

FACT SHEET

Geotechnical Assessments

COMMUNITY
RESILIENCE

31 MARCH 2016

The following advice is to assist in the preparation of information for planning permit applications for dwellings in the bushfire affected areas of Wye River and Separation Creek.

Landslide Risk

Wye River and Separation Creek are highly susceptible to landslip, with a number of landslides recorded in parts of the settlement. This means it is critically important that any new development is well designed to respond to the landslip risks.

The Colac Otway Planning Scheme has an Erosion Management Overlay (EMO1) which normally requires planning permits for any new buildings or site works (with some minor exemptions). Applications for a permit require that information is provided on the specific geotechnical conditions of a property. The applications must demonstrate that the nature of the works proposed, including design of building footings, site cut and fill, vegetation removal and on-site waste water treatment proposals, would be implemented in a way to ensure the safety of occupants of the site and surrounding properties.

Under the streamlined planning controls, a permit for a single dwelling will be required and any application will need to include specialist information on landslide risk which will need to be commissioned by land owners for their site.

State Government Geotechnical Assessment (Coffey Report)

The State Government commissioned an external consultancy, Coffey Environments Australia, to conduct a broad geotechnical assessment of Wye River and Separation Creek. This assessment will provide property owners, architects, designers, engineers, insurers and builders with preliminary advice to inform the choice of dwelling style and type in line with the constraints identified.

Once they have decided on the design and location of their replacement dwelling and prior to submitting an application for a planning and building permit, land owners will need to engage a suitably qualified Geotechnical Practitioner to produce an assessment for their specific site. This is because each property will have individual constraints requiring a site specific solution for any particular dwelling design and associated structures such as retaining walls.

The Coffey assessment does not provide the full extent of information required for individual planning and building permit applications. This is because the nature of the proposed building design and site works, vegetation removal and waste water treatment will only be known once development plans are prepared by the property owner .

What needs to be submitted for an application for a planning permit?

A detailed site specific Geotechnical and Landslide Risk Assessment will need to be submitted with a planning application. This will need to be prepared by a suitably qualified and experienced Geotechnical Practitioner to address landscape hazards in accordance with the *AGS Guidelines 2007*.

The Geotechnical Practitioner needs to undertake an on-site inspection and record site conditions to inform their work which should include geological/geomorphological mapping and may include collecting and testing of soil samples. It is important this person is engaged early in the design process so that their geotechnical advice can be used to inform the design and placement of the dwelling to best respond to the landslide risk for that particular site. The report needs to be prepared based on the specific design of the building proposed.

The Geotechnical Practitioner will make recommendations which need to be followed in the construction of the building, including the nature of building footings, drainage and retaining structures. When planning permits are issued, conditions are included that require a land owner to follow these recommendations. Any Building Permit issued must reflect the geotechnical recommendations.

There is a strong relationship between proposed methods of disposing of treated wastewater on a property and geotechnical risk. Assessments of landslide risk must therefore be developed in conjunction with techniques to manage on-site waste water treatment and disposal. It is therefore useful for these assessments to be undertaken at the same time, so that they inform each other.

For further information:

Please contact the Bushfire Recovery line on (03) 5232 9400, and press 1 for further advice and assistance, or to make an appointment with a planner at the One Stop Shop.

Appendix: Information to be submitted with Planning Applications

The Erosion Management Overlay (EMO1) contains a two tiered assessment process:

- Geotechnical Assessment (initial level)
- Landslip Risk Assessment (second more detailed level)

Given most properties in Wye River and Separation Creek have natural slopes on or immediately adjacent that exceed the slope angle threshold set for the local geology (being the extensive Eumeralla Formation (Otway Group)), these properties will require the more detailed Landslip Risk Assessment report.

The Landslip Risk Assessment must include all information required in a Geotechnical Assessment report (which is considered minimum baseline information) plus a full risk assessment in accordance with the requirements of the AGS 2007 guidelines.

As such, base information about the site must include:

- A detailed site description typically including aspects of the site geomorphology, site drainage and site physiography including slope and aspect. It should also include other site features such as existing development, access roads, retaining walls and site excavations and/or fills.
- Site assessment plans and cross sections of the property and surrounding land that may contribute to or be affected by instability at the site. This should include contours and ground slopes drawn to scale and dimensioned from a survey and recent field measurements. The plan and section should be separate from any geological model or stability model provided as additional analysis/assessment information.
- A detailed assessment of subsurface conditions including both surface and subsurface geology. Such information is vital in developing a geological model for the site and should include any exposures or outcrops as well as groundwater discharges or seeps
- The above information should then be summarised in a description of a geological/ geotechnical model for the site.
- Details of all site investigations and any other information used in developing the assessment.

The purpose of the base information is to effectively describe key aspects of the site in detail so as to clearly establish a context for the site conditions prior to the proposed development.

The risk assessment component of the submitted report must include an assessment for risks for all reasonably identified geotechnical hazards and must be undertaken for risks to *'life'* and risk to *'property/infrastructure'*. Qualitative and quantitative calculations must be included in this assessment.

Other recommendations regarding the development must also be included where they have influence on the final recommendation for approval. These include:

- Determination of appropriate founding depths
- Location and depth of cuts and fills,
- Construction of retention systems

- Details of surface and sub-surface drainage

Vegetation retention

- Drainage and effluent disposal
- Need for ongoing mitigation measures
- Timeframes for completion of works
- Any other geotechnical approvals

The Landslip Risk Assessment Report must include a specific statement that the property is suitable or can be made suitable for the proposed development and that the subject lot or the proposed development can meet the **TOLERABLE RISK** criteria as defined in the Erosion Management Overlay schedule.

A more detailed list of the information to be submitted with these reports is contained in the Erosion Management Overlay Schedule 1

Finally, planning applications must be accompanied by a Geotechnical Declaration and Verification Form (Form A)