



Photograph 6: View of the dam near the eastern boundary of site. The dam is cut into the side of a slope and its walls are primarily basaltic.



Photograph 7: View of the hay shed in the centre/northern portion of site. Some discarded metals/farming equipment can be seen in the left of image.



Photograph 8: View of the stockyards near the north western border of site.

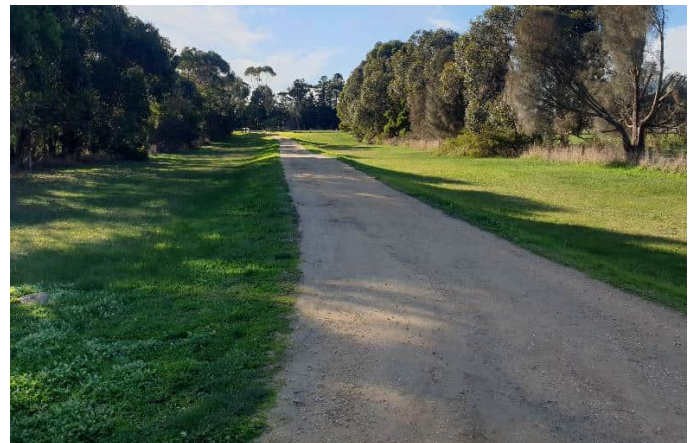


Photograph 9: View of the burn off pile in the north western border of site. The pile comprises mostly organics (wood cuttings, dry reeds), but also contains hard wastes (twine, metals, potential asbestos containing materials)

Parcel 4 – 220 Wangoom Road, Warrnambool



Photograph 10: View of the residence onsite. The site is mostly flat and borders with trees along boundaries.



Photograph 11: View of the driveway accessing Parcels 3, 4 and 5. The driveway is slightly built up above natural ground level.

Parcel 5 – 222 Wangoom Road, Warrnambool



Photograph 12: View of the front of the site. The site is mostly flat with maintained grass and trees along the frontage.



Photograph 13: View of the southwestern portion of site. A large shed and chicken coup are visible. Some drainage pipes can be seen that lead to an above ground water tank to the right of image.

Parcel 6 – 256 Wangoom Road, Warrnambool



Photograph 14: View of Francis Tozer Reserve. The site contains mostly undisturbed native vegetation with a hardstand track through the site.

Parcel 7 – Lot 2 PS710426



Photograph 15: View facing south of the front of site. A stockyard can be seen in the right of image, and the site office/sheds for the earthworks onsite can be seen behind the tree line.



Photograph 16: View facing west of the centre portion of site. The site is mostly flat, sloping down towards the south.



Photograph 17: View of the earthworks in the northern portion of site.

Parcel 8 – 286 Wangoom Road, Warrnambool



Photograph 18: View of the residence onsite

Parcel 9 – Lot 1 TP244571



Photograph 19: View of the stockyards onsite

Parcel 10 – Lot 2 TP244571



Photograph 20: View facing north from the southern boundary of site. The site is grassed and mostly flat, sloping up towards Wangoom Road to the north.



Photograph 21: View of the concrete above ground tank and soil stockpile in the northern portion of site. The stockpile has a different colour/type of grass growing on it.

Parcel 11 – 310 Horne road, Warrnambool



Photograph 22: View of the northern portion of site. The site is grassed and mostly flat, with a residence visible in the left of image.



Photograph 23: View of the southern portion of site. The grass is in worse condition, a burn off pile is visible and two sheds can be seen on the right and left of image.



Photograph 24: View of a second burn off pile in the southern portion of site. The pile appeared to mainly contain wood products (tree cuttings and wooden beams)



Photograph 25: View facing west from the southeastern portion of site. Hard waste can be seen stockpiled against the side of the shed. One of the burn off piles can be seen in the left of shot consisting of mostly organic material on top of ash visibly mixed with fill inclusions.

Parcel 12 – 246 Horne Road, Warrnambool



Photograph 26: View facing north from the centre of site. The site is mostly grassed and slopes up towards the north.



Photograph 27: View facing south from the centre of site. The site is flat in the southern portion and a residence is visible in the background right side of image.



Photograph 28: View of the depression/small dam that has been filled with hard waste (bricks, bluestone, metals, plastic and tiles). In the background two addition piles of tyres and bluestone can be seen.



Photograph 29: View of the burn off area in the eastern portion of site. The burn off pile consists mostly of wood products (lumber, pallets, tree offcuts), mixed with domestic waste (plastics, clothes, cardboard).



Photograph 30: View of the shed area in the eastern portion of site. The sheds contained farm equipment, trailers and tractors generally in good condition, old oil cans, jerry cans and an IBC were visible as well as mixed wood products (2x4s, PVC pipes, pallets).



Photograph 31: View of the residence in the southwestern portion of site. The area contained a residence, shed and greenhouse.



Photograph 32: View of a small scraped area containing topsoils mixed with fill inclusions (rubbish, wood, crushed rock, tile) in the southwestern portion of site.

Parcel 13 – 174 Aberline Road, Warrnambool



Photograph 33: View facing east of the centre portion of site. The site sloped down slightly towards the south. A residence and large shed are visible.



Photograph 34: View facing west of the residences. A stockpile of hard waste, and multiple cars both running and rusted shells are visible.



Photograph 35: View facing south of the built up platform in the northern portion of site. The built up area appears to be soils mixed with fill inclusions.

Parcel 14 – 235 Horne road, Warrnambool



Photograph 36: View facing south from the northern boundary. Site slopes up towards the east.



Photograph 37: View facing north from the southern boundary of site. The site slopes up towards the north and a grove of trees in the right of image provides a wind break to the paddocks.



Photograph 38: View of the shed and stockyard in the centre of site. The shed contained old farm equipment and hard wastes (metals, plastics, wood).



Photograph 39: View of stockpiled hard wastes adjacent to the shed onsite. Hard waste comprised of metals, large basalt cobbles, wood cuttings and processed wood

Parcel 15 – 210 and 214 Horne Road, Warrnambool



Photograph 40: View facing north from the centre of site. The site is grassed and mostly flat, used for horse paddocks.



Photograph 41: View facing south of the southern portion of site. A horse rink can be seen to the right and a small horse shelter to the left.



Photograph 42: View of the stockyard and dairy? In the southwestern portion of site. A grain? Silo can be seen behind the stockyard.



Photograph 43: View of two above ground tanks and a silo adjacent to the stockyards.

Parcel 17 – 180 Horne Road, Warrnambool



Photograph 44: View facing east from the western boundary of site. The site is primarily occupied by a residence.



Photograph 45: View facing north of the eastern portion of site. A large rainwater tank and built up fill area can be seen.

Parcel 18 – 150 Horne Road, Warrnambool



Photograph 46: View facing east from the western boundary of site. The site is mostly grassed and used for grazing. The ground slopes down towards the creek bisecting site.



Photograph 47: View facing south from the western boundary of site. A shed, stockyards and several stockpiles are visible. Hard waste including pallets, processed wood, crushed rock, plastics and an IBC were visible around the shed.



Photograph 48: View of one of the stockpiles around the shed. Soils consisted of a clayey silt with fill inclusions of crushed brick, concrete and rock. Several stockpiles onsite had a similar composition.



Photograph 49: View of a stockpile around the shed. Soils consisted of a clayey silt with large amounts of crushed asphalt. In the right of image some rusted farm equipment can be seen buried within a stockpile.



Photograph 50: View facing west of the large area of filling in the south western portion of site. The fill has a varied depth and profile multiple meters deep.



Photograph 51: View facing south towards the large area of filling. The filling covers most of the southwestern portion of site.

Parcel 19 – 53 Rodgers Road, Warrnambool



Photograph 52: View facing north from the southern boundary of site. The site is mostly flat, grassed and used for grazing.



Photograph 53: View of the residence in the southeastern portion of site. The residence consists of a single story dwelling, with a garage, sheds and rainwater tanks visible.



Photograph 54: View facing north of the creek onsite.



Photograph 55: View of the windmill and tanks in the western portion of site. An old tank, bathtub and water trough visible.

Parcel 20 – 75 Rodgers Road, Warrnambool



Photograph 56: View facing southeast from the northern boundary of site. The residence and sheds are visible, and an above ground tank



Photograph 57: View facing south from the northeastern boundary of site. The northeastern portion of site has been converted for horse/dressage, and a change in grass may indicate filling onsite.

Parcel 21 – 80 Aberline Road, Warrnambool



Photograph 58: View facing east from the western boundary. The site is grassed and slopes down to the north.



Photograph 59: View facing west from the eastern boundary. No structures or notable features were visible onsite

Parcel 22 and 23 – 43 Boiling Down Road, Warrnambool



Photograph 60: View facing west from the eastern portion of site. The dam takes up a majority of the area and appears to be used by cattle for water.

Parcel 24 – 75 Boiling Down Road, Warrnambool



Photograph 61: View facing south from the northern portion of site. The site is mostly grazing and sloped up to the north.



Photograph 62: View facing north from the southern portion of site. The southern portion of site is mostly flat.



Photograph 63: View of a burn off pile in the northwestern portion of site. The pile consisted of wood cuttings with no other visible inclusions



Photograph 64: View of a burn off pile in the southern portion of site. The pile consisted of processed woods including pallets with inclusions of bricks, metals and plastics visible



Photograph 65: View facing south of the homestead/works area. A residence, sheds, concrete water tank and animal enclosure are visible.



Photograph 66: View of the eastern portion of site, a shed and rainwater tank are visible and a stockyard is visible behind the shed.



Photograph 67: View of the hard waste stored along the tree line in the south eastern portion of site. Old farm equipment, tyres, bricks, metals, plastics and building materials are visible.



Photograph 68: View of a potential burn off area in the southeastern portion of site. Inclusions of metals, pallet wood, and rubbish are visible.

Parcel 25 – 79 and 81 Boiling Down Road, Warrnambool



Photograph 69: View facing southeast from the southwestern boundary of site. A chicken coup and pile of wood cuttings are visible in the foreground, with a residence and multiple old tanks visible in the background



Photograph 70: View facing northeast from the south western boundary. Some sheds and vehicles are visible in the background. Stored wastes including tyres, wire mesh, wood chips/dust and old and plastic bucket and paint containers are visible.

Parcel 26 – 105 Boiling Down Road, Warrnambool



Photograph 71: View facing north from the southern boundary of site. The site is grassed and mostly flat, a water trough and large shed are visible in the background of image.



Photograph 72: View facing east from the western boundary of site. The large shed is visible and the site begins to slope down to the north.

Parcel 27 – 135 Boiling Down Road, Warrnambool



Photograph 73: View facing west from the eastern boundary of site. The site is mostly flat, sloping slightly down in the northern portion of site. A residence is visible in the background of image.



Photograph 74: View facing north from the centre portion of site.



Photograph 75: View facing west from the north portion of site. Two stockpiles of wood cuttings are visible, and a gazebo and horse sheds are visible in the right of image.



Photograph 76: View of a small area of charcoal/ash and manure.



Photograph 77: View of the stockyards in the south western corner of site.

Parcel 29 – 15 Boiling Down Road, Warrnambool



Photograph 78: View facing southeast from the north western portion of site. The western portion of site is used as a depot for a civil contractor, stockpiles of topsoil and crushed rock are visible.



Photograph 79: View facing northeast from the southern boundary of site. The eastern portion of site was occupied by a residence, shed and two above ground tanks.

Parcel 30 – 31 Boiling Down Road, Warrnambool



Photograph 80: View facing east from the western portion of site.



Photograph 81: View facing south east from the northern portion of site. A dam and two stockpiles of wood are visible.

PSP Parcels 32 and 33 – 48 Boiling Down Road, Warrnambool



Photograph 82: View facing east of the site. The top of a large shed and above ground tank and silo are visible.

PSP Parcel 34 – 70 Boiling Down Road, Warrnambool



Photograph 83: View facing north from the southern boundary of site. The site is predominantly grassed and flat.



Photograph 84: View facing east from the western boundary of site. A stockpile of wood cuttings is visible.

PSP Parcel 35 – 70 Boiling Down Road, Warrnambool



Photograph 85: View facing southwest from the eastern boundary of site. Multiple sheds and rainwater tanks are visible, the top of the residence is visible in the background of image.



Photograph 86: View facing west from the eastern portion of site. An old chicken coup is visible

PSP 36 – 76 and 78 Boiling Down Road, Warrnambool



Photograph 87: View facing south from the centre portion of site.



Photograph 88: View facing northeast into the northeastern portion of site. Two large burn off piles can be seen



Photograph 89: View facing northeast into the northeastern portion of site. A shed and raised above ground tank are visible.

PSP 37 – 94 Boiling Down Road, Warrnambool



Photograph 90: View facing east from the western portion of site. A large shed and dam are visible.



Photograph 91: View facing south from the northern boundary of site. The site is mostly grassed and predominantly flat.

PSP 38 – 102 Boiling Down Road, Warrnambool



Photograph 92: View facing south from the northern boundary of site. A stockyards and barn can be seen in the right of image. The ground is undulating and has varied grass health, indicating potential filling

PSP 39 – 110 Boiling Down Road, Warrnambool



Photograph 93: View facing southeast from the northern boundary of site. The site is mostly flat and grassed, stockpiles of wood, tyres and hard waste are visible in the background of image.



Photograph 94: View facing southwest from the northern boundary of site. A disused residence is visible in the background

PSP 40 – 124 Boiling Down Road, Warrnambool



Photograph 95: View facing south from the northern boundary of site. A residence and shed are visible in the northern portion of site.

PSP 41 – 140 Boiling Down Road, Warrnambool



Photograph 96: View facing north from the southern boundary of site. The site is predominantly flat and grassed, used for grazing.



Photograph 97: View facing north of the stockyards in the northern portion of site.



Photograph 98: View facing west of the southern portion of site. Two joined sheds are visible containing current and discarded farm equipment and vehicles



Photograph 99: View of the burn off pile in the centre portion of site. Inclusions of wood and metals (spray paint cans) were visible

PSP 42 and 43 - 83 to 119 Dales Road, and 81 Horne Road, Warrnambool



Photograph 100: View facing southeast from the northwestern boundary of site. The reservoirs are built up a couple meters above ground level.

