

10/03/2016  
C151**SCHEDULE TO THE EROSION MANAGEMENT OVERLAY**

Shown on the planning scheme map as **EMO**.

**1.0**03/12/2009  
C40**Statement of nature and key elements of land susceptible to landslip**

The Shire contains areas of land which are susceptible to landslip, including land in the Dandenong Ranges, Silvan, the Don River Valley and Warburton.

A number of geotechnical studies have been undertaken, in various forms, in the former Shires of Lillydale, Upper Yarra, Healesville and Sherbrooke and in the broader region administered by the former Upper Yarra Valley and Dandenong Ranges Authority.

The Shire of Yarra Ranges subsequently adopted a shire wide slope stability classification system and guidelines for the development of land potentially affected by landslip.

All land included in the Erosion Management Overlay has been identified as having a sufficiently high risk of potential instability to warrant specific review of these risks prior to the issue of a planning permit. The control of environmental factors and development such as vegetation cover, drainage, rock and soil disturbance and effluent and stormwater disposal are important in managing the risk of landslip.

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C151**Definitions**

**AGS Guidelines 2007** means the article entitled 'Practice Note Guidelines for Landslide Risk Management 2007' published in the Journal of the Australian Geomechanics Society, Vol. 42 No 1 March 2007.

**Geotechnical Practitioner** means a specialist Geotechnical Engineer or Engineering Geologist who is degree qualified, is a member of a professional institute, and who has achieved professional status as a:

- Chartered Professional Engineer (CPEng); or
- Chartered Professional Geologist (CPGeo); or
- Registered Professional Geologist (RPGeo);

with experience in the management of slope stability problems and landslip risk management as a core competence to the satisfaction of the Responsible Authority.

**Landslip** means the movement of a mass of rock, debris or earth down a slope. This includes debris flow, which is the rapid flow of water saturated soil or rock debris.

**Tolerable Risk** means for new development or changes to existing development a risk to life and/or a risk to property which:

- For loss of life for the person(s) most at risk, is taken as having a probability of no greater than  $10^{-5}$  (1:100,000) per annum calculated in accordance with AGS Guidelines 2007;
- For property loss is 'Low' or 'Very Low' assessed qualitatively using AGS Guidelines 2007 and specifically Appendix C to that document.

**3.0**03/12/2009  
C40**Objectives**

- To manage the risk of landslip.
- To ensure that development can be carried out in a manner which will not adversely increase the landslip risk to life or property affecting the subject land or adjoining or nearby land.

- To ensure that on land where a Landslip Risk Assessment is required development is not carried out unless the risk associated with the development is a Tolerable Risk.
- To ensure that applications for development are supported by adequate investigation and documentation of geotechnical and related structural matters.
- To ensure that development is only carried out if identified geotechnical and related structural engineering risks to life and property are effectively addressed.
- To ensure that development is appropriate to be carried out either conditionally or unconditionally, having regard to the results of those geotechnical and related structural investigations.
- To ensure that approved development is thereafter appropriately maintained.

#### 4.0 Exemptions from permit requirements

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No permit is required to construct or carry out any of the following buildings or works.

- Earthworks, either separately or as part of a buildings or works proposal, provided:
  - No cut or fill greater than 0.6 metres in height or depth is required;
  - No change is made to constructed drainage or fixed irrigation systems.
- Removal or destruction of any vegetation, either separately or as part of a buildings or works proposal, provided it is:
  - Having a trunk circumference less than 0.5 metres at one metre above the ground; or
  - Within 2 metres of a building; or
  - Dead and the roots below ground level are retained.
- Pruning provided it is for the purpose of improving a tree or shrub's health or structural stability in accordance with normal horticultural practice for the species involved.
- A fence of:
  - Post and wire construction; or
  - Paling construction, supported by posts and rails, where the base of the fence is at least 75 mm above the ground surface.
- Extensions or internal alterations to an existing building provided:
  - If the land is unsewered, approval to alter or install a wastewater system is required under the Environment Protection Act 1970.
  - There is no increase in the ground surface area covered by roofed buildings or structures greater than 20 square metres;
  - Stormwater from the roof is drained to the legal point of discharge.
- Non-habitable structures ancillary to a dwelling, including carports and garden sheds, provided:
  - The structure is constructed of lightweight, flexible materials (not bricks, concrete blocks or similar);
  - The ground surface area occupied by all such structures on the property does not exceed 40 square metres;
  - The slope of the land within 20 metres of the shed is 20 percent or less;
  - Stormwater from the roof is drained to the legal point of discharge.
- A permeable, uncovered deck provided:

