

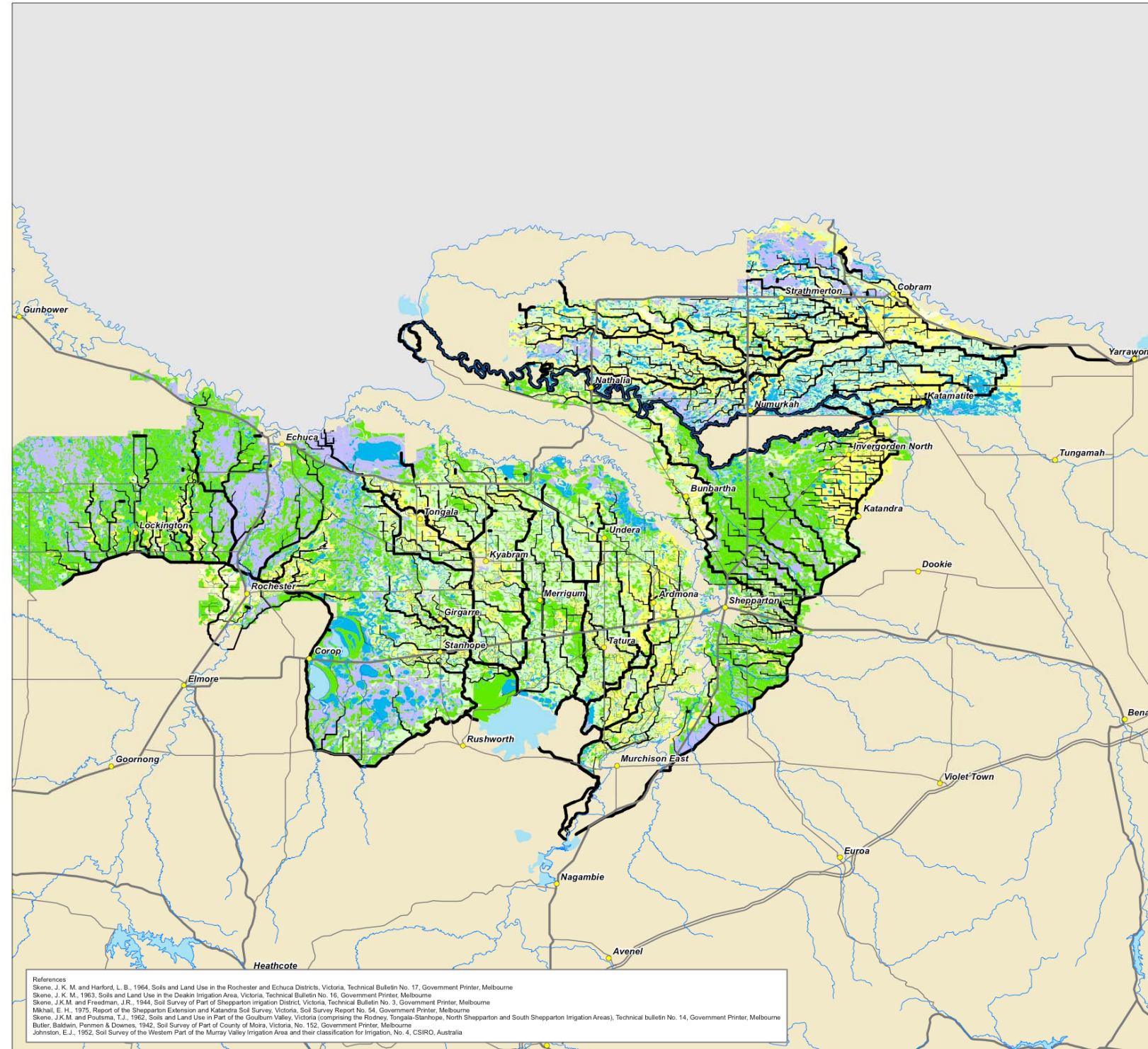
Appendix D

Agricultural Maps

SHEPPARTON REGION

Suitability of Soils for Irrigated Crops

MAP 3



Regional soils were classified according to their suitability for irrigated crops as part of regional soil surveys (1942-1975), using the six groups described below. Maps included in the survey bulletins were subsequently digitized for GIS use. Soil Group classifications are used in this Atlas as one input into a (Land Suitability for Irrigated Agriculture) compilation layer (Map 10)

- GROUP 1:** Soils with no serious disabilities for irrigation except, in some cases, situation above gravity supply level. Suitable for irrigation of horticultural crops, vegetables, tomatoes, cereals, summer fodder crops, lucerne and perennial and annual pastures.
- GROUP 2:** Soils with few disabilities for irrigation. Generally suitable for irrigation of vegetables, tomatoes, cereals, summer fodder crops and perennial and annual pastures; some situations suitable for horticultural crops and lucerne.
- GROUP 3:** Soils with several disabilities for irrigation, namely, low permeability, shallow surface, and sometimes moderate salinity. Suitable, given appropriate management, for irrigation of cereals, summer fodder crops, and perennial and annual pastures.
- GROUP 4:** Heavy-textured soils liable to salinity problems. According to the effective means of measures to control salinity, suitable for irrigation of cereals, summer fodder crops, annual and perennial pastures.
- GROUP 5:** Low-lying soils, including strongly gilgaied, permeable clays (Sub-group A) and less permeable clays (Sub-group B). Effectiveness of drainage and grading measures determine suitability for irrigation of cereal, summer fodder crops, annual and perennial pastures and, on Sub-group A soils, lucerne.
- GROUP 6:** Soils generally not recommended for irrigation because of swampiness or surface features making layout for irrigation difficult.

| | | | | | |
|--|---------|--|---------|--|---------|
| | Group 1 | | Group 3 | | Group 5 |
| | Group 2 | | Group 4 | | Group 6 |

Channel Capacity (ML)

| | | | | | |
|--|---------|--|-----------|--|-----------|
| | < 20 ML | | 50 - 100 | | 250 - 500 |
| | 20 - 50 | | 100 - 250 | | > 500 ML |

| | | | | | |
|--|---------|--|-----------|--|-----------|
| | Freeway | | Main Road | | Waterway |
| | Highway | | Town | | Waterbody |

References
 Skene, J. K. M. and Harford, L. B., 1964, Soils and Land Use in the Rochester and Echuca Districts, Victoria, Technical Bulletin No. 17, Government Printer, Melbourne
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 Skene, J. K. M. and Freedman, J. R., 1944, Soil Survey of Part of Shepparton Irrigation District, Victoria, Technical Bulletin No. 3, Government Printer, Melbourne
 Mikhail, E. H., 1975, Report of the Shepparton Extension and Katandra Soil Survey, Victoria, Soil Survey Report No. 54, Government Printer, Melbourne
 Skene, J. K. M. and Rouds, T. J., 1962, Soils and Land Use in Part of the Goulburn Valley, Victoria (comprising the Bodiny, Tongala-Sleatope, North Shepparton and South Shepparton Irrigation Areas), Technical bulletin No. 14, Government Printer, Melbourne
 Butler, Baldwin, Piermen & Downes, 1942, Soil Survey of Part of County of Moira, Victoria, No. 152, Government Printer, Melbourne
 Johnston, E. J., 1952, Soil Survey of the Western Part of the Murray Valley Irrigation Area and their classification for irrigation, No. 4, CSIRO, Australia