WMS Groudwater Database Seach Results
(Bores)

Bore ID	Parish	Parish No	Longitude (GDA94)	Latitude (GDA94)	Easting (MGA)	Northing (MGA)	Map zone	Elevation (m AHD)	Elevation (digitised)	Constructed date	Constructed depth
100003	WANGOOM	3729	142.539962	-38.356644	634551.4	5753476.4	54		47.91	7/10/1991 0:00	54.86
99559	WANGOOM	3729	142.52672	-38.381363	633348.4	5750767.4	54		33.42	1/01/1970 0:00	50
99568	WANGOOM	3729	142.534778	-38.357475	634096.4	5753406.4	54		44.87	12/10/1986 0:00	53.33
99569	WANGOOM	3729	142.53608	-38.356782	634211.4	5753481.4	54		46.49	7/02/1971 0:00	42.67
99596	WANGOOM	3729	142.524674	-38.359131	633210.4	5753237.4	54		41.37	13/02/1973 0:00	40.23
99602	WANGOOM	3729	142.548054	-38.372494	635228.4	5751720.4	54		38.02	27/11/1973 0:00	39.62
99608	WANGOOM	3729	142.534772	-38.362017	634087.4	5752902.4	54		40.52	27/05/1974 0:00	44.19
99613	WANGOOM	3729	142.518635	-38.369221	632664.4	5752126.4	54		30.21	7/06/1974 0:00	36.57
99622	WANGOOM	3729	142.534682	-38.353439	634095.4	5753854.4	54		46	24/06/1974 0:00	46.63
99661	WANGOOM	3729	142.524548	-38.371136	633177.4	5751905.4	54		32.73	12/11/1975 0:00	41.51
99682	WANGOOM	3729	142.550647	-38.373325	635453.5	5751624.4	54		35.3	6/12/1976 0:00	37.18
99688	WANGOOM	3729	142.545621	-38.377032	635007.4	5751220.4	54		32.53	1/01/1970 0:00	32.61
99696	WANGOOM	3729	142.54406	-38.375755	634873.4	5751364.4	54		32.12	20/08/1977 0:00	32.5
99704	WANGOOM	3729	142.509509	-38.367951	631869.4	5752280.4	54		24.42	30/03/1978 0:00	39
99706	WANGOOM	3729	142.512623	-38.358611	632158.4	5753312.4	54		34.21	22/05/1978 0:00	39.58
99710	WANGOOM	3729	142.541872	-38.362798	634706.4	5752805.4	54		41.56	8/11/1978 0:00	39.58
99719	WANGOOM	3729	142.51209	-38.356662	632115.4	5753529.4	54		34.16	17/05/1979 0:00	42.67
99728	WANGOOM	3729	142.525178	-38.355348	633261.4	5753656.4	54		46.18	30/11/1979 0:00	47.55
99734	WANGOOM	3729	142.547678	-38.376374	635188.4	5751290.4	54		34.87	30/03/1980 0:00	40.1
99735	WANGOOM	3729	142.545313	-38.369043	634995.4	5752107.4	54		35.9	26/02/1980 0:00	39.58
99736	WANGOOM	3729	142.545262	-38.368809	634991.4	5752133.4	54		35.93	13/03/1980 0:00	42.67
99749	WANGOOM	3729	142.547113	-38.365153	635161.4	5752536.4	54		35.81	20/06/1981 0:00	21.33
99761	WANGOOM	3729	142.522768	-38.37142	633021.4	5751876.4	54		31.94	26/02/1982 0:00	41
99776	WANGOOM	3729	142.547506	-38.377404	635171.4	5751176.4	54		32.94	28/01/1983 0:00	35
99802	WANGOOM	3729	142.51479	-38.373101	632321.4	5751701.4	54		27.6	12/04/1984 0:00	45
99803	WANGOOM	3729	142.51479	-38.373101	632321.4	5751701.4	54		27.6	20/04/1984 0:00	51
99816	WANGOOM	3729	142.515539	-38.354122	632421.4	5753806.4	54		34.78	25/11/1984 0:00	41.1
99824	WANGOOM	3729	142.524487	-38.355177	633201.4	5753676.4	54		46.93	7/01/1986 0:00	53.33
99826	WANGOOM	3729	142.54432	-38.37294	634901.4	5751676.4	54		33.01	18/12/1982 0:00	40.8
99829	WANGOOM	3729	142.516794	-38.359422	632521.4	5753216.4	54		36.88	28/12/1985 0:00	45
99833	WANGOOM	3729	142.515386	-38.359422	632398.4	5753218.4	54		36.48	17/11/1986 0:00	45
99881	WANGOOM	3729	142.530079	-38.348976	633701.4	5754356.4	54		44.35	11/03/1989 0:00	48.76
99900	WANGOOM	3729	142.511713	-38.357235	632081.4	5753466.4	54		33.94	9/01/1989 0:00	36.9
99915	WANGOOM	3729	142.517942	-38.359588	632621.4	5753196.4	54		39.42	17/04/1983 0:00	49.68
99933	WANGOOM	3729	142.517694	-38.35869	632601.4	5753296.4	54		36.85	22/04/1990 0:00	40.24
99949	WANGOOM	3729	142.525836	-38.349112	633330.4	5754347.4	54		44.92	1/01/1988 0:00	30.4
99954	WANGOOM	3729	142.541873	-38.380606	634673.4	5750829.4	54		33.47	1/01/1988 0:00	40.2
99955	WANGOOM	3729	142.535831	-38.38183	634143.4	5750702.4	54		35.96	1/01/1988 0:00	36.5
99990	WANGOOM	3729	142.546038	-38.378324	635041.4	5751076.4	54		32.25	8/01/1991 0:00	41.71
99999	WANGOOM	3729	142.534778	-38.357475	634096.4	5753406.4	54		44.87	1/01/1988 0:00	42.6
WRK032365	WANGOOM	3729	142.553719	-38.362813	635741.5	5752786.4	54		46.12	1800-01-01 00:00:00	30
WRK066592			142.532685	-38.353956	633920	5753800	54			5/10/2011 0:00	50
WRK963357	WANGOOM	3729	142.521457	-38.353153	632940.4	5753905.4	54		42.86	21/11/2003 0:00	57.91
WRK969713	WANGOOM	3729	142.513029	-38.359141	632193	5753253	54		35.13	8/06/2005 0:00	48.77
WRK969720	WANGOOM	3729	142.537912	-38.362778	634360.4	5752813.4	54		40.35	0000-00-00 00:00:00	60
WRK971228	WANGOOM	3729	142.514914	-38.35681	632362	5753509	54		33.89	23/09/2005 0:00	48.77
WRK971837	WANGOOM	3729	142.53871	-38.357987	634439	5753344	54		46.32	0000-00-00 00:00:00	30
WRK974746	WANGOOM	3729	142.514559	-38.35688	632333	5753634	54		33.97	0000-00-00 00:00:00	60
WRK976933	WANGOOM	3729	142.514282	-38.359954	632301	5753161	54		34.21	0000-00-00 00:00:00	80
WRK980581	WANGOOM	3729	142.515753	-38.35806	632433	5753369	54		34.12	0000-00-00 00:00:00	80

WMS Groudwater Database Seach Results
(Bores)

Bore ID	Authority	Authority Code	Bore type	Use 1	Use 2	Use 3	Monitoring Status	Monitoring Frequency	Initial SWL (m)	Initial EC (mS/cm)	Initial TDS (mg/L)	Driller
100003			Groundwater	Domestic and Stock			P					WHITEHEAD N F
99559			Groundwater				N					NOT KNOWN
99568			Groundwater				P					WHITEHEAD N F
99569			Groundwater	Stock			P					MCCRABB A J
99596			Groundwater	Stock			P					MCCRABB A J
99602			Groundwater				P					MCCRABB A J
99608			Groundwater	Stock			P					MCCRABB A J
99613			Groundwater	Stock			P					WHITEHEAD N F
99622			Groundwater	Stock			P					MCCRABB A J
99661			Groundwater				P					MCCRABB A J
99682			Groundwater	Stock			P					WATT C
99688			Groundwater				P					NOT KNOWN
99696			Groundwater				P					WATT C
99704			Groundwater	Domestic			P					MARTIN J T
99706			Groundwater	Domestic			P					MAHONY J F
99710			Groundwater	Stock			P					WHITEHEAD N F
99719			Groundwater	Stock			P					WHITEHEAD N F
99728			Groundwater				P					WHITEHEAD N F
99734			Groundwater	Stock			P					MAHONY J F
99735			Groundwater	Domestic			P					MAHONY J F
99736			Groundwater	Domestic			P					WHITEHEAD N F
99749			Groundwater	Domestic			P					WHITEHEAD N F
99761			Groundwater	Domestic			P					MARTIN J T
99776			Groundwater	Domestic			P					WATT C
99802			Groundwater				N					BENNETT, BARRY D
99803			Groundwater				N					BENNETT, BARRY D
99816			Groundwater	Domestic			P					WHITEHEAD N F
99824			Groundwater				P					WHITEHEAD N F
99826			Groundwater	Domestic			P					MAHONY J F
99829			Groundwater				P					MARTIN J T
99833			Groundwater				P					MARTIN J T
99881			Groundwater				P					WHITEHEAD N F
99900			Groundwater	Domestic			P					KANE T M
99915			Groundwater	Domestic			N					HEAP P
99933			Groundwater	Domestic			P					MAHONY J F
99949			Groundwater	Stock			N					NOT KNOWN
99954			Groundwater	Stock			N					NOT KNOWN
99955			Groundwater	Stock			N					NOT KNOWN
99990			Groundwater	Domestic			P					WHITEHEAD N F
99999			Groundwater	Stock			N					NOT KNOWN
WRK032365			Groundwater	Dairy			N					NOT KNOWN
WRK066592			Groundwater	Dairy			N					NOT KNOWN
WRK963357			Groundwater	Domestic and Stock			N					WHITEHEAD N F
WRK969713			Groundwater	Domestic and Stock			N					WHITEHEAD N F
WRK969720			Groundwater				N					
WRK971228			Groundwater	Domestic and Stock			N					WHITEHEAD N F
WRK971837			Groundwater				N					
WRK974746			Groundwater				N					
WRK976933			Groundwater				N					
WRK980581			Groundwater				N					

WMS Groudwater Database Seach Results

(Bores)

[illegible]

WMS Groudwater Database Seach Results
(Aquifer)

Bore ID	Aquifer from (m)	Aquifer to (m)	Aquifer	Aquifer material	Water from (m)	Water to (m)	Lithology code	Data source
100003								
99568								
99569								
99596								
99602								
99608								
99613								
99622								
99661								
99682								
99688								
99696								
99704								
99706								
99710								
99719								
99728								
99734								
99735								
99736								
99749								
99761								
99776								
99803								
99816								
99824								
99826								
99829								
99833								
99881								
99900								
99915								
99933								
99990								
WRK963357								
WRK969713								
WRK969713								
WRK971228								
WRK971228								

WMS Groudwater Database Seach Results
(Aquifer)

Bore ID	Pumping test date	Pump depth (m)	Pump type	Pumping time (hh:mm)	Drawdown (m)	Recovery time (hh:mm)	Transmissivity (m2/d)
100003	7/10/1991 0:00	0	BAL	45	0		
99568	12/10/1986 0:00	0	BAL		0		
99569	7/02/1971 0:00	0	NKN		0		
99596	13/02/1973 0:00	0	NKN		0		
99602	27/11/1973 0:00	0	NKN		0		
99608	27/05/1974 0:00	0	NKN		0		
99613	7/06/1974 0:00	0	NKN		0		
99622	24/06/1974 0:00	0	NKN		0		
99661	12/11/1975 0:00	0	NKN		0		
99682	6/12/1976 0:00	0	NKN		0		
99688	1/01/1970 0:00	0	NKN		0		
99696	20/08/1977 0:00	0	BAL		0		
99704	30/03/1978 0:00	0	BAL		0		
99706	22/05/1978 0:00	0	BAL	240	0		
99710	8/11/1978 0:00	0	AIR		0		
99719	17/05/1979 0:00	0	BAL		0		
99728	30/11/1979 0:00	0	BAL		0		
99734	30/03/1980 0:00	0	BAL	240	0		
99735	26/02/1980 0:00	0	BAL	240	0		
99736	13/03/1980 0:00	0	BAL		0		
99749	20/06/1981 0:00	0	BAL		0		
99761	26/02/1982 0:00	0	BAL		0		
99776	28/01/1983 0:00	0	BAL		0		
99803	20/04/1984 0:00	0	PUM		0		
99816	25/11/1984 0:00	0	BAL		0		
99824	7/01/1986 0:00	0	AIR		0		
99826	18/12/1982 0:00	0	BAL	180	0		
99829	28/12/1985 0:00	0	PUM		0		
99833	17/11/1986 0:00	0	BAL		0		
99881	11/03/1989 0:00	0	AIR		0		
99900	9/01/1989 0:00	0	BAL		0		
99915	17/04/1983 0:00	0	AIR	60	0		
99933	22/04/1990 0:00	0	BAL		0		
99990	8/01/1991 0:00	0	BAL		0		
WRK963357	21/11/2003 0:00	0	AIR	120	0		
WRK969713	8/06/2005 0:00	0	AIR	120	0	15	
WRK969713	8/06/2005 0:00	0	NKN		0		
WRK971228	23/09/2005 0:00	0	AIR	120	0	30	
WRK971228	23/09/2005 0:00	0	NKN		0		

WMS Groudwater Database Seach Results
(Aquifer)

Bore ID	Hydraulic Conductivity (m/d)	Storativity	Yield (L/s)	Test data source	Pumping rate (L/s)
100003			0.63	NOT KNOWN	0
99568			0.51	NOT KNOWN	0
99569			0.69	NOT KNOWN	0
99596			0.76	NOT KNOWN	0
99602			0.76	NOT KNOWN	0
99608			0.76	NOT KNOWN	0
99613			0.38	NOT KNOWN	0
99622			0.76	NOT KNOWN	0
99661			0.9	NOT KNOWN	0
99682			0.76	NOT KNOWN	0
99688			0.75	NOT KNOWN	0
99696			0.75	NOT KNOWN	0
99704			0.75	NOT KNOWN	0
99706			2.52	NOT KNOWN	0
99710			0.76	NOT KNOWN	0
99719			0.63	NOT KNOWN	0
99728			0.51	NOT KNOWN	0
99734			2.27	NOT KNOWN	0
99735			2.27	NOT KNOWN	0
99736			0.51	NOT KNOWN	0
99749			0.51	NOT KNOWN	0
99761			0.76	NOT KNOWN	0
99776			0.76	NOT KNOWN	0
99803			2.63	NOT KNOWN	0
99816			0.63	NOT KNOWN	0
99824			1.26	NOT KNOWN	0
99826			1.01	NOT KNOWN	0
99829			1.14	NOT KNOWN	0
99833			0.88	NOT KNOWN	0
99881			0.63	NOT KNOWN	0
99900			1.2	NOT KNOWN	0
99915			0.37	NOT KNOWN	0
99933			1.01	NOT KNOWN	0
99990			0.51	NOT KNOWN	0
WRK963357			1.9	WHITEHEAD N F	0
WRK969713			0	WHITEHEAD N F	0
WRK969713			0	WHITEHEAD N F	0
WRK971228			0	WHITEHEAD N F	0
WRK971228			0	WHITEHEAD N F	0

WMS Groudwater Database Seach Results
(Casing)

Bore ID	Casing run	Depth from (m)	Depth to (m)	Material	Diameter (mm)	Comments	Data source
100003	1	-0.2	33.78	MST	139		WMIS import
99568	1	0	35.97	GIR	152		WMIS import
99569	1	0	32	NKN	0		WMIS import
99596	1	0	32.31	NKN	127		WMIS import
99602	1	0	30.48	NKN	127		WMIS import
99608	1	0	34.14	NKN	127		WMIS import
99613	1	0	32	NKN	127		WMIS import
99622	1	0	32.61	NKN	127		WMIS import
99661	1	0	34.8	PVC	127		WMIS import
99682	1	0	30.48	PVC	127		WMIS import
99688	1	0	28	PVC	127		WMIS import
99696	1	0	10.3	PVC	152		WMIS import
99704	1	0	33	PVC	127		WMIS import
99706	1	0	33.78	PVC	127		WMIS import
99710	1	0	30.48	PVC	127		WMIS import
99719	1	0	35.3	PVC	152		WMIS import
99728	1	0	36.58	PVC	127		WMIS import
99734	1	0	30.48	PVC	127		WMIS import
99735	1	0	30.48	PVC	127		WMIS import
99736	1	0	32.91	PVC	127		WMIS import
99749	1	0	18.89	PVC	127		WMIS import
99761	1	0	36	PVC	127		WMIS import
99776	1	0	28	P06	139		WMIS import
99803	1	0	44	GIR	152		WMIS import
99816	1	0	26.2	MST	152		WMIS import
99824	1	0	36.88	MST	127		WMIS import
99826	1	0	32.31	PVC	140		WMIS import
99829	1	0	36	PVC	127		WMIS import
99833	1	0	31	PVC	127		WMIS import
99881	1	-0.3	32.6	MST	127		WMIS import
99900	1	-0.2	32.05	MST	125		WMIS import
99915	1	0	31.4	STL	139		WMIS import
99915	1	48.2	49.68	STL	139		WMIS import
99933	1	-0.3	32.31	MST	139		WMIS import
99990	1	-0.15	32.91	GIR	152		WMIS import
WRK963357	1	-8.3	43.28	STL	0		WMIS import
WRK969713	1	8.3	31.04	STL	153		WMIS import
WRK971228	1	8.3	31.04	STL	152		WMIS import

