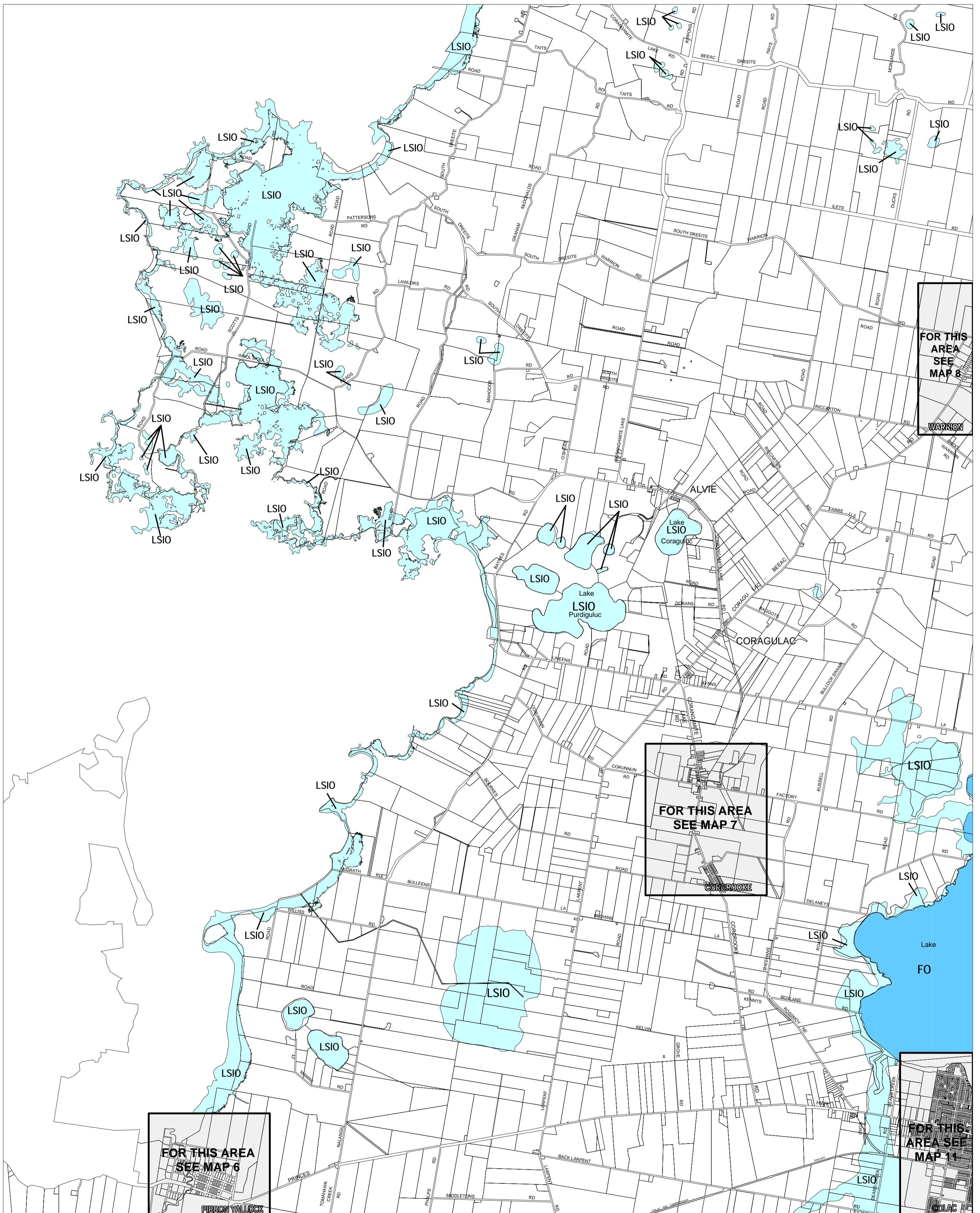
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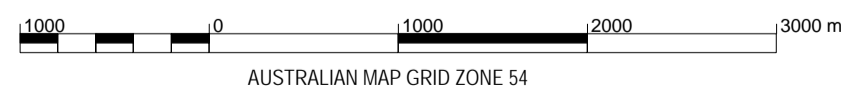




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**Overlays**

- FO Floodway Overlay
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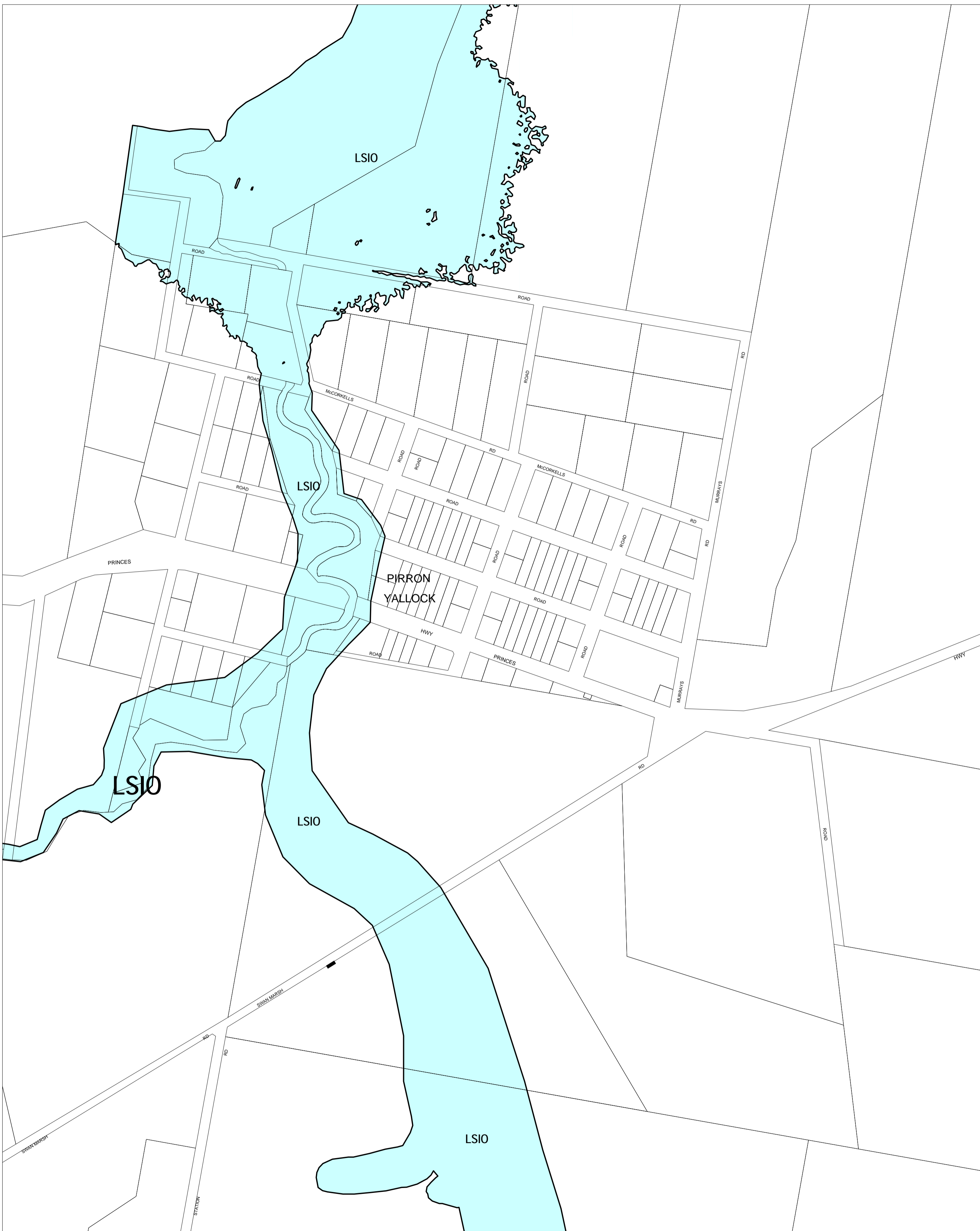


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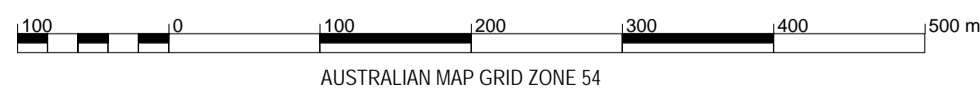
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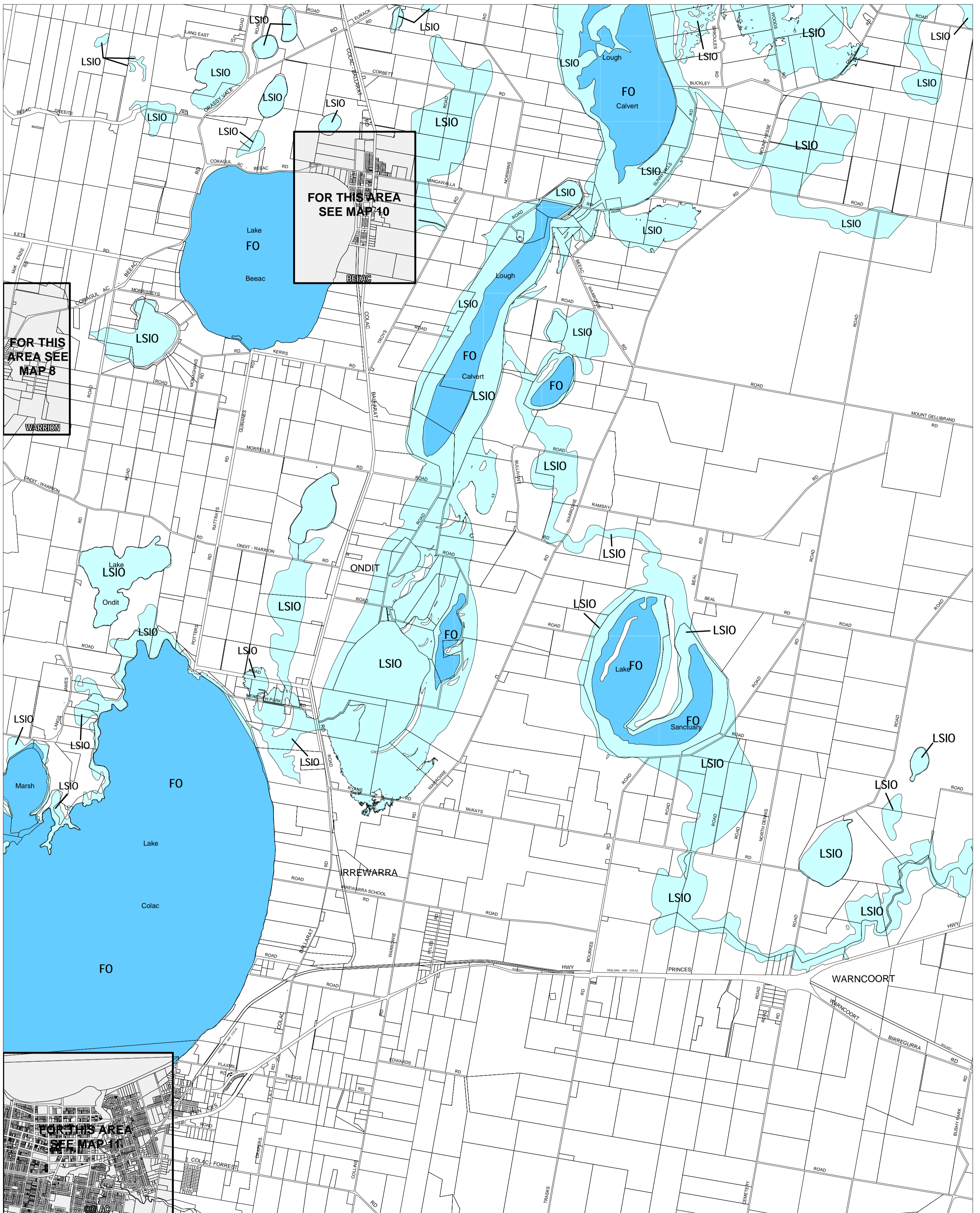


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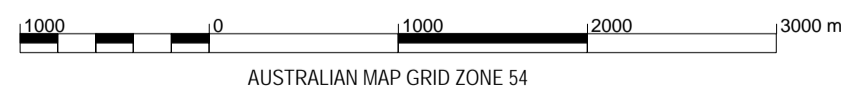


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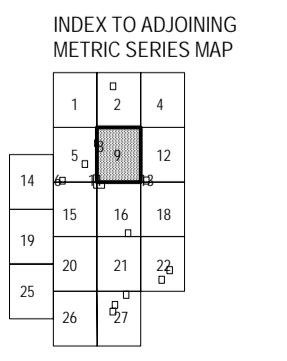
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**Overlays**

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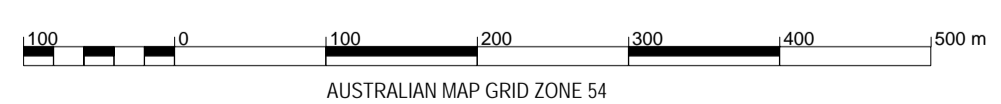
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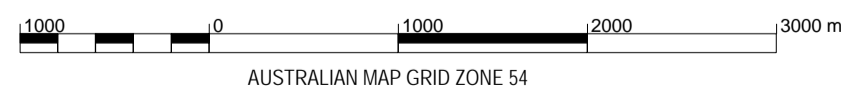
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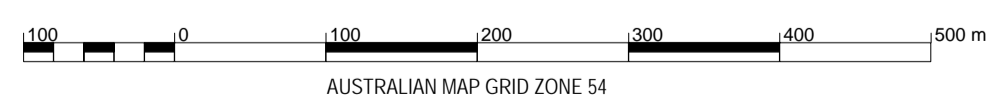


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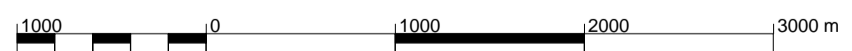


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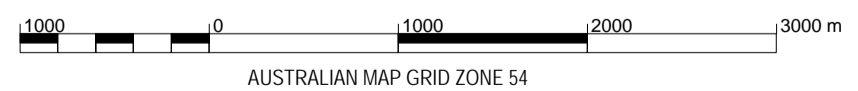
FOR THIS AREA  
SEE MAP 6  
PIRRON YALLOCK

FOR THIS  
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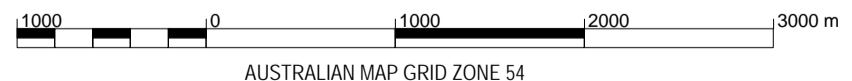
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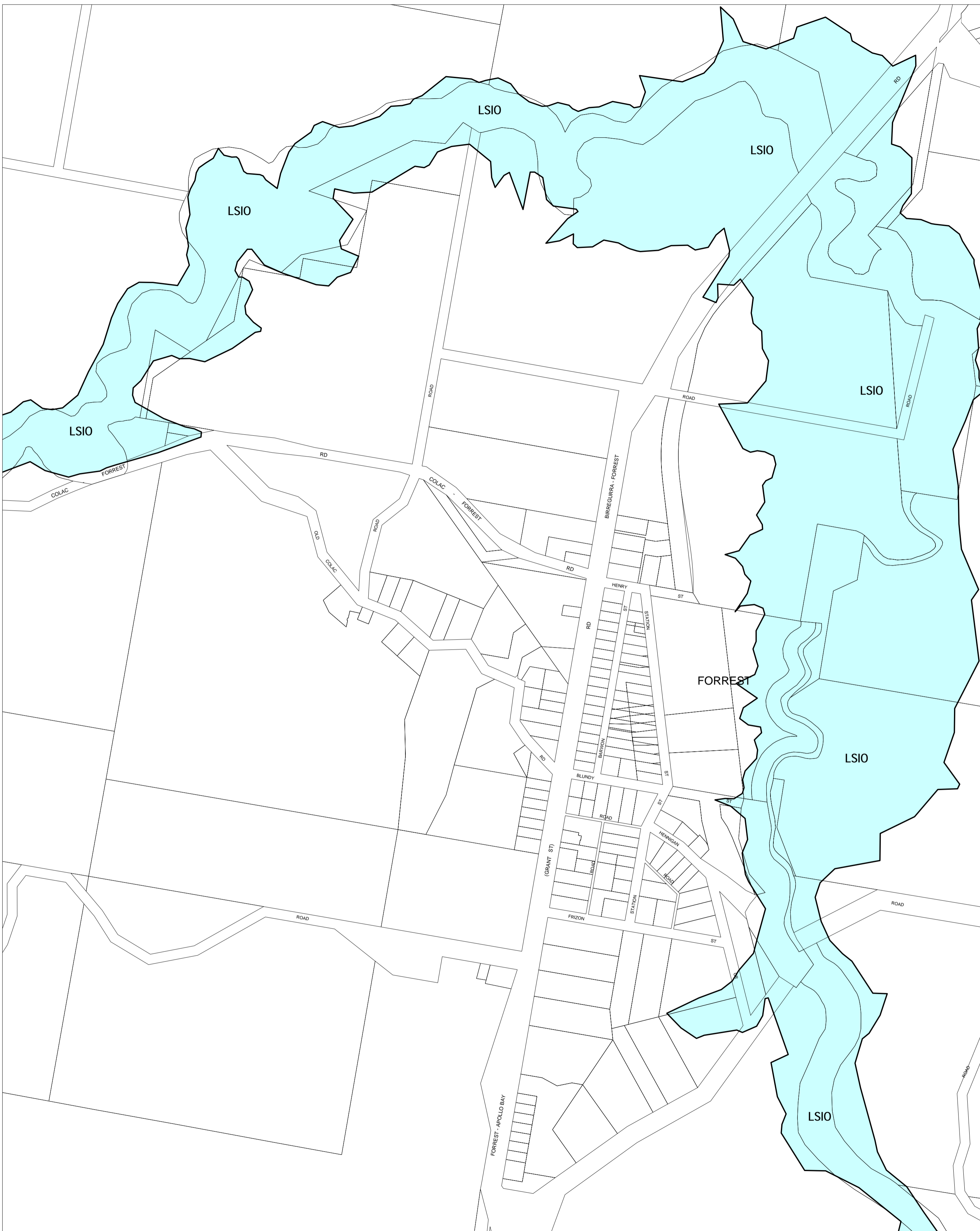


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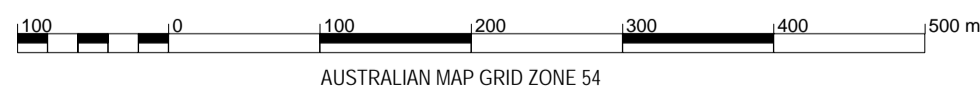
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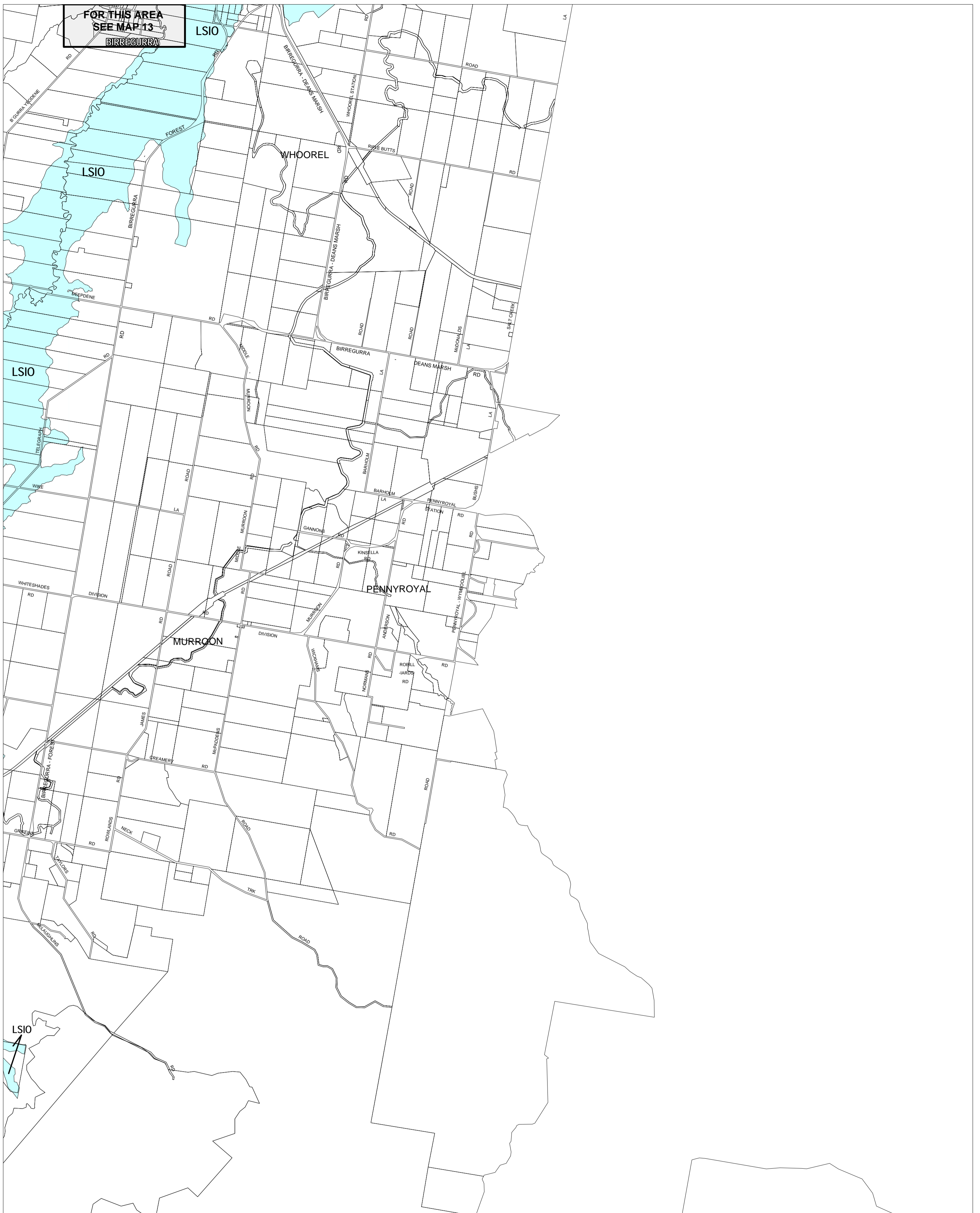


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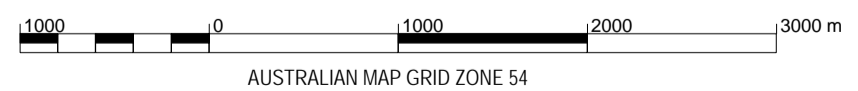
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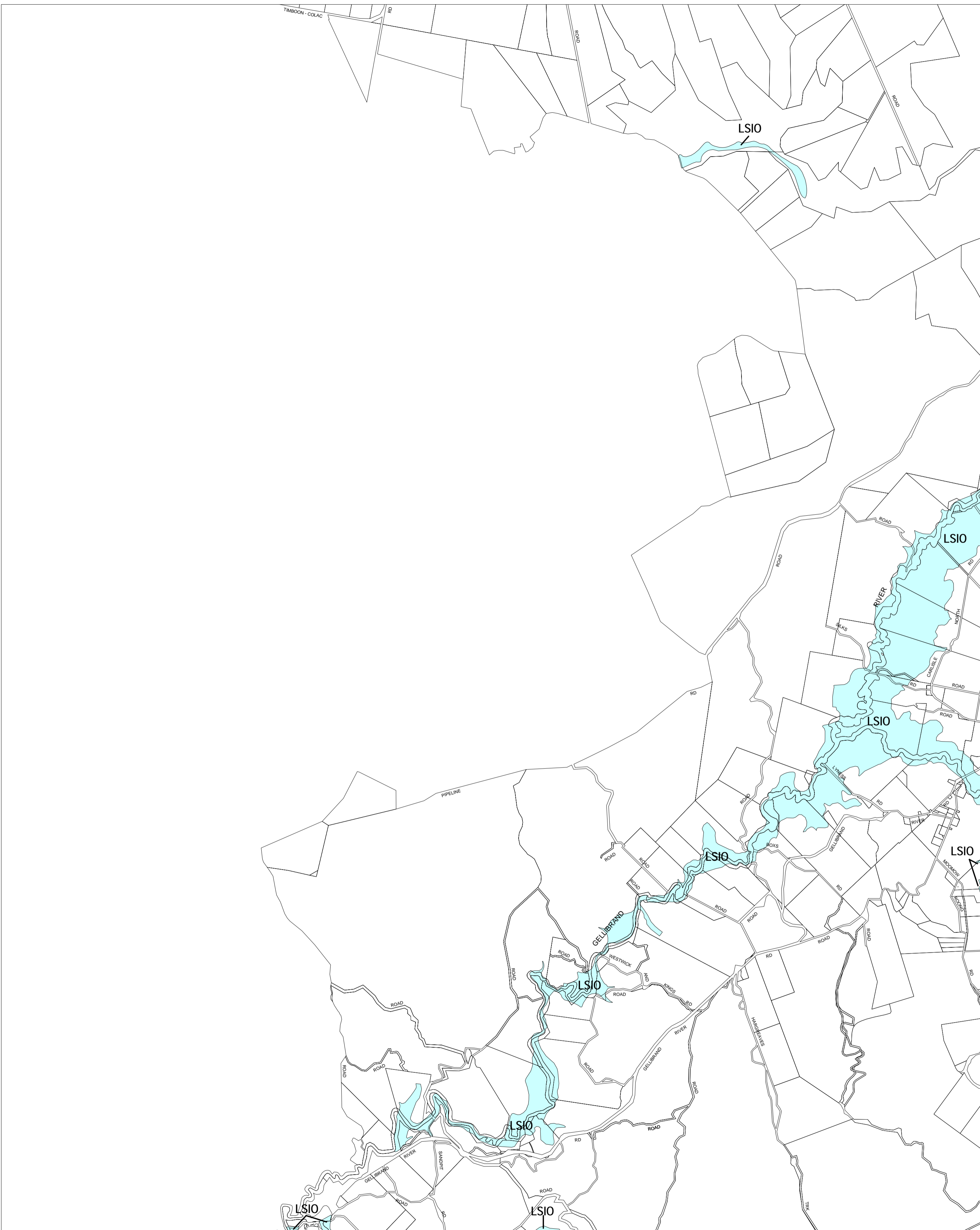


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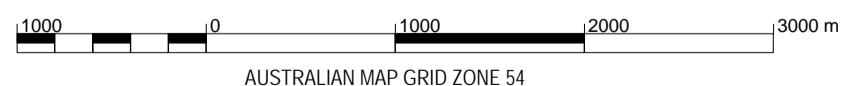


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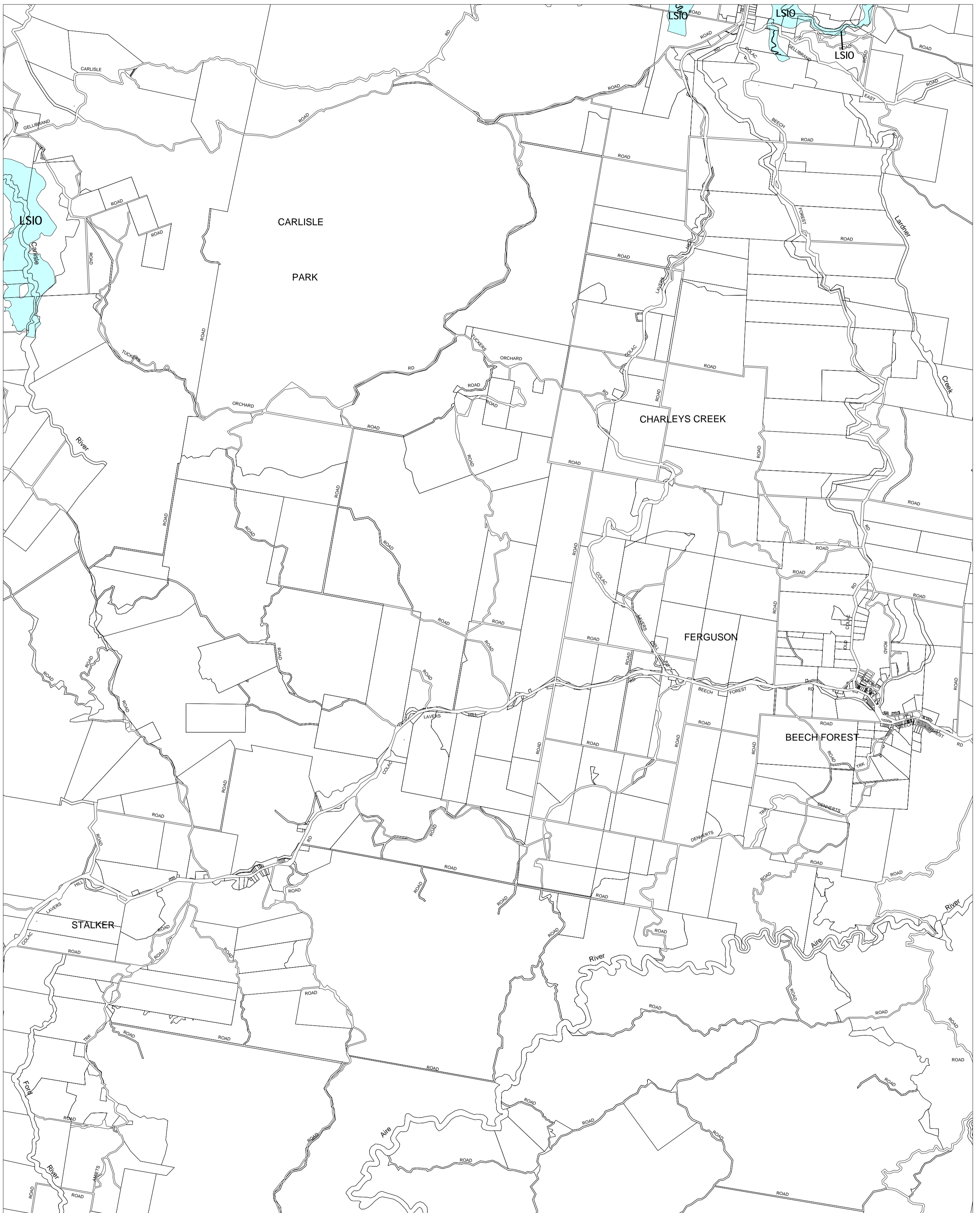


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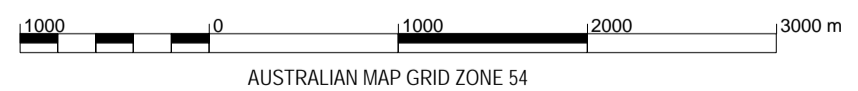
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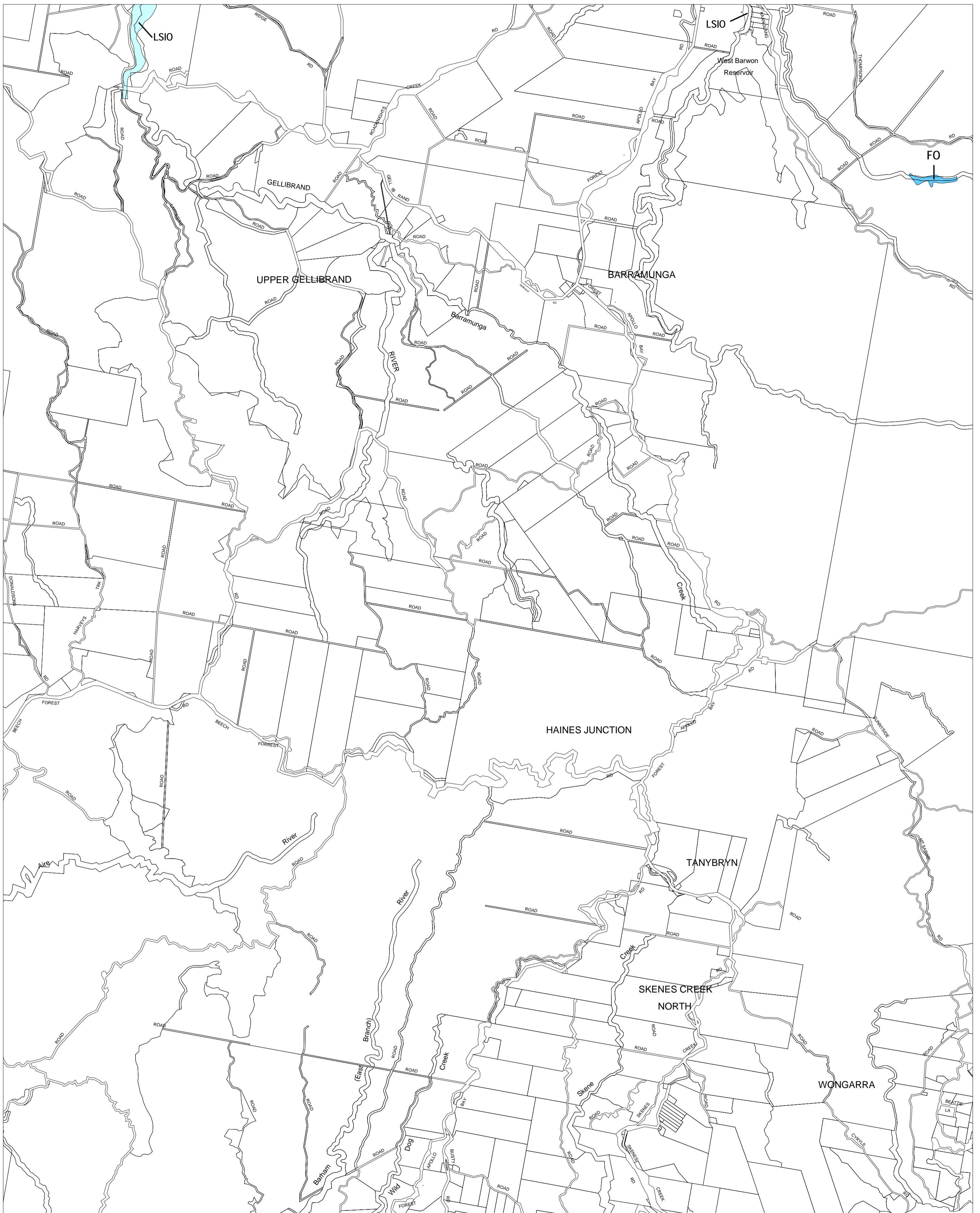


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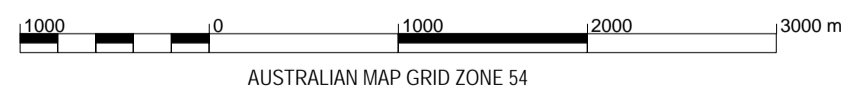


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**Overlays**

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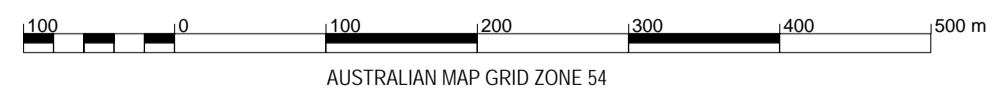
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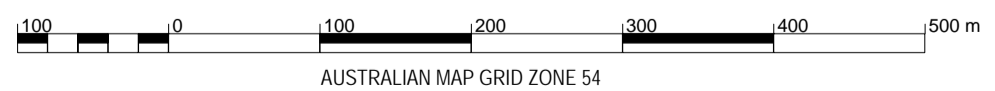




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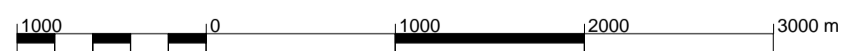


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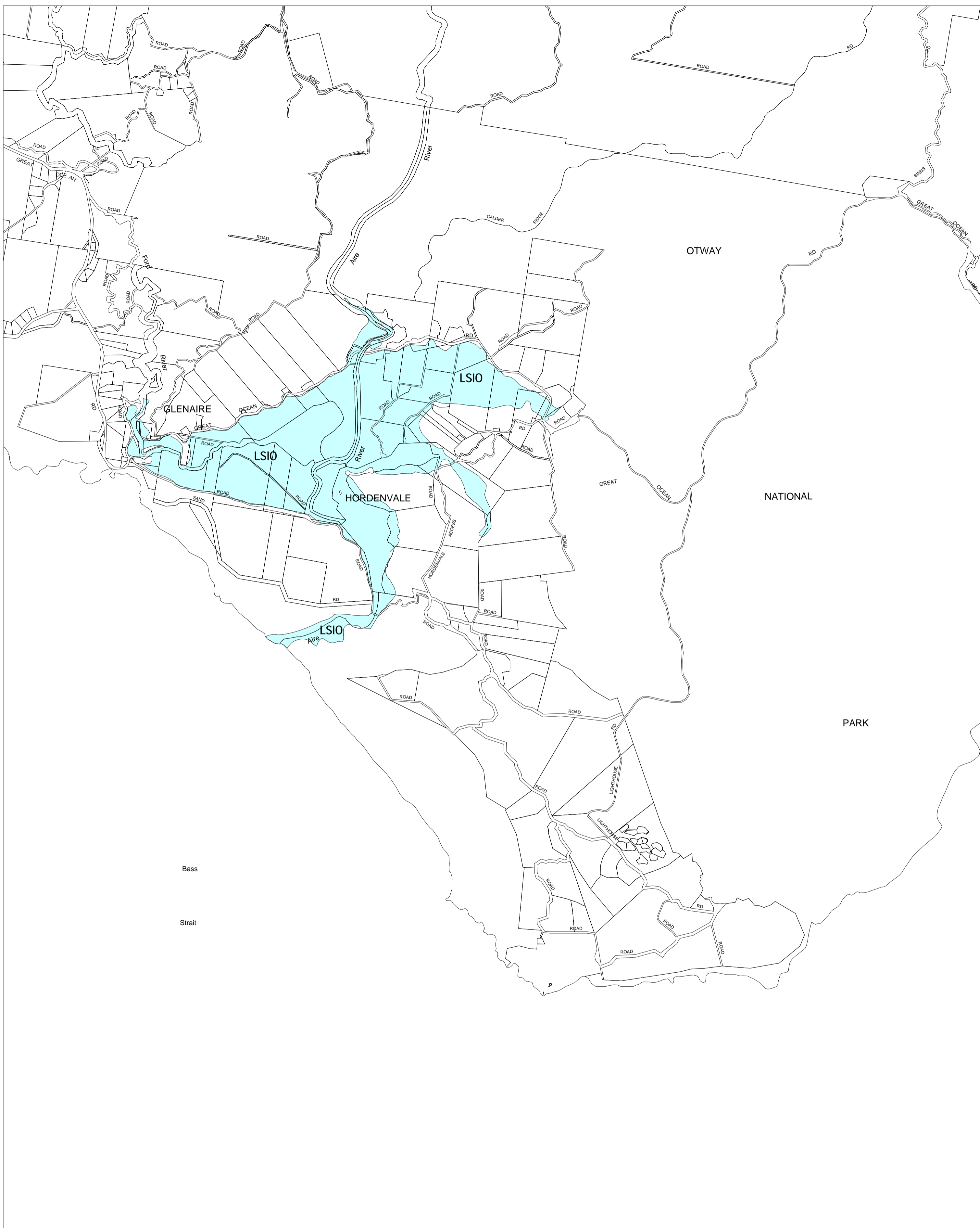


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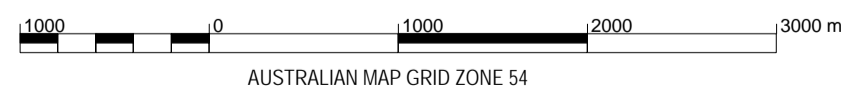
**AMENDMENT C12**



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**Overlays**

LSIO Land Subject To Inundation Overlay



AUSTRALIAN MAP GRID ZONE 54

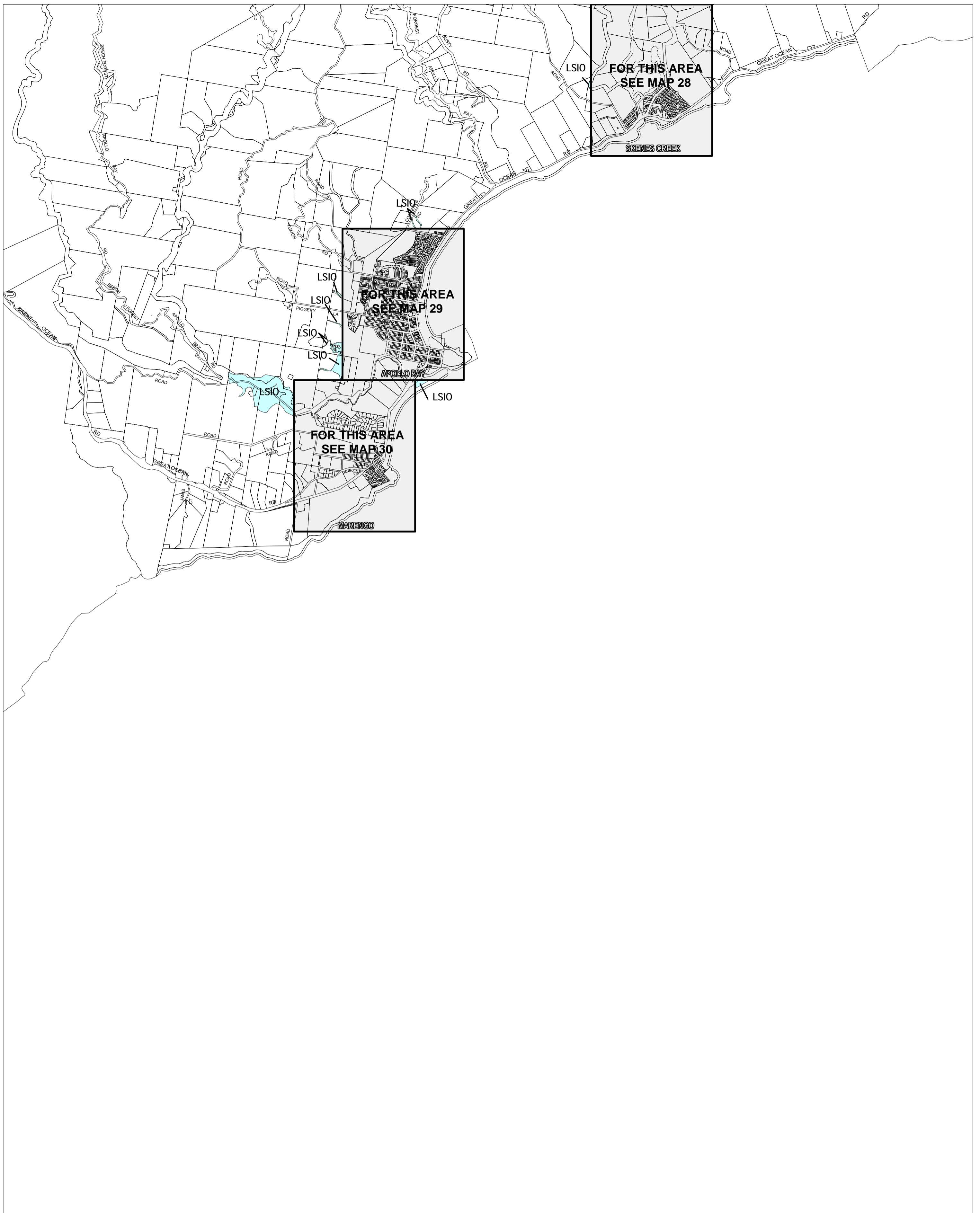


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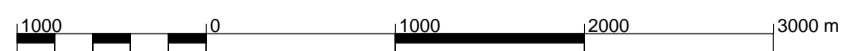


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**Overlays**

**LSIO** Land Subject to Inundation Overlay



AUSTRALIAN MAP GRID ZONE 54



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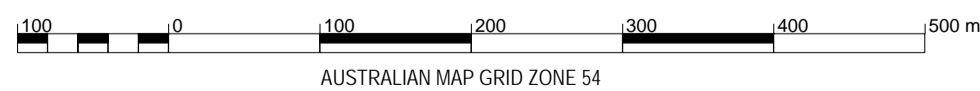
**AMENDMENT C12**



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**Overlays**

**LSIO** Land Subject to Inundation Overlay

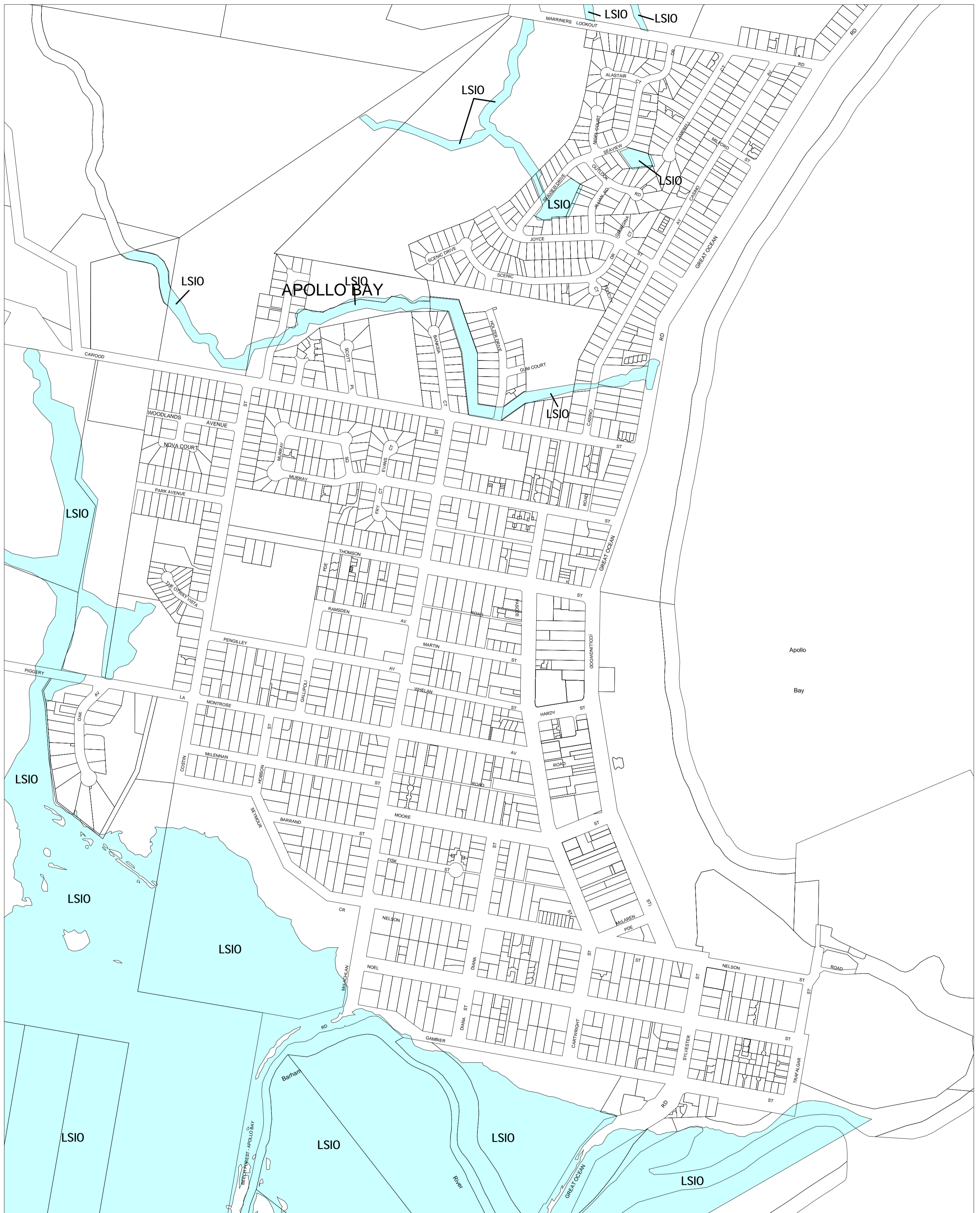


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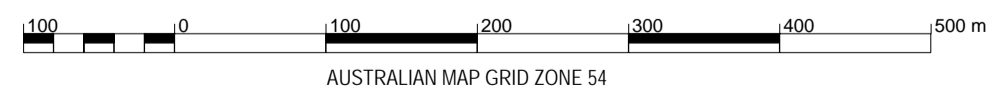
**AMENDMENT C12**



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**Overlays**

LSIO Land Subject to Inundation Overlay



AUSTRALIAN MAP GRID ZONE 54

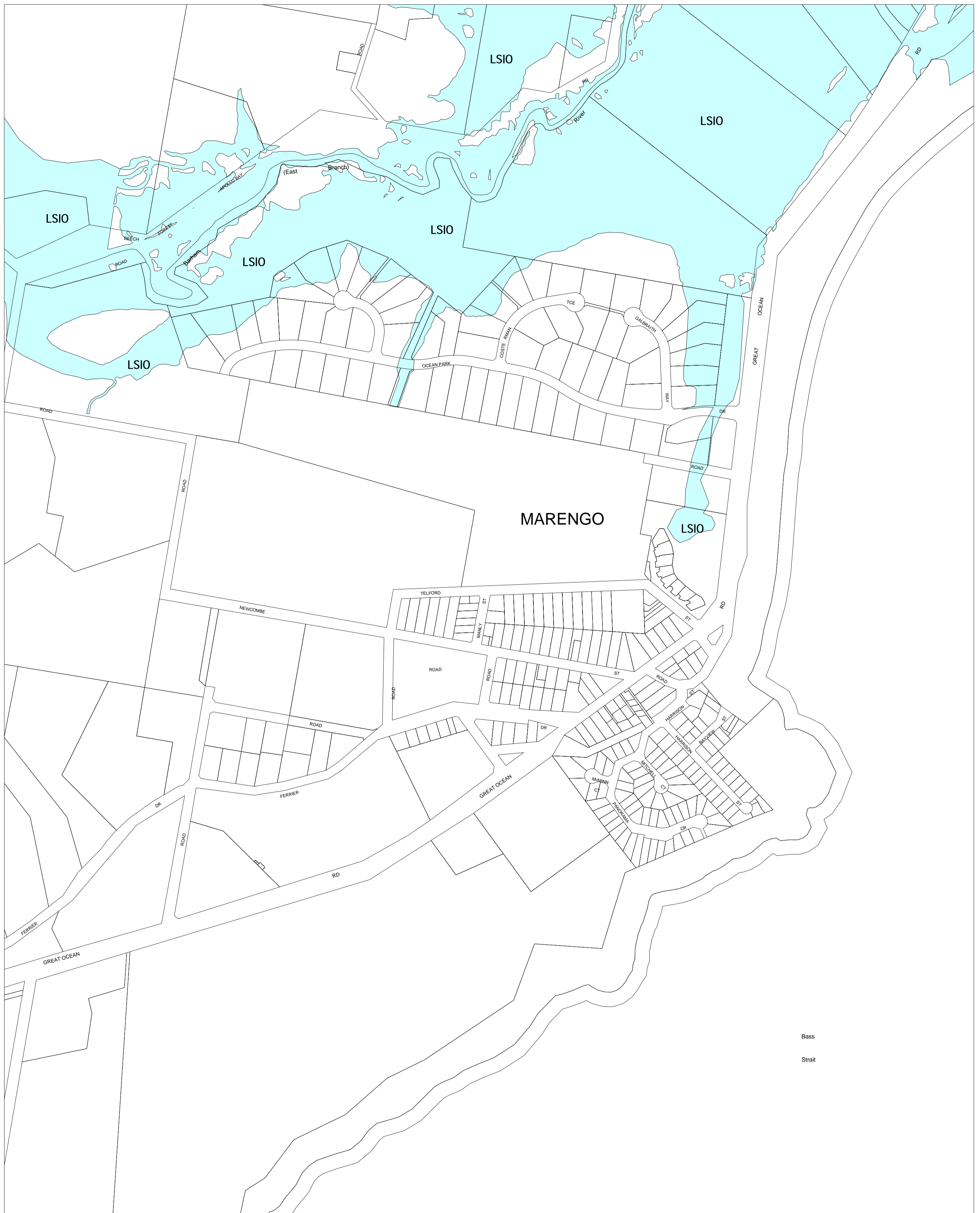


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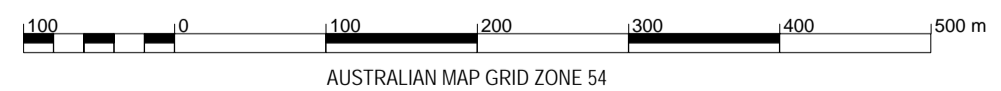


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**Overlays**

LSIO Land Subject To Inundation Overlay



AUSTRALIAN MAP GRID ZONE 54



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AMENDMENT C12

## Consideration of Submissions Report – Amendment C12

| Submitter                             | Key Issues                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | CCMA Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Council Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Council Recommendation    |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 1. Janette Martin                     | <ul style="list-style-type: none"> <li>In favour of proposed increased coverage of the LSIO around Lough Calvert.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>No need for changes to the proposed amendment based on this submission.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | The submitters support for Amendment C12 is acknowledged.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Refer submission to Panel |
| 2. Llewellyn Johns & Elizabeth Marson | <ul style="list-style-type: none"> <li>Considers the mapping to be flawed due to the fact that the FO has not been applied to coastal waterways.</li> <li>Suggests that accepted predictions of more extreme storm events and climate change are not consistent with the reduced areas of LSIO on maps 29 and 30.</li> <li>Is concerned that the schedule offers exemptions from planning permits when even minor changes on the floodplain such as filling or revegetation can alter flood flows and increase flooding.</li> </ul> | <ul style="list-style-type: none"> <li>The floodway mapping has been undertaken based on a 1 in 100 year flood event and has therefore been designed around this level of frequency and severity. In order to apply the FO to all coastal waterways it would be necessary to estimate a 1 in 10 year ARI flood level and then map the corresponding flood extents using the now available LIDAR data.</li> <li>The lack of mapping for a FO is based on a lack of data on which to base it. CCMA suggests there is limited need for an FO on waterways where future development is unlikely due to zoning constraints.</li> <li>The reduced area of LSIO is based on the most current information available and has considered the predicted effects of future climate change on sea level rise.</li> <li>The proposed schedule to the LSIO provides an exemption from the need to obtain a permit for minor works for which the CCMA would currently have no objection or specific requirements. The CCMA has no objection to the Schedule.</li> <li>The CCMA recommends Council consider including a FO based on the estimated 1 in 10 year flood event for each catchment, within catchments where future development is a possibility. The CCMA will assist with this where information is available to the Authority.</li> <li>CCMA would not recommend any changes to the LSIO based on this submission.</li> </ul> | <p>Council supports the CCMA's comments in relation to the application of the LSIO and the appropriateness of the exemptions contained within the new schedule.</p> <p>The importance of the FO is acknowledged, however it is not feasible to implement it in its entirety as part of this amendment due to the absence of relevant flood data. Council will consider any new data as it becomes available.</p> <p>In its current form, Amendment C12 ensures that all flood prone areas are covered by the LSIO. The controls contained within the LSIO trigger the need for a Planning Permit and require referral of all development applications to the CCMA.</p> <p>Council does not recommend any changes to the proposed amendment based on this submission.</p> | Refer submission to Panel |
| 3. John Spencer                       | <ul style="list-style-type: none"> <li>Has understood that Maps 29 and 30 show the FO replacing</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Including a FO for maps 29 and 30 would clarify the confusion regarding its application.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Council supports the CCMA's comments in relation to the use of the WBM Oceanics flood data and the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Refer submission to Panel |



## Consideration of Submissions Report – Amendment C12

| Submitter                         | Key Issues                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CCMA Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Council Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Council Recommendation    |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
|                                   | <p>the LSIO.</p> <ul style="list-style-type: none"> <li>• Suggests that the outcomes of Amendment C29 should be considered as part of Amendment C12.</li> <li>• Refers to the 600mm freeboard for dwellings and asks what “tolerance” the CCMA attaches to flood levels it produces.</li> </ul>                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• The delineation for the proposed LSIO for maps 29 and 30 has been sourced from work undertaken by WBM Oceanics for the purposes of Amendment C29, which is the best information available. The CCMA has adopted the flood levels produced by the WBM modelling as an accurate prediction of the 1 in 100 year flood levels expected for the Barham River.</li> <li>• It is normal practice in Victoria to apply a freeboard to account for variations caused by wind, vehicle movement etc, or where necessary to account for possible inaccuracies in flood modelling.</li> <li>• The CCMA would not recommend any changes to the proposed LSIO based on this submission.</li> </ul> | <p>implementation of a 600mm freeboard.</p> <p>The submission implies that the FO will be replacing the LSIO on maps 29 and 30. This is incorrect. Amendment C12 does not propose to introduce the FO over all areas currently covered by the LSIO.</p> <p>Whilst it may clarify the matter for the submitter, Council does not support the replacement of the proposed LSIO on maps 29 and 30 with an FO.</p> <p>Council does not recommend any changes to the proposed amendment based on this submission.</p> |                           |
| 4. Friends of Otway National Park | <ul style="list-style-type: none"> <li>• Notes there are no Floodway Overlays on coastal waterways</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• The CCMA’s suggestion for addressing this issue is noted above.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>This issue has been addressed previously in this report. Council does not recommend any changes to the proposed amendment based on this submission.</p>                                                                                                                                                                                                                                                                                                                                                       | Refer submission to Panel |
| 5. Fiona Nelson                   | <ul style="list-style-type: none"> <li>• Suggests the FO should be applied to the Barham River.</li> <li>• The flood modelling is based on outdated data and has not considered the potential future impacts of climate change.</li> <li>• Flooding of the Barham River usually occurs during high tides and storm surges which create a sand bar at the river mouth preventing the water from flowing back out to sea.</li> <li>• The reduced coverage of the LSIO shown on maps 29 and 30</li> </ul> | <ul style="list-style-type: none"> <li>• The issue of insufficient application of the FO and the appropriateness of the revised LSIO schedule has already been covered above.</li> <li>• The delineation for the proposed LSIO for maps 29 and 30 comes from work undertaken by WBM Oceanics for the purposes of Amendment C29, which is the best information available.</li> <li>• The CCMA agrees that flooding within the estuary occurs when the river mouth is blocked by a sand bar. Currently, when water levels in the estuary reach a level that threatens existing infrastructure the estuary is likely to be artificially opened.</li> </ul>                                                                        | <p>The issues of insufficient application of the FO and the appropriateness of the revised schedule have already been covered above.</p> <p>Council supports CCMA’s comments in relation to the accuracy of the flood modelling data and its consideration of climate change issues including sea flooding, tidal surges and sea level rises.</p> <p>Council does not recommend any changes to the proposed amendment based on this submission.</p>                                                              | Refer submission to Panel |

## Consideration of Submissions Report – Amendment C12

| Submitter                   | Key Issues                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CCMA Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Council Comments                                                                                                                                                                                                                                                                                                                                            | Council Recommendation    |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
|                             | <p>will not adequately address issues of sea flooding stemming from future sea level rises.</p> <ul style="list-style-type: none"> <li>• Objects to the proposed exemptions contained within the Schedule and suggests that a Planning Permit should be required for any major works.</li> </ul>                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• The purposes of the LSIO provide adequate protection for the function of the floodplain. The estimated future 1 in 100 year sea surge level is 3.00 metres AHD in the C29 work. The proposed 1 in 100 year flood level for the Barham River at the lower end of the estuary is 3.00 metres AHD. Therefore, whether flooding is caused by a riverine flood or a tidal surge the 1 in 100 year flood level – and hence flood extent is the same.</li> <li>• The CCMA would not recommend any changes to the proposed LSIO based on this submission.</li> </ul>                                                          |                                                                                                                                                                                                                                                                                                                                                             |                           |
| 6. Stephen McMaster         | <ul style="list-style-type: none"> <li>• Objects to the changes proposed by Amendment C12 on the grounds that they will result in the inclusion of his home in the LSIO</li> <li>• Suggests that the proposed upgrade of Pound Rd between Forest and Queen Streets will significantly improve drainage in the area and thus reduce the risk of flooding.</li> <li>• Requests that rubbish and debris be removed from the Talbot Street waterway and drain.</li> </ul> | <ul style="list-style-type: none"> <li>• The proposed LSIO coverage on this site is very similar to the existing coverage.</li> <li>• The LSIO represents the extent of flooding predicted during a 1 in 100 year flood event. Clearing minor channel obstructions and sealing Pound Road will not significantly reduce the impact of such an event.</li> <li>• The CCMA would be prepared to consider a proposal to undertake removal of weeds and debris from within the waterway where this would result in a positive environmental outcome.</li> <li>• The CCMA would not recommend any changes to the proposed LSIO based on this submission.</li> </ul> | <p>Council supports the CCMA's comments in relation to the coverage of the LSIO and the impact of a 1 in 100 year flood event.</p> <p>Council would support any CCMA led initiative to undertake weed and debris removal from the Talbot St waterway.</p> <p>Council does not recommend any changes to the proposed amendment based on this submission.</p> | Refer submission to Panel |
| 7. Philip & Margaret Lawson | <ul style="list-style-type: none"> <li>• Objects to the reduced area of Land Subject to Inundation Overlay on maps 29 and 30 compared to existing.</li> <li>• Suggests that flood mapping becomes outdated over time as conditions on the floodplain</li> </ul>                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Issues relating to the proposed coverage of the LSIO and the accuracy of the flood modelling data have already been covered above.</li> <li>• The CCMA agrees that flood mapping can become outdated over time.</li> <li>• The flood modelling takes into account a sea</li> </ul>                                                                                                                                                                                                                                                                                                                                    | <p>Issues relating to the proposed LSIO coverage and the accuracy of the flood modelling data have already been covered above.</p> <p>Council supports the CCMA's comments in relation to the accuracy and currency of their flood mapping techniques and their consideration of the impact of</p>                                                          | Refer submission to Panel |

## Consideration of Submissions Report – Amendment C12

| Submitter        | Key Issues                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CCMA Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Council Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Council Recommendation    |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
|                  | <p>change.</p> <ul style="list-style-type: none"> <li>• Considers the flood modelling undertaken by CCMA does not adequately address issues of climate change, storm and swell surge, sea level rise and sea flooding into the Barham River mouth.</li> <li>• Critical of the CCMA and their flood mapping techniques.</li> </ul>                                                                                                                                                                      | <p>boundary height of 3.00 metres, which includes a sea level rise of 0.8 metres by 2100. This is in accordance with current government policy (Victorian Coastal Strategy 2008).</p> <ul style="list-style-type: none"> <li>• The modelling assumes an extreme high tide for 24 hours at the same time as an extreme low pressure system and a 0.8 metre sea level rise. The Authority considers these assumptions result in a conservative flood level estimate.</li> <li>• The modelling used for Amendment C29 is the same modelling used to delineate the existing case 1 in 100 year flood extent for C12. The C29 modelling addressed issues of climate change, storm surge and sea level rise. It is considered that the C29 Panel Report confirmed the validity of this data.</li> <li>• The CCMA would not recommend any changes to the proposed 1 in 100 year flood extent delineation based on this submission.</li> </ul> | <p>climate change events on the Barham River mouth.</p> <p>Council does not recommend any changes to the proposed amendment based on this submission.</p>                                                                                                                                                                                                                                                                                                                                                                                                                |                           |
| 8. Cate Cousland | <ul style="list-style-type: none"> <li>• Objects to the reduced area of LSIO on maps 29 and 30 compared to existing.</li> <li>• Objects to the fact that there are no Floodway Overlays on the Barham River or any other coastal waterway.</li> <li>• States that the impact of climate change has not been considered and that the incidence of storm surges is expected to increase and cause further flooding.</li> <li>• The flood modelling is based on outdated data and is therefore</li> </ul> | <ul style="list-style-type: none"> <li>• Issues relating to the proposed coverage of the LSIO and FO, impacts of climate change and the accuracy of flood modelling data have already been covered above.</li> <li>• The Victorian Coastal Strategy (VCS) was released in December 2008. Amendment C12 satisfies the objectives of this strategy.</li> <li>• The CCMA would not recommend any changes to the proposed LSIO based on this submission.</li> <li>• The CCMA recommends Council consider including an FO with a 1 in 10 year flood event as part of a future amendment.</li> </ul>                                                                                                                                                                                                                                                                                                                                         | <p>Issues relating to the coverage of the proposed FO and LSIO, impacts of climate change and the accuracy of flood modelling data have already been addressed above.</p> <p>The VCS was released in December 2008. It recommends that '<i>...a policy of planning for sea level rise of not less than 0.8 metres by 2100 should be implemented</i>'. The flood mapping assumes a future sea level rise of 0.8 metres and it is considered that Amendment C12 satisfies the objectives of the Victorian Coastal Strategy 2008.</p> <p>Council does not recommend any</p> | Refer submission to Panel |

## Consideration of Submissions Report – Amendment C12

| Submitter           | Key Issues                                                                                                                                                                                                                                        | CCMA Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Council Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Council Recommendation     |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
|                     | <p>highly questionable.</p> <ul style="list-style-type: none"> <li>It would be reckless to consider the amendment prior to the release of the Victorian Coastal Strategy.</li> </ul>                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>changes to the proposed amendment based on this submission.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |
| 9. Kathryn Mullins  | <ul style="list-style-type: none"> <li>Opposed to removal of the LSIO on the proposed site of two broiler farms in Pierces Road, Beeac.</li> <li>The LSIO coverage in this area should be extended to cover all flood areas.</li> </ul>           | <ul style="list-style-type: none"> <li>The exhibited mapping for the proposed LSIO does not show a decrease in area or removal of the LSIO on the subject property.</li> <li>It is considered that the mapped flood extent covers a broader area than is actually expected to be inundated in a 1 in 100 year flood.</li> <li>There are also currently areas of the subject land that would be subject to inundation that do not appear in the proposed LSIO.</li> <li>The CCMA recommends that the LSIO delineation on the subject site be revised to more accurately depict the estimated 1 in 100 year flood extent.</li> </ul> | <p>Amendment C12 provides an opportunity to correct any anomalies that have been detected in the delineation of the existing LSIO. Accordingly, Council supports the CCMA's recommendation and considers it appropriate to alter the amendment in the manner requested.</p> <p>However, due to the fact that the request will extend the LSIO coverage onto previously unaffected areas, it is deemed appropriate to refer the submission to a Panel.</p> <p>This will give all interested parties the opportunity to raise their concerns before an independent Panel hearing.</p> | Refer submission to Panel  |
| 10. Elizabeth Stone | <ul style="list-style-type: none"> <li>Notes recent planning permit application was not approved.</li> <li>Supports Amendment C12.</li> <li>Considers the outcome of Amendment C12 will allow her to construct a dwelling on the site.</li> </ul> | <ul style="list-style-type: none"> <li>The extent of the LSIO at 28 Ryans Rd is reduced by proposed Amendment C12 compared to the current delineation.</li> <li>This submission supports the amendment. The CCMA would not recommend any changes to the proposed LSIO based on this submission.</li> </ul>                                                                                                                                                                                                                                                                                                                         | <p>The submitters support for Amendment C12 is acknowledged.</p> <p>The submission does not request any changes to the proposed amendment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                      | Refer submission to Panel. |
| 11. S Branwhite     | <ul style="list-style-type: none"> <li>Notes that lakes and aquifers are drying up.</li> <li>Suggests that until Amendment C12 is resolved a planning permit to construct a dwelling on</li> </ul>                                                | <ul style="list-style-type: none"> <li>The extent of the LSIO at 28 Ryans Rd is reduced by the proposed amendment C12 compared to the current delineation.</li> <li>This submission supports the amendment. The CCMA would not recommend any</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            | <p>The submitters support for Amendment C12 is acknowledged.</p> <p>The submission does not request any changes to the proposed amendment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                      | Refer submission to Panel  |

## Consideration of Submissions Report – Amendment C12

| Submitter                                      | Key Issues                                                                                                                                                                                                      | CCMA Comments                                                                                                                                                                                                                                                                                                                       | Council Comments                                                                                                                               | Council Recommendation    |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
|                                                | <p>the site cannot be issued.</p> <ul style="list-style-type: none"> <li>• Supports Amendment C12</li> </ul>                                                                                                    | <p>changes to the proposed LSIO based on this submission.</p>                                                                                                                                                                                                                                                                       |                                                                                                                                                |                           |
| 12. Country Nitrogen Fire Fighting Association | <ul style="list-style-type: none"> <li>• Notes that without a favourable decision</li> </ul>                                                                                                                    | <ul style="list-style-type: none"> <li>• The extent of the LSIO at 1490 Princes Highway is reduced as a result by proposed Amendment C12 compared to the current delineation.</li> <li>• This submission supports the amendment. The CCMA would not recommend any changes to the proposed LSIO based on this submission.</li> </ul> | <p>The submitters support for Amendment C12 is acknowledged.</p> <p>The submission does not request any changes to the proposed amendment.</p> | Refer submission to Panel |
| 12. Western Coastal Board                      | <ul style="list-style-type: none"> <li>• Commends Council for updating its flood mapping in line with data provided by CCMA.</li> <li>• Suggests we consider 0.8m sea level rise as outlined in VCS.</li> </ul> | <ul style="list-style-type: none"> <li>• Verbal comments received from CCMA's Floodplain Manager indicated that the 0.8m sea level rise has been considered in the flood modelling.</li> </ul>                                                                                                                                      | <p>The submitters support for Amendment C12 is acknowledged.</p> <p>The submission does not request any changes to the proposed amendment.</p> | Refer submission to Panel |

**OM092406-17 FORREST TIGER RAIL TRAIL FUNDING AGREEMENT - REGIONAL DEVELOPMENT VICTOIRA AND COLAC OTWAY SHIRE**

|             |                                      |           |            |
|-------------|--------------------------------------|-----------|------------|
| AUTHOR:     | Mick Cosgriff                        | ENDORSED: | Jack Green |
| DEPARTMENT: | Sustainable Planning and Development | FILE REF: | GEN00184   |

**Purpose**

To seek Council's endorsement of the funding agreement between Regional Development Victoria and Colac Otway Shire and to affix the Common Seal of the Colac Otway Shire on the two (2) copies of the legal agreement between Regional Development Victoria and the Colac Otway Shire in relation to the Forrest Tiger Rail Trail project.

