Discussion Paper for the Further Development and Implementation of the City of Greater Geelong Erosion Management Overlay.

DRAFT REPORT

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1.0 Introduction

1.1 Project Scope

1. The development of the City of Greater Geelong (CoGG) Erosion Management Overlay (EMO) is a priority action sitting under the Regional Corangamite Soil Health Strategy (CSHS), a framework designed to reduce risk caused by soil degradation processes.
2. EMO1 will address the risk of landslides and EMO2 will address the risk of soil erosion through utilisation of the provisions of the statutory planning process.
3. The development of the CoGG EMO is a co-investment project between the Corangamite Catchment Management Authority (CCMA) and CoGG.
4. The development of the EMO is spread across three years with Phase 1 having been completed in 2003/04, Phase 2 completed in 2004/05 and Phase 3 to be completed in 2005/06.

1.2 Objectives

1. To develop an erosion management overlay and associated documents for the CoGG to reduce the risk and subsequent impact of landslides and soil erosion through the planning scheme.
2. To use the CoGG EMO as a pilot study, in which other municipalities within the Corangamite Catchment will be encouraged to adopt a similar approach.
3. To formalise an agreement between CoGG and CCMA that outlines each organisation's commitment to complete and implement the CoGG EMO.

1.3 Background

This project evolved from an original business case for Landslide Risk Assessment program developed in January 2003 by Alex Shackleton (wetlands officer with CoGG) in association with Tony Miner (director of AS Miner Geo-technical Pty Ltd). Tony Miner completed an initial project brief for EMO1 landslide risk assessment in February 2003.

After a number of discussions throughout 2003, Tony Miner was then asked in November 2003 to provide a brief on the implementation of an EMO for CoGG. At this time, the CCMA was asked if they wished to co-invest with CoGG to complete their EMO. After discussions an agreement was made between the CCMA and CoGG that CCMA would co-invest into the project with the understanding that EMO2 (soil erosion risk assessment) would also be developed and implemented for CoGG. It was also agreed that the development of the CoGG EMO would act as a pilot study and guide other municipalities within the Corangamite Catchment to develop their own EMOs.

CoGG received the funding for 2004 to complete Phase 1 of CoGG EMO, but the CCMA failed to attain their share of the funding. However, in 2004/05 CCMA received funding to develop Phase 2 of CoGG EMO that matched the CoGG contribution from the year before. Table 1 outlines the investment breakdown.

Table 1: Investment breakdown from CoGG and CCMA of outputs contributing towards CoGG EMO.

Output	CoGG investment	CCMA investment
Phase 1 – August 2004	$45,000	$0
Phase 2 – June 2005	$4,000	$49,000
Total	$49,000	$49,000

2.0 Benefits of Erosion Management Overlay

2.1 Responsibility and Duty of Care

The obligation for action on issues relating to natural resource management, land degradation and soil health is currently shared between Local Government and CMA's and regulated under a hierarchy of State, Regional and local policy. CMA's have the responsibility to set out land owner duties with respect to managing land and to prepare broad land manage planning and support land protection with detailed projects and programs, particularly where that land is susceptible to degradation process. Where as Local Government controls and directs new land use change and development in the landscape having regard to other authority's plans and duties. This is import to enable landowner and developers with the best planning and direction to ensure improvements to landscapes whilst generating homes, farms, villages towns and wealth from the natural landscape. Municipalities are bound and must have regard to State Planning Policy Framework (SPPF), Regional Catchment Strategies (RCS) and Geographic Strategies provisions of the Victorian Planning Provisions. The CMA and Municipality share the broad planning role in some instances but the Municipality has the detailed development system in the Local Planning Scheme. When the Council decides on planning permits as the *Responsible Authority* this role can be sometimes shared because of parallel other state or region authorities policies or activities. This is often formalised through *referral* to these agencies at the time of a planning permit and enables that authority's concerns or directions to be taken on board. This also reduces the need for separate and further permits of consents to be gained.

Both the CMA and Municipality have a duty of care to coordinate their activities and policies and this is doubly important where erosion and landslide risk exists. The landholder also has a duty of care but public agencies have a high duty of care because of their technical and scientific expertise and statutory duties.