WMS Groudwater Database Seach Results
(Lithology)

Bore ID	From (m)	To (m)	Lithology	Log type
100003	0	24.38	BLUESTONE	D
100003	24.38	28.34	YELLOW CLAY	D
100003	28.34	54.86	LIMESTONE	D
99568	0	0.3	SUB SOIL	D
99568	0.3	0.61	CLAY	D
99568	0.61	2.13	FRACTURED STONE	D
99568	2.13	20.12	DECOMPOSED STONE	D
99568	20.12	25.91	CLAY AND SAND	D
99568	34.44	43.8	LIMESTONE (WATER)	D
99568	42.67	53.33	LIMESTONE	D
99568	43.8	34.44	LIMESTONE (DRY)	D
99568	35.97	43.8	LIMESTONE	G
99569	0	0.3	SUB SOIL	D
99569	0.3	3.35	FRACTURED STONE	D
99569	3.35	25.91	DECOMPOSED STONE	D
99569	25.91	28.65	SANDY CLAY	D
99569	28.65	32	LIMESTONE (DRY)	D
99569	32	42.6	LIMESTONE (WATER)	D
99596	0	0.3	SOIL	D
99596	0.3	8.53	CLAY	D
99596	8.53	14.63	CLAY AND DECOMPOSED STONE	D
99596	14.63	20.12	DECOMPOSED STONE	D
99596	20.12	24.99	CLAY	D
99596	24.99	25.6	LIMESTONE	D
99596	25.6	29.26	CLAY	D
99596	29.26	40.23	LIMESTONE	D
99602	0	0.3	SOIL	D
99602	0.3	1.52	CLAY	D
99602	1.52	3.05	DECOMPOSED STONE	D
99602	3.05	15.85	CLAY	D
99602	15.85	39.62	LIMESTONE	D
99608	0	0.61	SOIL	D
99608	0.61	2.44	CLAY	D
99608	2.44	20.12	STONE	D
99608	20.12	24.69	CLAY	D
99608	24.69	26.82	CLAY AND LIMESTONE	D
99608	26.82	42.06	LIMESTONE	D
99608	42.06	44.19	MARL	D
99613	0	0.61	TOP SOIL	D
99613	0.61	2.13	BROWN AND GREY CLAY	D
99613	2.13	5.49	BROWN STONE	D
99613	5.49	19.81	BROWN STONE AND CLAY	D
99613	19.81	28.96	BROWN SANDS CLAY AND RUBBLY LIMESTONE	D
99613	28.96	36.57	LIMESTONE	D
99622	0	0.3	SOIL	D
99622	0.3	6.7	BLUESTONE	D
99622	6.7	9.45	DECOMPOSED STONE	D
99622	9.45	17.98	CLAY	D
99622	17.98	46.63	LIMESTONE	D
99661	0	0.3	SOIL	D
99661	0.3	15.9	CLAY	D
99661	15.9	17.7	LIMESTONE	D
99661	17.7	20.4	SANDY CLAY	D
99661	20.4	41.51	LIMESTONE	D
99682	0	0.3	SURFACE LOAM	D
99682	0.3	7.62	DECOMPOSED BASALT	D
99682	7.62	24	MULTI COLOURED CLAYS SOME RUBBLE	D
99682	24	28	WHITE LIMESTONE TO YELLOW LIMESTONE	D
99682	28	37.18	WATER AND YELLOW LIMESTONE	D
99688	0	4.57	BLACK SURFACE LOAM TO BROWN YELLOW AND GREY CLAYS	D
99688	4.57	14.63	DECOMPOSED BASALT	D
99688	14.63	16.76	GREY AND YELLOW CLAYS	D
99688	16.76	20.11	YELLOW LIMESTONE	D
99688	20.11	29	WHITE LIMESTONE	D
99688	29	29.5	YELLOW SANDSTONE	D
99688	29.5	32.61	WHITE LIMESTONE	D
99696	0	3	BROWN LOAM AND RED CLAYS	D
99696	3	7	MARLY AND CRUMBLY MOTTLED CLAY	D
99696	7	12	HARD LIMESTONE	D
99696	12	18	FIRM LIMESTONE	D
99696	18	25.5	HARD LIMESTONE AND WATER CUT	D
99696	25.5	32.5	FIRM LIMESTONE	D

WMS Groudwater Database Seach Results
(Lithology)

99704	0	0.3	SUB BLACK	D
99704	0.3	1.82	YELLOW CLAY	D
99704	1.82	14	BLUESTONE	D
99704	14	23	YELLOW CLAY	D
99704	23	39	LIMESTONE	D
99706	0	0.3	TOP SOIL	D
99706	0.3	25.6	CLAYS	D
99706	25.6	39.58	LIMESTONE	D
99710	0	0.61	TOP SOIL	D
99710	0.61	4.57	BROWN CLAY	D
99710	4.57	6.71	BROWN STONE	D
99710	6.71	23.76	BROWN CLAY	D
99710	23.76	28.04	LIMESTONE AND CLAY	D
99710	28.04	39.58	LIME STONE	D
99710	30.48	39.58	LIMESTONE	G
99719	0	0.3	TOP SOIL	D
99719	0.3	5.43	BROWN CLAY	D
99719	5.43	7.92	BROWN STONE	D
99719	7.92	10.32	RED CLAY	D
99719	10.32	19.8	YELLOW CLAY	D
99719	19.8	42.67	YELLOW CLAY AND LIMESTONE	D
99719	35.3	42.67	LIMESTONE	G
99728	0	0.3	TOP SOIL	D
99728	0.3	0.61	BUCK SHOT	D
99728	0.61	5.13	BROWN CLAY	D
99728	5.13	7.32	BROWN STONE	D
99728	7.32	10.01	BROWN CLAY	D
99728	10.01	17.68	BROWN STONE AND CLAY	D
99728	17.68	20.12	BROWN CLAY	D
99728	20.12	27.12	YELLOW CLAY	D
99728	27.12	32.61	LIMESTONE AND CLAY	D
99728	32.61	47.55	LIMESTONE	D
99728	36.58	47.55	LIMESTONE	G
99734	0	0.3	TOP	D
99734	0.3	1.83	CLAY	D
99734	1.83	7.32	STONE	D
99734	7.32	24.99	CLAY	D
99734	24.99	40.1	LIMESTONE	D
99734	30.48	40.1	LIMESTONE	G
99735	0	0.3	TOP SOIL	D
99735	0.3	19.51	CLAY	D
99735	19.51	39.58	LIMESTONE	D
99735	30.48	39.58	LIMESTONE	G
99736	0	0.3	TOP SOIL	D
99736	0.3	1.82	BLUE STONE	D
99736	1.82	4.22	BROWN CLAY	D
99736	4.22	18.58	BLUE STONE	D
99736	18.58	21.33	YELLOW CLAY	D
99736	21.33	25.9	BROWN CLAY	D
99736	25.9	42.67	LIME STONE	D
99736	32.91	42.67	LIMESTONE	G
99749	0	7.62	SANDSTONE	D
99749	7.62	11.53	YELLOW SANDY CLAY	D
99749	11.53	21.33	SANDSTONE	D
99749	12.8	21.33	SAND	G
99761	0	0.3	SUB SOIL	D
99761	0.3	6	CLAY	D
99761	6	11	DECOMPOSED STONE	D
99761	11	17	BLUE STONE	D
99761	17	28	CLAY	D
99761	28	41	LIMESTONE	D
99761	36	41	LIMESTONE	G
99776	0	15	MULTI COLOURED CLAYS BROWN	D
99776	15	21	FRAGMENTED LIMESTONE FLINT PIECES AND SOFT DAMPNES IN CHALK	D
99776	21	24	SLIGHTLY SANDY COLOURED CRUMBLY LIMESTONE	D
99776	24	35	FLINTY LIMESTONE	D
99776	28	35	LIMESTONE	G
99802	0	45	CLAY	D
99803	0	6	CLAY	D
99803	6	51	LIMESTONE	D
99803	44	51	LIMESTONE	G

WMS Groudwater Database Seach Results
(Lithology)

99816	0	0.3	TOP SOIL	D
99816	0.3	12.19	RED AND BROWN CLAY	D
99816	12.19	21.33	LIMESTONE AND CLAY	D
99816	21.33	41.1	LIMESTONE	D
99816	26.2	41.1	LIMESTONE	G
99824	0	0.3	TOP SOIL	D
99824	0.3	1.52	BROWN CLAY	D
99824	1.52	10.62	BROWN STONE AND CLAY	D
99824	10.62	16.76	BROWN CLAY	D
99824	16.76	21.33	YELLOW CLAY	D
99824	21.33	28.95	L/STONE AND CLAY	D
99824	28.95	53.33	LIMESTONE	D
99824	36.88	53.33	LIMESTONE	G
99826	0	0.3	TOP	D
99826	0.3	1.83	CLAY	D
99826	1.83	4.22	STONE	D
99826	4.22	23.78	CLAY	D
99826	23.78	40.8	LIMESTONE	D
99826	32.31	39.58	LIMESTONE	G
99829	0	1	SUB SOIL	D
99829	1	9	CLAY	D
99829	9	16	BLUESTONE	D
99829	16	25	CLAY	D
99829	25	45	LIMESTONE	D
99829	36	45	LIMESTONE	G
99833	0	0.3	TOP SOIL	D
99833	0.3	24	BLUE STONE	D
99833	24	45	LIMESTONE	D
99833	31	45	LIMESTONE	G
99881	0	0.3	TOPSOIL	D
99881	0.3	1.22	BROWN CLAY	D
99881	1.22	14.62	BROWN STONE	D
99881	14.62	16.15	RED CLAY	D
99881	16.15	20.41	YELLOW CLAY	D
99881	20.41	25.9	YELLOW CLAY AND LIMESTONE	D
99881	25.9	48.76	LIMESTONE	D
99900	0	0.5	CLAY	D
99900	9.5	16	SOFT DECOMPOSED BASALT	D
99900	16	27.2	YELLOW CLAY	D
99900	27.2	30	LIMESTONE AND CLAY	D
99900	30	36.7	HARD LIMESTONE	D
99915	0	1.5	BLACK ALLUVIAL	D
99915	1.5	18.8	BASALT WEATHERED JOINTS	D
99915	18.8	49.68	LIMESTONE WITH CAVITIES	D
99915	31.4	48.2	LIMESTONE	G
99933	0	0.3	TOP SOIL	D
99933	0.3	8.54	CLAY	D
99933	8.54	16.46	STONE	D
99933	16.46	29.87	CLAY	D
99933	29.87	39.02	LIMESTONE	D
99933	39.02	40.24	MARL	D
99990	0	0.3	TOP SOIL	D
99990	0.3	2.43	BROWN CLAY	D
99990	2.43	10.62	YELLOW CLAY	D
99990	10.62	24.38	YELLOW CLAY & LIMESTONE	D
99990	24.38	41.71	LIMESTONE	D
WRK963357	0	0.3	RUBBLE	D
WRK963357	0.3	1.22	CLAY	D
WRK963357	1.22	7.62	DECOMPOSED STONE	D
WRK963357	7.62	16.76	CLAY	D
WRK963357	16.76	21.34	LIMESTONE & CLAY	D
WRK963357	21.34	57.91	LIMESTONE	D
WRK969713	0	0.3	TOP SOIL	D
WRK969713	0.3	7.62	CLAY	D
WRK969713	7.62	15.24	CLAY & STONE	D
WRK969713	15.24	20.12	CLAY	D
WRK969713	20.12	48.77	LIMESTONE	D
WRK971228	0	0.3	TOP SOIL	D
WRK971228	0.3	18.29	CLAY	D
WRK971228	18.29	21.34	CLAY	D
WRK971228	21.34	48.77	LIMESTONE	D

WMS Groudwater Database Seach Results
(Screen)

Bore ID	Screen no.	From (m)	To (m)	Material	Diameter (mm)	Aperture (mm)	Lithology	Filter pack	Filter from (m)	Filter to (m)	Comments	Source
100003	1	33.78	54.86	MST	0							WMIS import
99568	1	35.97	43.8	GIR	0							WMIS import
99569	1	32	42.67	NKN	0							WMIS import
99596	1	29.87	38.1	NKN	0							WMIS import
99602	1	28.04	39.62	NKN	0							WMIS import
99608	1	31.39	42.06	NKN	0							WMIS import
99613	1	28.95	36.57	NKN	0							WMIS import
99622	1	34.74	46.63	NKN	0							WMIS import
99661	1	29.87	40.84	PVC	0							WMIS import
99682	1	28.65	37.18	PVC	0							WMIS import
99688	1	26.51	32.61	PVC	0							WMIS import
99696	1	25.5	32.5	PVC	0							WMIS import
99704	1	24	33	PVC	0							WMIS import
99706	1	29.15	39.58	PVC	0							WMIS import
99710	1	30.48	39.58	PVC	0							WMIS import
99719	1	35.3	42.67	PVC	0							WMIS import
99728	1	36.58	47.55	PVC	0							WMIS import
99734	1	30.48	40.1	PVC	0							WMIS import
99735	1	30.48	39.58	PVC	0							WMIS import
99736	1	32.91	42.67	PVC	0							WMIS import
99749	1	12.8	21.33	PVC	0							WMIS import
99761	1	36	41	PVC	0							WMIS import
99776	1	28	35	P06	0							WMIS import
99803	1	44	51	GIR	0							WMIS import
99816	1	26.2	41.1	MST	0							WMIS import
99824	1	36.88	53.33	MST	0							WMIS import
99826	1	32.31	39.58	PVC	0							WMIS import
99829	1	36	45	PVC	0							WMIS import
99833	1	31	45	PVC	127							WMIS import
99881	1	30.48	48.76	MST	0							WMIS import
99900	1	30	36.7	MST	0							WMIS import
99915	1	31.4	48.2	STL	125							WMIS import
99933	1	32.31	39.02	MST	0							WMIS import
99990	1	25.9	41.71	GIR	0							WMIS import

WMS Groudwater Database Seach Results
(Standing Water Level)