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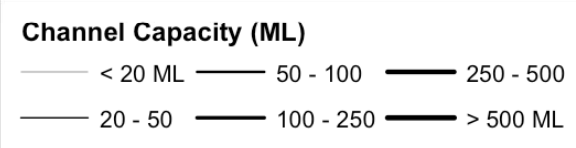
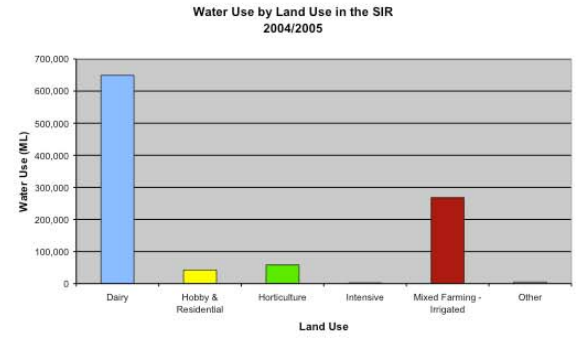
Figure AD-1 Land suitability for irrigation (Goulburn Murray Water 2006)

SHEPPARTON REGION

Land Use

MAP 1

The Bureau of Rural Science (BRS) in conjunction with commonwealth and state agencies has developed a land use digital dataset of Australia. The Victorian Department of Primary Industries has contributed to this process completing a state wide land use map of Victoria in December 2005. The land use maps are based on a standardised classification of land use called the "ALUM Classification". The Victorian land use map presented here is based on the ALUM classification, however, it has been augmented with local government valuer general data in order to more accurately show enterprise type. For further information on the BRS land use mapping process across Australia go to www.brs.gov.au/landuse.



Victoria
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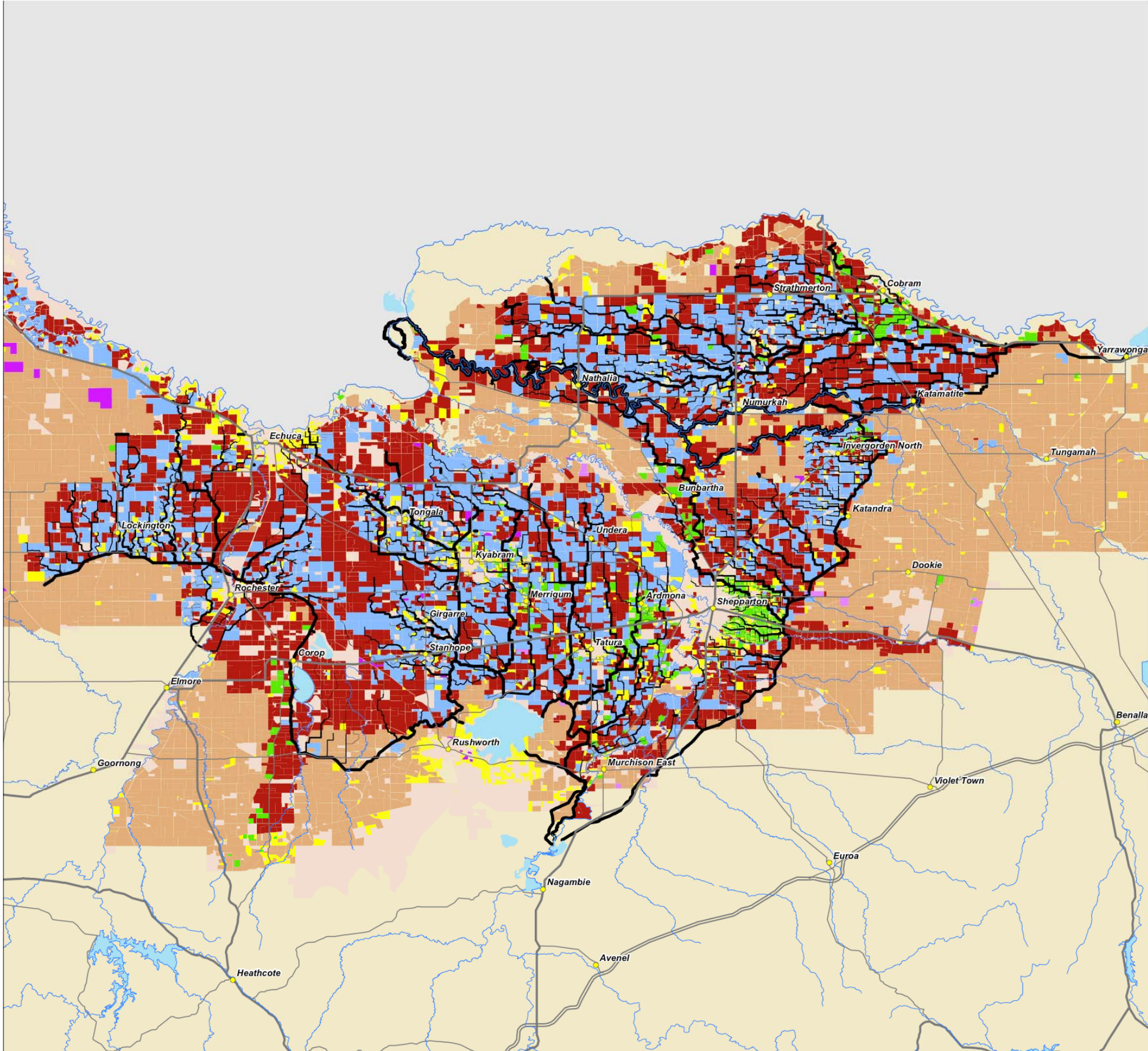


Figure AD-2 Land use in the Shepparton Irrigation Region (GMW 2006)