- The slope of the land within 20 metres of the deck is 20 percent or less;
- There is no increase in the ground surface area covered by the deck greater than 20 square metres.
- A building associated with agricultural activities provided:
  - The building is constructed of lightweight, flexible materials (not bricks, concrete blocks or similar);
  - The ground surface area occupied by the structure does not exceed 40 square metres;
  - The development would result in not more than two such structures existing on the subject property;
  - The slope of the land within 20 metres of the shed is 20 percent or less;
  - Stormwater from the roof is to the legal point of discharge.
- A domestic rainwater tank with a capacity of not more than 4500 litres provided it is constructed at ground level or above.
- A building:
  - Used for the storage of building materials and equipment; and
  - Not exceeding 10 square metres in floor area;
  - temporarily located on the subject property for the duration of building construction works allowed or approved under this scheme.
- A retaining wall that:
  - Does not exceed one metre in height,
  - Is not associated with other building construction work; and
  - Does not provide landslip protection for any adjoining land.
- Landscaping water features provided it does not entail ponding of more than 500 litres of water.

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### Application requirements

An application for a planning permit must be accompanied by, to the satisfaction of the responsible authority:

- Development Plans;
- A written Geotechnical Assessment of the proposed development in relation to existing conditions.
- A written Landslip Risk Assessment of the proposed development in relation to existing conditions, if the Geotechnical Assessment or other landform data, indicates natural slopes on or immediately adjacent to the subject lot which:
  - are steeper than 20 percent in Tertiary Basalt areas; or
  - are steeper than 30 percent in all other areas; or
  - exhibit evidence of possible or past landsliding on or immediately adjacent to the site;
  - or where, in the opinion of the Responsible Authority, the Geotechnical Assessment is not sufficient to determine that the development can be carried out in a manner which will not adversely increase the landslip risk to life or property affecting the subject lot or adjoining or nearby land.

- A Geotechnical Declaration and Verification Form.

### **Development Plans**

Development plans, must be drawn to scale, dimensioned and based on survey, and show:

- The proposed development, including a site plan and building elevations, and any proposed cut and fill, retaining wall or effluent disposal system;
- Any existing development, including buildings, water tanks and dams on both the subject lot and adjacent land, cut and fill, stormwater drainage, subsurface drainage, water supply pipelines, sewerage pipelines or effluent disposal installations and pipelines and any otherwise identified geotechnical hazard;
- Details and location of existing vegetation, including any vegetation to be removed.

### **Geotechnical Assessment**

A written Geotechnical Assessment must be prepared or technically verified by a Geotechnical Practitioner and must include, to the satisfaction of the Responsible Authority:

- Details of the Geotechnical Practitioner and his or her qualifications and experience, including without limitation experience in the management of slope stability problems and landslip risk management.
- A statement that the assessment is based on field survey measurements which have been undertaken not more than 12 months prior to the application for planning permit or if field survey measurements are older than a signed statement from the geotechnical practitioner that the measurements remain valid.
- A detailed site description.
- Site assessment plans and cross-sections of the subject lot and related land form survey and field measurements with contours and ground slopes, as measured, shown and drawn to scale and dimensioned.
- A detailed assessment of subsurface conditions, including the underlying geology.
- A statement indicating whether there are natural slopes on or immediately adjacent to the subject lot which:
  - are steeper than 20 percent in Tertiary Basalt areas; or
  - are steeper than 30 percent in all other areas; or
  - exhibit evidence of possible or past landsliding on or immediately adjacent to the site.
- A detailed description of any evidence of slope instability.
- Details of all site investigations and any other information used in preparation of the geotechnical report.
- Whether site investigation requires subsurface investigation that may involve boreholes and/or test pit excavations or other methods necessary to adequately assess the geotechnical/geological model for the subject lot and details of all such investigations, boreholes, test pits or other methods.
- A conclusion which:
  - Is supported by the data and all stated assumptions contained in the assessment and is capable of being verified by a peer review.
  - States whether or not a Landslip Risk Assessment is required.