Bore ID	Date	Time	SWL (m toc)	SWL (m bgl)	RWL (m bgl)	EC (mS/cm)	pH	Temp (oC)	Comments	Source	Monitoring Method	Bore State
100003	7/10/1991 0:00						7.6		Imported from WMIS			
99568	12/10/1986 0:00						7.5		Imported from WMIS			
99568	27/01/1971 0:00						7.5		Imported from WMIS			
99569	8/02/1971 0:00						7.4		Imported from WMIS			
99596	13/02/1973 0:00						7.9		Imported from WMIS			
99602	29/11/1973 0:00						7.99		Imported from WMIS			
99608	30/05/1974 0:00						7.46		Imported from WMIS			
99613	24/06/1974 0:00						7.57		Imported from WMIS			
99622	26/06/1974 0:00						7.57		Imported from WMIS			
99661	15/11/1975 0:00						8.05		Imported from WMIS			
99682	8/12/1976 0:00						7.48		Imported from WMIS			
99688	2/04/1977 0:00						7.59		Imported from WMIS			
99696	20/08/1977 0:00						7.65		Imported from WMIS			
99704	30/03/1978 0:00						7.52		Imported from WMIS			
99706	22/05/1978 0:00						7.25		Imported from WMIS			
99710	8/11/1978 0:00						7.89		Imported from WMIS			
99719	17/05/1979 0:00						7.7		Imported from WMIS			
99728	22/05/1980 0:00						7.9		Imported from WMIS			
99734	30/03/1980 0:00						7.8		Imported from WMIS			
99735	26/02/1980 0:00						8.9		Imported from WMIS			
99736	13/03/1980 0:00						7.2		Imported from WMIS			
99749	20/06/1981 0:00						8		Imported from WMIS			
99761	26/02/1982 0:00						7.5		Imported from WMIS			
99776	28/01/1983 0:00						7.5		Imported from WMIS			
99816	12/08/1985 0:00						7.4		Imported from WMIS			
99824	7/01/1986 0:00						7.6		Imported from WMIS			
99826	27/11/1985 0:00						8.2		Imported from WMIS			
99829	20/04/1986 0:00						8		Imported from WMIS			
99833	17/01/1987 0:00						7.8		Imported from WMIS			
99881	11/03/1989 0:00						8.1		Imported from WMIS			
99900	9/01/1989 0:00						7.4		Imported from WMIS			
99933	22/05/1990 0:00						7.5		Imported from WMIS			
99990	8/01/1991 0:00						7.3		Imported from WMIS			

WMS Groudwater Database Search Results
(Chemistry)

Bore ID	Sample ID	Date	Purged	Method	Sampled from	Sampled to	Sampled depth	Sampled by	Analysed by	Source	Other analysis	Sample values
100003		7/10/1991 0:00		BAILED								Conductivity: 1200.000
99568		27/01/1971 0:00		AIR LIFTED								Conductivity: 4619.000, Calcium Ions: 302.000, Chloride ions: 1407.000, Hardness: 1296.000, Bicarbonate ions: 467.000, Potassium Ions: 10.000, Sodium Ions: 499.000, Total soluble salts: 2899.000, Sulphate ions: 49.000, DME Silicate, as SiO3: 33.000, Magnesium Ions: 132.000
99568		12/10/1986 0:00		NOT KNOWN								Magnesium Ions: 140.000, Total dissolved solids: 2945.018, Fe Total: 24.000, Sulphate ions: 76.000, Sodium Ions: 520.000, Nitrate + Nitrite, as N(0.003d: 2.600, Silica, reactive as SiO2: 37.000, Potassium Ions: 9.900, Bicarbonate ions: 463.415, Hardness: 1331.500, Chloride ions: 1500.000, Calcium Ions: 300.000, Conductivity: 5000.000, Alkalinity: 380.000
99569		8/02/1971 0:00		FLOWING								Conductivity: 4569.000, Calcium Ions: 384.000, Chloride ions: 1356.000, Hardness: 1349.000, Bicarbonate ions: 459.000, Potassium Ions: 7.000, Sodium Ions: 430.000, Sulphate ions: 33.000, DME Silicate, as SiO3: 21.000, Fe Total: 29.600, Magnesium Ions: 95.000, Total soluble salts: 2785.000
99596		13/02/1973 0:00		FLOWING								Conductivity: 8080.000, Calcium Ions: 363.000, Chloride ions: 2740.000, Hardness: 1589.000, Bicarbonate ions: 131.000, Magnesium Ions: 166.000, Total soluble salts: 5583.000
99602		29/11/1973 0:00		FLOWING								Conductivity: 2920.000, Calcium Ions: 182.000, Chloride ions: 735.000, Hardness: 769.000, Bicarbonate ions: 384.000, Potassium Ions: 4.000, Sodium Ions: 281.000, Nitrate as N: 0.226, Sulphate ions: 42.000, DME Silicate, as SiO3: 32.000, Fe Total: 3.000, Magnesium Ions: 76.000, Total Soluble Salts (Summation: 1737.000
99608		30/05/1974 0:00		FLOWING								Conductivity: 5550.000, Calcium Ions: 321.000, Chloride ions: 1589.000, Hardness: 1462.000, Bicarbonate ions: 546.000, Potassium Ions: 13.000, Sodium Ions: 615.000, Sulphate ions: 125.000, DME Silicate, as SiO3: 47.000, Fe Total: 0.400, Magnesium Ions: 160.000, Total Soluble Salts (Summation: 3416.000
99613		24/06/1974 0:00		FLOWING								Conductivity: 2375.000, Calcium Ions: 172.000, Chloride ions: 540.000, Hardness: 624.000, Bicarbonate ions: 412.000, Potassium Ions: 4.000, Sodium Ions: 238.000, Sulphate ions: 42.000, DME Silicate, as SiO3: 21.000, Magnesium Ions: 47.000, Total Soluble Salts (Summation: 1476.000
99622		26/06/1974 0:00		FLOWING								Conductivity: 2450.000, Calcium Ions: 165.000, Chloride ions: 556.000, Hardness: 699.000, Bicarbonate ions: 472.000, Potassium Ions: 5.000, Sodium Ions: 232.000, Sulphate ions: 39.000, DME Silicate, as SiO3: 44.000, Fe Total: 0.300, Magnesium Ions: 70.000, Total Soluble Salts (Summation: 1583.000
99661		15/11/1975 0:00		FLOWING								Conductivity: 3040.000, Calcium Ions: 124.000, Chloride ions: 809.000, Carbonate ions: 12.000, Hardness: 544.000, Bicarbonate ions: 287.000, Potassium Ions: 5.000, Sodium Ions: 418.000, Nitrate as N: 2.032, Sulphate ions: 81.000, DME Silicate, as SiO3: 29.000, Fe Total: 9.000, Magnesium Ions: 57.000, Total Soluble Salts (Summation: 1831.000
99682		8/12/1976 0:00		FLOWING								Conductivity: 3290.000, Calcium Ions: 257.000, Chloride ions: 817.000, Hardness: 1000.000, Bicarbonate ions: 544.000, Potassium Ions: 6.000, Sodium Ions: 282.000, Sulphate ions: 45.000, DME Silicate, as SiO3: 45.000, Fe Total: 2.000, Magnesium Ions: 87.000, Total Soluble Salts (Summation: 2083.000
99688		2/04/1977 0:00		FLOWING								Conductivity: 3300.000, Calcium Ions: 256.000, Chloride ions: 859.000, Hardness: 1055.000, Bicarbonate ions: 596.000, Potassium Ions: 6.000, Sodium Ions: 308.000, Sulphate ions: 52.000, DME Silicate, as SiO3: 53.000, Fe Total: 2.000, Magnesium Ions: 101.000, Total Soluble Salts (Summation: 2231.000
99696		20/08/1977 0:00		FLOWING								Conductivity: 3650.000, Calcium Ions: 208.000, Chloride ions: 951.000, Hardness: 976.000, Bicarbonate ions: 605.000, Potassium Ions: 9.000, Sodium Ions: 410.000, Sulphate ions: 52.000, DME Silicate, as SiO3: 52.000, Fe Total: 2.000, Magnesium Ions: 111.000, Total Soluble Salts (Summation: 2398.000
99704		30/03/1978 0:00		FLOWING								Conductivity: 3715.000, Calcium Ions: 236.000, Chloride ions: 979.000, Hardness: 1079.000, Bicarbonate ions: 523.000, Potassium Ions: 8.000, Sodium Ions: 366.000, Nitrate as N: 0.677, Sulphate ions: 60.000, DME Silicate, as SiO3: 49.000, Fe Total: 1.000, Magnesium Ions: 119.000, Total Soluble Salts (Summation: 2343.000
99706		22/05/1978 0:00		FLOWING								Conductivity: 3400.000, Calcium Ions: 229.000, Chloride ions: 888.000, Hardness: 967.000, Bicarbonate ions: 489.000, Potassium Ions: 7.000, Sodium Ions: 338.000, Sulphate ions: 41.000, DME Silicate, as SiO3: 41.000, Magnesium Ions: 96.000, Total Soluble Salts (Summation: 2129.000
99710		8/11/1978 0:00		FLOWING								Conductivity: 3000.000, Calcium Ions: 147.000, Chloride ions: 856.000, Hardness: 676.000, Bicarbonate ions: 181.000, Potassium Ions: 5.000, Sodium Ions: 317.000, Sulphate ions: 14.000, DME Silicate, as SiO3: 35.000, Magnesium Ions: 75.000, Total Soluble Salts (Summation: 1630.000
99719		17/05/1979 0:00		FLOWING								Conductivity: 3130.000, Calcium Ions: 242.000, Chloride ions: 788.000, Hardness: 909.000, Bicarbonate ions: 513.000, Potassium Ions: 7.000, Sodium Ions: 289.000, Sulphate ions: 27.000, DME Silicate, as SiO3: 28.000, Fe Total: 2.000, Magnesium Ions: 74.000, Total Soluble Salts (Summation: 1969.000
99728		22/05/1980 0:00		FLOWING								Conductivity: 1260.000, Calcium Ions: 112.000, Chloride ions: 223.000, Hardness: 403.000, Bicarbonate ions: 392.000, Potassium Ions: 4.000, Sodium Ions: 111.000, Sulphate ions: 6.000, DME Silicate, as SiO3: 33.000, Fe Total: 0.200, Magnesium Ions: 30.000, Total Soluble Salts (Summation: 911.000
99734		30/03/1980 0:00		FLOWING								Conductivity: 3420.000, Calcium Ions: 180.000, Chloride ions: 916.000, Hardness: 878.000, Bicarbonate ions: 452.000, Potassium Ions: 6.000, Sodium Ions: 408.000, Nitrate as N: 0.226, Sulphate ions: 105.000, DME Silicate, as SiO3: 41.000, Fe Total: 2.000, Magnesium Ions: 104.000, Total Soluble Salts (Summation: 2213.000
99735		26/02/1980 0:00		FLOWING								Conductivity: 3660.000, Calcium Ions: 254.000, Chloride ions: 975.000, Carbonate ions: 2.000, Hardness: 1066.000, Bicarbonate ions: 552.000, Potassium Ions: 6.000, Sodium Ions: 374.000, Nitrate as N: 0.451, Sulphate ions: 48.000, DME Silicate, as SiO3: 51.000, Fe Total: 1.000, Magnesium Ions: 105.000, Total Soluble Salts (Summation: 2369.000
99736		13/03/1980 0:00		FLOWING								Conductivity: 4310.000, Calcium Ions: 274.000, Chloride ions: 1206.000, Hardness: 1223.000, Bicarbonate ions: 654.000, Potassium Ions: 8.000, Sodium Ions: 483.000, Nitrate as N: 1.129, Sulphate ions: 59.000, DME Silicate, as SiO3: 70.000, Magnesium Ions: 131.000, Total Soluble Salts (Summation: 2892.000

WMS Groudwater Database Search Results
(Chemistry)

99749		20/06/1981 0:00	FLOWING								Conductivity: 1060.000,Calcium Ions: 106.000,Chloride ions: 170.000,Hardness: 335.000,Bicarbonate ions: 329.000,Potassium Ions: 4.000,Sodium Ions: 94.000,Nitrate as N: 2.935,Sulphate ions: 11.000,DME Silicate, as SiO3: 9.000,Fe Total: 18.000,Magnesium Ions: 17.000,Total Soluble Salts (Summation: 753.000
99761		26/02/1982 0:00	FLOWING								Conductivity: 2000.000,Calcium Ions: 136.000,Chloride ions: 457.000,Hardness: 512.000,Bicarbonate ions: 311.000,Potassium Ions: 4.000,Sodium Ions: 194.000,Nitrate as N: 0.451,Sulphate ions: 29.000,DME Silicate, as SiO3: 31.000,Fe Total: 1.000,Magnesium Ions: 42.000,Total Soluble Salts (Summation: 1206.000
99776		28/01/1983 0:00	NOT KNOWN								Conductivity: 3700.000,Alkalinity: 440.000,Chloride ions: 960.000,Bicarbonate ions: 536.585,Potassium Ions: 5.000,Sodium Ions: 370.000,Nitrate + Nitrite, as N(0.003d: 0.150,Silica, reactive as SiO2: 35.000,Sulphate ions: 46.000,Fe Total: 2.700
99816		12/08/1985 0:00	BAILED								Conductivity: 3100.000,Alkalinity: 360.000,Calcium Ions: 240.000,Chloride ions: 810.000,Hardness: 894.640,Bicarbonate ions: 439.024,Potassium Ions: 3.400,Sodium Ions: 300.000,Nitrate + Nitrite, as N(0.003d: 0.460,Silica, reactive as SiO2: 30.000,Sulphate ions: 39.000,Fe Total: 8.400,Magnesium Ions: 71.000,Total dissolved solids: 1865.638
99824		7/01/1986 0:00	NOT KNOWN								Conductivity: 3800.000,Alkalinity: 310.000,Calcium Ions: 320.000,Chloride ions: 1100.000,Hardness: 1177.600,Bicarbonate ions: 378.049,Potassium Ions: 5.200,Sodium Ions: 390.000,Nitrate + Nitrite, as N(0.003d: 0.150,Silica, reactive as SiO2: 35.000,Sulphate ions: 38.000,Fe Total: 27.000,Magnesium Ions: 91.000,Total dissolved solids: 2285.064
99826		27/11/1985 0:00	BAILED								Conductivity: 2500.000,Alkalinity: 400.000,Calcium Ions: 210.000,Chloride ions: 550.000,Hardness: 765.650,Bicarbonate ions: 487.805,Potassium Ions: 4.100,Sodium Ions: 210.000,Nitrate + Nitrite, as N(0.003d: 29.000,Silica, reactive as SiO2: 35.000,Sulphate ions: 23.000,Fe Total: 0.290,Magnesium Ions: 58.000,Total dissolved solids: 1648.570
99829		20/04/1986 0:00	NOT KNOWN								Conductivity: 3800.000,Alkalinity: 160.000,Calcium Ions: 150.000,Chloride ions: 1100.000,Hardness: 873.750,Bicarbonate ions: 195.122,Potassium Ions: 6.300,Sodium Ions: 430.000,Nitrate + Nitrite, as N(0.003d: 0.150,Silica, reactive as SiO2: 33.000,Sulphate ions: 56.000,boron: 0.050,Fe Total: 0.050,Magnesium Ions: 120.000,Total dissolved solids: 2002.165
99833		17/01/1987 0:00	NOT KNOWN								Conductivity: 2600.000,Alkalinity: 210.000,Calcium Ions: 120.000,Chloride ions: 700.000,Hardness: 549.240,Bicarbonate ions: 256.098,Potassium Ions: 4.000,Sodium Ions: 290.000,Nitrate + Nitrite, as N(0.003d: 0.150,Silica, total as SiO2: 28.000,Sulphate ions: 40.000,Fe Total: 3.000,Magnesium Ions: 60.000,Total dissolved solids: 1430.865
99881		11/03/1989 0:00	NOT KNOWN								Conductivity: 3300.000,Alkalinity: 420.000,Calcium Ions: 200.000,Chloride ions: 800.000,Hardness: 853.000,Bicarbonate ions: 512.195,Potassium Ions: 4.100,Sodium Ions: 330.000,Nitrate + Nitrite, as N(0.003d: 0.150,Silica, total as SiO2: 44.000,Sulphate ions: 35.000,Fe Total: 0.730,Magnesium Ions: 85.000,Total dissolved solids: 1932.165
99900		9/01/1989 0:00	BAILED								Conductivity: 3100.000,Alkalinity: 310.000,Calcium Ions: 190.000,Chloride ions: 820.000,Hardness: 803.070,Bicarbonate ions: 378.049,Potassium Ions: 7.300,Sodium Ions: 290.000,Nitrate + Nitrite, as N(0.003d: 0.150,Silica, total as SiO2: 37.000,Sulphate ions: 29.000,Fe Total: 5.100,Magnesium Ions: 79.000,Total dissolved solids: 1765.165
99933		22/05/1990 0:00	BAILED								Conductivity: 4100.000,Alkalinity: 480.000,Calcium Ions: 220.000,Chloride ions: 1100.000,Hardness: 1006.940,Bicarbonate ions: 585.366,Potassium Ions: 5.400,Sodium Ions: 420.000,Nitrate & Nitrite, as N(0.15de: 0.640,Silica, total as SiO2: 36.000,Sulphate ions: 57.000,iron: 0.250,Magnesium Ions: 110.000,Total dissolved solids: 2441.000
99990		8/01/1991 0:00	BAILED								Conductivity: 3100.000,Alkalinity: 590.000,Calcium Ions: 280.000,Chloride ions: 720.000,Hardness: 1027.800,Bicarbonate ions: 719.512,Potassium Ions: 4.300,Sodium Ions: 300.000,Nitrate & Nitrite, as N(0.15de: 0.150,Silica, total as SiO2: 36.000,Sulphate ions: 51.000,iron: 1.500,Magnesium Ions: 79.000,Total dissolved solids: 2103.100

