

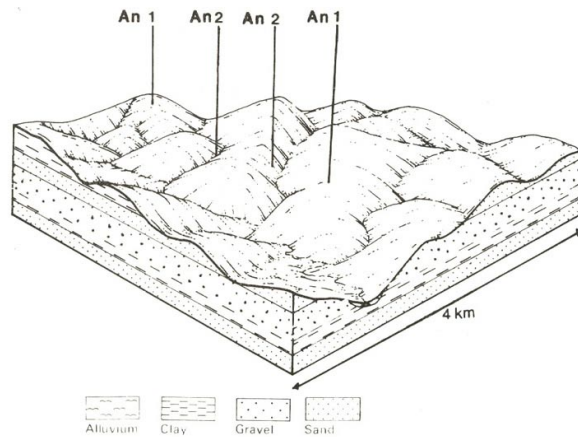
HILLY TO UNDULATING TERRAIN ON TERTIARY SEDIMENTS

Land system: Anderson (An) Westbury (Wy) – Freehold land and public land

This land type consists of rounded hills with moderate to steep slopes, and some undulating to gently rolling low hills with broad rounded crests and gentle planar slopes. The underlying geology is dominantly late Tertiary gravels, sands, ferruginous sands and clays (TG, TPH). The steeper, more dissected hills with higher relief belonging to Anderson land system are most common within the freehold area to the south and east of Willow Grove. The more gentle areas to the south and east of Tanjil South.

The soil types are variable, reflecting the nature of underlying parent materials. They are generally deep and somewhat poorly drained. Dispersible silty layers, gravel bands or pale kaolinitic clay 'lenses' may occur at various depths throughout the soils.

The native vegetation, now substantially cleared, consisted of an open forest of such species as yertchuk (*E. consudeniana*), messmate (*E. obliqua*), narrow-leaf peppermint (*E. radiata*) and less commonly silvertop (*E. sieberi*).



Anderson Land System & Components (Public and Freehold areas)

Public land

Within areas of public land two components are recognised, An1, representing areas with uneven moderate to gentle slopes, and An2, for the areas with steeper slopes, including minor drainage channels.

Freehold land

Within the freehold land, six basic mapping units have been delineated. Two crest areas, CR3 and CR4, have been separated on the basis of soil type and drainage properties, and the sideslopes to hills separated into four slope classes SS1c, 2c, 3c and 4c.

HILLY TO UNDULATING TERRAIN ON TERTIARY SEDIMENTS

Map Unit: CR3
 CR3 – Crests and upper slopes with somewhat poorly drained soils.

Extent of Occurrence:
 490 ha – generally in the Will Grove region (Freehold land only)

Landscape: Generally extensive, broad crests and upper hillslopes.

Slope Range: 0-5% *Elevation Range:* 80-200 m

Relief: 1-10 m *Surface Drainage:* Moderately well

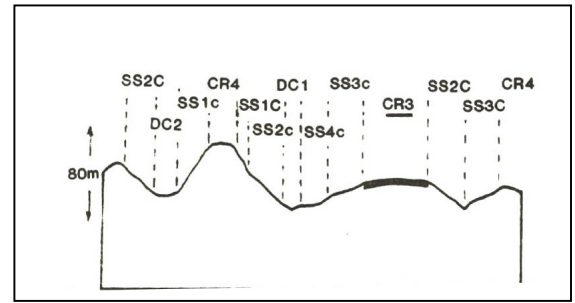
Soils: Mottled yellow duplex soils, and less commonly, gradation grey-brown earths. (Soil Types 5, 1)

Classification: Dy3.11, Dy3.41, Gn2.81, Gn4.51

Depth: Greater than 120 cm *Surface Texture:* Loamy sand to sandy loam

Stone/Gravel: - *Profile Drainage:* Somewhat poorly drained

Shrink-Swell Potential Low *Dispersibility:* Moderate



CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction		●					●				● 3
Effluent Disposal		●					●				● 3
Erosion Risk								●			● 2
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 3

Limitations to Development:

1. Effluent disposal may be limited by soil permeability and drainage, hence disposal areas may need to be larger.

HILLY TO UNDULATING TERRAIN ON TERTIARY SEDIMENTS

Map Unit: CR4
CR4 – Crests and upper slopes with better drained soils

Extent of Occurrence:
457 ha – commonly between Tanjil South and Will Grove (Freehold land only)

Landscape: Gently undulating crests and upper hillslopes.