**Background**

The Forrest Tiger Rail Trail project will connect the Forrest township with the Forrest Recreation Reserve and also connect with the Mountain Bike Trails Network at Yaugher via a 1.8km, 2.5m wide multi-use pathway.

A trail connecting the Forrest township with the Forrest Recreation Reserve has been a priority of the Forrest and district community for seven (7) years as indicated in the 2002 Forrest Township Master Plan and 2007 Reviewed Forrest Township Master Plan.

The project includes:

- construction of the trail
- reconstruction of an existing bridge
- installation of historical interpretive signage and
- installation of directional signage

The Federal Government through the Regional and Local Community Infrastructure Program has provided \$40,000, the Department of Sustainability and Environment has provided \$20,000 and the community will be providing \$18,428. The application to Regional Development Victoria for \$108,000 has been successful. In order to officially receive the funding, the attached legal agreements between Regional Development Victoria and the Colac Otway Shire must be ratified by Council with the Common Seal of the Colac Otway Shire.

The project was endorsed at the December 2008 Council meeting along with several other projects, which were funded under the Regional and Local Community Infrastructure Program.

At its meeting on 16 December 2008, Council resolved the following in part:

*That Council:*

*“Endorse the allocation of \$525,000 via the Federal Government’s Regional and Local Community Infrastructure Program for the following projects:*

- *Bluewater Fitness Centre Improvements*
- *Colac Visitor Information Centre Upgrade*
- *Apollo Bay and Lavers Hill Footpaths*
- *Colac Saleyards (Colac Livestock Selling Centre) secure fence and gate*
- *Forrest Tiger Trail - 1.8kms”*

Further to this , following advice from the Federal Government with regard to the allocation for the Colac Saleyards funding, this was subsequently reallocated to additional footpaths. The allocation for the Tiger Rail Trail remained.

**Corporate Plan/Other Strategies/Policy**

The Forrest Tiger Rail Trail Stage 1 project is supported by the following Colac Otway Shire endorsed documents:

- 2002 Forrest Township Master Plan and 2007 Reviewed Forrest Township Master Plan
- 2006 Feasibility Study into Increased Economic Activity in Forrest
- 2004 Colac Otway Shire Economic Development and Tourism Strategy
- 2005 Colac Otway Shire Council Plan

**Issues/Options**

The Common Seal is a requirement of all legal agreements between rural and regional Victorian Councils and Regional Development Victoria for projects above \$100,000.

*Option 1*

That Council endorse the funding agreement and provide the Common Seal of the Colac Otway Shire to the two (2) legal agreements.

*Option 2*

That Council not provide the Common Seal of the Colac Otway Shire to the two (2) legal agreements and therefore withdraws the funding opportunity.

Option 1 is the preferred option.

**Proposal**

The trail will provide a safe, off-road route for all abilities (including walkers, cyclists and horse riders) and will follow the existing railway alignment of the line between Colac, Deans Marsh, Forrest, Birregurra and Barwon Downs. The construction of this trail will also join up the existing networks of mountain bike trails in Forrest and the trail head at Yaugher.

It is for these reasons that it is recommended that Council affix the Common Seal of the Colac Otway Shire for the purposes of the two (2) legal agreements to ensure that Council obtain the \$108,000 in funding from Regional Development Victoria.

**Financial and other Resource Implications**

The Forrest Tiger Rail Trail project has been fully costed and scoped as per the project management requirements of the Colac Otway Shire by the Economic Development Unit.

|                                                                          |           |
|--------------------------------------------------------------------------|-----------|
| Federal Government - Regional and Local Community Infrastructure Program | \$40,000  |
| Department of Sustainability and Environment                             | \$20,000  |
| Local Community – cash and in-kind                                       | \$18,428  |
| Regional Development Victoria                                            | \$108,000 |

Council will not be required to make any financial contribution to this project, and project management will be done within the normal course of duties within the Economic Development Unit.

**Risk Management & Compliance Issues**

The Economic Development Unit have undertaken a risk assessment of the project as per the project management requirements of the Colac Otway Shire.

**Environmental Considerations**

An assessment of the project has been undertaken by Council's Environment Department

**Communication Strategy/Consultation**

The Forrest community have been consulted in the development of the Forrest Tiger Rail Trail project and have committed financially and in-kind to the project works. The Economic Development Unit will engage with the Forrest community via the Forrest Tiger Rail Trail Committee and the Forrest Progress Association in delivering their specific components of the project.

This funding has been announced by Gail Tierney, MP for Western Victoria and subsequently reported in the local print media.

**Implementation**

Following the Common Seal on the legal agreement, the Economic Development Unit will send the two (2) legal agreements to Regional Development Victoria in order for Council to officially ratify the \$108,000 funding.

**Conclusion**

The trail will provide a safe, off-road route for all abilities (including walkers, cyclists and horse riders) and will follow the existing railway alignment of the line between Colac, Deans Marsh, Forrest, Birregurra and Barwon Downs. The construction of this trail will also join up the existing networks of mountain bike trails in Forrest and the trail head at Yaugher.

It is for these reasons that it is recommended that Council endorse the funding agreement and affix the Common Seal of the Colac Otway Shire for the purposes of the two (2) legal agreements to ensure that Council obtain the \$108,000 in funding from Regional Development Victoria.

**Attachments**

Nil

**Recommendation(s)**

***That Council endorse the funding agreement between Regional Development Victoria and Colac Otway Shire and affix the Common Seal of the Colac Otway Shire to the two (2) funding agreements between Regional Development Victoria and the Colac Otway Shire in order to officially ratify the \$108,000 of funding received by Council for the Forrest Tiger Rail trail project.***

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**OM092406-18 STANDPIPE MANAGEMENT**

|             |                                      |           |                     |
|-------------|--------------------------------------|-----------|---------------------|
| AUTHOR:     | Stewart Anderson                     | ENDORSED: | Jack Green          |
| DEPARTMENT: | Sustainable Planning and Development | FILE REF: | GEN00179 Standpipes |

**Purpose**

The purpose of this report is to provide Council with an update on issues associated with management of standpipes within the Colac Otway Shire and to recommend actions for improving management of standpipes in the future.

**Background**

Council was briefed on the status of standpipe management at a workshop on 10 June 2009. It was agreed that a Council report be submitted recommending the possible closure of five standpipes that have low usage and need significant works to upgrade the infrastructure to an adequate level.

The following is a summary of the key points associated with standpipe management:

- There are twelve standpipes in the Shire which are managed by Council on behalf of Barwon Water;
- A set of management guidelines were developed in 2008 to ensure a consistent approach to usage and a strategic approach to the management of maintenance and infrastructure improvement;
- The standpipes are for ratepayers without mains water who due to exceptional circumstance need water for domestic and stock usage or commercial contractors undertaking works for Council;
- The standpipe network allows for contingency use in the event of unserviceable infrastructure or wild fire events;
- Commercial water carters cannot use the standpipes because they can use metered hydrants issued by Barwon Water which allow them to access water at many more locations;
- Eight standpipes need to be upgraded due to the high risk of mains water contamination leaving Council exposed to potential liability; and
- Controlling usage is difficult particularly at the Birregurra standpipe which does not have a lock because it is coin operated.

Operational guidelines introduced in 2008 have provided for a more structured approach to usage resulting in improvements that will reduce the disparity between the costs charged by Barwon Water and the income received from users by Council.

It is important to note that the Birregurra standpipe is different from the other 11 standpipes as it is a coin operated system. The machine releases 1000 litres of water when a dollar coin is inserted. This system requires visits to collect the money and annual tests to ensure that it is releasing the correct amount of water.

**Corporate Plan/Other Strategies/Policy**

Colac Otway Shire Council Annual Environment and Community Safety Business Plan 08/09 - Strategy: 7.2.1 Provide Internal and External services to support the organisation in meeting the community's needs: Manage access and maintenance for standpipes in the region.

### Issues/Options

The usage of standpipes has benefits which cannot be readily expressed in dollar values:

- Provision of fire fighting water to private fire-fighting units which are critical to major fire activity management;
- Provision of urgent domestic and stock water to residents of the Shire with no access to mains water and who are adversely affected by current dryness; and
- Provision of water to contractors undertaking infrastructure works (e.g. Roads) within the Shire who do not have other access to other sources of water.

Two major issues exist with respect to standpipes:

- Council operates the network at a loss; and
- The infrastructure needs upgrading.

All standpipe water is paid for by Council to Barwon Water at a rate of \$1.50 per k/l. This is a very favourable cost given that Council is charged \$1.48 per k/l by Barwon Water and is currently absorbing costs related to maintenance and other issues. The system relies heavily on honesty and since 1 July 2007 Council has been charged \$15,576 by Barwon Water and only received \$6,022 in income for usage. When coupled with the fact that the minimum cost of bringing non-compliant standpipes into conformity is \$5,500 per standpipe, it is clear that Council has a significant cost associated with managing standpipes.

Benchmarking with comparable municipalities has found that usage fees vary between \$3-5 per k/l. The Draft Council Budget for 2009/2010 proposes a new fee of \$3 per k/l. This will help reduce the disparity between the income and the costs being incurred by Council from standpipes. However, the coin operated Birregurra standpipe is a particular problem because it has an unknown number of users and the coin operated mechanism cannot be re-set to a higher amount. This standpipe represents by far the greatest cost to Council through the failure to recoup water usage costs and it is also impossible to manage access to ensure water is used for the intended purposes. To reduce these problems it is proposed that the Birregurra standpipe be brought in line with the other standpipes in the municipality by implementing a key system.

Eight of the twelve standpipes have been identified as needing upgrade to comply with the Water and Plumbing Regulation and Act and to make them safe for users. Five of the eight sites (shown in the table below) have very low usage and other hydrants are located very close by. Two of these sites also need to be repositioned to improve the safety of the user stopping near a busy road.

| Location       | Issues   | Options                        | Usage  |
|----------------|--|--------------------------------|--|
| Barpinba       | Instruction from Barwon Water to close standpipe.                  | Beeac 5 min SW Fire hydrant 5m | Three registered users over the past two years.                    |
| Pirron Yallock | Needs upgrade, too close to road causing danger to traffic & user. | Larparent 5min Hydrant 100m    | Eleven registered users over the past two years. Low volume taken. |
| Yeo            | Needs upgrade, too close to road causing danger to traffic & user. | Warncoort 5 min Hydrant 150m   | One user over the past two years.                                  |
| Cressy         | Needs upgrade  | Beeac 13min Fire hydrant 10m   | Four registered users over the past two years.                     |
| Alvie          | Needs upgrade  | Larparent 5min Hydrant 100m    | No registered users over the past two years.                       |

It is the view of officers, following discussions with users of these standpipes, that the five standpipes identified in the above table be closed, the standpipes at Gellibrand, Skenes Creek and Forrest be upgraded and that a key system be introduced at the Birregurra standpipe to address the cost and management issues at that site.

### Proposal

That Council support that the five standpipes listed above be closed and the Birregurra standpipe be brought in line with the other standpipes in the municipality by implementing a key system. If this proposal is implemented very few users would be affected and none would be significantly inconvenienced. It is also proposed that Council continue to support the ongoing upgrade of the remaining standpipes as outlined in this report through the budget process.

### Financial and other Resource Implications

Closing five standpipes would save approximately \$50,000 required for upgrades and re-positioning works and approximately \$2,000 per year for ongoing maintenance costs. This would leave seven standpipes in the municipality, three of which require an upgrade.

A budget request of \$11,000 has been submitted for standpipes to upgrade another two standpipes in the next financial year. A further budget request for an additional \$5,500 will be included in the 2010/2011 Council budget process to complete the program.

The ongoing maintenance budget of \$10,000 could be reduced if the fee charged for the water is increased. By increasing the fee to \$3 per k/l it is estimated that the ongoing maintenance budget could be reduced to \$5,000 per year.

### Risk Management & Compliance Issues

Water is a highly valued commodity. As the current drought continues and climate change threatens to make this type of drought more common it is appropriate that Council move to tighten the management regime associated with stand pipes in the region. Accordingly, new systems are being implemented to ensure appropriate management and usage. Barwon Water has indicated that if these controls are not maintained then all the standpipes may be closed.

Six standpipes are not plumbed to requisite statutory requirements. A number of the standpipes have risk issues other than plumbing that make them unsafe for users (e.g. too close to the road). In total eight of the twelve standpipes require upgrades and significant costs are associated with addressing these matters.

The table below details the existing risks to Council, existing or proposed treatments and a risk rating based on Council's Risk Management policy.

| Risk Environment | Risk  | Risk Rating | Treatment  | Comments   |
|------------------|---|-------------|--|--|
| Legal            | Tortuous liability – damages from contamination to network from standpipes, workplace liability on dangerous infrastructure and sites | H           | Installation of backflow devices and plumbing upgrades | 2008/09, 2009/10 budget of capital to upgrade network to compliant state |
|                  | Criminal liability for breaches of Water Act  | M           | Installation of backflow devices and plumbing upgrades | 2008/09, 2009/10 budget of capital to upgrade network to compliant state |
|                  | Contamination to water  |             | As above + rationalisation                             | As above, also review  |

|  |  |   |  |  |
|--|--|---|--|--|
| <b>Environmental</b>   | system   | M | of network to lessen exposure  | of existing infrastructure   |
|  | Damage from Major Fires  | H | Need to maintain a level of infrastructure + Provision of access to Fire Water via CFA for public in areas where standpipes removed                        | As above, also review of existing infrastructure and arrangements with CFA already in place for public access for fire fighting water                                  |
| <b>Financial</b>   | Losses from operating network at a loss                        | M | Adopt fee recommendations to recover costs on as close to a user pays basis as possible in the circumstances   | Costs recommended are still low given the level of service it provides, also people in financial distress because of drought can enter into individual payment options |
|  | Losses from theft, misuse or state of repair of network        | M | Better infrastructure and monitoring to improve security to network  | Planned in existing maintenance schedule and capital upgrades  |
| <b>Political</b>   | Negative Public response to fees or rationalisation of network | M | Arrangements for alternative sources in case of fire<br>Provision of better infrastructure protecting liability implications for users as well as council. | Arrangements for fire water already in place, Communications via direct mail to the small number of existing users   |
| Note: Risk assessments for each standpipe in current network on infrastructure assessments maintained by Council Officers. |  |   |  |  |

### Environmental Considerations

As previously stated water is a highly valued commodity. The prolonged drought has highlighted the need for water conservation measures to be adopted. The water accessed through standpipes is subject to the same water restrictions that apply across the region. A number of other environmental issues are discussed in the risk table above including:

- Contamination of the water network;
- Loss of water through leakage because of poor infrastructure; and
- Unmitigated fire damage to the natural environment as a result of limited fire-fighting water.

These environmental issues would be better managed through the proposal in this report that upgrades the infrastructure and supports the need for Council to control access to the standpipes to ensure users realise their obligations.

### Communication Strategy/Consultation

Discussion has occurred with 3 users who have recently been required to travel to a more appropriate location (Barpinba-Beeac), and all have indicated no issues with this change of distance given the new site is safer and more efficient with respect to plumbing and flow. It is intended that each user affected by the changes to standpipe locations would be written to. Removal of standpipes recommended does not affect any current user who is registered with a key.

If the five standpipes are closed and the Birregurra standpipe is switched to a key system then it would be critical to first inform the local communities of the impending changes, the alternative sites nearby and who to contact if they have any questions. It is important to note that media releases, fliers in local stores and signage placed at stand pipes would all be required.

**Implementation**

It is proposed that implementation will be as follows:

- 2009/2010 Council Budget finalised;
- Communication Plan produced July 09;
- Communication Plan implemented August 09
- Close five standpipes in September 09;
- Switch the Birregurra standpipe to a key system in September 09;
- Upgrade 2 of the remaining standpipes which have not been upgraded to date by June 2010.
- Seek additional funding in the 2010/2011 Council budget process to upgrade the final remaining standpipe.

**Conclusion**

This report provides Council with a brief overview of risks associated with standpipes and an option for improving standpipe management whilst not disadvantaging residents of the shire who rely on this service in exceptional circumstances. In adopting the recommendations herein Council will ensure safe and responsible use of water via a standpipe network that is economically viable and environmentally sustainable.

**Attachments**

Nil

**Recommendation(s)*****That Council:***

1. ***Support the closure of five standpipes at Barpinba, Pirron Yallock, Yeo, Cressy and Alvie.***
2. ***Support the implementation of a key system at the Birregurra standpipe.***

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**OM092406-19 PP116/08 AND PP117/08 – AMENDED PROPOSAL - USE AND DEVELOPMENT OF 210 PIERCES ROAD, BEEAC FOR A 640,000 BIRD CAPACITY BROILER FARM, ASSOCIATED BUILDING AND WORKS, INCLUDING ACCESS AND A DAM AND TWO MANAGER’S RESIDENCE (CA140, 141, 148, 149, 152, AND 153, PARISH OF ONDIT)**

|             |                                      |           |                     |
|-------------|--------------------------------------|-----------|---------------------|
| AUTHOR:     | Anne Sorensen                        | ENDORSED: | Jack Green          |
| DEPARTMENT: | Sustainable Planning and Development | FILE REF: | PP116/08 & PP117/08 |

|                               |                                                                                                        |
|-------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Location:</b>              | <b>210 Pierces Road, Beeac (CA140, 141, 148, 149, 152 and 153, Parish of Ondit)</b>                    |
| <b>Applicant:</b>             | <b>Focus Creative Development Solutions</b>                                                            |
| <b>Zoning:</b>                | <b>Farming Zone</b>                                                                                    |
| <b>Overlays:</b>              | <b>Land Subject to Inundation (Part)</b>                                                               |
| <b>Amendment:</b>             | <b>Amendment C55 (Planning Scheme Review) does not propose any zone or overlay changes to the land</b> |
| <b>Abuts:</b>                 | <b>Land zoned Farming</b>                                                                              |
| <b>Restrictive Covenants:</b> | <b>Nil</b>                                                                                             |

### Summary

- The Tribunal at the VCAT hearing held on 20 April, 2009 stood down the hearing on the basis that the notification process had not been satisfactorily undertaken by the Applicant in accordance with VCAT Practice Note – 11.
- The Tribunal advised Council representatives at the VCAT hearing that Council should form a view on the ERA and advocate a position at the forthcoming VCAT hearing scheduled for 26 June, 2009.
- URS Australia Pty Ltd was engaged by Council to undertake a peer review of the revised ERA prepared in support of the single 640,000 bird capacity broiler farm. URS was also asked to compare the revised ERA with the initial ERA prepared for the original proposal for two separate 320,000 bird capacity broiler farms.
- The URS peer review report assessed the methodology used in the ERA against the requirements of EPA’s SEPP, the Victorian Code for Broiler Farms and the draft guidelines for ERAs and other published documents. The URS peer review report identifies a number of inconsistencies between the revised ERA and these documents and guidelines to the degree that URS considers that the results of the revised ERA do not accurately reflect odour emissions generated by the proposal. The peer review report identifies that the risk to two dwellings near the proposal is unacceptable.
- Although the Applicant and objector representatives reached an agreement on the amended proposal for a single 640,000 bird capacity broiler farm, based on the findings of the peer review of the revised ERA, Council cannot be confident that the amended proposal will not result in material detriment to nearby dwellings or be a better outcome than the original proposal for two 320,000 bird capacity broiler farms.

- Given the results of the peer review, URS were engaged to appear as an expert witness in Air Quality Management at the forthcoming VCAT hearing and prepare an Expert Witness Report that has been circulated to all parties to the hearing on 16 June 2009, as required by the VCAT Practice Note.
- Given that the URS peer review raises substantial concerns with the revised ERA, it is recommended that Council adopt the position at the forthcoming VCAT hearing that the amended proposal for a single 640,000 bird capacity broiler farm not be supported.
- It is also recommended, based on the findings of the peer review and expert witness report that VCAT be advised that support would not be given for the original planning proposal for two 320,000 bird capacity broiler farms at 210 Pierces Road Beeac.
- It is considered that Council should advise VCAT that a single 320,000 bird capacity broiler farm could be supported at this site providing the proposal complied with the Victorian Code for Broiler Farms 2001 and that an ERA was undertaken for odour, dust and noise that demonstrates that the risk from odour, dust and noise is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.
- The Applicant, Focus Creative Development Solutions and Network Planning Consultants acting on behalf of the objectors were advised that this matter would be considered by Council at the Council meeting of 24 June 2009 at the time the Expert Witness Report was circulated.
- Although Council was advised in writing by all objectors that they had withdrawn their objection to the amended proposal, as a matter of courtesy, any person who had objected to the original planning applications have been advised that this matter would be considered by Council at the June 2009 Council meeting.

### **Background**

Council has considered PP116/08 and PP117/08 at the October 2008 and March 2009 Planning Committee Meetings and the April 2009 Council Meeting.

At the March 2009 Planning Committee meeting, Council resolved to adopt the position of not supporting Broiler Farm A and B at the VCAT hearing scheduled for 20 April 2009. Council also requested that legal representation be engaged to represent Council at the VCAT hearing.

At the April 2009 Council Meeting, Council was advised that the applicant and objector representatives had reached a compromise agreement on an amended proposal for a single 640,000 bird capacity broiler farm, comprising of 10 sheds, two dwellings and associated buildings and works including access and dams.

Council was advised that the amended proposal must be assessed against the Victorian Code for Broiler Farms 2001 and that under this code a broiler farm of 640,000 bird capacity falls into a "special class" and an Environmental Risk Assessment (ERA) is required to determine appropriate boundary buffer and separation distances and whether the risk from odour and dust is acceptable.

While a revised ERA was undertaken for the amended proposal, it was not received by Council within sufficient time prior to the VCAT hearing on 20 April 2009 to obtain a peer review of the revised ERA. As a result, at the April 2009 Council Meeting, Council resolved:

- a) *“Advise the Victorian and Civil Administrative Tribunal at the review hearing on 20 April 2009, that Council provides conditional support for the amended proposal for a single 640,000 bird capacity broiler farm subject to the Victorian and Civil Administrative Tribunal being satisfied that the Environmental Risk Assessment demonstrates that the odour risk is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.*
- b) *Advise the Victorian and Civil Administrative Tribunal that should the Tribunal determine that a planning permit should be granted for a single 640,000 bird capacity broiler farm at 210 Pierces Road, Beeac (CA140, 141, 148, 149, 152 AND 153, Parish of Ondit) then Council submits that the permit should be subject to 38 conditions.”*

A copy of the April 2009 Council Report is appended.

On 20 April 2009, the Tribunal stood down the VCAT hearing on the basis that the Applicant had failed to comply with the notice requirements of VCAT Practice Note. The applicant has since complied with this requirement and no new parties have requested to be part of the VCAT hearing process.

The Tribunal advised Council representatives at the VCAT hearing that Council should form a view on the ERA and advocate a position at the forthcoming VCAT hearing scheduled for 26 June, 2009.

Subsequent to the April VCAT hearing, URS Australia Pty Ltd was engaged to undertake a peer review of the revised ERA prepared in support of the single 640,000 bird capacity broiler farm. URS was also asked to compare the revised ERA with the initial ERA prepared for the original proposal for two separate 320,000 bird capacity broiler farms. The findings of this review are discussed below.

#### **Victorian Code for Broiler Farms 2001**

Under the 2001 Broiler Code, a single 640,000 bird capacity broiler farm is classified as a “special class farm”. Boundary buffer and separation distance requirements are established by an Environmental Risk Assessment that includes detailed modelling of odour, dust and noise impacts on neighbouring sensitive land uses.

The Victoria Code for Broiler Farms 2001 includes a range of objectives and criteria for odour, dust and noise associated with the development and operation of broiler farms. In terms of odour, the Broiler Code requires that odour emissions satisfy the requirements of the Environment Protection Authority’s State Environment Protection Policy (Air Quality Management) (SEPP).

Emissions modelling is able to predict whether emissions will lead to adverse impacts at the property boundary, and at any point beyond it, including the location of sensitive uses, like dwellings.

The Broiler Code requires that EPA approved models must be used in odour and dust emissions modelling and the following design criterion should be used in ERA assessments:



- *For odour, predicted concentrations are calculated as three minute averages and, to minimise the potential impacts on nearby sensitive land uses and the likelihood of complaints, maximum predicted concentrations must not exceed five odour units (that is, five times the odour detection threshold as measured with EPA method B2) at and beyond the boundary buffer for 99.9% of the meteorological scenarios modelled. Usually the modelling exercise involves predictions for each hour of a calendar year of meteorological data.*
- *For dust emissions, the State Environment Protection Policy (Air Quality Management) specifies a design criterion of 183 mg/m<sup>3</sup> (one-hour average), which also must be met by 99.9% of the model'*

Appendix 3 of the Broiler Code contains technical information on ERAs, the use of emissions modelling and Superior Technology. The design and layout of broiler sheds, farm equipment and development of operational and management practices can minimise routine emissions of odour, dust and noise and the likelihood of abnormal emissions or accidental releases.

When conducting an ERA, the Broiler Code identifies the following factors that should be taken into consideration:

- Shed ventilation system and air movement control;
- Fan location(s) and capacity;
- Weather patterns, including prevailing winds and the occurrence of stable atmospheric conditions;
- Topographical features of the site;
- Stocking density
- Plantation width, depth, terrain and vegetation cover;
- Pollution control technology (for example, stacks, scrubbers and biofilters);
- Waste management and storage practices (for example, collection and disposal of litter and dead birds)
- Odour modelling data, including assessment of cumulative impacts involving other sources in the vicinity;
- The impact of high bird mortality
- Chemical use schedule and application practices.

The EPA has prepared an "Interim Guideline for Environmental Risk Assessments (Odour) for the Victorian Code for Broiler Farms. This guideline is a draft at present and expected to form part of the draft Victorian Code for Broiler Farms document. The draft guideline provides advice to proponents and the community about ERAs and sets out the minimum requirements needed for an ERA in order to be able to assess the acceptability of a broiler farm application. An ERA is a process or tool used to identify any potential environmental impacts/risks of a site whilst taking into account site specific management, mitigation and contingency planning. These risks and the accompanying site information can then be assessed as to the acceptability and likelihood of the impact on the surrounding amenity.

An ERA is a staged process and depending on the individual proposal, a proponent may need to undertake one or more stages in the assessment in order to demonstrate that there is unlikely to be impact on surrounding sensitive uses.

The three stages are outlined below:

|                    |                                                                                                                                                                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Stage One</b>   | Assessment of objectives, criteria and Best management Practices of the code and modelling of air and dust impacts against the design criteria (requirements of SEPP AQM). |
| <b>Stage Two</b>   | Where SEPP AQM design criteria cannot be met, assessment of risk to surrounding sensitive land uses.                                                                       |
| <b>Stage Three</b> | Where risk assessment undertaken in Stage 2 is moderate or high, an assessment of risk management strategies, technologies and redesign options.                           |

If the design criteria of SEPP AQM are met in Stage 1 no further risk assessment process is needed. If this cannot be met Stage 2 and 3 will be required.

GHD have included the draft guidelines as an appendix in the ERAs undertaken for this project.

#### **Environment Risk Assessments prepared by GHD (on behalf of the proponent)**

Council Officers requested that a revised ERA be conducted for the single 640,000 bird broiler farm in line with the requirements of the 2001 Broiler Code. The ERA previously submitted to Council provided an environmental risk assessment for odour and dust for two separate 320,000 broiler farm complexes at 210 Pierces Road Beac. The report provided an environmental risk assessment of Farm B (nearest to Weering School Road) on its own as well as an environmental risk assessment on the cumulative impact of both Farm B and A when in operation. The ERA was based on two separate 320,000 bird capacity broiler farms separated by a distance of 500 metres. As the amended proposal was to establish a single 640,000 bird capacity broiler farm, it was considered that the findings of the previous ERA could not be relied upon given the substantial change to the intensity and concentration of the amended proposal.

The revised ERA provides an environmental risk assessment for odour only and does not include an assessment of potential dust or noise impacts on nearby sensitive uses.

#### **Findings of the peer review by URS Australia Pty Ltd**

URS Australia Pty Ltd was engaged to review the revised ERA prepared by GHD in 2009 undertaken for the single 640,000 bird capacity broiler farm and to compare the revised ERA with the initial ERA prepared by GHD in 2008 for the original planning permit applications for two separate 320,000 bird capacity broiler farms.

For the updated risk assessment, URS considered the methodology and results from:

- Meteorological modelling;
- Emission estimation;
- Dispersion modelling; and
- Risk assessment.

In the comparison of the initial risk assessment, URS has compared:

- Considered emissions;
- Emissions estimation;
- Dispersion modelling; and
- Results.

## **Updated ERA (GHD, 2009)**

### Meteorological Modelling

URS determined that the local meteorology used in the dispersion modelling was estimated using data developed for another project in the same area. The data was developed using TAPM version 2, with a model year of 2002 selected.

URS compared the results generated by TAPM version 2 for a meteorological year of 2002 with data generated by the updated TAPM version 4 for 2008. The results indicated that the distribution and frequency of winds for each direction were similar for 2002 compared to 2008, however TAPM version 4 predicted a higher frequency of lower velocity winds.

As the broiler sheds are ground based sources, light winds are likely to result in higher predicted concentrations at the receptors (sensitive uses, i.e. Dwellings). The use of TAPM version 2, rather than the more recent release means that model predictions are likely to be under estimated.

### Emission Estimation

In the ERA, emission estimation was completed using a methodology developed by the author of that report. No attempt was made in the ERA to reconcile the predicted emissions with other measurement campaigns undertaken in Australia.

Therefore, URS compared the emission estimates to three other recent studies that were readily available in the literature. After undertaking this analysis, URS considers that the emission estimation provided in the ERA gives a reasonable estimation of the expected emissions likely to occur from the proposed development. However, the application of the estimated emissions does not correlate with the requirements of the State Environment Protection Policy for Air Quality Management (SEPP (AQM)), the Victorian Broiler Code or the requirements of the draft ERA guidelines included in appendix C of the ERA.

### Dispersion Modelling

Dispersion modelling in the ERA used the regulatory model Ausplume version 6. This is considered to be a suitable choice by URS.

Dispersion modelling was conducted using a variable emission rate that changed through the batch cycle. This approach is not consistent with the recommended modelling methodology contained in the SEPP(AQM), the Victorian Broiler Code or the draft ERA guidelines, which require the use of the maximum emission rate to be modelled for the period of a year in which they occur for averaging periods of 1 hour or less. URS considers the modelling methodology proposed by the guidance documents to be appropriate, as it ensures that the maximum emission coincides with the worst meteorological conditions, and ensures that the facility may operate in all conditions without unacceptable impact on nearby dwellings.

URS considers the use of emissions varying with batch age to be inappropriate and likely to result in an under-estimation of potential emissions.

Percentile calculations are required by the regulatory State requirements for periods of 1 hour or less. This is to discount the possibility of unusual meteorology unduly influencing the model results. EPA, the Victorian Broiler code and the draft ERA guidelines promote the use of a 99.9 percentile as this discounts the top nine results as potentially being influenced by unusual meteorology in the selected meteorological year.

### Risk Assessment

The GHD risk assessment examines only occurrences of concentrations above 5 OU (3 minute average, 99.9 percentile) that occur during daylight hours at the nearest residences.

The reasons given for the exclusion of exceedances after sunset were:

- This is when stable atmospheres and light winds are likely to be predominant; and
- Between 12am and 5am residents will be asleep and an odour concentration greater than 10 OU would be required to wake a sleeping person.

URS considers the exclusion of non-daylight hours to be incorrect, as:

- Residents are more likely to be at home during non-daylight hours;
- Operations and emissions continue during non-daylight hours;
- There is no guarantee that residents are asleep during the period 12am to 5am; and
- There is no evidence for a level of 10 OU required to wake a sleeping person.

When all hours are considered in the risk assessment the ERA reports 31 and 26 exceedances of 5 OU at residences 2 and 4 respectively. URS believes that this should be considered an unacceptable risk and stage 3 of the ERA should have been completed as required by the guidelines.

### Risk Matrix

The GHD risk assessment presents a matrix based on modelling and observations from previous work undertaken by the ERA's author. The ERA does not provide a reference to the previous work, or information in an appendix detailing the basis of the work for which the matrix was constructed.

Additionally, the inference in the matrix that Ausplume over-predicts concentrations compared to odour concentrations that are likely to result in complaints, is countered by the EPA who have published details of a comparison of modelled results against observations and found that Ausplume was less conservative than observations.

URS considers the numbers used in the risk matrix to be inappropriate and the risk assessment should have used the predicted frequency of occurrence of odour above 5 OU as an indication of potential harm to nearby residences.

### **Comparison of Updated and Initial ERA**

The initial ERA (GHD, 2008) considers the impact of dust and odour for two shed complexes housing 320,000 birds each, whilst the updated risk assessment considers the impact of odour from one shed complex housing 640,000 birds. The methodology used in the updated risk assessment for:

- Development of meteorology;
- Odour emission estimate; and
- Risk assessment.

is the same as that used in the initial ERA.

There are several important differences between the initial ERA and the revised ERA, including:

- Source description; and
- Evaluation of dust impacts.

One major difference between the modelling methodologies used in the initial ERA compared to the revised ERA is the emission points along the side and ends of the shed rows in the initial ERA compared to the use of emission points at the end of the shed rows only in the revised ERA.

The revised ERA does not provide a diagram of the proposed shed design, and it is not possible to determine whether the mini-air vents described and modelled in the initial ERA are likely to remain. The additional emission points on the side of the shed rows has the effect of spreading the initial emissions over a larger area, and therefore diluting the emissions prior to dispersion, thus resulting in a lower estimate of odour units at the boundary and nearest dwellings.

### **Evaluation of dust impacts**

The initial risk assessment (GHD, 2008) considered potential impacts from both odour and dust emissions. The revised ERA does not include a risk assessment of dust. URS considers that the dust emission study should be completed as part of the revised ERA.

The criteria used in the initial risk assessment (GHD, 2008) have been taken from the Victorian Broiler Code 2001 and the SEPP(AQM). These criteria have been developed from toxicity studies of particulate matter formed of rock and soil. In this case, the particles are more likely to be of chicken litter, which may have an additional biological component not normally considered as part of a dust impact study. In assessing the dust impact, the author of the initial ERA departed from the methodology of the SEPP(AQM), Victorian Broiler code and the draft ERA guidelines.

URS recommend that the dust concentrations are modelled for the new design, using a dispersion model, and taking into account deposition, prior to a conclusion on the compliance with criteria.

### **Predicted impacts adopting State modelling guidance**

URS undertook modelling using the guidance contained in the SEPP(AQM) using the maximum emission rates for odour and dust for the relevant times of the year for three scenarios:

1. Two shed complexes housing 320,000 birds each;
2. One shed complex housing 640,000 birds; and
3. One shed complex housing 320,000 birds.

The number of emission points used in the modelling adopted the approach used in the initial ERA for Scenario 1 and the revised ERA for Scenarios 2 and 3. The plume centre height in Scenario 1 was modified from the 4m used in the initial ERA to half the shed height (1.7m) as recommended in Ausplume. The plume centre height for Scenarios 2 and 3 was set at 4m in accordance with the modelling in the revised ERA, as no data was available in the revised ERA regarding the description of the building.

Modelling used a meteorological data set for 2008, developed using the latest version of TAPM version 4.

Predicted results indicate that maximum (99.9 percentile) odour concentrations will exceed the SEPP(AQM) design criteria for odour, both at the boundary and at the nearest sensitive receptors for all considered scenarios. The maximum impacts at nearby dwellings for the three scenarios are summarised as:

### **Scenario 1 – Two shed complex housing 320,000 birds each:**

- Odour – 27 OU(SEPP(AQM) design criteria of 5 OU);
- TSP – 130 ug/m<sup>3</sup> (Victorian Broiler Code limit of 183 ug/m<sup>3</sup>); and
- PM10 – 33 ug/m<sup>3</sup> (SEPP(AQM) intervention level 60 ug/m<sup>3</sup>).

Scenario 2 – One shed complex housing 640,000 birds:

- Odour – 78 OU(SEPP(AQM) design criteria of 5 OU);
- TSP – 457 ug/m<sup>3</sup> (Victorian Broiler Code limit of 183 ug/m<sup>3</sup>); and
- PM10 – 77 ug/m<sup>3</sup> (SEPP(AQM) intervention level 60 ug/m<sup>3</sup>).

Scenario 3 – One shed complex housing 320,000 birds:

- Odour – 38 OU(SEPP(AQM) design criteria of 5 OU);
- TSP – 229 ug/m<sup>3</sup> (Victorian Broiler Code limit of 183 ug/m<sup>3</sup>); and
- PM10 – 37 ug/m<sup>3</sup> (SEPP(AQM) intervention level 60 ug/m<sup>3</sup>).

The lower predicted concentrations in Scenario 1 compared to Scenario 3, are the result of the modelling methodology that used more emission points for shed row (air-vents along sides of sheds) in Scenario 1 compared to Scenario 2 and 3. This has the effect of spreading the initial emissions over a wider area, resulting in a lower concentration.

Scenario 2 represents the current proposed design of the facility. Maximum predicted impacts at the nearest dwellings for this scenario are above the assessment criteria used in Victoria. Odour at a level of 76 OU would be unacceptable and would generate complaints. A TSP level of 457 ug/m<sup>3</sup> as a 1-hour average, would result in visible dust plumes, and a 24 hour mean of 77 ug/m<sup>3</sup> PM10 is potentially harmful to human health.

### **URS recommendations**

URS recommended that in the current form, the ERA (GHD, 2009) does not sufficiently demonstrate that the construction of the proposed broiler farm will result in acceptable risk to nearby residences. The methodology used in the ERA is not conservative, and URS considers that the impacts presented are under estimated. URS considers that if the ERA had followed the guidelines for modelling and assessment contained in the SEPP(AQM), the Victorian Broiler Code and the draft ERA guidelines, a stage 3 assessment would have been required. Stage 3 would require the applicant to revisit the proposal and mitigate potential impacts.

### **Conclusion**

URS were asked to provide a review of the initial and revised ERAs and model the three scenarios so that Council could form a view on the amended proposal (640,000 bird capacity farm), the two broiler farm complexes (2 x 320,000 bird capacity farms) and a single 320,000 bird capacity farm.

As detailed above, the URS peer review report assessed the methodology used in the revised ERA against the requirements of EPA's SEPP, the Victoria Code for Broiler Farms and the draft guidelines for ERAs and other published documents. The URS peer review report identifies a number of inconsistencies between the revised ERA and these documents and guidelines to the degree that the results of the revised ERA do not accurately reflect odour emissions generated by the proposal. The peer review also highlights the variables between the methodology and input data between the initial and revised ERA. The peer review report identifies that the risk assessment in the revised ERA reports 31 and 26 exceedances of 5 Odour Units at Residences 2 and 4. The GHD, 2009 report itself concludes that "*the effect of the new shed arrangement does slightly increase the potential exposure of residents compared to the former two-module arrangement*". URS believes that the level of odour at the above two residences should be considered an unacceptable risk

and Stage 3 of the ERA should have been completed. Stage 3 is undertaken where a risk assessment undertaken in Stage 2 is moderate or high, and is an assessment of risk management strategies, technologies and redesign options. This could mean using 'superior technology' like biofilters or air scrubbers to reduce odours by passing through ventilation exhausts, or chimney stacks to disperse odour emissions or adjust stocking rates and the like. However, these measures may increase the overall cost of the development significantly.

As Council is the responsible authority it is appropriate that in arriving at a view on the amended proposal it relies on the criteria contained in the Victorian Code for Broiler Farms 2001, the SEPP(AQM) and the draft EPA guidelines for ERA assessments. While these guidelines take a more conservative approach in design criteria and methodology, Council has a duty to ensure that it is satisfied that the amended proposal would not have an unacceptable impact from either odour or dust on nearby residences.

The amended proposal was arrived at through negotiations and agreement between the applicant and objector representatives, without Council Officer involvement, therefore negating the opportunity for technical planning input early in the discussion process. The objector representatives will have the benefit of reviewing the findings of the URS Expert Witness report prior to the hearing as this report was circulated on 16 June 2009 as required by the VCAT practice note.

It is clear from the findings of the peer review and the modelling undertaken by URS that there are serious concerns that the amended proposal for a single 640,000 bird capacity broiler farm has the potential to result in unacceptable impacts of odour and dust on nearby residences.

Based on the outcome of the review and modelling, it is recommended that the amended proposal not be supported at the forthcoming VCAT hearing on 26 June, 2009.

The findings of the URS modelling for Scenario 1 (two separate 320,000 bird capacity farms) and Scenario 3 (single 320,000 bird capacity farm) show that the odour units at the boundary and nearest dwellings are less for Scenario 1 as apposed for Scenario 3. Although in both cases above the threshold of 5 OU required by the SEPP(AQM). As explained earlier in this report this difference is largely due to the fact that the sheds shown in Scenario 1 included air-vents along the sides of the sheds that effectively assist in the dispersion of odour which influences the outcome of the model process. It is expected that should the sheds for Scenario 3 be modelling with the inclusion of air-vents, that the results would show a lesser impact from odoured.

In any case it is clear that for Scenario 1 the odour units at the boundary and nearest dwellings exceed the EPA requirement to a degree that there may be unacceptable impacts from odour and dust that may unreasonably affect the amenity of nearby dwellings without mitigation works. It is recommended that Council form the view that the original proposal for two 320,000 bird capacity broiler farms not be supported at the VCAT hearing.

While the URS modelling predicts higher levels of odour for Scenario 3 than Scenario 1, the differences causing this outcome have been explained above. Under the Broiler Code a single 320,000 bird capacity farm, providing it meets the boundary and separation buffers does not require an ERA. Given the site context, the area of the site and separation distances, it is recommended that Council advise VCAT that support would be given for a single 320,000 bird capacity farm providing an ERA was undertaken in conformity with the SEPP(AQM), the Victorian Broiler Code and draft ERA guidelines for odour and dust modelling that demonstrated that the risk of odour and dust was acceptable.

**Attachments**

1. Appendix A – April 2009 Council Report
2. Appendix B - URS Australia Pty Ltd Expert Witness Report

**Recommendation(s)*****That Council:***

- 1. Advise the Victorian and Civil Administrative Tribunal at the review hearing on 26 June 2009, that Council does not support the amended proposal for a single 640,000 bird capacity broiler farm as it has not been demonstrated by the Environmental Risk Assessment that the odour risk is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.***
- 2. Advise the Victorian and Civil Administrative Tribunal at the review hearing on 26 June 2009, that Council does not support the original planning proposal for two 320,000 bird capacity broiler farms as it has not been demonstrated by the Environmental Risk Assessment that the odour risk is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.***
- 3. Advise the Victorian and Civil Administrative Tribunal at the review hearing on 26 June 2009, that Council would support the use and development of 210 Pierces Road, Beeac (CA 140, 141, 148, 149, 152 and 153, Parish of Ondit) for a single 320,000 bird capacity broiler farm which complies with the requirements of the Victorian Code for Broiler Farms 2001 providing an Environmental Risk Assessment is undertaken for odour, dust and noise and demonstrates that the risk from odour, dust and noise is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.***

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**Colac Otway  
SHIRE**

**MINUTES**

**SPECIAL COUNCIL MEETING**

**OF THE**

**COLAC-OTWAY SHIRE**

**COUNCIL**

**15 APRIL 2009**

**at 5.00 pm**

**COPACC Meeting Room  
Rae Street, Colac**

An audio recording of this meeting is being made for the purpose of verifying the accuracy of the minutes of the meeting. In some circumstances the recording may be disclosed, such as where Council is compelled to do so by court order, warrant, subpoena or by any other law, such as the Freedom of Information Act 1982.'

***Please note: That Public Notice of this meeting was not given seven days prior to the meeting, as the Special Meeting of Council was called on Thursday 9 April. This Special Meeting of Council was advertised in the Colac Herald on Monday 13 April.***

**COLAC-OTWAY SHIRE COUNCIL MEETING**

**15 APRIL 2009**

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MINUTES of the next **SPECIAL COUNCIL MEETING OF THE COLAC-OTWAY SHIRE COUNCIL** will be held in the COPACC Meeting Room, Rae Street, Colac on 15 April 2009 at 5.00 pm.

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**1. PRAYER**

*Almighty God, we seek your blessing and guidance in our deliberations on behalf of the people of the Colac Otway Shire. Enable this Council's decisions to be those that contribute to the true welfare and betterment of our community.*

**AMEN**

**2. PRESENT**

Cr Brian Crook (Mayor)  
Cr Stephen Hart  
Cr Stuart Hart  
Cr Geoff Higgins  
Cr Lyn Russell  
Cr Chris Smith

Jack Green, Acting Chief Executive Officer

Colin Hayman, General Manager, Corporate and Community Services  
Neil Allen, General Manager, Infrastructure and Services  
Doug McNeill, Acting General Manager, Sustainable Planning and Development  
Anne Sorensen, Acting Manager Planning and Building

Suzanne White, Executive Assistant

**3. APOLOGIES**

Nil

**4. MAYORAL STATEMENT**

Colac Otway Shire acknowledges the original custodians and law makers of this land, their elders past and present and welcomes any descendents here today.

Colac Otway Shire encourages active community input and participation in Council decisions. Council meetings provide one of these opportunities as members of the community may ask questions relating to matters being considered by Council at the current meeting. Questions not related to current agenda items can be made in writing and will be addressed if received within two days of the Council meeting. Council meetings also enable Councillors to debate matters prior to decisions being taken.

I ask that we all show respect to each other and respect for the office of an elected representative.

An audio recording of this meeting is being made for the purpose of verifying the accuracy of the minutes of the meeting. In some circumstances the recording may be disclosed, such as where Council is compelled to do so by court order, warrant, subpoena or by any other law, such as the Freedom of Information Act 1982.'

Thank you, now question time. 30 minutes is allowed for questions from the floor

## **5. QUESTION TIME**

### **Questions received verbally from the floor**

Nil

## **6. DECLARATION OF INTEREST**

Nil

## **OFFICERS' REPORTS**

### **Sustainable Planning and Development**

SC091504-1      PP116/08 AND PP117/08 - AMENDED PROPOSAL - USE AND DEVELOPMENT OF 210 PIERCES ROAD, BEEAC FOR A 640,000 BIRD CAPACITY BROILER FARM, ASSOCIATED BUILDING AND WORKS, INCLUDING ACCESS AND A DAM, TWO MANAGER'S RESIDENCES

**SC091504-1 PP116/08 AND PP117/08 - AMENDED PROPOSAL - USE AND DEVELOPMENT OF 210 PIERCES ROAD, BEEAC FOR A 640,000 BIRD CAPACITY BROILER FARM, ASSOCIATED BUILDING AND WORKS, INCLUDING ACCESS AND A DAM, TWO MANAGER'S RESIDENCES 9CA140, 141, 148, 149, 152 AND 153, PARISH OF ONDIT**

|             |                                      |           |                     |
|-------------|--------------------------------------|-----------|---------------------|
| AUTHOR:     | Anne Sorensen                        | ENDORSED: | Doug McNeill        |
| DEPARTMENT: | Sustainable Planning and Development | FILE REF: | PP116/08 & PP117/08 |

|                               |                                                                                                        |
|-------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Location:</b>              | <b>210 Pierces Road, Beeac (CA140, 141, 148, 149, 152 and 153, Parish of Ondit)</b>                    |
| <b>Applicant:</b>             | <b>Focus Creative Development Solutions</b>                                                            |
| <b>Zoning:</b>                | <b>Farming Zone</b>                                                                                    |
| <b>Overlays:</b>              | <b>Land Subject to Inundation (Part)</b>                                                               |
| <b>Amendment:</b>             | <b>Amendment C55 (Planning Scheme Review) does not propose any zone or overlay changes to the land</b> |
| <b>Abuts:</b>                 | <b>Land zoned Farming</b>                                                                              |
| <b>Restrictive Covenants:</b> | <b>Nil</b>                                                                                             |

**Reasons for Council consideration:**

Council is being asked to consider an amended proposal for a planning permit application that is scheduled to be heard by VCAT on 20 April 2009. This request is necessary as the next available Council Meeting is not scheduled until the 22 April 2009, two days after the commencement of the VCAT hearing.

At the March 2009 Planning Committee meeting, Council resolved not to support PP116/08 and PP117/08 for two 320,000 bird capacity broiler farms, known as A and B. Since the March 2009 meeting, Council Officers have been advised that an agreement has been reached between the applicant and objector representatives on a modified proposal for a single 640,000 bird capacity broiler farm on the subject site. Council needs to provide direction on its position in relation to the amended proposal and advise the Victorian and Civil Administrative Tribunal (VCAT) accordingly.

**Summary**

- At the March 2009 Planning Committee meeting, Council resolved not to support Broiler Farms A and B on a number of grounds at the forthcoming VCAT hearing commencing on 20 April 2009. Council also requested that legal representation be engaged to represent Council at the VCAT hearing.
- Since the March 2009 Planning Committee meeting, the applicant has lodged an amended proposal for a single 640,000 bird capacity broiler farm, comprising of 10 sheds, two dwellings and associated buildings and works including access and dams. The broiler farm complex is sited 200 metres from the southern boundary, otherwise centrally located on the land.

- Council Officers have been advised that the applicant and objector representatives have reached agreement on the amended proposal shortly after the March 2009 Planning Committee Meeting. Council was provided with a copy of the amended proposal and plans, with the exception of a revised Environment Risk Assessment on 30 March 2009.
- As the applicant has lodged an application for a review against Council's failure to determine planning applications PP116/08 and PP117/08 with the Victorian and Civil Administrative Tribunal (VCAT), Council cannot make a decision on the amended proposal, Council can only form a view on the amended proposal and advise VCAT at the hearing in April.
- The amended proposal must be assessed against the Victorian Code for Broiler Farms 2001. Under this code the broiler farm at 640,000 bird capacity falls into a "special class farm" and an Environmental Risk Assessment is required.
- An ERA was received by Council Officers on 8 April 2009.
- There has not been sufficient time for Council Officers to seek comments on the ERA from the Environment Protection Authority or seek a peer review from an independent expert.
- The purpose of the ERA is to ensure that the odour risk is acceptable and that the proposed boundary buffer and separation distances are adequate. As Council has no scope to have a peer review undertaken of the ERA prior to the review hearing, it is difficult for Council Officers to provide advice on the acceptability of the ERA.
- Given the circumstances surrounding the amended proposal it is considered that it would not be unreasonable for Council to provide conditional support for the amended proposal providing the Victorian and Civil Administrative Tribunal are satisfied with the findings of the ERA.
- It is recommended that Council advise VCAT at the review hearing on 20 April 2009 that Council provides conditional support for the amended proposal for a single 640,000 bird capacity broiler farm providing VCAT are satisfied with the findings of the ERA.
- If Council supports the recommendation then it is considered that it would be unnecessary to engage legal representation for the VCAT hearing.

## Background

Council has considered PP116/08 and PP117/08 at the October 2008 and March 2009 Planning Committee Meetings.

At the Planning Committee meeting of 11 March 2009, Council considered planning applications PP116/08 and PP117/08 for two broiler farms of 320,000 bird capacity at 210 Pierces Road, Beeac and resolved not to support either proposal on the following grounds:

*"MOVED Cr Smith seconded Cr Stephen Hart that the Planning Committee advise the Victorian and Civil Administrative Tribunal that it would have determined to refuse a Planning Permit for PP117/08 for the use and development of 210 Pierces Road, Beeac (CA 141, 149, and 153, Parish of Ondit)(proposed Lots 1, 2 and 3) for the purposes of a Class B, Broiler Farm B, associated buildings and works, including access and a dam, and a Managers dwelling, if a review had not been lodged with the Tribunal on the following grounds:*

- 1. The proposal does not comply with the Victorian Code for Broiler Farms as it has the potential to impact on the amenity of sensitive uses in close proximity to the site.*
- 2. The risk of the cumulative impact of odour generated by two 320,000 Class B broiler farms near each other is unacceptable.*

3. *The Environmental Risk Assessment has not been based on an approved Environment Protection Authority methodology required by the Victorian Code for Broiler Farms.*

*And;*

*MOVED Cr Russell seconded Cr Stephen Hart that:*

1. *The Colac Otway Shire engage the services of appropriate legal representation to present Council's recommendations at the VCAT hearing on 20 April 2009.*
2. *The legal representation advise VCAT that Council would have rejected the application for a Broiler Farm on 210 Pierces Road (Farm A), on the following grounds:*

*The adverse effects on neighbouring properties including:*

- a) *Odour – the effect of both Farm A & B operating does increase the potential exposure of residents compared to when either farm is operating alone.*
  - b) *The additive effect of Farm A operating in addition to Farm B is a marginal increase in peak odour levels at the most exposed residences (4% - 50%).*
  - c) *Undue interference with the rights to neighbouring property owners to construct a home.*
  - d) *Excessive truck/vehicle movements including at night and the effects of this truck use on Weering School Road.*
3. *Whilst Council's preference is that the application for Farm A be refused, the draft conditions outlined in the agenda (1 – 41) should be used if VCAT directs a permit be issued."*

Since the March 2009 Planning Committee meeting, Council Officers have been advised that the Applicant and Objectors have reached a compromise agreement on an amended proposal.

The applicant submitted an amended proposal including plans to Council on 30 March 2009. The amended proposal comprises of a single 640,000 bird capacity broiler farm set back 200 metres from the southern boundary, otherwise centrally located within the subject land, on the 6 separate crown allotments.

Under the Victorian Code for Broiler Farms 2001, where a broiler farm exceeds a 320,000 bird capacity, it is classified as a "special class farm", requiring an Environmental Risk Assessment to be undertaken. The purpose of the ERA is to determine boundary buffers and separation distances. An ERA was received by Council Officers on 8 April 2009.

Since reporting planning applications PP116/08 and PP117/08, the revised draft Victorian Code for Broiler Farms 2009 has been released by the Department of Primary Industries for public comment.

**Amended Proposal**

On 30 March 2009, Focus Creative Development Solutions submitted an amended proposal to council officers based on a compromise agreement reached between the applicant and objectors. The amended proposal essentially consolidates the two separate 320,000 bird capacity broiler farms into a single 640,000 bird capacity broiler farm. Details of the layout of the proposal are shown in Appendix A.

The details of the consolidated farm proposal are summarised below:

- The two original 320,000 bird capacity broiler farms will be consolidated into one farm with a capacity of 640,000 birds;
- The total number of sheds will be reduced from 12 to 10 but the shed size will increase to 175m x 18m (previously 159m x 16.46m x 3.8m height to the ridgeline) and each shed will have a capacity of 64,000 birds (previously 53,333 bird capacity);
- There will be marginal increase in the overall floor area of the sheds. The floor area of each shed will be 3150m<sup>2</sup> (previously 2,614m<sup>2</sup>) and the combined floor area of the complex is 31,500m<sup>2</sup> (previously 31,368m<sup>2</sup>);
- Separation distance between sheds will be 10m (previously 15m);
- The sheds will run east-west, with the exhaust fans located at the western end. Therefore, the centroid of the shed complex will be between shed 5 and 6 at the western end;
- The shed complex is proposed to be situated 200m from the southern boundary (previously 260m);
- The shed complex will be located outside the area included in the Land Subject to Inundation Overlay;
- A 15m wide landscaping buffer is shown around the shed complex and all infrastructure associated with the sheds will be located within the landscaping buffer;
- A 10m wide landscape buffer will be provided along the full length of the southern property boundary and along the eastern property boundary for a distance of 600m from the southern boundary;
- Dead birds will be disposed of off-site and no used litter will be stored on-site;
- A 10ML lined and covered dam will be provided for the storage of mains water from the Barwon Water reticulation system by agreement. Flow rate and pressure control valves will be fitted to the supply system to ensure maintenance of supply to existing users;
- No change is proposed to the original access arrangements proposed from Weering School Road;
- Two dwellings are to be located on the property in the same locations as the original proposals.

The technology proposed and the design and operation of the broiler sheds is the same as previously proposed for Farms A and B (PP116/08 and PP117/08) as reported to Council in October 2008 and March 2009. Infrastructure requirements, water usage and vehicle generation will be the same as previously stated, but concentrated into one area. The main difference will be that there is a single growing cycle which will influence and concentrate traffic movements.



Vehicle movements

The applicant has advised that it is anticipated that there will be up to 206 semi-trailer and B-double truck visits per batch, and with 5.6 batches per annum it is anticipated that there will be:

| Type                                          | Per Batch  | Total       |
|-----------------------------------------------|------------|-------------|
| Delivery of day old chickens in delivery vans | 12         | 68          |
| Gas Deliveries                                | 4          | 24          |
| Litter in and out                             | 36         | 200         |
| Feed Deliveries – B-double vehicles           | 64         | 358         |
| Mature bird pick ups                          | 102        | 572         |
| Maintenance vehicles as required              |            |             |
| <b>Total</b>                                  | <b>218</b> | <b>1200</b> |

All vehicle movements will take place during the day except when mature birds are picked up from the sheds for delivery to the processor. Mature birds will be picked up between 8.30 pm and 7.00 am.

Location of development and separation distances

The broiler farm will be located towards the southern end of the property, setback 200 metres from the southern property boundary.

The 10 broiler sheds are proposed to house 64,000 birds each and will run in a east-west direction with the exhaust fans located at the western end of the sheds. The location of the exhaust fans between shed 5 and 6 becomes the centroid point upon which buffer and separation distances are measured.

The new farm centroid will be approximately:

- 950 metres from the nearest dwelling, which is located to the east of the site;
- 873 metres from Pierces Road, which is the nearest road;
- 335 metres from the nearest side boundary (southern);
- 860 metres from the eastern boundary; and;
- 735 metres from the western boundary.

Planning permit conditions

The applicant has also submitted a set of planning permit conditions, agreed to by the objectors. They are generally based on the conditions included in the previous reports to Council in October 2008 and March 2009. The proposed conditions are discussed later in the report.

**Consideration of the amended proposal**a) VCAT procedures

As an application for review has been lodged with VCAT, the applicant is required to comply with VCAT Practice Note No 1 – General Procedures (PNPE1), Section 11 – Amendment of Plans. PNPE1 – Section 11 requires the applicant to file with VCAT and serve on all other parties to the proceeding and the responsible authority, 20 days prior to the hearing date, a notice of application to amend plans together with supporting documentation. In accordance with Section 11, Part (a) (ii) unless the Tribunal otherwise orders, the applicant must serve on any objector to or person notified of the permit application who is not a party to the proceeding formal Notice of the Application to Amend Plan. This allows any objector who is not a party to the VCAT proceedings to be joined to the proceedings should they request so on the basis that the amendment will have a detrimental impact on them.

While the applicant forwarded details of the amended proposal including plans to Council Officers on 30 March 2009, a formal Notice of Application to Amend Plans was not received until 6 April 2009, 14 days prior to the hearing date of 20 April 2009.

As a Notice of application to amend plans has now been received, Council must file with the Tribunal, within 10 days of the receipt of the amendment notice, a written response to the amendment.

b) Victorian Code for Broiler Farms 2001

The proposed amendment must comply with the Victorian Code for Broiler Farms 2001.

Although a revised draft Victorian Code for Broiler Farms is currently out for public comment it has no legal status as it has not been incorporated into the planning scheme. As the revised draft Code could not be considered to be a 'seriously entertained' document, the Tribunal is unlikely to give any substantive weight to this document in considering the amended proposal.

Under the 2001 Broiler Code, the single 640,000 bird capacity broiler farm is classified as a "special class farm". Boundary buffer and separation distance requirements are established by an individual Environmental Risk Assessment including detailed modelling of odour, dust and noise impacts on neighbouring sensitive land uses.

Council Officers requested that an ERA be conducted for the single 640,000 bird broiler farm in line with the requirements of the 2001 Broiler Code. The ERA previously submitted to Council provided an odour impact assessment and environmental risk assessment for two separate 320,000 broiler farms at 210 Pierces Road Beeac. The report provided an environmental risk assessment of Farm B (nearest to Weering School Road) on its own as well as an environmental risk assessment on the cumulative impact of both Farm B and A when in operation. The ERA was based on two separate 320,000 bird capacity broiler farms separated by a distance of 500 metres. As the amended proposal is to establish a single 640,000 bird capacity broiler farm, the findings of the previous ERA cannot be relied upon given the substantial change to the intensity and concentration of the amended proposal.

As the purpose of the ERA for 'special class farms' is to establish boundary buffer and separation distances it is difficult to form a view on whether the proposed boundary buffers and separation distances on the amended proposal are adequate to address the potential for offensive odours, dust and noise impacts on neighbouring sensitive land uses.

The amended proposal reduces the setback by 60 metres from the southern property boundary from 260 metres to 200 metres. The land to the south does not contain any existing dwellings, however, under the 2001 Broiler Code, the proposal must satisfy separation distances where lots are vacant and may be used for the purposes of a dwelling. The Code requires Council to have regard to the potential for the development of a dwelling on the adjoining property 'as of right' (that is, without a planning permit). Where a site adjoining a proposed broiler farm is currently vacant, it should be assumed that an 'as of right' dwelling may be located centrally on the property (that is, the available separation distance will be calculated to the centre line of the adjoining allotment if that lot is currently vacant).

The applicant provided a locality plan with the original application that demonstrated that sites for new dwellings on adjoining properties were available that would be outside the separation distances required by the Broiler Code for a Class B Farm. With the complex now situated 200 metres from the southern property boundary the distances would effectively be reduced by 60 metres. The land most affected by the reduction in setback is the square shaped lot directly south of the subject site. The separation distance would be reduced to approximately 660 metres when measured to the centre of the lot. This would be less than the separation distance of 700 metres required under the 2001 Broiler Code for a Class B farm with a 320,000 bird capacity. Council Officers have received written advice from the landowner of this allotment stating that they have no objection to the amended proposal.

There are no 'as of right' dwelling entitlements on any of the lots abutting the subject land as all lots surrounding the proposed development site have areas less than 80 ha. The size of the lots generally range from 16 ha to 55 ha, with many of the lots in single ownership and farmed as a larger farming unit. A planning permit would be required to use and develop any of the lots adjacent to the land proposed for the broiler farm. Consideration of any such proposal would be given to the strategic and statutory provisions of the planning scheme including the current Broiler Code. The Code provides guidance on the consideration of applications for dwellings near a broiler farm and states that:

*"Councils should not support any application for a planning permit that would allow the possibility of a new dwelling to be built within the separation distance of an existing broiler farm."*

If the broiler farm is supported, the siting of any new dwelling on an adjoining property would need to be considered in light of the separation distances required to be met under the Broiler Code. New dwellings proposing to locate within the separation distances would be unlikely to be supported.