APPENDIX F DESKTOP GEOTECHNICAL INVESTIGATION (STRATA GEOSCIENCE, JUNE 2024)



strata
geoscience and environmental

Desktop Geotechnical Investigation East of Aberline Precinct Development Plan

Prepared for

Beveridge Williams

June 2024

TABLE OF CONTENTS

1. BACKGROUND	3
2. SCOPE.....	4
3. INVESTIGATION	4
4. INTERPRETATION.....	5
4.1 Geological Context	5
4.2 Geomorphology of the Site	5
4.2.1 Topography.....	5
4.2.2 Key Site Features.....	6
4.2.3 Subsurface Geological Conditions and Geotechnical Zones	6
4.2.4 Presence and Extent of Sodic/Dispersive Soils	8
4.3 Seismic Variables and Earthquake Risk for the Site.....	8
4.4 Landslides and Erosion Risks within Russell’s Creek Corridor	9
4.5 Hydrogeological Considerations	10
4.5.1 Groundwater Salinity	10
4.5.2 Groundwater Depth	10
4.5.3 Groundwater Acid Sulphate Concentrations	10
4.5.4 Groundwater Extraction Potential.....	11
4.5.5 Flood Risk.....	11
5. RECOMMENDATIONS	13

1. Background

Strata Geoscience and Environmental Pty Ltd was commissioned to perform a limited scope desktop geotechnical investigation to help inform the Precinct Development Plan (PCP) for an area broadly bounded by Wangoom Road, Dales Road, Aberline Road and the properties at 53 and 75 Rodgers Road. The majority of the precinct is included in the Farming Zone, aside from a small portion included in the Public Use Zone 1, associated with water storage basins. A Bushfire Management Overlay affects an area central to the site, associated with Tozer Reserve.

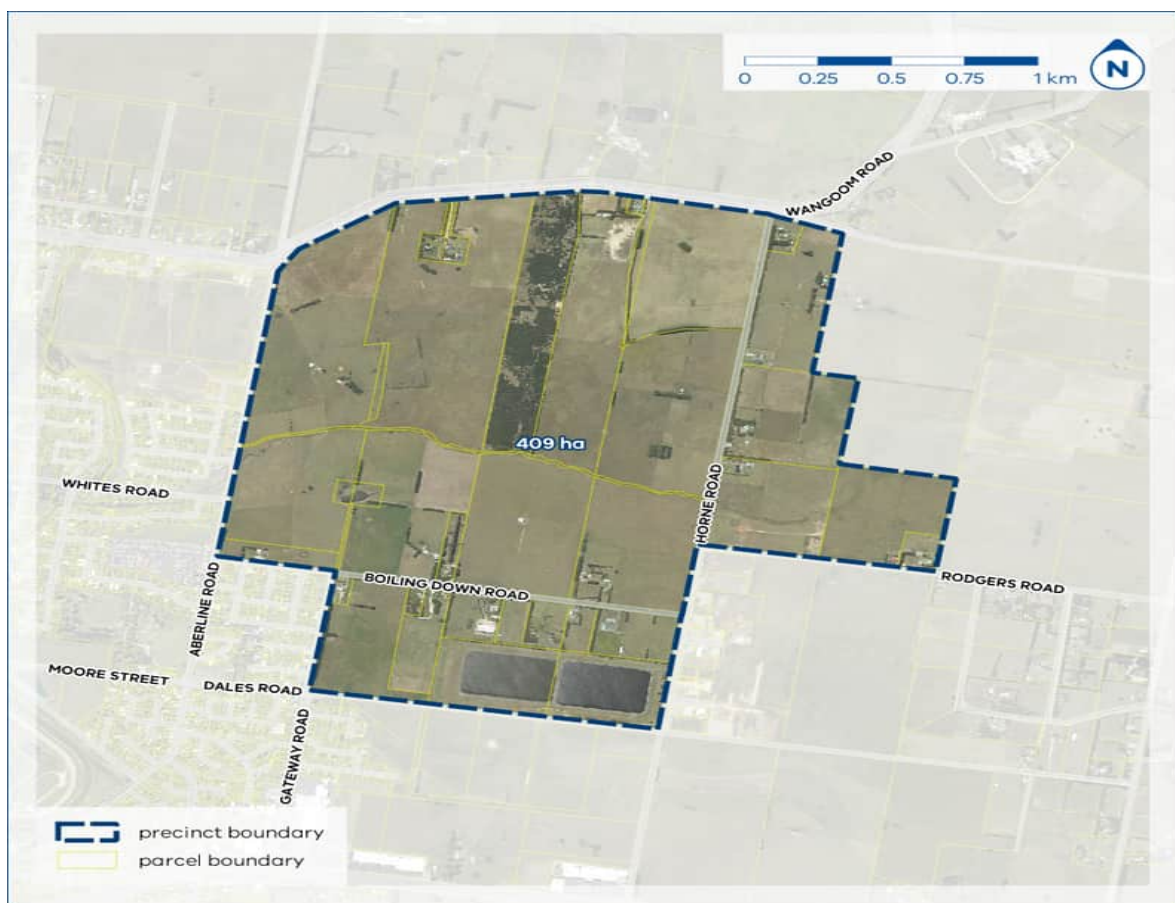


Figure 1 Study Area

The PSP will primarily allow for residential development, supported by some non-residential land uses such as retail areas and education facilities, to foster the growth of a self-sufficient community. The plan will also facilitate the conservation and enhancement of existing natural features including Russell's Creek and Tozer Reserve.

2. Scope

It is the scope of this investigation to consider potential geotechnical factors affecting development and identify potential geotechnical risks from desktop research. Namely:

Geotechnical

- Geological context of the broader area surrounding the site.
- Geomorphology of the site including:
 - Topography
 - Key site features
 - Subsurface geological conditions and geotechnical zones
 - Presence and extent of sodic/dispersive soils
- Seismic variables and earthquake risk for the site.
- Landslides and erosion risks within Russell's Creek corridor.

Hydrogeological

- Groundwater salinity.
- Groundwater depth.
- Groundwater acid sulphate concentrations.
- Groundwater extraction potential.

The above scope has been determined in consultation with the Client and is subject to time and budgetary considerations. Geotechnical investigations are informative processes and further works may be required depending upon the findings of the results of this investigation.

3. Investigation

Please refer to Section 4 and Appendices for the results of desktop investigation.

4. Interpretation

4.1 Geological Context

The primary geological formations in the region surrounding Warrnambool listed in ascending age are:

- Quaternary Aged Newer Volcanics
- Port Campbell Marine Limestones
- Gellibrand Marl
- Clifton Formation
- Dilwyn Formation Sands and Clays

The formation of primary concern with reference to geotechnical considerations over the site is the Quaternary Aged newer Volcanic formation (See Section 4.2.3)

4.2 Geomorphology of the Site

4.2.1 Topography

The site exists as a rolling volcanic plain between 30-40m AHD bisected by Russell's Creek running in a roughly east west orientation.

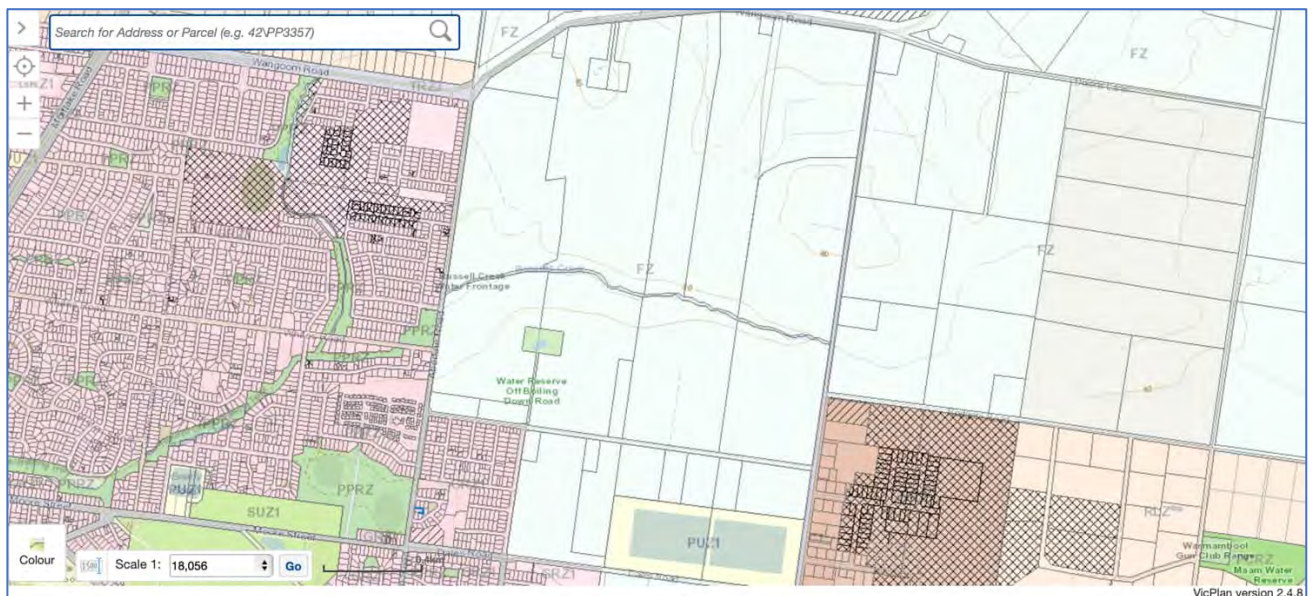


Figure 2 Topography of study area

4.2.2 Key Site Features

The site has several natural and man-made features of note:

- Russell's Creek bisecting the site on an east west orientation
- Two large earthen water reservoirs to the at the intersection of Horne and Dales Road
- Tozer Reserve- A large strip of remnant native vegetation on land running south of Wangoom Road to Russell's Creek
- Various small farm holdings and a golf driving range

4.2.3 Subsurface Geological Conditions and Geotechnical Zones

The primary geological associations are of the Quaternary aged new Volcanics.

The study area is mapped as being ubiquitously underlain by the newer Volcanic Group (NEO) comprising Basalt flows of Olivine Tholeiite, Quartz Tholeiite, Basanite, Basaltic Icelandite, Hawaiite, Mugearite, minor Scoria and Ash, Fluvial sediments: Tholeiitic to Alkaline; includes sheet flows and valley flows and intercalated gravel sand, clay.

There is likely a minor Quaternary Aged alluvial unit associated with Russell's Creek and its flood plain. The size of this unit is unclear from available geological mapping and requires ground truthing.

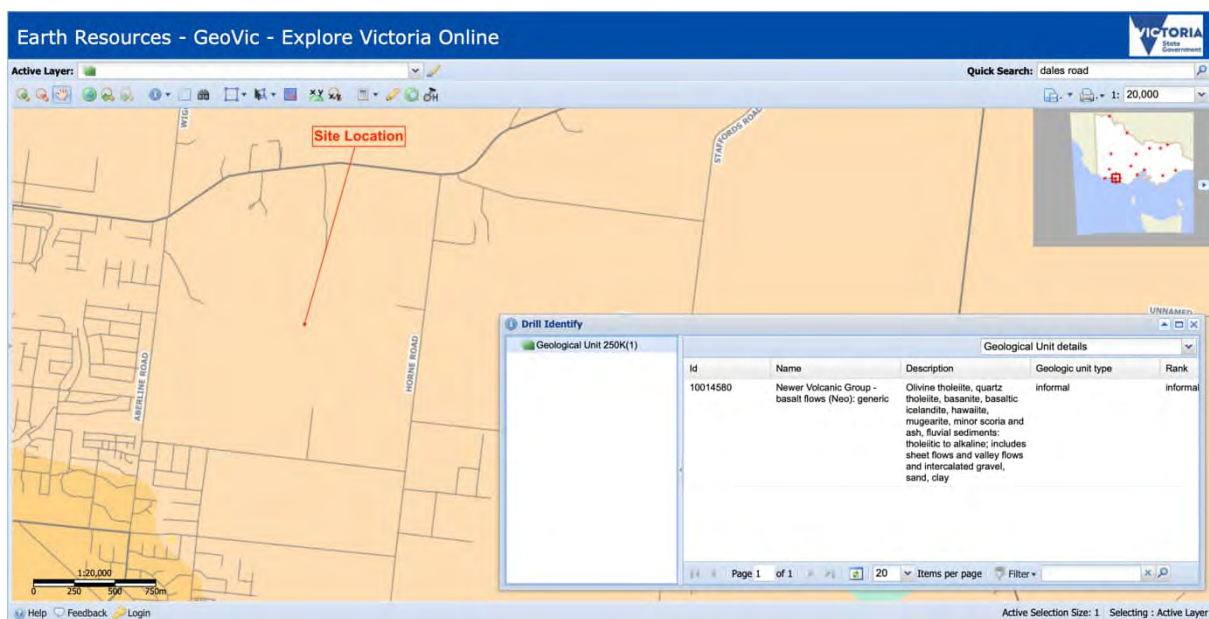


Figure 3 Mapped Surface Geology (GEOVIC Portal)

Accordingly, there are likely two distinct geotechnical zones associated with the site:

Zone 1. Soils/landforms associated with Quaternary Aged Volcanics to the North and South of Russell's Creek (QNV) This zone exists as a rolling plain containing Quaternary Basalts and its derivatives at higher elevations. Soils developing from this unit are likely associated with Clayey SILTS (ML/MH) and possibly higher plasticity Silty CLAYS (CL/CH) possibly to significant depth up to 5-10m. They are likely to show moderate to high amounts of soil reactivity, area relatively stable with lower potential for erosion and dispersion.

Zone 2 Soils associated with Quaternary Alluvium associated with Russell's Creek (QAA). This zone is associated with landforms immediately in and surrounding Russell's Creek. It possibly contains deeper and more variable soil profiles ranging from SANDS (SM/SP/SC), SILTS (ML/MH) and CLAYS (CL/CH), possibly locally interbedded depending upon specific alluvial processes controlling their deposition. Rock and cobble inclusion in profiles may also occur locally.