The implementation of an EMO within a municipal planning scheme is one specific tool that can be used to address environmental issues arising out of or impacting upon new development. Interrelated issues of land stability, degradation, soil health, water quality and biodiversity can all be brought to bear in assessing the design, siting and overall proposal to appropriateness of proposals. Whilst an EMO is primarily a tool to regulate development, it can also be used to address issues of infrastructure location, public safety, cultural and heritage issues and offer mapping for strategic planning purposes. Existing development, and development for which a planning permit is not required, will also benefit from the flow effect on knowledge to adjoining land holders and land industries. This leads onto the improved land management practices message that under pin the advice and directions where permits are issued under the overlay. In some cases an EMO can also be used to address current or proposed land use such as agricultural activity. However, this matter has not been canvassed although it is recognised that erosion and as of right land use change are closely related and will eventually need to be examined in each catchment.

2.2 Liability

Public and private liability issues can arise out of situations where poor development design and decision making exists and it is important the responsible authorities are continuously improving their knowledge and improving public decision making procedures. Whilst system improvements can be made unless continual improvements are made, responsibility will not be diminished or shared equally. Much of the information now relating to land degradation and in particular landslide and erosion now lies within the public arena and needs to be shared and transferred to the professions responsible for land use and development. Significant information sources now include a database being constructed by the CCMA, studies conducted by the University of Ballarat and reports from other State and Federal government bodies such as the former Soil Conservation Authority (SCA). In addition information is also held by the responsible authorities themselves which may not be widely distributed within the organisation itself and this project has sought to align and integrate the best data into clear decision support procedures.

The implementation of an EMO will formalise the data standards, assessment methodology and access arrangements of information through a series of proposed incorporated planning scheme documents such as data inventories. It is also proposed to establish a centralised publicly accessible web-based system providing ready access to relevant information.

The process of dissemination of information is intended to avoid current issues of uneven access to information for geo-technical experts advising on these issues and to improve the up keep of the data sets as we learn more about the changing landscape. Often data systems such as this can be susceptible to being discarded, ignored or forgotten either by the authorities or those conducting the supporting studies and research.

2.3 Economic

One of the initial economic benefits of a municipality participating in the current EMO implementation program lies in sharing of the initial development costs of the program. It is anticipated that significant elements of the scheme developed comprise a low cost and these in the initial studies can be readily transferred to other municipalities in the regional ensuring a consistent planning and development approach across the catchment. For example, the methodology for erosion risk management developed in Phase 2 of the CoGG pilot study can be adopted for other shires. Similarly current developmental work planned by Colac Otway Shire and the CCMA on a web based information delivery system will benefit CoGG and other shires in the region.

However the major economic benefit of the implementation of an EMO for any municipality will lie in avoiding inappropriate developments in areas of high susceptibility to land degradation. Economic benefit will derive from reduced occurrence of existing or new erosion and its associated impacts both on-site and to receiving environments off-site.

In addition costs benefits will be gained from an anticipated reduction in the number of external peer reviews and associated Victorian Civil Administrative Tribunal (VCAT) arbitration hearings. This particularly applies to developments currently not governed by an EMO or weakly addressing erosion issues under other associated overlays. The targeted risk areas through the EMO will also ensure the developer address land degradation issues at the earliest possible time in the development process and avoid and minimise impacts by following guidelines before planning applications are made.

A Study conducted by the University of Ballarat (Feltham 2005) highlights a significant number of assets within 50 and 100 m of known occurrences of land degradation. Because these mapped occurrences form part of the basis for the final susceptibility maps and associated EMO, it is anticipated that a reduction in inappropriate development adjacent to such infrastructure will occur as a result of the more stringent requirements for development under the newly implemented EMO.

2.4 Environmental

Significant environmental benefit is expected to be derived from the implementation of EMO's throughout the CCMA region by providing water quality benefits through the reduction in landslide and erosion. The newly developed erosion risk management methodology clearly identifies the five asset classes commonly adopted by the CCMA (including the environment, flora fauna and biodiversity) as key elements at risk. This ensures such issues are included in any assessment where a report is required under the EMO.