Slope Range: 0-8% *Elevation Range:* 70-220 m
Relief: 1-15 m *Surface Drainage:* Moderately well to well drained

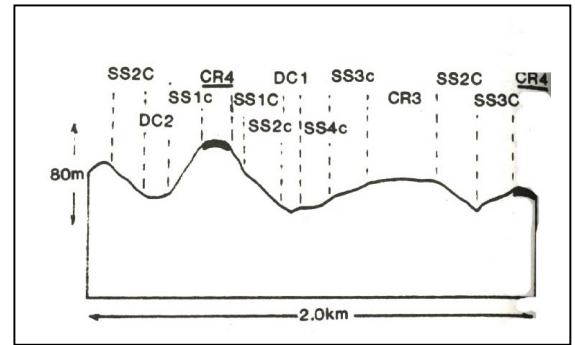
Soils: Very variable, uniform bleached sands, sandy yellow duplex soils and commonly grey or yellow massive earths (Soil Types 7, 5, 1, 2)

Classification: Uc2.32, Uc2.31, Dy5.81, Gn2.81, Gn2.64
Podzols, Yellow Podzolics, Yellow Earths

Depth: Greater than 120 cm *Surface Texture:* Sandy to loamy sand

Stone/Gravel: sandy soils, 2-5% gravel in Subsoil; other up to 10% stone *Profile Drainage:* Moderately well to well drained

Shrink-Swell Potential: Low *Dispersibility:* Sandy soils slake readily, other soils are moderately dispersive.



CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction	●	●								●	● 2
Effluent Disposal											1
Erosion Risk	●							●			● 2
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 2

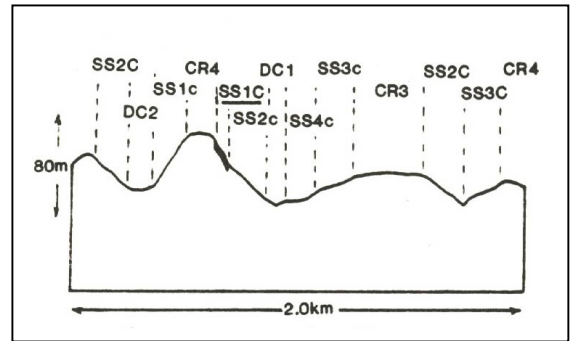
Limitations to Development:

1. Slight erosion hazard in some steeper areas where subsoils are dispersive.
2. Effluent disposal may be limited in small areas of duplex soils.

HILLY TO UNDULATING TERRAIN ON TERTIARY SEDIMENTS

Map Unit: SS1c
SS1c – Steep hillslopes.

Extent of Occurrence:
216 ha – mainly to the south and east of Willow Grove (Freehold land only)



Landscape: Steep, generally straight sideslopes to hills, sometimes with terracettes.

Slope Range: 25-50% *Elevation Range:* 60-140 m
Relief: 20-70 m *Surface Drainage:* Excessively well drained.

Soils: Mottled yellow massive earths and mottled yellow duplex soils (Soil Types 2, 5)

Classification: Gn2.6, Dy5.6
Yellow Earths, Yellow Podzolics

Depth: Greater than 150 cm *Surface Texture:* Loamy sands
Stone/Gravel: - *Profile Drainage:* Moderately well drained
Shrink-Swell Potential: Low *Dispersibility:* Moderate

CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction	●		●				●				● 5
Effluent Disposal	●						●				● 5
Erosion Risk	●		●					●			● 5
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 5

Limitations to Development:

1. High erosion hazard due to slope and moderately dispersive subsoils.

HILLY TO UNDULATING TERRAIN ON TERTIARY SEDIMENTS

Map Unit: SS2c
 SS2c – Moderately steep hillslopes

Extent of Occurrence:
 1321 ha – below Willow Grove and most extensively on the eastern side of the Tanjil River.

Landscape: Moderately steep, generally straight, sideslopes to hills.

Slope Range: 10-25% *Elevation Range:* 40-220 m
Relief: 5-50 m *Surface Drainage:* Well to somewhat excessively drained

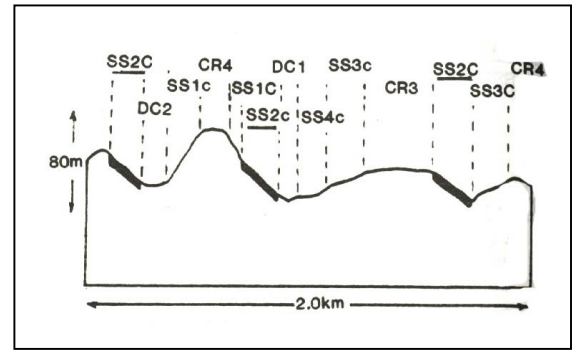
Soils: Mottled yellow duplex soils, grey massive earths and less commonly yellow brown massive earths. (Soil Types 5, 1, 2).

