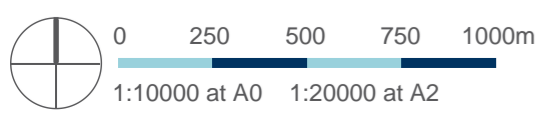


DRAWING KEY

- BOUNDARIES**
- Study Area Boundary
- GEOTECHNICAL**
- No Significant Geotechnical Issues Expected
- Detailed Geotechnical Investigation Required
- Complex Geotechnical Investigation Required
- Environmental Investigation Required
- Indicative Extent of Shallow Rocks (<0.5m Depth)
- Steep Slope - 10% Gradient or Above
- Historical Rock Falls
- NATURAL FEATURES**
- Escarpment
- 2.5m Contours
- Major Watercourse
- Minor Watercourse
- MOVEMENT NETWORK**
- Freeway / Highway
- Major / Arterial Road
- Local Road
- Railway

**WORKING DRAFT
FOR CONSULTATION
SUBJECT TO CHANGE**



NORTHERN GEELONG GROWTH AREA

GEOTECHNICAL, HYDROGEOLOGICAL & ENVIRONMENTAL

GEOTECHNICAL / HYDROGEOLOGICAL / ENVIRONMENTAL

NORTHERN GEELONG GROWTH AREA

- Land capability assessments have been undertaken to consider the feasibility and limitations of land development within the growth areas.
- Preliminary land capability assessments have considered the geological (earth structure and substance), hydrogeological (groundwater) and contamination (ground conditions due to existing/previous land use) characteristics of the growth areas.
- Both growth areas feature interesting and challenging topography, including areas of slope and steep and uneven terrain. Further investigation will be required in subsequent precinct structure planning processes to identify slope stability in some areas.
- Buildings and infrastructure in areas of significant slope may require a specific design response at a reduced dwelling density.
- Environmental assessments and remediation measures would be required in areas of significant potential for contamination, and limitations may be required on future land use where remediation is not possible.

Significant features

- The key geological feature is the Lovely Banks Monocline (steep ridge). This slope runs north east to south central.

Topography (land shape and slope)

- The study area is dominated by areas of relatively flat land with generally low slopes, except for the monocline which has gradients of approximately 3% up to approximately 15%.

Geology (physical structure and substance of the earth)

- The study area is underlain predominantly by Quaternary aged Newer Volcanic deposits, as expected within the western and south western region of Victoria
- Tertiary aged Moorabool Viaduct Sands and Fyansford Formation deposits are expected near the east-central and north eastern sections
- The Lovely Banks Monocline has been identified as a key geological feature and can be generally identified as 'younger' movement potentially during the Pliocene to Quaternary age
- On a broad scale, the presence of shallow continuous bedrock and highly reactive and expansive soils (meaning they shrink and swell with seasonal changes in moisture conditions) would act as constraints in construction of buildings and infrastructure.

Hydrology (surface water movement)

- The nearest significant surface water features include Cowies Creek and the Moorabool River to the south west and Elcho Drain to the east.

Hydrogeology (groundwater)

- The underlying aquifers (permeable rocks that contain or transmit groundwater) are indicated to be within the Quaternary age Newer Volcanics basalt and the Tertiary age Moorabool Viaduct Formation Sand. The study area is within the Western Port Phillip Bay Groundwater Catchment.

Environmental

- Historically the study area has been used for agricultural purposes or low density residential use
- Potential for localised contamination could be found at:
 - » Barwon Water 'Lovely Banks Basins' water storage reservoir in the south western section of the study area since pre-1928
 - » Former airfield central to the growth area
 - » EPA Priority Site at 225 Staceys Road, Lovely Banks – waste storage
 - » Operating service station on the Geelong Ring Road in the south of the growth area
 - » Several market gardens and orchards – application of pesticides and herbicides
 - » Farming and agricultural activities throughout the growth area

Next Steps

- Further investigations may be required to evaluate land capability in relation to the above sites as part of subsequent precinct structure planning processes.
- The escarpment zone in proximity to the Lovely Banks Monocline will need further geotechnical investigation to identify development requirements including any buffer zones and setback distances.