Another significant benefit of the current investment in the healthy landscape program is that the overall CCMA Soil Health Strategy (and the associated program of EMO implementation) provides a consistent approach throughout the region. This can have significant benefit for the environment where natural processes are not governed by local government boundaries and impacts may be experienced far from the source.

2.5 Social

The implementation of an EMO is also expected to have significant social benefit. This is likely to occur through a reduction in the risk to life from landslide and inappropriate development in such high susceptibility areas. Much of the coastal public spaces in the CCMA region are susceptible to landslide including parts of the Bellarine Peninsula, and these are particularly under increasing pressure from adjoining residential subdivision and development such as surface and sub-surface drainage changes

Consistent and forward looking planning and regulation can reduce and or avoid the potential for loss of life and damage to what are becoming increasingly more expensive coastal dwellings and infrastructure.

3.0 Phase 1 - 2003/04

The initial Phase 1 stage of the implementation of an EMOEMO for CoGG was completed in August 2004. The work was undertaken to provide CoGG with a consistent framework for the management of risk associated with land degradation processes under the provisions of the Victorian Planning Scheme. Details of the initial phase of work are contained in the following report:

> *"Erosion Management Overlay for the City of Greater Geelong. Phase 1 Report". GHD Pty Ltd Report No 31/14896/42 dated August 2004.*

Outcomes of the Phase 1 project included:

- The establishment of a personal geodatabase to assist with data management and manipulation.
- Production of a series of preliminary susceptibility maps relating to various forms of land degradation including landslides, sheet, gully, rill, tunnel and wind erosion.
- Development of preliminary guidelines and policy notes.
- Recognition of the limitations in Phase 1 especially the need for refinement of susceptibility maps for a planning overlay and the development of an accompanying planning schedule.

Initial data used to populate the geodatabase was obtained form a diverse range of sources including newspaper articles, geotechnical reports, maps, journals, interpretation of aerial photographs and previous regional studies.

Initially 71 instances of mapped occurrences of land degradation were reviewed, collated and entered into the personal geodatabase which operates using Microsoft Access and Arc GIS software.

Preliminary susceptibility maps were also produced for the CoGG local government area boundary from previous regional maps produced by the Department of Primary Industry (DPI). Due to scale and accuracy issues as well as the initial methodology employed by DPI, the newly developed CoGG susceptibility maps were not recommended for immediate use at a planning scale. As a result further refinement and calibration of these maps was recommended for the next stage of the project.

Preliminary guidelines and notes on a proposed approach to administration and implementation of an EMO for COGG were also provided as part of the Phase 1 project. It was recognised that these guidelines and notes would ultimately provide input into the content of accompanying planning schedules needed for the final implementation of an EMO under the planning scheme.

4.0 Phase 2 - 2004/05

4.1 Erosion Risk Methodology

Whilst risk management techniques have been successfully applied to landslides in Australia (AGS 2000) the initial Phase 1 study identified a lack of a consistent framework for the application of risk management techniques to erosion. Whilst some forms of erosion hazard identification and assessment have been developed by the forestry industry and transport authorities, the approaches tend to be specific to the activity undertaken (i.e. road construction projects) and are difficult to transfer to other circumstances.

As a result, a risk based methodology for erosion risk management has been developed by A.S. Miner Geotechnical to address the limitations identified in the Phase 1 work.

The proposed methodology has been based on the overall approach developed in the Australian Standard on Risk Management (AS/NZS 4360:2004). In addition the proposed method and format have been aligned with the risk management concepts and guidelines developed for landslides by the Australian Geomechanics Society (AGS 2000).

The method uses the relationship for risk as follows:

Risk= Function (Likelihood and Consequence)

Likelihood is a function of both susceptibility and triggering events while consequence relates to life, infrastructure and the environment.

A detailed description of the proposed methodology including informative appendices is contained in the following report:

> "*Erosion Risk Assessment Methodology. EMO implementation project for the City of Greater Geelong." Prepared for Corangamite Catchment Management Authority. Report No 263/01. A.S.Miner Geotechnical July 2005.*

This document was submitted in July 2005 and is currently being reviewed by CCMA and will form part of the integrated framework for the implementation of EMO's within municipalities throughout the Corangamite region.