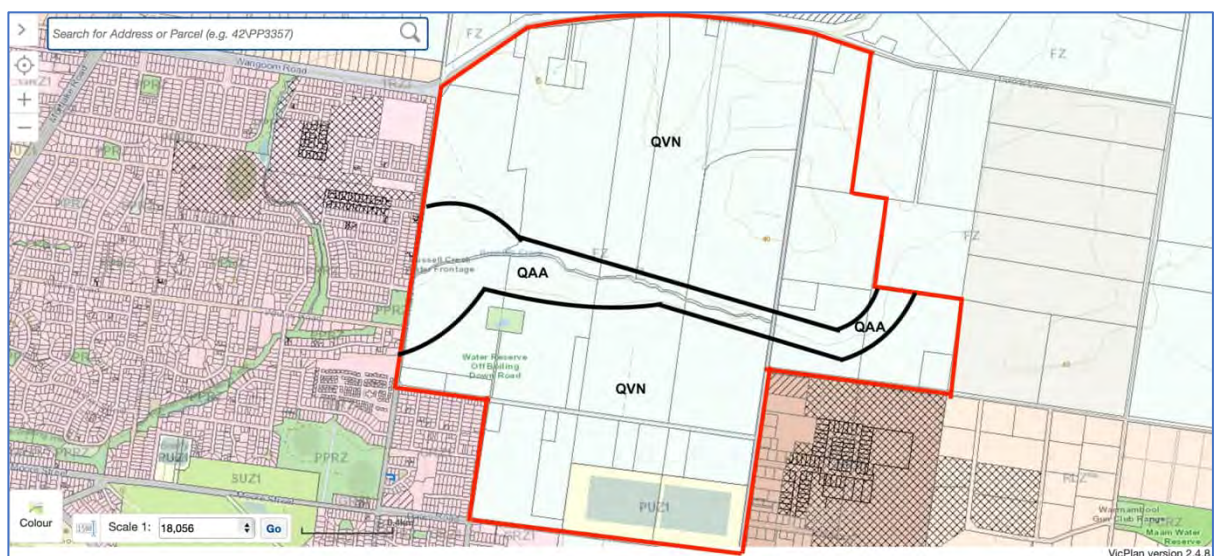


Figure 4 Proposed Geotechnical Zones

4.2.4 Presence and Extent of Sodic/Dispersive Soils

Referring to the DEPI mapping of upper subsoil Sodicity Victoria Mapping, the site is mapped as Non – sodic with an Exchangeable Sodium Percentage (ESP) <6%.

However, the Department of Natural Resources and Environment Mapping for the Glenelg Hopkins Region (See Appendix 1) the study area is mapped in the Minor occurrence group Brown Sodosols (associated with Brown Chromosols and Kurosols).

Subject to ground truthing the surface geological mapping of Quaternary aged new volcanics it is likely that the latter mapping is correct. It would be prudent to conduct a limited sampling effort of sodic soils from identified higher risk areas associated with areas showing erosion or other signs of mass movement to further determine risk of sodic soil occurrence within the study area given the significant implications such soils have on geotechnical stability with increasing site development.

4.3 Seismic Variables and Earthquake Risk for the Site

There is no known or mapped faulting or soils prone to liquefaction within or nearby the study area.

Referring to Geoscience Australia Portal with Earthquake Hazard Risk Mapping layer (essentially the map shows the relative chance of damaging earthquakes across Australia) showing the peak ground acceleration (highest ground shaking level) that has a 10 percent chance of being exceeded in the next 50 years the entire study area is mapped as 0.03-0.04 probability.

Referring to Australian Standard AS 1170.4-2007 Earthquake actions in Australia, the indicative site subsoil class is likely Class B or C.

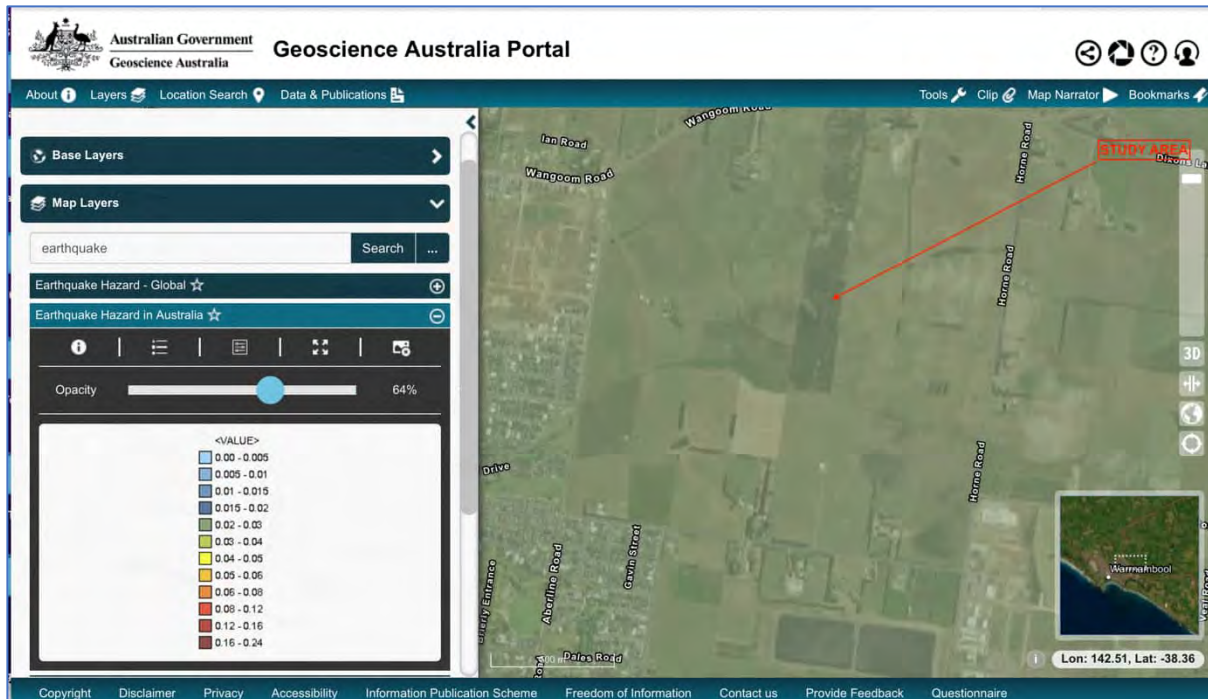


Figure 5 Earthquake Risk Mapping (Geoscience Australia)

4.4 Landslides and Erosion Risks within Russell's Creek Corridor

The potential for minor landslides or erosion within the Russel Creek Corridor is significant and dependent upon several factors including:

1. Presences of existing erosion
2. Streambank vegetation cover
3. Anthropogenic disturbance
4. Hydraulic flows and concentration
5. Localised soil stratigraphy.

The risk required ground truthing to adequately understand extent of current instability as well as and potential risk for further instability.

Referring to Department of Natural Resources and Environment Mapping for the Glenelg Hopkins Region the following is noted (See Appendix 1):

1. Inherent Susceptibility to Water Erosion (Gully /Tunnel) – risk is mapped as Low.
2. Inherent Susceptibility to Water Erosion (Sheet/Rill) – risk is mapped as Moderate.
3. Inherent Susceptibility to Wind Erosion – risk is mapped as Low-Moderate.
4. Inherent Susceptibility to Mass Movement – risk is mapped as Low.

4.5 Hydrogeological Considerations

Hydrogeological considerations are limited to the upper aquifers associated with Quaternary Aged Volcanics as these have the greatest influence on geotechnical interactions and are the most likely to be drawn and used with increasing development of the site.

4.5.1 Groundwater Salinity

Referring to Visualising Victoria's Groundwater (VVG) web portal groundwater salinity (Appendix 2) is mapped in the range 1000-3500mg/L in all areas of the site to the West of Horne Road. To the east of Horne Road salinity is mapped in a lower range of 500-1000mg/L.

4.5.2 Groundwater Depth

The VVG portal indicates groundwater depth (Appendix 2) at a range of 5-10m over most of the site with localised shallower levels between 0-5m in the Russell Creek Corridor as well as discrete areas to the south of Bowling Down Road, the northern section of Tozer reserve as well as areas to the east of Horne Road.

4.5.3 Groundwater Acid Sulphate Concentrations

Referring to Coastal Acid Sulphate Soil Hazard Mapping Sheets for Warrnambool and Mortlake (Appendix 3), the study area and its surrounds is not mapped as likely to contain acid sulphate soils. Accordingly, groundwater acidification or potential acidification from this source is likely low.

4.5.4 Groundwater Extraction Potential

The VVG portal maps the entire site as beneficial use B with a TDS range of 1001 – 3500 mg/L (Appendix 2).

It is noteworthy that this segment has the following beneficial uses:

- Potable mineral supply water (note not classed as desirable or acceptable potable classes)
- Maintenance of Ecosystems
- Agriculture, Parks Gardens
- Stock watering
- Industrial use
- Primary contact recreation (eg swimming, bathing)
- Buildings and structures.

4.5.5 Flood Risk

Referring to the Glenelg Hopkins Catchment Management Authority flood risk mapping for the site, the Russell's Creek Corridor has an increased risk of 1% AEP flooding. This should be considered in future planning of the precinct.

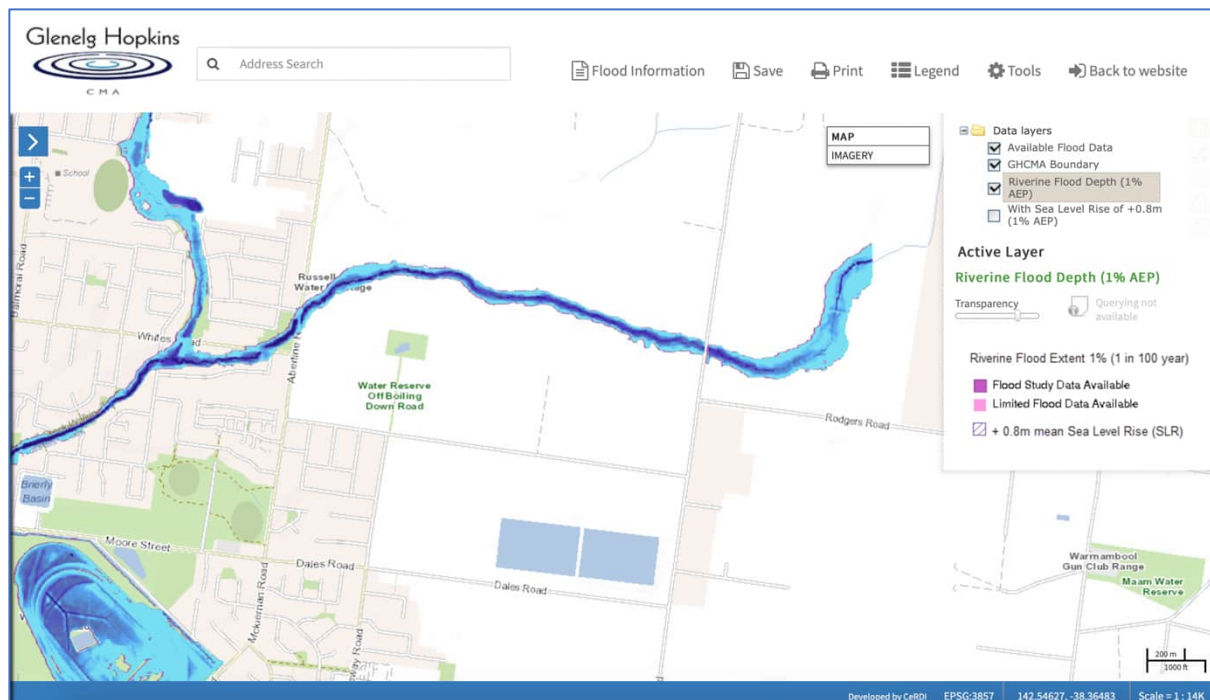


Figure 6 Flood Risk Mapping (Glenelg Hopkins CMA)

5. Recommendations

The following potential risks have been identified:

- Potential for erosion and/or instability in Russell's Creek
- Potential for dispersive soils
- Potential for high soil reactivity
- Potential for perched water tables throughout wetter months.
- Flood risk along Russell's Creek

Given these findings, the following recommendations are made:

- That site reconnaissance and ground truthing of potential risk areas proceed.
- This may be done in conjunction with limited intrusive investigation and testing in areas deemed higher risk.