The consolidation of the two previously proposed broiler farms into a single 640,000 bird capacity broiler farm will allow for an increase in the boundary buffer and separation distances measured from the centroid of the shed complex, as follows:

- 950 metres (previously 745 m) from the nearest dwelling on School Weering Road, which is located to the east of the site;
- 1025 metres to the dwelling on Weering School Road, which is located to the north-east of the site;
- 1135 metres (previously 1010 m) from the dwelling on Pierces Road to the north-east of the site;
- 995 metres (previously 915 metres) from the dwelling on Pierces Road to the north of the site;

- 1380 metres (previously 1070 metres) from the dwelling on Pierces Road to the north-west of the site;
- 950 metres from the proposed dwelling site on the vacant lot abutting the site to the west;
- 873 metres (previously 680 m) from Pierces Road and 685 metres (previously 655 m) from Weering School Road;
- 335 metres (previously 340 m) from the nearest property boundary (southern);
- 860 metres from the eastern boundary; and;
- 735 metres from the western boundary.

In all cases the separation distances increase to varying degrees from existing dwellings surrounding the site.

The purpose of the ERA is to determine the boundary buffer and separation distances where a 'special class farm' is proposed. An ERA in support of the amended proposal was received on 8 April 2009 by Council Officers, 12 days prior to the VCAT review hearing scheduled on 20 April 2009.

There has not been sufficient time for Council Officers to review the ERA nor has there been sufficient time for Council Officers to seek a peer review, whether by the Environment Protection Authority (EPA) or any other independent expert in this field to confirm whether the odour risk is acceptable and the boundary buffer and separation distances are adequate and appropriate to protect the amenity of nearby sensitive uses.

Council has no in-house expertise to provide a peer review or advice on the ERA submitted in support of the amended proposal. While Council Officers can refer the ERA to the EPA for comment, given the timeframe it is unlikely that feedback would be received from the EPA in time for the 20 April 2009 VCAT hearing. Even if Council were to engage a Consultant at this stage to undertake a peer review, it is unlikely that a Consultant could provide advice and prepare a report in time for the review hearing.

Given the above, Council has the following options available to them in forming a view on the amended proposal:

1. Conditional support could be given to the amended proposal providing that VCAT was prepared to adjudicate on the ERA and make a decision on whether the boundary buffer and separation distances are adequate based on the findings of the ERA. If Council choose this option it is likely that VCAT would accept the evidence before them without further analysis if the evidence is not contested by any party at the hearing.
2. An adjournment could be sought as the applicant has not followed the procedures of VCAT Practice Note for amending plans, as a clear 20 days notice was not given to Council in respect to the amended proposal and insufficient time has been given to consider the ERA, which is a fundamental component of the amended proposal. Council could then seek advice from the EPA and/or an independent expert on whether the odour risk is acceptable and the boundary buffer and separation distances adequate for the single 640,000 bird capacity broiler farm.

In considering the above options it should be noted that Council Officers have been advised that the amended proposal is based on an agreement between the applicant and Network Planning Consultants as well as objector representatives who have advised Council Officers that they are acting on behalf of all objectors to the original proposals. Council Officers have been advised that all objectors have been provided with a copy of the amended proposal including plans and draft conditions; and that all objectors now have no objection to the granting of a planning permit based on the amended proposal. Council Officers have been advised that written evidence of support from each objector will be forwarded to Council in the next day or two.

Under the VCAT practice note, the applicant is required to serve a copy of the amended proposal on all parties to the review, any objectors and any persons who were notified under Section 52 of the Planning and Environment Act. Under this process provision is available for any party notified of the amended proposal to object to the Tribunal and be party to the review hearing. The matter of whether adequate notice has been given could be dealt with by the Tribunal as preliminary matters on the first day of the scheduled VCAT hearing.

c) PP115/08 – Planning permit proposal for re-subdivision of the land

Subject to support of the amended proposal for a single broiler farm, the applicant has verbally advised that they would no longer seek a re-subdivision of the land supported by Council through the issue of a Notice of Decision to Grant a Planning permit subject to conditions in October 2008. The applicant has lodged an application for a review against conditions contained in the NOD, in particular the requirement for the consolidation of all titles. In the Council report, Officers sought to impose a permit condition that would provide a guarantee that the integrity of the boundary buffer and separation distances would be protected given that the land comprised of six individual titles that could be on-sold independently of each other. Even though the amended proposal now consolidates the two separate broiler farms and sites the complex more centrally on the land, it is still considered important that there is a mechanism to ensure the boundary buffer and separation distances are protected. Therefore, a condition for a S173 Agreement will be sought to address this matter as part of the suite of draft conditions forwarded to the Tribunal.

d) Draft permit conditions

The applicant has forwarded to Council Officers a copy of draft conditions that have been agreed to by the objector representatives. These conditions are largely based on the conditions contained in the Council report presented to Council at the October 2008 and March 2009 Planning Committee meetings.

There are some minor changes to the wording of some conditions but overall the majority of the conditions are acceptable and could be supported. There are two exceptions to this.

Firstly, a condition should be included requiring a S173 Agreement to ensure the integrity of the boundary buffer and separation distances are protected. The conditions should prevent individual allotments within the property from being sold separately until such time as the use ceases to operate. Whilst applicants are often required to consolidate titles, a Section 173 Agreement would have the same outcome in this instance. Although Council could agree to end the 173 Agreement at any time, this would be unlikely to occur if it meant that buffers to the use could be compromised, and it would allow the lots to be sold separately at a later time if the broiler farm were to cease to operate.

Secondly, the applicant is proposing the deletion of the condition sought by VicRoads for upgrading works to be undertaken at the cost of the permit holder at the intersection of the Hamilton Highway and Barpinda-Poorneet Road. As this condition was sought by VicRoads.

Council Officers have had further discussions with representatives from VicRoads on this matter. The main concern that VicRoads has is ensuring that articulated vehicles and/or 25 metre long B-double vehicles have sufficient area to turn at the intersection of Hamilton Highway and Barpinda-Poorneet Road safely.

e) Legal representation

At the March 2009 Planning Committee meeting, Council resolved that legal representation should be engaged to represent Council at the forthcoming VCAT hearing. As Council Officers became aware shortly after that meeting that the objector representatives and the applicant were in negotiations that could arrive at a mutually agreeable position, Council Officers held off on engaging legal representation.

Council Officers have explored the potential to engage legal representation for the review hearing on 20 April 2009 and legal representation could be engaged in time to represent Council at the forthcoming appeal, subject to Council's further endorsement. However, it is considered that the need for legal representation is diminished to a considerable degree if Council supports either option 1 or 2 as discussed earlier in this report.

### **Conclusion**

The amended proposal has come about through negotiations between the applicant and objector representatives, and appears to have the support of all objectors to the original broiler farm applications.

Council has the responsibility to ensure that the amended proposal complies with the existing planning provisions, including the Victorian Code for Broiler Farms 2001. Council needs to satisfy itself, irrespective of that fact that an agreement has been struck between the above parties, that the amended proposal should now be supported and that no material detriment could arise as part of the amendment.

The ERA plays an important role in determining whether the odour risk is acceptable and whether the proposed boundary buffer and separation distances are adequate. It is difficult for Council Officers to provide advice on the ERA, as Council has no in-house expertise nor has there been time to obtain any peer review of the ERA, to guide Council's decision making in this matter.

In light of the above, it is considered that it would not be unreasonable for Council's position at the forthcoming VCAT hearing to be one of conditional support for the amended proposal providing VCAT were satisfied that the findings of the ERA demonstrated that the odour risk was acceptable and that the boundary buffer and separation distances were adequate.

Should Council support the recommendation of conditional support for the amended proposal then it is considered unnecessary to engage legal representation for the VCAT hearing.

### **Attachments**

Appendix A – Amended Proposal

**Recommendation****That Council:**

- A. Advise the Victorian and Civil Administrative Tribunal at the review hearing on 20 April 2009, that Council provides conditional support for the amended proposal for a single 640,000 bird capacity broiler farm subject to the Victorian and Civil Administrative Tribunal being satisfied that the Environmental Risk Assessment demonstrates that the odour risk is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.**
- B. Advise the Victorian and Civil Administrative Tribunal that should the Tribunal determine that a planning permit should be granted for a single 620,000 bird capacity broiler farm at 210 Pierces Road, Beeac (CA140, 141, 148, 149, 152 and 153, Parish of Ondit) then Council submits that the permit should be subject to the following conditions:**
- 1. Before the use and development commences, the following documents to the satisfaction of the Responsible Authority must be submitted to the Responsible Authority for approval and be approved by the Responsible Authority:**
    - 1.1 Amended plans which must be drawn to scale and with dimensions. Three copies must be provided and the plans must be generally in accordance with the plans submitted with the application but modified to show:**
      - 1.1.1 A single 620,000 bird capacity broiler farm complex, comprising of 10 sheds located 200 metres from the southern boundary, otherwise centrally located on the six crown allotments;**
      - 1.1.2. The access road must be set 12 metres north of the southern common property boundary;**
      - 1.1.3 The type, specifications and location of all external flood and security lighting to be used including provision for light baffling to ensure all light is contained within the property boundary;**
      - 1.1.4 Deletion of the spent litter pads;**
      - 1.1.5 Stormwater wetland treatment pond and other drainage;**
      - 1.1.6 Location, dimensions and specifications of any dams to be constructed on site.**
    - 2.2 Environmental Management Plan (EMP) which is site specific;**
    - 2.3 Water Use and Re-use Plan addressing stormwater, rainwater and reticulated water use and re-use issues including a plan for the management of areas from which water is proposed to be harvested. The plan must also detail arrangements for the provision on site of an emergency water supply;**

**2.4 Amended Landscape Plan which must be site specific and have due regard to the visual impact of the sheds and other buildings, including consideration of bunding and mounding. The Landscape Plan must show the location and type of all proposed screen and other plantings and landscaping, anticipated tree or shrub height and width at maturity, timetables for plantings and arrangements for maintenance of the landscaped areas. All trees and shrubs included in the Landscape Plan must be indigenous to the locality. The Landscape Plan must show:**

**2.4.1 A 10 metre wide landscaping buffer along the southern common property boundary between the Weering School Road frontage to the western property boundary;**

**2.4.2 A 10 metre wide landscaping buffer along the Weering School Road frontage from the southern common property boundary for a distance of 600 metres.**

**2.4.3 A 15 metre wide landscaping buffer around the perimeter of the broiler shed complex with dams and silos inside the landscape buffer.**

**2.4.4 The landscaping buffers must contain a mixture of canopy trees and shrubs to ensure effective screening.**

**When approved, the Landscape Plan will be endorsed by the Responsible Authority and will then form part of this permit.**

**2.5 Earthworks Plan must be submitted that shows the extent of the earthworks to be undertaken including details on the amount of fill required for the construction of the development. The earthworks plan will be referred to the CCMA for comment.**

**3. The use and development approved by this permit must at all times be conducted in accordance with the requirements of:**

**3.1 The Victorian Code for Broiler Farms, September 2001, as amended;**

**3.2 The Code for Accepted Farming Practice for the Welfare of Poultry, December 2003, as amended:**

**3.3 Environmental Management Plan,**

**3.4 Each of the Permit Documents.**

**to the satisfaction of the Responsible Authority.**

**4. The layout of the site and size of the buildings and works, as shown on the endorsed plans, must not be altered or modified without the consent in writing of the Responsible Authority.**

**5. Prior to the commencement of the use, the owner must enter into an agreement with the Responsible Authority under Section 173 of the Planning and Environment Act 1987 stating that:**



- 5.1 ***If the land is used and developed as a 620,000 bird capacity broiler farm on CA 140, 141, 148, 149, 152 and 153, Parish of Ondit, none of the aforesaid crown allotments may be disposed of separately to ensure the protection of the boundary buffer and separation distances required for a 'special class farm' in accordance with the Victorian code for Broiler Farms;***
- 5.2 ***Other than a single dwelling on both CA152 and CA153 no further dwellings will be permitted on any crown allotment while the land is used in accordance with 5.1.***
- 5.3 ***The Responsible Authority would only agree to remove the S173 Agreement should the planning permit expire and the land not be used and developed for a broiler farm or, if the use is established, the use of the land for a broiler farm ceases.***

***Evidence of lodging of this agreement in accordance with Section 181 of the Planning and Environment Act 1987 must be submitted to the Responsible Authority. All costs associated with the agreement will be met by the permit holder.***

6. ***The poultry shed must be designed and constructed using a tunnel-vented exhaust system or such other alternative technology which complies with the requirement of the Broiler Code, to the satisfaction of the Responsible Authority.***
7. ***All trees and shrubs included in the endorsed Landscape Plan must be planted prior to the completion of the development and the commencement of the use and must thereafter be maintained to the satisfaction of the Responsible Authority. In the circumstance where there are seasonal conditions that would be unfavourable to the establishment of the landscaping, the permit holder may apply in writing to the Responsible Authority for an extension of time to complete the landscaping.***
8. ***Prior to the commencement of any works pursuant to this permit the permit holder must lodge a landscape performance bond with the Responsible Authority. The bond can be either a monetary contribution or an irrevocable bank guarantee in favour of the Responsible Authority. The bond is to be based on the endorsed Landscape Plan with additional details to be provided to the satisfaction of the Responsible Authority incorporating:***
  - 8.1 ***An estimate of the quantity and type of materials, watering equipment, plants, etc. required; and***
  - 8.2 ***A quotation from a reputable nursery supplier for the implementation of the Landscape Plan identifying the cost for materials, plants and labour. The quotation is to be independently verified to Responsible Authority's satisfaction.***

***The bond is to comprise the verified quotation plus a 10% margin for unforeseen costs. When the landscape works are complete to the satisfaction of the Responsible Authority, 85% of the bond will be released. The balance is to be retained as a maintenance bond for a period of three (3) years following the date of release of the 85%. If the landscaping has not been maintained to the Responsible Authority's satisfaction at the end of the three years the maintenance bond is to be applied to upgrade the landscaping.***

9. ***Any dam shall be constructed by a suitably qualified and experienced contractor in accordance with Southern Rural Water's guidelines for dam construction and maintained to the satisfaction of the Responsible Authority.***
10. ***There shall be no stockpiling of litter on the site. No used litter may be spread or otherwise disposed on the site without the further written consent of the Responsible Authority. Used litter not proposed to be spread on the site (as soil fertiliser) must be removed from the site as soon as possible after it is removed from the sheds. All trucks removing litter from the site must have covered loads.***
11. ***The removal of dry bird litter from the sheds by use of machinery must occur between the hours of 7.00 am and 8.00 pm and no removal may be undertaken on Sundays and Public Holidays including Christmas Day and Good Friday.***
12. ***The permit holder must dispose of dead birds off site using a contractor specializing in this type of disposal or in an alternative manner to the satisfaction of the Responsible Authority. Pending collection for offsite disposal, dead birds must be held in sealed refrigerated containers or otherwise as approved by the Responsible Authority.***
13. ***The use authorized by this permit must be operated as a dry litter poultry operation only and the provision for the collection and disposal of solid wastes and for the collection, treatment and disposal of any liquid wastes to arise from the development and use hereby permitted must comply with all applicable laws and regulations.***
14. ***If the Responsible Authority determines that the amenity of nearby residents is adversely affected in the emission of an unreasonable level of odour from the site the permit holder must immediately and to the satisfaction of the Responsible Authority take such action as is required to prevent those emissions, which may include adjusting stocking density in the sheds, removing litter immediately, or any other actions reasonably required to rectify the emission of offensive odour.***
15. ***The poultry sheds and all feed stores must be vermin and bird proof to the satisfaction of the Responsible Authority.***
16. ***The manner of discharge of all water from the site must be to the satisfaction of the Responsible Authority and the CCMA.***
17. ***Other than the loading and placement of live birds, no deliveries to or removals from the site must take place after 8.00 pm or before 7.00 am on any day without the prior written approval of the Responsible Authority. The only exception to this is in emergency situations when vehicle or plant breakdown make it necessary for feed to be delivered outside these times.***
18. ***The permit holder shall require that all contractors and suppliers accessing the site from the Hamilton Highway do so by way of Weering School Road and Barpinda-Poorneet Road.***
19. ***The loading and unloading of vehicles and the delivery of goods to and from the premises must at all times be carried on entirely within the site.***
20. ***The surface of the car parking and loading areas and access lanes must be constructed and maintained to the satisfaction of the Responsible Authority to prevent dust and drainage run-off.***

21. ***Security lighting or external floodlighting (if required) must be installed in such a manner that it does not create amenity problems outside the site.***
22. ***All vehicles used in the delivery, pick-up and transportation of live birds must be fitted with high performance sound-reducing mufflers to the satisfaction of the Responsible Authority and the permit holder must use its best endeavours to ensure that such activities do not cause any unreasonable noise impact on the amenity of the surrounding area.***
23. ***The permit holder must use its best endeavours to avoid sanitizing sheds with odorous chemicals which give rise to offensive odours being detectible off site. Airborne sprays or chemical odours must not be transmitted beyond the site to the detriment of any person to the satisfaction of the Responsible Authority.***
24. ***All walls of the poultry sheds and other buildings hereby permitted which will be visible from beyond the site must be coloured or painted in non-reflective muted tones to the satisfaction of the Responsible Authority.***
25. ***All goods and materials must be stored out of view of so as not to be unsightly when viewed from nearby roads to the satisfaction of the Responsible Authority.***
26. ***Prior to the commencement of the use, the permit holder must enter into an agreement with Barwon Region Water Authority (Barwon Water). The agreement must provide for a centralised potable water storage facility to be established to serve the development authorised by this permit. The agreement shall provide for the taking of up to 50 ML per annum (or such other amount permitted by Barwon Water) during periods where the taking of water will not adversely impact the supply of water to other water users in the vicinity of the development. The agreement shall provide an appropriate mechanism for the operation and maintenance of the storage facility to provide for an equitable sharing of potable water by other water users in this area.***
27. ***An all waste septic tank disposal system is to be constructed concurrently with the new dwellings, such that all liquid waste must at all times be contained within the curtilage of the title. Such system must be designed and installed to the satisfaction of the Responsible Authority.***
28. ***A Permit to install an all waste septic tank system must be lodged and approved by the Responsible Authority prior to the commencement of works. Such system must be designed and installed to the satisfaction of the Responsible Authority before a Permit to Use the waste septic tank system can be issued.***
29. ***The proposed septic tank system must not be located within 60 metres of the bank of any surface waters, unless the liquid waste is treated to the satisfaction of the Responsible Authority. Any such reduction in distance to the surface waters will be at the discretion of the Responsible Authority.***
30. ***The floor of the managers dwelling must be constructed no lower than 118.0 metres Australian Height Datum.***
31. ***If any works will impact on a waterway or groundwater or will include the use of water for irrigation or commercial purposes from these resources or from a dam, soak or spring, it will be necessary for the land owner or permit holder to apply to Southern Rural Water for a licence in accordance with Section 51 or 67 Water Act 1989.***

32. *The permit holder must demonstrate that the Barpinda-Poorneet Road approach to the Hamilton Highway intersection is of sufficient standard to accommodate the turning path of articulated vehicles and/or 25 metre long B-double vehicles used in the operation of the Broiler Farm, to the satisfaction of VicRoads. If the standard of the intersection is insufficient to accommodate these vehicles, the permit holder shall be required to carry out widening of the approach to the Hamilton Highway intersection to accommodate these vehicles.*
33. *Access off Pierces Road will only be permitted for the approved dwellings. No access will be permitted from Pierces Road to service the Broiler Farm Complex.*
34. *Access onto Weering School Road must be constructed to the minimum standard for farm access in accordance with the requirements of VicRoads' Guidelines for Truck Access to Rural Properties, April 2006 and allow sufficient storage area to cater for a B-Double to be parked within the gateway area. i.e. 25 metres off the edge of the road to the gate into the property.*
35. *Access points onto Weering School Road must be constructed with an asphalt overlay over Weering School Road for the length of the road abutting the access point as well as the sealing of the holding area required in Condition 35 to the satisfaction of the Responsible Authority.*
36. *Any B-Double vehicles 25 metres in length or in excess of 50 tonnes must obtain written consent from the Responsible Authority and VicRoads to use Weering School Road and/or Barpinda-Poorneet Road.*
37. *The permit holder must prepare and submit to the Responsible Authority a Fire Prevention Plan for approval by the Responsible Authority prior to the commencement of the use hereby permitted. Such a plan, when approved, shall be endorsed and form part of this permit.*
38. *Prior to the construction of the access road, construction plans must be submitted showing the details of the standard of the access and any drainage requirements, to the satisfaction of the Responsible Authority.*
39. *This permit will expire if one of the following circumstances applies:*
- 39.1 *The development is not started within two years of the date of this permit;*
- 39.2 *The development is not completed within four years of the date of this permit.*
- 39.3 *The use is not commenced within four years of the date of this permit.*

*The Responsible Authority may extend the periods referred to if a request is made in writing before the permit expires or within three months thereafter.*

- C. *Delegate the decision to the Chief Executive Officer, to determine whether legal representation is required for the VCAT hearing on the 20 April 2009.*

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**ALTERNATE MOTION:**

***Moved ..... seconded .....that the recommendation be amended by the deletion of Condition 32 and renumber in sequence the remaining conditions; and the capacity of the broiler farm to be amended to 640,000 birds in all instances.***

**Recommendation**

***That Council:***

- A. *Advise the Victorian and Civil Administrative Tribunal at the review hearing on 20 April 2009, that Council provides conditional support for the amended proposal for a single 640,000 bird capacity broiler farm subject to the Victorian and Civil Administrative Tribunal being satisfied that the Environmental Risk Assessment demonstrates that the odour risk is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.***
- B. *Advise the Victorian and Civil Administrative Tribunal that should the Tribunal determine that a planning permit should be granted for a single 640,000 bird capacity broiler farm at 210 Pierces Road, Beeac (CA140, 141, 148, 149, 152 and 153, Parish of Ondit) then Council submits that the permit should be subject to the following conditions:***
- 1. *Before the use and development commences, the following documents to the satisfaction of the Responsible Authority must be submitted to the Responsible Authority for approval and be approved by the Responsible Authority:***
    - 1.1 *Amended plans which must be drawn to scale and with dimensions. Three copies must be provided and the plans must be generally in accordance with the plans submitted with the application but modified to show:***
      - 1.1.1 *A single 640,000 bird capacity broiler farm complex, comprising of 10 sheds located 200 metres from the southern boundary, otherwise centrally located on the six crown allotments;***
      - 1.1.2 *The access road must be set 12 metres north of the southern common property boundary;***
      - 1.1.3 *The type, specifications and location of all external flood and security lighting to be used including provision for light baffling to ensure all light is contained within the property boundary;***
      - 1.1.4 *Deletion of the spent litter pads;***
      - 1.1.5 *Stormwater wetland treatment pond and other drainage;***
      - 1.1.6 *Location, dimensions and specifications of any dams to be constructed on site.***
    - 2.2 *Environmental Management Plan (EMP) which is site specific;***

- 2.3** *Water Use and Re-use Plan addressing stormwater, rainwater and reticulated water use and re-use issues including a plan for the management of areas from which water is proposed to be harvested. The plan must also detail arrangements for the provision on site of an emergency water supply;*
- 2.4** *Amended Landscape Plan which must be site specific and have due regard to the visual impact of the sheds and other buildings, including consideration of bunding and mounding. The Landscape Plan must show the location and type of all proposed screen and other plantings and landscaping, anticipated tree or shrub height and width at maturity, timetables for plantings and arrangements for maintenance of the landscaped areas. All trees and shrubs included in the Landscape Plan must be indigenous to the locality. The Landscape Plan must show:*
- 2.4.1** *A 10 metre wide landscaping buffer along the southern common property boundary between the Weering School Road frontage to the western property boundary;*
- 2.4.2** *A 10 metre wide landscaping buffer along the Weering School Road frontage from the southern common property boundary for a distance of 600 metres.*
- 2.4.3** *A 15 metre wide landscaping buffer around the perimeter of the broiler shed complex with dams and silos inside the landscape buffer.*
- 2.4.4** *The landscaping buffers must contain a mixture of canopy trees and shrubs to ensure effective screening.*
- When approved, the Landscape Plan will be endorsed by the Responsible Authority and will then form part of this permit.*
- 2.5** *Earthworks Plan must be submitted that shows the extent of the earthworks to be undertaken including details on the amount of fill required for the construction of the development. The earthworks plan will be referred to the CCMA for comment.*
- 3.** *The use and development approved by this permit must at all times be conducted in accordance with the requirements of:*
- 3.1** *The Victorian Code for Broiler Farms, September 2001, as amended;*
- 3.2** *The Code for Accepted Farming Practice for the Welfare of Poultry, December 2003, as amended;*
- 3.3** *Environmental Management Plan,*
- 3.4** *Each of the Permit Documents.*
- to the satisfaction of the Responsible Authority.*
- 4.** *The layout of the site and size of the buildings and works, as shown on the endorsed plans, must not be altered or modified without the consent in writing of the Responsible Authority.*

**5. Prior to the commencement of the use, the owner must enter into an agreement with the Responsible Authority under Section 173 of the Planning and Environment Act 1987 stating that:**

**5.1 If the land is used and developed as a 640,000 bird capacity broiler farm on CA 140, 141, 148, 149, 152 and 153, Parish of Ondit, none of the aforesaid crown allotments may be disposed of separately to ensure the protection of the boundary buffer and separation distances required for a 'special class farm' in accordance with the Victorian code for Broiler Farms;**

**5.2 Other than a single dwelling on both CA152 and CA153 no further dwellings will be permitted on any crown allotment while the land is used in accordance with 5.1.**

**5.3 The Responsible Authority would only agree to remove the S173 Agreement should the planning permit expire and the land not be used and developed for a broiler farm or, if the use is established, the use of the land for a broiler farm ceases.**

**Evidence of lodging of this agreement in accordance with Section 181 of the Planning and Environment Act 1987 must be submitted to the Responsible Authority. All costs associated with the agreement will be met by the permit holder.**

**6. The poultry shed must be designed and constructed using a tunnel-vented exhaust system or such other alternative technology which complies with the requirement of the Broiler Code, to the satisfaction of the Responsible Authority.**

**7. All trees and shrubs included in the endorsed Landscape Plan must be planted prior to the completion of the development and the commencement of the use and must thereafter be maintained to the satisfaction of the Responsible Authority. In the circumstance where there are seasonal conditions that would be unfavourable to the establishment of the landscaping, the permit holder may apply in writing to the Responsible Authority for an extension of time to complete the landscaping.**

**8. Prior to the commencement of any works pursuant to this permit the permit holder must lodge a landscape performance bond with the Responsible Authority. The bond can be either a monetary contribution or an irrevocable bank guarantee in favour of the Responsible Authority. The bond is to be based on the endorsed Landscape Plan with additional details to be provided to the satisfaction of the Responsible Authority incorporating:**

**8.1 An estimate of the quantity and type of materials, watering equipment, plants, etc. required; and**

**8.2 A quotation from a reputable nursery supplier for the implementation of the Landscape Plan identifying the cost for materials, plants and labour. The quotation is to be independently verified to Responsible Authority's satisfaction.**

**The bond is to comprise the verified quotation plus a 10% margin for unforeseen costs. When the landscape works are complete to the satisfaction of the Responsible Authority, 85% of the bond will be released. The balance is to be retained as a maintenance bond for a period of three (3) years following the date**

*of release of the 85%. If the landscaping has not been maintained to the Responsible Authority's satisfaction at the end of the three years the maintenance bond is to be applied to upgrade the landscaping.*

- 9. Any dam shall be constructed by a suitably qualified and experienced contractor in accordance with Southern Rural Water's guidelines for dam construction and maintained to the satisfaction of the Responsible Authority.*
- 10. There shall be no stockpiling of litter on the site. No used litter may be spread or otherwise disposed on the site without the further written consent of the Responsible Authority. Used litter not proposed to be spread on the site (as soil fertiliser) must be removed from the site as soon as possible after it is removed from the sheds. All trucks removing litter from the site must have covered loads.*
- 11. The removal of dry bird litter from the sheds by use of machinery must occur between the hours of 7.00 am and 8.00 pm and no removal may be undertaken on Sundays and Public Holidays including Christmas Day and Good Friday.*
- 12. The permit holder must dispose of dead birds off site using a contractor specializing in this type of disposal or in an alternative manner to the satisfaction of the Responsible Authority. Pending collection for offsite disposal, dead birds must be held in sealed refrigerated containers or otherwise as approved by the Responsible Authority.*
- 13. The use authorized by this permit must be operated as a dry litter poultry operation only and the provision for the collection and disposal of solid wastes and for the collection, treatment and disposal of any liquid wastes to arise from the development and use hereby permitted must comply with all applicable laws and regulations.*
- 14. If the Responsible Authority determines that the amenity of nearby residents is adversely affected in the emission of an unreasonable level of odour from the site the permit holder must immediately and to the satisfaction of the Responsible Authority take such action as is required to prevent those emissions, which may include adjusting stocking density in the sheds, removing litter immediately, or any other actions reasonably required to rectify the emission of offensive odour.*
- 15. The poultry sheds and all feed stores must be vermin and bird proof to the satisfaction of the Responsible Authority.*
- 16. The manner of discharge of all water from the site must be to the satisfaction of the Responsible Authority and the CCMA.*
- 17. Other than the loading and placement of live birds, no deliveries to or removals from the site must take place after 8.00 pm or before 7.00 am on any day without the prior written approval of the Responsible Authority. The only exception to this is in emergency situations when vehicle or plant breakdown make it necessary for feed to be delivered outside these times.*
- 18. The permit holder shall require that all contractors and suppliers accessing the site from the Hamilton Highway do so by way of Weering School Road and Barpinda-Poorneet Road.*
- 19. The loading and unloading of vehicles and the delivery of goods to and from the premises must at all times be carried on entirely within the site.*



20. *The surface of the car parking and loading areas and access lanes must be constructed and maintained to the satisfaction of the Responsible Authority to prevent dust and drainage run-off.*
21. *Security lighting or external floodlighting (if required) must be installed in such a manner that it does not create amenity problems outside the site.*
22. *All vehicles used in the delivery, pick-up and transportation of live birds must be fitted with high performance sound-reducing mufflers to the satisfaction of the Responsible Authority and the permit holder must use its best endeavours to ensure that such activities do not cause any unreasonable noise impact on the amenity of the surrounding area.*
23. *The permit holder must use its best endeavours to avoid sanitizing sheds with odorous chemicals which give rise to offensive odours being detectible off site. Airborne sprays or chemical odours must not be transmitted beyond the site to the detriment of any person to the satisfaction of the Responsible Authority.*
24. *All walls of the poultry sheds and other buildings hereby permitted which will be visible from beyond the site must be coloured or painted in non-reflective muted tones to the satisfaction of the Responsible Authority.*
25. *All goods and materials must be stored out of view of so as not to be unsightly when viewed from nearby roads to the satisfaction of the Responsible Authority.*
26. *Prior to the commencement of the use, the permit holder must enter into an agreement with Barwon Region Water Authority (Barwon Water). The agreement must provide for a centralised potable water storage facility to be established to serve the development authorised by this permit. The agreement shall provide for the taking of up to 50 ML per annum (or such other amount permitted by Barwon Water) during periods where the taking of water will not adversely impact the supply of water to other water users in the vicinity of the development. The agreement shall provide an appropriate mechanism for the operation and maintenance of the storage facility to provide for an equitable sharing of potable water by other water users in this area.*
27. *An all waste septic tank disposal system is to be constructed concurrently with the new dwellings, such that all liquid waste must at all times be contained within the curtilage of the title. Such system must be designed and installed to the satisfaction of the Responsible Authority.*
28. *A Permit to install an all waste septic tank system must be lodged and approved by the Responsible Authority prior to the commencement of works. Such system must be designed and installed to the satisfaction of the Responsible Authority before a Permit to Use the waste septic tank system can be issued.*
29. *The proposed septic tank system must not be located within 60 metres of the bank of any surface waters, unless the liquid waste is treated to the satisfaction of the Responsible Authority. Any such reduction in distance to the surface waters will be at the discretion of the Responsible Authority.*
30. *The floor of the managers dwelling must be constructed no lower than 118.0 metres Australian Height Datum.*

31. ***If any works will impact on a waterway or groundwater or will include the use of water for irrigation or commercial purposes from these resources or from a dam, soak or spring, it will be necessary for the land owner or permit holder to apply to Southern Rural Water for a licence in accordance with Section 51 or 67 Water Act 1989.***
32. ***Access off Pierces Road will only be permitted for the approved dwellings. No access will be permitted from Pierces Road to service the Broiler Farm Complex.***
33. ***Access onto Weering School Road must be constructed to the minimum standard for farm access in accordance with the requirements of VicRoads' Guidelines for Truck Access to Rural Properties, April 2006 and allow sufficient storage area to cater for a B-Double to be parked within the gateway area. i.e. 25 metres off the edge of the road to the gate into the property.***
34. ***Access points onto Weering School Road must be constructed with an asphalt overlay over Weering School Road for the length of the road abutting the access point as well as the sealing of the holding area required in Condition 35 to the satisfaction of the Responsible Authority.***
35. ***Any B-Double vehicles 25 metres in length or in excess of 50 tonnes must obtain written consent from the Responsible Authority and VicRoads to use Weering School Road and/or Barpinda-Poorneet Road.***
36. ***The permit holder must prepare and submit to the Responsible Authority a Fire Prevention Plan for approval by the Responsible Authority prior to the commencement of the use hereby permitted. Such a plan, when approved, shall be endorsed and form part of this permit.***
37. ***Prior to the construction of the access road, construction plans must be submitted showing the details of the standard of the access and any drainage requirements, to the satisfaction of the Responsible Authority.***
38. ***This permit will expire if one of the following circumstances applies:***
  - 38.1 ***The development is not started within two years of the date of this permit;***
  - 38.2 ***The development is not completed within four years of the date of this permit.***
  - 38.3 ***The use is not commenced within four years of the date of this permit.***

***The Responsible Authority may extend the periods referred to if a request is made in writing before the permit expires or within three months thereafter.***

- C. ***Delegate the decision to the Chief Executive Officer, to determine whether legal representation is required for the VCAT hearing on the 20 April 2009.***

**Resolution**

**MOVED Cr Buchanan seconded Cr Higgins that Council:**

- A. Advise the Victorian and Civil Administrative Tribunal at the review hearing on 20 April 2009, that Council provides conditional support for the amended proposal for a single 640,000 bird capacity broiler farm subject to the Victorian and Civil Administrative Tribunal being satisfied that the Environmental Risk Assessment demonstrates that the odour risk is acceptable and the boundary buffer and separation distances are adequate to protect the amenity of the nearby sensitive uses.**
- B. Advise the Victorian and Civil Administrative Tribunal that should the Tribunal determine that a planning permit should be granted for a single 640,000 bird capacity broiler farm at 210 Pierces Road, Beeac (CA140, 141, 148, 149, 152 and 153, Parish of Ondit) then Council submits that the permit should be subject to the following conditions:**
- 1. Before the use and development commences, the following documents to the satisfaction of the Responsible Authority must be submitted to the Responsible Authority for approval and be approved by the Responsible Authority:**
    - 1.1 Amended plans which must be drawn to scale and with dimensions. Three copies must be provided and the plans must be generally in accordance with the plans submitted with the application but modified to show:**
      - 1.1.1 A single 640,000 bird capacity broiler farm complex, comprising of 10 sheds located 200 metres from the southern boundary, otherwise centrally located on the six crown allotments;**
      - 1.1.2. The access road must be set 12 metres north of the southern common property boundary;**
      - 1.1.3 The type, specifications and location of all external flood and security lighting to be used including provision for light baffling to ensure all light is contained within the property boundary;**
      - 1.1.4 Deletion of the spent litter pads;**
      - 1.1.5 Stormwater wetland treatment pond and other drainage;**
      - 1.1.6 Location, dimensions and specifications of any dams to be constructed on site.**
    - 2.2 Environmental Management Plan (EMP) which is site specific;**
    - 2.3 Water Use and Re-use Plan addressing stormwater, rainwater and reticulated water use and re-use issues including a plan for the management of areas from which water is proposed to be harvested. The plan must also detail arrangements for the provision on site of an emergency water supply;**

**2.4 Amended Landscape Plan which must be site specific and have due regard to the visual impact of the sheds and other buildings, including consideration of bunding and mounding. The Landscape Plan must show the location and type of all proposed screen and other plantings and landscaping, anticipated tree or shrub height and width at maturity, timetables for plantings and arrangements for maintenance of the landscaped areas. All trees and shrubs included in the Landscape Plan must be indigenous to the locality. The Landscape Plan must show:**

**2.4.1 A 10 metre wide landscaping buffer along the southern common property boundary between the Weering School Road frontage to the western property boundary;**

**2.4.2 A 10 metre wide landscaping buffer along the Weering School Road frontage from the southern common property boundary for a distance of 600 metres.**

**2.4.3 A 15 metre wide landscaping buffer around the perimeter of the broiler shed complex with dams and silos inside the landscape buffer.**

**2.4.4 The landscaping buffers must contain a mixture of canopy trees and shrubs to ensure effective screening.**

**When approved, the Landscape Plan will be endorsed by the Responsible Authority and will then form part of this permit.**

**2.5 Earthworks Plan must be submitted that shows the extent of the earthworks to be undertaken including details on the amount of fill required for the construction of the development. The earthworks plan will be referred to the CCMA for comment.**

**3. The use and development approved by this permit must at all times be conducted in accordance with the requirements of:**

**3.1 The Victorian Code for Broiler Farms, September 2001, as amended;**

**3.2 The Code for Accepted Farming Practice for the Welfare of Poultry, December 2003, as amended;**

**3.3 Environmental Management Plan,**

**3.4 Each of the Permit Documents.**

**to the satisfaction of the Responsible Authority.**

**4. The layout of the site and size of the buildings and works, as shown on the endorsed plans, must not be altered or modified without the consent in writing of the Responsible Authority.**

**5. Prior to the commencement of the use, the owner must enter into an agreement with the Responsible Authority under Section 173 of the Planning and Environment Act 1987 stating that:**

**5.1 If the land is used and developed as a 640,000 bird capacity broiler farm on CA 140, 141, 148, 149, 152 and 153, Parish of Ondit, none of the aforesaid crown allotments may be disposed of separately to ensure the protection of the boundary buffer and separation distances required for**

*a 'special class farm' in accordance with the Victorian code for Broiler Farms;*

**5.2** *Other than a single dwelling on both CA152 and CA153 no further dwellings will be permitted on any crown allotment while the land is used in accordance with 5.1.*

**5.3** *The Responsible Authority would only agree to remove the S173 Agreement should the planning permit expire and the land not be used and developed for a broiler farm or, if the use is established, the use of the land for a broiler farm ceases.*

*Evidence of lodging of this agreement in accordance with Section 181 of the Planning and Environment Act 1987 must be submitted to the Responsible Authority. All costs associated with the agreement will be met by the permit holder.*

**6.** *The poultry shed must be designed and constructed using a tunnel-vented exhaust system or such other alternative technology which complies with the requirement of the Broiler Code, to the satisfaction of the Responsible Authority.*

**7.** *All trees and shrubs included in the endorsed Landscape Plan must be planted prior to the completion of the development and the commencement of the use and must thereafter be maintained to the satisfaction of the Responsible Authority. In the circumstance where there are seasonal conditions that would be unfavourable to the establishment of the landscaping, the permit holder may apply in writing to the Responsible Authority for an extension of time to complete the landscaping.*

**8.** *Prior to the commencement of any works pursuant to this permit the permit holder must lodge a landscape performance bond with the Responsible Authority. The bond can be either a monetary contribution or an irrevocable bank guarantee in favour of the Responsible Authority. The bond is to be based on the endorsed Landscape Plan with additional details to be provided to the satisfaction of the Responsible Authority incorporating:*

**8.1** *An estimate of the quantity and type of materials, watering equipment, plants, etc. required; and*

**8.2** *A quotation from a reputable nursery supplier for the implementation of the Landscape Plan identifying the cost for materials, plants and labour. The quotation is to be independently verified to Responsible Authority's satisfaction.*

*The bond is to comprise the verified quotation plus a 10% margin for unforeseen costs. When the landscape works are complete to the satisfaction of the Responsible Authority, 85% of the bond will be released. The balance is to be retained as a maintenance bond for a period of three (3) years following the date of release of the 85%. If the landscaping has not been maintained to the Responsible Authority's satisfaction at the end of the three years the maintenance bond is to be applied to upgrade the landscaping.*

**9.** *Any dam shall be constructed by a suitably qualified and experienced contractor in accordance with Southern Rural Water's guidelines for dam construction and maintained to the satisfaction of the Responsible Authority.*

10. *There shall be no stockpiling of litter on the site. No used litter may be spread or otherwise disposed on the site without the further written consent of the Responsible Authority. Used litter not proposed to be spread on the site (as soil fertiliser) must be removed from the site as soon as possible after it is removed from the sheds. All trucks removing litter from the site must have covered loads.*
11. *The removal of dry bird litter from the sheds by use of machinery must occur between the hours of 7.00 am and 8.00 pm and no removal may be undertaken on Sundays and Public Holidays including Christmas Day and Good Friday.*
12. *The permit holder must dispose of dead birds off site using a contractor specializing in this type of disposal or in an alternative manner to the satisfaction of the Responsible Authority. Pending collection for offsite disposal, dead birds must be held in sealed refrigerated containers or otherwise as approved by the Responsible Authority.*
13. *The use authorized by this permit must be operated as a dry litter poultry operation only and the provision for the collection and disposal of solid wastes and for the collection, treatment and disposal of any liquid wastes to arise from the development and use hereby permitted must comply with all applicable laws and regulations.*
14. *If the Responsible Authority determines that the amenity of nearby residents is adversely affected in the emission of an unreasonable level of odour from the site the permit holder must immediately and to the satisfaction of the Responsible Authority take such action as is required to prevent those emissions, which may include adjusting stocking density in the sheds, removing litter immediately, or any other actions reasonably required to rectify the emission of offensive odour.*
15. *The poultry sheds and all feed stores must be vermin and bird proof to the satisfaction of the Responsible Authority.*
16. *The manner of discharge of all water from the site must be to the satisfaction of the Responsible Authority and the CCMA.*
17. *Other than the loading and placement of live birds, no deliveries to or removals from the site must take place after 8.00 pm or before 7.00 am on any day without the prior written approval of the Responsible Authority. The only exception to this is in emergency situations when vehicle or plant breakdown make it necessary for feed to be delivered outside these times.*
18. *The permit holder shall require that all contractors and suppliers accessing the site from the Hamilton Highway do so by way of Weering School Road and Barpinda-Poorneet Road.*
19. *The loading and unloading of vehicles and the delivery of goods to and from the premises must at all times be carried on entirely within the site.*
20. *The surface of the car parking and loading areas and access lanes must be constructed and maintained to the satisfaction of the Responsible Authority to prevent dust and drainage run-off.*
21. *Security lighting or external floodlighting (if required) must be installed in such a manner that it does not create amenity problems outside the site.*

- 22. All vehicles used in the delivery, pick-up and transportation of live birds must be fitted with high performance sound-reducing mufflers to the satisfaction of the Responsible Authority and the permit holder must use its best endeavours to ensure that such activities do not cause any unreasonable noise impact on the amenity of the surrounding area.**
- 23. The permit holder must use its best endeavours to avoid sanitizing sheds with odorous chemicals which give rise to offensive odours being detectible off site. Airborne sprays or chemical odours must not be transmitted beyond the site to the detriment of any person to the satisfaction of the Responsible Authority.**
- 24. All walls of the poultry sheds and other buildings hereby permitted which will be visible from beyond the site must be coloured or painted in non-reflective muted tones to the satisfaction of the Responsible Authority.**
- 25. All goods and materials must be stored out of view of so as not to be unsightly when viewed from nearby roads to the satisfaction of the Responsible Authority.**
- 26. Prior to the commencement of the use, the permit holder must enter into an agreement with Barwon Region Water Authority (Barwon Water). The agreement must provide for a centralised potable water storage facility to be established to serve the development authorised by this permit. The agreement shall provide for the taking of up to 50 ML per annum (or such other amount permitted by Barwon Water) during periods where the taking of water will not adversely impact the supply of water to other water users in the vicinity of the development. The agreement shall provide an appropriate mechanism for the operation and maintenance of the storage facility to provide for an equitable sharing of potable water by other water users in this area.**
- 27. An all waste septic tank disposal system is to be constructed concurrently with the new dwellings, such that all liquid waste must at all times be contained within the curtilage of the title. Such system must be designed and installed to the satisfaction of the Responsible Authority.**
- 28. A Permit to install an all waste septic tank system must be lodged and approved by the Responsible Authority prior to the commencement of works. Such system must be designed and installed to the satisfaction of the Responsible Authority before a Permit to Use the waste septic tank system can be issued.**
- 29. The proposed septic tank system must not be located within 60 metres of the bank of any surface waters, unless the liquid waste is treated to the satisfaction of the Responsible Authority. Any such reduction in distance to the surface waters will be at the discretion of the Responsible Authority.**
- 30. The floor of the managers dwelling must be constructed no lower than 118.0 metres Australian Height Datum.**
- 31. If any works will impact on a waterway or groundwater or will include the use of water for irrigation or commercial purposes from these resources or from a dam, soak or spring, it will be necessary for the land owner or permit holder to apply to Southern Rural Water for a licence in accordance with Section 51 or 67 Water Act 1989.**
- 32. Access off Pierces Road will only be permitted for the approved dwellings. No access will be permitted from Pierces Road to service the Broiler Farm Complex.**

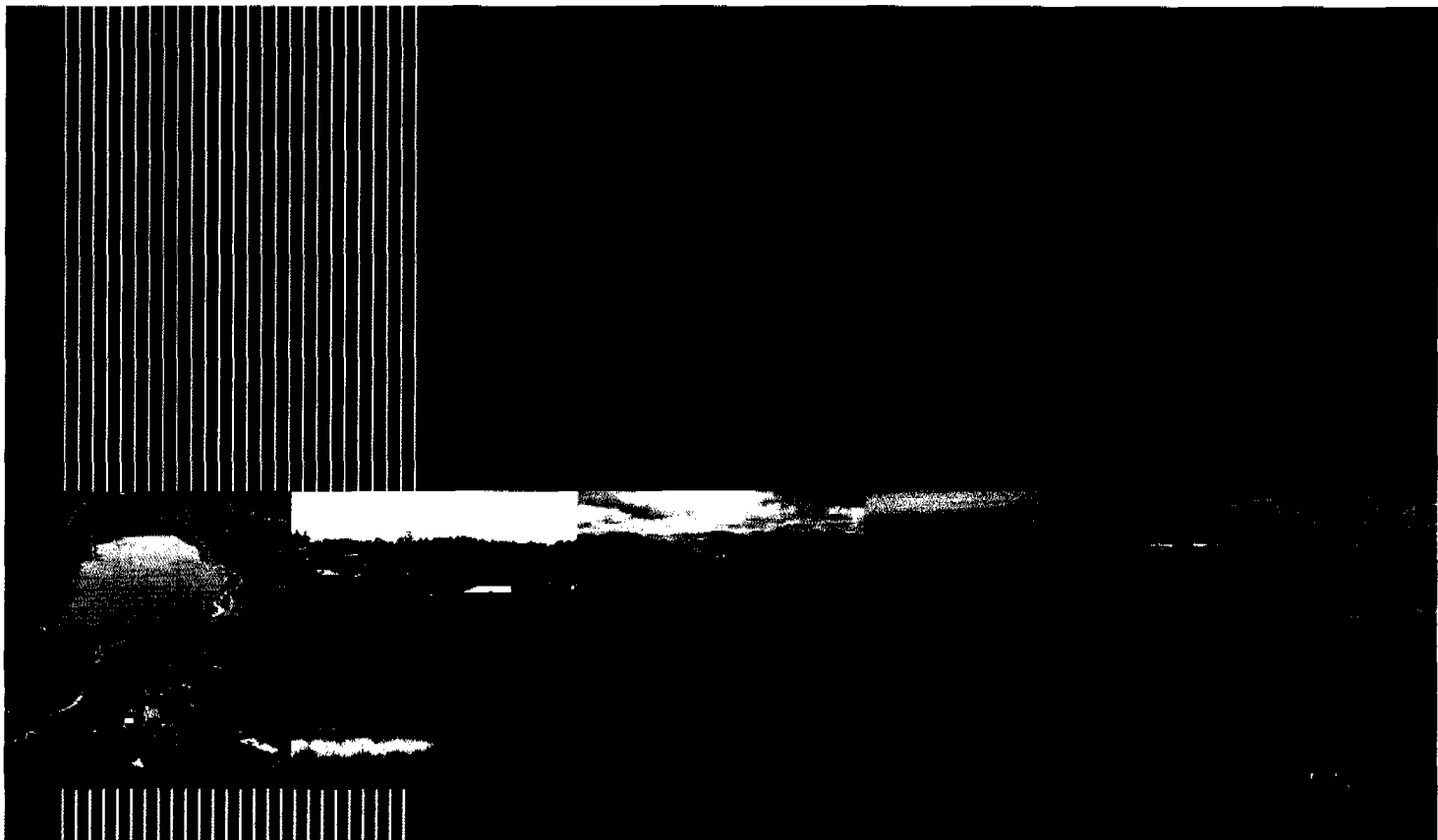
- 33. Access onto Weering School Road must be constructed to the minimum standard for farm access in accordance with the requirements of VicRoads' Guidelines for Truck Access to Rural Properties, April 2006 and allow sufficient storage area to cater for a B-Double to be parked within the gateway area. i.e. 25 metres off the edge of the road to the gate into the property.**
- 34. Access points onto Weering School Road must be constructed with an asphalt overlay over Weering School Road for the length of the road abutting the access point as well as the sealing of the holding area required in Condition 35 to the satisfaction of the Responsible Authority.**
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- 38. This permit will expire if one of the following circumstances applies:**
  - 38.1 The development is not started within two years of the date of this permit;**
  - 38.2 The development is not completed within four years of the date of this permit.**
  - 38.3 The use is not commenced within four years of the date of this permit.**

**The Responsible Authority may extend the periods referred to if a request is made in writing before the permit expires or within three months thereafter.**

- C. Delegate the decision to the Chief Executive Officer, to determine whether legal representation is required for the VCAT hearing on the 20 April 2009.**

**CARRIED 7 : 0**






**VCAT Expert Witness Report**  
Beaac Broiler Farm ERA Review  
VCAT Case Number P3383/2008

16 JUNE 2009

Prepared for  
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PO Box 283  
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**URS**

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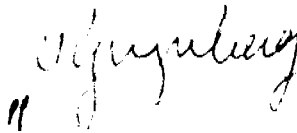


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Date: 16 June 2009  
Reference: 43283553/01/A  
Status: Final

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## Abbreviations

| <b>Abbreviation</b> | <b>Description</b>                                                                                |
|---------------------|---------------------------------------------------------------------------------------------------|
| APCRC               | Australian Poultry Cooperative Research Council                                                   |
| Council             | Colac Otway Shire Council                                                                         |
| EPA                 | Victorian Environment Protection Authority                                                        |
| ERA                 | Environmental Risk Assessment                                                                     |
| Lemic Investments   | Lemic Investments Pty Ltd                                                                         |
| OU                  | Odour unit – Concentration of odour in air                                                        |
| PM <sub>10</sub>    | Particulate matter of less than 10 µm in aerodynamic diameter                                     |
| RIRDC               | Rural Industries Research and Industries Council                                                  |
| SEPP(AQM)           | State Environment Protection Policy for Air Quality Management                                    |
| TAPM                | The Air Pollution Model produced by CSIRO                                                         |
| TSP                 | Total Suspended Particulates – usually considered to be size 10µm to 50µm in aerodynamic diameter |
| URS                 | URS Australia Pty Ltd                                                                             |

## Executive Summary

URS Australia Pty Ltd (URS) was engaged by Colac Otway Shire Council (Council) to review the updated environmental risk assessment (ERA) undertaken for the proposed broiler farm at Pierces Road, Beeac (GHD, 2009) and to compare the updated ERA with the initial submission (GHD, 2008).

For the updated risk assessment, URS has considered the methodology and results from:

- Meteorological modelling;
- Emission estimation;
- Dispersion modelling; and
- Risk assessment.

In the comparison of the initial risk assessment, URS has compared:

- Considered emissions;
- Emissions estimation;
- Dispersion modelling; and
- Results.

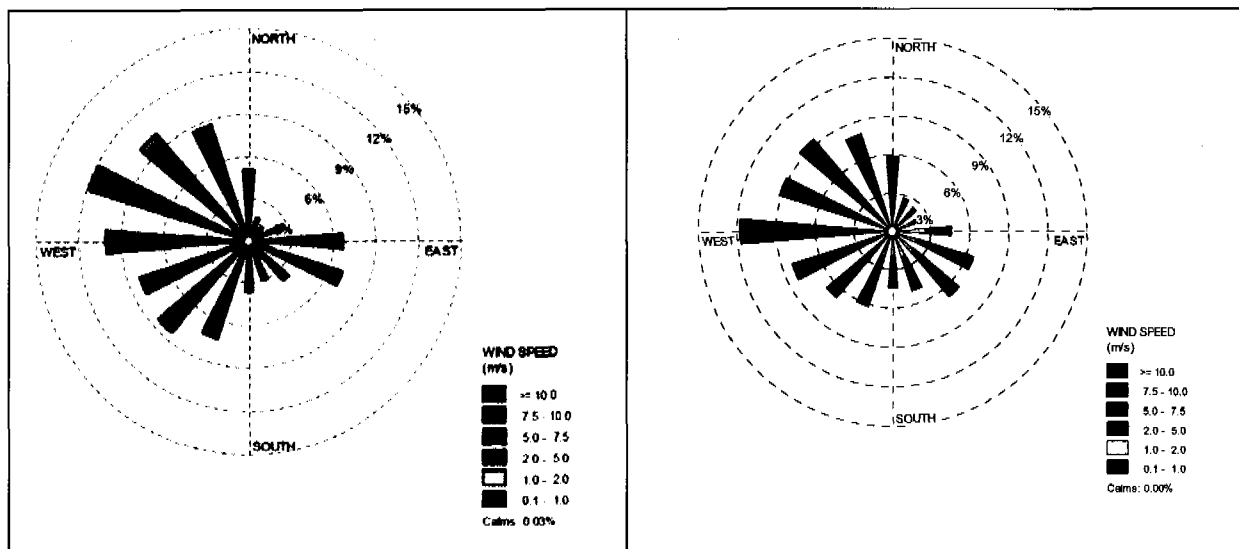
## Updated ERA (GHD, 2009)

### Meteorological Modelling

URS has determined that local meteorology, used in the dispersion modelling, was estimated using data developed for another project in the same area. The data was developed using TAPM version 2, with a model year of 2002 selected.

URS compared the results generated by TAPM version 2 for a meteorological year of 2002 with data generated by the updated TAPM version 4 for 2008 (Figure 1). The results indicated that the distribution and frequency of winds for each direction were similar for 2002 compared to 2008, however TAPM version 4 predicted a higher frequency of lower velocity winds. One of the major improvements of TAPM version 4 over previous versions was that it is now able to more accurately characterise lower wind speeds.

**Figure 1 Comparison of wind data used in ERA (left) using 2002 synoptic data and TAPM version 2.0 with URS estimated wind data (right) using 2008 synoptic data with TAPM version 4.0**



## Executive Summary

As the broiler sheds are ground based sources, lighter winds are likely to result in higher predicted concentrations at the receptors. The use of a meteorological file produced using TAPM version 2, rather than the more recent release, means that model predictions are likely to be under estimated.

## Emission Estimation

In the ERA, emission estimation was completed using a methodology developed by the author. No attempt was made in the ERA to reconcile the predicted emissions with other measurement campaigns undertaken in Australia.

URS therefore compared the emission estimates to three other recent studies that were readily available in the literature (Table 1), and could have been used in the ERA. Whilst two of the emission estimates were not directly comparable with the ERA, as they provide annual mean emission rates rather than with batch variation, averaging of the emission estimates contained in the ERA determined that they were approximately 50% of the annual average odour rate predicted by using data contained in the published papers. Comparison of the maximum odour emission rate used in the ERA determined that it was higher than estimated using other methods.

**Table 1 Estimated odour emission rate (OU/s) using ERA methodology and three other methodologies developed in Australia**

| Week          | ERA     | Jiang et al.<br>(RIRDC) | Scorgie et al. | Gallagher et al. |
|---------------|---------|-------------------------|----------------|------------------|
| <b>Winter</b> |         |                         |                |                  |
| 1             | 7,168   | 308,961                 |                | 312,960          |
| 2             | 9,472   |                         | 5,984          |                  |
| 3             | 30,720  |                         | 23,507         |                  |
| 4             | 79,360  |                         | 70,030         |                  |
| 5             | 128,000 |                         |                |                  |
| 6             | 122,880 |                         |                |                  |
| 7             | 74,240  |                         |                |                  |
| 8             | 69,120  |                         |                |                  |
| <b>Summer</b> |         |                         |                |                  |
| 1             | 28,672  | 308,961                 |                | 312,960          |
| 2             | 37,888  |                         | 1,638          |                  |
| 3             | 122,880 |                         |                |                  |
| 4             | 317,440 |                         |                |                  |
| 5             | 512,000 |                         | 261,007        |                  |
| 6             | 491,520 |                         |                |                  |
| 7             | 296,960 |                         | 173,339        |                  |
| 8             | 276,480 |                         |                |                  |

URS considers that the emission estimation provided in the ERA gives a reasonable estimation of the expected emissions likely to occur from the proposed development. As discussed below, the application of the estimated emissions does not, however, correlate with the requirements of the State Environment Protection Policy for Air Quality Management (SEPP(AQM)), the Victorian Broiler Code or the requirements of the draft ERA guidelines included in Appendix C of the ERA.



## Executive Summary

### Dispersion Modelling

Dispersion modelling in the ERA used the regulatory model Ausplume version 6. Considering the inland nature of the site, with lack of significant terrain in the model domain, URS consider this to be a suitable choice of model to estimate impact.

### Emissions

Dispersion modelling was conducted using a variable emission rate that changed through the batch cycle. This approach is not consistent with the recommended modelling methodology contained in the SEPP(AQM), the Victorian Broiler Code or the draft ERA guidelines, which require the use of the maximum emission rate to be modelled for the period of a year in which they occur for averaging periods of 1 hour or less. URS considers that the modelling methodology proposed by the guidance documents to be appropriate, as it ensures that the maximum emission coincides with the worst meteorological conditions, and ensures that the facility may operate in all conditions without unacceptable impact on the beneficial uses of the atmosphere.

URS therefore considers the use of emissions varying with batch age to be inappropriate and likely to result in an under-estimation of potential emissions. Use of maximum emission rates that occur in typical meteorological conditions for the time of year (summer and winter), would provide a suitably conservative assessment that complies with the requirement of the SEPP(AQM), the Victorian Broiler Code and the draft ERA guidelines.

### Percentiles

Percentile calculations are required, by the regulatory State requirements, for periods of 1 hour or less. This is to discount the possibility of unusual meteorology unduly influencing the model results. EPA, the Victorian Broiler Code and the Draft ERA guidelines promote the use of a 99.9<sup>th</sup> percentile as this discounts the top nine results as potentially being influenced by unusual meteorology in the selected meteorological year.

### Risk Assessment

The risk assessment examines only occurrences of concentrations above 5 OU (3-minute average, 99.9<sup>th</sup> percentile) that occur during daylight hours at the nearest residences. The reasons given for the exclusion of exceedances after sunset are:

- this is when stable atmospheres and light winds are likely are predominant; and
- between 12am and 5am residents will be asleep and an odour concentration greater than 10,000 OU would be require to wake a sleeping person.

URS considers the exclusion of non-daylight hours to be incorrect, as:

- residents are more likely to be at home during non-daylight hours;
- operations and emissions continue during non-daylight hours;
- there is no guarantee that residents are asleep during the period 12am to 5am; and
- there is no evidence for a level of 10,000 OU required to wake a sleeping person.

When all hours are considered in the risk assessment the ERA reports 31 and 26 exceedances of 5 OU at residences 2 and 4 respectively. URS believes that this should be considered an unacceptable risk and stage 3 of the ERA should have been completed.

## Executive Summary

### **Risk Matrix**

The risk assessment presents a matrix based on modelling and observations from previous work undertaken by the ERA's author. The ERA does not provide a reference to the previous work, or information in an appendix detailing the basis of the work for which the matrix was constructed. There could be any number of reasons in a different situation why modelled odour concentrations do not match model results, including:

- Incorrect model setup;
- Unusual meteorology;
- Different odour character; or
- Desensitised population.

Additionally, the inference in the matrix that Ausplume over-predicts concentrations compared to odour concentrations that are likely to result in complaints, is countered by EPA who have published details of a comparison of modelled results against observations and found that Ausplume was less conservative than observations.

URS therefore considers the numbers used in the risk matrix to be inappropriate and the risk assessment should have used the predicted frequency of occurrence of odour above 5 OU as an indication of potential harm to the beneficial use of the atmosphere.

### **Comparison of Updated and Initial ERA**

The initial ERA (GHD, 2008) considers the impact of dust and odour for a two shed complex housing 320,000 birds each, whilst the updated risk assessment considers the impact of odour from one shed housing 640,000 birds. The methodology used in the updated risk assessment for:

- Development of meteorology;
- Odour emission estimate; and
- Risk assessment,

is the same as that used in the initial ERA. The conclusions reached above for these issues therefore remain valid for the initial ERA.

There are, however, several important differences between the initial ERA and the revised ERA, including:

- Source description; and
- Evaluation of dust impacts.

### **Source Description**

One major difference between the modelling methodologies used in the initial ERA compared to the revised ERA is the emission points along the sides and ends of the shed rows in the initial ERA compared to the use of emission points at the end of the shed rows only in the revised ERA.

The revised ERA does not provide a diagram of the proposed shed design, and it is therefore not possible to determine whether the mini-air vents described and modelled in the initial ERA are likely to remain. The additional emission points on the side of the shed rows has the effect of spreading the initial emission over a larger area, and therefore diluting the emission prior to dispersion. Further clarification is therefore required as to the exact design of the shed in the revised ERA, and why the proponent did not model the sheds in the same manner.

## Executive Summary

### Evaluation of Dust Impacts

The initial risk assessment (GHD, 2008) considered potential impacts from both odour and dust emissions. It is noted that the dust impact study was omitted from the updated risk assessment. URS consider that the dust emission study should be completed as part of the ERA and included in the updated risk assessment.

The criteria used in the initial risk assessment (GHD, 2008) have been taken from the Victorian Broiler Code and the SEPP(AQM). It should be noted that these criteria have been developed from toxicity studies of particulate matter formed of rock and soil. In this instance, the particles are more likely to be of chicken litter, which may have an additional biological component not normally considered as part of a dust impact study. In the absence of dust criteria, specifically developed using toxicology data from exposure to dust derived from chicken litter, the criteria used present the next best level of assessment. URS considers, however, that given the nature of the dust generation the minimum level possible would be preferable.

### Emissions

Dust emission estimates were based on work undertaken by the APCRC in Mirrabooka with an additional factor added by the author of the ERA to account for the impact of temperature variation on emissions through the batch cycle. Due to the averaging period required for dust (1 hour) the SEPP(AQM), Victorian Broiler Code and the draft ERA guidelines require the use of the maximum emission rate for modelling purposes. The inclusion of temperature varying emissions through the batch cycle is, therefore, not considered appropriate for the modelling of dust, and the ERA should have used the maximum emissions as provided by the APCRC.

### Calculation of PM<sub>10</sub> Concentrations

The initial ERA (GHD, 2008) estimates potential PM<sub>10</sub> concentrations by determining through modelling that the TSP criteria is not exceeded at the nearby residences. The assessment (GHD, 2008) then considers a 'what if' scenario, hypothesising that if a receptor were to be at the criteria level of 183 µg/m<sup>3</sup> TSP, then the PM<sub>10</sub> concentration would be 69.5 µg/m<sup>3</sup> as at source PM<sub>10</sub> emissions are 38% of TSP emissions.

This is an incorrect assumption, as it ignores that the TSP particles are larger and therefore have more mass than PM<sub>10</sub> particles. This means that particles larger than 10 µm will deposit more quickly than PM<sub>10</sub>. The percentage of PM<sub>10</sub> emissions compared to TSP will therefore be higher at a receptor than at the source.

It is also noted that PM<sub>10</sub> concentrations presented do not include background concentrations. Whilst it is acknowledged that it is highly unlikely that PM<sub>10</sub> monitoring has been undertaken in the local area, EPA is often able to provide a representative background concentration for a region, which should be considered in the assessment.

It is therefore recommended that PM<sub>10</sub> concentrations are modelled for the new design, using a dispersion model, and taking in to account deposition, prior to a conclusion on the compliance with criteria.

## Executive Summary

### TSP Deposition

TSP is often considered nuisance dust, as deposition results in a layer of dust which is often noticeable after a period of time on window sills and roofs. Ausplume is also able to calculate deposition rates of TSP in terms of  $g/m^2$  over the averaging period selected. The EPA has provided criteria regarding acceptable levels of dust deposition in a month of no more than  $4g/m^2/month$  total deposition with no greater than  $2g/m^2/month$  increase on background levels.

### Predicted Impacts Adopting State Modelling Guidance

Modelling was undertaken using the guidance contained in the SEPP(AQM) using the maximum emission rates for odour and dust for the relevant times of the year for three scenarios:

1. Two shed complex housing 320,000 broilers each;
2. One shed housing 640,000 broilers; and
3. One shed housing 320,000 broilers.

The number of emission points used in the modelling adopted the approach used in the initial ERA for scenario 1 and the revised ERA for scenarios 2 and 3. The plume centre height in scenario 1 was modified from the 4m used in the initial ERA to half the shed height (1.7m) as recommended in the Ausplume online help menu. The plume centre height for scenarios 2 and 3 was set at 4m in accordance with the modelling in the revised ERA, as no data was available in the revised ERA regarding a description of the building.