4.2 Additional Data Mapping

A spatial erosion and landslide database was created for the entire CCMA region under project funding supplied by the DPI to the University of Ballarat (UoB). The database has been compiled by Warren Feltham (Geology Honours student) under the supervision of Peter Dahlhaus (senior geology lecturer at UoB).

Mapping of erosion and landslide features has been undertaken using photographic interpretation techniques applied to the latest ortho-corrected photographs for each of the municipalities within the CCMA region. The study has resulted in 4175 land degradation features being mapped within the CCMA with over 465 erosion and landslide occurrences mapped within the CoGG local government boundary.

The final report was due to be submitted to the CCMA at the end of July 2005 and details of the report are as follows:

> *"CCMA Landslide and Erosion Database". Prepared by Warren Feltham. Bachelor of Applied Science (Honours) - Geology. Ballarat University July 2005.*

The additional data obtained during the UoB study has significantly added to the number of occurrences in the initial preliminary dataset established in Phase 1 of the project. This expanded data set has allowed more detailed calibration of the preliminary susceptibility maps and will be further added to after the results from the field verification program are received.

The erosion and landslide data base established by UoB is also currently being used to develop Resource Condition Targets as part of the Corangamite SHS. Breakdown of land degradation type and occurrence within each municipality within the CCMA is proving to be valuable data in understanding the economic and social impact of such processes throughout the region.

4.3 Field Verification Program with Landcare Groups

A program of community engagement utilising the services of local Landcare and community networks throughout the CCMA region was commenced in March 2005 by Troy Clarkson (DPI). The aim of the process was to verify the occurrence and details of the features mapped remotely from the ortho-corrected photographs.

Initial approaches were made to the Bellarine Landcare group and the Swan Bay Catchment Landcare network coordinated by Steve Smithyman. The process involved the provision of 1:20,000 scale field maps for each landcare area onto which the known erosion and soil degradation areas were mapped by members of the Landcare groups and returned to DPI. The marked up maps were then delivered back to UoB for inclusion within the erosion and landslide database.

Currently field maps have been produced for the entire CCMA region and are being delivered to the appropriate community groups. The completed maps are expected to be returned, verified and information transferred to the database by the end of 2005.

Further information on the program's progress can be obtained from Troy Clarkson (DPI) and/or Peter Dahlhaus (UoB).

4.4 Refinement of Phase 1 Susceptibility Maps

Refinement of the existing Phase 1 susceptibility maps is being undertaken by AS Miner Geotechnical in conjunction with Dahlhaus Environmental Geology Pty Ltd (DEG). Completion of the refinement process is focused on producing the required line-work and boundaries to allow the development of planning overlays for both erosion and landslide within the CoGG. The current intention is to produce separate overlays as follows:

- EMO1 Landslide.
- EMO2 Erosion (including sheet, rill, tunnel, gully, wind, stream bank and coastal dune, foreshore and beach).

The process is aimed at refining the preliminary Phase 1 maps produced from regional data (1:100,000) to larger scale maps (1:5,000) more suited to planning decision-making. The initial process of refinement has involved the overlaying of appropriate mapped occurrences on individual susceptibility maps and gauging the accuracy or otherwise of the proposed susceptibility ratings.

This initial work has generally indicated broad scale agreement at a small scale (1:100,000). However, significant variations in the accuracy of the line work and the postulated susceptibility when viewed at larger scales (1:10,000 and 1:5,000), have been noted in the initial calibration stages of the Phase 2 refinement work. The recent addition of field verification data from the Landcare groups into the erosion and landslide database has further highlighted accuracy and interpretation issues with the initial susceptibility maps.

As a result of the work undertaken during Phase 2, it has been concluded that it is <u>not</u> possible to directly produce defensible, planning scale maps from the initial preliminary susceptibility maps. The revised outcome of the Phase 2 work is now aimed at producing the next generation of susceptibility

maps at an intermediate scale of 1:25,000. This current process involves the inclusion of areas of mapped erosion and landslides and the provision of buffer zones around potentially susceptible areas such as streams and rivers not already contained within high susceptibility areas. No alteration to susceptibility area boundaries has been attempted so far.