SHEPPARTON REGION

Pods, Trunks and Carriers

MAP 14

Reconfiguration – A Total Water System Perspective

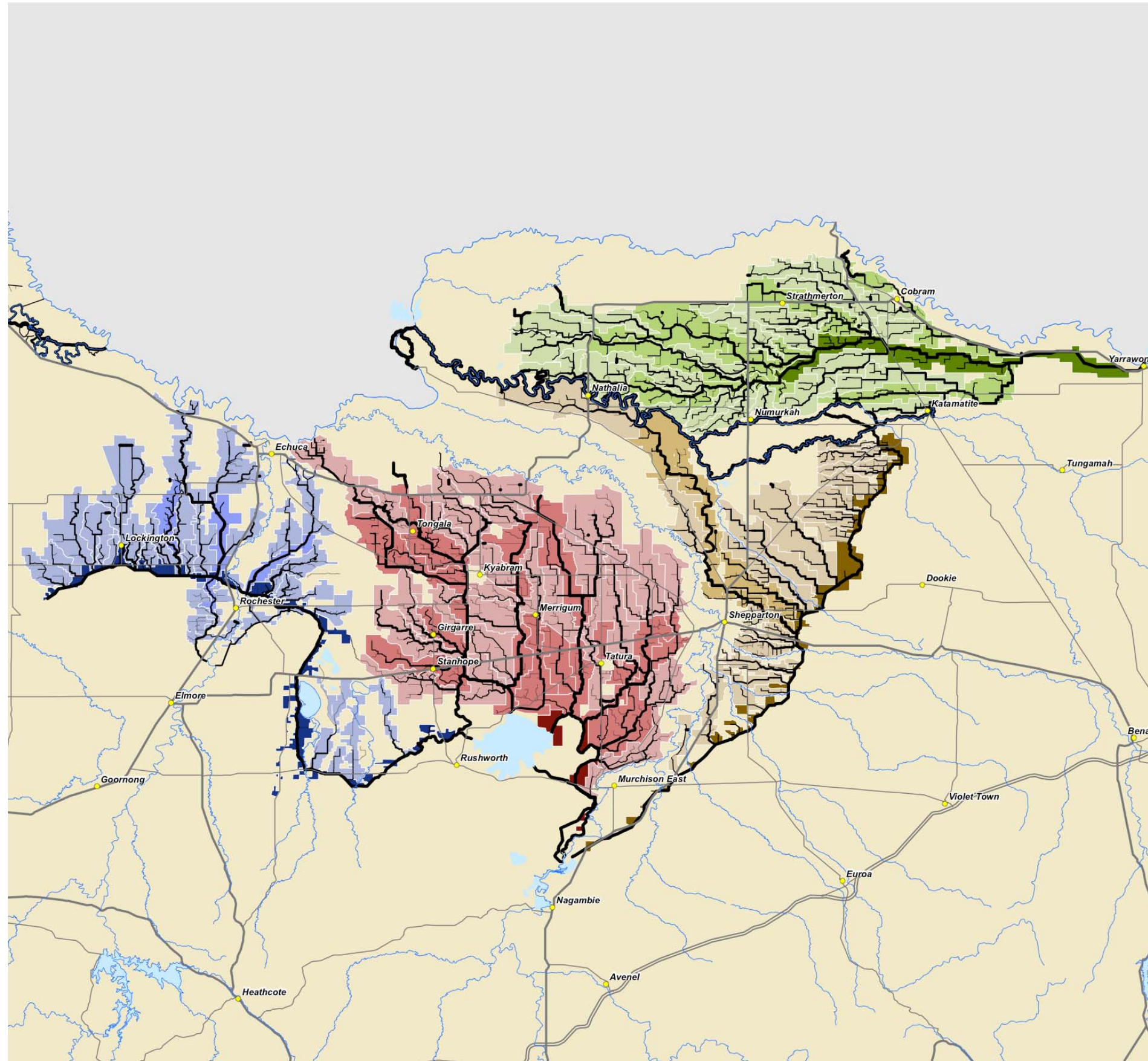
To better visualise the changes inherent in reconfiguration it is useful to be able to describe the components of the water systems, and how the system will change, or change constrained by the nature of the irrigation and drainage system. A concept developed in Pyramid-Boort is to describe the water system in terms of Pods, Trunks and Carriers.

A 'pod' is a grouping, typically comprising of 20-40 properties and the associated channel systems. A pod also identifies a group of customers with a common stake in the water system such as service levels and changes to system infrastructure.

A 'trunk' channel conveys water to two or more pods.

A 'carrier' channel conveys water to two or more trunk channels, eg Waranga Western

Spatial data pertaining to pods is presented in Area Atlases published separately for each irrigation Area within the Shepparton Irrigation Region (Shepparton, Central Goulburn, Rochester-Campaspe and Murray Valley)



| Central Goulburn | | Murray Valley | |
|--|----------|--|----------|
| | Pods | | Pods |
| | Trunks | | Trunks |
| | Carriers | | Carriers |
| Shepparton | | Rochester | |
| | Pods | | Pods |
| | Trunks | | Trunks |
| | Carriers | | Carriers |

Channel Capacity (ML)

| | | | | | |
|--|---------|--|-----------|--|-----------|
| | < 20 ML | | 50 - 100 | | 250 - 500 |
| | 20 - 50 | | 100 - 250 | | > 500 ML |

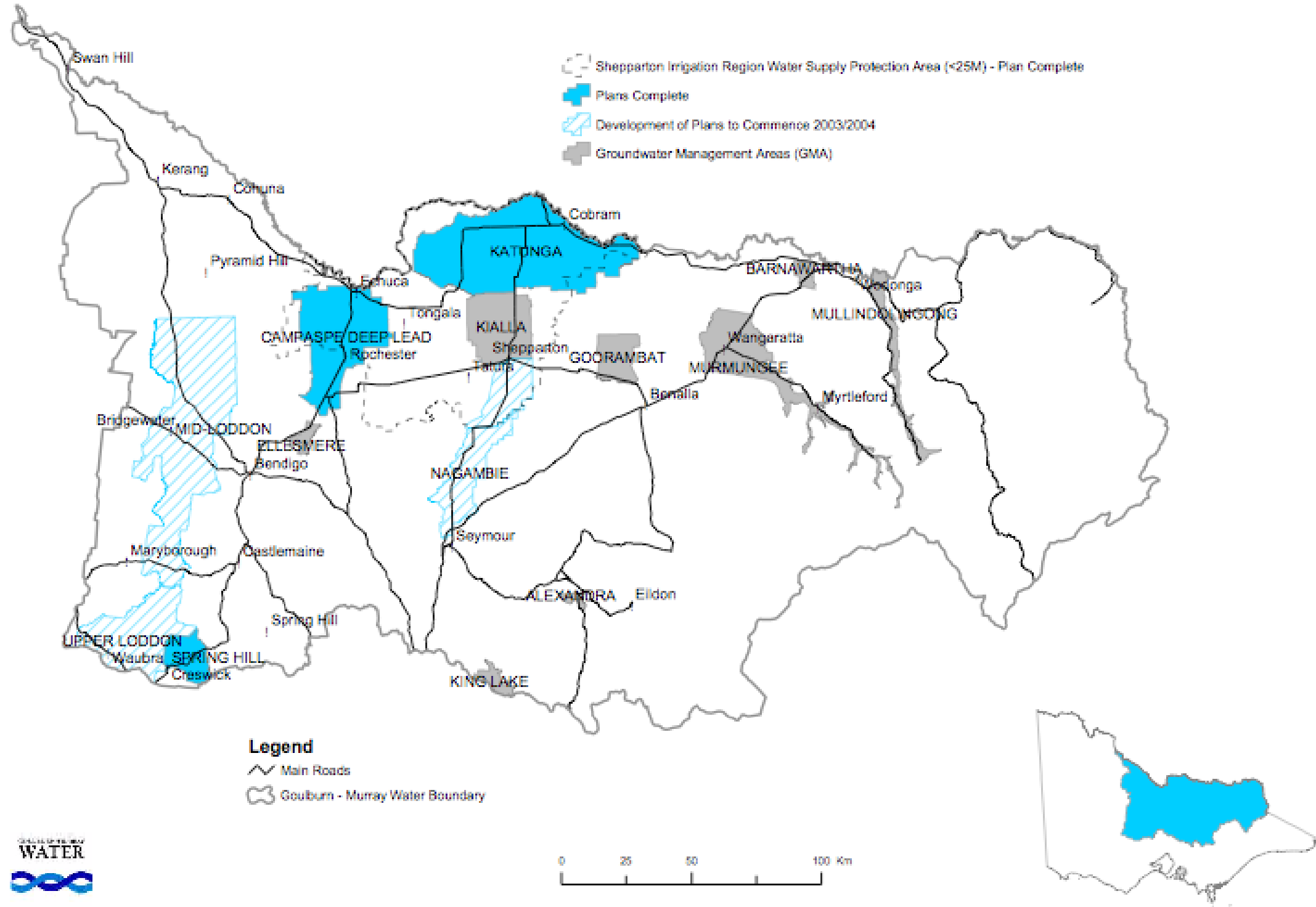
| | | | | | |
|--|---------|--|-----------|---|-----------|
| | Freeway | | Main Road | | Waterway |
| | Highway | | Town | | Waterbody |