Modelling used a meteorological data set for 2008, developed using the latest version of TAPM (version 4).

Predicted results indicate that maximum (99.9<sup>th</sup> percentile) odour concentrations will exceed the SEPP(AQM) design criteria for odour, both at the boundary and at the nearest sensitive receptors for all considered scenarios. The maximum impacts at sensitive receptors for the three scenarios may be summarised as:

- Scenario 1 – Two shed complex housing 320,000 broilers each:
  - Odour – 27 OU (SEPP(AQM) design criteria of 5 OU);
  - TSP –  $130 \mu g/m^3$  (Victorian Broiler code limit of  $183 \mu g/m^3$ ); and
  - $PM_{10}$  –  $33 \mu g/m^3$  (SEPP(AQM) intervention level  $60 \mu g/m^3$ ).
- Scenario 2 – One shed housing 640,000 broilers:
  - Odour – 76 OU (SEPP(AQM) design criteria of 5 OU);
  - TSP –  $457 \mu g/m^3$  (Victorian Broiler code limit of  $183 \mu g/m^3$ ); and
  - $PM_{10}$  –  $77 \mu g/m^3$  (SEPP(AQM) intervention level  $60 \mu g/m^3$ ).
- Scenario 3 – One shed housing 320,000 broilers:
  - Odour – 38 OU (SEPP(AQM) design criteria of 5 OU);
  - TSP –  $229 \mu g/m^3$  (Victorian Broiler code limit of  $183 \mu g/m^3$ ); and
  - $PM_{10}$  –  $37 \mu g/m^3$  (SEPP(AQM) intervention level  $60 \mu g/m^3$ ).

It should be noted that the concentrations predicted for TSP and  $PM_{10}$  do not include background concentrations, which are unknown for this location. The concentrations presented are therefore predicted contribution from the source only.

## Executive Summary

The lower predicted concentrations in scenario 1 compared to scenario 3, are the result of the modelling methodology that used more emission points for shed row in scenario 1 compared to scenario 2. This has the effect of spreading the initial emission over a wider area, resulting in a lower concentration.

Scenario 2 represents the current proposed design of the facility. Maximum predicted impacts at the nearest sensitive receptors for this scenario are above the assessment criteria used in Victoria. Odour at a level of 76 OU would be unacceptable and would generate complaints. A TSP level of 457  $\mu\text{g}/\text{m}^3$  as a 1-hour average, would result in visible dust plumes, and a 24 hour mean of 77  $\mu\text{g}/\text{m}^3$   $\text{PM}_{10}$  is potentially harmful to human health.

Given these results, URS would be recommended that the proponent mitigate these impacts prior to release to atmosphere, or change the design of the proposal so that the effects are ameliorated as recommended as stage 3 of the draft ERA guidelines for Victorian Broiler Farms.

## Recommendations

URS recommends that in the current form, the ERA (GHD, 2009) does not sufficiently demonstrate that the construction of the proposed broiler farm will result in a acceptable risk to the beneficial use of the surrounding environment. The methodology used in the ERA is not conservative, and URS considers that the impacts presented are under-estimated. URS considers that if the ERA had followed the guidelines for modelling and assessment contained in the SEPP(AQM), the Victorian Broiler Code and the draft ERA guidelines, a stage 3 assessment would have been required. Stage 3 would require the proponent to revisit the proposal and mitigate potential impacts.

URS recommends that Council require the ERA to be re-submitted following the guidance provided in the SEPP(AQM), the Victorian Broiler Code and the draft ERA guidelines for odour and dust modelling. URS also considers that the Victorian Broiler Code requires that a noise assessment is undertaken; to URS' knowledge this was did not form part of the scope for the GHD reports. The assessment should incorporate:

- Meteorological modelling using TAPM version 4 to ensure that low wind speeds are accurately characterised in the dispersion modelling;
- Dust emissions using maximum emission rate expected at a particular time of year (seasonal variation only) with background concentrations for:
  - TSP – Concentration and deposition rates;
  - $\text{PM}_{10}$  – Concentration (this should be modelled and not calculated based on source  $\text{PM}_{10}$  to TSP ratios).
- Odour emissions using maximum emission rate expected at a particular time of year (seasonal variation only);
- Assessment using the 99.9<sup>th</sup> percentile results for averaging periods of 1 hour or less as required by the SEPP(AQM), Victorian Broiler Code and draft ERA guidelines;
- Noise assessment as required by the Victorian Broiler or discussion as to why this is not required.
- Risk assessment considering the number of periods that exceed 5 OU, 189 $\mu\text{g}/\text{m}^3$  TSP, 80 $\mu\text{g}/\text{m}^3$   $\text{PM}_{10}$  and noise criteria at the boundary and at the nearest sensitive receptor during all periods of the day and night.
- Discussion on the required buffer distance developed using dispersion modelling as required by the Victorian Broiler Code.

## Introduction

URS Australia Pty Ltd (URS) was engaged by Colac Otway Shire Council (Council) to review the updated environmental risk assessment (ERA) (GHD, 2009) undertaken for proposed broiler farm at Pierces Road, Beeac and to compare the updated ERA (GHD, 2009) with the original submission (GHD, 2008).

Lemic Investments Pty Ltd (Lemic Investments) originally proposed to build and operate a complex with two broiler sheds to house 320,000 birds each. An ERA (GHD, 2008), focussing on odour and dust impacts, was undertaken on behalf of Lemic Investments to determine the potential impact of the proposed broiler farms on surrounding land use.

Subsequent to the initial ERA (GHD, 2008), Lemic Investments have submitted an alternative proposal to have one broiler house with 640,000 birds. The ERA for the revised proposal (GHD, 2009) concludes that the impact for the new design would be greater on residences surrounding the proposed site than the initial proposal.

This review examines the suitability of the study for determining impacts on the surrounding area by:

- Reviewing the revised ERA to identify any parts of the methodology that may have implications for the results;
- Qualitatively and quantitatively assessing the methodology adopted;
- Providing a comparison of the two broiler farm proposals; and
- Providing a review (this document) to Council.

## ERA Methodology Review

URS has undertaken a review as of the assessment methodology used in the ERA (GHD, 2009) to ensure that the results were reached using a methodology consistent with regulatory requirements and to determine whether the approach ensures the protection of the beneficial use of the atmosphere. The review of the methodology has incorporated:

- Meteorological data;
- Emission estimation;
- Assessment criteria;
- Dispersion modelling; and
- Risk assessment.

### 2.1 Meteorological Data

Meteorological data used in the dispersion modelling for the ERA (GHD, 2009) was developed using The Air Pollution Model (TAPM) developed by CSIRO. TAPM is an incompressible, non-hydrostatic, primitive equation model with a terrain-following vertical co-ordinate for three-dimensional simulations. It includes parameterisations for cloud/rain micro-physical processes, turbulence closure, urban/vegetative canopy and soil, and radiative fluxes. In essence, TAPM uses historical synoptic data (pressure maps) along with terrain and land use information to define near surface and upper air meteorology.

The 2002 meteorological file used in the ERA was the same one developed for a project at the Rinker Colac Quarry Site approximately 10 km to the south-west of the proposed Broiler Farm using version 2 of TAPM. It is noted that there are no major terrain features between the Rinker Colac Quarry Site and the proposed Broiler Farm, indicating that surface and upper air meteorology at the two locations would be similar.

Since development of the meteorological file for the Rinker Colac Quarry Site in 2002, CSIRO has released two major updates (version 3 and version 4) of the TAPM software. The most recent development, version 4, was released in the second half of 2008 and was available for use in the ERA.

The model developers, CSIRO, have stated that Version 4 of TAPM is able to more accurately predict lower wind speeds than previous versions. This is an important consideration, as low wind speeds, result in higher predicted concentrations for ground based sources. To determine whether the use of TAPM version 4 would have altered the results compared to the use of TAPM version 2, a comparative study was undertaken.

#### 2.1.1 Metrological Modelling

This section compares meteorological data used in the ERA with a TAPM output developed using version 4 of the software to produce a meteorological dataset for the site. Table 2-1 shows a comparison of the settings used in the ERA against settings used to develop an updated meteorological dataset for the site, with a description and reasoning between model set up detailed below.

## 2 ERA Methodology Review

### **Model Version**

The meteorological data included in the ERA was developed using version 2.0 of TAPM as this was the version available when the data was created for Rinker Colac Quarry Site. Since development of the meteorological data CSIRO has released two major revisions to the software. The latest revision, version 4, offers the following major improvements for meteorological file generation over previous versions:

- Correction to coordinate system for the GEODATA Australian terrain height database provided with TAPM GUI, to shift from AGD66/AGD84 (as used in v1 of GEODATA) to the GDA94 system (essentially the same as the WGS84 system used for all of the global datasets provided with TAPM);
- Global soil type database (soil.glo) at 2-minute resolution (Thatcher, 2008) added to the default databases;
- Monthly varying global vegetation Leaf Area Index (LAI) database (monthly climatology) (flai.glo) at 2-minute resolution (Thatcher, 2008) added to the default databases;
- New Land Surface and Turbulence Schemes are now the recommended defaults;
- The old Maximum Synoptic Wind Speed option in the Advanced Section of the Optional Input – Meteorology Window has been re-configured into a time-step scaling factor; and
- Several old options (synoptic scaling and filtering, for simpler synoptic options) in the Advanced Section of the Optional Input – Meteorology Window have been removed.

CSIRO have determined that TAPM version 4 is able to more accurately predict lower wind speeds than previous versions. This is especially important when considering dispersion from a volume source, as low wind speeds with high stability are likely to result in the worst predicted impacts at nearby receptors.

URS developed a meteorological dataset using version 4 of TAPM rather than version 2 to define any significant differences between the model results.

### **Model Year**

In dispersion modelling it is usual to use the most recent full year of data available. This ensures that the modelling uses meteorological patterns that have happened recently.

### **Grids**

TAPM uses a nested grid format with the outer grid providing input to the next smaller grid until the smallest defined grid is reached. At each step down in grid size, the resolution of terrain and landuse becomes greater.

CSIRO recommends that the outer grid domain is somewhere between 400km X 400km and 1000km X 1000km to:

*Remove the boundary regions as far away as possible from the region of interest [CSIRO, 2008]*

The outer domain used in the meteorological model used in the ERA was 732km X 732km, whilst the outer domain defined by URS for this comparison was 900km X 900km. Both domain sizes are considered suitable by CSIRO for use in TAPM.



## 2 ERA Methodology Review

CSIRO also recommends that the ratio of grid spacings between one nest and the next is in the range of 2 to 4. Both the meteorological model used in the ERA and that created by URS for this comparison uses ratios within this range.

Both the ERA and remodelling by URS have used an inner-grid size of 1km. In non-complex terrains, an inner grid of 1 km is considered suitable to define local meteorology.

URS used approximately half the number of grid points defined in the creation of the meteorological model used in the ERA. As the goal is to extract from TAPM an Ausplume compatible file at one location, the use of a 30 X 30 point grid (URS) compared to a 61 X 61 point grid (ERA) will not affect the comparison as long as the parameters discussed above are in the range recommended by CSIRO.

### Landuse

The meteorological modelling used in the ERA used aerial photographs, site visits and land use planning maps to refine the land use maps in TAPM. The URS modelling completed for this review has used the updated land use maps contained in TAPM version 4.

The exact differences between the land use maps used in the meteorological modelling used in the ERA and that completed by URS for this comparison are unknown. It is therefore difficult to qualitatively comment on potential effects on the meteorological modelling.

### Leaf Area Index

Version 4 of TAPM uses monthly varying leaf area index (LAI) files at 2-minute resolution. This database was not available in version 2. The varying LAI results in differing amounts of insolation reaching the ground depending on the time of year and the amount of LAI within each grid cell. This affects both surface temperature predictions and air flows that are not dominated by weather systems, and is one of the factors that has helped version 4 to better define lower wind speeds.

**Table 2-1 TAPM parameters used in ERA and updated meteorology completed for this review**

| Parameter                                                                      | ERA Setting                                              |      |      | Updated settings                                               |      |      |
|--------------------------------------------------------------------------------|----------------------------------------------------------|------|------|----------------------------------------------------------------|------|------|
| Model Version                                                                  | 2.0                                                      |      |      | 4.0                                                            |      |      |
| Model Year                                                                     | 2002                                                     |      |      | 2008                                                           |      |      |
| Grid Size                                                                      | 61 X 61                                                  |      |      | 30 X 30                                                        |      |      |
| Nested Grids                                                                   | 3 Nested Grids<br>• 12,000m<br>• 3,000m; and<br>• 1,000m |      |      | Nested Grids<br>• 30,000m<br>• 10,000m<br>• 3,000m<br>• 1,000m |      |      |
| Deep soil volumetric moisture contents (January to December – read row by row) | 0.15                                                     | 0.15 | 0.15 | 0.15                                                           | 0.15 | 0.15 |
|                                                                                | 0.15                                                     | 0.15 | 0.20 | 0.15                                                           | 0.15 | 0.20 |
|                                                                                | 0.25                                                     | 0.25 | 0.20 | 0.25                                                           | 0.25 | 0.20 |
|                                                                                | 0.20                                                     | 0.20 | 0.15 | 0.20                                                           | 0.20 | 0.15 |

## 2 ERA Methodology Review

| Parameter                 | ERA Setting                                                         | Updated settings                                                          |
|---------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------|
| Landuse                   | Based on aerial photographs, site visits and land use planning maps | Based on TAPM internal database in itself based on satellite measurements |
| Leaf Area Index           | Not Available in version 2                                          | TAPM internal database of leaf area index for grids modelled              |
| Precipitation Processes   | Included                                                            | Included                                                                  |
| Non-hydrostatic processes | Not included                                                        | Not included                                                              |
| Data extraction location  | Potters Road, Ondit (Rinker Colac Quarry Site)                      | Pierces Road, Beaac (the proposed site)                                   |

### Mixing Depth

URS notes that the example Ausplume setup files included in the appendices states that:

*METEOROLOGICAL DATA: TAPM MET FILE – MODIFIED TO INCREASE MIX DEPTHS.*

This information is taken from the header line of the meteorological file included in the Ausplume modelling. Usually, a TAPM generated Ausplume format meteorological file has the header line 'AUSPLUME METFILE'. This change of header line indicates that the meteorological file used in the modelling has been altered by the modeller, however, there is no discussion in the ERA as to why or how mixing depths needed to be modified from the initial TAPM output.

Increasing the mixing depths in the meteorological file will result in lower predicted concentrations during the most stable conditions, as an increased mixing depth will result in more atmosphere in which to dilute the emissions.

### 2.1.2 Comparison of Meteorological Modelling

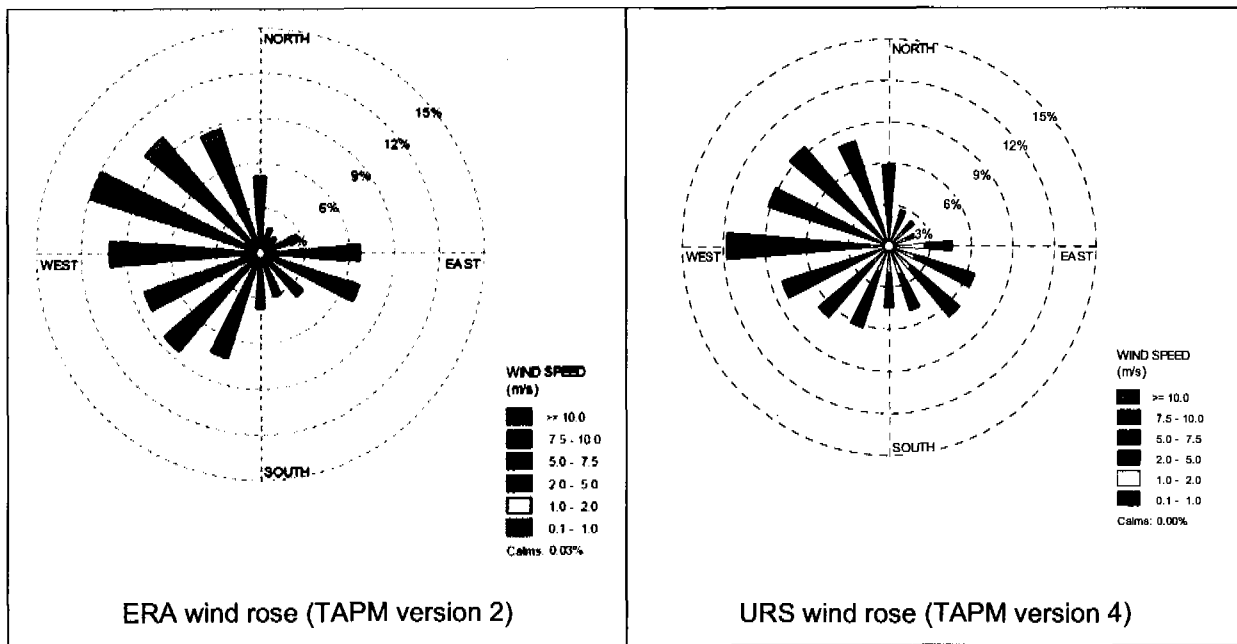
Each of the sheds within the proposed module have been modelled as a volume source with odour emissions occurring from one end of the building. The main meteorological factors that influence dispersion from a volume source are wind speed, wind direction and to some extent atmospheric stability. This is because the emissions have no vertical velocity, are limited to the lower part of the atmosphere near to the ground and are dispersed and diluted along the ground as the wind moves the emission from source to receptor.

### Wind Speed and Direction

Figure 2-1 shows a comparison of a wind rose of the data used in the ERA against a wind rose generated for 2008 at the site using the parameters described above.

## 2 ERA Methodology Review

**Figure 2-1 Comparison of wind data used in ERA (left) using 2002 synoptic data and TAPM version 2.0 with URS estimated wind data (right) using 2008 synoptic data with TAPM version 4.0**



The frequency of wind direction is not substantially different between the two wind roses shown in Figure 2-1. This suggests that in terms of frequency of direction, one meteorological year may be considered analogous to another. The main difference between the two wind roses is that the data developed using TAPM version 2.0, and used in the ERA, suggests that there is a very low occurrence of winds between 1.0 m/s and 2.0 m/s, whilst the data developed by URS using TAPM version 4.0 suggests that there is a higher occurrence of winds at these speeds. The higher proportion of lower wind speeds in the URS model was an important development in TAPM version 4.0 which CSIRO have stated more accurately reflects lower wind speeds [CSIRO, 2007].

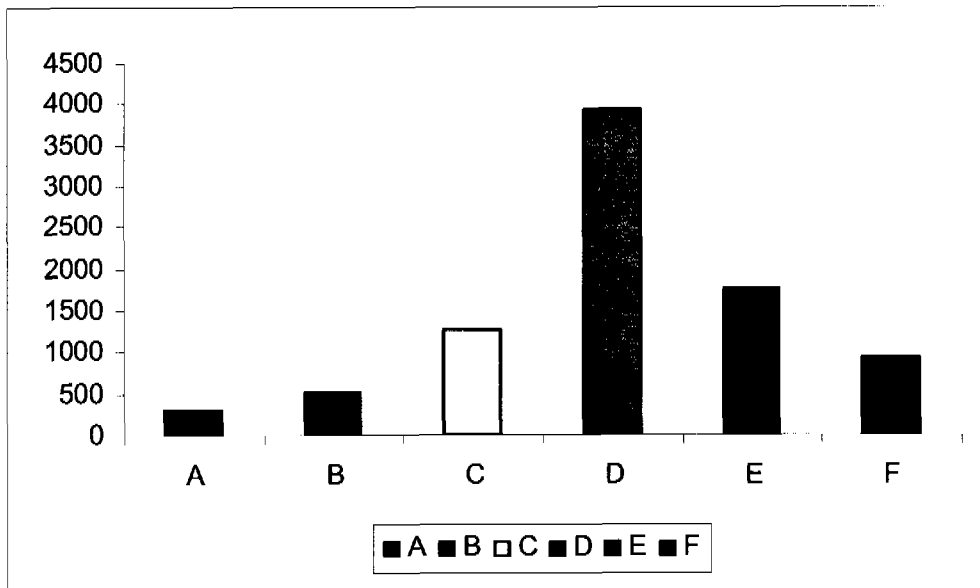
Low wind speeds are an important consideration when modelling ground based sources, as they result in higher concentrations at receptors. This is because lower wind speeds generate lower amounts of mechanical turbulence, thus resulting in a lower degree of mixing at ground level. The lower wind speeds predicted by the most recent version of TAPM would result in higher ground level concentrations than presented in the current ERA.

### **Atmospheric Stability**

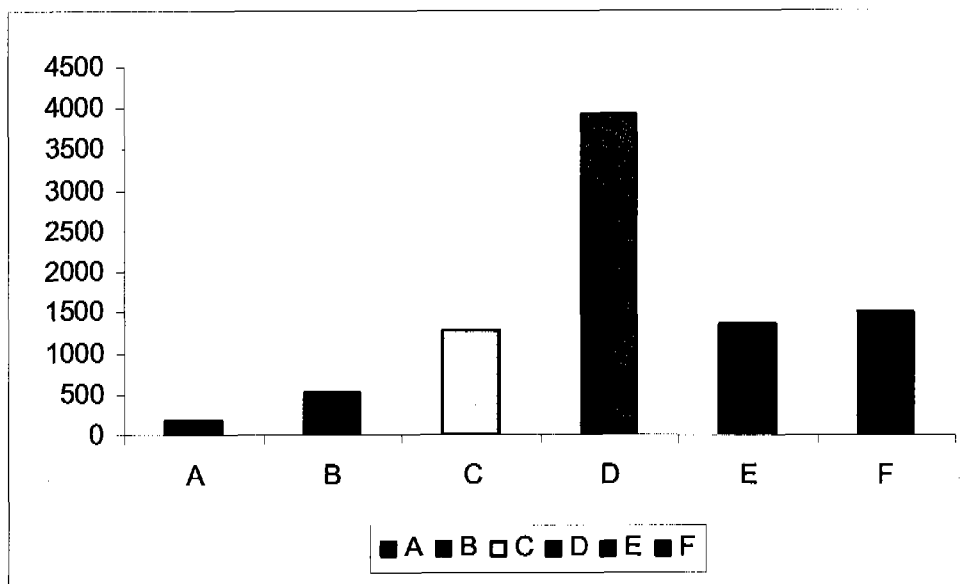
Figure 2-2 shows a comparison of the atmospheric stability used in the ERA as estimated by TAPM version 2, and the stability estimated by URS using TAPM version 4.

## 2 ERA Methodology Review

**Figure 2-2 Comparison of atmospheric stability categories estimated by TAPM version 2 and used in the ERA (top) with TAPM version 4**



Stability Classes used in ERA defined using TAPM Version 2



Stability Classes developed by URS using TAPM Version 4

The proportion of hours in categories B to D is approximately the same in both instances, however there is a slightly lower proportion of hours designated as Category A (highly unstable) and Category E (Stable), with more hours designated category F (highly stable) in the estimation by TAPM version 4 compared to TAPM version 2. This is due to the ability of TAPM version 4 to more accurately characterise the lower wind speeds, resulting in a higher degree of atmospheric stability than previous versions [CSIRO, 2007].

## 2 ERA Methodology Review

More stable atmospheres also mean that the boundary layer is at a lower level in the atmosphere. Emissions are generally unable to pass through the boundary layer, unless they are very hot, or they have a high vertical velocity. For ground based sources, such as those from the proposed broiler shed, a lower boundary layer essentially means that there is less atmosphere in which to disperse and dilute the emissions, resulting in higher ground level concentrations.

Use of the most recent version of TAPM (version 4) in the ERA, rather than data estimated using TAPM version 2, would have resulted in higher predicted ground level concentrations due to the ability of the new version of the model being able to more accurately characterise low wind speeds [CSIRO, 2007].

### 2.2 Emission Estimation

The ERA undertakes emission estimation using a methodology developed by the author of the assessment, and uses the formula described in Equation 2-1.

**Equation 2-1 ERA Emission Factor calculation for odour emission rate (taken from ERA)**

$$OER / shed = Age\_Factor(wk) \times \left( \frac{\#birds}{1000} \right) T_F$$

Where: OER is the Odour emission rate

Age\_Factor(wk) is the age factor derived from the age of the broilers in weeks

Temperature Factor  $T_F = 51.12 * T(^{\circ}C) - 458.2$

T is temperature in degrees Celcius

At  $T > 24.3^{\circ}C$ ,  $T_F = 800$

At  $T < 12.3^{\circ}C$ ,  $T_F = 200$

The ERA states that:

*“Most recently both Rural Industry Research Development Corporation (RIRDC) and APCRC have funded extensive broiler shed OER surveys in Queensland and Victoria respectively. These studies are ongoing and unfortunately interim results cannot be made available. Hence to the author’s knowledge, the equations for the OER adopted here represent the best available measurement data for tunnel broiler shed”.*

A literature search by URS has identified three papers that describe odour emission rates from tunnel broiler sheds in Australia (Jiang et al. 2000, Scorgie et al. 2007 and Gallagher et al. 2007). Table 2-2 shows a comparison of the expected odour emission rates from the proposed broiler sheds as calculated using the calculation method contained in the ERA and that described in the three identified papers.

The RIRDC report and the paper by Gallagher et al., present average emission rates for the entire year, and do not provide detail on variation in emissions through the growth cycle or between summer and winter.

The maximum emission rate used in the ERA is approximately 40% and 163%, for winter and summer respectively, of the annual mean emission rate estimated using the RIRDC report and Gallagher et al.

## 2 ERA Methodology Review

The annual average emission rate used in the ERA, taking in to account variation in the growth cycle and the differences between summer and winter is 162,800 OU/s, compared to an annual average emission rate of 308,961 OU/s and 312,960 OU/s estimated by RIRDC and Gallagher et al.

The paper by Scorgie et al., provided a limited measurement campaign that did not take measurements throughout the growth cycle. It is therefore difficult to compare the results from Scorgie et al. with emission estimates used in the ERA. Limiting comparison to weeks where measurement was taken by Scorgie et al., there is good agreement between the emission estimation in winter, however in summer the results indicate that estimates used in the ERA are approximately double those provided by Scorgie et al.

**Table 2-2 Estimated emission rate using ERA methodology and three other methodologies developed in Australia**

| Week          | ERA     | Jiang et al.<br>(RIRDC) | Scorgie et al. | Gallagher et al. |
|---------------|---------|-------------------------|----------------|------------------|
| <b>Winter</b> |         |                         |                |                  |
| 1             | 7,168   | 308,961                 |                | 312,960          |
| 2             | 9,472   |                         | 5,984          |                  |
| 3             | 30,720  |                         | 23,507         |                  |
| 4             | 79,360  |                         | 70,030         |                  |
| 5             | 128,000 |                         |                |                  |
| 6             | 122,880 |                         |                |                  |
| 7             | 74,240  |                         |                |                  |
| 8             | 69,120  |                         |                |                  |
| <b>Summer</b> |         |                         |                |                  |
| 1             | 28,672  | 308,961                 |                | 312,960          |
| 2             | 37,888  |                         | 1,638          |                  |
| 3             | 122,880 |                         |                |                  |
| 4             | 317,440 |                         |                |                  |
| 5             | 512,000 |                         | 261,007        |                  |
| 6             | 491,520 |                         |                |                  |
| 7             | 296,960 |                         | 173,339        |                  |
| 8             | 276,480 |                         |                |                  |

On balance, it is considered that the emission estimation provided in the ERA gives a reasonable estimation of the expected emissions likely to occur from the proposed development. The application of the estimated emissions, discussed in Section 2.3 does not, however, correlate with the requirements of the State Environment Protection Policy for Air Quality Management (SEPP(AQM)), the Victorian Broiler Code or the requirements of the draft ERA guidelines included in Appendix C of the ERA.

## 2 ERA Methodology Review

### 2.3 Assessment Criteria

Schedule A of the SEPP(AQM) provides a design criterion of 1 OU for general odours, equivalent to the detection threshold (50% of the population) for odour. For industries involving intensive animal husbandry, Schedule A states that:

*Completion of a risk assessment that include modelling of emission showing that the predicted maximum odour levels modelled in accordance with Schedule C do not exceed five times the odour detection threshold (3-minute averaging time, 99.9 percentile) at and beyond the property boundary.*

The Victorian Code for Broiler Farms (DPI, 2001) states that assessment in ERAs should use the following design criterion:

*99.9 percentile of model predictions of maximum odour levels (calculated as three-minute averages) shall not exceed five odour units (that is, five times the odour detection threshold as measured with EPA Method B2) at and beyond the boundary buffer.*

The assessment criteria (SEPP(AQM) and Victorian Broiler Code) have, in general, been used throughout the ERA. The ERA makes reference, however, to a VCAT decision in the Lethbridge case which accepted the use of the 99.5<sup>th</sup> percentile for dispersion modelling rather than the 99.9<sup>th</sup> percentile as recommended in the SEPP(AQM) and the Victorian Code for Broiler Farms. It is recommended that Council do not take in to account the comments on the results using the 99.5<sup>th</sup> percentile, as this calculation is not supported by legislation or the code for the industry.

### 2.4 Dispersion Modelling

Dispersion modelling has been undertaken using the regulatory model Ausplume version 6.0. Given the relatively flat nature of the terrain surrounding the site and the distance of the proposed site to the ocean, this is considered to be an appropriate choice of model.

Three relevant documents provide guidance on the recommended practice for dispersion modelling of odour from broiler farms:

- SEPP(AQM);
- Victorian Broiler Code, 2001; and
- Draft ERA guidelines.

#### 2.4.1 SEPP(AQM)

Schedule C of the SEPP(AQM) provides guidance as to the methodology for dispersion modelling of emissions in Victoria. For the most part, the ERA has followed the requirements of Schedule C with exception the exception of the provisions contained in Section 4. This clause states that proponents must estimate the 'worst case' emissions of the pollutant and that:

- a) Estimates of emission rates must be based on the 'worst case' scenario during normal operations, with any uncertainty in the estimates erring on the side of conservatism.*
- b) For non-continuous emissions, where the time period of the emissions is less than the relevant averaging time, then the duration of the emissions should be specified in the model simulation. In all other cases the 'worst case' emissions must be assumed to be continuous*

## 2 ERA Methodology Review

- c) *In cases where an alternative model to the currently approved version of the regulatory model is used, the proponent must demonstrate to the Authority that the appropriate techniques are used to describe the sources and estimate the emissions as part of the modelling proposal.*

The use of the worst case emissions to be modelled 24 hours a day 365 days a year is a conservative approach to assessment. This ensures that the highest emissions will coincide with worst case meteorology for dispersion and ensure that in future years the ground level concentrations will not be worse than those predicted. Use of a time varying emission does not guarantee coincidence of highest emissions with worst meteorology for dispersion and does not ensure that the worst case potential impacts are presented in the assessment.

### 2.4.2 Victorian Broiler Code

The Victorian Broiler Code echos the requirements of the SEPP(AQM) stating that:

*Using a mathematical dispersion model approved by the EPA, concentrations of odour and dust arising in the air environment (from 'worst case' emissions from the site) may be predicted. The maximum concentrations for particular meteorological conditions, including concentrations at the boundary of the nearest sensitive land use, can be identified from the model's outputs.*

It is URS' view that the requirements of the Victorian Broiler code in the application of emission estimations in dispersion modelling is clear and unambiguous, especially when read in conjunction with the requirements of the SEPP(AQM). This means that the industry code also requires the use of maximum emissions at all times throughout the year.

### 2.4.3 Draft ERA Guidelines

The ERA for the proposed boiler shed discusses the ambiguity of guidance given in the draft ERA guidelines. The draft ERA guidelines (DPI, 2009) state:

*Odour Emission rates must be based on the 'worst case' scenario during normal/routine operations. That is the emission rates must be used which take into account peak odour generation during normal operations. In broiler farms the peak odour generation is likely to be weeks 5-8 during a batch. Normal operations include the impact of batch cycles across the year.*

URS considers that the final sentence in the draft ERA guidelines reinforces the fact that peak odour emissions could occur at any time of the year. It is URS' view that the draft ERA guidelines therefore maintain consistency with the modelling methodology provided in the SEPP(AQM) and the Victorian Broiler Code, as it applies worst case emissions that are likely to occur in predominant meteorological conditions at different times of the year. This preserves the intent of the SEPP(AQM) in the beneficial use of the atmosphere.

The revised ERA (GHD, 2009) takes the view that the draft ERA guidelines are ambiguous and that:

*This text seems to allow the progressive increase in shed OER during batch growout (the so-called batch 'age factor') to be used in modelling...*

In interpreting the Draft ERA guidelines as providing indication that variation odour emissions throughout the batch cycle should also be taken in to account and disregarding the clear guidelines provided in the SEPP(AQM) and the Victorian Broiler Code, URS considers that the modelling is likely to under-estimate maximum odour impacts, unless by coincidence, the maximum odour emission has coincided with the worst meteorological condition in the dispersion modelling.



## 2 ERA Methodology Review

### 2.4.4 Results

Percentile calculations are recommended for periods of 1 hour or less. This is to discount the possibility of unusual meteorology unduly influencing the model results. The SEPP(AQM), the Victorian Broiler Code and the Draft ERA guidelines promote the use of a 99.9<sup>th</sup> percentile as this discounts the top nine results as potentially being influenced by unusual meteorology in the selected meteorological year.

The contour plot for the 99.9<sup>th</sup> percentile predicts concentrations at the boundary of 100 OU (twenty times the guidance criteria) and at the most exposed property of approximately 10 OU (twice the guidance criteria).

When consideration is also given to the potential under-estimation in the modelling due to the use of a time varying emission factor for the batch growth, the potential for harm to the beneficial use to the atmosphere is high.

## 2.5 Risk Assessment

The ERA attempts the adoption of a FIDOL (Frequency Intensity Duration Offensiveness and Location) approach, recommended by the New Zealand Ministry of the Environment. The adoption of this approach is not consistent with Schedule A and C of the SEPP(AQM), nor is it consistent with the recommended methodology set out in the draft ERA guidance.

On balance, however, URS considers that the FIDOL approach is consistent with the intent of the SEPP(AQM), as FIDOL aims to take account of all factors that influence how odour is perceived in the community. The approach outlined by New Zealand's Ministry of the Environment is therefore considered to protect beneficial uses of the atmosphere, if it is applied correctly. It should be noted, that the ERA does not attempt to account for the offensiveness of odour generated by broiler farms.

In the first instance, the ERA uses the 5 OU, 3-minute average to define potential impact at the surrounding residential receptors and presents the results as a time series. This is then followed by an examination of the frequency of occurrence and the duration of odour events.

The ERA proceeds to develop a risk matrix to account for the potential of a complaint resulting from the levels predicted by the modelling.

### 2.5.1 Time Series

The use of time series plots to show exceedance of 5 OU, as a 3-minute average, is consistent with the modelling guidance contained in the Draft ERA guidelines.

The ERA then deviates from the guidelines by excluding exceedances of 5 OU occurring during 'sleep hours' defined as 12am to 5am for this locality. This exclusion is based on the presumption that odour levels would need to be in excess of 10,000 OU before sleep is interrupted.

Whilst it is accepted that the ability to detect odour is diminished during sleep, no reference is provided to support a figure of 10,000 OU. URS consider this level to be exceptionally high, and a level of 10,000 odour units would be likely to cause nausea and headaches. As no reference is given as to the impact of sleep on an 'offensive' odour concentrations, URS consider it prudent to maintain a 5 OU criteria to prevent impact to the surrounding community. The filtering of concentrations between 5 OU and 10,000 OU between 12am and 5am removes the worst impacts from the risk assessment, as the most stable conditions, resulting in the highest odour concentrations occur at this time.

## 2 ERA Methodology Review

Even with the filtering of concentrations between 12am and 5am, the modelling continues to indicate exceedances of the 5 OU criteria with maximum impacts of more than 60 OU at the most exposed residence on Pierces Road and approximately 15 occurrences of odour greater than 10 OU.

This approach also assumes that a house acts like any other point in the model domain, that the odorous air is able to pass in one side and out the other. URS consider it more likely that odours may concentrate in the house resulting in higher concentrations than outside, odour may also linger in doors when it has dispersed in the open air.

### 2.5.2 Occurrence Frequency

The risk analysis presents the frequency of occurrence of odour concentrations greater than 5 OU by hour of day. This analysis indicates that the majority of exceedances of the 5 OU criteria occurs between sunset and sunrise, with the highest number of occurrences in the early hours of the morning. This frequency distribution is consistent with typical incidence of a stable atmosphere, and low wind speeds, resulting in poor dispersion.

The risk analysis then attempts to discount those exceedances that predicted to occur after sunset and before sunrise, as this is when stable atmospheres and light winds are likely are predominant. This approach is incorrect; the impact will continue after sunset as the emissions will continue to occur from the broiler farm. In addition, URS considers that between sunset and sunrise residents are more likely to be at home, than during daylight hours; thereby increasing the potential impact. More attention should, therefore, be given to the evening impacts than to the day time impacts.

### 2.5.3 Risk Matrix

The ERA then uses a risk matrix to assess the likelihood of modelled concentrations resulting in complaints. This approach assumes that complaints are a demonstration of harm to the beneficial use of the atmosphere, of which protection, is the intent of the SEPP(AQM). URS considers that beneficial use is harmed when odour is detectable, and prior to the complaints being generated, which often occurs at higher concentrations than detection.

This risk matrix sets out the ranges of intensity as being equivalent to concentration, and uses the following definitions:

- |                                              |             |
|----------------------------------------------|-------------|
| • <i>Detection above background ambient</i>  | 5 – 10 OU   |
| • <i>Recognition from background ambient</i> | 20 – 50 OU  |
| • <i>Annoyance</i>                           | 40 – 100 OU |

The ERA states that the definitions are based on a comparison of model results with complaint data, however no data or reference is provided to support these definitions, nor does the ERA state whether this determination was based on modelling of other broiler farms. URS notes that the definitions used for the odour ranges are different to those typically used in odour assessment (UK Environment Agency, 2002):

- 1 OU is the point of detection;
- 5 OU is a faint odour; and
- 10 OU is a distinct odour.

## 2 ERA Methodology Review

Based on the previous work, the ERA assumes that Ausplume over predicts ground level odour concentrations, and thus dispersion model results can be higher and not result in complaints. This conclusion is in contrast to results determined by EPA (Edgar et al., 2007) where a comparison of the monitoring and modelling of broiler farm emissions found that:

*The results of the comparison showed that officers were detecting slight to distinct odour, when Ausplume was predicting levels below 1 OU.*

Furthermore, the development of the criteria contained in the risk matrix does not reference the requirements of the SEPP(AQM), the Victorian Broiler Code or the Draft ERA guidelines in considering 5 OU, 99.9<sup>th</sup> percentile 3-minute average to be a level at which odours are likely to result in harm to the beneficial use of the atmosphere.

Given the requirements of the SEPP(AQM), the Victorian Broiler Code, the Draft ERA guidelines and the findings by EPA, URS does not consider that the adopted risk matrix for odour impact meets the requirements of the guidance documents. For example, the risk matrix suggests that an modelled odour impact (99.9<sup>th</sup> percentile, 3-minute average) between 5 OU to 10 OU (faint to distinct odour), with occurrences more than 52 times a year is an low risk. Conversely, the guidance documents suggest modelled concentrations should be below 5 OU, 99.9<sup>th</sup> percentile, 3-minute average at all times.

To provide consistency of the ERA with the guidance documents, URS recommends a concentration of 5 OU should be used as the Intensity, within the FIDOL assessment, beyond which an impact is considered. The Frequency and Duration should be measured by the number of times and duration that concentrations exceed 5 OU at each of the surrounding sensitive receptors (Location). This satisfies four of the five standards in the FIDOL approach whilst maintaining consistency with the requirements of SEPP(AQM), the Victorian Broiler Code, the Draft ERA guidelines and the findings by EPA.

## 2.6 Recommendations

### 2.6.1 Meteorology

TAPM version 4 is able to more accurately characterise the lower wind speeds that are likely to result in worst case dispersion [CSIRO, 2007]. TAPM version 4 was available at the time the ERA was prepared, however, results from TAPM version 2 were used in the assessment. In order to characterise the meteorology of the local environment as accurately as possible, it is recommended that TAPM version 4 is used.

### 2.6.2 Emission Estimate

The emission estimation method used by the ERA produces the highest maximum odour emission rate compared to other available studies. If the maximum odour emission rates for summer and winter had been used in the modelling methodology, as required by the SEPP(AQM) and the Victorian Broiler Code, rather than a time varying emission factor dependant on the age of the broilers, the emissions estimate would be considered suitable.

## 2 ERA Methodology Review

Use of the time varying factor reduces the use of the emission estimates to a pseudo-annual average odour emission rate. When the average of the emission estimates used in the ERA is considered, this results in an estimate of approximately half of other available studies.

It is recommended, that to preserve conservativeness of the model, the maximum odour emission rate should be used with seasonal variation. This takes account of the highest potential odours emitted during winter and summer and the meteorology that is likely to occur at these times of year to ensure the coincidence of the worst case emission rates and meteorology does not result in harm to the beneficial use of the atmosphere.

### 2.6.3 Modelling Methodology

The modelling methodology used in the ERA assumes that the first batch will occur on the first day of January each year, and that every year has exactly the same meteorology on each day. As this is unlikely, URS recommends that modelling should be undertaken using the maximum emissions likely in each season. Whilst this approach is conservative, as the maximum emissions will not occur all the time, this approach provides confidence that the maximum emissions may occur in all meteorological conditions without the risk of harm to the beneficial use of the atmosphere.

### 2.6.4 Risk Assessment

The draft ERA guidelines (Stage 2) requires the use of the time series plots and the frequency of distribution above 5 OU at the nearest sensitive receptors to be used to demonstrate why the proposal is acceptable or of low risk to the surrounding community.

In URS' opinion, the risk assessment does not demonstrate low or acceptable risk to the surrounding community as the assessment focuses on exceedances of 5 OU at sensitive receptors during daylight hours only. The risk assessment attempts to discount evening and night time occurrences of odour above 5 OU as:

- Post sunset hours result in incidence of poor dispersion; and
- Between 12am and 5am the population will be asleep, with a level of 10,000 OU required to wake a sleeping person.

The risk assessment should take account of hours during the evening and night as:

- Odour will continue to be emitted after sunset;
- Residents are more likely to be at home;
- Stable atmospheres account for the worst impact which should be accounted for;
- The figure of 10,000 OU causing a person to wake up is unsubstantiated; and
- There is no guarantee that the population would be asleep between 12am and 5am.

The risk assessment presents a matrix based on modelling and observations from previous work undertaken by the author. The ERA does not provide a reference to the previous work, or information in an appendix detailing the basis of the work for which matrix was constructed. There could be any number of reasons in a different situation why modelled odour concentrations do not match model results, including:

- Incorrect model setup;
- Unusual meteorology;
- Different odour character; or
- Unresponsive population.

## 2 ERA Methodology Review

Additionally, the inference in the matrix that Ausplume over-predicts concentrations compared to odour concentrations that are likely to result in complaints, is countered by EPA who have published details of a comparison of modelled results against observations and found that Ausplume was less conservative than observations.

The number of exceedances of 5 OU shown in the ERA at residence 2 and 4 (31 and 26 respectively) with predicted concentrations in excess of 40 OU is considered to be an unacceptable risk. In URS' opinion, the ERA should have progressed to stage 3, with the consideration of mitigation options and redesign of the system.

### 2.6.5 Other Considerations

The revised ERA does not consider dust or noise, and does not make reference to the dust assessment completed in the initial ERA. It is recommended that the revised ERA includes a dust and noise emissions study in accordance with the Draft ERA Guidelines.

## Comparison of Initial with Revised ERA

The initial ERA considered the impacts of both dust and odour for two sheds each housing 320,000 birds, whilst the revised ERA considers only the impact of odour for one shed housing 640,000 birds.

### 3.1 Modelling Methodology

Overall, the modelling methodology used in the initial ERA and the revised ERA were similar, however there are some notable exceptions, including the use of multiple emission points for each row in the initial ERA, but only one emission point per row in the revised ERA.

#### 3.1.1 Emission Points

The initial ERA considered a two shed complex, separated by a distance of approximately 550m. Each of the sheds was split in to six rows, with each row having eight emission points along one side of each row and one emission point at the western end of each row. The revised ERA, by contrast, considered a single shed with 10 rows, with a single emission point at the end of each row.

The revised ERA does not provide design diagrams of the proposed building, or an explanation for the modelling approach, and it is therefore unknown whether the proposed building in the revised ERA will have mini-air vents like the building proposed for the initial ERA.

The use of mini air vents along the side of the building has the effect of spreading the emission point from a single source at the end of each shed to a total of nine sources, thereby diluting the initial emission if all of the ventilation points are considered to have equal emissions.

### 3.2 Meteorological Modelling

The initial ERA also used results from meteorological modelling conducted for another project using TAPM version 2. As discussed in Section 2.1, URS considers the use of TAPM version 2 to be superceded, with the latest version of TAPM (version 4) able to more accurately characterise low wind speeds when dispersion from ground based sources is worst.

### 3.3 Dust Impacts

Discussion in this section is limited to the methodology and results contained in the initial ERA as the revised ERA does not contain an impact assessment of dust impacts.

#### 3.3.1 Emission Estimate

Dust emissions in the initial ERA were calculated using estimations from Mirrabooka in the APCRC review paper with additional factors derived within the ERA to account for temperature variation throughout the batch growth. The derivation of additional factors was required to enable the use of time varying emission factors through the growth cycle in the dispersion modelling. As with odour modelling, the SEPP(AQM) recommends the use of the maximum emission factor likely to occur in particular meteorological conditions to be used at all time. URS therefore considers the derivation of temperature variation unnecessary as the highest emission factor from the APCRC research should have been used in the dispersion modelling.

### 3 Comparison of Initial with Revised ERA

#### 3.3.2 Assessment Criteria

The assessment criteria for Total Suspended Particulate (TSP) used in the ERA has been selected from the Victorian Broiler Code. This is considered to be an appropriate selection as the criteria contained in the SEPP(AQM) is limited to emissions from point sources.

The assessment criteria for Particulate Matter of less than 10µm in aerodynamic diameter (PM<sub>10</sub>), has been taken from the SEPP(AQM). The criteria for PM<sub>10</sub> contained in the SEPP(AQM) is considered to be appropriate for stack emissions only. Note 1 under Schedule A states:

*Applies to point sources only. For area based sources and roads, applicable criteria are specified in the relevant industry PEM.*

A PEM does not exist for the broiler industry, and the closest document available is the Victorian Broiler Code. The broiler code only contains criteria for TSP concentrations and does not consider potential impact from smaller particle size.

Applicable criteria for PM<sub>10</sub> are contained in the PEM for Mining and Extraction, which uses the intervention criteria specified in Schedule D of the SEPP(AQM). URS considers this criteria to be the most appropriate for smaller particles from a volume source.

URS notes that the ERA does not consider the potential impact of deposition of nuisance dust on surrounding residences from TSP. URS recommends that the monthly deposition rate is provided and compared to appropriate criteria.

When using these criteria to define potential impact from dust, it should be remembered that:

- There has not been any indication of a threshold below which adverse effects would not be anticipated for PM<sub>10</sub> (WHO, 2005);
- Epidemiological studies on which the standards have been based address the impact from breathing of particulate matter derived mechanically through the breakup of rocks and soil and through combustion. The studies do not consider the epidemiological risk from pathogens associated with the dust.

The criteria for dust are based on the statistical analysis of epidemiological studies in to risks and health effects. The criteria are set at a level that is considered sufficiently conservative to protect the community without placing unreasonable impact on industry. The epidemiological studies on which the criteria are based, focus on impacts of dust from rocks/soil and or combustion. Particulate matter in this instance will be chicken litter that in addition to normal dust impact has the potential to have associated pathogens. Whilst the effects of potential pathogens falls outside the expertise of this report, it is a necessary consideration for surrounding land use.

#### 3.3.3 Dispersion Modelling of Dust

##### **Source Type**

The source type defined in the initial ERA is similar to the source structure contained in the revised ERA with the difference that the initial ERA contained two sheds rather than one.

### 3 Comparison of Initial with Revised ERA

#### ***Time Varying Emission Factors***

As with odour in the revised ERA, the dust modelling in the initial ERA takes account of variation in dust emission rates through the batch cycle. This does not conform with the modelling methodology required by the SEPP(AQM), or the Victorian Broiler Code, which require the maximum odour emission rate to be modelled for all meteorological conditions.

#### ***Calculation of PM<sub>10</sub> Concentrations***

The initial ERA estimates potential PM<sub>10</sub> concentrations by determining through modelling that the TSP criteria is not exceeded at the nearby residences. The assessment then considers a 'what if' scenario, hypothesising that if a receptor were to be at the criteria level of 183 µg/m<sup>3</sup> TSP then the PM<sub>10</sub> concentration would be 69.5 µg/m<sup>3</sup> as at source PM<sub>10</sub> emissions are 38% of TSP emissions.

This is an incorrect assumption, as it ignores that the TSP particles are larger and therefore heavier than PM<sub>10</sub> particles. This means that particles larger than 10 µm will deposit more quickly than PM<sub>10</sub>. The percentage of PM<sub>10</sub> emissions compared to TSP will therefore be higher at a receptor than at the source.

It is also noted that PM<sub>10</sub> concentrations presented do not include background concentrations. Whilst it is acknowledged that it is highly unlikely that PM<sub>10</sub> monitoring has been undertaken in the local area, EPA is often able to provide a representative background concentration for a region, which should be considered in the assessment.

It is therefore recommended that PM<sub>10</sub> concentrations are modelled for the new design, using a dispersion model, and taking in to account deposition, prior to a conclusion on the compliance with criteria.

#### ***TSP Deposition***

URS recommends that the deposition rate of TSP is also presented at the nearest sensitive receptors and the monthly rates compared to appropriate criteria.

### 3.4 Risk Assessment

The risk assessment in the revised ERA has been undertaken in the same way as the initial ERA. As discussed in Section 2.5, URS considers the approach to be flawed and under-represents the potential of risk to the surrounding environment.



## Predicted Impacts Adopting State Modelling Guidance

This section considers the impact of odour and dust emissions on the surrounding area using the modelling guidance provided in Schedule C of the SEPP(AQM) and considered appropriate by the Victorian Broiler Code and supported by the ERA guidelines as outlined in Section 2.3 of this report. Modelling has been completed for:

- A two shed complex housing 320,000 broilers each;
- One shed housing 640,000 broilers; and
- One shed housing 320,000 broilers.

This provides data on the maximum predicted impacts of odour and dust for the:

- Initial ERA (GHD, 2008);
- Revised ERA (GHD, 2009); and
- Class B facility according to the Broiler Code.

### 4.1 Dispersion Modelling

Dispersion modelling was conducted using the same methodology used in the initial ERA with the model set up in the same way, with the following exceptions:

- Maximum odour emission rates for summer and winter were used;
- Maximum dust emission rates were used;
- PM<sub>10</sub> emissions were modelled not calculated;
- Volume plume height was set to half the height of the building for modelling of the two sheds containing 320,000 broilers each, rather than 4m used in the initial ERA; and
- 2008 meteorology, developed using TAPM version 4 was used.

#### 4.1.1 Odour Emission Rates

As discussed in Section 2.4, dispersion modelling guidance provided in the SEPP(AQM), the Victorian Broiler Code and the ERA guidelines states that modelling should be undertaken using the maximum emission rates for the meteorological conditions in which they occur. This is to ensure that maximum emission rates during normal operation do not coincide with poor meteorology.

The rationale behind this guidance is to ensure protection of the beneficial use of the atmosphere by ensuring compliance with criteria when worst case emissions combine with undesirable meteorology.

Table 4-1 shows the emission rates used for summer and winter for each of the considered scenarios. These emission rates were calculated using the equation for calculating odour emission rates given the initial and revised ERA (GHD 2008 and 2009) for the proposed broiler farm.

**Table 4-1 Summer and winter site odour emission rates (OU/s) for considered scenarios**

| Scenario                                                                   | Summer Site OU/s | Winter Site OU/s |
|----------------------------------------------------------------------------|------------------|------------------|
| Two Shed complex housing 320,000 Broilers Each (Emission rate is per shed) | 256,000          | 64,000           |
| One shed housing 640,000 boilers                                           | 512,000          | 128,000          |
| One shed housing 320,000 boilers                                           | 256,000          | 64,000           |

## 4 Predicted Impacts Adopting State Modelling Guidance

### 4.1.2 Dust Emission Rates

Maximum TSP emission rates were calculated using the maximum TSP factor contained in Table 1 of the initial ERA (14.3 mg/s per 1000 birds).

Maximum PM<sub>10</sub> emission rates were calculated using the source PM<sub>10</sub>:TSP factor of 38%. These emission rates were included in the modelling to demonstrate that the source PM<sub>10</sub>:TSP factor cannot be used to calculate PM<sub>10</sub> concentrations from TSP concentrations when deposition has been included in the modelling.

Table 4-2 shows the emission rates used in the dispersion modelling.

**Table 4-2 Maximum TSP and PM<sub>10</sub> emission rates**

| <b>Scenario</b>                                                               | <b>TSP<br/>(g/s)</b> | <b>PM<sub>10</sub><br/>(g/s)</b> |
|-------------------------------------------------------------------------------|----------------------|----------------------------------|
| Two Shed complex housing 320,000 Broilers Each<br>(Emission rate is per shed) | 4.6                  | 1.7                              |
| One shed housing 640,000 boilers                                              | 9.2                  | 3.5                              |
| One shed housing 320,000 boilers                                              | 4.6                  | 1.7                              |

### 4.1.3 Source Description

Modelling in the initial ERA included a two broiler shed complex with volume sources along the sides and at the end of the individual modules of the sheds. The revised ERA only included volume sources at the end of the shed. No explanation is given in the revised ERA for the change in modelling approach, however, it may be assumed that this is the result of a change in shed design.

The modelling for the two shed complex has followed the approach used in the initial ERA, with the same number of volume sources applied to the sheds, whilst modelling for the single shed scenarios has followed the approach used in the revised ERA. Emission rates were divided equally between the number of volume sources contained in each model.

URS noted that modelling for both the initial ERA and the revised ERA used a plume height of 4m. Ausplume guidance suggests that the plume height of a volume source should be half the height of the building. The initial ERA gives building dimensions, with the height of the shed to the eaves being 2.85m. No explanation is provided in the initial ERA for the deviation from the guidance. Modelling for the two shed complex, each housing 320,000 broilers therefore used a plume height of 1.7m rather than 4m. The revised ERA does not contain any building design diagrams, and the plume height of 4m as used in the modelling was used as no data was available as a basis for variation.

### 4.1.4 2008 METEOROLOGY

As discussed in Section 2.1, Version 4 of TAPM is now able to more accurately predict lower wind speeds than previous versions. An updated meteorological file for the site was therefore used in this dispersion modelling in an attempt to more accurately define potential impacts.

## 4 Predicted Impacts Adopting State Modelling Guidance

### 4.2 Results

Figures 2 to 10 in Appendix A show the predicted ground level concentrations for odour, TSP and PM<sub>10</sub> emissions using modelling guidance contained in the SEPP(AQM), Victorian Broiler Code and Draft ERA guidelines. Maximum concentrations (99.9<sup>th</sup> percentile) are predicted to be above the criteria for odour, TSP and PM<sub>10</sub> at and beyond the boundary. This indicates that if maximum emission rates coincide with unfavourable meteorological conditions, odour and dust concentrations are likely to be at concentrations likely to result harm to the beneficial use of the atmosphere. In the case of PM<sub>10</sub>, these concentrations are sufficiently high that there is potential for harm to human health, especially when the source of the dust, chicken litter, with the potential for associated pathogens is considered.

The predicted concentrations are higher than those presented in the initial and revised ERA, as this analysis compares maximum emission rate during normal operation against all potential meteorological conditions rather than using a time varying emission file that is liable to miss a combination of maximum emission rate and poor meteorological conditions.

#### 4.2.1 Impacts at Nearby Sensitive Receptors

Table 4-3 to Table 4-5 show the predicted maximum (99.9<sup>th</sup> percentile) concentration for odour, TSP and PM<sub>10</sub> and Table 4-6 shows the maximum (100<sup>th</sup> percentile) concentration for 24 hour average PM<sub>10</sub>, at the nearest sensitive receptors (Figure 1) for the three considered scenarios. Concentrations above the assessment criteria have been shaded grey.

**Table 4-3 Maximum (99.9th percentile) 3-minute average odour concentrations (OU) at nearest sensitive receptors**

| Scenario                                           | Receptor 1 | Receptor 2 | Receptor 3 | Receptor 4 | Receptor 5 |
|----------------------------------------------------|------------|------------|------------|------------|------------|
| Complex of Two Sheds housing 320,000 Broilers Each | 23         | 16         | 21         | 21         | 27         |
| One Shed 640,000 Broilers                          | 35         | 43         | 76         | 52         | 46         |
| One Shed 320,000 Broilers                          | 17         | 22         | 38         | 26         | 23         |
| SEPP(AQM) Design Criteria                          | 5          | 5          | 5          | 5          | 5          |

**Table 4-4 Maximum (99.9th percentile) 1-hour average TSP concentrations ( $\mu\text{g}/\text{m}^3$ ) at nearest sensitive receptors**

| Scenario                                           | Receptor 1 | Receptor 2 | Receptor 3 | Receptor 4 | Receptor 5 |
|----------------------------------------------------|------------|------------|------------|------------|------------|
| Complex of Two Sheds housing 320,000 Broilers Each | 130        | 56         | 71         | 65         | 89         |
| One Shed 640,000 Broilers                          | 366        | 274        | 457        | 367        | 342        |
| One Shed 320,000 Broilers                          | 183        | 137        | 229        | 184        | 171        |
| Victorian Broiler Code Criteria                    | 183        | 183        | 183        | 183        | 183        |

## 4 Predicted Impacts Adopting State Modelling Guidance

**Table 4-5 Maximum (99.9th percentile) 1-hour average PM<sub>10</sub> concentrations (µg/m<sup>3</sup>) at nearest sensitive receptors**

| Scenario                                           | Receptor 1 | Receptor 2 | Receptor 3 | Receptor 4 | Receptor 5 |
|----------------------------------------------------|------------|------------|------------|------------|------------|
| Complex of Two Sheds housing 320,000 Broilers Each | 111        | 50         | 63         | 61         | 81         |
| One Shed 640,000 Broilers                          | 272        | 217        | 341        | 294        | 279        |
| One Shed 320,000 Broilers                          | 132        | 106        | 165        | 143        | 135        |
| SEPP(AQM) Design Criteria                          | 80         | 80         | 80         | 80         | 80         |

**Table 4-6 Maximum (100th percentile) 24-hour average PM<sub>10</sub> concentrations (µg/m<sup>3</sup>) at nearest sensitive receptors**

| Scenario                                           | Receptor 1 | Receptor 2 | Receptor 3 | Receptor 4 | Receptor 5 |
|----------------------------------------------------|------------|------------|------------|------------|------------|
| Complex of Two Sheds housing 320,000 Broilers Each | 33         | 16         | 19         | 19         | 22         |
| One Shed 640,000 Broilers                          | 76         | 61         | 54         | 77         | 65         |
| One Shed 320,000 Broilers                          | 37         | 29         | 26         | 37         | 32         |
| SEPP(AQM) Intervention Criteria                    | 60         | 60         | 60         | 60         | 60         |

### Odour

Maximum (99.9<sup>th</sup> percentile) predicted concentrations for the scenario considering the two shed complex, with each shed containing 320,000 broilers are less than 50% of the concentrations predicted for a single 640,000 broiler shed. This is likely to be the result of the modelling methodology used in the initial ERA, which has volume sources along the side of the broiler sheds in addition to the end points. This has the effect of spreading the total shed emissions over a larger area in the initial phase of the modelling, thus resulting in lower concentrations at the receptors.

If the shed proposed in the revised ERA will also have mini air vents along the side as shown in Figure 5 of the initial ERA, and the fan pressure is not does not result in negative pressure at the mini air vents, these emission points should have been included in the modelling of the revised ERA which would result in similar concentrations derived in the initial ERA. If the shed proposed in the revised ERA will be fully enclosed then the predictions indicated in Table 4-3 to Table 4-5 remain valid. There is currently insufficient detail contained in the revised ERA to make this determination.

Regardless of the shed design, the maximum (99.9<sup>th</sup> percentile) predicted odour concentration at the nearest sensitive receptors are three to five times the odour design criteria contained in the SEPP(AQM) for the initial and revised ERA proposals. These concentrations would be likely to generate complaints. It should also be remembered that odour from broiler farms has a high ammonia component, which is particularly objectionable to humans. It is likely, therefore, that once an odour event of these magnitudes has occurred, complaints will be received at much lower levels for subsequent events.

## 4 Predicted Impacts Adopting State Modelling Guidance

### Dust

Predicted maximum (99.9<sup>th</sup> percentile) TSP concentrations at the nearest sensitive receptors are above the guideline value contained in the Victorian Broiler Code for the design proposed in the revised ERA and for a single shed housing 320,000 broilers of similar design to that proposed in the revised ERA. Predicted maximum concentrations (99.9<sup>th</sup> percentile) TSP are below the Victorian Broiler Code for the design proposed in the initial ERA, this is again due to the modelling of additional emission points on the side of the broiler sheds which spreads the initial emission over a wider area.

Predicted maximum (99.9<sup>th</sup> percentile) PM<sub>10</sub> concentrations at the nearest sensitive receptors are above the design criteria contained in the SEPP(AQM). It should be noted that the SEPP(AQM) design criteria for PM<sub>10</sub> is for point sources only, however, the Protocol for Environmental Management (PEM) for Mining provides a design criterion of 60 ug/m<sup>3</sup> expressed as a 24 hour average for modelling of area and volume sources. This criteria is the same as the intervention level specified in the SEPP(AQM), and is considered to be a level above which human health is at risk. Table 4-6 shows the predicted maximum 24-hour average concentrations for PM<sub>10</sub> at the five closest sensitive receptors. The predicted concentrations are above the design criterion / intervention level for PM<sub>10</sub> for the proposed design in the revised ERA and would therefore be expected to result in potential for harm to human health.

### Receptor PM<sub>10</sub> to TSP Ratio

The initial ERA considered the PM<sub>10</sub> to TSP ratio at the receptors to be the same as at source. This assessment has calculated emission factors and modelled both PM<sub>10</sub> and TSP concentrations taking in to account deposition using the same parameters as used in the initial ERA. Table shows PM<sub>10</sub> as a percentage of TSP at the nearest sensitive receptors. This is because of the size of TSP particles causes them to have more mass than PM<sub>10</sub> and TSP drops out of suspension more readily than PM<sub>10</sub>. By the time the emissions have reached the receptors, the ratio of PM<sub>10</sub> to TSP is therefore much higher than the 38% used to calculate PM<sub>10</sub> concentrations in the ERA.

**Table 4-7 Percentage of TSP that is PM<sub>10</sub> at nearest sensitive receptors**

| Scenario                                           | Receptor 1 | Receptor 2 | Receptor 3 | Receptor 4 | Receptor 5 |
|----------------------------------------------------|------------|------------|------------|------------|------------|
| Complex of Two Sheds housing 320,000 Broilers Each | 85%        | 89%        | 89%        | 93%        | 91%        |
| One Shed 640,000 Broilers                          | 74%        | 79%        | 75%        | 80%        | 81%        |
| One Shed 320,000 Broilers                          | 72%        | 77%        | 72%        | 78%        | 79%        |

### Dust Deposition Rates

One issue not considered by the ERA is the potential deposition rate of dust at the sensitive receptors. Whilst the SEPP(AQM) does not provide design criteria on dust deposition rates, the PEM for mining indicates that dust deposition rates greater than 4g/m<sup>2</sup>/month or an increase of 2g/m<sup>2</sup>/month above the background would constitute harm to the beneficial use of the atmosphere.

#### 4 Predicted Impacts Adopting State Modelling Guidance

Table 1 in the initial ERA shows that the maximum dust emission rate will occur for a period of approximately 3 weeks. The monthly mean deposition rate was calculated from the maximum 90 day total deposition rate based on maximum emissions for the entire year. This provides a typical deposition rate at each sensitive receptor for a month with maximum emission rates.

Table 4-8 shows that monthly mean deposition rates, when dust emission are at the highest from weeks five to eight would be below acceptable levels.

**Table 4-8 Maximum dust deposition rates at the nearest sensitive receptors (g/m<sup>2</sup>/month)**

| <b>Scenario</b>                                    | <b>Receptor<br/>1</b> | <b>Receptor<br/>2</b> | <b>Receptor<br/>3</b> | <b>Receptor<br/>4</b> | <b>Receptor<br/>5</b> |
|----------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Complex of Two Sheds housing 320,000 Broilers Each | 0.22                  | 0.06                  | 0.10                  | 0.07                  | 0.12                  |
| One Shed 640,000 Broilers                          | 0.58                  | 0.22                  | 0.27                  | 0.26                  | 0.39                  |
| One Shed 320,000 Broilers                          | 0.29                  | 0.11                  | 0.14                  | 0.13                  | 0.20                  |

## Conclusion

URS Australia Pty Ltd (URS) was engaged by Colac Otway Shire Council (Council) to review the updated environmental risk assessment (ERA) undertaken for the proposed broiler farm at Pierces Road, Beeac (GHD, 2009) and to compare the updated ERA with the initial submission (GHD, 2008).

For the updated risk assessment, URS has considered the methodology and results from:

- Meteorological modelling;
- Emission estimation;
- Dispersion modelling; and
- Risk assessment.

In the comparison of the initial risk assessment, URS has compared:

- Considered emissions;
- Emissions estimation;
- Dispersion modelling; and
- Results.

### 5.1 Updated ERA (GHD, 2009)

#### 5.1.1 Meteorological Modelling

URS has determined that local meteorology, used in the dispersion modelling, was estimated using data developed for another project in the same area. The data was developed using TAPM version 2, with a model year of 2002 selected.

URS compared the results generated by TAPM version 2 for a meteorological year of 2002 with data generated by the updated TAPM version 4 for 2008. The results indicated that the distribution and frequency of winds for each direction were similar for 2002 compared to 2008, however TAPM version 4 predicted a higher frequency of lower velocity winds. One of the major improvements of TAPM version 4 over previous versions was that it is now able to more accurately characterise lower wind speeds.