S Nielsen MEngSc CPSS

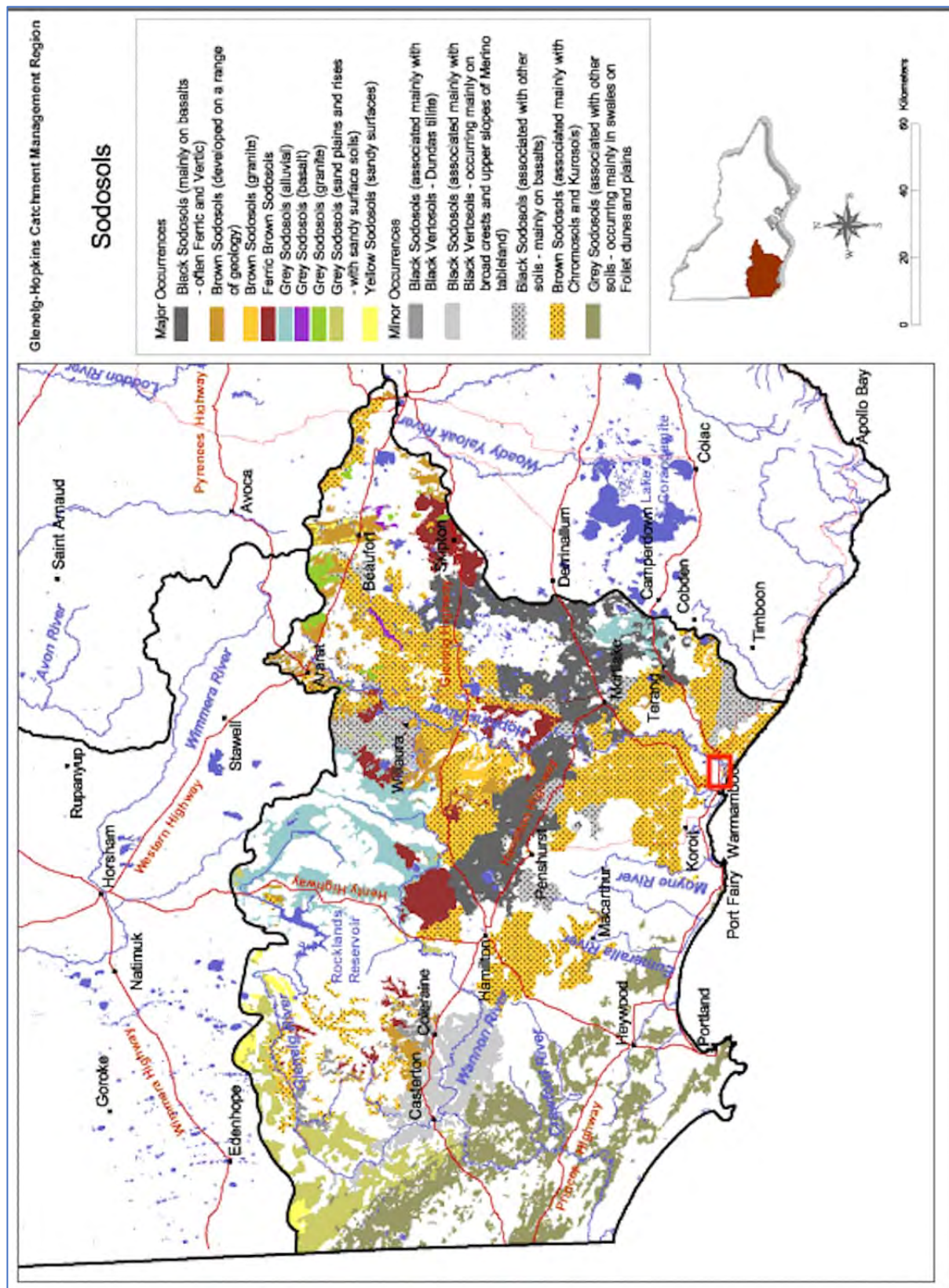
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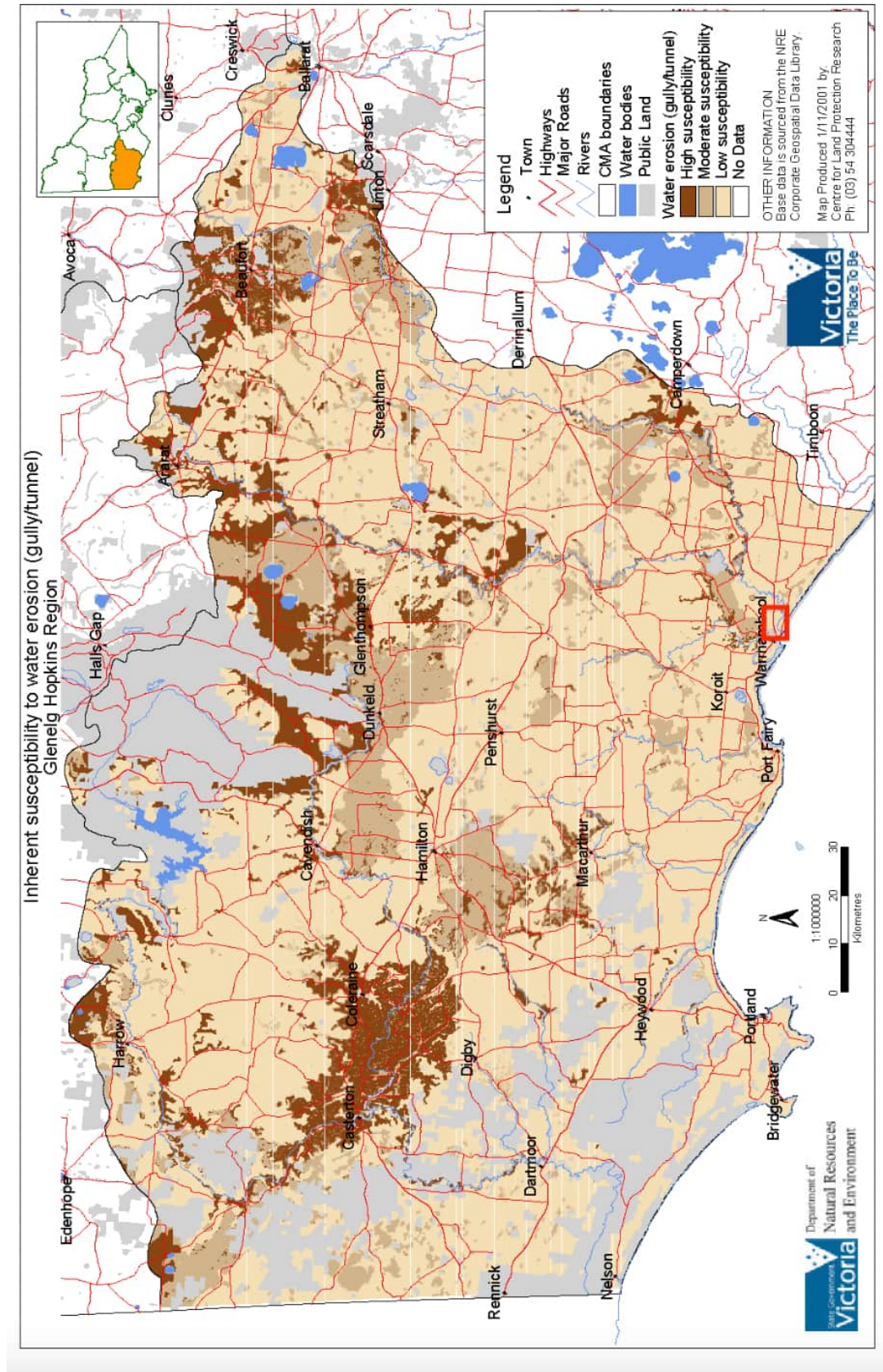
Strata Geoscience and Environmental Pty Ltd

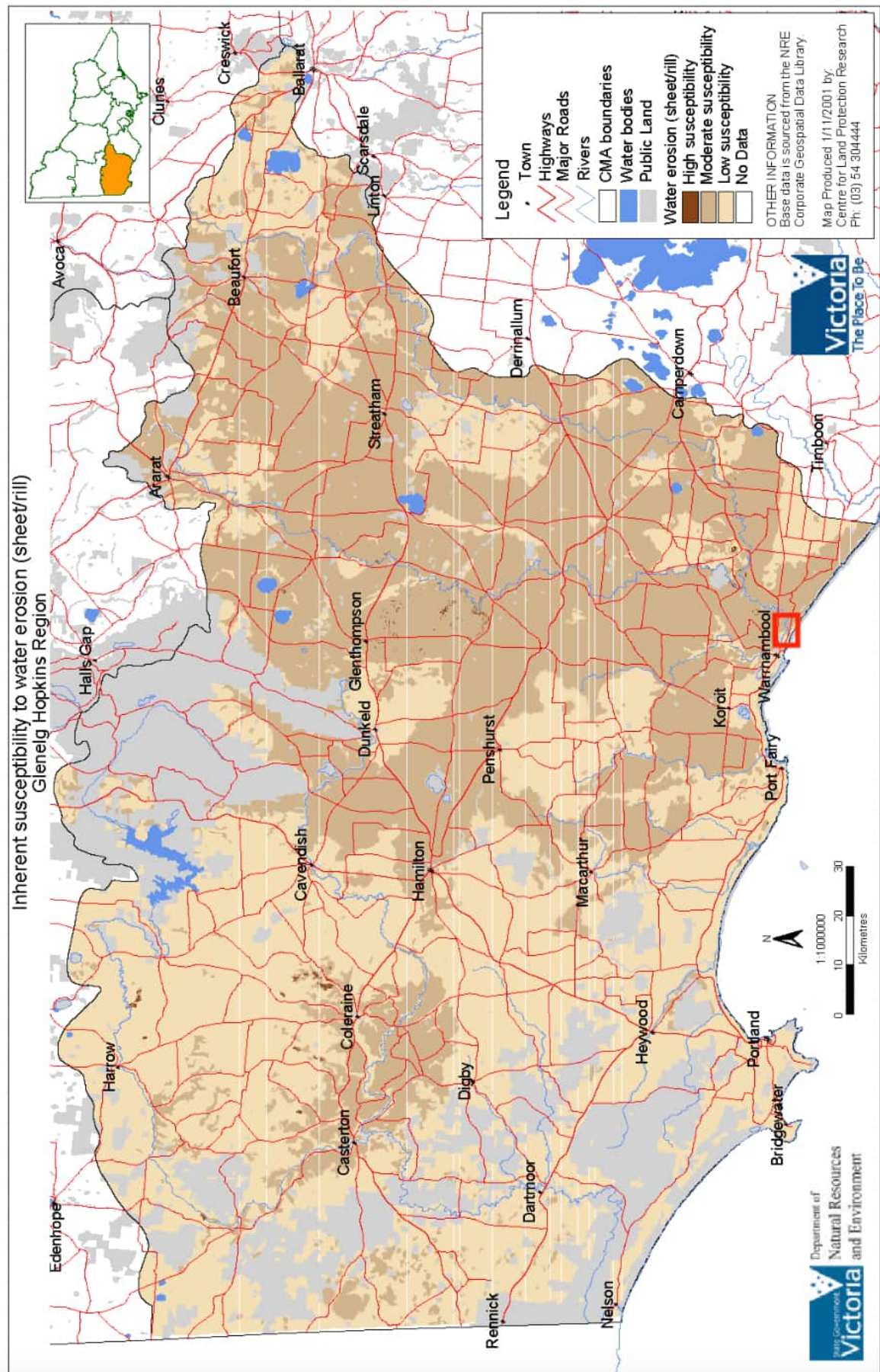
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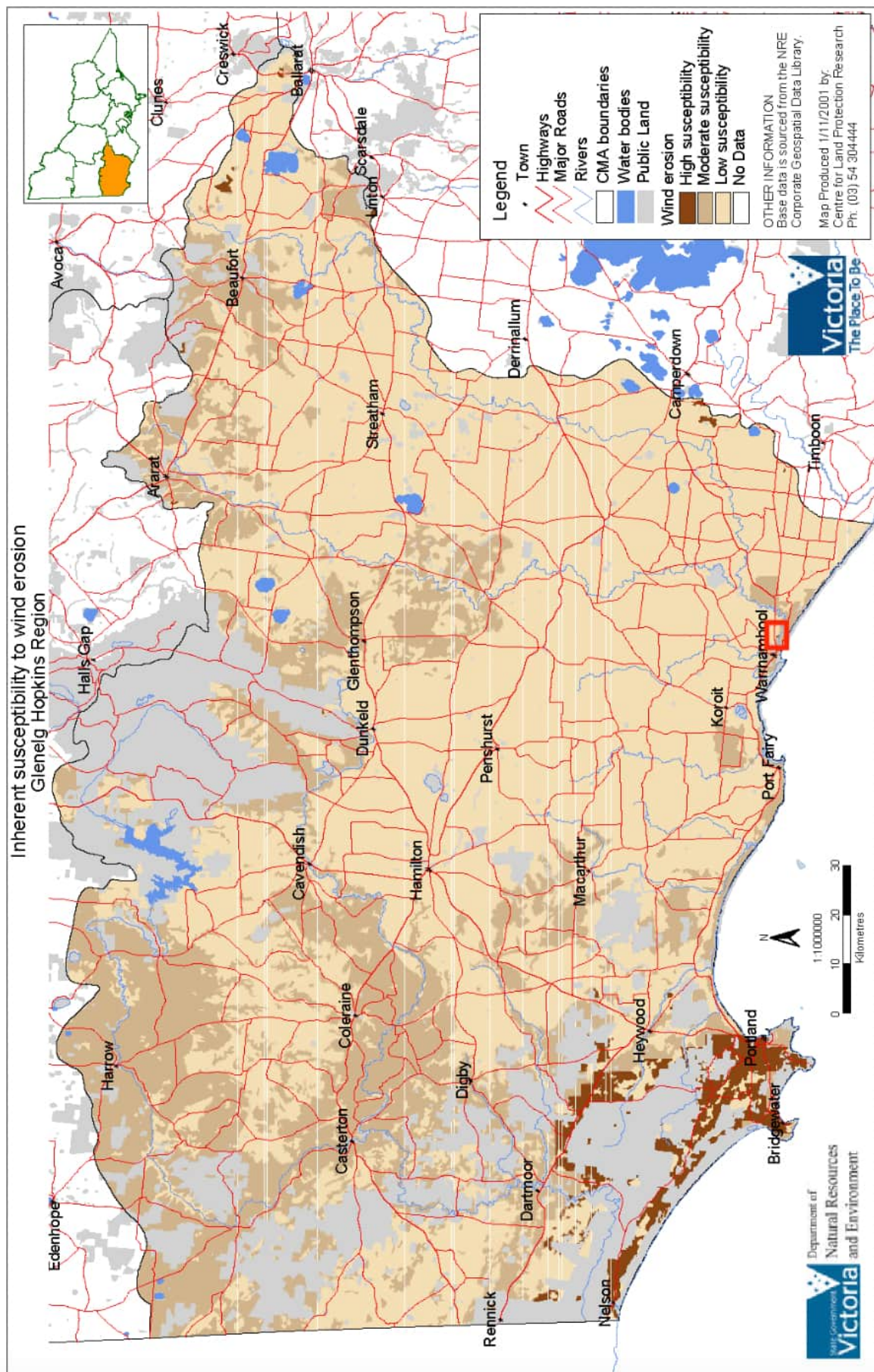


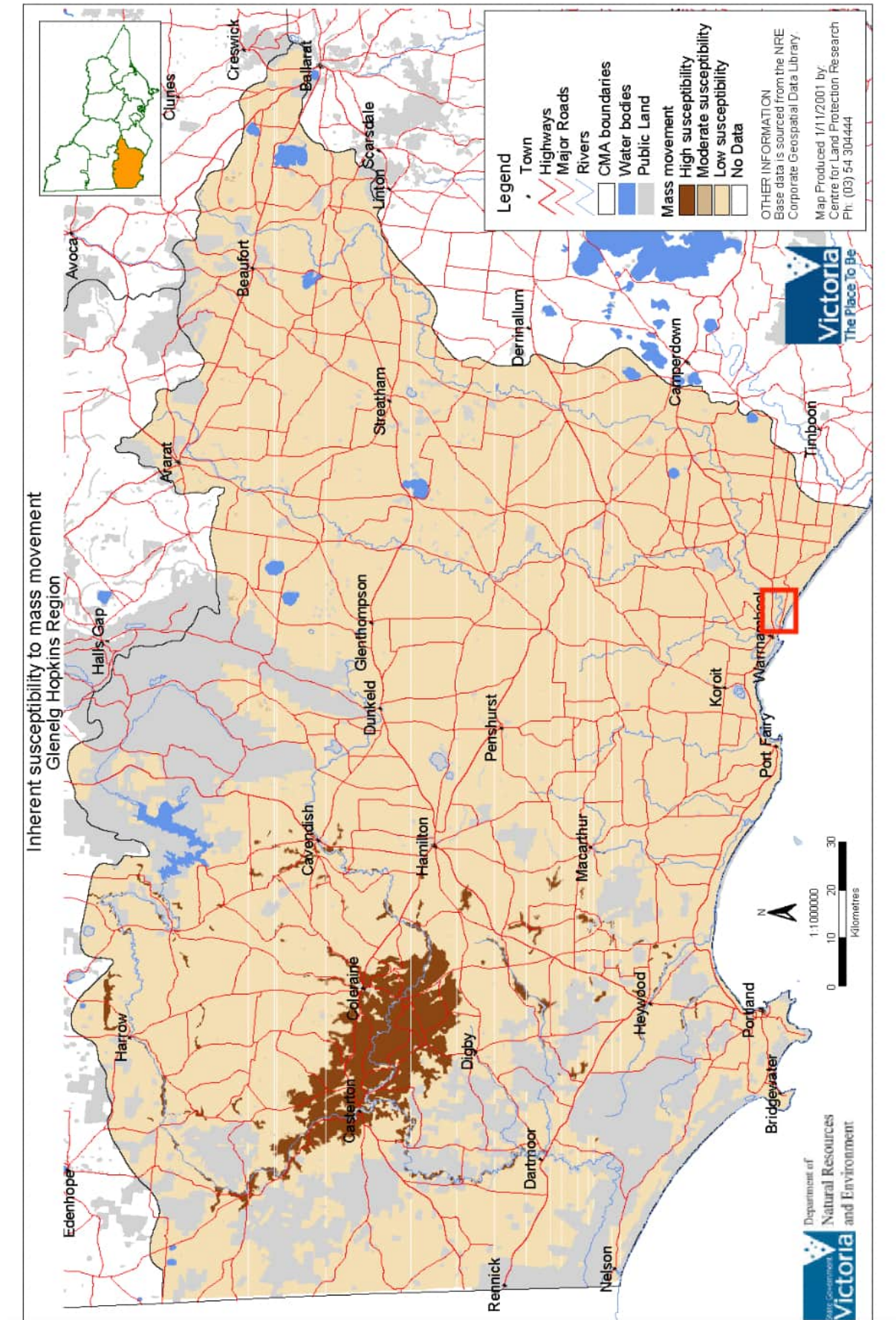
Appendix 1 Department of Natural Resources and Environment Sodic Soil, Erosion and Mass Movement Susceptibility Mapping Glen Hopkins Region