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Figure AD-3 Irrigation regions in the study area (GMW 2006)

GROUNDWATER MANAGEMENT AREAS AND WATER SUPPLY PROTECTION AREAS



SKM

Goulburn Murrumbidgee
WATER

SKM FILE: I:\Water\Projects\WT01841\Deliverables\GIS\Whole Area\shape\T1841T01.mxd

Figure AD-4 Groundwater Management Areas in the Study Area (<http://www.g-mwater.com.au>)

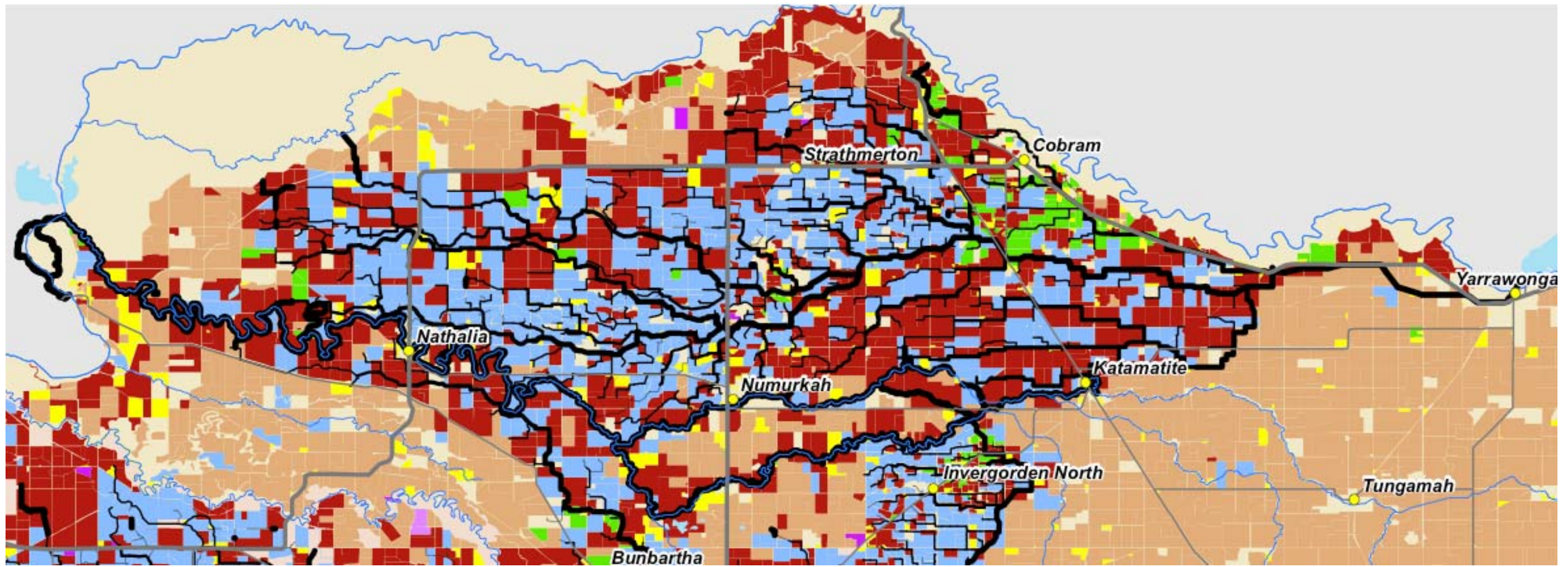


Figure AD-5 Agricultural land use in the irrigated area of Moira

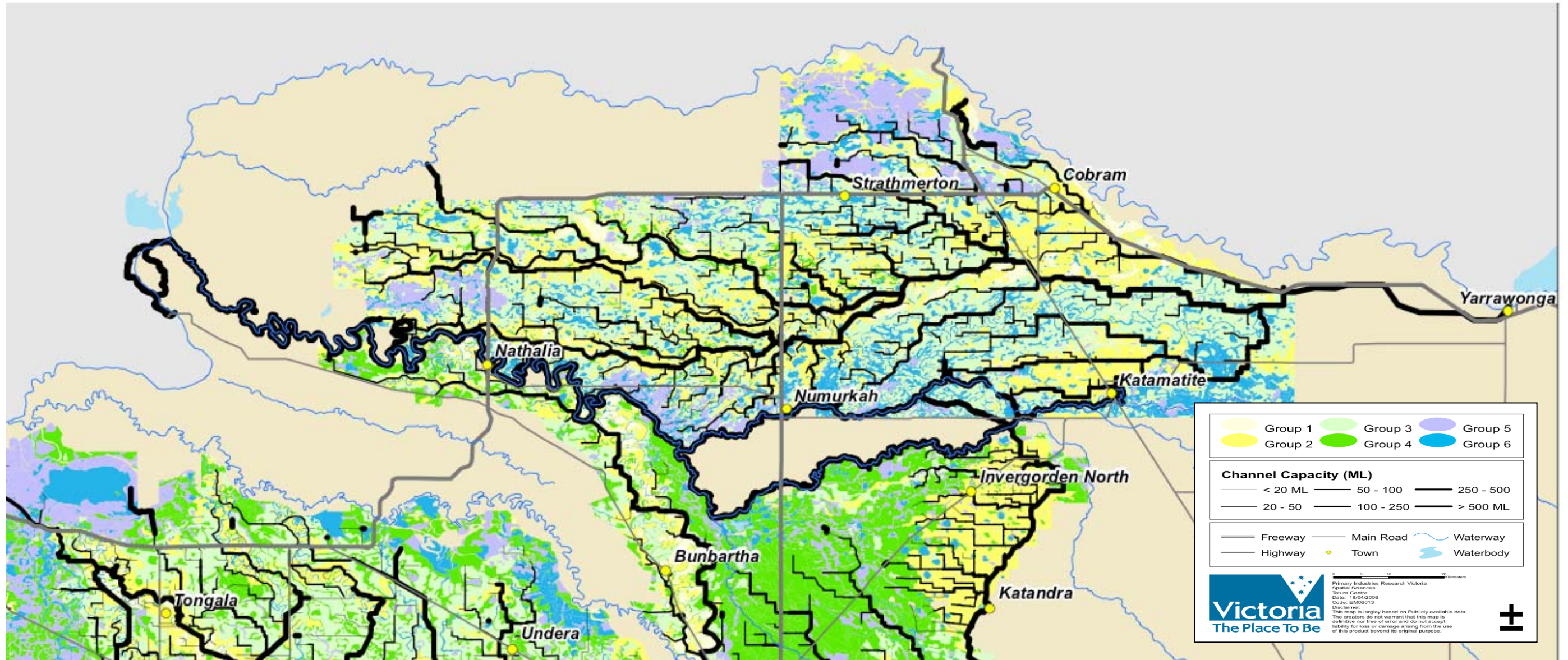


Figure AD-6 Suitability of soils for irrigated crops (GMW 2006)