As the broiler sheds are ground based sources, lighter winds are likely to result in higher predicted concentrations at the receptors. The use of a meteorological file produced using TAPM version 2, rather than the more recent release, means that model predictions are likely to be under estimated.

#### 5.1.2 Emission Estimation

In the ERA, emission estimation was completed using a methodology developed by the author. No attempt was made in the ERA to reconcile the predicted emissions with other measurement campaigns undertaken in Australia.

URS therefore compared the emission estimates to three other recent studies that were readily available in the literature, and could have been used in the ERA. Whilst two of the emission estimates were not directly comparable with the ERA, as they provide annual mean emission rates rather than with batch variation, averaging of the emission estimates contained in the ERA determined that they were approximately 50% of the annual average odour rate predicted by using data contained the published papers. Comparison of the maximum odour emission rate used in the ERA determined that it was higher than estimated using other methods.

## 5 Conclusion

URS considers that the emission estimation provided in the ERA gives a reasonable estimation of the expected emissions likely to occur from the proposed development. As discussed below, the application of the estimated emissions does not, however, correlate with the requirements of the State Environment Protection Policy for Air Quality Management (SEPP(AQM)), the Victorian Broiler Code or the requirements of the draft ERA guidelines included in Appendix C of the ERA.

### 5.1.3 Dispersion Modelling

Dispersion modelling in the ERA used the regulatory model Ausplume version 6. Considering the inland nature of the site, with lack of significant terrain in the model domain, URS consider this to be a suitable choice of model to estimate impact.

#### *Emissions*

Dispersion modelling was conducted using a variable emission rate that changed through the batch cycle. This approach is not consistent with the recommended modelling methodology contained in the SEPP(AQM), the Victorian Broiler Code or the draft ERA guidelines, which require the use of the maximum emission rate to be modelled for the period of a year in which they occur for averaging periods of 1 hour or less. URS considers that the modelling methodology proposed by the guidance documents to be appropriate, as it ensures that the maximum emission coincides with the worst meteorological conditions, and ensures that the facility may operate in all conditions without unacceptable impact on the beneficial uses of the atmosphere.

URS therefore considers the use of emissions varying with batch age to be inappropriate and likely to result in an under-estimation of potential emissions. Use of maximum emission rates that occur in typical meteorological conditions for the time of year (summer and winter), would provide a suitably conservative assessment that complies with the requirement of the SEPP(AQM), the Victorian Broiler Code and the draft ERA guidelines.

#### *Percentiles*

Percentile calculations are required, by the regulatory State requirements, for periods of 1 hour or less. This is to discount the possibility of unusual meteorology unduly influencing the model results. EPA, the Victorian Broiler Code and the Draft ERA guidelines promote the use of a 99.9<sup>th</sup> percentile as this discounts the top nine results as potentially being influenced by unusual meteorology in the selected meteorological year.

### 5.1.4 Risk Assessment

The risk assessment examines only occurrences of concentrations above 5 OU (3-minute average, 99.9<sup>th</sup> percentile) that occur during daylight hours at the nearest residences. The reasons given for the exclusion of exceedances after sunset are:

- this is when stable atmospheres and light winds are likely are predominant; and
- between 12am and 5am residents will be asleep and an odour concentration greater than 10,000 OU would be require to wake a sleeping person.

URS considers the exclusion of non-daylight hours to be incorrect, as:

- residents are more likely to be at home during non-daylight hours;
- operations and emissions continue during non-daylight hours;



## 5 Conclusion

- there is no guarantee that residents are asleep during the period 12am to 5am; and
- there is no evidence for a level of 10,000 OU required to wake a sleeping person.

When all hours are considered in the risk assessment the ERA reports 31 and 26 exceedances of 5 OU at residences 2 and 4 respectively. URS believes that this should be considered an unacceptable risk and stage 3 of the ERA should have been completed.

### ***Risk Matrix***

The risk assessment presents a matrix based on modelling and observations from previous work undertaken by the ERA's author. The ERA does not provide a reference to the previous work, or information in an appendix detailing the basis of the work for which the matrix was constructed. There could be any number of reasons in a different situation why modelled odour concentrations do not match model results, including:

- Incorrect model setup;
- Unusual meteorology;
- Different odour character; or
- Desensitised population.

Additionally, the inference in the matrix that Ausplume over-predicts concentrations compared to odour concentrations that are likely to result in complaints, is countered by EPA who have published details of a comparison of modelled results against observations and found that Ausplume was less conservative than observations.

URS therefore considers the numbers used in the risk matrix to be inappropriate and the risk assessment should have used the predicted frequency of occurrence of odour above 5 OU as an indication of potential harm to the beneficial use of the atmosphere.

## 5.2 Comparison of Updated and Initial ERA

The initial ERA (GHD, 2008) considers the impact of dust and odour for two shed complex housing 320,000 birds in each shed, whilst the updated risk assessment considers the impact of odour from one shed housing 640,000 birds. The methodology used in the updated risk assessment for:

- Development of meteorology;
- Odour emission estimate; and
- Risk assessment,

is the same as that used in the initial ERA. The conclusions reached in Section 5.1 for these issues therefore remain valid for the initial ERA.

There are, however, several important differences between the initial ERA and the revised ERA, including:

- Source description; and
- Evaluation of dust impacts.

## 5 Conclusion

### 5.2.1 Source Description

One major difference between the modelling methodologies used in the initial ERA compared to the revised ERA is the emission points along the sides and ends of the shed rows in the initial ERA compared to the use of emission points at the end of the shed rows only in the revised ERA.

The revised ERA does not provide a diagram of the proposed shed design, and it is therefore not possible to determine whether the mini-air vents described and modelled in the initial ERA are likely to remain. The additional emission points on the side of the shed rows has the effect of spreading the initial emission over a larger area, and therefore diluting the emission prior to dispersion. Further clarification is therefore required as to the exact design of the shed in the revised ERA, and why the proponent did not model the sheds in the same manner.

### 5.2.2 Evaluation of Dust Impacts

The initial risk assessment (GHD, 2008) considered potential impacts from both odour and dust emissions. It is noted that the dust impact study was omitted from the updated risk assessment. URS consider that the dust emission study should be completed as part of the ERA and included in the updated risk assessment.

The criteria used in the initial risk assessment (GHD, 2008) have been taken from the Victorian Broiler Code and the SEPP(AQM). It should be noted that these criteria have been developed from toxicity studies of particulate matter formed of rock and soil. In this instance, the particles are more likely to be of chicken litter, which may have an additional biological component not normally considered as part of a dust impact study. In the absence of dust criteria, specifically developed using toxicology data from exposure to dust derived from chicken litter, the criteria used present the next best level of assessment. URS considers, however, that given the nature of the dust generation the minimum level possible would be preferable.

### **Emissions**

Dust emission estimates were based on work undertaken by the APCRC in Mirrabooka with an additional factor added by the author of the ERA to account for the impact of temperature variation on emissions through the batch cycle. Due to the averaging period required for dust (1 hour) the SEPP(AQM), Victorian Broiler Code and the draft ERA guidelines require the use of the maximum emission rate for modelling purposes. The inclusion of temperature varying emissions through the batch cycle is, therefore, not considered appropriate for the modelling of dust, and the ERA should have used the maximum emissions as provided by the APCRC.

### **Calculation of PM<sub>10</sub> Concentrations**

The initial ERA (GHD, 2008) estimates potential PM<sub>10</sub> concentrations by determining through modelling that the TSP criteria is not exceeded at the nearby residences. The assessment (GHD, 2008) then considers a 'what if' scenario, hypothesising that if a receptor were to be at the criteria level of 183 µg/m<sup>3</sup> TSP, then the PM<sub>10</sub> concentration would be 69.5 µg/m<sup>3</sup> as at source PM<sub>10</sub> emissions are 38% of TSP emissions.

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This is an incorrect assumption, as it ignores that the TSP particles are larger and therefore have more mass than PM<sub>10</sub> particles. This means that particles larger than 10 µm will deposit more quickly than PM<sub>10</sub>. The percentage of PM<sub>10</sub> emissions compared to TSP will therefore be higher at a receptor than at the source.

It is also noted that PM<sub>10</sub> concentrations presented do not include background concentrations. Whilst it is acknowledged that it is highly unlikely that PM<sub>10</sub> monitoring has been undertaken in the local area, EPA is often able to provide a representative background concentration for a region, which should be considered in the assessment.

It is therefore recommended that PM<sub>10</sub> concentrations are modelled for the new design, using a dispersion model, and taking in to account deposition, prior to a conclusion on the compliance with criteria.

### **TSP Deposition**

TSP is often considered nuisance dust, as deposition results in a layer of dust which is often noticeable after a period of time on window sills and roofs. Ausplume is also able to calculate deposition rates of TSP in terms of g/m<sup>2</sup> over the averaging period selected. The EPA has provided criteria regarding acceptable levels of dust deposition in a month of no more than 4g/m<sup>2</sup>/month total deposition with no greater than 2g/m<sup>2</sup>/month increase on background levels.

## 5.3 Predicted Impacts Adopting State Modelling Guidance

Modelling was undertaken using the guidance contained in the SEPP(AQM) using the maximum emission rates for odour and dust for the relevant times of the year for three scenarios:

1. Complex of two sheds housing 320,000 broilers each<sup>1</sup>
2. One shed housing 640,000 broilers; and
3. One shed housing 320,000 broilers.

The number of emission points used in the modelling adopted the approach used in the initial ERA for scenario 1 and the revised ERA for scenarios 2 and 3. The plume centre height in scenario 1 was modified from the 4m used in the initial ERA to half the shed height (1.7m) as recommended in the Ausplume online help menu. The plume centre height for scenarios 2 and 3 was set at 4m in accordance with the modelling in the revised ERA, as no data was available in the revised ERA regarding a description of the building.

Modelling used a meteorological data set for 2008, developed using the latest version of TAPM (version 4).

Predicted results indicate that maximum (99.9<sup>th</sup> percentile) odour concentrations will exceed the SEPP(AQM) design criteria for odour, both at the boundary and at the nearest sensitive receptors for all considered scenarios. The maximum impacts at sensitive receptors for the three scenarios may be summarised as:

- Scenario 1 – Complex of two sheds housing 320,000 broilers each:
  - Odour – 27 OU (SEPP(AQM) design criteria of 5 OU);
  - TSP – 130 µg/m<sup>3</sup> (Victorian Broiler code limit of 183 µg/m<sup>3</sup>); and
  - PM<sub>10</sub> – 33 µg/m<sup>3</sup> (SEPP(AQM) intervention level 60 µg/m<sup>3</sup>).

## 5 Conclusion

- Scenario 2 – One shed housing 640,000 broilers:
  - Odour – 76 OU (SEPP(AQM) design criteria of 5 OU);
  - TSP – 457  $\mu\text{g}/\text{m}^3$  (Victorian Broiler code limit of 183  $\mu\text{g}/\text{m}^3$ ); and
  - PM<sub>10</sub> – 77  $\mu\text{g}/\text{m}^3$  (SEPP(AQM) intervention level 60  $\mu\text{g}/\text{m}^3$ ).
- Scenario 3 – One shed housing 320,000 broilers:
  - Odour – 38 OU (SEPP(AQM) design criteria of 5 OU);
  - TSP – 229  $\mu\text{g}/\text{m}^3$  (Victorian Broiler code limit of 183  $\mu\text{g}/\text{m}^3$ ); and
  - PM<sub>10</sub> – 37  $\mu\text{g}/\text{m}^3$  (SEPP(AQM) intervention level 60  $\mu\text{g}/\text{m}^3$ ).

It should be noted that the concentrations predicted for TSP and PM10 do not include background concentrations, which are unknown for this location. The concentrations presented are therefore predicted contribution from the source only.

The lower predicted concentrations in scenario 1 compared to scenario 3, are the result of the modelling methodology that used more emission points for shed row in scenario 1 compared to scenario 2. This has the effect of spreading the initial emission over a wider area, resulting in a lower concentration.

Scenario 2 represents the current proposed design of the facility. Maximum predicted impacts at the nearest sensitive receptors for this scenario are above the assessment criteria used in Victoria. Odour at a level of 76 OU would be unacceptable and would generate complaints. A TSP level of 457  $\mu\text{g}/\text{m}^3$  as a 1-hour average, would result in visible dust plumes, and a 24 hour mean of 77  $\mu\text{g}/\text{m}^3$  PM<sub>10</sub> is potentially harmful to human health.

Given these results, URS would be recommended that the proponent mitigate these impacts prior to release to atmosphere, or change the design of the proposal so that the effects are ameliorated as recommended as stage 3 of the draft ERA guidelines for Victorian Broiler Farms.

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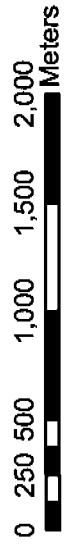
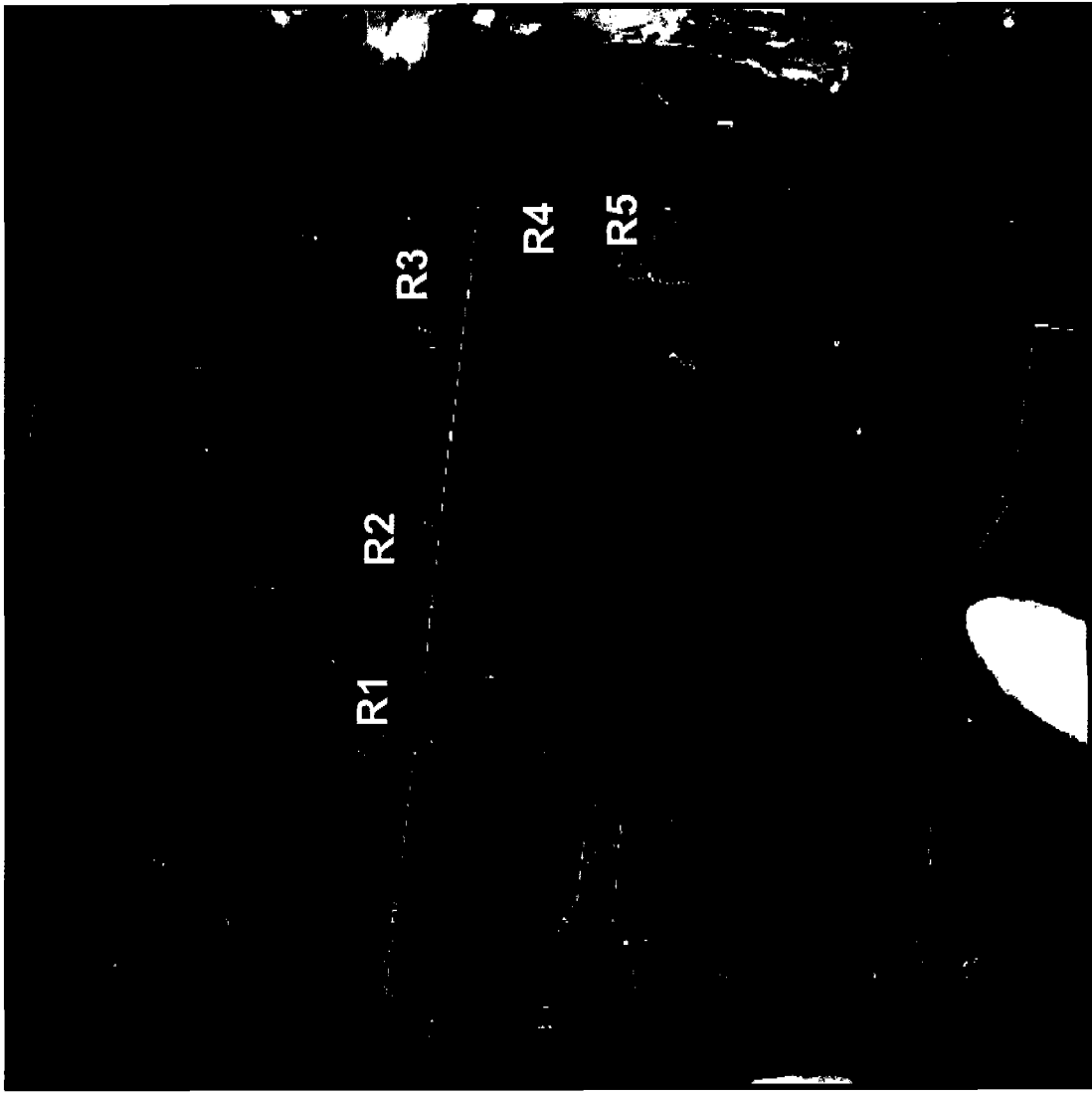
## Limitations

URS Australia Pty Ltd (URS) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of Colac Otway Shire Council and only those third parties who have been authorised in writing by URS to rely on the report. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report. It is prepared in accordance with the scope of work and for the purpose outlined in the Proposal dated 18 February 2009.

The methodology adopted and sources of information used by URS are outlined in this report. URS has made no independent verification of this information beyond the agreed scope of works and URS assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to URS was false.

This report was prepared in June 2009 and is based on the conditions encountered and information reviewed at the time of preparation. URS disclaims responsibility for any changes that may have occurred after this time.

This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

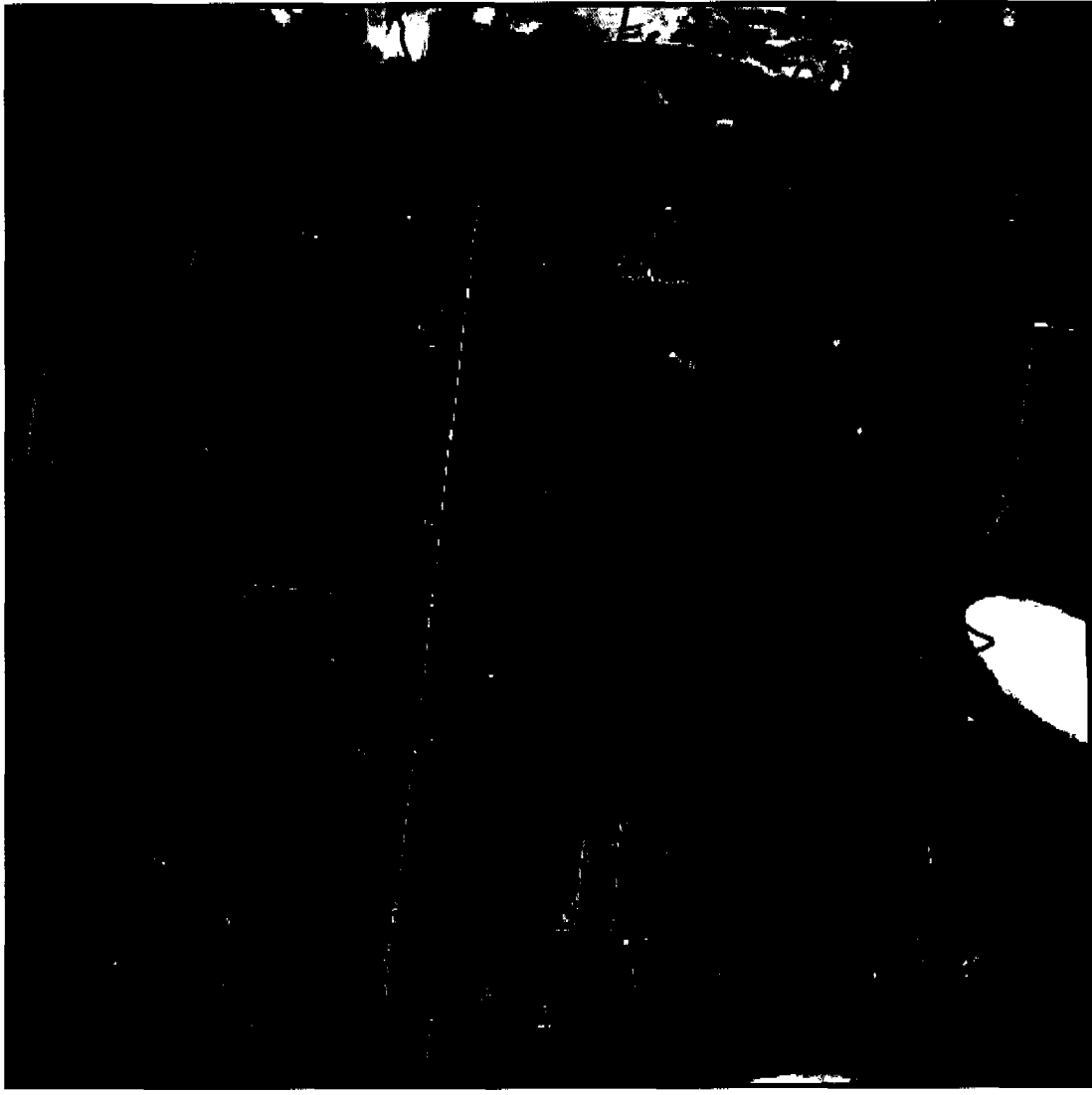


CLIENT: Colac-Otway Shire Council  
 PROJECT: Beaac Broiler Farm ERA Review  
 TITLE: Modelled Sensitive Receptors

PROJECT: 43283553  
 MAP FILE: J:\Jobs\43283553  
 \Technical\VCAT\GIS\Beaac\_1.mxd

MAP BY: IMC  
 DATE: 08/07/09

Figure:  
 1



CLIENT: Colac-Otway Shire Council  
PROJECT: Beaac Broiler Farm ERA Review  
TITLE: Predicted Maximum (99.9th Percentile) 3 minute average  
Odour concentrations (OU) for Two sheds housing 320,000  
broilers each

PROJECT: 43283553  
MAP FILE: J:\Jobs\43283553  
\Technical\VCAT\GIS\  
Beaac\_2.mxd

MAP BY: IMC  
DATE: 08/07/09

Figure:  
2





0 250 500 1,000 1,500 2,000 Meters

CLIENT: Colac-Otway Shire Council

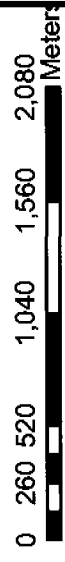
PROJECT: Beaac Broiler Farm ERA Review

TITLE: Predicted Maximum (99.9th Percentile) 3 minute average  
Odour concentrations (OU) for Single shed housing 640,000  
broilers

PROJECT: 43283553  
MAP FILE: J:\Jobs\43283553  
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Beaac\_3.mxd

MAP BY: IMC  
DATE: 08/07/09

Figure:  
**3**



CLIENT: Colac-Otway Shire Council  
PROJECT: Beaac Broiler Farm ERA Review  
TITLE: Predicted Maximum (99.9th Percentile) 3 minute average  
Odour concentrations (OU) for Single shed housing 320,000  
broilers

PROJECT: 43283553  
MAP FILE: J:\Jobs\43283553  
\Technical\VCA\GIS\  
Beaac\_4.mxd

MAP BY: IMC  
DATE: 08/07/09

Figure:  
**4**

Beaac Broiler Farm 2 sheds each with 320000 birds

Concentration or deposition  
 Emission rate units  
 Concentration units  
 Units conversion factor  
 Constant background concentration  
 Terrain effects  
 Smooth stability class changes?  
 Other stability class adjustments ("urban modes")  
 Ignore building wake effects?  
 Decay coefficient (unless overridden by met. file)  
 Anemometer height  
 Roughness height at the wind vane site

DISPERSION CURVES  
 Horizontal dispersion curves for sources <100m high  
 Vertical dispersion curves for sources <100m high  
 Horizontal dispersion curves for sources >100m high  
 Vertical dispersion curves for sources >100m high  
 Enhance horizontal plume spreads for buoyancy?  
 Enhance vertical plume spreads for buoyancy?  
 Adjust horizontal P-G formulae for roughness height?  
 Adjust vertical P-G formulae for roughness height?  
 Roughness height  
 Adjustment for wind directional shear

PLUME RISE OPTIONS

Gradual plume rise?  
 Stack-tip downwash included?  
 Building downwash algorithm:  
 Entrainment coeff. for neutral & stable lapse rates 0.60,0.60  
 Partial penetration of elevated inversions?  
 Disregard temp. gradients in the hourly met. file?  
 No

and in the absence of boundary-layer potential temperature gradients given by the hourly met. file, a value from the following table (in K/m) is used:

| Wind Speed Category | A     | B     | Stability Class | D     | E     | F     |
|---------------------|-------|-------|-----------------|-------|-------|-------|
| 1                   | 0.000 | 0.000 | 0.000           | 0.000 | 0.020 | 0.035 |
| 2                   | 0.000 | 0.000 | 0.000           | 0.000 | 0.020 | 0.035 |
| 3                   | 0.000 | 0.000 | 0.000           | 0.000 | 0.020 | 0.035 |
| 4                   | 0.000 | 0.000 | 0.000           | 0.000 | 0.020 | 0.035 |
| 5                   | 0.000 | 0.000 | 0.000           | 0.000 | 0.020 | 0.035 |
| 6                   | 0.000 | 0.000 | 0.000           | 0.000 | 0.020 | 0.035 |

WIND SPEED CATEGORIES

Boundaries between categories (in m/s) are: 1.54, 3.09, 5.14, 8.23, 10.80

WIND PROFILE EXPONENTS: "Irwin Urban" values (unless overridden by met. file)

AVERAGING TIME: 3 minutes.

Beaac Broiler Farm 2 sheds each with 320000 birds

SOURCE CHARACTERISTICS

VOLUME SOURCE: CB1

X(m) 733034 Y(m) 5775198  
 Ground Elevation 0m Height 3m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Summer:  
 1 2.88E+03 2 2.88E+03 3 2.88E+03 4 2.88E+03  
 5 2.88E+03 6 2.88E+03 7 2.88E+03 8 2.88E+03  
 9 2.88E+03 10 2.88E+03 11 2.88E+03 12 2.88E+03  
 13 2.88E+03 14 2.88E+03 15 2.88E+03 16 2.88E+03  
 17 2.88E+03 18 2.88E+03 19 2.88E+03 20 2.88E+03  
 21 2.88E+03 22 2.88E+03 23 2.88E+03 24 2.88E+03  
 Autumn:  
 1 7.11E+02 2 7.11E+02 3 7.11E+02 4 7.11E+02  
 5 7.11E+02 6 7.11E+02 7 7.11E+02 8 7.11E+02  
 9 7.11E+02 10 7.11E+02 11 7.11E+02 12 7.11E+02  
 13 7.11E+02 14 7.11E+02 15 7.11E+02 16 7.11E+02  
 17 7.11E+02 18 7.11E+02 19 7.11E+02 20 7.11E+02  
 21 7.11E+02 22 7.11E+02 23 7.11E+02 24 7.11E+02  
 Winter:  
 1 7.11E+02 2 7.11E+02 3 7.11E+02 4 7.11E+02  
 5 7.11E+02 6 7.11E+02 7 7.11E+02 8 7.11E+02  
 9 7.11E+02 10 7.11E+02 11 7.11E+02 12 7.11E+02  
 13 7.11E+02 14 7.11E+02 15 7.11E+02 16 7.11E+02  
 17 7.11E+02 18 7.11E+02 19 7.11E+02 20 7.11E+02  
 21 7.11E+02 22 7.11E+02 23 7.11E+02 24 7.11E+02  
 Spring:  
 1 2.84E+03 2 2.84E+03 3 2.84E+03 4 2.84E+03  
 5 2.84E+03 6 2.84E+03 7 2.84E+03 8 2.84E+03  
 9 2.84E+03 10 2.84E+03 11 2.84E+03 12 2.84E+03  
 13 2.84E+03 14 2.84E+03 15 2.84E+03 16 2.84E+03  
 17 2.84E+03 18 2.84E+03 19 2.84E+03 20 2.84E+03  
 21 2.84E+03 22 2.84E+03 23 2.84E+03 24 2.84E+03

No gravitational settling or scavenging.

VOLUME SOURCE: CB2

X(m) 733054 Y(m) 5775194  
 Ground Elevation 0m Height 3m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Summer:  
 1 2.88E+03 2 2.88E+03 3 2.88E+03 4 2.88E+03  
 5 2.88E+03 6 2.88E+03 7 2.88E+03 8 2.88E+03  
 9 2.88E+03 10 2.88E+03 11 2.88E+03 12 2.88E+03  
 13 2.88E+03 14 2.88E+03 15 2.88E+03 16 2.88E+03  
 17 2.88E+03 18 2.88E+03 19 2.88E+03 20 2.88E+03  
 21 2.88E+03 22 2.88E+03 23 2.88E+03 24 2.88E+03  
 Autumn:  
 1 7.11E+02 2 7.11E+02 3 7.11E+02 4 7.11E+02  
 5 7.11E+02 6 7.11E+02 7 7.11E+02 8 7.11E+02  
 9 7.11E+02 10 7.11E+02 11 7.11E+02 12 7.11E+02  
 13 7.11E+02 14 7.11E+02 15 7.11E+02 16 7.11E+02  
 17 7.11E+02 18 7.11E+02 19 7.11E+02 20 7.11E+02  
 21 7.11E+02 22 7.11E+02 23 7.11E+02 24 7.11E+02  
 Winter:  
 1 7.11E+02 2 7.11E+02 3 7.11E+02 4 7.11E+02  
 5 7.11E+02 6 7.11E+02 7 7.11E+02 8 7.11E+02  
 9 7.11E+02 10 7.11E+02 11 7.11E+02 12 7.11E+02  
 13 7.11E+02 14 7.11E+02 15 7.11E+02 16 7.11E+02  
 17 7.11E+02 18 7.11E+02 19 7.11E+02 20 7.11E+02  
 21 7.11E+02 22 7.11E+02 23 7.11E+02 24 7.11E+02  
 Spring:  
 1 2.84E+03 2 2.84E+03 3 2.84E+03 4 2.84E+03  
 5 2.84E+03 6 2.84E+03 7 2.84E+03 8 2.84E+03  
 9 2.84E+03 10 2.84E+03 11 2.84E+03 12 2.84E+03  
 13 2.84E+03 14 2.84E+03 15 2.84E+03 16 2.84E+03  
 17 2.84E+03 18 2.84E+03 19 2.84E+03 20 2.84E+03





Two\_Sheds\_320K\_Birds\_Each\_TXT

Table with columns: X(m), Y(m), Ground Elevation Om, Height Im, Hor. spread 5m, Vert. spread 1m. Rows include Spring, Autumn, Winter, and Summer data points.

No gravitational settling or scavenging.

VOLUME SOURCE: CB11

X(m) 733066 Y(m) 5775158 Ground Elevation Om Height Im Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with columns: Season, X(m), Y(m), Ground Elevation Om, Height Im, Hor. spread 5m, Vert. spread 1m. Rows include Summer, Autumn, Winter, and Spring data points.

No gravitational settling or scavenging.

VOLUME SOURCE: CB12

X(m) 733086 Y(m) 5775155 Ground Elevation Om Height Im Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with columns: Season, X(m), Y(m), Ground Elevation Om, Height Im, Hor. spread 5m, Vert. spread 1m. Rows include Summer, Autumn, and Winter data points.

Two\_Sheds\_320K\_Birds\_Each\_TXT

Table with columns: X(m), Y(m), Ground Elevation Om, Height Im, Hor. spread 5m, Vert. spread 1m. Rows include Spring, Autumn, Winter, and Summer data points.

No gravitational settling or scavenging.

VOLUME SOURCE: CB13

X(m) 733106 Y(m) 5775151 Ground Elevation Om Height Im Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with columns: Season, X(m), Y(m), Ground Elevation Om, Height Im, Hor. spread 5m, Vert. spread 1m. Rows include Summer, Autumn, Winter, and Spring data points.

No gravitational settling or scavenging.

VOLUME SOURCE: CB14

X(m) 733126 Y(m) 5775148 Ground Elevation Om Height Im Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with columns: Season, X(m), Y(m), Ground Elevation Om, Height Im, Hor. spread 5m, Vert. spread 1m. Rows include Summer and Autumn data points.

Two\_Sheds\_320K\_Birds\_Each.TXT

| Winter: | 21 7.11E+02 | 22 7.11E+02 | 23 7.11E+02 | 24 7.11E+02 | 25 7.11E+02 | 26 7.11E+02 | 27 7.11E+02 | 28 7.11E+02 | 29 7.11E+02 | 30 7.11E+02 |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|         | 1 2.84E+03  | 2 2.84E+03  | 3 2.84E+03  | 4 2.84E+03  | 5 2.84E+03  | 6 2.84E+03  | 7 2.84E+03  | 8 2.84E+03  | 9 2.84E+03  | 10 2.84E+03 |
|         | 13 2.84E+03 | 14 2.84E+03 | 15 2.84E+03 | 16 2.84E+03 | 17 2.84E+03 | 18 2.84E+03 | 19 2.84E+03 | 20 2.84E+03 | 21 2.84E+03 | 22 2.84E+03 |
|         | 1 7.11E+02  | 2 7.11E+02  | 3 7.11E+02  | 4 7.11E+02  | 5 7.11E+02  | 6 7.11E+02  | 7 7.11E+02  | 8 7.11E+02  | 9 7.11E+02  | 10 7.11E+02 |
|         | 13 2.84E+03 | 14 2.84E+03 | 15 2.84E+03 | 16 2.84E+03 | 17 2.84E+03 | 18 2.84E+03 | 19 2.84E+03 | 20 2.84E+03 | 21 2.84E+03 | 22 2.84E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CB15

X(m) 733146 Y(m) 5775144  
Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

| Summer: | 1 2.88E+03  | 2 2.88E+03  | 3 2.88E+03  | 4 2.88E+03  | 5 2.88E+03  | 6 2.88E+03  | 7 2.88E+03  | 8 2.88E+03  | 9 2.88E+03  | 10 2.88E+03 |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|         | 13 2.88E+03 | 14 2.88E+03 | 15 2.88E+03 | 16 2.88E+03 | 17 2.88E+03 | 18 2.88E+03 | 19 2.88E+03 | 20 2.88E+03 | 21 2.88E+03 | 22 2.88E+03 |
|         | 1 7.11E+02  | 2 7.11E+02  | 3 7.11E+02  | 4 7.11E+02  | 5 7.11E+02  | 6 7.11E+02  | 7 7.11E+02  | 8 7.11E+02  | 9 7.11E+02  | 10 7.11E+02 |
|         | 13 2.88E+03 | 14 2.88E+03 | 15 2.88E+03 | 16 2.88E+03 | 17 2.88E+03 | 18 2.88E+03 | 19 2.88E+03 | 20 2.88E+03 | 21 2.88E+03 | 22 2.88E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CB16

X(m) 733166 Y(m) 5775141  
Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

| Summer: | 1 2.88E+03  | 2 2.88E+03  | 3 2.88E+03  | 4 2.88E+03  | 5 2.88E+03  | 6 2.88E+03  | 7 2.88E+03  | 8 2.88E+03  | 9 2.88E+03  | 10 2.88E+03 |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|         | 13 2.88E+03 | 14 2.88E+03 | 15 2.88E+03 | 16 2.88E+03 | 17 2.88E+03 | 18 2.88E+03 | 19 2.88E+03 | 20 2.88E+03 | 21 2.88E+03 | 22 2.88E+03 |
|         | 1 7.11E+02  | 2 7.11E+02  | 3 7.11E+02  | 4 7.11E+02  | 5 7.11E+02  | 6 7.11E+02  | 7 7.11E+02  | 8 7.11E+02  | 9 7.11E+02  | 10 7.11E+02 |
|         | 13 2.88E+03 | 14 2.88E+03 | 15 2.88E+03 | 16 2.88E+03 | 17 2.88E+03 | 18 2.88E+03 | 19 2.88E+03 | 20 2.88E+03 | 21 2.88E+03 | 22 2.88E+03 |

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Two\_Sheds\_320K\_Birds\_Each.TXT

| Winter: | 13 7.11E+02 | 14 7.11E+02 | 15 7.11E+02 | 16 7.11E+02 | 17 7.11E+02 | 18 7.11E+02 | 19 7.11E+02 | 20 7.11E+02 | 21 7.11E+02 | 22 7.11E+02 |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|         | 1 2.84E+03  | 2 2.84E+03  | 3 2.84E+03  | 4 2.84E+03  | 5 2.84E+03  | 6 2.84E+03  | 7 2.84E+03  | 8 2.84E+03  | 9 2.84E+03  | 10 2.84E+03 |
|         | 13 2.84E+03 | 14 2.84E+03 | 15 2.84E+03 | 16 2.84E+03 | 17 2.84E+03 | 18 2.84E+03 | 19 2.84E+03 | 20 2.84E+03 | 21 2.84E+03 | 22 2.84E+03 |
|         | 1 7.11E+02  | 2 7.11E+02  | 3 7.11E+02  | 4 7.11E+02  | 5 7.11E+02  | 6 7.11E+02  | 7 7.11E+02  | 8 7.11E+02  | 9 7.11E+02  | 10 7.11E+02 |
|         | 13 2.84E+03 | 14 2.84E+03 | 15 2.84E+03 | 16 2.84E+03 | 17 2.84E+03 | 18 2.84E+03 | 19 2.84E+03 | 20 2.84E+03 | 21 2.84E+03 | 22 2.84E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CB17

X(m) 733018 Y(m) 5775131  
Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

| Summer: | 1 2.88E+03  | 2 2.88E+03  | 3 2.88E+03  | 4 2.88E+03  | 5 2.88E+03  | 6 2.88E+03  | 7 2.88E+03  | 8 2.88E+03  | 9 2.88E+03  | 10 2.88E+03 |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|         | 13 2.88E+03 | 14 2.88E+03 | 15 2.88E+03 | 16 2.88E+03 | 17 2.88E+03 | 18 2.88E+03 | 19 2.88E+03 | 20 2.88E+03 | 21 2.88E+03 | 22 2.88E+03 |
|         | 1 7.11E+02  | 2 7.11E+02  | 3 7.11E+02  | 4 7.11E+02  | 5 7.11E+02  | 6 7.11E+02  | 7 7.11E+02  | 8 7.11E+02  | 9 7.11E+02  | 10 7.11E+02 |
|         | 13 2.88E+03 | 14 2.88E+03 | 15 2.88E+03 | 16 2.88E+03 | 17 2.88E+03 | 18 2.88E+03 | 19 2.88E+03 | 20 2.88E+03 | 21 2.88E+03 | 22 2.88E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CB18

X(m) 733058 Y(m) 5775124  
Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

| Summer: | 1 2.88E+03  | 2 2.88E+03  | 3 2.88E+03  | 4 2.88E+03  | 5 2.88E+03  | 6 2.88E+03  | 7 2.88E+03  | 8 2.88E+03  | 9 2.88E+03  | 10 2.88E+03 |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|         | 13 2.88E+03 | 14 2.88E+03 | 15 2.88E+03 | 16 2.88E+03 | 17 2.88E+03 | 18 2.88E+03 | 19 2.88E+03 | 20 2.88E+03 | 21 2.88E+03 | 22 2.88E+03 |
|         | 1 7.11E+02  | 2 7.11E+02  | 3 7.11E+02  | 4 7.11E+02  | 5 7.11E+02  | 6 7.11E+02  | 7 7.11E+02  | 8 7.11E+02  | 9 7.11E+02  | 10 7.11E+02 |
|         | 13 2.88E+03 | 14 2.88E+03 | 15 2.88E+03 | 16 2.88E+03 | 17 2.88E+03 | 18 2.88E+03 | 19 2.88E+03 | 20 2.88E+03 | 21 2.88E+03 | 22 2.88E+03 |

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Two\_Sheds\_320K\_Birds\_Each.TXT

|         | X(m)   | Y(m)    | Ground Elevation Om | Height Im | Hor. spread 5m | Vert. spread 1m |
|---------|--------|---------|---------------------|-----------|----------------|-----------------|
| Autumn: | 733058 | 5775124 |                     |           |                |                 |
| Winter: |        |         |                     |           |                |                 |
| Spring: |        |         |                     |           |                |                 |

No gravitational settling or scavenging.

VOLUME SOURCE: CB19

| X(m)   | Y(m)    | Ground Elevation Om | Height Im | Hor. spread 5m | Vert. spread 1m |
|--------|---------|---------------------|-----------|----------------|-----------------|
| 733058 | 5775124 |                     |           |                |                 |

Emission rates by season and hour, in OUV/second:

|         |    |          |    |          |    |          |    |          |
|---------|----|----------|----|----------|----|----------|----|----------|
| Summer: | 1  | 2.88E+03 | 2  | 2.88E+03 | 3  | 2.88E+03 | 4  | 2.88E+03 |
|         | 5  | 2.88E+03 | 6  | 2.88E+03 | 7  | 2.88E+03 | 8  | 2.88E+03 |
|         | 9  | 2.88E+03 | 10 | 2.88E+03 | 11 | 2.88E+03 | 12 | 2.88E+03 |
|         | 13 | 2.88E+03 | 14 | 2.88E+03 | 15 | 2.88E+03 | 16 | 2.88E+03 |
|         | 17 | 2.88E+03 | 18 | 2.88E+03 | 19 | 2.88E+03 | 20 | 2.88E+03 |
|         | 21 | 2.88E+03 | 22 | 2.88E+03 | 23 | 2.88E+03 | 24 | 2.88E+03 |
| Autumn: | 1  | 7.11E+02 | 2  | 7.11E+02 | 3  | 7.11E+02 | 4  | 7.11E+02 |
|         | 5  | 7.11E+02 | 6  | 7.11E+02 | 7  | 7.11E+02 | 8  | 7.11E+02 |
|         | 9  | 7.11E+02 | 10 | 7.11E+02 | 11 | 7.11E+02 | 12 | 7.11E+02 |
|         | 13 | 7.11E+02 | 14 | 7.11E+02 | 15 | 7.11E+02 | 16 | 7.11E+02 |
|         | 17 | 7.11E+02 | 18 | 7.11E+02 | 19 | 7.11E+02 | 20 | 7.11E+02 |
|         | 21 | 7.11E+02 | 22 | 7.11E+02 | 23 | 7.11E+02 | 24 | 7.11E+02 |
| Winter: | 1  | 7.11E+02 | 2  | 7.11E+02 | 3  | 7.11E+02 | 4  | 7.11E+02 |
|         | 5  | 7.11E+02 | 6  | 7.11E+02 | 7  | 7.11E+02 | 8  | 7.11E+02 |
|         | 9  | 7.11E+02 | 10 | 7.11E+02 | 11 | 7.11E+02 | 12 | 7.11E+02 |
|         | 13 | 7.11E+02 | 14 | 7.11E+02 | 15 | 7.11E+02 | 16 | 7.11E+02 |
|         | 17 | 7.11E+02 | 18 | 7.11E+02 | 19 | 7.11E+02 | 20 | 7.11E+02 |
|         | 21 | 7.11E+02 | 22 | 7.11E+02 | 23 | 7.11E+02 | 24 | 7.11E+02 |
| Spring: | 1  | 2.84E+03 | 2  | 2.84E+03 | 3  | 2.84E+03 | 4  | 2.84E+03 |
|         | 5  | 2.84E+03 | 6  | 2.84E+03 | 7  | 2.84E+03 | 8  | 2.84E+03 |
|         | 9  | 2.84E+03 | 10 | 2.84E+03 | 11 | 2.84E+03 | 12 | 2.84E+03 |
|         | 13 | 2.84E+03 | 14 | 2.84E+03 | 15 | 2.84E+03 | 16 | 2.84E+03 |
|         | 17 | 2.84E+03 | 18 | 2.84E+03 | 19 | 2.84E+03 | 20 | 2.84E+03 |
|         | 21 | 2.84E+03 | 22 | 2.84E+03 | 23 | 2.84E+03 | 24 | 2.84E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CB20

| X(m)   | Y(m)    | Ground Elevation Om | Height Im | Hor. spread 5m | Vert. spread 1m |
|--------|---------|---------------------|-----------|----------------|-----------------|
| 733078 | 5775121 |                     |           |                |                 |

Emission rates by season and hour, in OUV/second:

|         |    |          |    |          |    |          |    |          |
|---------|----|----------|----|----------|----|----------|----|----------|
| Summer: | 1  | 2.88E+03 | 2  | 2.88E+03 | 3  | 2.88E+03 | 4  | 2.88E+03 |
|         | 5  | 2.88E+03 | 6  | 2.88E+03 | 7  | 2.88E+03 | 8  | 2.88E+03 |
|         | 9  | 2.88E+03 | 10 | 2.88E+03 | 11 | 2.88E+03 | 12 | 2.88E+03 |
|         | 13 | 2.88E+03 | 14 | 2.88E+03 | 15 | 2.88E+03 | 16 | 2.88E+03 |
|         | 17 | 2.88E+03 | 18 | 2.88E+03 | 19 | 2.88E+03 | 20 | 2.88E+03 |

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|         | X(m)   | Y(m)    | Ground Elevation Om | Height Im | Hor. spread 5m | Vert. spread 1m |
|---------|--------|---------|---------------------|-----------|----------------|-----------------|
| Autumn: | 733098 | 5775117 |                     |           |                |                 |
| Winter: |        |         |                     |           |                |                 |
| Spring: |        |         |                     |           |                |                 |

No gravitational settling or scavenging.

VOLUME SOURCE: CB21

| X(m)   | Y(m)    | Ground Elevation Om | Height Im | Hor. spread 5m | Vert. spread 1m |
|--------|---------|---------------------|-----------|----------------|-----------------|
| 733098 | 5775117 |                     |           |                |                 |

Emission rates by season and hour, in OUV/second:

|         |    |          |    |          |    |          |    |          |
|---------|----|----------|----|----------|----|----------|----|----------|
| Summer: | 1  | 2.88E+03 | 2  | 2.88E+03 | 3  | 2.88E+03 | 4  | 2.88E+03 |
|         | 5  | 2.88E+03 | 6  | 2.88E+03 | 7  | 2.88E+03 | 8  | 2.88E+03 |
|         | 9  | 2.88E+03 | 10 | 2.88E+03 | 11 | 2.88E+03 | 12 | 2.88E+03 |
|         | 13 | 2.88E+03 | 14 | 2.88E+03 | 15 | 2.88E+03 | 16 | 2.88E+03 |
|         | 17 | 2.88E+03 | 18 | 2.88E+03 | 19 | 2.88E+03 | 20 | 2.88E+03 |
|         | 21 | 2.88E+03 | 22 | 2.88E+03 | 23 | 2.88E+03 | 24 | 2.88E+03 |
| Autumn: | 1  | 7.11E+02 | 2  | 7.11E+02 | 3  | 7.11E+02 | 4  | 7.11E+02 |
|         | 5  | 7.11E+02 | 6  | 7.11E+02 | 7  | 7.11E+02 | 8  | 7.11E+02 |
|         | 9  | 7.11E+02 | 10 | 7.11E+02 | 11 | 7.11E+02 | 12 | 7.11E+02 |
|         | 13 | 7.11E+02 | 14 | 7.11E+02 | 15 | 7.11E+02 | 16 | 7.11E+02 |
|         | 17 | 7.11E+02 | 18 | 7.11E+02 | 19 | 7.11E+02 | 20 | 7.11E+02 |
|         | 21 | 7.11E+02 | 22 | 7.11E+02 | 23 | 7.11E+02 | 24 | 7.11E+02 |
| Winter: | 1  | 7.11E+02 | 2  | 7.11E+02 | 3  | 7.11E+02 | 4  | 7.11E+02 |
|         | 5  | 7.11E+02 | 6  | 7.11E+02 | 7  | 7.11E+02 | 8  | 7.11E+02 |
|         | 9  | 7.11E+02 | 10 | 7.11E+02 | 11 | 7.11E+02 | 12 | 7.11E+02 |
|         | 13 | 7.11E+02 | 14 | 7.11E+02 | 15 | 7.11E+02 | 16 | 7.11E+02 |
|         | 17 | 7.11E+02 | 18 | 7.11E+02 | 19 | 7.11E+02 | 20 | 7.11E+02 |
|         | 21 | 7.11E+02 | 22 | 7.11E+02 | 23 | 7.11E+02 | 24 | 7.11E+02 |
| Spring: | 1  | 2.84E+03 | 2  | 2.84E+03 | 3  | 2.84E+03 | 4  | 2.84E+03 |
|         | 5  | 2.84E+03 | 6  | 2.84E+03 | 7  | 2.84E+03 | 8  | 2.84E+03 |
|         | 9  | 2.84E+03 | 10 | 2.84E+03 | 11 | 2.84E+03 | 12 | 2.84E+03 |
|         | 13 | 2.84E+03 | 14 | 2.84E+03 | 15 | 2.84E+03 | 16 | 2.84E+03 |
|         | 17 | 2.84E+03 | 18 | 2.84E+03 | 19 | 2.84E+03 | 20 | 2.84E+03 |
|         | 21 | 2.84E+03 | 22 | 2.84E+03 | 23 | 2.84E+03 | 24 | 2.84E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CB22

| X(m)   | Y(m)    | Ground Elevation Om | Height Im | Hor. spread 5m | Vert. spread 1m |
|--------|---------|---------------------|-----------|----------------|-----------------|
| 733118 | 5775114 |                     |           |                |                 |

Emission rates by season and hour, in OUV/second:

|         |   |          |    |          |    |          |    |          |
|---------|---|----------|----|----------|----|----------|----|----------|
| Summer: | 1 | 2.88E+03 | 2  | 2.88E+03 | 3  | 2.88E+03 | 4  | 2.88E+03 |
|         | 5 | 2.88E+03 | 6  | 2.88E+03 | 7  | 2.88E+03 | 8  | 2.88E+03 |
|         | 9 | 2.88E+03 | 10 | 2.88E+03 | 11 | 2.88E+03 | 12 | 2.88E+03 |









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VOLUME SOURCE: CB34

X(m) Y(m) Ground Elevation Height Hor. spread Vert. spread  
733020 5775062 0m 1m 5m 1m

Emission rates by season and hour, in OUV/second:

Table with 5 columns: Season, X(m), Y(m), Ground Elevation (0m), and a list of 5 values (Height, Hor. spread, Vert. spread, Vert. spread, 1m). Rows include Summer, Autumn, Winter, and Spring.

No gravitational settling or scavenging.

VOLUME SOURCE: CB35

X(m) Y(m) Ground Elevation Height Hor. spread Vert. spread  
733040 5775058 0m 1m 5m 1m

Emission rates by season and hour, in OUV/second:

Table with 5 columns: Season, X(m), Y(m), Ground Elevation (0m), and a list of 5 values (Height, Hor. spread, Vert. spread, Vert. spread, 1m). Rows include Summer, Autumn, Winter, and Spring.

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No gravitational settling or scavenging.

VOLUME SOURCE: CB36

X(m) Y(m) Ground Elevation Height Hor. spread Vert. spread  
733060 5775055 0m 1m 5m 1m

Emission rates by season and hour, in OUV/second:

Table with 5 columns: Season, X(m), Y(m), Ground Elevation (0m), and a list of 5 values (Height, Hor. spread, Vert. spread, Vert. spread, 1m). Rows include Summer, Autumn, Winter, and Spring.

No gravitational settling or scavenging.

VOLUME SOURCE: CB37

X(m) Y(m) Ground Elevation Height Hor. spread Vert. spread  
733080 5775051 0m 1m 5m 1m

Emission rates by season and hour, in OUV/second:

Table with 5 columns: Season, X(m), Y(m), Ground Elevation (0m), and a list of 5 values (Height, Hor. spread, Vert. spread, Vert. spread, 1m). Rows include Summer, Autumn, Winter, and Spring.

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Table with 7 columns: Season, X(m), Y(m), Ground Elevation (Om), Height (Im), Hor. spread (5m), Vert. spread (1m). Rows include Winter and Spring data points.

No gravitational settling or scavenging.

VOLUME SOURCE: CB46

X(m) 733092 Y(m) 5775014

Emission rates by season and hour, in OUV/second:

Table with 7 columns: Season, X(m), Y(m), Ground Elevation (Om), Height (Im), Hor. spread (5m), Vert. spread (1m). Rows include Summer, Autumn, Winter, and Spring data points.

No gravitational settling or scavenging.

VOLUME SOURCE: CB47

X(m) 733112 Y(m) 5775011

Emission rates by season and hour, in OUV/second:

Table with 7 columns: Season, X(m), Y(m), Ground Elevation (Om), Height (Im), Hor. spread (5m), Vert. spread (1m). Rows include Summer and Autumn data points.

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Table with 7 columns: Season, X(m), Y(m), Ground Elevation (Om), Height (Im), Hor. spread (5m), Vert. spread (1m). Rows include Winter and Spring data points.

No gravitational settling or scavenging.

VOLUME SOURCE: CB48

X(m) 733132 Y(m) 5775007

Emission rates by season and hour, in OUV/second:

Table with 7 columns: Season, X(m), Y(m), Ground Elevation (Om), Height (Im), Hor. spread (5m), Vert. spread (1m). Rows include Summer, Autumn, Winter, and Spring data points.

No gravitational settling or scavenging.

VOLUME SOURCE: CA1

X(m) 732364 Y(m) 5775313

Emission rates by season and hour, in OUV/second:

Table with 7 columns: Season, X(m), Y(m), Ground Elevation (Om), Height (Im), Hor. spread (5m), Vert. spread (1m). Rows include Summer and Autumn data points.





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|         | X(m) | Y(m)     | Ground Elevation<br>0m | Height<br>1m | Hor. spread<br>5m | vert. spread<br>1m |
|---------|------|----------|------------------------|--------------|-------------------|--------------------|
| Autumn: | 1    | 7.11E+02 | 2                      | 7.11E+02     | 3                 | 7.11E+02           |
|         | 5    | 7.11E+02 | 6                      | 7.11E+02     | 11                | 7.11E+02           |
|         | 9    | 7.11E+02 | 10                     | 7.11E+02     | 11                | 7.11E+02           |
|         | 13   | 7.11E+02 | 14                     | 7.11E+02     | 15                | 7.11E+02           |
|         | 17   | 7.11E+02 | 18                     | 7.11E+02     | 19                | 7.11E+02           |
|         | 21   | 7.11E+02 | 22                     | 7.11E+02     | 23                | 7.11E+02           |
| Winter: | 1    | 7.11E+02 | 2                      | 7.11E+02     | 3                 | 7.11E+02           |
|         | 5    | 7.11E+02 | 6                      | 7.11E+02     | 7                 | 7.11E+02           |
|         | 9    | 7.11E+02 | 10                     | 7.11E+02     | 11                | 7.11E+02           |
|         | 13   | 7.11E+02 | 14                     | 7.11E+02     | 15                | 7.11E+02           |
|         | 17   | 7.11E+02 | 18                     | 7.11E+02     | 19                | 7.11E+02           |
|         | 21   | 7.11E+02 | 22                     | 7.11E+02     | 23                | 7.11E+02           |
| Spring: | 1    | 2.84E+03 | 2                      | 2.84E+03     | 3                 | 2.84E+03           |
|         | 5    | 2.84E+03 | 6                      | 2.84E+03     | 7                 | 2.84E+03           |
|         | 9    | 2.84E+03 | 10                     | 2.84E+03     | 11                | 2.84E+03           |
|         | 13   | 2.84E+03 | 14                     | 2.84E+03     | 15                | 2.84E+03           |
|         | 17   | 2.84E+03 | 18                     | 2.84E+03     | 19                | 2.84E+03           |
|         | 21   | 2.84E+03 | 22                     | 2.84E+03     | 23                | 2.84E+03           |

No gravitational settling or scavenging.

VOLUME SOURCE: CA6

X(m) 732464  
Y(m) 5775295

Emission rates by season and hour, in OUV/second:

|         |    |          |    |          |    |          |    |          |
|---------|----|----------|----|----------|----|----------|----|----------|
| Summer: | 1  | 2.88E+03 | 2  | 2.88E+03 | 3  | 2.88E+03 | 4  | 2.88E+03 |
|         | 5  | 2.88E+03 | 6  | 2.88E+03 | 7  | 2.88E+03 | 8  | 2.88E+03 |
|         | 9  | 2.88E+03 | 10 | 2.88E+03 | 11 | 2.88E+03 | 12 | 2.88E+03 |
|         | 13 | 2.88E+03 | 14 | 2.88E+03 | 15 | 2.88E+03 | 16 | 2.88E+03 |
|         | 17 | 2.88E+03 | 18 | 2.88E+03 | 19 | 2.88E+03 | 20 | 2.88E+03 |
|         | 21 | 2.88E+03 | 22 | 2.88E+03 | 23 | 2.88E+03 | 24 | 2.88E+03 |
| Autumn: | 1  | 7.11E+02 | 2  | 7.11E+02 | 3  | 7.11E+02 | 4  | 7.11E+02 |
|         | 5  | 7.11E+02 | 6  | 7.11E+02 | 7  | 7.11E+02 | 8  | 7.11E+02 |
|         | 9  | 7.11E+02 | 10 | 7.11E+02 | 11 | 7.11E+02 | 12 | 7.11E+02 |
|         | 13 | 7.11E+02 | 14 | 7.11E+02 | 15 | 7.11E+02 | 16 | 7.11E+02 |
|         | 17 | 7.11E+02 | 18 | 7.11E+02 | 19 | 7.11E+02 | 20 | 7.11E+02 |
|         | 21 | 7.11E+02 | 22 | 7.11E+02 | 23 | 7.11E+02 | 24 | 7.11E+02 |
| Winter: | 1  | 7.11E+02 | 2  | 7.11E+02 | 3  | 7.11E+02 | 4  | 7.11E+02 |
|         | 5  | 7.11E+02 | 6  | 7.11E+02 | 7  | 7.11E+02 | 8  | 7.11E+02 |
|         | 9  | 7.11E+02 | 10 | 7.11E+02 | 11 | 7.11E+02 | 12 | 7.11E+02 |
|         | 13 | 7.11E+02 | 14 | 7.11E+02 | 15 | 7.11E+02 | 16 | 7.11E+02 |
|         | 17 | 7.11E+02 | 18 | 7.11E+02 | 19 | 7.11E+02 | 20 | 7.11E+02 |
|         | 21 | 7.11E+02 | 22 | 7.11E+02 | 23 | 7.11E+02 | 24 | 7.11E+02 |
| Spring: | 1  | 2.84E+03 | 2  | 2.84E+03 | 3  | 2.84E+03 | 4  | 2.84E+03 |
|         | 5  | 2.84E+03 | 6  | 2.84E+03 | 7  | 2.84E+03 | 8  | 2.84E+03 |
|         | 9  | 2.84E+03 | 10 | 2.84E+03 | 11 | 2.84E+03 | 12 | 2.84E+03 |
|         | 13 | 2.84E+03 | 14 | 2.84E+03 | 15 | 2.84E+03 | 16 | 2.84E+03 |
|         | 17 | 2.84E+03 | 18 | 2.84E+03 | 19 | 2.84E+03 | 20 | 2.84E+03 |
|         | 21 | 2.84E+03 | 22 | 2.84E+03 | 23 | 2.84E+03 | 24 | 2.84E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CA7

X(m) 732484  
Y(m) 5775291

Emission rates by season and hour, in OUV/second:

|         |    |          |    |          |    |          |    |          |
|---------|----|----------|----|----------|----|----------|----|----------|
| Summer: | 1  | 2.88E+03 | 2  | 2.88E+03 | 3  | 2.88E+03 | 4  | 2.88E+03 |
|         | 5  | 2.88E+03 | 6  | 2.88E+03 | 7  | 2.88E+03 | 8  | 2.88E+03 |
|         | 9  | 2.88E+03 | 10 | 2.88E+03 | 11 | 2.88E+03 | 12 | 2.88E+03 |
|         | 13 | 2.88E+03 | 14 | 2.88E+03 | 15 | 2.88E+03 | 16 | 2.88E+03 |

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|         | X(m) | Y(m)     | Ground Elevation<br>0m | Height<br>1m | Hor. spread<br>5m | vert. spread<br>1m |
|---------|------|----------|------------------------|--------------|-------------------|--------------------|
| Autumn: | 1    | 7.11E+02 | 2                      | 7.11E+02     | 3                 | 7.11E+02           |
|         | 5    | 7.11E+02 | 6                      | 7.11E+02     | 7                 | 7.11E+02           |
|         | 9    | 7.11E+02 | 10                     | 7.11E+02     | 11                | 7.11E+02           |
|         | 13   | 7.11E+02 | 14                     | 7.11E+02     | 15                | 7.11E+02           |
|         | 17   | 7.11E+02 | 18                     | 7.11E+02     | 19                | 7.11E+02           |
|         | 21   | 7.11E+02 | 22                     | 7.11E+02     | 23                | 7.11E+02           |
| Winter: | 1    | 7.11E+02 | 2                      | 7.11E+02     | 3                 | 7.11E+02           |
|         | 5    | 7.11E+02 | 6                      | 7.11E+02     | 7                 | 7.11E+02           |
|         | 9    | 7.11E+02 | 10                     | 7.11E+02     | 11                | 7.11E+02           |
|         | 13   | 7.11E+02 | 14                     | 7.11E+02     | 15                | 7.11E+02           |
|         | 17   | 7.11E+02 | 18                     | 7.11E+02     | 19                | 7.11E+02           |
|         | 21   | 7.11E+02 | 22                     | 7.11E+02     | 23                | 7.11E+02           |
| Spring: | 1    | 2.84E+03 | 2                      | 2.84E+03     | 3                 | 2.84E+03           |
|         | 5    | 2.84E+03 | 6                      | 2.84E+03     | 7                 | 2.84E+03           |
|         | 9    | 2.84E+03 | 10                     | 2.84E+03     | 11                | 2.84E+03           |
|         | 13   | 2.84E+03 | 14                     | 2.84E+03     | 15                | 2.84E+03           |
|         | 17   | 2.84E+03 | 18                     | 2.84E+03     | 19                | 2.84E+03           |
|         | 21   | 2.84E+03 | 22                     | 2.84E+03     | 23                | 2.84E+03           |

No gravitational settling or scavenging.