Whilst the Phase 2 (1:25,000) susceptibility maps represent a significant refinement of the initial maps, it must be noted that they will not be used for the final formulation of the EMO boundaries. As a result, further refinement of these 1:25,000 scale maps is still required to produce planning scale maps at 1:5,000.

Further refinement work now required under Phase 3 of the project will include a review of the original datasets including geology, geomorphological units and terrain categories. Boundaries need to be reviewed, assessed and altered as appropriate utilising the mapped data and the ortho-corrected aerial photographs. In addition the use of GIS techniques to allow an assessment of the importance of other factors such as geology, rainfall, slope length, slope angle, vegetation and land use and landform may also now be required to further refine both the susceptibility ratings and the boundaries between different susceptibility areas. Buffer zones including provision for landslide travel distance and zones of potential impact around susceptible features such as stream are also intended to be reviewed and added to the current maps.

Initially intended for completion by the end of June 2005, the refinement process has proven to be more challenging than initially anticipated and the development work is currently continuing. Completion of the 1:25,000 scale next generation susceptibility maps is scheduled for mid August 2005 and will represent the end of the Phase 2 refinement process. The new date for completion of the Phase 3 refinement to allow planning scale maps and the EMO boundaries to be produced is yet to be confirmed.

4.5 Development of Preliminary Planning Schedules

As indicated previously it is intended to produce two planning overlays: EMO1 (landslide) and EMO2 (erosion). As such, accompanying planning schedules to the proposed overlays are currently being developed for incorporation into the CoGG planning scheme.

Initial drafts of the two schedules have been developed and are currently under review by CoGG's planning department and the environment and natural resource department. Details of the draft schedules are as follows:

> *"Schedule 1 to the Erosion Management Overlay. Shown on the planning scheme map as EMO1. Land susceptible to Landslide".*
>
> *"Schedule 2 to the Erosion Management Overlay. Shown on the planning scheme map as EMO2. Land susceptible to Erosion (Land degradation excluding Landslide)".*

As yet the schedules are still in a developmental stage and the final format and content is dependent on the model adopted by CoGG for the administration and implementation of the new EMO's within the CoGG planning scheme.

The schedules reflect a proposed approach aimed at minimising the need for additional resources within CoGG either employed directly or through the services of an external consultant. The current versions of the schedules are relatively prescriptive with respect to the processes and requirements needed to be satisfied by an applicant where the overlays apply.

The schedules make reference to a series of referred documents governing such issues as:

- Public information.
- Inventory of information on landslides and erosion and relevant sources of data.
- Internal CoGG procedures manual and guidelines.
- External referral authority procedures manual and guidelines.

The adoption of an administrative and implementation model is yet to be resolved and discussions are currently being undertaken with key stakeholders in the development of a regional framework such as the Department of Sustainability and Environment (DSE), DPI and CCMA.

4.6 Pilot Acid Sulfate Soil Study for CoGG

A scoping study on the potential occurrence of Acid Sulphate soils in CoGG undertaken by CSIRO was commissioned by DPI in March 2005.The study identified areas within COGG of high ASS susceptibility developed in previous regional studies within the CCMA region. A limited number of sites were tested with initial results indicating somewhat lower potential for ASS than suggested in the earlier reports.

The study report was finalised and submitted to CCMA in July 2005. Details of the report are as follows:

> *"Investigation into the potential risk of acid sulphate soils on proposed development in the City of Greater Geelong'. Report to the City of Greater Geelong, The Corangamite Catchment Authority and the Victorian Department of Primary Industries. CSIRO Land and Water Client Report, July 2005.*

5.0 EMO Proposal 2005/06 (Phase 3)

The combined work under Phase 1 and 2 of the EMO implementation project for CoGG has yielded significant progress in achieving the overall aims of the initial pilot project established by the CCMA and CoGG. The intention is to finalise the implementation of an EMO for CoGG by June 2006. In order for the EMO to be implemented for CoGG as planned, a number of outstanding issues still remain to be finalised under Phase 3 of the project. As such recommendations for further work under Phase 3 of the project are made as follows:

5.1 Overlays and Schedules

Outstanding issues and tasks relating to overlays and schedules include

- Completion of the final refinement process of the susceptibility maps taking into account original data sets, GIS techniques, the latest inventory data, process boundaries and scale issues (see section 4.4 for detail).
- Production of the boundaries and line-work for the EMO overlay.
- Preparation of EMO 1 and EMO 2 overlays in format compatible with the requirements of DSE.
- Discussion (via a workshop) of issues relating to the preliminary planning schedules and the proposed administration process with all appropriate stakeholders.
- Finalising the content of the planning schedules.
- Preparation of planning schedules 1 and 2 in a format compatible with the requirements of DSE.