- Where it is considered that a Landslip Risk Assessment is not required, states that, in the opinion of the Geotechnical Practitioner, the development can be carried out in a manner which will not adversely increase the landslip risk to life or property affecting the subject lot or adjoining or nearby land.
- Provides justification, including any necessary calculations, for the conclusion.
- States whether or not the development should only be approved subject to conditions and, if so, states recommendations of what conditions should be required, including but without limitation conditions relating to:
  - The determination of appropriate footing levels and foundation materials and in any structural works, including all footings and retaining walls;
  - The location of and depth of earth and rock cut and fill;
  - The construction of any excavations and fill and the method of retention of such works;
  - Any details of surface and sub-surface drainage;
  - The selection and design of a building structure system to minimise the effects of all identified geotechnical hazards;
  - Retention, replanting and new planting of vegetation;
  - Any drainage and effluent discharge;
  - Any necessary ongoing mitigation and maintenance measures and any recommended periodic inspections, including performance measures;
  - The time within which works must be completed after commencement and the location/s and period in which materials associated with the development can be stockpiled;
  - Any requirements for geotechnical inspections and approvals that may need to be incorporated into a construction work plan for building approval purposes.

### **Landslip Risk Assessment**

A written Landslip Risk Assessment must, to the satisfaction of the Responsible Authority:

- Be completed by a Geotechnical Practitioner.
- Contain a copy of or include the Geotechnical Assessment prepared for the subject land and proposal and, if not prepared by the Geotechnical Practitioner preparing the Landslip Risk Assessment, contain a response by the Geotechnical Practitioner preparing the Landslip Risk Assessment that the findings and conclusions of the Geotechnical Assessment are agreed with.
- If the geotechnical practitioner preparing the Landslip Risk Assessment does not agree with the findings and conclusions of the Geotechnical Assessment for the subject land and proposal, another Geotechnical Assessment must be prepared by that Geotechnical Practitioner.
- Be based on field survey and measurements which have been undertaken not more than 12 months prior to lodgement of the application for planning permit or if field survey measurements are older than 12 months a signed statement from the geotechnical practitioner that the measurements remain valid.
- Include a full assessment of the risk posed by all reasonably identified geotechnical hazards which have the potential to, either individually or cumulatively impact, upon people or property on the subject lot or related land. This assessment must be in accordance with AGS Guidelines 2007.

- Contain a conclusion as to whether the subject lot is suitable for the proposed development. This must be in the form of a specific statement that the subject lot is suitable, or can be made suitable, for the proposed development and that the subject lot and/or the proposed development can meet the tolerable risk criteria, as defined in this schedule. The report must specify all conditions required to achieve this outcome.

At all times, any decision regarding the degree of investigations and assessment required must be dictated by the consideration of risk to life and property.

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### Independent Review

The responsible authority may require a Geotechnical Assessment and/or a Landslip Risk Assessment that has been submitted with an application, to be reviewed by an independent geotechnical practitioner at the applicant's cost.

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### Decision Guidelines

Before deciding on an application, the responsible authority must consider:

- The recommendations of the Geotechnical Assessment, any Landslip Risk Assessment and any other information accompanying the application;
- The advice of any Geotechnical Practitioner who has reviewed the application;
- The risks associated with the development requiring ongoing monitoring and maintenance of all mitigation measures;
- The risks associated with non-compliance with any conditions of any permit which may be subsequently issued.

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### Permit Conditions

The responsible authority must ensure that any permit issued for the construction of a building, works or the removal of vegetation contains those conditions recommended by the Geotechnical Assessment or, where applicable, the Landslip Risk Assessment or any Geotechnical Practitioner engaged to review those assessments.

Prior to the occupation of any building or structure or the commencement of any use authorised by the permit, the applicant must submit to the responsible authority a statement made by the Geotechnical Practitioner, who prepared the Geotechnical Assessment or Landslip Risk Assessment, stating that the conditions have been complied with and the permitted development is suitable to be used or occupied for the purpose for which permission has been granted.

### References

Journal of the Australian Geomechanics Society, Vol. 42 No 1, March 2007.

'Landslip Zoning of the Shire of Yarra Ranges' Coffey Partners International Pty Ltd Report No M2964/1-CF, Sept 1999

'Study of the Risk of Debris Flows and Other Landslips, Montrose, Victoria' Coffey Partners International Pty Ltd Report No M2120/1-AJ Volumes 1, 2 & 3 dated August 1991 and Volume 4 M2120/1-AL, April 1992.