VOLUME SOURCE: CA8

X(m) 732504  
Y(m) 5775289

Emission rates by season and hour, in OUV/second:

|         |    |          |    |          |    |          |    |          |
|---------|----|----------|----|----------|----|----------|----|----------|
| Summer: | 1  | 2.88E+03 | 2  | 2.88E+03 | 3  | 2.88E+03 | 4  | 2.88E+03 |
|         | 5  | 2.88E+03 | 6  | 2.88E+03 | 7  | 2.88E+03 | 8  | 2.88E+03 |
|         | 9  | 2.88E+03 | 10 | 2.88E+03 | 11 | 2.88E+03 | 12 | 2.88E+03 |
|         | 13 | 2.88E+03 | 14 | 2.88E+03 | 15 | 2.88E+03 | 16 | 2.88E+03 |
|         | 17 | 2.88E+03 | 18 | 2.88E+03 | 19 | 2.88E+03 | 20 | 2.88E+03 |
|         | 21 | 2.88E+03 | 22 | 2.88E+03 | 23 | 2.88E+03 | 24 | 2.88E+03 |
| Autumn: | 1  | 7.11E+02 | 2  | 7.11E+02 | 3  | 7.11E+02 | 4  | 7.11E+02 |
|         | 5  | 7.11E+02 | 6  | 7.11E+02 | 7  | 7.11E+02 | 8  | 7.11E+02 |
|         | 9  | 7.11E+02 | 10 | 7.11E+02 | 11 | 7.11E+02 | 12 | 7.11E+02 |
|         | 13 | 7.11E+02 | 14 | 7.11E+02 | 15 | 7.11E+02 | 16 | 7.11E+02 |
|         | 17 | 7.11E+02 | 18 | 7.11E+02 | 19 | 7.11E+02 | 20 | 7.11E+02 |
|         | 21 | 7.11E+02 | 22 | 7.11E+02 | 23 | 7.11E+02 | 24 | 7.11E+02 |
| Winter: | 1  | 7.11E+02 | 2  | 7.11E+02 | 3  | 7.11E+02 | 4  | 7.11E+02 |
|         | 5  | 7.11E+02 | 6  | 7.11E+02 | 7  | 7.11E+02 | 8  | 7.11E+02 |
|         | 9  | 7.11E+02 | 10 | 7.11E+02 | 11 | 7.11E+02 | 12 | 7.11E+02 |
|         | 13 | 7.11E+02 | 14 | 7.11E+02 | 15 | 7.11E+02 | 16 | 7.11E+02 |
|         | 17 | 7.11E+02 | 18 | 7.11E+02 | 19 | 7.11E+02 | 20 | 7.11E+02 |
|         | 21 | 7.11E+02 | 22 | 7.11E+02 | 23 | 7.11E+02 | 24 | 7.11E+02 |
| Spring: | 1  | 2.84E+03 | 2  | 2.84E+03 | 3  | 2.84E+03 | 4  | 2.84E+03 |
|         | 5  | 2.84E+03 | 6  | 2.84E+03 | 7  | 2.84E+03 | 8  | 2.84E+03 |
|         | 9  | 2.84E+03 | 10 | 2.84E+03 | 11 | 2.84E+03 | 12 | 2.84E+03 |
|         | 13 | 2.84E+03 | 14 | 2.84E+03 | 15 | 2.84E+03 | 16 | 2.84E+03 |
|         | 17 | 2.84E+03 | 18 | 2.84E+03 | 19 | 2.84E+03 | 20 | 2.84E+03 |
|         | 21 | 2.84E+03 | 22 | 2.84E+03 | 23 | 2.84E+03 | 24 | 2.84E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CA9

X(m) 732355  
Y(m) 5775281

Emission rates by season and hour, in OUV/second:

|         |   |          |   |          |   |          |   |          |
|---------|---|----------|---|----------|---|----------|---|----------|
| Summer: | 1 | 2.88E+03 | 2 | 2.88E+03 | 3 | 2.88E+03 | 4 | 2.88E+03 |
|         | 5 | 2.88E+03 | 6 | 2.88E+03 | 7 | 2.88E+03 | 8 | 2.88E+03 |







VOLUME SOURCE: CA21

X(m) 732428 Y(m) 5775233 Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

| Season | Hour | Rate     | Season | Hour     | Rate |          |
|--------|------|----------|--------|----------|------|----------|
| Summer | 1    | 2.88E+03 | 2      | 2.88E+03 | 3    | 2.88E+03 |
|        | 2    | 2.88E+03 | 6      | 2.88E+03 | 7    | 2.88E+03 |
|        | 9    | 2.88E+03 | 10     | 2.88E+03 | 11   | 2.88E+03 |
|        | 13   | 2.88E+03 | 14     | 2.88E+03 | 15   | 2.88E+03 |
|        | 17   | 2.88E+03 | 18     | 2.88E+03 | 19   | 2.88E+03 |
|        | 21   | 2.88E+03 | 22     | 2.88E+03 | 23   | 2.88E+03 |
| Autumn | 1    | 7.11E+02 | 2      | 7.11E+02 | 3    | 7.11E+02 |
|        | 5    | 7.11E+02 | 6      | 7.11E+02 | 7    | 7.11E+02 |
|        | 9    | 7.11E+02 | 10     | 7.11E+02 | 11   | 7.11E+02 |
|        | 13   | 7.11E+02 | 14     | 7.11E+02 | 15   | 7.11E+02 |
|        | 17   | 7.11E+02 | 18     | 7.11E+02 | 19   | 7.11E+02 |
|        | 21   | 7.11E+02 | 22     | 7.11E+02 | 23   | 7.11E+02 |
| Winter | 1    | 7.11E+02 | 2      | 7.11E+02 | 3    | 7.11E+02 |
|        | 5    | 7.11E+02 | 6      | 7.11E+02 | 7    | 7.11E+02 |
|        | 9    | 7.11E+02 | 10     | 7.11E+02 | 11   | 7.11E+02 |
|        | 13   | 7.11E+02 | 14     | 7.11E+02 | 15   | 7.11E+02 |
|        | 17   | 7.11E+02 | 18     | 7.11E+02 | 19   | 7.11E+02 |
|        | 21   | 7.11E+02 | 22     | 7.11E+02 | 23   | 7.11E+02 |
| Spring | 1    | 2.84E+03 | 2      | 2.84E+03 | 3    | 2.84E+03 |
|        | 5    | 2.84E+03 | 6      | 2.84E+03 | 7    | 2.84E+03 |
|        | 9    | 2.84E+03 | 10     | 2.84E+03 | 11   | 2.84E+03 |
|        | 13   | 2.84E+03 | 14     | 2.84E+03 | 15   | 2.84E+03 |
|        | 17   | 2.84E+03 | 18     | 2.84E+03 | 19   | 2.84E+03 |
|        | 21   | 2.84E+03 | 22     | 2.84E+03 | 23   | 2.84E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CA22

X(m) 732448 Y(m) 5775230 Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

| Season | Hour | Rate     | Season | Hour     | Rate |          |
|--------|------|----------|--------|----------|------|----------|
| Summer | 1    | 2.88E+03 | 2      | 2.88E+03 | 3    | 2.88E+03 |
|        | 5    | 2.88E+03 | 6      | 2.88E+03 | 7    | 2.88E+03 |
|        | 9    | 2.88E+03 | 10     | 2.88E+03 | 11   | 2.88E+03 |
|        | 13   | 2.88E+03 | 14     | 2.88E+03 | 15   | 2.88E+03 |
|        | 17   | 2.88E+03 | 18     | 2.88E+03 | 19   | 2.88E+03 |
|        | 21   | 2.88E+03 | 22     | 2.88E+03 | 23   | 2.88E+03 |
| Autumn | 1    | 7.11E+02 | 2      | 7.11E+02 | 3    | 7.11E+02 |
|        | 5    | 7.11E+02 | 6      | 7.11E+02 | 7    | 7.11E+02 |
|        | 9    | 7.11E+02 | 10     | 7.11E+02 | 11   | 7.11E+02 |
|        | 13   | 7.11E+02 | 14     | 7.11E+02 | 15   | 7.11E+02 |
|        | 17   | 7.11E+02 | 18     | 7.11E+02 | 19   | 7.11E+02 |
|        | 21   | 7.11E+02 | 22     | 7.11E+02 | 23   | 7.11E+02 |
| Winter | 1    | 7.11E+02 | 2      | 7.11E+02 | 3    | 7.11E+02 |
|        | 5    | 7.11E+02 | 6      | 7.11E+02 | 7    | 7.11E+02 |
|        | 9    | 7.11E+02 | 10     | 7.11E+02 | 11   | 7.11E+02 |
|        | 13   | 7.11E+02 | 14     | 7.11E+02 | 15   | 7.11E+02 |
|        | 17   | 7.11E+02 | 18     | 7.11E+02 | 19   | 7.11E+02 |
|        | 21   | 7.11E+02 | 22     | 7.11E+02 | 23   | 7.11E+02 |
| Spring | 1    | 2.84E+03 | 2      | 2.84E+03 | 3    | 2.84E+03 |
|        | 5    | 2.84E+03 | 6      | 2.84E+03 | 7    | 2.84E+03 |
|        | 9    | 2.84E+03 | 10     | 2.84E+03 | 11   | 2.84E+03 |
|        | 13   | 2.84E+03 | 14     | 2.84E+03 | 15   | 2.84E+03 |
|        | 17   | 2.84E+03 | 18     | 2.84E+03 | 19   | 2.84E+03 |
|        | 21   | 2.84E+03 | 22     | 2.84E+03 | 23   | 2.84E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CA23

X(m) 732468 Y(m) 5775227 Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

| Season | Hour | Rate     | Season | Hour     | Rate |          |
|--------|------|----------|--------|----------|------|----------|
| Summer | 1    | 2.88E+03 | 2      | 2.88E+03 | 3    | 2.88E+03 |
|        | 5    | 2.88E+03 | 6      | 2.88E+03 | 7    | 2.88E+03 |
|        | 9    | 2.88E+03 | 10     | 2.88E+03 | 11   | 2.88E+03 |
|        | 13   | 2.88E+03 | 14     | 2.88E+03 | 15   | 2.88E+03 |
|        | 17   | 2.88E+03 | 18     | 2.88E+03 | 19   | 2.88E+03 |
|        | 21   | 2.88E+03 | 22     | 2.88E+03 | 23   | 2.88E+03 |
| Autumn | 1    | 7.11E+02 | 2      | 7.11E+02 | 3    | 7.11E+02 |
|        | 5    | 7.11E+02 | 6      | 7.11E+02 | 7    | 7.11E+02 |
|        | 9    | 7.11E+02 | 10     | 7.11E+02 | 11   | 7.11E+02 |
|        | 13   | 7.11E+02 | 14     | 7.11E+02 | 15   | 7.11E+02 |
|        | 17   | 7.11E+02 | 18     | 7.11E+02 | 19   | 7.11E+02 |
|        | 21   | 7.11E+02 | 22     | 7.11E+02 | 23   | 7.11E+02 |
| Winter | 1    | 7.11E+02 | 2      | 7.11E+02 | 3    | 7.11E+02 |
|        | 5    | 7.11E+02 | 6      | 7.11E+02 | 7    | 7.11E+02 |
|        | 9    | 7.11E+02 | 10     | 7.11E+02 | 11   | 7.11E+02 |
|        | 13   | 7.11E+02 | 14     | 7.11E+02 | 15   | 7.11E+02 |
|        | 17   | 7.11E+02 | 18     | 7.11E+02 | 19   | 7.11E+02 |
|        | 21   | 7.11E+02 | 22     | 7.11E+02 | 23   | 7.11E+02 |
| Spring | 1    | 2.84E+03 | 2      | 2.84E+03 | 3    | 2.84E+03 |
|        | 5    | 2.84E+03 | 6      | 2.84E+03 | 7    | 2.84E+03 |
|        | 9    | 2.84E+03 | 10     | 2.84E+03 | 11   | 2.84E+03 |
|        | 13   | 2.84E+03 | 14     | 2.84E+03 | 15   | 2.84E+03 |
|        | 17   | 2.84E+03 | 18     | 2.84E+03 | 19   | 2.84E+03 |
|        | 21   | 2.84E+03 | 22     | 2.84E+03 | 23   | 2.84E+03 |

No gravitational settling or scavenging.

VOLUME SOURCE: CA24

X(m) 732488 Y(m) 5775223 Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

| Season | Hour | Rate     | Season | Hour     | Rate |          |
|--------|------|----------|--------|----------|------|----------|
| Summer | 1    | 2.88E+03 | 2      | 2.88E+03 | 3    | 2.88E+03 |
|        | 5    | 2.88E+03 | 6      | 2.88E+03 | 7    | 2.88E+03 |
|        | 9    | 2.88E+03 | 10     | 2.88E+03 | 11   | 2.88E+03 |
|        | 13   | 2.88E+03 | 14     | 2.88E+03 | 15   | 2.88E+03 |
|        | 17   | 2.88E+03 | 18     | 2.88E+03 | 19   | 2.88E+03 |
|        | 21   | 2.88E+03 | 22     | 2.88E+03 | 23   | 2.88E+03 |
| Autumn | 1    | 7.11E+02 | 2      | 7.11E+02 | 3    | 7.11E+02 |
|        | 5    | 7.11E+02 | 6      | 7.11E+02 | 7    | 7.11E+02 |
|        | 9    | 7.11E+02 | 10     | 7.11E+02 | 11   | 7.11E+02 |
|        | 13   | 7.11E+02 | 14     | 7.11E+02 | 15   | 7.11E+02 |
|        | 17   | 7.11E+02 | 18     | 7.11E+02 | 19   | 7.11E+02 |
|        | 21   | 7.11E+02 | 22     | 7.11E+02 | 23   | 7.11E+02 |
| Winter | 1    | 7.11E+02 | 2      | 7.11E+02 | 3    | 7.11E+02 |
|        | 5    | 7.11E+02 | 6      | 7.11E+02 | 7    | 7.11E+02 |
|        | 9    | 7.11E+02 | 10     | 7.11E+02 | 11   | 7.11E+02 |
|        | 13   | 7.11E+02 | 14     | 7.11E+02 | 15   | 7.11E+02 |
|        | 17   | 7.11E+02 | 18     | 7.11E+02 | 19   | 7.11E+02 |
|        | 21   | 7.11E+02 | 22     | 7.11E+02 | 23   | 7.11E+02 |
| Spring | 1    | 2.84E+03 | 2      | 2.84E+03 | 3    | 2.84E+03 |
|        | 5    | 2.84E+03 | 6      | 2.84E+03 | 7    | 2.84E+03 |
|        | 9    | 2.84E+03 | 10     | 2.84E+03 | 11   | 2.84E+03 |
|        | 13   | 2.84E+03 | 14     | 2.84E+03 | 15   | 2.84E+03 |
|        | 17   | 2.84E+03 | 18     | 2.84E+03 | 19   | 2.84E+03 |
|        | 21   | 2.84E+03 | 22     | 2.84E+03 | 23   | 2.84E+03 |



Two\_Sheds\_320K\_Birds\_Each.TXT

Table with columns: X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Rows for Spring, Autumn, Winter seasons.

No gravitational settling or scavenging.

VOLUME SOURCE: CA29

X(m) 732422 Y(m) 5775202

Emission rates by season and hour, in OUV/second:

Table with columns: Season, X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Rows for Summer, Autumn, Winter.

No gravitational settling or scavenging.

VOLUME SOURCE: CA30

X(m) 732442 Y(m) 5775198

Emission rates by season and hour, in OUV/second:

Table with columns: Season, X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Rows for Summer, Autumn, Winter.

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Two\_Sheds\_320K\_Birds\_Each.TXT

Table with columns: X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Rows for Spring, Autumn, Winter seasons.

No gravitational settling or scavenging.

VOLUME SOURCE: CA31

X(m) 732462 Y(m) 5775195

Emission rates by season and hour, in OUV/second:

Table with columns: Season, X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Rows for Summer, Autumn, Winter.

No gravitational settling or scavenging.

VOLUME SOURCE: CA32

X(m) 732482 Y(m) 5775192

Emission rates by season and hour, in OUV/second:

Table with columns: Season, X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Rows for Summer, Autumn, Winter.

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Two\_Sheds\_320K\_Birds\_Each.TXT

Table with columns: Winter, Spring, X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Data points for various bird species and seasons.

No gravitational settling or scavenging.

VOLUME SOURCE: CA33

X(m) 732334 Y(m) 5775183

Emission rates by season and hour, in OUV/second:

Table with columns: Summer, Autumn, Winter, Spring. Emission rates for various bird species across seasons.

No gravitational settling or scavenging.

VOLUME SOURCE: CA34

X(m) 732354 Y(m) 5775179

Emission rates by season and hour, in OUV/second:

Table with columns: Summer, Autumn. Emission rates for various bird species across seasons.

Two\_Sheds\_320K\_Birds\_Each.TXT

Table with columns: Winter, Spring, X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Data points for various bird species and seasons.

No gravitational settling or scavenging.

VOLUME SOURCE: CA35

X(m) 732374 Y(m) 5775176

Emission rates by season and hour, in OUV/second:

Table with columns: Summer, Autumn, Winter, Spring. Emission rates for various bird species across seasons.

No gravitational settling or scavenging.

VOLUME SOURCE: CA36

X(m) 732394 Y(m) 5775173

Emission rates by season and hour, in OUV/second:

Table with columns: Summer, Autumn. Emission rates for various bird species across seasons.



Two\_Sheds\_320K\_Birds\_Each.TXT

Table with columns: Season, X(m), Y(m), Ground Elevation (Om), Height (1m), Hor. spread (5m), Vert. spread (1m). Rows for Winter and Spring.

No gravitational settling or scavenging.

VOLUME SOURCE: CA37

Table with columns: X(m), Y(m), Ground Elevation (Om), Height (1m), Hor. spread (5m), Vert. spread (1m). Row for CA37 source.

Emission rates by season and hour, in OUV/second:

Table with columns: Season, Emission rate (1m), Emission rate (5m), Emission rate (1m). Rows for Summer, Autumn, Winter, Spring.

No gravitational settling or scavenging.

VOLUME SOURCE: CA38

Table with columns: X(m), Y(m), Ground Elevation (Om), Height (1m), Hor. spread (5m), Vert. spread (1m). Row for CA38 source.

Emission rates by season and hour, in OUV/second:

Table with columns: Season, Emission rate (1m), Emission rate (5m), Emission rate (1m). Rows for Summer, Autumn.

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Two\_Sheds\_320K\_Birds\_Each.TXT

Table with columns: Season, X(m), Y(m), Ground Elevation (Om), Height (1m), Hor. spread (5m), Vert. spread (1m). Rows for Winter and Spring.

No gravitational settling or scavenging.

VOLUME SOURCE: CA39

Table with columns: X(m), Y(m), Ground Elevation (Om), Height (1m), Hor. spread (5m), Vert. spread (1m). Row for CA39 source.

Emission rates by season and hour, in OUV/second:

Table with columns: Season, Emission rate (1m), Emission rate (5m), Emission rate (1m). Rows for Summer, Autumn, Winter, Spring.

No gravitational settling or scavenging.

VOLUME SOURCE: CA40

Table with columns: X(m), Y(m), Ground Elevation (Om), Height (1m), Hor. spread (5m), Vert. spread (1m). Row for CA40 source.

Emission rates by season and hour, in OUV/second:

Table with columns: Season, Emission rate (1m), Emission rate (5m), Emission rate (1m). Rows for Summer.

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Two\_Sheds\_320K\_Birds\_Each\_TXT
Autumn: 21 2.88E+03 22 7.11E+02 23 7.88E+03 24 2.88E+03
Winter: 5 7.11E+02 6 7.11E+02 7 7.11E+02 8 7.11E+02
Spring: 1 2.84E+03 2 2.84E+03 3 2.84E+03 4 2.84E+03

VOLUME SOURCE: CA41
Ground Elevation 0m
Height 1m
Hor. spread 5m
Vert. spread 1m
Emission rates by season and hour, in OUV/second:

Summer: 1 2.88E+03 2 2.88E+03 3 2.88E+03 4 2.88E+03
Autumn: 5 7.11E+02 6 7.11E+02 7 7.11E+02 8 7.11E+02
Winter: 1 7.11E+02 2 7.11E+02 3 7.11E+02 4 7.11E+02
Spring: 1 2.84E+03 2 2.84E+03 3 2.84E+03 4 2.84E+03

X(m) 732327 Y(m) 5775152
X(m) 732347 Y(m) 5775148
Emission rates by season and hour, in OUV/second:

Two\_Sheds\_320K\_Birds\_Each\_TXT
Autumn: 13 2.88E+03 14 2.88E+03 15 2.88E+03 16 2.88E+03
Winter: 1 7.11E+02 2 7.11E+02 3 7.11E+02 4 7.11E+02
Spring: 1 2.84E+03 2 2.84E+03 3 2.84E+03 4 2.84E+03

VOLUME SOURCE: CA43
Ground Elevation 0m
Height 1m
Hor. spread 5m
Vert. spread 1m
Emission rates by season and hour, in OUV/second:

Summer: 1 2.88E+03 2 2.88E+03 3 2.88E+03 4 2.88E+03
Autumn: 5 7.11E+02 6 7.11E+02 7 7.11E+02 8 7.11E+02
Winter: 1 7.11E+02 2 7.11E+02 3 7.11E+02 4 7.11E+02
Spring: 1 2.84E+03 2 2.84E+03 3 2.84E+03 4 2.84E+03

X(m) 732387 Y(m) 5775141
Emission rates by season and hour, in OUV/second:

Two\_Sheds\_320K\_Birds\_Each.TXT

Table with columns: Summer, Autumn, Winter, Spring. Each row contains a list of bird counts and elevations (e.g., 5 2.88E+03, 7 2.88E+03, etc.).

No gravitational settling or scavenging.

VOLUME SOURCE: CA45

X(m) 732407 Y(m) 5775138 Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with columns: Summer, Autumn, Winter, Spring. Each row contains a list of bird counts and elevations (e.g., 1 2.88E+03, 5 2.88E+03, etc.).

No gravitational settling or scavenging.

VOLUME SOURCE: CA46

X(m) 732427 Y(m) 5775133 Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with columns: Summer, Autumn, Winter, Spring. Each row contains a list of bird counts and elevations (e.g., 1 2.88E+03, 5 2.88E+03, etc.).

Two\_Sheds\_320K\_Birds\_Each.TXT

Table with columns: Summer, Autumn, Winter, Spring. Each row contains a list of bird counts and elevations (e.g., 1 2.88E+03, 5 2.88E+03, etc.).

No gravitational settling or scavenging.

VOLUME SOURCE: CA47

X(m) 732447 Y(m) 5775130 Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with columns: Summer, Autumn, Winter, Spring. Each row contains a list of bird counts and elevations (e.g., 1 2.88E+03, 5 2.88E+03, etc.).

No gravitational settling or scavenging.

VOLUME SOURCE: CA48

X(m) 732467 Y(m) 5775127 Ground Elevation 0m Height 1m Hor. spread 5m Vert. spread 1m

Two\_Sheds\_320K\_Birds\_Each.TXT

X(m) 732313 Y(m) 5775186 Ground Elevation 0m Height 1m Hor. spread 4m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with 7 columns: Season, Hour, X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Rows include Summer, Autumn, Winter, and Spring.

No gravitational settling or scavenging.

VOLUME SOURCE: TAL

X(m) 732309 Y(m) 5775154

Ground Elevation 0m Height 1m Hor. spread 4m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with 7 columns: Season, Hour, X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Rows include Summer, Autumn, Winter, and Spring.

No gravitational settling or scavenging.

VOLUME SOURCE: TAZ

Two\_Sheds\_320K\_Birds\_Each.TXT

X(m) 732318 Y(m) 5775217 Ground Elevation 0m Height 1m Hor. spread 4m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with 7 columns: Season, Hour, X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Rows include Summer, Autumn, Winter, and Spring.

No gravitational settling or scavenging.

VOLUME SOURCE: TAZ3

X(m) 732318 Y(m) 5775217

Ground Elevation 0m Height 1m Hor. spread 4m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with 7 columns: Season, Hour, X(m), Y(m), Ground Elevation, Height, Hor. spread, Vert. spread. Rows include Summer, Autumn, Winter, and Spring.

No gravitational settling or scavenging.



Two\_Sheds\_320K\_Birds\_Each.TXT

No gravitational settling or scavenging.

VOLUME SOURCE: TB2

X(m) 732943 Y(m) 5775071 Ground Elevation 0m Height 1m Hor. spread 4m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with 5 columns: Season, Hour, X(m), Y(m), Emission rate. Rows include Summer, Autumn, Winter, and Spring with multiple hourly entries.

No gravitational settling or scavenging.

VOLUME SOURCE: TB3

X(m) 732948 Y(m) 5775103 Ground Elevation 0m Height 1m Hor. spread 4m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with 5 columns: Season, Hour, X(m), Y(m), Emission rate. Rows include Summer, Autumn, Winter, and Spring with multiple hourly entries.

Two\_Sheds\_320K\_Birds\_Each.TXT

No gravitational settling or scavenging.

VOLUME SOURCE: TB4

X(m) 732953 Y(m) 5775138 Ground Elevation 0m Height 1m Hor. spread 4m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with 5 columns: Season, Hour, X(m), Y(m), Emission rate. Rows include Summer, Autumn, Winter, and Spring with multiple hourly entries.

No gravitational settling or scavenging.

VOLUME SOURCE: TB5

X(m) 732958 Y(m) 5775169 Ground Elevation 0m Height 1m Hor. spread 4m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Table with 5 columns: Season, Hour, X(m), Y(m), Emission rate. Rows include Summer, Autumn, Winter, and Spring with multiple hourly entries.

Two\_Sheds\_320K\_Birds\_Each.TXT

9 2.84E+03 10 2.84E+03 11 2.84E+03 12 2.84E+03  
 13 2.84E+03 14 2.84E+03 15 2.84E+03 16 2.84E+03  
 17 2.84E+03 18 2.84E+03 19 2.84E+03 20 2.84E+03  
 21 2.84E+03 22 2.84E+03 23 2.84E+03 24 2.84E+03

No gravitational settling or scavenging.

VOLUME SOURCE: TB6

| X(m)   | Y(m)    | Ground Elevation | Height | Hor. spread | vert. spread |
|--------|---------|------------------|--------|-------------|--------------|
| 732963 | 5775201 | 0m               | 1m     | 4m          | 1m           |

Emission rates by season and hour, in OUV/second:

Summer: 1 2.88E+03 2 2.88E+03 3 2.88E+03 4 2.88E+03  
 5 2.88E+03 6 2.88E+03 7 2.88E+03 8 2.88E+03  
 9 2.88E+03 10 2.88E+03 11 2.88E+03 12 2.88E+03  
 13 2.88E+03 14 2.88E+03 15 2.88E+03 16 2.88E+03  
 17 2.88E+03 18 2.88E+03 19 2.88E+03 20 2.88E+03  
 21 2.88E+03 22 2.88E+03 23 2.88E+03 24 2.88E+03  
 Autumn: 1 7.11E+02 2 7.11E+02 3 7.11E+02 4 7.11E+02  
 5 7.11E+02 6 7.11E+02 7 7.11E+02 8 7.11E+02  
 9 7.11E+02 10 7.11E+02 11 7.11E+02 12 7.11E+02  
 13 7.11E+02 14 7.11E+02 15 7.11E+02 16 7.11E+02  
 17 7.11E+02 18 7.11E+02 19 7.11E+02 20 7.11E+02  
 21 7.11E+02 22 7.11E+02 23 7.11E+02 24 7.11E+02  
 Winter: 1 7.11E+02 2 7.11E+02 3 7.11E+02 4 7.11E+02  
 5 7.11E+02 6 7.11E+02 7 7.11E+02 8 7.11E+02  
 9 7.11E+02 10 7.11E+02 11 7.11E+02 12 7.11E+02  
 13 7.11E+02 14 7.11E+02 15 7.11E+02 16 7.11E+02  
 17 7.11E+02 18 7.11E+02 19 7.11E+02 20 7.11E+02  
 21 7.11E+02 22 7.11E+02 23 7.11E+02 24 7.11E+02  
 Spring: 1 2.84E+03 2 2.84E+03 3 2.84E+03 4 2.84E+03  
 5 2.84E+03 6 2.84E+03 7 2.84E+03 8 2.84E+03  
 9 2.84E+03 10 2.84E+03 11 2.84E+03 12 2.84E+03  
 13 2.84E+03 14 2.84E+03 15 2.84E+03 16 2.84E+03  
 17 2.84E+03 18 2.84E+03 19 2.84E+03 20 2.84E+03  
 21 2.84E+03 22 2.84E+03 23 2.84E+03 24 2.84E+03

No gravitational settling or scavenging.

Beaac Broiler Farm 2 sheds each with 320000 birds

RECEPTOR LOCATIONS

The Cartesian receptor grid has the following x-values (or eastings):  
 730000.m 730050.m 730100.m 730150.m 730200.m 730250.m 730300.m  
 730350.m 730400.m 730450.m 730500.m 730550.m 730600.m 730650.m  
 730700.m 730750.m 730800.m 730850.m 730900.m 730950.m 731000.m  
 731050.m 731100.m 731150.m 731200.m 731250.m 731300.m 731350.m  
 731400.m 731450.m 731500.m 731550.m 731600.m 731650.m 731700.m  
 731750.m 731800.m 731850.m 731900.m 731950.m 732000.m 732050.m  
 732100.m 732150.m 732200.m 732250.m 732300.m 732350.m 732400.m  
 732450.m 732500.m 732550.m 732600.m 732650.m 732700.m 732750.m  
 732800.m 732850.m 732900.m 732950.m 733000.m 733050.m 733100.m  
 733150.m 733200.m 733250.m 733300.m 733350.m 733400.m 733450.m  
 733500.m 733550.m 733600.m 733650.m 733700.m 733750.m 733800.m  
 733850.m 733900.m 733950.m 734000.m 734050.m 734100.m 734150.m  
 734200.m 734250.m 734300.m 734350.m 734400.m 734450.m 734500.m  
 734550.m 734600.m 734650.m 734700.m 734750.m 734800.m 734850.m  
 734900.m 734950.m 735000.m

Two\_Sheds\_320K\_Birds\_Each.TXT

and these y-values (or northings):

5773000.m 5773050.m 5773100.m 5773150.m 5773200.m 5773250.m 5773300.m  
 5773350.m 5773400.m 5773450.m 5773500.m 5773550.m 5773600.m 5773650.m  
 5773700.m 5773750.m 5773800.m 5773850.m 5773900.m 5773950.m 5774000.m  
 5774050.m 5774100.m 5774150.m 5774200.m 5774250.m 5774300.m 5774350.m  
 5774400.m 5774450.m 5774500.m 5774550.m 5774600.m 5774650.m 5774700.m  
 5774750.m 5774800.m 5774850.m 5774900.m 5774950.m 5775000.m 5775050.m  
 5775100.m 5775150.m 5775200.m 5775250.m 5775300.m 5775350.m 5775400.m  
 5775450.m 5775500.m 5775550.m 5775600.m 5775650.m 5775700.m 5775750.m  
 5775800.m 5775850.m 5775900.m 5775950.m 5776000.m 5776050.m 5776100.m  
 5776150.m 5776200.m 5776250.m 5776300.m 5776350.m 5776400.m 5776450.m  
 5776500.m 5776550.m 5776600.m 5776650.m 5776700.m 5776750.m 5776800.m  
 5776850.m 5776900.m 5776950.m 5777000.m 5777050.m 5777100.m 5777150.m  
 5777200.m 5777250.m 5777300.m 5777350.m 5777400.m 5777450.m 5777500.m  
 5777550.m 5777600.m 5777650.m 5777700.m 5777750.m 5777800.m 5777850.m  
 5777900.m 5777950.m 5778000.m

DISCRETE RECEPTOR LOCATIONS (in metres)

| No. | X      | Y       | ELEV | HEIGHT | No. | X      | Y       | ELEV | HEIGHT |
|-----|--------|---------|------|--------|-----|--------|---------|------|--------|
| 1   | 733760 | 5775188 | 0.0  | 0.0    | 4   | 733598 | 5775972 | 0.0  | 0.0    |
| 2   | 731996 | 5776262 | 0.0  | 0.0    | 5   | 733807 | 5775512 | 0.0  | 0.0    |
| 3   | 732678 | 5776134 | 0.0  | 0.0    |     |        |         |      |        |

METEOROLOGICAL DATA : AUSPLUME METFILE

1 Peak values for the 100 worst cases (in Odour\_Units)  
 Averaging time = 3 minutes

| Rank | Value    | Time Recorded | Coordinates            |
|------|----------|---------------|------------------------|
|      |          | hour, date    | (* denotes polar)      |
| 1    | 3.28E+02 | 06,17/10/08   | (733050, 5775200, 0.0) |
| 2    | 3.17E+02 | 05,02/02/08   | (733150, 5775150, 0.0) |
| 3    | 3.15E+02 | 03,22/02/08   | (733150, 5775150, 0.0) |
| 4    | 3.15E+02 | 05,20/12/08   | (733150, 5775150, 0.0) |
| 5    | 3.13E+02 | 21,11/10/08   | (733100, 5775200, 0.0) |
| 6    | 3.13E+02 | 24,15/10/08   | (733150, 5775150, 0.0) |
| 7    | 3.12E+02 | 21,24/09/08   | (732300, 5775150, 0.0) |
| 8    | 3.11E+02 | 07,26/02/08   | (733050, 5775200, 0.0) |
| 9    | 3.09E+02 | 01,25/10/08   | (733150, 5775150, 0.0) |
| 10   | 2.99E+02 | 07,17/10/08   | (733050, 5775200, 0.0) |
| 11   | 2.89E+02 | 07,26/01/08   | (733000, 5775100, 0.0) |
| 12   | 2.84E+02 | 06,09/09/08   | (733050, 5775200, 0.0) |
| 13   | 2.82E+02 | 06,08/01/08   | (733050, 5775200, 0.0) |
| 14   | 2.79E+02 | 05,17/10/08   | (733050, 5775200, 0.0) |
| 15   | 2.75E+02 | 04,17/12/08   | (733050, 5775200, 0.0) |
| 16   | 2.73E+02 | 23,09/10/08   | (733100, 5775000, 0.0) |
| 17   | 2.73E+02 | 19,23/10/08   | (733100, 5775000, 0.0) |
| 18   | 2.70E+02 | 08,26/01/08   | (733000, 5775100, 0.0) |
| 19   | 2.68E+02 | 07,04/10/08   | (732450, 5775150, 0.0) |
| 20   | 2.64E+02 | 01,07/09/08   | (733100, 5775200, 0.0) |
| 21   | 2.64E+02 | 05,17/12/08   | (733050, 5775200, 0.0) |
| 22   | 2.62E+02 | 07,08/01/08   | (732500, 5775250, 0.0) |
| 23   | 2.61E+02 | 06,28/01/08   | (733150, 5775150, 0.0) |
| 24   | 2.61E+02 | 06,26/02/08   | (733050, 5775200, 0.0) |
| 25   | 2.61E+02 | 05,19/01/08   | (732300, 5775150, 0.0) |
| 26   | 2.60E+02 | 22,02/10/08   | (733150, 5775150, 0.0) |
| 27   | 2.59E+02 | 06,04/10/08   | (733150, 5775150, 0.0) |
| 28   | 2.55E+02 | 08,17/10/08   | (732300, 5775150, 0.0) |
| 29   | 2.55E+02 | 04,11/10/08   | (732300, 5775150, 0.0) |

|    |          | Two Sheds_320K_Birds_Each.TXT |                        | Two Sheds_320K_Birds_Each.TXT |          |
|----|----------|-------------------------------|------------------------|-------------------------------|----------|
| 30 | 2.54E+02 | 04.02/02/08                   | (733050, 5775200, 0.0) | 98                            | 1.80E+02 |
| 31 | 2.52E+02 | 09.26/02/08                   | (732500, 5775250, 0.0) | 99                            | 1.80E+02 |
| 32 | 2.48E+02 | 03.17/12/08                   | (733050, 5775200, 0.0) | 100                           | 1.79E+02 |
| 33 | 2.47E+02 | 04.17/10/08                   | (733050, 5775200, 0.0) |                               |          |
| 34 | 2.46E+02 | 03.10/01/08                   | (732300, 5775150, 0.0) |                               |          |
| 35 | 2.43E+02 | 22.09/10/08                   | (733100, 5775200, 0.0) |                               |          |
| 36 | 2.40E+02 | 24.06/09/08                   | (733050, 5775200, 0.0) |                               |          |
| 37 | 2.39E+02 | 06.24/12/08                   | (732300, 5775150, 0.0) |                               |          |
| 38 | 2.37E+02 | 06.17/12/08                   | (733050, 5775200, 0.0) |                               |          |
| 39 | 2.34E+02 | 07.09/09/08                   | (732400, 5775200, 0.0) |                               |          |
| 40 | 2.33E+02 | 01.16/10/08                   | (732500, 5775250, 0.0) |                               |          |
| 41 | 2.31E+02 | 03.11/10/08                   | (733000, 5775100, 0.0) |                               |          |
| 42 | 2.30E+02 | 23.04/10/08                   | (732300, 5775150, 0.0) |                               |          |
| 43 | 2.30E+02 | 04.20/12/08                   | (733100, 5775200, 0.0) |                               |          |
| 44 | 2.30E+02 | 05.26/12/08                   | (733100, 5775200, 0.0) |                               |          |
| 45 | 2.26E+02 | 03.18/02/08                   | (732300, 5775150, 0.0) |                               |          |
| 46 | 2.25E+02 | 06.26/12/08                   | (733150, 5775150, 0.0) |                               |          |
| 47 | 2.25E+02 | 09.04/02/08                   | (733000, 5775100, 0.0) |                               |          |
| 48 | 2.24E+02 | 05.28/01/08                   | (733150, 5775150, 0.0) |                               |          |
| 49 | 2.24E+02 | 01.19/01/08                   | (732300, 5775150, 0.0) |                               |          |
| 50 | 2.23E+02 | 06.19/01/08                   | (733000, 5775100, 0.0) |                               |          |
| 51 | 2.23E+02 | 06.20/12/08                   | (732450, 5775150, 0.0) |                               |          |
| 52 | 2.21E+02 | 20.24/09/08                   | (733100, 5775200, 0.0) |                               |          |
| 53 | 2.20E+02 | 02.07/09/08                   | (732500, 5775300, 0.0) |                               |          |
| 54 | 2.19E+02 | 02.25/10/08                   | (732450, 5775150, 0.0) |                               |          |
| 55 | 2.16E+02 | 04.19/01/08                   | (732300, 5775150, 0.0) |                               |          |
| 56 | 2.14E+02 | 02.22/02/08                   | (733050, 5775200, 0.0) |                               |          |
| 57 | 2.12E+02 | 23.10/01/08                   | (732350, 5775250, 0.0) |                               |          |
| 58 | 2.12E+02 | 02.17/12/08                   | (733100, 5775200, 0.0) |                               |          |
| 59 | 2.09E+02 | 08.26/02/08                   | (732400, 5775200, 0.0) |                               |          |
| 60 | 2.09E+02 | 07.24/12/08                   | (732300, 5775150, 0.0) |                               |          |
| 61 | 2.09E+02 | 22.04/10/08                   | (733050, 5775200, 0.0) |                               |          |
| 62 | 2.09E+02 | 20.06/11/08                   | (733050, 5775200, 0.0) |                               |          |
| 63 | 2.07E+02 | 10.26/02/08                   | (732450, 5775300, 0.0) |                               |          |
| 64 | 2.02E+02 | 23.18/01/08                   | (732300, 5775150, 0.0) |                               |          |
| 65 | 2.02E+02 | 02.18/02/08                   | (732300, 5775150, 0.0) |                               |          |
| 66 | 2.02E+02 | 22.09/09/08                   | (732300, 5775150, 0.0) |                               |          |
| 67 | 1.98E+02 | 08.20/12/08                   | (732400, 5775200, 0.0) |                               |          |
| 68 | 1.98E+02 | 03.11/11/08                   | (732300, 5775150, 0.0) |                               |          |
| 69 | 1.98E+02 | 09.17/10/08                   | (733000, 5775100, 0.0) |                               |          |
| 70 | 1.97E+02 | 03.27/12/08                   | (733150, 5775150, 0.0) |                               |          |
| 71 | 1.97E+02 | 03.19/01/08                   | (732300, 5775150, 0.0) |                               |          |
| 72 | 1.95E+02 | 03.05/09/08                   | (732300, 5775150, 0.0) |                               |          |
| 73 | 1.94E+02 | 08.24/12/08                   | (732400, 5775200, 0.0) |                               |          |
| 74 | 1.93E+02 | 07.11/02/08                   | (733050, 5775200, 0.0) |                               |          |
| 75 | 1.93E+02 | 09.24/12/08                   | (732400, 5775200, 0.0) |                               |          |
| 76 | 1.91E+02 | 10.04/02/08                   | (732500, 5775250, 0.0) |                               |          |
| 77 | 1.90E+02 | 02.27/12/08                   | (733050, 5775200, 0.0) |                               |          |
| 78 | 1.90E+02 | 04.18/02/08                   | (732300, 5775150, 0.0) |                               |          |
| 79 | 1.89E+02 | 05.24/12/08                   | (733000, 5775100, 0.0) |                               |          |
| 80 | 1.89E+02 | 05.26/02/08                   | (733050, 5775200, 0.0) |                               |          |
| 81 | 1.89E+02 | 04.05/11/08                   | (732300, 5775150, 0.0) |                               |          |
| 82 | 1.88E+02 | 06.26/01/08                   | (733050, 5775200, 0.0) |                               |          |
| 83 | 1.87E+02 | 07.27/02/08                   | (733100, 5775200, 0.0) |                               |          |
| 84 | 1.87E+02 | 24.04/09/08                   | (732300, 5775150, 0.0) |                               |          |
| 85 | 1.86E+02 | 03.17/10/08                   | (733050, 5775200, 0.0) |                               |          |
| 86 | 1.86E+02 | 23.11/11/08                   | (733000, 5775100, 0.0) |                               |          |
| 87 | 1.84E+02 | 20.02/11/08                   | (733100, 5775200, 0.0) |                               |          |
| 88 | 1.83E+02 | 02.12/11/08                   | (732300, 5775150, 0.0) |                               |          |
| 89 | 1.83E+02 | 24.18/01/08                   | (732300, 5775150, 0.0) |                               |          |
| 90 | 1.83E+02 | 02.23/10/08                   | (732300, 5775150, 0.0) |                               |          |
| 91 | 1.83E+02 | 02.05/09/08                   | (732300, 5775150, 0.0) |                               |          |
| 92 | 1.82E+02 | 23.07/01/08                   | (733050, 5775200, 0.0) |                               |          |
| 93 | 1.81E+02 | 22.25/02/08                   | (733100, 5775200, 0.0) |                               |          |
| 94 | 1.81E+02 | 07.20/12/08                   | (732500, 577520, 0.0)  |                               |          |
| 95 | 1.81E+02 | 24.29/10/08                   | (732300, 5775150, 0.0) |                               |          |
| 96 | 1.81E+02 | 21.05/09/08                   | (732300, 5775150, 0.0) |                               |          |
| 97 | 1.81E+02 | 06.11/11/08                   | (732300, 5775150, 0.0) |                               |          |



Beaac Broiler Farm 640000 Birds Single Shed

Concentration or deposition  
 Emission rate units  
 Concentration units  
 Units conversion factor  
 Constant background concentration  
 Terrain effects  
 Smooth stability class changes?  
 Other stability class adjustments ("urban modes")  
 Ignore building wake effects?  
 Decay coefficient (unless overridden by met. file)  
 Anemometer height  
 Roughness height at the wind vane site

DISPERSION CURVES  
 Horizontal dispersion curves for sources <100m high  
 Vertical dispersion curves for sources <100m high  
 Horizontal dispersion curves for sources >100m high  
 Vertical dispersion curves for sources >100m high  
 Enhance horizontal plume spreads for buoyancy?  
 Enhance vertical plume spreads for buoyancy?  
 Adjust horizontal P-G formulae for roughness height?  
 Adjust vertical P-G formulae for roughness height?  
 Roughness height  
 Adjustment for wind directional shear

PLUME RISE OPTIONS

Gradual plume rise?  
 Stack-tip downwash included?  
 Building downwash algorithm:  
 Entrainment coeff. for neutral & stable lapse rates  
 Partial penetration of elevated inversions?  
 Disregard temp. gradients in the hourly met. file?

and in the absence of boundary-layer potential temperature gradients given by the hourly met. file, a value from the following table (in K/m) is used:

| Wind Speed Category | A     | B     | C     | D     | E     | F     |
|---------------------|-------|-------|-------|-------|-------|-------|
| 1                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 2                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 3                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 4                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 5                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 6                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |

WIND SPEED CATEGORIES

Boundaries between categories (in m/s) are: 1.54, 3.09, 5.14, 8.23, 10.80

WIND PROFILE EXPONENTS: "Irwin Rural" values (unless overridden by met. file)

AVERAGING TIME: 3 minutes.

Beaac Broiler Farm 640000 Birds Single Shed

SOURCE CHARACTERISTICS

VOLUME SOURCE: CA1

X(m) 732735 Y(m) 5774979  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Summer: 1 5.12E+04 2 5.12E+04 3 5.12E+04 4 5.12E+04  
 5 5.12E+04 6 5.12E+04 7 5.12E+04 8 5.12E+04  
 9 5.12E+04 10 5.12E+04 11 5.12E+04 12 5.12E+04  
 13 5.12E+04 14 5.12E+04 15 5.12E+04 16 5.12E+04  
 17 5.12E+04 18 5.12E+04 19 5.12E+04 20 5.12E+04  
 21 5.12E+04 22 5.12E+04 23 5.12E+04 24 5.12E+04  
 Autumn: 1 1.28E+04 2 1.28E+04 3 1.28E+04 4 1.28E+04  
 5 1.28E+04 6 1.28E+04 7 1.28E+04 8 1.28E+04  
 9 1.28E+04 10 1.28E+04 11 1.28E+04 12 1.28E+04  
 13 1.28E+04 14 1.28E+04 15 1.28E+04 16 1.28E+04  
 17 1.28E+04 18 1.28E+04 19 1.28E+04 20 1.28E+04  
 21 1.28E+04 22 1.28E+04 23 1.28E+04 24 1.28E+04  
 Winter: 1 1.28E+04 2 1.28E+04 3 1.28E+04 4 1.28E+04  
 5 1.28E+04 6 1.28E+04 7 1.28E+04 8 1.28E+04  
 9 1.28E+04 10 1.28E+04 11 1.28E+04 12 1.28E+04  
 13 1.28E+04 14 1.28E+04 15 1.28E+04 16 1.28E+04  
 17 1.28E+04 18 1.28E+04 19 1.28E+04 20 1.28E+04  
 21 1.28E+04 22 1.28E+04 23 1.28E+04 24 1.28E+04  
 Spring: 1 5.12E+04 2 5.12E+04 3 5.12E+04 4 5.12E+04  
 5 5.12E+04 6 5.12E+04 7 5.12E+04 8 5.12E+04  
 9 5.12E+04 10 5.12E+04 11 5.12E+04 12 5.12E+04  
 13 5.12E+04 14 5.12E+04 15 5.12E+04 16 5.12E+04  
 17 5.12E+04 18 5.12E+04 19 5.12E+04 20 5.12E+04  
 21 5.12E+04 22 5.12E+04 23 5.12E+04 24 5.12E+04

No gravitational settling or scavenging.

VOLUME SOURCE: CA2

X(m) 732730 Y(m) 5775007  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Summer: 1 5.12E+04 2 5.12E+04 3 5.12E+04 4 5.12E+04  
 5 5.12E+04 6 5.12E+04 7 5.12E+04 8 5.12E+04  
 9 5.12E+04 10 5.12E+04 11 5.12E+04 12 5.12E+04  
 13 5.12E+04 14 5.12E+04 15 5.12E+04 16 5.12E+04  
 17 5.12E+04 18 5.12E+04 19 5.12E+04 20 5.12E+04  
 21 5.12E+04 22 5.12E+04 23 5.12E+04 24 5.12E+04  
 Autumn: 1 1.28E+04 2 1.28E+04 3 1.28E+04 4 1.28E+04  
 5 1.28E+04 6 1.28E+04 7 1.28E+04 8 1.28E+04  
 9 1.28E+04 10 1.28E+04 11 1.28E+04 12 1.28E+04  
 13 1.28E+04 14 1.28E+04 15 1.28E+04 16 1.28E+04  
 17 1.28E+04 18 1.28E+04 19 1.28E+04 20 1.28E+04  
 21 1.28E+04 22 1.28E+04 23 1.28E+04 24 1.28E+04  
 Winter: 1 1.28E+04 2 1.28E+04 3 1.28E+04 4 1.28E+04  
 5 1.28E+04 6 1.28E+04 7 1.28E+04 8 1.28E+04  
 9 1.28E+04 10 1.28E+04 11 1.28E+04 12 1.28E+04  
 13 1.28E+04 14 1.28E+04 15 1.28E+04 16 1.28E+04  
 17 1.28E+04 18 1.28E+04 19 1.28E+04 20 1.28E+04  
 21 1.28E+04 22 1.28E+04 23 1.28E+04 24 1.28E+04  
 Spring: 1 5.12E+04 2 5.12E+04 3 5.12E+04 4 5.12E+04  
 5 5.12E+04 6 5.12E+04 7 5.12E+04 8 5.12E+04  
 9 5.12E+04 10 5.12E+04 11 5.12E+04 12 5.12E+04  
 13 5.12E+04 14 5.12E+04 15 5.12E+04 16 5.12E+04  
 17 5.12E+04 18 5.12E+04 19 5.12E+04 20 5.12E+04





1 Peak values for the 100 worst cases (in odour\_units)  
Averaging time = 3 minutes

| Rank | Value    | Time Recorded<br>hour, date | Coordinates<br>(* denotes polar) |
|------|----------|-----------------------------|----------------------------------|
| 1    | 1.98E+03 | 06,09/09/08                 | (732750, 5775200, 0.0)           |
| 2    | 1.66E+03 | 03,17/12/08                 | (732750, 5775200, 0.0)           |
| 3    | 1.49E+03 | 05,17/12/08                 | (732750, 5775200, 0.0)           |
| 4    | 1.46E+03 | 06,17/10/08                 | (732750, 5775200, 0.0)           |
| 5    | 1.43E+03 | 22,09/10/08                 | (732750, 5775150, 0.0)           |
| 6    | 1.32E+03 | 21,11/10/08                 | (732750, 5775100, 0.0)           |
| 7    | 1.26E+03 | 04,17/12/08                 | (732750, 5775250, 0.0)           |
| 8    | 1.22E+03 | 02,17/12/08                 | (732750, 5775150, 0.0)           |
| 9    | 1.21E+03 | 24,24/10/08                 | (732750, 5775200, 0.0)           |
| 10   | 1.16E+03 | 07,09/09/08                 | (732700, 5774950, 0.0)           |
| 11   | 1.07E+03 | 06,08/01/08                 | (732750, 5775250, 0.0)           |
| 12   | 1.03E+03 | 24,13/01/08                 | (732750, 5775200, 0.0)           |
| 13   | 1.02E+03 | 23,08/09/08                 | (732750, 5775200, 0.0)           |
| 14   | 1.01E+03 | 07,27/02/08                 | (732750, 5775150, 0.0)           |
| 15   | 9.73E+02 | 19,05/09/08                 | (732750, 5775050, 0.0)           |
| 16   | 9.59E+02 | 04,26/12/08                 | (732750, 5775200, 0.0)           |
| 17   | 9.52E+02 | 07,25/12/08                 | (732750, 5775200, 0.0)           |
| 18   | 9.45E+02 | 24,29/02/08                 | (732750, 5775200, 0.0)           |
| 19   | 9.29E+02 | 09,24/12/08                 | (732750, 5775100, 0.0)           |
| 20   | 9.22E+02 | 06,25/12/08                 | (732750, 5775150, 0.0)           |
| 21   | 9.21E+02 | 01,07/09/08                 | (732800, 5775250, 0.0)           |
| 22   | 9.11E+02 | 23,09/10/08                 | (732750, 5774950, 0.0)           |
| 23   | 9.11E+02 | 19,23/10/08                 | (732750, 5774950, 0.0)           |
| 24   | 9.10E+02 | 24,16/01/08                 | (732750, 5775200, 0.0)           |
| 25   | 9.07E+02 | 01,29/01/08                 | (732750, 5775200, 0.0)           |
| 26   | 9.04E+02 | 06,18/12/08                 | (732750, 5775200, 0.0)           |
| 27   | 8.93E+02 | 06,27/02/08                 | (732750, 5775200, 0.0)           |
| 28   | 8.71E+02 | 22,08/09/08                 | (732750, 5775200, 0.0)           |
| 29   | 8.68E+02 | 01,25/10/08                 | (732800, 5775250, 0.0)           |
| 30   | 8.65E+02 | 23,24/10/08                 | (732750, 5775150, 0.0)           |
| 31   | 8.65E+02 | 03,05/01/08                 | (732700, 5774900, 0.0)           |
| 32   | 8.62E+02 | 23,24/12/08                 | (732750, 5775150, 0.0)           |
| 33   | 8.58E+02 | 23,29/02/08                 | (732750, 5775150, 0.0)           |
| 34   | 8.49E+02 | 21,04/10/08                 | (732750, 5775200, 0.0)           |
| 35   | 8.25E+02 | 05,02/01/08                 | (732750, 5775200, 0.0)           |
| 36   | 8.25E+02 | 03,29/01/08                 | (732750, 5775200, 0.0)           |
| 37   | 8.25E+02 | 02,24/01/08                 | (732750, 5775150, 0.0)           |
| 38   | 8.21E+02 | 04,10/01/08                 | (732700, 5774950, 0.0)           |
| 39   | 8.12E+02 | 22,24/12/08                 | (732750, 5775200, 0.0)           |
| 40   | 8.10E+02 | 05,01/11/08                 | (732750, 5775150, 0.0)           |
| 41   | 7.97E+02 | 02,29/01/08                 | (732750, 5775150, 0.0)           |
| 42   | 7.97E+02 | 02,20/12/08                 | (732750, 5775150, 0.0)           |
| 43   | 7.96E+02 | 22,25/02/08                 | (732800, 5775300, 0.0)           |
| 44   | 7.94E+02 | 08,24/12/08                 | (732750, 5775100, 0.0)           |
| 45   | 7.91E+02 | 04,20/12/08                 | (732800, 5775250, 0.0)           |
| 46   | 7.91E+02 | 05,26/12/08                 | (732800, 5775250, 0.0)           |
| 47   | 7.88E+02 | 20,24/10/08                 | (732750, 5775200, 0.0)           |
| 48   | 7.85E+02 | 01,24/01/08                 | (732750, 5775200, 0.0)           |
| 49   | 7.77E+02 | 21,08/09/08                 | (732750, 5775150, 0.0)           |
| 50   | 7.63E+02 | 21,08/09/08                 | (732750, 5775200, 0.0)           |
| 51   | 7.63E+02 | 21,24/10/08                 | (732750, 5775200, 0.0)           |
| 52   | 7.61E+02 | 05,17/10/08                 | (732750, 5775250, 0.0)           |
| 53   | 7.59E+02 | 03,26/02/08                 | (732750, 5775100, 0.0)           |
| 54   | 7.59E+02 | 03,20/12/08                 | (732750, 5775100, 0.0)           |
| 55   | 7.53E+02 | 07,12/01/08                 | (732750, 5775200, 0.0)           |
| 56   | 7.53E+02 | 20,24/09/08                 | (732800, 5775250, 0.0)           |
| 57   | 7.50E+02 | 03,22/02/08                 | (732800, 5775250, 0.0)           |
| 58   | 7.46E+02 | 23,13/01/08                 | (732750, 5775200, 0.0)           |
| 59   | 7.46E+02 | 02,17/01/08                 | (732750, 5775200, 0.0)           |

Spring: 13 1.28E+04 14 1.28E+04 15 1.28E+04 16 1.28E+04  
17 1.28E+04 18 1.28E+04 19 1.28E+04 20 1.28E+04  
21 1.28E+04 22 1.28E+04 23 1.28E+04 24 1.28E+04  
5 5.12E+04 6 5.12E+04 7 5.12E+04 8 5.12E+04  
9 5.12E+04 10 5.12E+04 11 5.12E+04 12 5.12E+04  
13 5.12E+04 14 5.12E+04 15 5.12E+04 16 5.12E+04  
17 5.12E+04 18 5.12E+04 19 5.12E+04 20 5.12E+04  
21 5.12E+04 22 5.12E+04 23 5.12E+04 24 5.12E+04

No gravitational settling or scavenging.

Beaac Broiler Farm 640000 Birds Single Shed

RECEPTOR LOCATIONS

The Cartesian receptor grid has the following x-values (or eastings):  
730000.m 730050.m 730100.m 730150.m 730200.m 730250.m 730300.m  
730350.m 730400.m 730450.m 730500.m 730550.m 730600.m 730650.m  
730700.m 730750.m 730800.m 730850.m 730900.m 730950.m 731000.m  
731050.m 731100.m 731150.m 731200.m 731250.m 731300.m 731350.m  
731400.m 731450.m 731500.m 731550.m 731600.m 731650.m 731700.m  
731750.m 731800.m 731850.m 731900.m 731950.m 732000.m 732050.m  
732100.m 732150.m 732200.m 732250.m 732300.m 732350.m 732400.m  
732450.m 732500.m 732550.m 732600.m 732650.m 732700.m 732750.m  
732800.m 732850.m 732900.m 732950.m 733000.m 733050.m 733100.m  
733150.m 733200.m 733250.m 733300.m 733350.m 733400.m 733450.m  
733500.m 733550.m 733600.m 733650.m 733700.m 733750.m 733800.m  
733850.m 733900.m 733950.m 734000.m 734050.m 734100.m 734150.m  
734200.m 734250.m 734300.m 734350.m 734400.m 734450.m 734500.m  
734550.m 734600.m 734650.m 734700.m 734750.m 734800.m 734850.m  
734900.m 734950.m 735000.m

and these y-values (or northings):

5773000.m 5773050.m 5773100.m 5773150.m 5773200.m 5773250.m 5773300.m  
5773350.m 5773400.m 5773450.m 5773500.m 5773550.m 5773600.m 5773650.m  
5773700.m 5773750.m 5773800.m 5773850.m 5773900.m 5773950.m 5774000.m  
5774050.m 5774100.m 5774150.m 5774200.m 5774250.m 5774300.m 5774350.m  
5774400.m 5774450.m 5774500.m 5774550.m 5774600.m 5774650.m 5774700.m  
5774750.m 5774800.m 5774850.m 5774900.m 5774950.m 5775000.m 5775050.m  
5775100.m 5775150.m 5775200.m 5775250.m 5775300.m 5775350.m 5775400.m  
5775450.m 5775500.m 5775550.m 5775600.m 5775650.m 5775700.m 5775750.m  
5775800.m 5775850.m 5775900.m 5775950.m 5776000.m 5776050.m 5776100.m  
5776150.m 5776200.m 5776250.m 5776300.m 5776350.m 5776400.m 5776450.m  
5776500.m 5776550.m 5776600.m 5776650.m 5776700.m 5776750.m 5776800.m  
5776850.m 5776900.m 5776950.m 5777000.m 5777050.m 5777100.m 5777150.m  
5777200.m 5777250.m 5777300.m 5777350.m 5777400.m 5777450.m 5777500.m  
5777550.m 5777600.m 5777650.m 5777700.m 5777750.m 5777800.m 5777850.m  
5777900.m 5777950.m 5778000.m

DISCRETE RECEPTOR LOCATIONS (in metres)

| No. | X      | Y       | ELEVN | HEIGHT | No. | X      | Y       | ELEVN | HEIGHT |
|-----|--------|---------|-------|--------|-----|--------|---------|-------|--------|
| 1   | 733760 | 5775188 | 0.0   | 0.0    | 4   | 733598 | 5775972 | 0.0   | 0.0    |
| 2   | 731996 | 5776262 | 0.0   | 0.0    | 5   | 733807 | 5775512 | 0.0   | 0.0    |
| 3   | 732678 | 5776134 | 0.0   | 0.0    |     |        |         |       |        |

METEOROLOGICAL DATA : AUSPLUME METFILE

|     |          |             | BroilerFarm_Single_Shed_640k.TXT |  |
|-----|----------|-------------|----------------------------------|--|
| 60  | 7.46E+02 | 03.04/11/08 | (732750, 5775200, 0.0)           |  |
| 61  | 7.44E+02 | 04.02/01/08 | (732750, 5775250, 0.0)           |  |
| 62  | 7.35E+02 | 24.05/09/08 | (732750, 5775100, 0.0)           |  |
| 63  | 7.34E+02 | 22.24/10/08 | (732750, 5775150, 0.0)           |  |
| 64  | 7.32E+02 | 04.26/02/08 | (732750, 5775100, 0.0)           |  |
| 65  | 7.32E+02 | 01.17/12/08 | (732750, 5775100, 0.0)           |  |
| 66  | 7.26E+02 | 01.14/01/08 | (732800, 5775400, 0.0)           |  |
| 67  | 7.25E+02 | 01.07/01/08 | (732750, 5775150, 0.0)           |  |
| 68  | 7.23E+02 | 03.27/02/08 | (732750, 5775200, 0.0)           |  |
| 69  | 7.22E+02 | 03.10/02/08 | (732800, 5775300, 0.0)           |  |
| 70  | 7.21E+02 | 24.13/10/08 | (732800, 5775300, 0.0)           |  |
| 71  | 7.21E+02 | 02.14/01/08 | (732800, 5775350, 0.0)           |  |
| 72  | 7.21E+02 | 02.10/02/08 | (732800, 5775350, 0.0)           |  |
| 73  | 7.18E+02 | 20.08/09/08 | (732750, 5775200, 0.0)           |  |
| 74  | 7.15E+02 | 24.28/01/08 | (732750, 5775250, 0.0)           |  |
| 75  | 7.13E+02 | 06.01/11/08 | (732750, 5775200, 0.0)           |  |
| 76  | 7.10E+02 | 06.24/01/08 | (732750, 5775100, 0.0)           |  |
| 77  | 7.09E+02 | 06.12/01/08 | (732750, 5775200, 0.0)           |  |
| 78  | 7.09E+02 | 01.08/01/08 | (732750, 5775150, 0.0)           |  |
| 79  | 7.06E+02 | 24.06/09/08 | (732750, 5775250, 0.0)           |  |
| 80  | 7.05E+02 | 20.05/09/08 | (732700, 5774950, 0.0)           |  |
| 81  | 6.99E+02 | 10.26/02/08 | (732750, 5775100, 0.0)           |  |
| 82  | 6.91E+02 | 24.19/10/08 | (732800, 5775350, 0.0)           |  |
| 83  | 6.90E+02 | 23.19/10/08 | (732750, 5775150, 0.0)           |  |
| 84  | 6.90E+02 | 04.10/02/08 | (732800, 5775300, 0.0)           |  |
| 85  | 6.90E+02 | 01.26/02/08 | (732750, 5775100, 0.0)           |  |
| 86  | 6.90E+02 | 02.26/02/08 | (732750, 5775100, 0.0)           |  |
| 87  | 6.85E+02 | 03.09/09/08 | (732800, 5775300, 0.0)           |  |
| 88  | 6.85E+02 | 23.13/02/08 | (732800, 5775300, 0.0)           |  |
| 89  | 6.85E+02 | 03.14/01/08 | (732800, 5775350, 0.0)           |  |
| 90  | 6.83E+02 | 04.27/02/08 | (732750, 5775150, 0.0)           |  |
| 91  | 6.81E+02 | 03.24/01/08 | (732800, 5775300, 0.0)           |  |
| 92  | 6.79E+02 | 01.20/10/08 | (732800, 5775300, 0.0)           |  |
| 93  | 6.79E+02 | 19.06/09/08 | (732750, 5775150, 0.0)           |  |
| 94  | 6.75E+02 | 21.24/12/08 | (732750, 5775200, 0.0)           |  |
| 95  | 6.69E+02 | 02.12/02/08 | (732750, 5775150, 0.0)           |  |
| 96  | 6.68E+02 | 01.17/01/08 | (732750, 5775200, 0.0)           |  |
| 97  | 6.68E+02 | 24.09/02/08 | (732750, 5775200, 0.0)           |  |
| 98  | 6.67E+02 | 02.18/09/08 | (732700, 5774900, 0.0)           |  |
| 99  | 6.67E+02 | 03.18/09/08 | (732700, 5774900, 0.0)           |  |
| 100 | 6.67E+02 | 04.18/09/08 | (732700, 5774900, 0.0)           |  |

Beaac Broiler Farm 320000 Birds Single shed

Concentration or deposition  
 Emission rate units Concentration OUV/second  
 Concentration units Odour\_Units  
 Units conversion factor 1.00E+00  
 Constant background concentration 0.00E+00  
 Terrain effects None  
 Smooth stability class changes? No  
 Other stability class adjustments ("urban modes") No  
 Ignore building wake effects? No  
 Decay coefficient (unless overridden by met. file) 0.000  
 Anemometer height 10 m  
 Roughness height at the wind vane site 0.300 m

DISPERSION CURVES  
 Horizontal dispersion curves for sources <100m high Pasquill-Gifford  
 Vertical dispersion curves for sources <100m high Pasquill-Gifford  
 Horizontal dispersion curves for sources >100m high Briggs Rural  
 Vertical dispersion curves for sources >100m high Briggs Rural  
 Enhance horizontal plume spreads for buoyancy? Yes  
 Enhance vertical plume spreads for buoyancy? Yes  
 Adjust horizontal P-G formulae for roughness height? Yes  
 Adjust vertical P-G formulae for roughness height? Yes  
 Roughness height 0.100m  
 Adjustment for wind directional shear None

PLUME RISE OPTIONS  
 Gradual plume rise? Yes  
 Stack-tip downwash included? Yes  
 Building downwash algorithm: PRIME method.  
 Entrainment coeff. for neutral & stable lapse rates 0.60,0.60  
 Partial penetration of elevated inversions? No  
 Disregard temp. gradients in the hourly met. file? No

and in the absence of boundary-layer potential temperature gradients given by the hourly met. file, a value from the following table (in K/m) is used:

| Wind Speed Category | A     | B     | C     | D     | E     | F     |
|---------------------|-------|-------|-------|-------|-------|-------|
| 1                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 2                   | 0.000 | 0.000 | 0.000 | 0.020 | 0.020 | 0.035 |
| 3                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 4                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 5                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 6                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |

WIND SPEED CATEGORIES  
 Boundaries between categories (in m/s) are: 1.54, 3.09, 5.14, 8.23, 10.80  
 WIND PROFILE EXPONENTS: "Irwin Rural" values (unless overridden by met. file)  
 AVERAGING TIME: 3 minutes.

Beaac Broiler Farm 320000 Birds Single Shed  
 SOURCE CHARACTERISTICS

VOLUME SOURCE: CA1

X(m) 732735 Y(m) 5774979  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Summer: 1 2.56E+04 2 2.56E+04 3 2.56E+04 4 2.56E+04  
 5 2.56E+04 6 2.56E+04 7 2.56E+04 8 2.56E+04  
 9 2.56E+04 10 2.56E+04 11 2.56E+04 12 2.56E+04  
 13 2.56E+04 14 2.56E+04 15 2.56E+04 16 2.56E+04  
 17 2.56E+04 18 2.56E+04 19 2.56E+04 20 2.56E+04  
 21 2.56E+04 22 2.56E+04 23 2.56E+04 24 2.56E+04  
 Autumn: 1 6.40E+03 2 6.40E+03 3 6.40E+03 4 6.40E+03  
 5 6.40E+03 6 6.40E+03 7 6.40E+03 8 6.40E+03  
 9 6.40E+03 10 6.40E+03 11 6.40E+03 12 6.40E+03  
 13 6.40E+03 14 6.40E+03 15 6.40E+03 16 6.40E+03  
 17 6.40E+03 18 6.40E+03 19 6.40E+03 20 6.40E+03  
 21 6.40E+03 22 6.40E+03 23 6.40E+03 24 6.40E+03  
 Spring: 1 2.56E+04 2 2.56E+04 3 2.56E+04 4 2.56E+04  
 5 2.56E+04 6 2.56E+04 7 2.56E+04 8 2.56E+04  
 9 2.56E+04 10 2.56E+04 11 2.56E+04 12 2.56E+04  
 13 2.56E+04 14 2.56E+04 15 2.56E+04 16 2.56E+04  
 17 2.56E+04 18 2.56E+04 19 2.56E+04 20 2.56E+04  
 21 2.56E+04 22 2.56E+04 23 2.56E+04 24 2.56E+04

No gravitational settling or scavenging.

VOLUME SOURCE: CA2

X(m) 732730 Y(m) 5775007  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

Emission rates by season and hour, in OUV/second:

Summer: 1 2.56E+04 2 2.56E+04 3 2.56E+04 4 2.56E+04  
 5 2.56E+04 6 2.56E+04 7 2.56E+04 8 2.56E+04  
 9 2.56E+04 10 2.56E+04 11 2.56E+04 12 2.56E+04  
 13 2.56E+04 14 2.56E+04 15 2.56E+04 16 2.56E+04  
 17 2.56E+04 18 2.56E+04 19 2.56E+04 20 2.56E+04  
 21 2.56E+04 22 2.56E+04 23 2.56E+04 24 2.56E+04  
 Autumn: 1 6.40E+03 2 6.40E+03 3 6.40E+03 4 6.40E+03  
 5 6.40E+03 6 6.40E+03 7 6.40E+03 8 6.40E+03  
 9 6.40E+03 10 6.40E+03 11 6.40E+03 12 6.40E+03  
 13 6.40E+03 14 6.40E+03 15 6.40E+03 16 6.40E+03  
 17 6.40E+03 18 6.40E+03 19 6.40E+03 20 6.40E+03  
 21 6.40E+03 22 6.40E+03 23 6.40E+03 24 6.40E+03  
 Winter: 1 6.40E+03 2 6.40E+03 3 6.40E+03 4 6.40E+03  
 5 6.40E+03 6 6.40E+03 7 6.40E+03 8 6.40E+03  
 9 6.40E+03 10 6.40E+03 11 6.40E+03 12 6.40E+03  
 13 6.40E+03 14 6.40E+03 15 6.40E+03 16 6.40E+03  
 17 6.40E+03 18 6.40E+03 19 6.40E+03 20 6.40E+03  
 21 6.40E+03 22 6.40E+03 23 6.40E+03 24 6.40E+03  
 Spring: 1 2.56E+04 2 2.56E+04 3 2.56E+04 4 2.56E+04  
 5 2.56E+04 6 2.56E+04 7 2.56E+04 8 2.56E+04  
 9 2.56E+04 10 2.56E+04 11 2.56E+04 12 2.56E+04  
 13 2.56E+04 14 2.56E+04 15 2.56E+04 16 2.56E+04  
 17 2.56E+04 18 2.56E+04 19 2.56E+04 20 2.56E+04  
 21 2.56E+04 22 2.56E+04 23 2.56E+04 24 2.56E+04







1 Peak values for the 100 worst cases (in Odour\_Units)
Averaging time = 3 minutes

Table with columns: Rank, Peak Value, Time Recorded, Coordinates. Contains 100 rows of data.