5.2 Referred and Incorporated Documents

A series of referred or incorporated documents need to be developed to support the schedules and overlays and these may include:

- Report on data inventory and bibliography of relevant information relating to the occurrence of erosion and landslides in CoGG and the wider CCMA region.
- Erosion and landslide risk assessment guidelines and procedures manual for CoGG and potentially other municipalities within the wider CCMA region.
- Erosion and landslide risk assessment guidelines and procedures manual for DPI or another authority acting as a referral authority to the proposed scheme.

5.3 Data Collection

Ongoing collation of erosion and landslide information remains an important element of the proposed system and as such the following issues require continuing attention:

- Completion of the data gathering and field verification process with Landcare and community groups commenced in Phase 2.
- Review, ratification and incorporation of this new data into the existing erosion and landslide database.

5.4 Data Management

In addition to data collection, other data management and information issues also need to be resolved including:

- Establishing a data repository model and data delivery system probably as a web based system.
- Finalising details for an appropriate authority or organisation to act as data managers.
- Finalising details for ongoing data updating and management.
- Producing a series of public information pamphlets and documents discussing the EMO implementation and the needs for the new scheme within CoGG and throughout the region.

5.5 Policy and Strategic Issues

Finally, broader policy and strategic issues need to be resolved to allow the final development of the preferred model for implementation and administration of EMOs within the CCMA region. Such issues may include:

- The role of DPI or another authority as a referral authority for issues such as erosion under the planning scheme.
- Resourcing and funding arrangements to allow the proposed scheme to function effectively for all municipalities within the CCMA region.
- Application of the model and scheme at a State level.
- Implications of any changes to landslide and erosion risk management guidelines and policy currently being undertaken at a National level.

Many of the outstanding issues discussed in the sections above are inter-related and will have significant implications on final aspects of any scheme adopted throughout the CCMA region. However it is hoped that the pilot study for the implementation of an EMO for CoGG can be completed by the scheduled completion date of June 2006. It is emphasised that the cooperation and commitment of both the CoGG and the CCMA is critical to the successful completion of this project.

5.6 Proposed Co-investment Arrangements

Table 2 outlines the proposed co-investment arrangement between CoGG and CCMA to complete Phase 3 of the CoGG EMO pilot study for 2005/06.

Table 2: Proposed co-investment arrangement between CoGG and CCMA to complete Phase 3 CoGG EMO pilot study.

Output	Delivering Responsibility	CCMA investment	GoGG investment
Final Schedules for EMO1 (landslides) and EMO2 (erosion)	Consultant	$2,000	0
Consultant Planner Review	consultant	$4,000	$4,000
Inventory and bibliography of relevant information and databases relating to the occurrence of erosion and landslides in CoGG REPORT	consultant	$1,500	0
Refine the existing EMO overlay, including susceptibility maps for LANDSLIDE and EROSION, field checking, revise line work.	consultant	$6,000	$6,000
Erosion and landslides risk assessment guidelines and procedure for CoGG MANUAL	consultant	$12,000	0
Public Information PAMPHLETS (initially for CoGG and then GENERIC dor CCMA)	DPI	$2,000	0
Final EMO1 and EMO2 maps prepared for DOI PLANNING SCHEME OVERLAYS	Consultant	$4,000	0
TOTAL		$31,500	$10,000

6.0 Project Expectations and Commitment

6.1 CCMA Expectations of CoGG to complete and implement the EMO

The CCMA have invested a large proportion of the overall budget to date into the development of the CoGG EMO. It is the CCMA's belief that EMOs will reduce the impact caused by landslides and soil erosion on the community, natural resources and the environment especially waterways. As a part of the co-investment process, the CCMA has a number of expectations of the CoGG associated with the program for the implementation of the EMO. These expectations include:

1. The CoGG will commence the process of implementation of the EMO as it falls under the CoGG Planning Scheme and will require CoGG to amend the planning scheme by July 2006.
2. The Planning and Environmental departments at the CoGG will be actively involved in reviewing and commenting on the draft EMO within agreed time lines.
3. Reports, data and other information associated with the development of the CoGG EMO will be provided to the CCMA and be available to other municipalities to develop their own EMOs.
4. Data-sharing arrangements for the CoGG EMO including central data repository and delivery systems are to be discussed and actions agreed to further improve data sharing amongst local government, state government, CCMA and private sectors.
5. Implementation of the CoGG EMO will involve both EMO1 (landslides) and EMO2 (Soil erosion) with both schedules approved under the planning scheme.

6.2 CCMA and DPIs Commitment to Finalise CoGG EMO

The CCMA co-invested with CoGG with the understanding that they would be committed to complete the process of EMO implementation. As such the CCMA will assist the CoGG to implement EMO1 and EMO2 where the actions are consistent with the overall objectives of the CCMA.

The CCMA is committed to:

1. Implementing a consistent framework throughout the CCMA region to allow the outcomes from the staged approach to benefit all participating municipalities.
2. Referring the draft EMO to all appropriate stakeholders to be reviewed to ensure that it is to the quality needed for endorsement and effective implementation.
3. The development of an effective referral authority process for the EMO that makes the implementation of the schedules simple for planners and does not incur unnecessary extra costs to CoGG.
4. Facilitating the development of actions that improve data-sharing and data delivery arrangements between CoGG, CCMA and other stakeholders.
5. CCMA will co-invest with CoGG dollar for dollar (with a $10,000 limit) with any panel hearing costs associated with the EMO consultation process.

7.0 Recommendations

Table 3 outlines the CCMA recommendations lines for activities needed to complete the CoGG EMO.

Table 3: Recommendations to complete the CoGG EMO pilot study.

Recommendation	Time line	Agency leader
1. Conduct a meeting with appropriate CoGG staff to discuss the proposal to complete the CoGG EMO.	30th August, 2005	CCMA/DPI
2. Conduct meetings to develop actions aimed at improving data-sharing arrangements for the EMO between CCMA, CoGG and other key stakeholders.	By September 2005	CCMA/DPI
3. CCMA to formally recommend to CoGG to make amendments to their MSS to include the EMO.	By September 2005	CCMA
4. Conduct a meeting between CCMA, DSE, City of Greater Geelong and Colac Otway to discuss possible pilot schedules associated with each of the EMOs.	By October 2005	CCMA
5. Develop a project brief and employ a consultant to complete Phase 3 of the CoGG EMO.	By October 2005	CCMA/DPI
6. Planning and environmental staff from CoGG to provide comment on the draft EMO.	By April 2006	CoGG
7. Hold a workshop to discuss detailed issues with both the schedule and associated documents.	By April 2006	CCMA/DPI
8. Present to a Councillors meeting on the development of the CoGG EMO to gain a Council resolution to proceed with an amendment to the Planning Scheme.	By May 2006	CoGG
9. Council to consider draft EMO amendment documentation and resolve to exhibit.	By May 2006	CoGG
10. A formal agreement (Memoriam of Understanding MOU) between the CCMA and CoGG, to ensure that the CoGG EMO is actively implemented.	By June 2006	CCMA & CoGG
11. DSE to authorise exhibition of Planning Scheme Amendment	By June 2006	DSE / CoGG
12. Amendment Exhibition	July / Aug 2006	CoGG
13. Council to consider submissions and refer submissions to a panel if necessary (see section 23 of P&E Act)	September 2006	CoGG
14. Panel hearing	December 2006	CoGG
15. Panel to prepare report	January / Feb 2007	Panel
16. Council to consider panel report and approve amendment	March 2007	CoGG
17. DSE / Minister to approve amendment	April / May 2007	DSE / Minister
18. Council to update planning scheme and commence implementation of EMO	May 2007 (upon gazettal)	CoGG