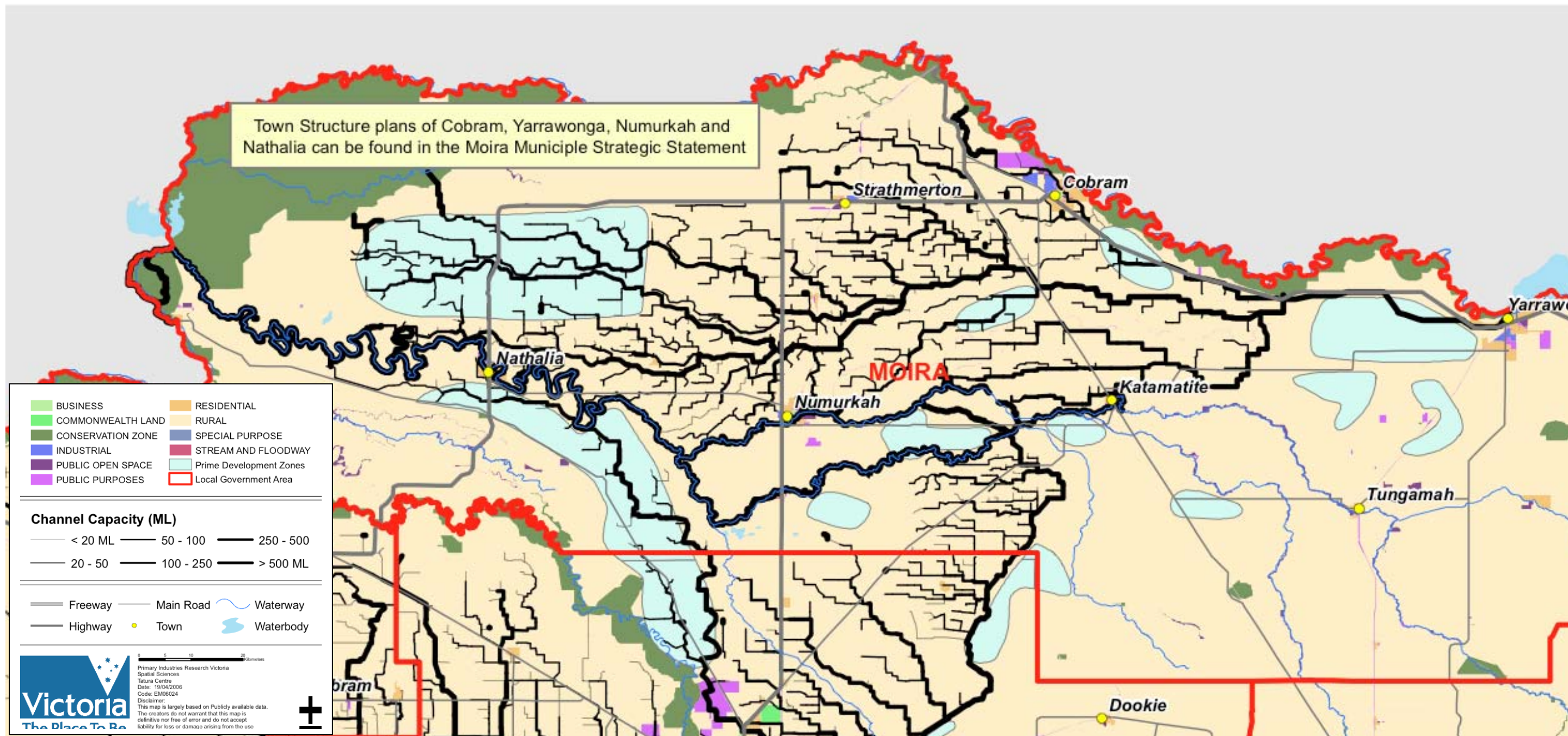


Figure AD-7 Prime development zones in Moira (GMW 2006)