BroilerFarm\_Single\_Shed\_320K.TXT
13 6.40E+03
14 6.40E+03
15 6.40E+03
16 6.40E+03
17 6.40E+03
18 6.40E+03
19 6.40E+03
20 6.40E+03
21 6.40E+03
22 6.40E+03
23 6.40E+03
24 6.40E+03
25 2.56E+04
26 2.56E+04
27 2.56E+04
28 2.56E+04
29 2.56E+04
30 2.56E+04
31 2.56E+04
32 2.56E+04
33 2.56E+04
34 2.56E+04
35 2.56E+04
36 2.56E+04
37 2.56E+04
38 2.56E+04
39 2.56E+04
40 2.56E+04
41 2.56E+04
42 2.56E+04
43 2.56E+04
44 2.56E+04
45 2.56E+04
46 2.56E+04
47 2.56E+04
48 2.56E+04
49 2.56E+04
50 2.56E+04
51 2.56E+04
52 2.56E+04
53 2.56E+04
54 2.56E+04
55 2.56E+04
56 2.56E+04
57 2.56E+04
58 2.56E+04
59 2.56E+04

No gravitational settling or scavenging.

Beaac Broiler Farm 320000 Birds Single Shed

RECEPTOR LOCATIONS

The Cartesian receptor grid has the following x-values (or eastings):
730000.m 730100.m 730200.m 730300.m 730400.m 730500.m 730600.m 730700.m 730800.m 730900.m 731000.m 731100.m 731200.m 731300.m 731400.m 731500.m 731600.m 731700.m 731800.m 731900.m 732000.m 732100.m 732200.m 732300.m 732400.m 732500.m 732600.m 732700.m 732800.m 732900.m 733000.m 733100.m 733200.m 733300.m 733400.m 733500.m 733600.m 733700.m 733800.m 733900.m 734000.m 734100.m 734200.m 734300.m 734400.m 734500.m 734600.m 734700.m 734800.m 734900.m 735000.m

and these y-values (or northings):
5773000.m 5773100.m 5773200.m 5773300.m 5773400.m 5773500.m 5773600.m 5773700.m 5773800.m 5773900.m 5774000.m 5774100.m 5774200.m 5774300.m 5774400.m 5774500.m 5774600.m 5774700.m 5774800.m 5774900.m 5775000.m 5775100.m 5775200.m 5775300.m 5775400.m 5775500.m 5775600.m 5775700.m 5775800.m 5775900.m 5776000.m 5776100.m 5776200.m 5776300.m 5776400.m 5776500.m 5776600.m 5776700.m 5776800.m 5776900.m 5777000.m 5777100.m 5777200.m 5777300.m 5777400.m 5777500.m 5777600.m 5777700.m 5777800.m 5777900.m 5778000.m

DISCRETE RECEPTOR LOCATIONS (in metres)

Table with columns: No., X, Y, ELEV, HEIGHT, No., X, Y, ELEV, HEIGHT. Contains 3 rows of data.

METEOROLOGICAL DATA : AUSPLUME METFILE

|     |          | BroilerFarm_Single_Shed_320K.TXT |                        |
|-----|----------|----------------------------------|------------------------|
| 60  | 3.73E+02 | 03.04/11/08                      | (732750, 5775200, 0.0) |
| 61  | 3.72E+02 | 04.02/01/08                      | (732750, 5775250, 0.0) |
| 62  | 3.68E+02 | 24.05/09/08                      | (732750, 5775100, 0.0) |
| 63  | 3.67E+02 | 22.24/10/08                      | (732750, 5775150, 0.0) |
| 64  | 3.66E+02 | 04.26/02/08                      | (732750, 5775100, 0.0) |
| 65  | 3.66E+02 | 01.17/12/08                      | (732750, 5775100, 0.0) |
| 66  | 3.63E+02 | 01.14/01/08                      | (732800, 5775400, 0.0) |
| 67  | 3.63E+02 | 01.07/01/08                      | (732750, 5775150, 0.0) |
| 68  | 3.61E+02 | 03.27/02/08                      | (732750, 5775200, 0.0) |
| 69  | 3.61E+02 | 03.10/02/08                      | (732800, 5775300, 0.0) |
| 70  | 3.61E+02 | 24.13/10/08                      | (732800, 5775300, 0.0) |
| 71  | 3.61E+02 | 02.14/01/08                      | (732800, 5775350, 0.0) |
| 72  | 3.61E+02 | 02.10/02/08                      | (732800, 5775350, 0.0) |
| 73  | 3.59E+02 | 20.08/09/08                      | (732750, 5775200, 0.0) |
| 74  | 3.57E+02 | 24.28/01/08                      | (732750, 5775250, 0.0) |
| 75  | 3.56E+02 | 06.01/11/08                      | (732750, 5775200, 0.0) |
| 76  | 3.55E+02 | 06.24/01/08                      | (732750, 5775100, 0.0) |
| 77  | 3.55E+02 | 06.12/01/08                      | (732750, 5775200, 0.0) |
| 78  | 3.55E+02 | 01.08/01/08                      | (732750, 5775150, 0.0) |
| 79  | 3.53E+02 | 24.06/09/08                      | (732750, 5775250, 0.0) |
| 80  | 3.53E+02 | 20.05/09/08                      | (732700, 5774950, 0.0) |
| 81  | 3.49E+02 | 10.26/02/08                      | (732750, 5775100, 0.0) |
| 82  | 3.45E+02 | 24.19/10/08                      | (732800, 5775350, 0.0) |
| 83  | 3.45E+02 | 23.19/10/08                      | (732750, 5775150, 0.0) |
| 84  | 3.45E+02 | 04.10/02/08                      | (732800, 5775300, 0.0) |
| 85  | 3.45E+02 | 01.26/02/08                      | (732750, 5775100, 0.0) |
| 86  | 3.45E+02 | 02.26/02/08                      | (732750, 5775100, 0.0) |
| 87  | 3.43E+02 | 03.09/09/08                      | (732800, 5775300, 0.0) |
| 88  | 3.42E+02 | 23.13/02/08                      | (732800, 5775300, 0.0) |
| 89  | 3.42E+02 | 03.14/01/08                      | (732800, 5775350, 0.0) |
| 90  | 3.41E+02 | 04.27/02/08                      | (732750, 5775150, 0.0) |
| 91  | 3.41E+02 | 03.24/01/08                      | (732800, 5775300, 0.0) |
| 92  | 3.40E+02 | 01.20/10/08                      | (732800, 5775300, 0.0) |
| 93  | 3.40E+02 | 19.06/09/08                      | (732750, 5775150, 0.0) |
| 94  | 3.38E+02 | 21.24/12/08                      | (732750, 5775200, 0.0) |
| 95  | 3.34E+02 | 02.12/02/08                      | (732750, 5775150, 0.0) |
| 96  | 3.34E+02 | 01.17/01/08                      | (732750, 5775200, 0.0) |
| 97  | 3.34E+02 | 24.09/02/08                      | (732750, 5775200, 0.0) |
| 98  | 3.34E+02 | 02.18/09/08                      | (732700, 5774900, 0.0) |
| 99  | 3.34E+02 | 03.18/09/08                      | (732700, 5774900, 0.0) |
| 100 | 3.34E+02 | 04.18/09/08                      | (732700, 5774900, 0.0) |

Beaac Broiler Farm 640000 Birds Single Shed

Concentration or deposition  
 Emission rate units grams/second  
 Concentration units microgram/m3  
 Units conversion factor 1.00E+06 0.00E+00  
 Constant background concentration  
 Terrain effects None  
 Plume depletion due to dry removal mechanisms included.  
 Smooth stability class adjustments? No  
 Other stability class adjustments ("urban modes") No  
 Ignore building wake effects? No  
 Decay coefficient (unless overridden by met. file) 0.000  
 Anemometer height 10 m  
 Roughness height at the wind vane site 0.300 m

DISPERSION CURVES

Horizontal dispersion curves for sources <100m high Pasquill-Gifford  
 Vertical dispersion curves for sources <100m high Pasquill-Gifford  
 Horizontal dispersion curves for sources >100m high Briggs Rural  
 Vertical dispersion curves for sources >100m high Briggs Rural  
 Enhance horizontal plume spreads for buoyancy? Yes  
 Enhance vertical plume spreads for buoyancy? Yes  
 Adjust horizontal P-G formulae for roughness height? Yes  
 Adjust vertical P-G formulae for roughness height? Yes  
 Roughness height 0.100m  
 Adjustment for wind directional shear None

PLUME RISE OPTIONS

Gradual plume rise? Yes  
 Stack-tip downwash included? Yes  
 Building downwash algorithm: PRIME method.  
 Entrainment coeff. for neutral & stable lapse rates 0.60,0.60  
 Partial penetration of elevated inversions? No  
 Disregard temp. gradients in the hourly met. file? No

and in the absence of boundary-layer potential temperature gradients given by the hourly met. file, a value from the following table (in K/m) is used:

| Wind Speed Category | A     | B     | C     | D     | E     | F     |
|---------------------|-------|-------|-------|-------|-------|-------|
| 1                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 2                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 3                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 4                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 5                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 6                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |

WIND SPEED CATEGORIES

Boundaries between categories (in m/s) are: 1.54, 3.09, 5.14, 8.23, 10.80

WIND PROFILE EXPONENTS: "Irwin Rural" values (unless overridden by met. file)

AVERAGING TIMES

1 hour  
 24 hours

SOURCE CHARACTERISTICS

VOLUME SOURCE: CA1  
 X(m) 732735 Y(m) 5774979  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 3.50E-01 grams/second

| Particle Mass fraction (micron) | Particle Size (micron) | Particle Density (g/cm3) |
|---------------------------------|------------------------|--------------------------|
| 0.4750                          | 4.0                    | 1.00                     |
| 0.5250                          | 10.0                   | 1.00                     |

VOLUME SOURCE: CA2

X(m) 732730 Y(m) 5775007  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 3.50E-01 grams/second

| Particle Mass fraction (micron) | Particle Size (micron) | Particle Density (g/cm3) |
|---------------------------------|------------------------|--------------------------|
| 0.4750                          | 4.0                    | 1.00                     |
| 0.5250                          | 10.0                   | 1.00                     |

VOLUME SOURCE: CA3

X(m) 732734 Y(m) 5775035  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 3.50E-01 grams/second

| Particle Mass fraction (micron) | Particle Size (micron) | Particle Density (g/cm3) |
|---------------------------------|------------------------|--------------------------|
| 0.4750                          | 4.0                    | 1.00                     |
| 0.5250                          | 10.0                   | 1.00                     |

VOLUME SOURCE: CA4

X(m) 732738 Y(m) 5775062  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 3.50E-01 grams/second

| Particle Mass fraction (micron) | Particle Size (micron) | Particle Density (g/cm3) |
|---------------------------------|------------------------|--------------------------|
| 0.4750                          | 4.0                    | 1.00                     |
| 0.5250                          | 10.0                   | 1.00                     |

VOLUME SOURCE: CA5

X(m) 732742 Y(m) 5775090  
 BroilerFarm\_Single\_Shed\_640K\_PMI0.TXT  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 3.50E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) | Height 4m |
|------------------------|------------------------|--------------------------|-----------|
| 0.4750                 | 4.0                    | 1.00                     |           |
| 0.5250                 | 10.0                   | 1.00                     |           |

VOLUME SOURCE: CA6

X(m) 732746 Y(m) 5775118  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 3.50E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) | Height 4m |
|------------------------|------------------------|--------------------------|-----------|
| 0.4750                 | 4.0                    | 1.00                     |           |
| 0.5250                 | 10.0                   | 1.00                     |           |

VOLUME SOURCE: CA7

X(m) 732750 Y(m) 5775145  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 3.50E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) | Height 4m |
|------------------------|------------------------|--------------------------|-----------|
| 0.4750                 | 4.0                    | 1.00                     |           |
| 0.5250                 | 10.0                   | 1.00                     |           |

VOLUME SOURCE: CA8

X(m) 732754 Y(m) 5775173  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 3.50E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) | Height 4m |
|------------------------|------------------------|--------------------------|-----------|
| 0.4750                 | 4.0                    | 1.00                     |           |
| 0.5250                 | 10.0                   | 1.00                     |           |

VOLUME SOURCE: CA9

X(m) 732759 Y(m) 5775201  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 3.50E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) | Height 4m |
|------------------------|------------------------|--------------------------|-----------|
| 0.4750                 | 4.0                    | 1.00                     |           |
| 0.5250                 | 10.0                   | 1.00                     |           |

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BroilerFarm\_Single\_Shed\_640K\_PMI0.TXT  
 0.4750 4.0 1.00  
 0.5250 10.0 1.00

VOLUME SOURCE: CA10

X(m) 732763 Y(m) 5775228  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 3.50E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) | Height 4m |
|------------------------|------------------------|--------------------------|-----------|
| 0.4750                 | 4.0                    | 1.00                     |           |
| 0.5250                 | 10.0                   | 1.00                     |           |

1

Beaac Broiler Farm 640000 Birds Single Shed

RECEPTOR LOCATIONS

The Cartesian receptor grid has the following x-values (or eastings):  
 731500.m 731600.m 731700.m 731800.m 731900.m 732000.m 732100.m  
 732200.m 732300.m 732400.m 732500.m 732600.m 732700.m 732800.m  
 732900.m 733000.m 733100.m 733200.m 733300.m 733400.m 733500.m  
 and these y-values (or northings):  
 5774500.m 5774600.m 5774700.m 5774800.m 5774900.m 5775000.m 5775100.m  
 5775200.m 5775300.m 5775400.m 5775500.m 5775600.m 5775700.m 5775800.m  
 5775900.m 5776000.m 5776100.m 5776200.m 5776300.m 5776400.m 5776500.m

DISCRETE RECEPTOR LOCATIONS (in metres)

| No. | X      | Y       | ELEVN | HEIGHT | No. | X      | Y       | ELEVN | HEIGHT |
|-----|--------|---------|-------|--------|-----|--------|---------|-------|--------|
| 1   | 733760 | 5775188 | 0.0   | 0.0    | 4   | 733598 | 5775972 | 0.0   | 0.0    |
| 2   | 731996 | 5776262 | 0.0   | 0.0    | 5   | 733807 | 5775512 | 0.0   | 0.0    |
| 3   | 732678 | 5776134 | 0.0   | 0.0    |     |        |         |       |        |

METEOROLOGICAL DATA : AUSPLUME METFILE

1 Peak values for the 100 worst cases (in microgram/m3)  
 Averaging time = 1 hour

| Rank | Value    | Time Recorded hour, date | Coordinates (* denotes polar) |
|------|----------|--------------------------|-------------------------------|
| 1    | 6.57E+03 | 09,01/06/08              | (732700, 5775000, 0.0)        |
| 2    | 5.61E+03 | 21,11/10/08              | (732800, 5775300, 0.0)        |
| 3    | 5.60E+03 | 17,02/06/08              | (732800, 5775300, 0.0)        |
| 4    | 5.25E+03 | 04,15/04/08              | (732800, 5775200, 0.0)        |
| 5    | 5.21E+03 | 19,12/05/08              | (732800, 5775200, 0.0)        |
| 6    | 5.21E+03 | 01,25/10/08              | (732800, 5775200, 0.0)        |
| 7    | 4.94E+03 | 21,05/04/08              | (732800, 5775200, 0.0)        |
| 8    | 4.81E+03 | 03,22/02/08              | (732800, 5775200, 0.0)        |

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| Rank | Value    | Time Recorded<br>hour, date | Coordinates<br>(* Coordinates polar) |
|------|----------|-----------------------------|--------------------------------------|
| 9    | 4.80E+03 | 07/09/09/08                 | (732700, 5775000, 0.0)               |
| 10   | 4.77E+03 | 05/28/08/08                 | (732800, 5775300, 0.0)               |
| 11   | 4.67E+03 | 22/25/02/08                 | (732800, 5775300, 0.0)               |
| 12   | 4.51E+03 | 03/06/04/08                 | (732700, 5775000, 0.0)               |
| 13   | 4.49E+03 | 10/06/04/08                 | (732700, 5775000, 0.0)               |
| 14   | 4.42E+03 | 09/04/07/08                 | (732700, 5775100, 0.0)               |
| 15   | 4.36E+03 | 03/05/01/08                 | (732700, 5774900, 0.0)               |
| 16   | 4.35E+03 | 01/07/09/08                 | (732800, 5775300, 0.0)               |
| 17   | 4.34E+03 | 08/17/10/08                 | (732700, 5775000, 0.0)               |
| 18   | 4.32E+03 | 06/16/04/08                 | (732800, 5775300, 0.0)               |
| 19   | 4.29E+03 | 24/05/04/08                 | (732700, 5775100, 0.0)               |
| 20   | 4.21E+03 | 08/28/05/08                 | (732800, 5775200, 0.0)               |
| 21   | 4.20E+03 | 19/27/05/08                 | (732800, 5775300, 0.0)               |
| 22   | 4.19E+03 | 23/05/04/08                 | (732700, 5775100, 0.0)               |
| 23   | 4.16E+03 | 07/01/06/08                 | (732700, 5775000, 0.0)               |
| 24   | 4.07E+03 | 21/12/05/08                 | (732700, 5775000, 0.0)               |
| 25   | 4.04E+03 | 04/10/02/08                 | (732800, 5775300, 0.0)               |
| 26   | 4.04E+03 | 02/06/04/08                 | (732700, 5775100, 0.0)               |
| 27   | 4.01E+03 | 22/09/10/08                 | (732800, 5775300, 0.0)               |
| 28   | 4.00E+03 | 07/17/10/08                 | (732700, 5775100, 0.0)               |
| 29   | 3.99E+03 | 04/10/01/08                 | (732700, 5775000, 0.0)               |
| 30   | 3.98E+03 | 04/28/08/08                 | (732700, 5775200, 0.0)               |
| 31   | 3.96E+03 | 04/14/02/08                 | (732800, 5775300, 0.0)               |
| 32   | 3.93E+03 | 01/06/04/08                 | (732700, 5775100, 0.0)               |
| 33   | 3.89E+03 | 08/06/04/08                 | (732700, 5775000, 0.0)               |
| 34   | 3.89E+03 | 03/14/02/08                 | (732800, 5775300, 0.0)               |
| 35   | 3.86E+03 | 18/13/05/08                 | (732700, 5774900, 0.0)               |
| 36   | 3.85E+03 | 03/10/02/08                 | (732800, 5775300, 0.0)               |
| 37   | 3.84E+03 | 04/20/12/08                 | (732800, 5775300, 0.0)               |
| 38   | 3.84E+03 | 05/26/12/08                 | (732800, 5775300, 0.0)               |
| 39   | 3.81E+03 | 08/15/04/08                 | (732800, 5775200, 0.0)               |
| 40   | 3.79E+03 | 07/04/10/08                 | (732800, 5775100, 0.0)               |
| 41   | 3.76E+03 | 24/13/10/08                 | (732800, 5775300, 0.0)               |
| 42   | 3.73E+03 | 20/24/09/08                 | (732800, 5775200, 0.0)               |
| 43   | 3.73E+03 | 19/23/10/08                 | (732800, 5775100, 0.0)               |
| 44   | 3.73E+03 | 23/09/10/08                 | (732800, 5775100, 0.0)               |
| 45   | 3.69E+03 | 23/13/02/08                 | (732800, 5775300, 0.0)               |
| 46   | 3.68E+03 | 07/24/12/08                 | (732700, 5775000, 0.0)               |
| 47   | 3.68E+03 | 06/26/02/08                 | (732700, 5775100, 0.0)               |
| 48   | 3.67E+03 | 04/07/08/08                 | (732700, 5775000, 0.0)               |
| 49   | 3.65E+03 | 06/04/08/08                 | (732700, 5774900, 0.0)               |
| 50   | 3.64E+03 | 23/04/10/08                 | (732700, 5775000, 0.0)               |
| 51   | 3.63E+03 | 01/20/10/08                 | (732800, 5775300, 0.0)               |
| 52   | 3.62E+03 | 05/02/02/08                 | (732800, 5775200, 0.0)               |
| 53   | 3.62E+03 | 24/15/10/08                 | (732800, 5775200, 0.0)               |
| 54   | 3.60E+03 | 20/05/09/08                 | (732700, 5775000, 0.0)               |
| 55   | 3.59E+03 | 07/15/04/08                 | (732800, 5775300, 0.0)               |
| 56   | 3.53E+03 | 06/01/06/08                 | (732700, 5775000, 0.0)               |
| 57   | 3.51E+03 | 05/17/10/08                 | (732700, 5775200, 0.0)               |
| 58   | 3.49E+03 | 03/09/09/08                 | (732800, 5775300, 0.0)               |
| 59   | 3.49E+03 | 18/05/08/08                 | (732800, 5775300, 0.0)               |
| 60   | 3.49E+03 | 08/01/06/08                 | (732700, 5775000, 0.0)               |
| 61   | 3.46E+03 | 05/10/02/08                 | (732800, 5775300, 0.0)               |
| 62   | 3.45E+03 | 11/01/06/08                 | (732700, 5775000, 0.0)               |
| 63   | 3.45E+03 | 02/17/12/08                 | (732800, 5775300, 0.0)               |
| 64   | 3.45E+03 | 22/29/04/08                 | (732700, 5774900, 0.0)               |
| 65   | 3.44E+03 | 02/25/07/08                 | (732700, 5774900, 0.0)               |
| 66   | 3.43E+03 | 19/24/04/08                 | (732700, 5774900, 0.0)               |
| 67   | 3.42E+03 | 18/06/08/08                 | (732700, 5774900, 0.0)               |
| 68   | 3.39E+03 | 03/24/01/08                 | (732800, 5775300, 0.0)               |
| 69   | 3.37E+03 | 05/20/12/08                 | (732800, 5775200, 0.0)               |
| 70   | 3.37E+03 | 21/09/10/08                 | (732800, 5775300, 0.0)               |
| 71   | 3.36E+03 | 18/02/06/08                 | (732700, 5775100, 0.0)               |
| 72   | 3.36E+03 | 21/13/10/08                 | (732800, 5775300, 0.0)               |
| 73   | 3.34E+03 | 04/06/04/08                 | (732700, 5775100, 0.0)               |
| 74   | 3.34E+03 | 10/01/06/08                 | (732700, 5775000, 0.0)               |
| 75   | 3.33E+03 | 06/22/05/08                 | (732700, 5775000, 0.0)               |
| 76   | 3.33E+03 | 05/28/01/08                 | (732800, 5775200, 0.0)               |

| Rank | Value    | Time Recorded<br>hour, date | Coordinates<br>(* Coordinates polar) |
|------|----------|-----------------------------|--------------------------------------|
| 77   | 3.32E+03 | 02/14/01/08                 | (732800, 5775300, 0.0)               |
| 78   | 3.32E+03 | 02/10/02/08                 | (732800, 5775300, 0.0)               |
| 79   | 3.31E+03 | 06/17/04/08                 | (732800, 5775200, 0.0)               |
| 80   | 3.30E+03 | 22/12/05/08                 | (732700, 5775000, 0.0)               |
| 81   | 3.29E+03 | 07/16/04/08                 | (732800, 5775300, 0.0)               |
| 82   | 3.29E+03 | 02/12/05/08                 | (732700, 5775000, 0.0)               |
| 83   | 3.29E+03 | 06/17/12/08                 | (732700, 5775100, 0.0)               |
| 84   | 3.28E+03 | 04/16/07/08                 | (732700, 5774900, 0.0)               |
| 85   | 3.28E+03 | 07/26/02/08                 | (732700, 5775100, 0.0)               |
| 86   | 3.27E+03 | 11/22/05/08                 | (732700, 5775100, 0.0)               |
| 87   | 3.27E+03 | 16/02/06/08                 | (732800, 5775200, 0.0)               |
| 88   | 3.27E+03 | 20/12/05/08                 | (732700, 5775000, 0.0)               |
| 89   | 3.26E+03 | 01/27/05/08                 | (732800, 5775300, 0.0)               |
| 90   | 3.25E+03 | 20/27/05/08                 | (732800, 5775300, 0.0)               |
| 91   | 3.25E+03 | 04/25/12/08                 | (732800, 5775300, 0.0)               |
| 92   | 3.24E+03 | 21/30/09/08                 | (732700, 5774900, 0.0)               |
| 93   | 3.23E+03 | 09/22/05/08                 | (732700, 5775000, 0.0)               |
| 94   | 3.22E+03 | 02/18/09/08                 | (732700, 5774900, 0.0)               |
| 95   | 3.22E+03 | 03/18/09/08                 | (732700, 5774900, 0.0)               |
| 96   | 3.22E+03 | 04/18/09/08                 | (732700, 5774900, 0.0)               |
| 97   | 3.22E+03 | 20/02/11/08                 | (732800, 5775200, 0.0)               |
| 98   | 3.20E+03 | 23/24/08/08                 | (732700, 5774900, 0.0)               |
| 99   | 3.20E+03 | 13/01/06/08                 | (732700, 5775000, 0.0)               |
| 100  | 3.19E+03 | 10/04/07/08                 | (732700, 5775000, 0.0)               |

1 Peak values for the 100 worst cases (in microgram/m3)  
Averaging time = 24 hours

|     |          | ProjectFarm_Single_shed_640K_PM10.TXT |                        |
|-----|----------|---------------------------------------|------------------------|
| 35  | 9.44E+02 | 24,27/03/08                           | (732800, 5775200, 0.0) |
| 36  | 9.35E+02 | 24,07/03/08                           | (732700, 5775100, 0.0) |
| 37  | 9.29E+02 | 24,27/08/08                           | (732800, 5775200, 0.0) |
| 38  | 9.28E+02 | 24,15/10/08                           | (732800, 5775200, 0.0) |
| 39  | 9.24E+02 | 24,10/04/08                           | (732700, 5775000, 0.0) |
| 40  | 9.23E+02 | 24,06/09/08                           | (732800, 5775100, 0.0) |
| 41  | 9.22E+02 | 24,11/02/08                           | (732700, 5775100, 0.0) |
| 42  | 9.18E+02 | 24,27/02/08                           | (732800, 5775300, 0.0) |
| 43  | 9.11E+02 | 24,12/05/08                           | (732700, 5775000, 0.0) |
| 44  | 9.05E+02 | 24,28/01/08                           | (732800, 5775200, 0.0) |
| 45  | 8.97E+02 | 24,18/04/08                           | (732700, 5775100, 0.0) |
| 46  | 8.92E+02 | 24,15/04/08                           | (732700, 5775200, 0.0) |
| 47  | 8.92E+02 | 24,22/08/08                           | (732800, 5775200, 0.0) |
| 48  | 8.91E+02 | 24,12/02/08                           | (732800, 5775300, 0.0) |
| 49  | 8.91E+02 | 24,08/09/08                           | (732800, 5775300, 0.0) |
| 50  | 8.87E+02 | 24,10/02/08                           | (732800, 5775300, 0.0) |
| 51  | 8.87E+02 | 24,12/03/08                           | (732700, 5775100, 0.0) |
| 52  | 8.80E+02 | 24,24/08/08                           | (732800, 5775100, 0.0) |
| 53  | 8.71E+02 | 24,26/02/08                           | (732700, 5775200, 0.0) |
| 54  | 8.71E+02 | 24,09/03/08                           | (732700, 5775000, 0.0) |
| 55  | 8.63E+02 | 24,09/09/08                           | (732800, 5775300, 0.0) |
| 56  | 8.54E+02 | 24,14/06/08                           | (732800, 5775200, 0.0) |
| 57  | 8.53E+02 | 24,07/02/08                           | (732800, 5775200, 0.0) |
| 58  | 8.53E+02 | 24,04/10/08                           | (732800, 5775200, 0.0) |
| 59  | 8.52E+02 | 24,17/12/08                           | (732700, 5775200, 0.0) |
| 60  | 8.45E+02 | 24,07/04/08                           | (732700, 5775100, 0.0) |
| 61  | 8.45E+02 | 24,15/07/08                           | (732700, 5775100, 0.0) |
| 62  | 8.42E+02 | 24,08/04/08                           | (732700, 5775000, 0.0) |
| 63  | 8.41E+02 | 24,08/02/08                           | (732800, 5775200, 0.0) |
| 64  | 8.40E+02 | 24,21/10/08                           | (732800, 5775200, 0.0) |
| 65  | 8.33E+02 | 24,14/02/08                           | (732800, 5775300, 0.0) |
| 66  | 8.27E+02 | 24,20/01/08                           | (732800, 5775300, 0.0) |
| 67  | 8.26E+02 | 24,08/06/08                           | (732700, 5775100, 0.0) |
| 68  | 8.25E+02 | 24,10/09/08                           | (732700, 5774900, 0.0) |
| 69  | 8.20E+02 | 24,19/01/08                           | (732700, 5775100, 0.0) |
| 70  | 8.20E+02 | 24,22/04/08                           | (732700, 5775100, 0.0) |
| 71  | 8.13E+02 | 24,02/06/08                           | (732800, 5775100, 0.0) |
| 72  | 8.11E+02 | 24,15/06/08                           | (732800, 5775300, 0.0) |
| 73  | 8.10E+02 | 24,03/06/08                           | (732700, 5775200, 0.0) |
| 74  | 8.06E+02 | 24,28/08/08                           | (732700, 5775200, 0.0) |
| 75  | 7.95E+02 | 24,23/01/08                           | (732700, 5775100, 0.0) |
| 76  | 7.93E+02 | 24,10/12/08                           | (732700, 5775200, 0.0) |
| 77  | 7.91E+02 | 24,14/05/08                           | (732700, 5774900, 0.0) |
| 78  | 7.90E+02 | 24,18/06/08                           | (732800, 5775000, 0.0) |
| 79  | 7.89E+02 | 24,05/04/08                           | (732800, 5775200, 0.0) |
| 80  | 7.89E+02 | 24,01/02/08                           | (732700, 5775100, 0.0) |
| 81  | 7.89E+02 | 24,13/03/08                           | (732700, 5775000, 0.0) |
| 82  | 7.78E+02 | 24,21/02/08                           | (732700, 5775200, 0.0) |
| 83  | 7.73E+02 | 24,22/07/08                           | (732800, 5775100, 0.0) |
| 84  | 7.71E+02 | 24,26/07/08                           | (732800, 5775100, 0.0) |
| 85  | 7.70E+02 | 24,23/07/08                           | (732800, 5775100, 0.0) |
| 86  | 7.64E+02 | 24,09/05/08                           | (732800, 5775100, 0.0) |
| 87  | 7.63E+02 | 24,18/09/08                           | (732700, 5774900, 0.0) |
| 88  | 7.60E+02 | 24,03/06/08                           | (732700, 5775100, 0.0) |
| 89  | 7.60E+02 | 24,27/07/08                           | (732800, 5775200, 0.0) |
| 90  | 7.49E+02 | 24,14/10/08                           | (732800, 5775200, 0.0) |
| 91  | 7.43E+02 | 24,26/01/08                           | (732700, 5775100, 0.0) |
| 92  | 7.41E+02 | 24,26/05/08                           | (732800, 5775100, 0.0) |
| 93  | 7.38E+02 | 24,13/04/08                           | (732800, 5775100, 0.0) |
| 94  | 7.32E+02 | 24,29/03/08                           | (732800, 5774900, 0.0) |
| 95  | 7.27E+02 | 24,16/12/08                           | (732800, 5775200, 0.0) |
| 96  | 7.27E+02 | 24,05/08/08                           | (732800, 5775200, 0.0) |
| 97  | 7.26E+02 | 24,19/03/08                           | (732700, 5775200, 0.0) |
| 98  | 7.23E+02 | 24,03/02/08                           | (732700, 5775100, 0.0) |
| 99  | 7.21E+02 | 24,25/12/08                           | (732800, 5775200, 0.0) |
| 100 | 7.16E+02 | 24,25/04/08                           | (732800, 5775000, 0.0) |

Beaac Broiler Farm 640000 Birds Single Shed TSP

Concentration or deposition  
 Emission rate units grams/second  
 Concentration units microgram/m3  
 Units conversion factor 1.00E+06  
 Constant background concentration 0.00E+00  
 Terrain effects None  
 Plume depletion due to dry removal mechanisms included.  
 Smooth stability class changes? NO  
 Other stability class adjustments ("urban modes") None  
 Ignore building wake effects? NO  
 Decay coefficient (unless overridden by met. file) 0.000  
 Anemometer height 10 m  
 Roughness height at the wind vane site 0.300 m

DISPERSION CURVES  
 Horizontal dispersion curves for sources <100m high Pasquill-Gifford  
 Vertical dispersion curves for sources <100m high Pasquill-Gifford  
 Horizontal dispersion curves for sources >100m high Briggs Rural  
 Vertical dispersion curves for sources >100m high Briggs Rural  
 Enhance horizontal plume spreads for buoyancy? Yes  
 Enhance vertical plume spreads for buoyancy? Yes  
 Adjust horizontal P-G formulae for roughness height? Yes  
 Adjust vertical P-G formulae for roughness height? Yes  
 Roughness height 0.100m  
 Adjustment for wind directional shear None

PLUME RISE OPTIONS  
 Gradual plume rise? Yes  
 Stack-tip downwash included? Yes  
 Building downwash algorithm: PRIME method.  
 Entrainment coeff. for neutral & stable lapse rates 0.60,0.60  
 Partial penetration of elevated inversions? NO  
 Disregard temp. gradients in the hourly met. file? NO

and in the absence of boundary-layer potential temperature gradients given by the hourly met. file, a value from the following table (in K/m) is used:

| Wind Speed Category | A     | B     | C     | D     | E     | F     |
|---------------------|-------|-------|-------|-------|-------|-------|
| 1                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 2                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 3                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 4                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 5                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 6                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |

WIND SPEED CATEGORIES  
 Boundaries between categories (in m/s) are: 1.54, 3.09, 5.14, 8.23, 10.80

WIND PROFILE EXPONENTS: "Irwin Rural" values (unless overridden by met. file)

AVERAGING TIMES  
 1 hour

VOLUME SOURCE: CA1

X(m) 732735 Y(m) 5774979  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA2

X(m) 732730 Y(m) 5775007  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA3

X(m) 732734 Y(m) 5775035  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA4

X(m) 732734 Y(m) 5775035  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

BroilerFarm\_Single\_Shed\_640K\_TSP.TXT  
4m 5m

732738 5775062 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA5

X(m) 732742 Y(m) 5775090  
Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA6

X(m) 732746 Y(m) 5775118  
Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA7

X(m) 732750 Y(m) 5775145  
Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

BroilerFarm\_Single\_Shed\_640K\_TSP.TXT  
4.0 1.00

|        |       |      |
|--------|-------|------|
| 0.1800 | 4.0   | 1.00 |
| 0.1990 | 10.0  | 1.00 |
| 0.2570 | 22.0  | 1.00 |
| 0.1920 | 49.0  | 1.00 |
| 0.1300 | 109.0 | 1.00 |
| 0.0330 | 177.0 | 1.00 |
| 0.0090 | 364.0 | 1.00 |

VOLUME SOURCE: CA8

X(m) 732754 Y(m) 5775173  
Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA9

X(m) 732759 Y(m) 5775201  
Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA10

X(m) 732763 Y(m) 5775228  
Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |



BroilerFarm\_Single\_Shed\_640K\_TSP.TXT

Beaac Broiler Farm 640000 Birds Single Shed TSP  
RECEPTOR LOCATIONS

The Cartesian receptor grid has the following x-values (or eastings):  
 731500.m 731600.m 731700.m 731800.m 731900.m 732000.m 732100.m  
 732200.m 732300.m 732400.m 732500.m 732600.m 732700.m 732800.m  
 732900.m 733000.m 733100.m 733200.m 733300.m 733400.m 733500.m  
 and these y-values (or northings):  
 5774500.m 5774600.m 5774700.m 5774800.m 5774900.m 5775000.m 5775100.m  
 5775200.m 5775300.m 5775400.m 5775500.m 5775600.m 5775700.m 5775800.m  
 5775900.m 5776000.m 5776100.m 5776200.m 5776300.m 5776400.m 5776500.m

DISCRETE RECEPTOR LOCATIONS (in metres)

| No. | X      | Y       | ELEVN | HEIGHT | No. | X      | Y       | ELEVN | HEIGHT |
|-----|--------|---------|-------|--------|-----|--------|---------|-------|--------|
| 1   | 733760 | 5775188 | 0.0   | 0.0    | 4   | 733598 | 5775972 | 0.0   | 0.0    |
| 2   | 731996 | 5776262 | 0.0   | 0.0    | 5   | 733807 | 5775512 | 0.0   | 0.0    |
| 3   | 732678 | 5776134 | 0.0   | 0.0    |     |        |         |       |        |

METEOROLOGICAL DATA : AUSPLUME METFFLE

1 Peak values for the 100 worst cases (in microgram/m3)

| Rank | Value    | Time Recorded<br>hour, date | Coordinates<br>(* denotes polar) |
|------|----------|-----------------------------|----------------------------------|
| 1    | 1.10E+04 | 09,01/06/08                 | (732700, 5775000, 0.0)           |
| 2    | 9.01E+03 | 03,06/04/08                 | (732700, 5775000, 0.0)           |
| 3    | 8.92E+03 | 09,04/07/08                 | (732700, 5775000, 0.0)           |
| 4    | 8.68E+03 | 24,05/04/08                 | (732700, 5775000, 0.0)           |
| 5    | 8.55E+03 | 22,25/02/08                 | (732800, 5775300, 0.0)           |
| 6    | 8.54E+03 | 23,05/04/08                 | (732700, 5775000, 0.0)           |
| 7    | 8.47E+03 | 04,15/04/08                 | (732800, 5775200, 0.0)           |
| 8    | 8.45E+03 | 19,12/05/08                 | (732800, 5775200, 0.0)           |
| 9    | 8.37E+03 | 02,06/04/08                 | (732700, 5775200, 0.0)           |
| 10   | 8.31E+03 | 21,11/10/08                 | (732800, 5775300, 0.0)           |
| 11   | 8.30E+03 | 17,02/06/08                 | (732800, 5775300, 0.0)           |
| 12   | 8.28E+03 | 01,06/04/08                 | (732700, 5775000, 0.0)           |
| 13   | 8.25E+03 | 21,05/04/08                 | (732800, 5775200, 0.0)           |
| 14   | 8.12E+03 | 21,12/05/08                 | (732700, 5775000, 0.0)           |
| 15   | 8.12E+03 | 03,22/02/08                 | (732800, 5775200, 0.0)           |
| 16   | 8.02E+03 | 08,17/10/08                 | (732700, 5775000, 0.0)           |
| 17   | 7.97E+03 | 10,06/04/08                 | (732700, 5775000, 0.0)           |
| 18   | 7.89E+03 | 03,05/01/08                 | (732700, 5774900, 0.0)           |
| 19   | 7.79E+03 | 07,09/09/08                 | (732700, 5775000, 0.0)           |
| 20   | 7.74E+03 | 19,27/05/08                 | (732800, 5775300, 0.0)           |
| 21   | 7.64E+03 | 20,12/05/08                 | (732700, 5775000, 0.0)           |
| 22   | 7.63E+03 | 08,06/04/08                 | (732700, 5775000, 0.0)           |
| 23   | 7.62E+03 | 04,10/02/08                 | (732800, 5775300, 0.0)           |
| 24   | 7.55E+03 | 04,14/02/08                 | (732800, 5775300, 0.0)           |
| 25   | 7.50E+03 | 07,01/06/08                 | (732700, 5775000, 0.0)           |
| 26   | 7.42E+03 | 03,14/02/08                 | (732800, 5775300, 0.0)           |
| 27   | 7.42E+03 | 03,14/02/08                 | (732800, 5775300, 0.0)           |

| 28 | 7.35E+03 | 23,04/10/08 | BroilerFarm_Single_Shed_640K_TSP.TXT |
|----|----------|-------------|--------------------------------------|
| 29 | 7.17E+03 | 07,17/10/08 | (732700, 5775000, 0.0)               |
| 30 | 7.16E+03 | 08,28/05/08 | (732800, 5775200, 0.0)               |
| 31 | 7.15E+03 | 04,07/08/08 | (732700, 5775000, 0.0)               |
| 32 | 7.05E+03 | 21,24/09/08 | (732700, 5775000, 0.0)               |
| 33 | 7.04E+03 | 03,10/02/08 | (732800, 5775300, 0.0)               |
| 34 | 7.00E+03 | 06,22/05/08 | (732700, 5775000, 0.0)               |
| 35 | 6.97E+03 | 05,28/08/08 | (732800, 5775300, 0.0)               |
| 36 | 6.92E+03 | 04,10/01/08 | (732700, 5775000, 0.0)               |
| 37 | 6.90E+03 | 23,13/02/08 | (732800, 5775300, 0.0)               |
| 38 | 6.87E+03 | 07,24/12/08 | (732700, 5775000, 0.0)               |
| 39 | 6.87E+03 | 10,01/06/08 | (732700, 5775000, 0.0)               |
| 40 | 6.81E+03 | 24,15/10/08 | (732800, 5775200, 0.0)               |
| 41 | 6.81E+03 | 05,02/02/08 | (732800, 5775200, 0.0)               |
| 42 | 6.78E+03 | 08,04/07/08 | (732700, 5775000, 0.0)               |
| 43 | 6.78E+03 | 05,10/02/08 | (732800, 5775300, 0.0)               |
| 44 | 6.73E+03 | 01,07/09/08 | (732800, 5775300, 0.0)               |
| 45 | 6.73E+03 | 11,01/06/08 | (732700, 5775000, 0.0)               |
| 46 | 6.71E+03 | 09,22/05/08 | (732700, 5775000, 0.0)               |
| 47 | 6.71E+03 | 06,01/06/08 | (732700, 5775000, 0.0)               |
| 48 | 6.71E+03 | 01,20/10/08 | (732800, 5775300, 0.0)               |
| 49 | 6.67E+03 | 06,04/07/08 | (732700, 5775000, 0.0)               |
| 50 | 6.66E+03 | 04,11/10/08 | (732700, 5775000, 0.0)               |
| 51 | 6.64E+03 | 06,04/08/08 | (732700, 5774900, 0.0)               |
| 52 | 6.62E+03 | 07,22/05/08 | (732700, 5775000, 0.0)               |
| 53 | 6.59E+03 | 06,26/02/08 | (732700, 5775100, 0.0)               |
| 54 | 6.59E+03 | 05,20/12/08 | (732800, 5775200, 0.0)               |
| 55 | 6.57E+03 | 22,03/04/08 | (732700, 5775000, 0.0)               |
| 56 | 6.56E+03 | 21,13/10/08 | (732800, 5775300, 0.0)               |
| 57 | 6.56E+03 | 10,22/05/08 | (732700, 5775000, 0.0)               |
| 58 | 6.56E+03 | 16,02/06/08 | (732800, 5775200, 0.0)               |
| 59 | 6.55E+03 | 19,24/04/08 | (732700, 5774900, 0.0)               |
| 60 | 6.54E+03 | 06,16/04/08 | (732800, 5775300, 0.0)               |
| 61 | 6.53E+03 | 18,06/08/08 | (732700, 5774900, 0.0)               |
| 62 | 6.51E+03 | 07,04/07/08 | (732700, 5775000, 0.0)               |
| 63 | 6.46E+03 | 20,27/05/08 | (732800, 5775300, 0.0)               |
| 64 | 6.46E+03 | 24,13/10/08 | (732800, 5775300, 0.0)               |
| 65 | 6.44E+03 | 08,15/04/08 | (732800, 5775200, 0.0)               |
| 66 | 6.43E+03 | 18,02/06/08 | (732700, 5775100, 0.0)               |
| 67 | 6.42E+03 | 07,28/08/08 | (732800, 5775200, 0.0)               |
| 68 | 6.41E+03 | 04,06/04/08 | (732700, 5775100, 0.0)               |
| 69 | 6.37E+03 | 20,05/09/08 | (732700, 5775000, 0.0)               |
| 70 | 6.36E+03 | 07,26/02/08 | (732700, 5775100, 0.0)               |
| 71 | 6.34E+03 | 06,28/08/08 | (732800, 5775200, 0.0)               |
| 72 | 6.33E+03 | 22,29/04/08 | (732700, 5774900, 0.0)               |
| 73 | 6.32E+03 | 05,04/07/08 | (732700, 5775000, 0.0)               |
| 74 | 6.24E+03 | 21,30/09/08 | (732700, 5774900, 0.0)               |
| 75 | 6.23E+03 | 02,25/07/08 | (732700, 5774900, 0.0)               |
| 76 | 6.23E+03 | 07,04/10/08 | (732800, 5775100, 0.0)               |
| 77 | 6.21E+03 | 02,12/05/08 | (732700, 5775000, 0.0)               |
| 78 | 6.17E+03 | 20,05/03/08 | (732700, 5775000, 0.0)               |
| 79 | 6.15E+03 | 08,26/01/08 | (732700, 5775000, 0.0)               |
| 80 | 6.15E+03 | 24,13/02/08 | (732800, 5775300, 0.0)               |
| 81 | 6.15E+03 | 02,14/02/08 | (732800, 5775300, 0.0)               |
| 82 | 6.15E+03 | 20,24/09/08 | (732800, 5775200, 0.0)               |
| 83 | 6.12E+03 | 08,01/06/08 | (732700, 5775000, 0.0)               |
| 84 | 6.12E+03 | 02,02/11/08 | (732800, 5775200, 0.0)               |
| 85 | 6.11E+03 | 02,08/03/08 | (732700, 5775000, 0.0)               |
| 86 | 6.08E+03 | 05,28/01/08 | (732800, 5775200, 0.0)               |
| 87 | 6.08E+03 | 04,20/12/08 | (732800, 5775300, 0.0)               |
| 88 | 6.08E+03 | 05,28/12/08 | (732800, 5775300, 0.0)               |
| 89 | 6.08E+03 | 03,09/09/08 | (732800, 5775300, 0.0)               |
| 90 | 6.06E+03 | 02,18/09/08 | (732700, 5774900, 0.0)               |
| 91 | 6.06E+03 | 03,18/09/08 | (732700, 5774900, 0.0)               |
| 92 | 6.06E+03 | 04,18/09/08 | (732700, 5774900, 0.0)               |
| 93 | 6.05E+03 | 22,09/10/08 | (732800, 5775300, 0.0)               |
| 94 | 6.05E+03 | 15,04/08/08 | (732700, 5775000, 0.0)               |
| 95 | 6.04E+03 | 24,13/07/08 | (732700, 5775000, 0.0)               |

Beaac Broiler Farm 640000 Birds Single Shed TSP

Concentration or deposition Dry deposition only

Emission load units grams/second  
 Deposition units milligram/m2  
 Units conversion factor 1.00E+03  
 Plume depletion due to dry removal mechanisms included.  
 Smooth stability class adjustments ("urban modes") No  
 Other stability class adjustments ("urban modes") No  
 Ignore building wake effects? No  
 Decay coefficient (unless overridden by met. file) 0.000  
 Anemometer height 10 m  
 Roughness height at the wind vane site 0.300 m

DISPERSION CURVES  
 Horizontal dispersion curves for sources <100m high Pasquill-Gifford  
 Vertical dispersion curves for sources <100m high Pasquill-Gifford  
 Horizontal dispersion curves for sources >100m high Briggs Rural  
 Vertical dispersion curves for sources >100m high Briggs Rural  
 Enhance horizontal plume spreads for buoyancy? Yes  
 Enhance vertical plume spreads for buoyancy? Yes  
 Adjust horizontal p-g formulae for roughness height? Yes  
 Adjust vertical p-g formulae for roughness height? Yes  
 Roughness height 0.100m  
 Adjustment for wind directional shear None

PLUME RISE OPTIONS

Gradual plume rise? Yes  
 Stack-tip downwash included? Yes  
 Building downwash algorithm: PRIME method.  
 Entrainment coeff. for neutral & stable lapse rates 0.60,0.60  
 Partial penetration of elevated inversions? No  
 Disregard temp. gradients in the hourly met. file? No

and in the absence of boundary-layer potential temperature gradients given by the hourly met. file, a value from the following table (in K/m) is used:

| Wind Speed Category | A     | B     | C     | D     | E     | F     |
|---------------------|-------|-------|-------|-------|-------|-------|
| 1                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 2                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 3                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 4                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 5                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |
| 6                   | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | 0.035 |

WIND SPEED CATEGORIES

Boundaries between categories (in m/s) are: 1.54, 3.09, 5.14, 8.23, 10.80

WIND PROFILE EXPONENTS: "Irwin Rural" values (unless overridden by met. file)

AVERAGING TIMES

1 hour  
 24 hours  
 90 days  
 average over all hours

Beaac Broiler Farm 640000 Birds Single Shed TSP

VOLUME SOURCE: CA1

X(m) 732735 Y(m) 5774979  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

Particle Mass fraction (micron) Particle Size (micron) Particle Density (g/cm3)

|        |       |      |
|--------|-------|------|
| 0.1800 | 4.0   | 1.00 |
| 0.1990 | 10.0  | 1.00 |
| 0.2570 | 22.0  | 1.00 |
| 0.1920 | 49.0  | 1.00 |
| 0.1300 | 109.0 | 1.00 |
| 0.0330 | 177.0 | 1.00 |
| 0.0090 | 364.0 | 1.00 |

VOLUME SOURCE: CA2

X(m) 732730 Y(m) 5775007  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

Particle Mass fraction (micron) Particle Size (micron) Particle Density (g/cm3)

|        |       |      |
|--------|-------|------|
| 0.1800 | 4.0   | 1.00 |
| 0.1990 | 10.0  | 1.00 |
| 0.2570 | 22.0  | 1.00 |
| 0.1920 | 49.0  | 1.00 |
| 0.1300 | 109.0 | 1.00 |
| 0.0330 | 177.0 | 1.00 |
| 0.0090 | 364.0 | 1.00 |

VOLUME SOURCE: CA3

X(m) 732734 Y(m) 5775035  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

(Constant) emission rate = 9.20E-01 grams/second

Particle Mass fraction (micron) Particle Size (micron) Particle Density (g/cm3)

|        |       |      |
|--------|-------|------|
| 0.1800 | 4.0   | 1.00 |
| 0.1990 | 10.0  | 1.00 |
| 0.2570 | 22.0  | 1.00 |
| 0.1920 | 49.0  | 1.00 |
| 0.1300 | 109.0 | 1.00 |
| 0.0330 | 177.0 | 1.00 |
| 0.0090 | 364.0 | 1.00 |

VOLUME SOURCE: CA4

X(m) 732734 Y(m) 5775035  
 Ground Elevation 0m Height 4m Hor. spread 5m Vert. spread 1m

732738 5775062 BroilerFarm\_Single\_Shed\_640K\_TSP\_Deposition.TXT 5m 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA5

X(m) Y(m) Ground Elevation Height Hor. spread Vert. spread  
732742 5775090 0m 4m 5m 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA6

X(m) Y(m) Ground Elevation Height Hor. spread Vert. spread  
732746 5775118 0m 4m 5m 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA7

X(m) Y(m) Ground Elevation Height Hor. spread Vert. spread  
732750 5775145 0m 4m 5m 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

BroilerFarm\_Single\_Shed\_640K\_TSP\_Deposition.TXT

|        |       |      |
|--------|-------|------|
| 0.1800 | 4.0   | 1.00 |
| 0.1990 | 10.0  | 1.00 |
| 0.2570 | 22.0  | 1.00 |
| 0.1920 | 49.0  | 1.00 |
| 0.1300 | 109.0 | 1.00 |
| 0.0330 | 177.0 | 1.00 |
| 0.0090 | 364.0 | 1.00 |

VOLUME SOURCE: CA8

X(m) Y(m) Ground Elevation Height Hor. spread Vert. spread  
732754 5775173 0m 4m 5m 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA9

X(m) Y(m) Ground Elevation Height Hor. spread Vert. spread  
732759 5775201 0m 4m 5m 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

VOLUME SOURCE: CA10

X(m) Y(m) Ground Elevation Height Hor. spread Vert. spread  
732763 5775228 0m 4m 5m 1m

(Constant) emission rate = 9.20E-01 grams/second

| Particle Mass fraction | Particle Size (micron) | Particle Density (g/cm3) |
|------------------------|------------------------|--------------------------|
| 0.1800                 | 4.0                    | 1.00                     |
| 0.1990                 | 10.0                   | 1.00                     |
| 0.2570                 | 22.0                   | 1.00                     |
| 0.1920                 | 49.0                   | 1.00                     |
| 0.1300                 | 109.0                  | 1.00                     |
| 0.0330                 | 177.0                  | 1.00                     |
| 0.0090                 | 364.0                  | 1.00                     |

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Beacac Broiler Farm 640000 Birds Single Shed TSP  
RECEPTOR LOCATIONS

DISCRETE RECEPTOR LOCATIONS (in metres)

| No. | X      | Y       | ELEVN | HEIGHT | No. | X      | Y       | ELEVN | HEIGHT |
|-----|--------|---------|-------|--------|-----|--------|---------|-------|--------|
| 1   | 733760 | 5775188 | 0.0   | 0.0    | 4   | 733598 | 5775972 | 0.0   | 0.0    |
| 2   | 731996 | 5776262 | 0.0   | 0.0    | 5   | 733807 | 5775512 | 0.0   | 0.0    |
| 3   | 732678 | 5776134 | 0.0   | 0.0    |     |        |         |       |        |

METEOROLOGICAL DATA : AUSPLUME METFILE

AVERAGE OVER ALL HOURS AND FOR ALL SOURCES  
in milligram/m2

Concentrations at the discrete receptors (No. : value):  
1: 4.87E+03 2: 1.23E+03 3: 1.64E+03 4: 2.01E+03 5: 3.07E+03

Peak values for the 100 worst cases (in milligram/m2)  
Averaging time = 1 hour

| Rank | value    | Time Recorded<br>hour,date | Coordinates<br>(* denotes polar) |
|------|----------|----------------------------|----------------------------------|
| 1    | 9.68E+00 | 03.17/01/08                | (732678, 5776134, 0.0)           |
| 2    | 9.68E+00 | 20.06/09/08                | (732678, 5776134, 0.0)           |
| 3    | 9.52E+00 | 23.16/01/08                | (732678, 5776134, 0.0)           |
| 4    | 9.42E+00 | 04.04/11/08                | (732678, 5776134, 0.0)           |
| 5    | 9.21E+00 | 21.29/02/08                | (732678, 5776134, 0.0)           |
| 6    | 9.15E+00 | 22.16/01/08                | (732678, 5776134, 0.0)           |
| 7    | 9.01E+00 | 22.29/02/08                | (732678, 5776134, 0.0)           |
| 8    | 9.01E+00 | 16.23/09/08                | (733760, 5775188, 0.0)           |
| 9    | 8.82E+00 | 19.14/04/08                | (732678, 5776134, 0.0)           |
| 10   | 8.46E+00 | 21.18/03/08                | (732678, 5776134, 0.0)           |
| 11   | 8.46E+00 | 20.16/10/08                | (732678, 5776134, 0.0)           |
| 12   | 7.88E+00 | 23.06/01/08                | (732678, 5776134, 0.0)           |
| 13   | 7.36E+00 | 22.11/01/08                | (732678, 5776134, 0.0)           |
| 14   | 6.93E+00 | 21.07/01/08                | (732678, 5776134, 0.0)           |
| 15   | 6.90E+00 | 02.29/04/08                | (733760, 5775188, 0.0)           |
| 16   | 6.90E+00 | 24.12/04/08                | (733760, 5775188, 0.0)           |
| 17   | 6.85E+00 | 06.13/04/08                | (733760, 5775188, 0.0)           |
| 18   | 6.78E+00 | 04.27/08/08                | (733760, 5775188, 0.0)           |
| 19   | 6.78E+00 | 19.08/05/08                | (733760, 5775188, 0.0)           |
| 20   | 6.75E+00 | 02.04/07/08                | (732678, 5776134, 0.0)           |
| 21   | 6.73E+00 | 22.12/04/08                | (733760, 5775188, 0.0)           |
| 22   | 6.73E+00 | 02.23/08/08                | (733760, 5775188, 0.0)           |
| 23   | 6.68E+00 | 20.08/10/08                | (733760, 5775188, 0.0)           |
| 24   | 6.65E+00 | 20.08/05/08                | (733760, 5775188, 0.0)           |
| 25   | 6.53E+00 | 23.29/11/08                | (733760, 5775188, 0.0)           |
| 26   | 6.49E+00 | 18.09/05/08                | (733760, 5775188, 0.0)           |
| 27   | 6.48E+00 | 06.18/05/08                | (733760, 5775188, 0.0)           |

|    |          |             |                        |
|----|----------|-------------|------------------------|
| 28 | 6.48E+00 | 22.06/12/08 | (733760, 5775188, 0.0) |
| 29 | 6.46E+00 | 02.20/03/08 | (733760, 5775188, 0.0) |
| 30 | 6.39E+00 | 05.23/02/08 | (733760, 5775188, 0.0) |
| 31 | 6.38E+00 | 21.16/01/08 | (732678, 5776134, 0.0) |
| 32 | 6.37E+00 | 22.13/04/08 | (733760, 5775188, 0.0) |
| 33 | 6.34E+00 | 18.08/05/08 | (733760, 5775188, 0.0) |
| 34 | 6.28E+00 | 19.28/05/08 | (733760, 5775188, 0.0) |
| 35 | 6.27E+00 | 21.06/06/08 | (733598, 5775972, 0.0) |
| 36 | 6.25E+00 | 24.16/08/08 | (733598, 5775972, 0.0) |
| 37 | 6.25E+00 | 05.09/07/08 | (733760, 5775188, 0.0) |
| 38 | 6.24E+00 | 02.27/01/08 | (733760, 5775188, 0.0) |
| 39 | 6.24E+00 | 05.07/05/08 | (733760, 5775188, 0.0) |
| 40 | 6.19E+00 | 19.14/06/08 | (733598, 5775972, 0.0) |
| 41 | 6.18E+00 | 21.21/06/08 | (733760, 5775188, 0.0) |
| 42 | 6.18E+00 | 23.06/12/08 | (733760, 5775188, 0.0) |
| 43 | 6.17E+00 | 21.14/06/08 | (733598, 5775972, 0.0) |
| 44 | 6.13E+00 | 19.23/08/08 | (733807, 5775512, 0.0) |
| 45 | 6.13E+00 | 01.16/01/08 | (733598, 5775972, 0.0) |
| 46 | 6.07E+00 | 20.21/06/08 | (733760, 5775188, 0.0) |
| 47 | 6.07E+00 | 20.22/06/08 | (733760, 5775188, 0.0) |
| 48 | 6.06E+00 | 22.22/02/08 | (733760, 5775188, 0.0) |
| 49 | 6.06E+00 | 23.16/08/08 | (733598, 5775972, 0.0) |
| 50 | 6.05E+00 | 03.02/08/08 | (733760, 5775188, 0.0) |
| 51 | 6.04E+00 | 18.02/07/08 | (733760, 5775188, 0.0) |
| 52 | 6.04E+00 | 20.14/06/08 | (733598, 5775972, 0.0) |
| 53 | 6.04E+00 | 21.22/08/08 | (733598, 5775972, 0.0) |
| 54 | 6.03E+00 | 05.15/10/08 | (733760, 5775188, 0.0) |
| 55 | 6.01E+00 | 19.03/07/08 | (733807, 5775512, 0.0) |
| 56 | 6.00E+00 | 03.28/02/08 | (733598, 5775972, 0.0) |
| 57 | 6.00E+00 | 01.20/06/08 | (733598, 5775972, 0.0) |
| 58 | 5.99E+00 | 22.20/06/08 | (733760, 5775188, 0.0) |
| 59 | 5.94E+00 | 22.21/06/08 | (733760, 5775188, 0.0) |
| 60 | 5.94E+00 | 24.14/11/08 | (733760, 5775188, 0.0) |
| 61 | 5.94E+00 | 22.20/11/08 | (733760, 5775188, 0.0) |
| 62 | 5.93E+00 | 21.22/06/08 | (733760, 5775188, 0.0) |
| 63 | 5.93E+00 | 04.07/05/08 | (733760, 5775188, 0.0) |
| 64 | 5.93E+00 | 20.27/10/08 | (733760, 5775188, 0.0) |
| 65 | 5.92E+00 | 24.07/10/08 | (733760, 5775188, 0.0) |
| 66 | 5.92E+00 | 04.14/06/08 | (733807, 5775512, 0.0) |
| 67 | 5.90E+00 | 20.12/08/08 | (733760, 5775188, 0.0) |
| 68 | 5.89E+00 | 07.14/06/08 | (733807, 5775512, 0.0) |
| 69 | 5.89E+00 | 19.20/07/08 | (733807, 5775512, 0.0) |
| 70 | 5.89E+00 | 02.15/12/08 | (733807, 5775512, 0.0) |
| 71 | 5.89E+00 | 03.27/01/08 | (733760, 5775188, 0.0) |
| 72 | 5.88E+00 | 03.21/10/08 | (733598, 5775972, 0.0) |
| 73 | 5.88E+00 | 21.20/05/08 | (733807, 5775512, 0.0) |
| 74 | 5.86E+00 | 24.06/12/08 | (733760, 5775188, 0.0) |
| 75 | 5.84E+00 | 05.28/02/08 | (733598, 5775972, 0.0) |
| 76 | 5.84E+00 | 21.16/08/08 | (733598, 5775972, 0.0) |
| 77 | 5.84E+00 | 02.28/02/08 | (733598, 5775972, 0.0) |
| 78 | 5.84E+00 | 24.19/06/08 | (733598, 5775972, 0.0) |
| 79 | 5.84E+00 | 22.14/03/08 | (732678, 5776134, 0.0) |
| 80 | 5.83E+00 | 23.20/06/08 | (733760, 5775188, 0.0) |
| 81 | 5.83E+00 | 19.21/06/08 | (733760, 5775188, 0.0) |
| 82 | 5.83E+00 | 03.07/09/08 | (733807, 5775512, 0.0) |
| 83 | 5.82E+00 | 04.31/12/08 | (733760, 5775188, 0.0) |
| 84 | 5.82E+00 | 21.20/06/08 | (733760, 5775188, 0.0) |
| 85 | 5.82E+00 | 19.02/07/08 | (733760, 5775188, 0.0) |
| 86 | 5.80E+00 | 18.03/07/08 | (733807, 5775512, 0.0) |
| 87 | 5.80E+00 | 03.14/06/08 | (733807, 5775512, 0.0) |
| 88 | 5.79E+00 | 04.02/01/08 | (732678, 5776134, 0.0) |
| 89 | 5.78E+00 | 17.13/02/08 | (732678, 5776134, 0.0) |
| 90 | 5.78E+00 | 24.06/10/08 | (733760, 5775188, 0.0) |
| 91 | 5.77E+00 | 23.29/02/08 | (732678, 5776134, 0.0) |
| 92 | 5.76E+00 | 01.21/05/08 | (733598, 5775972, 0.0) |
| 93 | 5.76E+00 | 04.21/10/08 | (733598, 5775972, 0.0) |
| 94 | 5.76E+00 | 19.13/01/08 | (732678, 5776134, 0.0) |
| 95 | 5.76E+00 | 23.26/03/08 | (733598, 5775972, 0.0) |

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5.75E+00 02,27/03/08 (733598, 5775972, 0.0)  
97 5.74E+00 01,17/08/08 (733598, 5775972, 0.0)  
98 5.74E+00 24,23/11/08 (733598, 5775972, 0.0)  
99 5.74E+00 02,22/07/08 (733807, 5775512, 0.0)  
100 5.74E+00 24,06/01/08 (732678, 5776134, 0.0)