Classification: Dy3.21, Dy3.41, Dy5.51, Gn2.81, Gn2.94, Gn2.61, Gn2.21
 Yellow Podzolics, Yellow Earths

Depth: Greater than 150 cm *Surface Texture:* Loamy sand to sandy loam

Stone/Gravel: 2-5% subsoil gravels in yellow-brown soils *Profile Drainage:* Somewhat poorly drained

Shrink-Swell Potential: Low *Dispersibility:* Moderate to high in areas of duplex soils on silty parent materials.



CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction	●						●	●			● 4
Effluent Disposal	●						●				● 3
Erosion Risk	●		●					●			● 3
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 4

Limitations to Development:

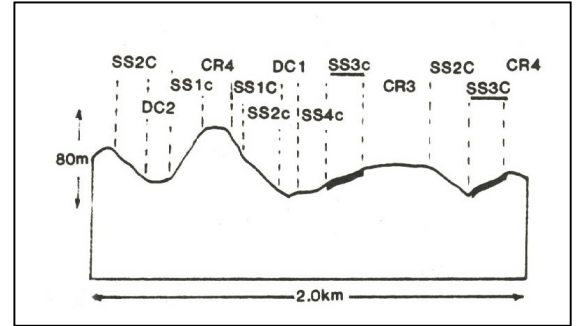
- Moderate erosion hazard due to slope and dispersive subsoils.
- Effluent disposal may be limited by soil permeability and drainage.

HILLY TO UNDULATING TERRAIN ON TERTIARY SEDIMENTS

Map Unit: SS3c
SS3c – Moderate hillslopes

Extent of Occurrence:

537 ha – commonly between Willow Grove and most extensively on the eastern side of the Tanjil River (Freehold land only).



Landscape: Moderate, generally concave, sideslopes to hills.

Slope Range: 5-10% *Elevation Range:* 50-180 m
Relief: 2-10 m *Surface Drainage:* Well drained

Soils:

Classification: Mottled grey or yellow brown earths, and some bleached sands (Soil Types 1, 2, 7).
Depth: Greater than 120 cm *Surface Texture:* Sand to loamy sand
Stone/Gravel: - *Profile Drainage:* Moderately well drained
Shrink-Swell Potential: Low *Dispersibility:* Slight to moderate

CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction	●						●				● 2
Effluent Disposal	●						●				● 2
Erosion Risk	●							●			● 2
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 2

Limitations to Development:

1. Slight erosion hazard in steeper areas may be exacerbated by subsoil dispersibility.

HILLY TO UNDULATING TERRAIN ON TERTIARY SEDIMENTS

Map Unit: SS4c
SS4c – Gentle hillslopes

Extent of Occurrence:
113 ha – south of Willow Grove and most commonly on the eastern side of the Tanjil River (Freehold land only).

Landscape: Gentle sideslopes to hills; usually concave footslopes.

Slope Range: 2-5% *Elevation Range:* 70-130 m
Relief: 1-5 m *Surface Drainage:* Somewhat poorly to moderately well drained.

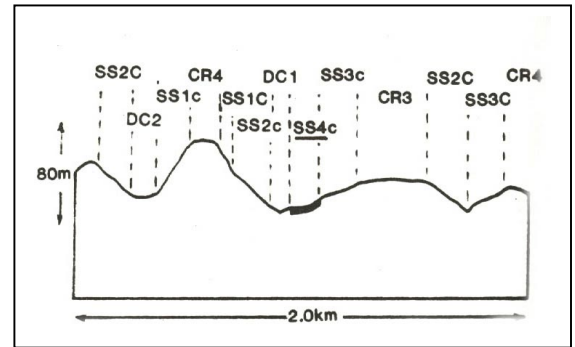
Soils: Mottled grey or grey brown earths and, less commonly, yellow brown earths (Soil Types 1, 2).

Classification: Gn2.94, Gn4.51, Gn2.21
Yellow Earths

Depth: Greater than 150 cm *Surface Texture:* Sandy loam

Stone/Gravel: 2% quartz gravel sometimes in subsoil. *Profile Drainage:* Somewhat poorly drained

Shrink-Swell Potential: Low *Dispersibility:* Low to moderate



CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction		●					●				● 2
Effluent Disposal		●					●				● 3
Erosion Risk											1
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 2

Limitations to Development:

1. Effluent disposal may be limited by soil permeability and drainage.