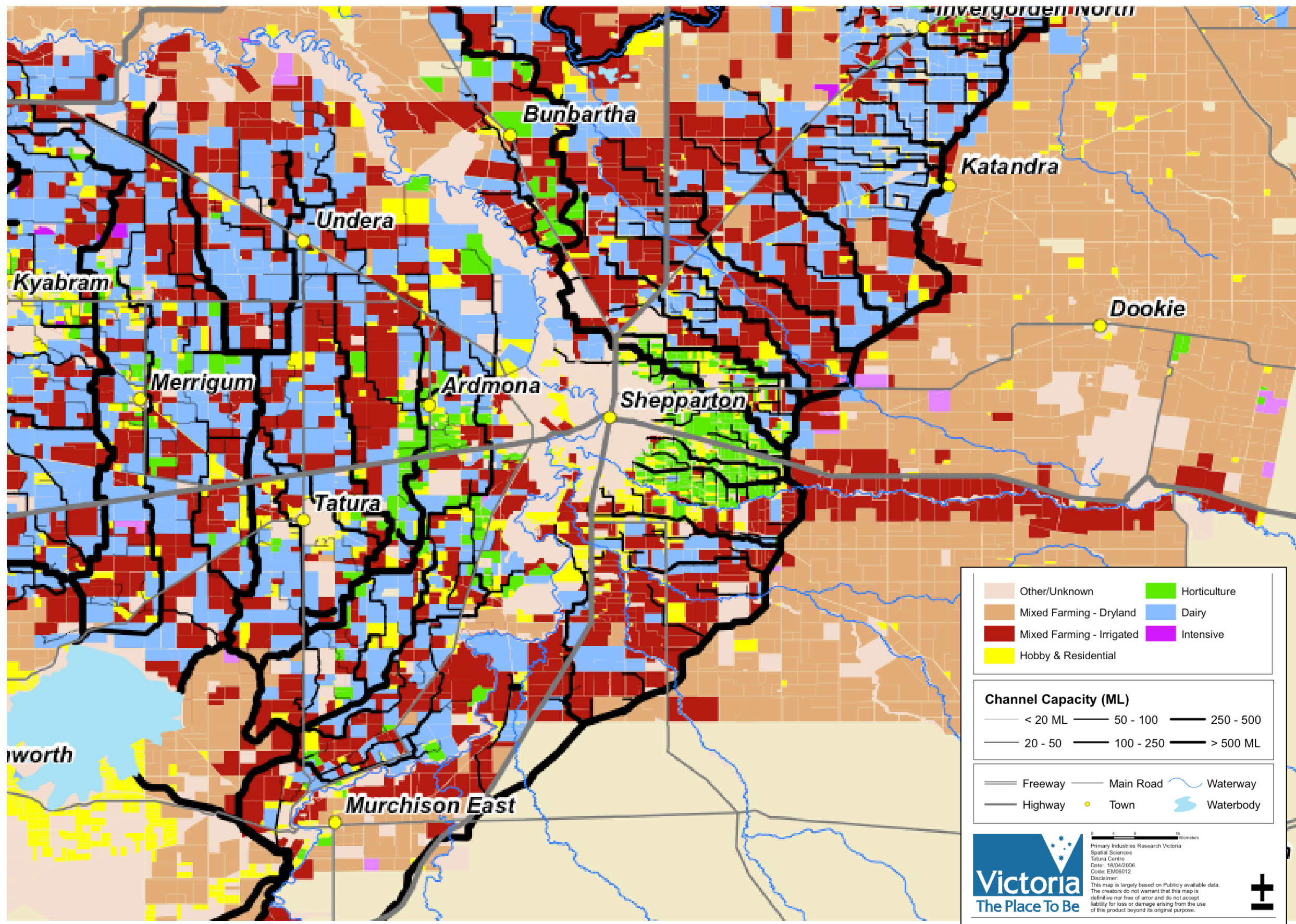


Figure AD-8 Land use in Greater Shepparton (GMW 2006)

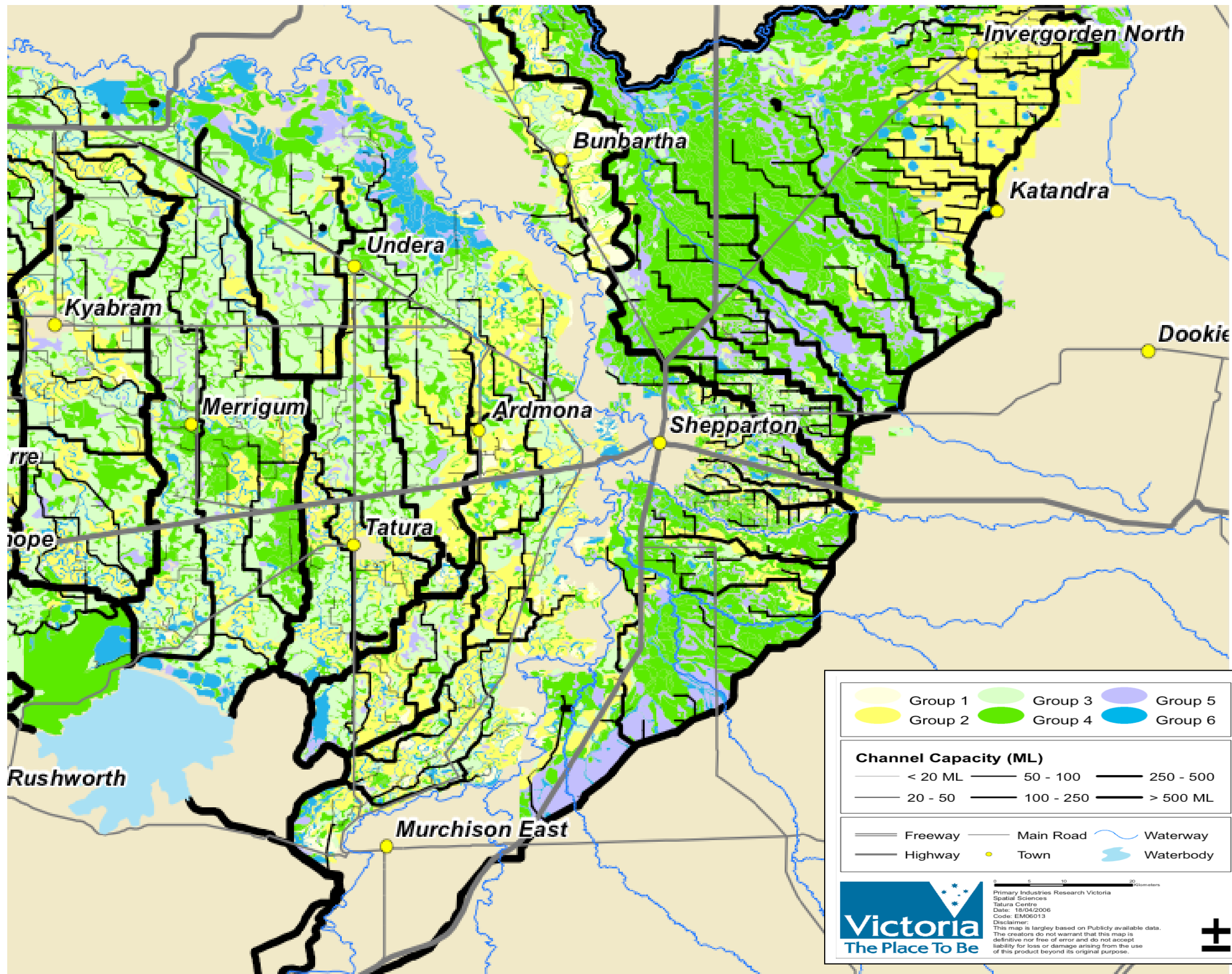


Figure AD-9 Suitability of soils for irrigated crops (GMW2006)