1 Peak values for the 100 worst cases (in milligram/m2)  
Averaging time = 24 hours

| Rank | Value    | Time Recorded<br>hour, date | Coordinates<br>(* denotes polar) |
|------|----------|-----------------------------|----------------------------------|
| 1    | 1.23E+02 | 24,23/02/08                 | (733760, 5775188, 0.0)           |
| 2    | 1.11E+01 | 24,13/08/08                 | (733760, 5775188, 0.0)           |
| 3    | 8.1E+01  | 24,02/07/08                 | (733760, 5775188, 0.0)           |
| 4    | 9.24E+01 | 24,21/06/08                 | (733760, 5775188, 0.0)           |
| 5    | 8.86E+01 | 24,16/09/08                 | (733760, 5775188, 0.0)           |
| 6    | 8.83E+01 | 24,22/06/08                 | (733760, 5775188, 0.0)           |
| 7    | 7.97E+01 | 24,30/12/08                 | (733760, 5775188, 0.0)           |
| 8    | 7.66E+01 | 24,10/08/08                 | (733807, 5775512, 0.0)           |
| 9    | 7.41E+01 | 24,14/08/08                 | (733760, 5775188, 0.0)           |
| 10   | 7.29E+01 | 24,08/07/08                 | (733760, 5775188, 0.0)           |
| 11   | 7.17E+01 | 24,31/12/08                 | (733760, 5775188, 0.0)           |
| 12   | 7.02E+01 | 24,01/08/08                 | (733760, 5775188, 0.0)           |
| 13   | 7.00E+01 | 24,22/11/08                 | (733598, 5775972, 0.0)           |
| 14   | 7.00E+01 | 24,11/07/08                 | (733760, 5775188, 0.0)           |
| 15   | 6.81E+01 | 24,07/05/08                 | (733760, 5775188, 0.0)           |
| 16   | 6.81E+01 | 24,29/11/08                 | (733807, 5775512, 0.0)           |
| 17   | 6.78E+01 | 24,06/02/08                 | (733598, 5775972, 0.0)           |
| 18   | 6.76E+01 | 24,22/02/08                 | (733760, 5775188, 0.0)           |
| 19   | 6.69E+01 | 24,07/10/08                 | (733760, 5775188, 0.0)           |
| 20   | 6.68E+01 | 24,18/08/08                 | (733760, 5775188, 0.0)           |
| 21   | 6.65E+01 | 24,03/04/08                 | (733760, 5775188, 0.0)           |
| 22   | 6.56E+01 | 24,23/06/08                 | (733760, 5775188, 0.0)           |
| 23   | 6.55E+01 | 24,08/10/08                 | (733760, 5775188, 0.0)           |
| 24   | 6.50E+01 | 24,12/08/08                 | (733760, 5775188, 0.0)           |
| 25   | 6.20E+01 | 24,02/08/08                 | (733760, 5775188, 0.0)           |
| 26   | 6.01E+01 | 24,06/12/08                 | (733760, 5775188, 0.0)           |
| 27   | 5.97E+01 | 24,15/08/08                 | (733807, 5775512, 0.0)           |
| 28   | 5.93E+01 | 24,08/05/08                 | (733760, 5775188, 0.0)           |
| 29   | 5.86E+01 | 24,29/12/08                 | (733760, 5775188, 0.0)           |
| 30   | 5.75E+01 | 24,21/07/08                 | (733598, 5775972, 0.0)           |
| 31   | 5.68E+01 | 24,28/09/08                 | (733760, 5775188, 0.0)           |
| 32   | 5.64E+01 | 24,11/08/08                 | (733807, 5775512, 0.0)           |
| 33   | 5.63E+01 | 24,01/12/08                 | (733760, 5775188, 0.0)           |
| 34   | 5.61E+01 | 24,15/11/08                 | (733760, 5775188, 0.0)           |
| 35   | 5.59E+01 | 24,18/12/08                 | (733807, 5775512, 0.0)           |
| 36   | 5.57E+01 | 24,14/11/08                 | (733760, 5775188, 0.0)           |
| 37   | 5.56E+01 | 24,14/12/08                 | (733598, 5775972, 0.0)           |
| 38   | 5.43E+01 | 24,28/12/08                 | (733760, 5775188, 0.0)           |
| 39   | 5.32E+01 | 24,23/09/08                 | (733760, 5775188, 0.0)           |
| 40   | 5.30E+01 | 24,24/02/08                 | (733807, 5775512, 0.0)           |
| 41   | 5.23E+01 | 24,20/06/08                 | (733760, 5775188, 0.0)           |
| 42   | 5.20E+01 | 24,27/03/08                 | (733598, 5775972, 0.0)           |
| 43   | 5.19E+01 | 24,16/08/08                 | (733598, 5775972, 0.0)           |
| 44   | 5.19E+01 | 24,12/04/08                 | (733760, 5775188, 0.0)           |
| 45   | 5.06E+01 | 24,16/01/08                 | (732678, 5776134, 0.0)           |
| 46   | 5.02E+01 | 24,21/10/08                 | (733598, 5775972, 0.0)           |
| 47   | 4.98E+01 | 24,13/06/08                 | (733807, 5775512, 0.0)           |
| 48   | 4.93E+01 | 24,15/12/08                 | (733760, 5775188, 0.0)           |
| 49   | 4.83E+01 | 24,13/02/08                 | (732678, 5776134, 0.0)           |
| 50   | 4.83E+01 | 24,26/03/08                 | (733598, 5775972, 0.0)           |
| 51   | 4.81E+01 | 24,22/07/08                 | (733807, 5775512, 0.0)           |
| 52   | 4.78E+01 | 24,29/09/08                 | (733807, 5775512, 0.0)           |
| 53   | 4.75E+01 | 24,09/02/08                 | (732678, 5776134, 0.0)           |

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|     |          |             |                        |
|-----|----------|-------------|------------------------|
| 54  | 4.71E+01 | 24,27/10/08 | (733760, 5775188, 0.0) |
| 55  | 4.70E+01 | 24,13/04/08 | (733760, 5775188, 0.0) |
| 56  | 4.69E+01 | 24,09/05/08 | (733760, 5775188, 0.0) |
| 57  | 4.63E+01 | 24,08/11/08 | (733760, 5775188, 0.0) |
| 58  | 4.61E+01 | 24,22/09/08 | (733760, 5775188, 0.0) |
| 59  | 4.61E+01 | 24,14/06/08 | (733807, 5775512, 0.0) |
| 60  | 4.60E+01 | 24,14/02/08 | (733996, 5776262, 0.0) |
| 61  | 4.54E+01 | 24,26/08/08 | (733807, 5775512, 0.0) |
| 62  | 4.52E+01 | 24,17/08/08 | (733598, 5775972, 0.0) |
| 63  | 4.51E+01 | 24,19/12/08 | (732678, 5776134, 0.0) |
| 64  | 4.38E+01 | 24,21/04/08 | (731996, 5776262, 0.0) |
| 65  | 4.38E+01 | 24,07/08/08 | (733760, 5775188, 0.0) |
| 66  | 4.31E+01 | 24,28/02/08 | (732678, 5776134, 0.0) |
| 67  | 4.30E+01 | 24,22/01/08 | (731996, 5776262, 0.0) |
| 68  | 4.25E+01 | 24,14/04/08 | (732678, 5776134, 0.0) |
| 69  | 4.22E+01 | 24,05/06/08 | (731996, 5776262, 0.0) |
| 70  | 4.22E+01 | 24,06/10/08 | (733760, 5775188, 0.0) |
| 71  | 4.15E+01 | 24,30/11/08 | (733760, 5775188, 0.0) |
| 72  | 4.12E+01 | 24,27/04/08 | (733760, 5775188, 0.0) |
| 73  | 4.11E+01 | 24,20/11/08 | (733598, 5775972, 0.0) |
| 74  | 4.10E+01 | 24,27/01/08 | (733760, 5775188, 0.0) |
| 75  | 4.05E+01 | 24,21/11/08 | (733760, 5775188, 0.0) |
| 76  | 4.02E+01 | 24,02/05/08 | (733760, 5775188, 0.0) |
| 77  | 4.00E+01 | 24,03/02/08 | (731996, 5776262, 0.0) |
| 78  | 3.97E+01 | 24,17/05/08 | (733760, 5775188, 0.0) |
| 79  | 3.95E+01 | 24,07/12/08 | (733760, 5775188, 0.0) |
| 80  | 3.92E+01 | 24,01/02/08 | (731996, 5776262, 0.0) |
| 81  | 3.89E+01 | 24,14/10/08 | (733807, 5775512, 0.0) |
| 82  | 3.88E+01 | 24,29/02/08 | (732678, 5776134, 0.0) |
| 83  | 3.86E+01 | 24,09/12/08 | (732678, 5776134, 0.0) |
| 84  | 3.85E+01 | 24,23/08/08 | (733760, 5775188, 0.0) |
| 85  | 3.84E+01 | 24,06/06/08 | (732678, 5776134, 0.0) |
| 86  | 3.79E+01 | 24,31/03/08 | (733760, 5775188, 0.0) |
| 87  | 3.74E+01 | 24,01/07/08 | (733760, 5775188, 0.0) |
| 88  | 3.74E+01 | 24,08/09/08 | (732678, 5776134, 0.0) |
| 89  | 3.73E+01 | 24,05/02/08 | (733598, 5775972, 0.0) |
| 90  | 3.68E+01 | 24,31/01/08 | (732678, 5776134, 0.0) |
| 91  | 3.65E+01 | 24,16/12/08 | (733760, 5775188, 0.0) |
| 92  | 3.60E+01 | 24,02/01/08 | (732678, 5776134, 0.0) |
| 93  | 3.57E+01 | 24,03/11/08 | (733598, 5775972, 0.0) |
| 94  | 3.52E+01 | 24,12/01/08 | (733760, 5775188, 0.0) |
| 95  | 3.50E+01 | 24,18/07/08 | (733760, 5775188, 0.0) |
| 96  | 3.50E+01 | 24,13/12/08 | (733598, 5775972, 0.0) |
| 97  | 3.47E+01 | 24,07/02/08 | (733598, 5775972, 0.0) |
| 98  | 3.46E+01 | 24,16/11/08 | (732678, 5776134, 0.0) |
| 99  | 3.44E+01 | 24,27/12/08 | (733760, 5775188, 0.0) |
| 100 | 3.41E+01 | 24,06/05/08 | (733760, 5775188, 0.0) |

1 Peak values for the 100 worst cases (in milligram/m2)  
90-day running averages

| Rank | Value    | Time Recorded<br>hour, date | Coordinates<br>(* denotes polar) |
|------|----------|-----------------------------|----------------------------------|
| 1    | 1.73E+03 | 24,16/09/08                 | (733760, 5775188, 0.0)           |
| 2    | 1.73E+03 | 24,17/09/08                 | (733760, 5775188, 0.0)           |
| 3    | 1.67E+03 | 24,18/09/08                 | (733760, 5775188, 0.0)           |
| 4    | 1.66E+03 | 24,09/09/08                 | (733760, 5775188, 0.0)           |
| 5    | 1.66E+03 | 24,10/09/08                 | (733760, 5775188, 0.0)           |
| 6    | 1.66E+03 | 24,07/09/08                 | (733760, 5775188, 0.0)           |
| 7    | 1.66E+03 | 24,08/09/08                 | (733760, 5775188, 0.0)           |
| 8    | 1.64E+03 | 24,06/09/08                 | (733760, 5775188, 0.0)           |
| 9    | 1.64E+03 | 24,15/09/08                 | (733760, 5775188, 0.0)           |
| 10   | 1.64E+03 | 24,02/09/08                 | (733760, 5775188, 0.0)           |
| 11   | 1.64E+03 | 24,03/09/08                 | (733760, 5775188, 0.0)           |

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|    |          |             |                        |
|----|----------|-------------|------------------------|
| 12 | 1.64E+03 | 24.04/09/08 | (733760, 5775188, 0.0) |
| 13 | 1.64E+03 | 24.05/09/08 | (733760, 5775188, 0.0) |
| 14 | 1.63E+03 | 24.28/08/08 | (733760, 5775188, 0.0) |
| 15 | 1.63E+03 | 24.11/09/08 | (733760, 5775188, 0.0) |
| 16 | 1.63E+03 | 24.14/09/08 | (733760, 5775188, 0.0) |
| 17 | 1.63E+03 | 24.12/09/08 | (733760, 5775188, 0.0) |
| 18 | 1.63E+03 | 24.13/09/08 | (733760, 5775188, 0.0) |
| 19 | 1.62E+03 | 24.27/08/08 | (733760, 5775188, 0.0) |
| 20 | 1.62E+03 | 24.29/08/08 | (733760, 5775188, 0.0) |
| 21 | 1.62E+03 | 24.30/08/08 | (733760, 5775188, 0.0) |
| 22 | 1.61E+03 | 24.31/08/08 | (733760, 5775188, 0.0) |
| 23 | 1.61E+03 | 24.01/09/08 | (733760, 5775188, 0.0) |
| 24 | 1.61E+03 | 24.15/10/08 | (733760, 5775188, 0.0) |
| 25 | 1.60E+03 | 24.28/10/08 | (733760, 5775188, 0.0) |
| 26 | 1.60E+03 | 24.29/10/08 | (733760, 5775188, 0.0) |
| 27 | 1.59E+03 | 24.19/09/08 | (733760, 5775188, 0.0) |
| 28 | 1.59E+03 | 24.14/10/08 | (733760, 5775188, 0.0) |
| 29 | 1.59E+03 | 24.26/08/08 | (733760, 5775188, 0.0) |
| 30 | 1.59E+03 | 24.27/10/08 | (733760, 5775188, 0.0) |
| 31 | 1.59E+03 | 24.24/08/08 | (733760, 5775188, 0.0) |
| 32 | 1.59E+03 | 24.25/08/08 | (733760, 5775188, 0.0) |
| 33 | 1.58E+03 | 24.08/10/08 | (733760, 5775188, 0.0) |
| 34 | 1.58E+03 | 24.28/09/08 | (733760, 5775188, 0.0) |
| 35 | 1.58E+03 | 24.16/10/08 | (733760, 5775188, 0.0) |
| 36 | 1.58E+03 | 24.17/10/08 | (733760, 5775188, 0.0) |
| 37 | 1.57E+03 | 24.19/10/08 | (733760, 5775188, 0.0) |
| 38 | 1.57E+03 | 24.18/10/08 | (733760, 5775188, 0.0) |
| 39 | 1.57E+03 | 24.29/09/08 | (733760, 5775188, 0.0) |
| 40 | 1.57E+03 | 24.23/08/08 | (733760, 5775188, 0.0) |
| 41 | 1.56E+03 | 24.13/10/08 | (733760, 5775188, 0.0) |
| 42 | 1.56E+03 | 24.20/10/08 | (733760, 5775188, 0.0) |
| 43 | 1.56E+03 | 24.23/10/08 | (733760, 5775188, 0.0) |
| 44 | 1.56E+03 | 24.21/10/08 | (733760, 5775188, 0.0) |
| 45 | 1.56E+03 | 24.22/10/08 | (733760, 5775188, 0.0) |
| 46 | 1.55E+03 | 24.07/10/08 | (733760, 5775188, 0.0) |
| 47 | 1.54E+03 | 24.30/10/08 | (733760, 5775188, 0.0) |
| 48 | 1.54E+03 | 24.23/09/08 | (733760, 5775188, 0.0) |
| 49 | 1.54E+03 | 24.26/10/08 | (733760, 5775188, 0.0) |
| 50 | 1.54E+03 | 24.24/10/08 | (733760, 5775188, 0.0) |
| 51 | 1.54E+03 | 24.25/10/08 | (733760, 5775188, 0.0) |
| 52 | 1.53E+03 | 24.11/10/08 | (733760, 5775188, 0.0) |
| 53 | 1.53E+03 | 24.12/10/08 | (733760, 5775188, 0.0) |
| 54 | 1.53E+03 | 24.10/10/08 | (733760, 5775188, 0.0) |
| 55 | 1.53E+03 | 24.22/08/08 | (733760, 5775188, 0.0) |
| 56 | 1.53E+03 | 24.24/09/08 | (733760, 5775188, 0.0) |
| 57 | 1.53E+03 | 24.21/08/08 | (733760, 5775188, 0.0) |
| 58 | 1.53E+03 | 24.05/10/08 | (733760, 5775188, 0.0) |
| 59 | 1.52E+03 | 24.08/11/08 | (733760, 5775188, 0.0) |
| 60 | 1.52E+03 | 24.27/09/08 | (733760, 5775188, 0.0) |
| 61 | 1.52E+03 | 24.09/10/08 | (733760, 5775188, 0.0) |
| 62 | 1.52E+03 | 24.26/09/08 | (733760, 5775188, 0.0) |
| 63 | 1.52E+03 | 24.20/08/08 | (733760, 5775188, 0.0) |
| 64 | 1.52E+03 | 24.19/08/08 | (733760, 5775188, 0.0) |
| 65 | 1.52E+03 | 24.18/08/08 | (733760, 5775188, 0.0) |
| 66 | 1.52E+03 | 24.02/11/08 | (733760, 5775188, 0.0) |
| 67 | 1.51E+03 | 24.25/09/08 | (733760, 5775188, 0.0) |
| 68 | 1.51E+03 | 24.31/10/08 | (733760, 5775188, 0.0) |
| 69 | 1.51E+03 | 24.01/11/08 | (733760, 5775188, 0.0) |
| 70 | 1.51E+03 | 24.20/09/08 | (733760, 5775188, 0.0) |
| 71 | 1.51E+03 | 24.03/11/08 | (733760, 5775188, 0.0) |
| 72 | 1.51E+03 | 24.04/11/08 | (733760, 5775188, 0.0) |
| 73 | 1.51E+03 | 24.07/11/08 | (733760, 5775188, 0.0) |
| 74 | 1.51E+03 | 24.06/11/08 | (733760, 5775188, 0.0) |
| 75 | 1.50E+03 | 24.04/10/08 | (733760, 5775188, 0.0) |
| 76 | 1.50E+03 | 24.31/12/08 | (733760, 5775188, 0.0) |
| 77 | 1.49E+03 | 24.03/10/08 | (733760, 5775188, 0.0) |
| 78 | 1.49E+03 | 24.06/10/08 | (733760, 5775188, 0.0) |
| 79 | 1.49E+03 | 24.09/11/08 | (733760, 5775188, 0.0) |

BroilerFarm\_Single\_Shed\_640K\_TSP\_Deposition.TXT

|     |          |             |                        |
|-----|----------|-------------|------------------------|
| 80  | 1.49E+03 | 24.05/11/08 | (733760, 5775188, 0.0) |
| 81  | 1.49E+03 | 24.22/09/08 | (733760, 5775188, 0.0) |
| 82  | 1.48E+03 | 24.02/10/08 | (733760, 5775188, 0.0) |
| 83  | 1.48E+03 | 24.30/09/08 | (733760, 5775188, 0.0) |
| 84  | 1.48E+03 | 24.15/08/08 | (733760, 5775188, 0.0) |
| 85  | 1.47E+03 | 24.17/08/08 | (733760, 5775188, 0.0) |
| 86  | 1.47E+03 | 24.14/08/08 | (733760, 5775188, 0.0) |
| 87  | 1.47E+03 | 24.01/10/08 | (733760, 5775188, 0.0) |
| 88  | 1.45E+03 | 24.16/08/08 | (733760, 5775188, 0.0) |
| 89  | 1.44E+03 | 24.21/09/08 | (733760, 5775188, 0.0) |
| 90  | 1.44E+03 | 24.30/12/08 | (733760, 5775188, 0.0) |
| 91  | 1.43E+03 | 24.10/11/08 | (733760, 5775188, 0.0) |
| 92  | 1.41E+03 | 24.08/12/08 | (733760, 5775188, 0.0) |
| 93  | 1.41E+03 | 24.09/12/08 | (733760, 5775188, 0.0) |
| 94  | 1.41E+03 | 24.10/12/08 | (733760, 5775188, 0.0) |
| 95  | 1.41E+03 | 24.11/12/08 | (733760, 5775188, 0.0) |
| 96  | 1.41E+03 | 24.12/12/08 | (733760, 5775188, 0.0) |
| 97  | 1.41E+03 | 24.13/12/08 | (733760, 5775188, 0.0) |
| 98  | 1.41E+03 | 24.07/12/08 | (733760, 5775188, 0.0) |
| 99  | 1.40E+03 | 24.14/12/08 | (733760, 5775188, 0.0) |
| 100 | 1.40E+03 | 24.13/08/08 | (733760, 5775188, 0.0) |

## **Appendix C**

### **1. Name and address**

Iain Murray Cowan  
URS Australia Pty Ltd  
Level 6, 1 Southbank Boulevard  
Southbank  
Melbourne  
VIC 3006

### **2. Qualifications and Experience**

Refer to Curriculum Vitae (attachment 1)

### **3. Areas of Expertise**

I have worked as a full time Air Quality Scientist since September 2000. In this time I have played a key role in the sampling of emissions to atmosphere from industrial sources and the modelling of emissions, using a variety of dispersion models, to determine concentrations in the ambient environment. These studies have been undertaken for planning applications, Environmental Impact Assessments, IPPC applications (in Europe), works approval applications and as part of environmental audits. These projects have been undertaken within the States and Territories of Australia, Papua New Guinea and the United Kingdom.

### **4. Expertise to prepare report**

My doctorate concentrated in detail on the mechanics of a leading dispersion model used within the UK, and parameterisation of the principal factors involved in dispersion modelling to produce a simplified dispersion model for local authority use. I therefore have, an in depth knowledge of the mechanics of dispersion and dispersion models which allows me to accurately assess emissions from a premises.

I have undertaken emissions sampling and modelling assessments for a number of odorous sources including municipal landfills, water treatment facilities, abattoirs, rendering facilities and restaurant kitchens.

### **5. Instructions which defined the scope of report**

Instructions to prepare this report were received on 5 June based on a scope detailed in a proposal dated 18 February 2009 and varied on 5 June 2009.

Details of these scopes and correspondence are included in attachment 2.

### **6. Facts, matters and assumptions relied upon**

- Data contained in the initial ERA and revised ERA documents provided by Colac Otway Shire Council

### **7. Documents taken into account**

Refer to (6) above, and references contained in Chapter 6 of this results.

## Appendix C

### **8. Identity of the persons undertaking the work**

The undersigned (Iain Cowan)

### **9. Summary of Opinions**

Refer to the conclusions and recommendations in my report.

### **10. Provisional Opinions**

My opinions are not provisional except where specifically qualified.

### **11. Limitations of Expertise and any Incomplete or Inaccurate Aspects**

I consider that the subject matter of my report falls within my area of expertise and that issues dealt with are adequately addressed for purposes of this hearing.

Iain Cowan

16 June 2009



18 February 2009

Colac Otway Shire Council  
PO Box 283  
Colac  
Victoria  
3250

Attention: Anne Sorensen

Dear Anne

**Subject: Review of air quality / odour assessment for proposed broiler farms**

Further to our conversation yesterday, URS Australia Pty Ltd is pleased to provide Colac Otway Shire Council (Council) with a proposal to review the environmental risk assessment (ERA) undertaken for proposed broiler farm at Pierces Road, Beeac.

## 1.1 Introduction

Lemic Investments Pty Ltd (Lemic Investments) have proposed to build and operate broiler sheds to house 320,000 birds. An ERA has been undertaken on behalf of Lemic Investments to determine the potential impact of the proposed broiler farms on surrounding land use. The ERA has focussed on potential odour and dust impacts from the operation of the facility.

## 1.2 Scope of assessment

Council has requested a review of the ERA to determine the suitability of the study for determining impacts on the surrounding area. URS proposes the following scope of assessment:

- Review of ERA to identify any parts of the methodology that may have implications for the results;
- Qualitatively and quantitatively assess identified methodological inadequacies; and
- Provide a comprehensive report to Council with sufficient information to make a decision on proceeding to VCAT.

URS Australia Pty Ltd (ABN 46 000 691 690)  
Level 6, 1 Southbank Boulevard  
Southbank  
VIC 3006  
Australia  
Tel: 61 3 8699 7500  
Fax: 61 3 8699 7550



## 1.3 Methodology

A review of the methods used within the ERA to undertake:

- Emission estimation;
- Meteorological modelling;
- Dispersion modelling; and
- Risk assessment

will be completed to ensure that the assessment has been rigorous in its approach.

### 1.3.1 Emission estimation

Emissions of odour have been calculated using a methodology described in a paper where the primary author is also the author of the ERA. The section on odour emissions estimation claims that this is the best approach to estimating odour from broiler farms. URS proposes that a review of the method used is undertaken taking in to account publications by the Rural Industries Research and Development Corporation, and conference papers published by Department of Primary Industries & Fisheries to compare emission estimations and determine the appropriate nature of the emission estimation technique.

Review of the emission estimation will incorporate recalculation of emission rates using other identified methodologies for comparison with those used in the dispersion modelling will provide an indication of the extent of over / under-estimation of the estimation technique used. In turn, this will provide a level of confidence

### 1.3.2 Meteorological modelling

Meteorological input files used in dispersion modelling are critical to the end results. Meteorological modelling in the ERA has been undertaken to synthesise an Ausplume compatible meteorological file using CSIRO's TAPM model Version 2. At the time of writing the ERA, the latest version of TAPM available was version 3.07, which included several updates since version 2. The effect of the TAPM model version upgrades on meteorological synthesis for this particular region is unknown, and URS therefore proposes to remodel the local meteorology for 2002 using TAPM version 3.07 to discern the effective differences in meteorology used in the dispersion modelling. This approach will provide Council with confidence that the meteorological data, on which the dispersion modelling relies, is the most appropriate that is available.

### 1.3.3 Dispersion modelling

URS will review the model set-up as described in the ERA, and review the example model file to ensure that Ausplume has been appropriately configured for the modelling of broiler sheds. URS will comment qualitatively on the potential impact on the dispersion model results from any identified issues with model set up.

## 1.3.4 Risk assessment

URS will review the risk assessment that has been undertaken to verify the validity in comparison to the SEPP(AQM) and the methodology that is accepted by EPA. It is noted that the ERA uses a concentration of 5 OU above which odour is likely to be offensive, whilst the design criteria in the SEPP(AQM) specify a level of 1 OU. Council should be aware that VCAT has ruled a number of times that 5 OU is a more appropriate level at which odour is likely to be offensive, and that EPA have demonstrated that Ausplume under predicts odour concentrations which is why the design criteria is set at 1 OU. URS also notes that the ERA refers to a comparison of modelled results and complaint data in the preparation of the risk matrix used in this study. The comparison study is not referenced in the ERA or documented in an appendix. As such, it is difficult to verify the validity of the risk matrix, and it is unclear whether the development of the risk matrix is from one or multiple projects.

## 1.4 Project Team

### ***Dr. Iain Cowan – Project Manager and Peer Reviewer***

Dr. Iain Cowan is an Associate Air Quality Scientist that has nine years experience in modelling and monitoring of odour and air quality within the United Kingdom and Australia. Iain has extensive experience with several advanced dispersion modelling packages including AusPlume, AusRoads, Calpuff, TAPM, ADMS-Urban, EDMS and AERMOD. He has used these packages, incorporating specialised emission inventories, to model both odour and atmospheric emissions from a variety of sources including industry, landfills, aircraft, road traffic and trains. This modelling has been undertaken for environmental statements and environmental impact assessments as part of regulatory compliance and the planning process. Iain has modelled and monitored air quality for many prestigious projects and clients including Chevron, AGL, CSL, Origin Energy, Lihir Gold, Melbourne Airport and Mobil in Australia as well as the London Olympic Bid, the Welsh Development Agency, the Highways Agency and the London Development Agency in the UK. Iain has prepared and delivered expert witness statements to VCAT regarding odour emissions from composting and coffee grinding facilities.

Iain will be the project manager and undertake the peer review of the ERA to provide Council with sufficient data on which to base a decision on the validity of the work undertaken as part of the proposal.

### ***Julie Anderson – Assistant modeller***

Julie Anderson is an Environmental Scientist who has worked in the fields of air emission sampling and analysis, dispersion modelling and contaminated land. Through her previous roles in consulting she has gained experience in field data collection and interpretation (air, soil and groundwater), report writing, project management and liaising with clients and the public.

Since commencing work with URS in 2007, Julie has worked within the Environmental Economic Solutions and Contaminated Land (Petroleum) group, undertaking environmental assessments for a number of petrochemical plants and terminals, mining clients and power generation facilities.

Anne Sorensen  
18 February 2009  
Page 4

Julie will assist Iain with emissions estimation, using the alternative techniques outlined in other available documentation, and meteorological modelling using TAPM.

### ***Lisa Russ – Project Director and Internal Review***

Lisa Russ is an associate environmental engineer with over 12 years experience working in Australia. Lisa's particular area of expertise is in environmental auditing, development of environmental management plans and preparation of environmental impact statements for a range of industries, which incorporated air quality and odour modelling and management.

Lisa will be the project director and undertake the final review of the deliverable prior to delivery to Council.

## **1.5 Deliverables**

URS proposes to deliver an electronic copy of the report in draft PDF format for comment by Council prior to final delivery. The final deliverable will be an electronic copy of the report in PDF format and two hard copies.

## **1.6 Costing**

The cost for this project is estimated to be \$12,000.00. The cost includes:

- Iain Cowan – 40 hours for peer review and report writing;
- Julie Anderson - 12 hours for emission estimation, model setup and data analysis; and
- Lisa Russ – 4 hours for review of final deliverable.

## **1.7 Timing**

URS estimates that from commissioning, the draft report could be delivered within 12 working days. The extended period of time for a deliverable, compared to the number of work hours, is the result of the TAPM's model run time which can often take 3 to 4 days to complete prior to interpretation of the data. Following receipt of comments from Council, the final report would be delivered within 3 working days.

Yours sincerely  
**URS Australia Pty Ltd**



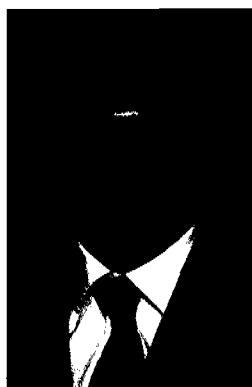
---

Iain Cowan  
Associate Air Quality Scientist



---

Lisa Russ  
Senior Associate Environmental Engineer



### Iain Cowan

Associate Air Quality  
Scientist

*PhD BSc(Hons)*

### Areas of Expertise

- Air quality management and modelling
- Atmospheric science
- Emissions inventories
- Odour emission measurement
- Transport Emission Sources
- Environmental project management

### Education

Doctor of Philosophy, University of Surrey, Guildford, Surrey, 2000 – 2003

BSc (First Class Hons) Environmental Geology, Royal Holloway, Egham, Surrey, 1997 – 2000

Science Degree Foundation, Royal Holloway, Egham, Surrey, 1996 – 1997

### Career Summary

Iain Cowan has nine years experience in modelling and monitoring of air quality and odour within the United Kingdom and Australia. Iain has extensive experience with several advanced dispersion modelling packages including AusPlume, AusRoads, Calpuff, TAPM, ADMS-Urban, EDMS and AERMOD. He has used these packages, incorporating specialised emission inventories, to model both atmospheric emissions and odour from a variety of sources including industry, landfills, aircraft, road traffic and trains. This modelling has been undertaken for environmental statements and environmental impact assessments as part of regulatory compliance and the planning process. Iain has modelled and monitored air quality for many prestigious projects and clients including Chevron, AGL, CSL, Origin Energy, Lihir Gold, Melbourne Airport and Mobil in Australia as well as the London Olympic Bid, the Welsh Development Agency, the Highways Agency and the London Development Agency in the UK.

Iain's current work follows three years of research in air quality as part of my doctorate. The research culminated in a practical 'screening tool', for utilisation with ArcGIS 8.x based upon parametric study of ADMS output. The new screening tool has been designed to compare local levels of air pollution to national targets. Development of the package involved database management and manipulation, alongside the usage of ArcView 3.x and ArcGIS 8.x at a high level. Developmental work also used the Fortran 95, Visual Basic, Visual Basic for Applications and ESRI's ArcObjects programming languages. The work was undertaken with the collaboration of Surrey County Council, and has features that aid policy decision for building works in terms of air pollution impact assessment.

### Career Detail

#### *Air Quality Assessments*

- LNG Plant Tasmania– Impact assessments of the proposed LNG facility in northern Tasmania. TAPM has been used with locally measured meteorological data to generate inputs to Ausplume and Ausroads. Assessments using Ausplume are being to undertake the detailed modelling

- required for the EIS.
- Anonymous – Air Quality assessment as part of EIS for new LNG plant in Queensland. TAPM and CALMET used to generate local meteorological conditions with CALPUFF used for dispersion modelling.
  - Sun Metals Limited – Impact assessment of spray drift on surrounding land use from the use of spray evaporators within tailings ponds to reduce pond levels.
  - Lihir Gold Limited – Comprehensive impact assessment as part of an EIA for expansion of the mine processing area. The project included emissions inventory generation and modelling for power generation, process plant, unmade road dust generation, tailpipe emissions.
  - Yarra Ranges Shire Council – Expert witness at VCAT hearing for compost odour impacting a local community.
  - Bendigo Mining Limited – Revised operational procedures required the modelling of particulate and hydrogen cyanide emissions using Ausplume from operations at a proposed mine for comparison with the approved program.
  - Melbourne Airport Limited – Undertook complete modelling exercise of airport pollution sources including the aircraft, roads, parking facilities, jet engine testing and training fires to develop a concentration map of pollution
  - CSL Limited – Generation of emissions inventory and completion of dispersion modelling using Ausplume in the assessment of formaldehyde release to atmosphere following the sterilisation of laboratories
  - Anonymous – Air quality assessment of a peak loading gas fired power station to determine the impact of stack shortening.
  - Gasnet Pty Ltd – Emergency release modelling of natural gas from a gas compression station on a second by second basis to define the development of the plume area over the period of the release and classify the extent of the hazardous area.
  - Bankstown Airport - Assessment of the impact on local air quality of moving the engine run-up bay from the current position to a new location at the north-eastern end of Bankstown airport. The assessment has used the regulatory dispersion model AUSPLUME to model concentrations of oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO) and oxides of sulphur (SO<sub>x</sub>). In addition, URS has also performed a qualitative assessment of odour impacts
  - AGL Limited – Interpretation of existing monitoring data and calculation of total NO<sub>2</sub> concentrations for the assessment of impacts from a proposed peak load gas fired power plant.
  - Anonymous – Industrial odour assessment for a Halal Abattoir within Melbourne. Assessment required the generation of a site odour emissions inventory and modelling using Ausplume.
  - London Development Agency – Assessment of the impacts of traffic generation, construction and on site sources of the London Olympic Bid to the surrounding population. Modelling undertaken using ADMS-Roads.
  - Highways Agency – Design Manual for Roads and Bridges (DMRB) Impact assessment of the extension of the M6 to the Scottish border.
  - Welsh Development Agency – Guidance on Multi-Modal Assessment

- (GOMMS) Impact assessment for the construction of a bypass
- Wiltshire County Council – Development of a specialised emissions inventory for modelling of transport emissions in a town with roads at high gradient. Modelling was undertaken using ADMS-Roads and used to assess options for reducing ground level concentrations by changing traffic flows on the road network.
  - Highways Agency – Secondment to the Highways Agency (major road regulator within England) to assist with the implementation and development of policy with regard to the assessment of the impacts of road projects on local air quality.
  - Bristol NHS Trust – Impact assessment using ADMS-Roads of the redevelopment of two hospitals on local air quality incorporating the increase in vehicle numbers and the use of emissions control technologies for new generators.
  - Norfolk Environment Waste Services – Odour assessment for landfill site. Odour emissions inventory for open and capped cells and landfill gas turnbines. Modelled and assessed the impacts of odour using Aermol.

### Professional History

URS Australia Pty Ltd., Senior Air Quality Scientist – 2006 to Present

Capita Symonds Ltd., Senior Air Quality Consultant – 2003 to 2006

University of Surrey, Department of Civil Engineering, Casual Tutor (During Completion of PhD) – 2000 to 2003

### Awards

2007 – Clean Air Society of Australia and New Zealand – Young Achiever Award

2001 – EPSRC Stipend for PhD Research

### Training

IOA Certificate in Environmental Noise Monitoring

### Publications

Cowan, I.M.; 2007, *Use of GIS as an air quality screening tool for planners and policy makers – Partnerships between local government and academia*; International Union of Air Pollution Professionals World Congress, 10<sup>th</sup>-13<sup>th</sup> September 2007; Brisbane, Australia

Cowan, I.M.; 2004; *The Development and Application of an Advanced Screening Model to Predict Air Quality* Thesis (PhD). University of Surrey

Cowan, I.M., Hellowell, E.E., and Hughes, S.J.; 2002; *Spatial-Analysis of Real-Time Traffic Emission Data*; 11th International Symposium on Transport and Air Pollution; 19th-21st June 2002; Graz, Austria

Cowan, I.M., Hellowell, E.E., and Hughes, S.J.; 2001; *The relationship between traffic throughput and the associated primary pollutants in Surrey*, Air Pollution 2001 Conference; Wessex Institute of Technology; Ancona, Italy



Anne Sorensen  
<Anne.Sorensen@colacotway.vic.gov.au

>

05/06/2009 01:56 PM

To "Iain\_Cowan@URSCorp.com"  
<Iain\_Cowan@URSCorp.com>

cc

bcc

Subject RE: VCAT Hearing

Hi Iain,

I confirm acceptance of the costs outlined in your email below. I would be able to meet with you on Monday 15 June around 10.00 am at your office.

Can you confirm that this would suit.

REgards

**Anne Sorensen**  
Statutory Planning Coordinator  
Phone: (03) 5232 9509  
Mob: 0408 590 896  
Fax: (03) 5232 1046  
Email: [anne.sorensen@colacotway.vic.gov.au](mailto:anne.sorensen@colacotway.vic.gov.au)  
Website: [www.colacotway.vic.gov.au](http://www.colacotway.vic.gov.au)

**From:** Iain\_Cowan@URSCorp.com [mailto:Iain\_Cowan@URSCorp.com]  
**Sent:** Friday, 5 June 2009 11:47 AM  
**To:** Anne Sorensen  
**Subject:** VCAT Hearing

Dear Anne,

Further to our conversation, I can confirm that I will be available for a meeting on the morning of the 15th June. I am flexible on the exact time, although there is a possibility that I will need to go to Perth in the afternoon.

In regards to the VCAT expert witness report, I intend to extend the report previously provided to cover the predicted impact of dust (TSP and PM10) and odour from:

1 broiler shed housing 640,000 birds;  
2 broiler sheds housing 320,000 birds each; and  
1 broiler shed housing 320,000 birds (situated in the same position as the currently proposed 640,000 bird broiler shed).

The report will also be formatted to be compliant with VCAT's expert witness report requirements.

The modelling will be completed using the updated met data for 2008 detailed in the draft report, and will use maximum emission rates detailed in the ERA. The source type used in the ERA will be replicated in this assessment.



The cost for the modelling and extending the report will be .

Attendance at a meeting to discuss the report (2 hours) will be .

Preparation of presentation and attendance at VCAT (16 hours) will be

The total will therefore be \$10,280.00.

Should additional time, beyond 8 hours, be required for attendance at VCAT, the hourly rate charged will be

I would be grateful, if you could confirm acceptance of these costs.

I have commenced preparing the models in anticipation of your acceptance, in order that they can be run this weekend.

Yours sincerely,

Iain Cowan

Dr Iain Cowan  
Associate Air Quality Scientist  
URS Corporation  
Level 6, 1 Southbank Boulevard, Southbank, VIC 3006, Australia  
Phone : +61 3 8699 7520 Fax : +61 3 8699 7550  
[mailto:iain\\_cowan@urscorp.com](mailto:iain_cowan@urscorp.com) visit our website at <http://www.ap.urscorp.com>

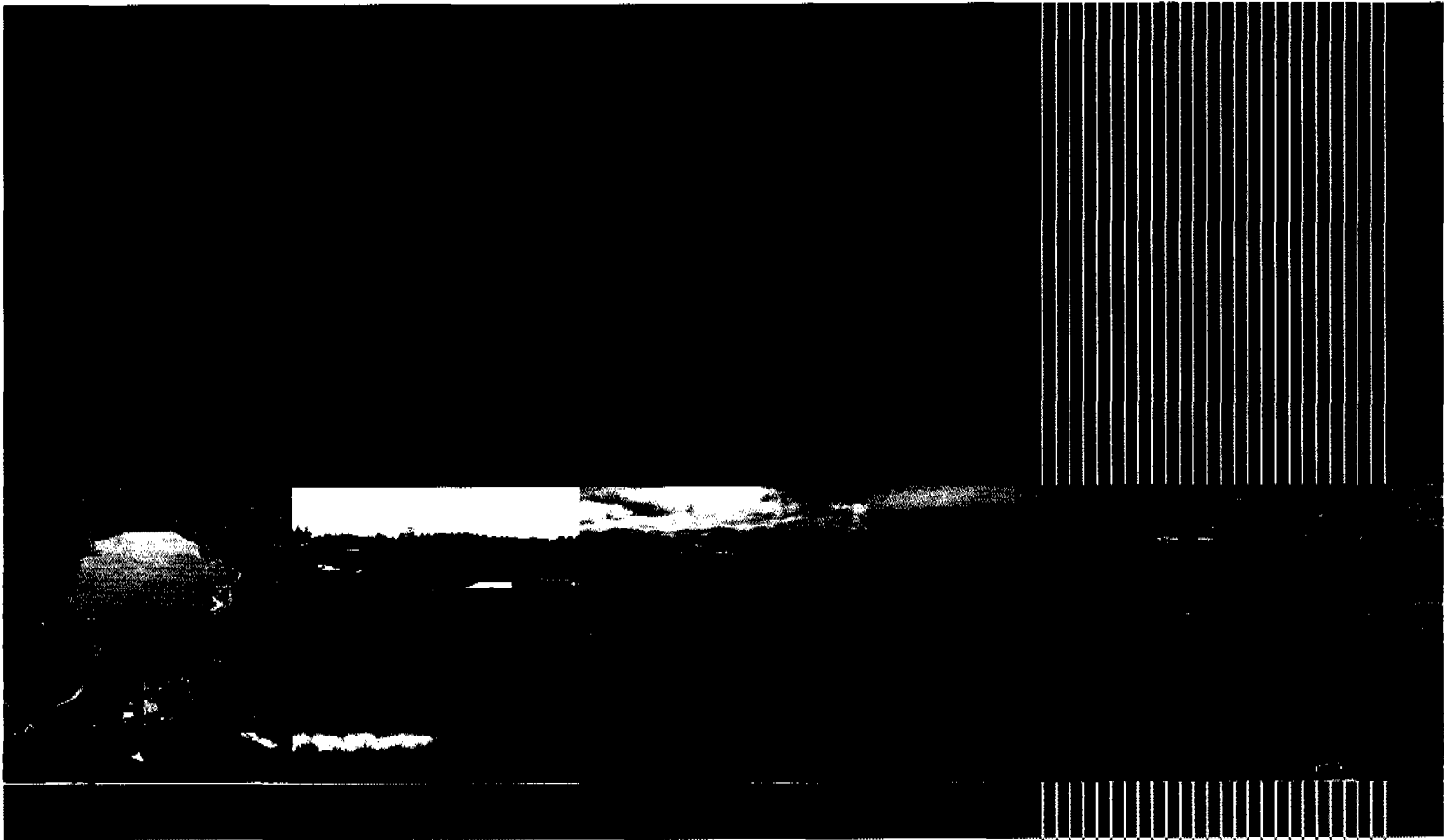
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# URS

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**CONSENT CALENDAR**

**OFFICERS' REPORT**

D = Discussion  
W = Withdrawal

| ITEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | D | W |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <p><b><u>GENERAL BUSINESS</u></b></p> <p><b><u>OM092406-20.1      Item for Signing and Sealing - Section 173 Agreement, 80 &amp; 90 Sheehans Rd Cororooke.</u></b></p> <p><b><u>Recommendation</u></b><br/><i>That Council sign and seal the Section 173 Agreement between Colac Otway Shire and P A M Edwards and A R Cuthbertson covenanting Certificate of Title Volume 8316 Folio 492 and Volume 9720 Folio 152 that the land will not be further subdivided so as to create additional lots.</i></p> |   |   |
| <p><b><u>OM092406-20.2      Item for Signing and Sealing - Section 173 Agreement - 1229 Corangamite Lake Rd, Alvie</u></b></p> <p><b><u>Recommendation</u></b><br/><i>That Council sign and seal the Section 173 Agreement between Colac Otway Shire and P D Delahunty covenanting Certificate of Title Volume 9239 Folio 546 and Volume 3902 Folio 255 that the land will not be further subdivided so as to create additional lots.</i></p>                                                             |   |   |

**Recommendation**

*That recommendations to items listed in the Consent Calendar, with the exception of items ....., be adopted.*

**MOVED** .....

**SECONDED** .....

**OM092406-20 GENERAL BUSINESS****OM092406-20.1      *Item for Signing and Sealing - Section 173 Agreement, 80 & 90 Sheehans Rd Cororooke.***

The applicant agreed to enter into a Section 173 Agreement as per condition 2 of Planning Permit PP60/08 that allowed for a 2 lot re-subdivision.

Condition 2 reads

Prior to a statement of compliance being issued, the owner/applicant must enter into an agreement with the Responsible Authority under Section 173 of the Planning and Environment Act 1987 stating that no further subdivision of either lot hereby approved will be further subdivided so as to create any additional lots.

Evidence of lodging of this agreement in accordance with Section 181 of the Planning and Environment Act 1987 must be submitted to the Responsible Authority. All costs associated with the agreement will be met by the owner/applicant.

Attached is a copy of the planning permit and a locality plan.

**Recommendation**

***That Council sign and seal the Section 173 Agreement between Colac Otway Shire and P A M Edwards and A R Cuthbertson covenanting Certificate of Title Volume 8316 Folio 492 and Volume 9720 Folio 152 that the land will not be further subdivided so as to create additional lots.***

-----v-----



PLANNING DEPARTMENT  
Admin Map



Title



Map Zoom: 4202 m

Advertising (1)(Parcel)

| MI_Key | assessnum | prop_address     | ratepayer       | owner_add1 | owner_add2       | owner_add3 | owner_add4 | owner_add5 |
|--------|-----------|------------------|-----------------|------------|------------------|------------|------------|------------|
| 21637  | 175208000 | 80 SHEEHANS ROAD | A R CUTHBERTSON | INGALARA   | 60 SHEEHANS ROAD | COROROOKE  | VIC        | 3254       |

Advertising-Zones (1)(Parcel)

| MI_Key | title description | address          | Zone | Schedule | Name         | Parcel overlap |
|--------|-------------------|------------------|------|----------|--------------|----------------|
| 21637  | LOT 1 TP134990    | 80 SHEEHANS ROAD | FZ   |          | FARMING ZONE | 100%           |

There are no features selected with information in the table 'Advertising-Overlays'.

Legend

|  |                  |  |                                       |
|--|------------------|--|---------------------------------------|
|  | Overlays - ALL   |  | PUBLIC CONSERVATION AND RESOURCE ZONE |
|  | Planning Apps    |  | ROAD ZONE - CATEGORY 1                |
|  | Property         |  | FARMING ZONE                          |
|  | Parcel           |  | RURAL LIVING ZONE                     |
|  | Parcel Proposed  |  | TOWNSHIP ZONE                         |
|  | Crown Land       |  | PUBLIC USE ZONE - EDUCATION           |
|  | Easement         |  | PUBLIC PARK AND RECREATION ZONE       |
|  | Watercourse      |  | INDUSTRIAL 1 ZONE                     |
|  | Floodway (CHA)   |  | RESIDENTIAL 1 ZONE                    |
|  | Floodplain (CMA) |  | BUSINESS 1 ZONE                       |
|  |                  |  | BUSINESS 4 ZONE                       |
|  |                  |  | LOW DENSITY RESIDENTIAL ZONE          |
|  |                  |  | PUBLIC USE ZONE - TRANSPORT           |
|  |                  |  | INDUSTRIAL 3 ZONE                     |
|  |                  |  | RURAL CONSERVATION ZONE - SCHEDULE 2  |
|  |                  |  | INDUSTRIAL 2 ZONE                     |
|  |                  |  | SPECIAL USE ZONE - SCHEDULE 1         |
|  |                  |  | URBAN FLOODWAY ZONE                   |

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This map is produced on the Geocentric Datum of Australia (GDA94). GDA94 supersedes the Australian Geodetic Datum 1966 (AGD66). Colac-Otway Shire Council uses the Map Grid of Australia (MGA94) Zone 54 projection.

\*\* Not all layers depicted here are necessarily shown on map \*\*

"A"



Colac Otway  
SHIRE

Naturally Progressive

**PLANNING  
PERMIT**

TO:  
RON STEWART & JENNIFER  
EICHLER  
CLARKE & BARWOOD  
61-65 GELLIBRAND STREET  
COLAC 3250

**Assessment No -** 175209000  
**Permit No -** PP60/08  
**Planning Scheme -** Colac-Otway Scheme  
**Responsible Authority -** COLAC OTWAY SHIRE

**ADDRESS OF THE LAND:**

80 & 90 SHEEHANS ROAD, COROROOKE  
LOT 1 TP338722M & LOT TP134990, PARISH OF NALANGIL

**THE PERMIT ALLOWS:**

2 Lot Re-Subdivision In Accordance With The Endorsed Plans.

**THE FOLLOWING CONDITIONS APPLY TO THIS PERMIT**

1. This permit will expire after two (2) years if the relevant plan of subdivision is not certified by the Responsible Authority, unless an extension of time is approved by the Responsible Authority. The written request for extension of time must be received before 3 months have elapsed after the date of expiry.
2. Prior to a statement of compliance being issued, the owner/applicant must enter into an agreement with the Responsible Authority under Section 173 of the Planning and Environment Act 1987 stating that no further subdivision of either lot hereby approved will be further subdivided so as to create any additional lots.  
  
Evidence of lodging of this agreement in accordance within Section 181 of the Planning and Environment Act 1987 must be submitted to the Responsible Authority. All costs associated with the agreement will be met by the owner/applicant.
3. Plans submitted for certification must meet the requirements of the Subdivision Act 1988, as amended.
4. The Statement of Compliance will not be issued prior to all conditions in relation to subdivision on the subject Planning Permit being complied with to the satisfaction of the Responsible Authority.

**Date Issued: 2/04/2008**

**Signature for the  
Responsible Authority**

Council/Delegate

**CONDITIONS CONTINUED FOR PERMIT NO. PP60/08**

5. The subdivision as shown on the endorsed plan must not be altered save, with the written consent of the Responsible Authority.
6. The owner of the land must enter into agreements with the relevant authorities for the provision of water supply, drainage, sewerage facilities, electricity, gas, and telecommunication services to each lot shown on the endorsed plan in accordance with the authority's requirements and relevant legislation at the time.
7. All existing and proposed easements and sites for existing or required utility services and roads on the land must be set aside in the plan of subdivision submitted for certification in favour of the relevant authority for which the easement or site is to be created.
8. The plan of subdivision submitted for certification under the Subdivision Act 1988 must be referred to the Relevant Authority in accordance with Section 8 of that Act.

---

**Date Issued: 2/04/2008**

**Signature for the  
Responsible Authority** \_\_\_\_\_



Council/Delegate

**OM092406-20.2      *Item for Signing and Sealing - Section 173 Agreement - 1229***  
***Corangamite Lake Rd, Alvie***

The applicant agreed to enter into a Section 173 Agreement as per condition 8 of Planning Permit PP106/09 that allowed for a 2 lot re-subdivision.

Condition 8 reads

“Prior to a statement of compliance being issued, the owner/applicant must enter into an agreement with the Responsible Authority under Section 173 of the Planning and Environment Act 1987 stating that ‘No further subdivision of either lot hereby approved will be further subdivided so as to create any additional lots’. Evidence of lodging of this agreement in accordance with Section 181 of the Planning and Environment Act 1987 must be submitted to the Responsible Authority. All costs associated with the agreement will be met by the owner/applicant.”

Attached is a copy of the planning permit and a locality plan.

**Recommendation**

***That Council sign and seal the Section 173 Agreement between Colac Otway Shire and P D Delahunty covenanting Certificate of Title Volume 9239 Folio 546 and Volume 3902 Folio 255 that the land will not be further subdivided so as to create additional lots.***

~~~~~\)

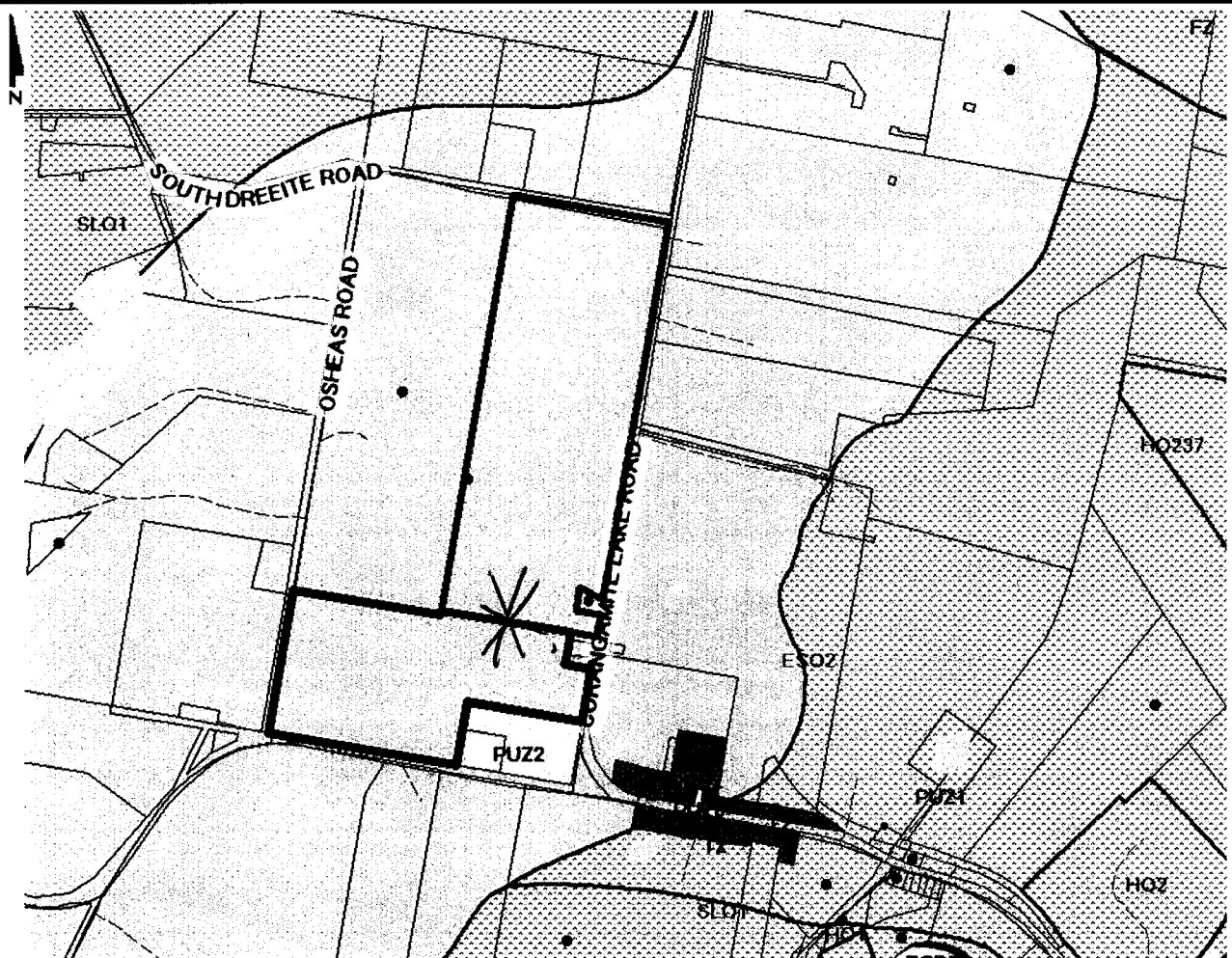




**PLANNING DEPARTMENT  
Admin Map**



Title



Map Zoom: 3370 m

**Advertising (2)(Parcel)**

| MI Key | assessnum | prop_address               | ratepayer     | owner_add1 | owner_add2                 | owner_add3 | owner_add4 | owner_add5 |
|--------|-----------|----------------------------|---------------|------------|----------------------------|------------|------------|------------|
| 2804   | 122312290 | 1229 CORANGAMITE LAKE ROAD | P D DELAHUNTY |            | 1330 CORANGAMITE LAKE ROAD | ALVIE      | VIC        | 3249       |
| 2832   | 122312290 | 1229 CORANGAMITE LAKE ROAD | P D DELAHUNTY |            | 1330 CORANGAMITE LAKE ROAD | ALVIE      | VIC        | 3249       |

**Advertising-Zones (2)(Parcel)**

| MI Key | title description | address                    | Zone | Schedule | Name         | Parcel overlap |
|--------|-------------------|----------------------------|------|----------|--------------|----------------|
| 2804   | LOT 1 TP167055    | 1229 CORANGAMITE LAKE ROAD | FZ   |          | FARMING ZONE | 100%           |
| 2832   | LOT 1 TP518157    | 1229 CORANGAMITE LAKE ROAD | FZ   |          | FARMING ZONE | 100%           |

There are no features selected with information in the table 'Advertising-Overlays'.

**Legend**

|  |                  |  |                                       |
|--|------------------|--|---------------------------------------|
|  | Overlays - ALL   |  | PUBLIC CONSERVATION AND RESOURCE ZONE |
|  | Planning Apps    |  | ROAD ZONE - CATEGORY 1                |
|  | Property         |  | FARMING ZONE                          |
|  | Parcel           |  | RURAL LIVING ZONE                     |
|  | Parcel Proposed  |  | TOWNSHIP ZONE                         |
|  | Crown Land       |  | PUBLIC USE ZONE - EDUCATION           |
|  | Easement         |  | PUBLIC PARK AND RECREATION ZONE       |
|  | Watercourse      |  | INDUSTRIAL 1 ZONE                     |
|  | Floodway (CMA)   |  | RESIDENTIAL 1 ZONE                    |
|  | Floodplain (CMA) |  | BUSINESS 1 ZONE                       |
|  |                  |  | BUSINESS 4 ZONE                       |
|  |                  |  | LOW DENSITY RESIDENTIAL ZONE          |
|  |                  |  | PUBLIC USE ZONE - TRANSPORT           |
|  |                  |  | INDUSTRIAL 3 ZONE                     |
|  |                  |  | RURAL CONSERVATION ZONE - SCHEDULE 2  |
|  |                  |  | INDUSTRIAL 2 ZONE                     |
|  |                  |  | SPECIAL USE ZONE - SCHEDULE 1         |
|  |                  |  | URBAN FLOODWAY ZONE                   |

\*\* Not all layers depicted here are necessarily shown on map \*\*

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This map is produced on the Geocentric Datum of Australia (GDA94). GDA94 supersedes the Australian Geodetic Datum 1966 (AGD66). Colac-Otway Shire Council uses the Map Grid of Australia (MGA94) Zone 54 projection.

**PLANNING  
PERMIT**



**Colac Otway**  
SHIRE

*Naturally Progressive*

TO:  
ROD BRIGHT & ASSOCIATES  
ANTHONY BRIGHT  
PO BOX 371  
COLAC 3250

**Assessment No -** 1223-122-90  
**Permit No -** PP106/09  
**Planning Scheme -** Colac-Otway Scheme  
**Responsible Authority -** COLAC OTWAY SHIRE

**ADDRESS OF THE LAND:**

1229 CORANGAMITE LAKE ROAD, ALVIE  
LOT 1 TP167055 & LOT 1 TP444864, PARISH OF WARRION

**THE PERMIT ALLOWS:**

TWO (2) LOT RE-SUBDIVISION IN ACCORDANCE WITH THE ENDORSED PLANS

**THE FOLLOWING CONDITIONS APPLY TO THIS PERMIT**

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1. Plans submitted for certification must meet the requirements of the Subdivision Act 1988, as amended.
2. The developer must mark street numbers for all lots in the subdivision in accordance with the Shire's street numbering scheme to the satisfaction of the Responsible Authority.
3. The Statement of Compliance will not be issued prior to all conditions in relation to subdivision on the subject Planning Permit being complied with to the satisfaction of the Responsible Authority.
4. The subdivision as shown on the endorsed plan must not be altered save, with the written consent of the Responsible Authority.
5. The owner of the land must enter into agreements with the relevant authorities for the provision of water supply, drainage, sewerage facilities, electricity, gas, and telecommunication services to each lot shown on the endorsed plan in accordance with the authority's requirements and relevant legislation at the time.
6. All existing and proposed easements and sites for existing or required utility services and roads on the land must be set aside in the plan of subdivision

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**Date Issued 28/05/2009**

**Signature for the  
Responsible Authority**

  
Council/Delegate

**CONDITIONS CONTINUED FOR PERMIT NO. PP106/09**

submitted for certification in favour of the relevant authority for which the easement or site is to be created.

7. The plan of subdivision submitted for certification under the Subdivision Act 1988 must be referred to the Relevant Authority in accordance with Section 8 of that Act.
8. Prior to a statement of compliance being issued, the owner/applicant must enter into an agreement with the Responsible Authority under Section 173 of the Planning and Environment Act 1987 stating that 'No further subdivision of either lot hereby approved will be further subdivided so as to create any additional lots'. Evidence of lodging of this agreement in accordance with Section 181 of the Planning and Environment Act 1987 must be submitted to the Responsible Authority. All costs associated with the agreement will be met by the owner/applicant.
9. This permit will expire after two (2) years if the relevant plan of subdivision is not certified by the Responsible Authority, unless an extension of time is approved by the Responsible Authority. The written request for extension of time must be received before 3 months have elapsed after the date of expiry.

---

**Date Issued 28/05/2009**

**Signature for the  
Responsible Authority**



Council/Delegate

**CONSENT CALENDAR**

**OFFICERS' REPORT**

D = Discussion  
W = Withdrawal

| ITEM   | D | W |
|--|---|---|
| <b><u>REPORTS FROM DELEGATES TO OTHER BODIES</u></b>   |   |   |
| <b><u>OM092406-21.1      MAV State Council Meeting 27 May 2009 (Cr Stephen Hart)</u></b>                       |   |   |
| <b><u>Recommendation</u></b>   |   |   |
| <i>That Council receive the report regarding the MAV State Council meeting on 27 May 2009 for information.</i> |   |   |

**Recommendation**

*That recommendations to items listed in the Consent Calendar, with the exception of items ....., be adopted.*

**MOVED**                    .....

**SECONDED**             .....

**OM092406-21    REPORTS FROM DELEGATES TO OTHER BODIES**

**OM092406-21.1      MAV State Council Meeting 27 May 2009 (Cr Stephen Hart)**

On 27 May 2009 Cr Stephen Hart attended the MAV meeting held in Melbourne as Colac Otway Shire's delegate. Around 80 resolutions from member Councils were considered, with many being amalgamated or withdrawn as they covered the same subject. Some points of interest include:

1. A resolution calling for the next Council election to be brought forward approximately 6 weeks to the second Saturday in October was adopted. As per a Council resolution on the 26 May 2009, Colac Otway Shire opposed this resolution at the MAV on the basis that this should be considered as part of a more general review of the Local Government Act.
2. A resolution calling for the introduction of "Container Deposit Legislation" was adopted. As a similar resolution was adopted by Council on 26 May 2009, Colac Otway Shire supported this resolution at the MAV.
3. A resolution calling for electoral representation reviews to be decided by Council, rather than handled independently by the Electoral Commission as is currently the case, was rejected.
4. Other resolutions adopted by at the MAV State Council meeting include:
  - **Conflict of interest provisions** – A resolution calling for the Government to remove procedural problems and uncertainty caused by the current provisions.
  - **Various resolutions regarding cost shifting and funding of local government.**
  - **Various resolutions regarding climate change and sea level change particularly in relation to associated town planning requirements.**
  - **A resolution supporting a "National TV take back scheme".**
  - **Bushfire levy** – A resolution calling for the imposition of a fire service levy on all ratable properties across Victoria to fund fire services. A similar levy is currently charged in insurance premiums but this means that the uninsured do not contribute to the cost of fire services. Whilst this proposal has superficial appeal, it has the potential to represent another cost shift to local government, as there would be costs to Councils having to collect, administer and then distribute the levy. Of greater concern is that the MAV resolution doesn't call for the abolition of the levy on insurance premiums so, were the proposal introduced, ratepayers with insurance could be paying twice, once on their Council rates and once on their insurance premiums. With these concerns in mind Colac Otway opposed the resolution at the MAV. The resolution was adopted with about 60% of votes in favour.

The full text of all resolutions adopted at the MAV State Council meeting on 27 May 2009 is on the MAV's web site at: [www.mav.asn.au](http://www.mav.asn.au)

**Recommendation**

***That Council receive the report regarding the MAV State Council meeting on 27 May 2009 for information.***

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**CONSENT CALENDAR**

**OFFICERS' REPORT**

D = Discussion  
W = Withdrawal

| ITEM                                                                                                                                                                                                                                                                          | D | W |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <p><b><u>NOTICES OF MOTION</u></b></p> <p><b><u>OM092406-22.1 NOTICE OF MOTION 153-08/09 - WATER STORAGE: APOLLO BAY AND MARENGO (CR STEPHEN HART)</u></b></p> <p><b><u>Recommendation</u></b></p> <p><i>That Council consider the contents of this Notice of Motion.</i></p> |   |   |
| <p><b><u>OM092406-22.2 NOTICE OF MOTION 154-08/09 HEATHFIELD ESTATE (CR STEPHEN HART)</u></b></p> <p><b><u>Recommendation</u></b></p> <p><i>That Council consider then content of this Notice of Motion.</i></p>                                                              |   |   |

**Recommendation**

*That recommendations to items listed in the Consent Calendar, with the exception of items ....., be adopted.*

**MOVED** .....

**SECONDED** .....

**OM092406-22 NOTICES OF MOTION**

**OM092406-22.1 NOTICE OF MOTION 153-08/09 - WATER STORAGE: APOLLO BAY AND MARENGO (CR STEPHEN HART)**

TAKE NOTICE that it is my intention to move at the Ordinary Council Meeting of the Colac Otway Shire to be held on Tuesday, 24 June 2009:

“Council notes the recent rejection of the C29 Great Ocean Green planning amendment.

Council resolves to write to Barwon Water regarding the progress of the additional water storage options for Apollo Bay and Marengo. Council is to ask Barwon Water whether the Minister’s refusal to rezone the land in the C29 amendment may change Barwon Water’s preferred water storage option.”

**Recommendation**

***That Council consider the contents of this Notice of Motion.***

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**OM092406-22.2 NOTICE OF MOTION 154-08/09 HEATHFIELD ESTATE  
(CR STEPHEN HART)**

TAKE NOTICE that it is my intention to move at the Ordinary Council Meeting of the Colac Otway Shire to be held on Tuesday, 24 June 2009:

“Council notes that the Council land of approximately 11 hectares in the Heathfield Estate was to be rezoned as part of the C29 planning amendment. Council notes that the recent rejection of the C29 planning amendment means that this land is still zoned appropriately for public open space.

The Chief Executive Officer is to write to the proponent of the C29 planning amendment and the Committee of the Apollo Bay Golf Club to inform them that following the rejection of the C29 planning amendment by the Minister, the Colac Otway Shire Council intends to retain ownership of the public open space in the Heathfield Estate and will not be making it available for development.”

**Recommendation**

***That Council consider then content of this Notice of Motion.***

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IN-COMMITTEE

**IN COMMITTEE**

**Recommendation**

***That pursuant to the provisions of Section 89(2) of the Local Government Act, the meeting be closed to the public and Council move “In-Committee” in order to deal with:***

| <b>SUBJECT</b>                                       | <b>REASON</b>                                                                                   | <b>SECTION OF ACT</b>                                                    |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b><i>Reports from Delegates to Other Bodies</i></b> | <b><i>Personnel Matters<br/>Contractual Matters<br/>May prejudice Council or any Person</i></b> | <b><i>Section 89(2)(a)<br/>Section 89(2)(d)<br/>Section 89(2)(h)</i></b> |