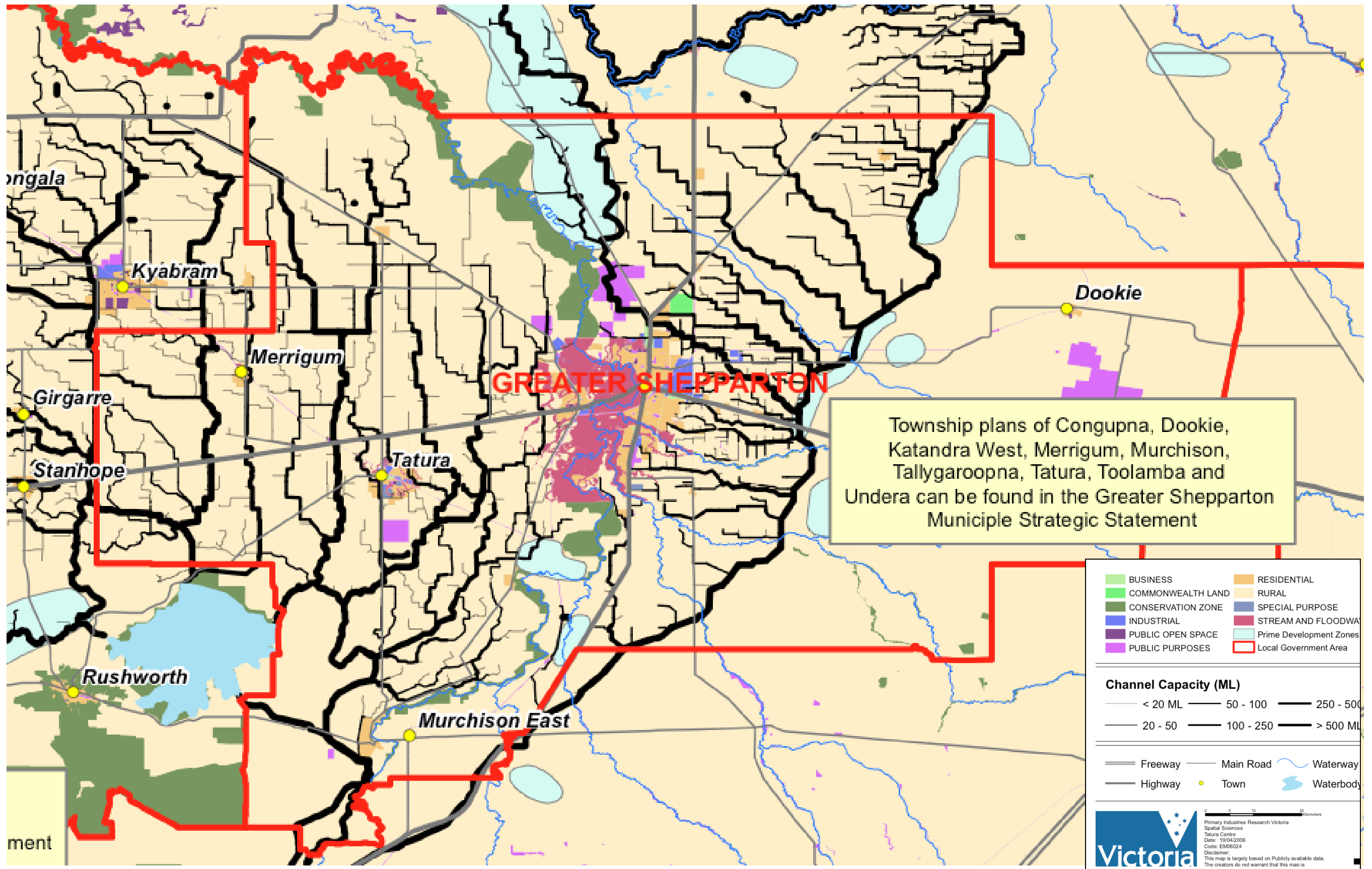


Figure AD-10 Prime development zones in Greater Shepparton

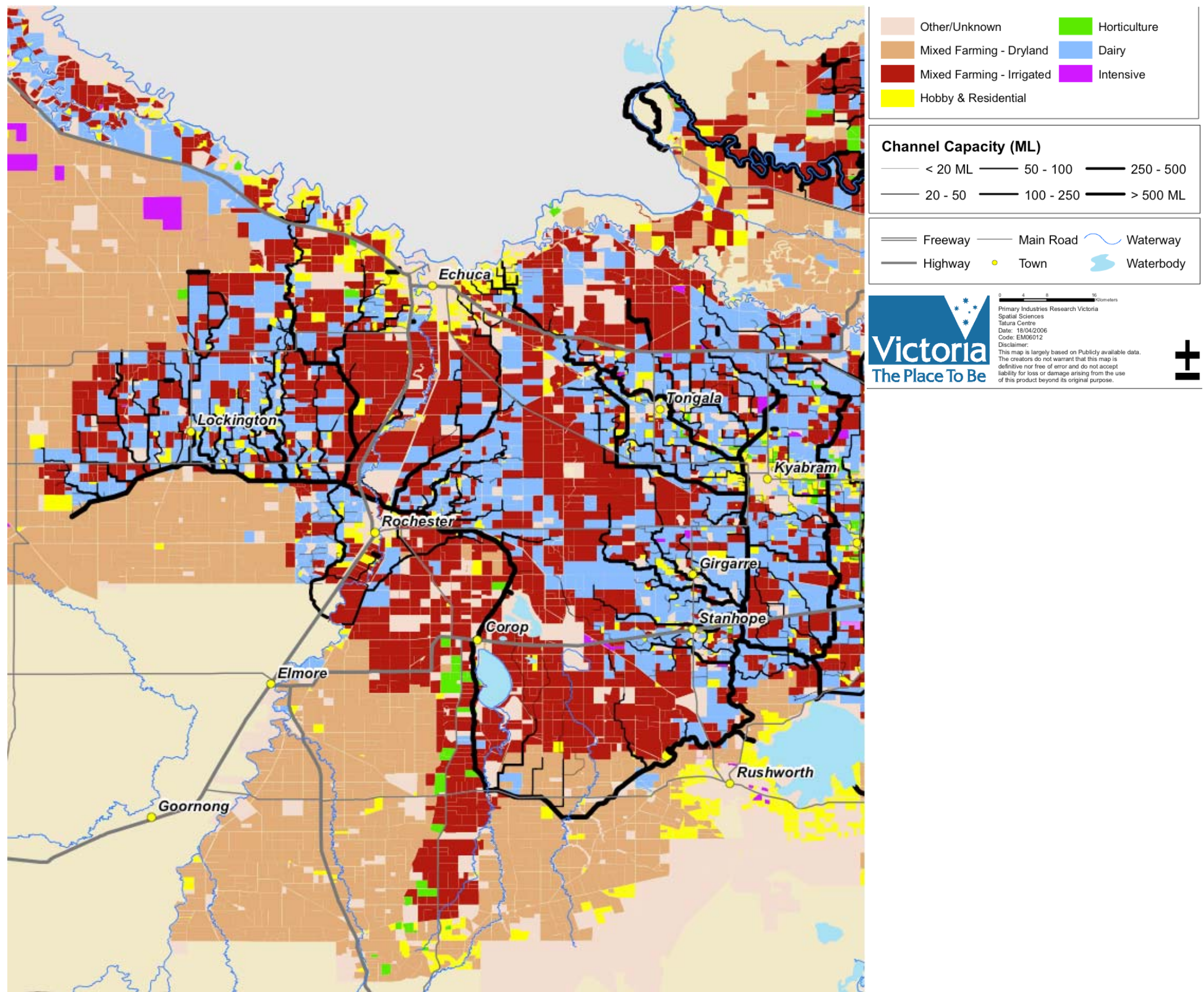


Figure AD-11 Land use in Campaspe Shire

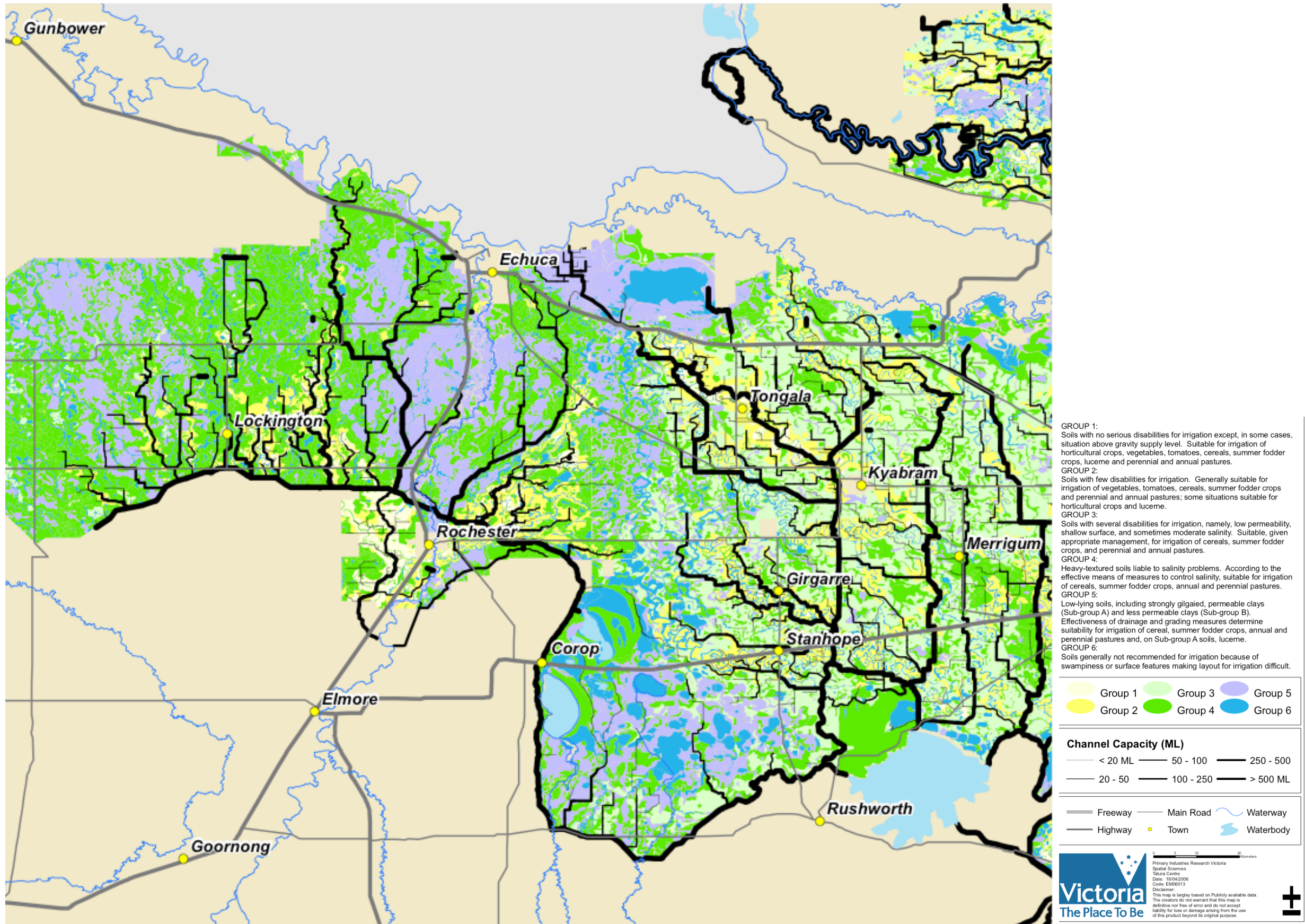


Figure AD-12 Soil suitability for irrigation in Campaspe

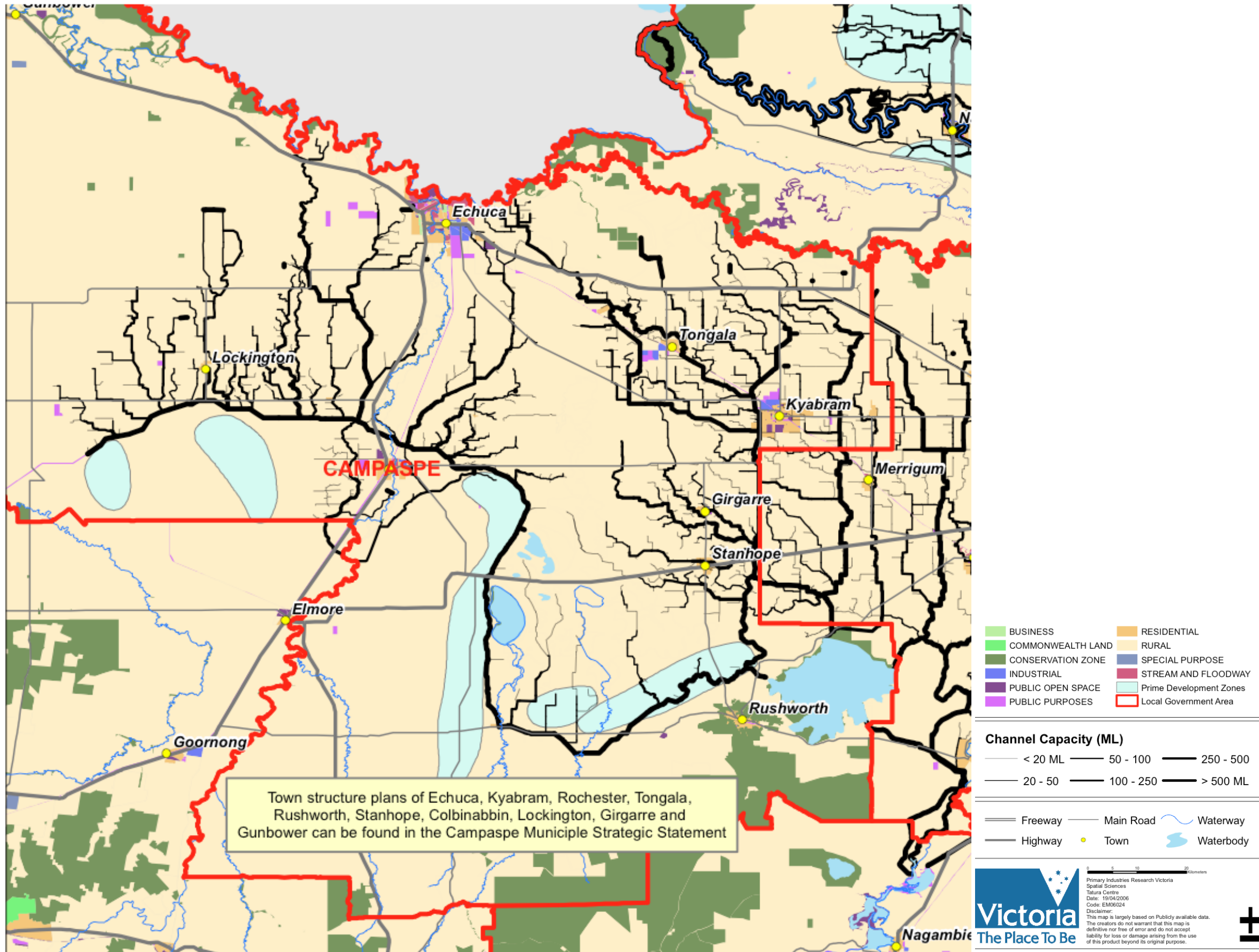


Figure AD-13 Prime development zones in Campaspe