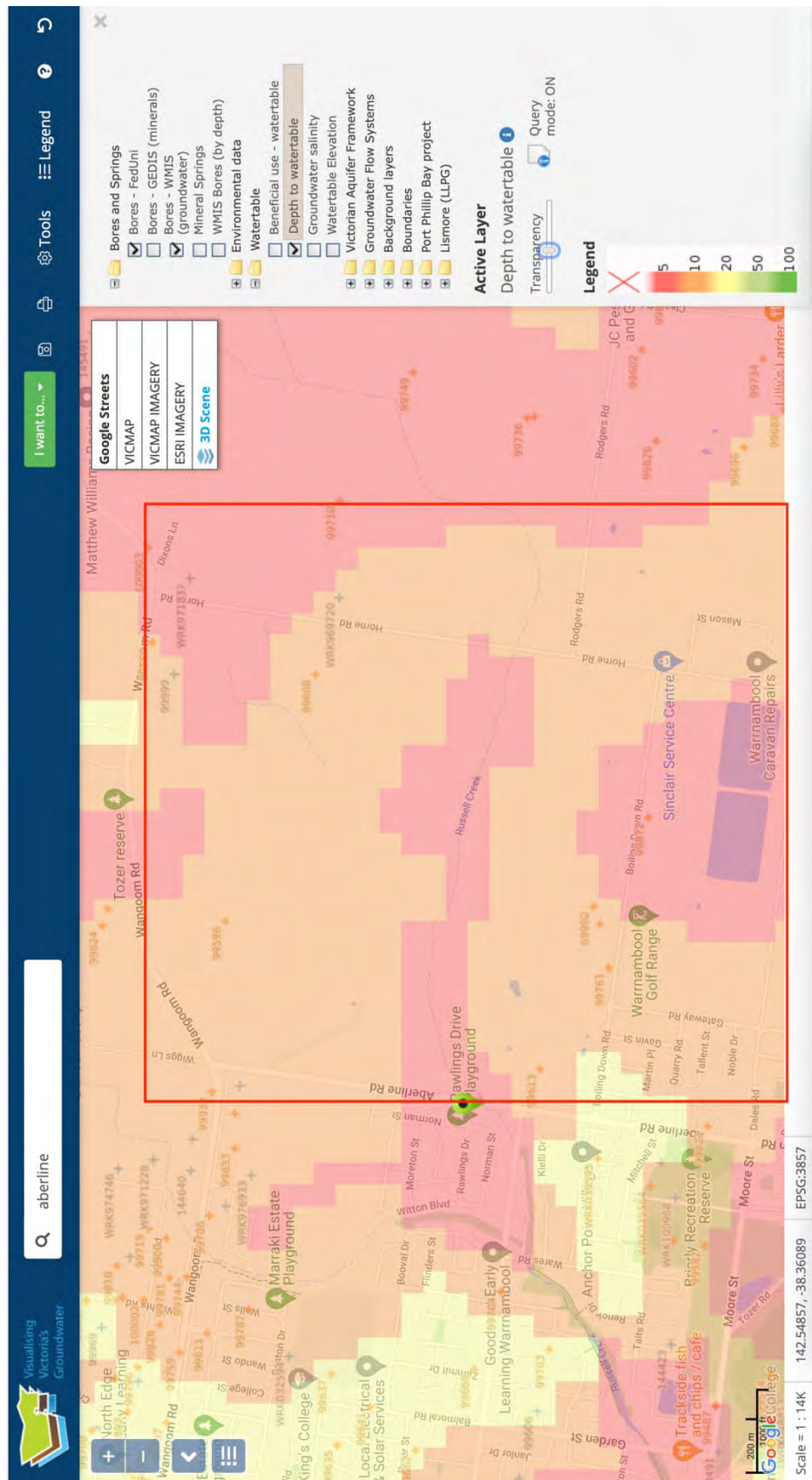


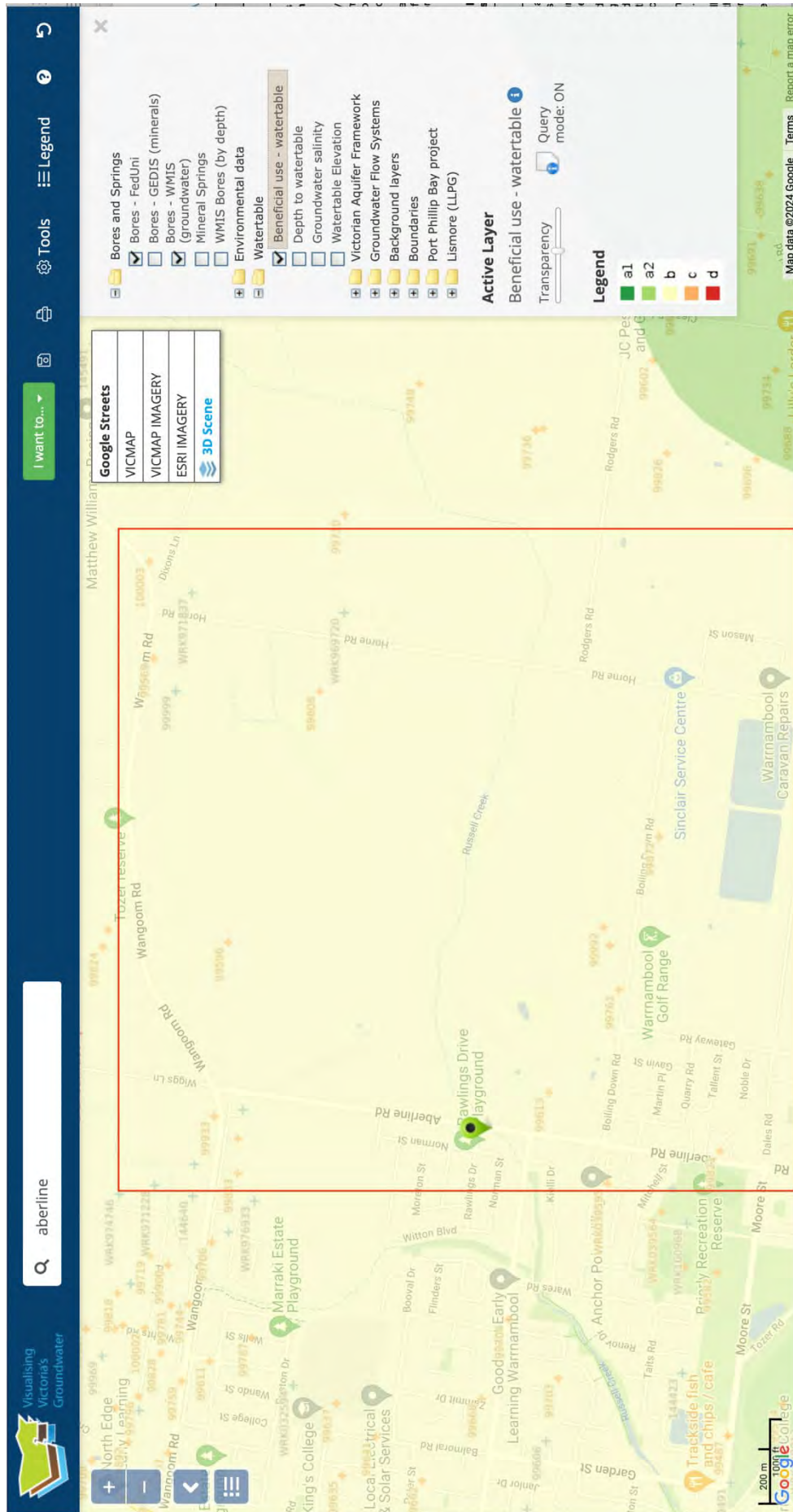


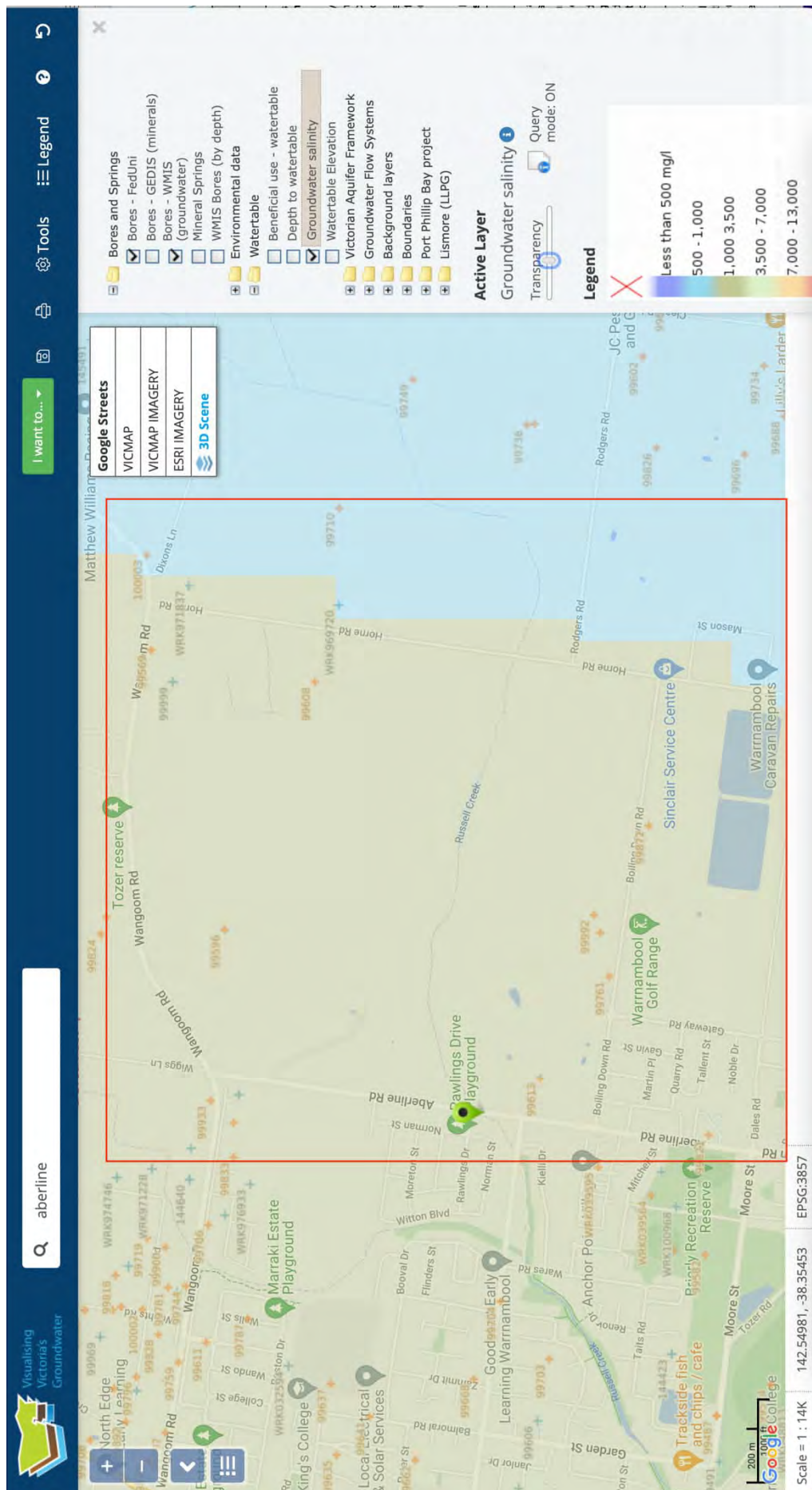




Appendix 2 Visualising Victoria's Groundwater Portal Mapping







Appendix 3 Coastal Acid Sulphate Soil Mapping







Appendix 3 Terms and Conditions

Scope of Work

These Terms and Conditions apply to any services provided to you ("the Client") by Strata Geoscience and Environmental Pty Ltd ("Strata"). By continuing to instruct Strata to act after receiving the Terms and Conditions or by using this report and its findings for design and/or permit application processes and not objecting to any of the Terms and Conditions the Client agrees to be bound by these Terms and Conditions, and any other terms and conditions supplied by Strata from time to time at Strata's sole and absolute discretion. The scope of the services provided to the Client by Strata is limited to the services and specified purpose agreed between Strata and the Client and set out in the correspondence to which this document is enclosed or annexed ("the Services"). Strata does not purport to advise beyond the Services.

Third Parties

The Services are supplied to the Client for the sole benefit of the Client and must not be relied upon by any person or entity other than the Client. Strata is not responsible or liable to any third party. All parties other than the Client are advised to seek their own advice before proceeding with any course of action.

Provision of Information

The Client is responsible for the provision of all legal, survey and other particulars concerning the site on which Strata is providing the Services, including particulars of existing structures and services and features for the site and for adjoining sites and structures. The Client is also responsible for the provision of specialised services not provided by Strata. If Strata obtains these particulars or specialised services on the instruction of the Client, Strata does so as agent of the Client and at the Client's expense. Strata is not obliged to confirm the accuracy and completeness of information supplied by the Client or any third party service provider. The Client is responsible for the accuracy and completeness of all particulars or services provided by the Client or obtained on the Client's behalf. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever suffered by the Client or any other person or entity resulting from the failure of the Client or third party to provide accurate and complete information. In the event additional information becomes available to the Client, the Client must inform Strata in writing of that information as soon as possible. Further advice will be provided at the Client's cost. Any report is prepared on the assumption that the instructions and information supplied to Strata has been provided in good faith and is all of the information relevant to the provision of the Services by Strata. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever if Strata has been supplied with insufficient, incorrect, incomplete, false or misleading information.

Integrity

Any report provided by Strata presents the findings of the site assessment. While all reasonable care is taken when conducting site investigations and reporting to the Client, Strata does not warrant that the information contained in any report is free from errors or omissions. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from errors in a report. Any report should be read in its entirety, inclusive of any summary and annexures. Strata does not accept any responsibility where part of any report is relied upon without reference to the full report.

Project Specific Criteria

Any report provided by Strata will be prepared on the basis of unique project development plans which apply only to the site that is being investigated. Reports provided by Strata do not apply to any project other than that originally specified by the Client to Strata. The Report must not be used or relied upon if any changes to the project are made. The Client should engage Strata to further advise on the effect of any change to the project. Further advice will be provided at the Client's cost. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever where any change to the project is made without obtaining a further written report from Strata. Changes to the project may include, but are not limited to, changes to the investigated site or neighbouring sites, for instance, variation of the location of proposed building envelopes/footprints, changes to building design which may impact upon building settlement or slope stability, or changes to earthworks, including removal (site cutting) or deposition of sediments or rock from the site.

Classification to AS2870-2011

It must be emphasised that the site classification to AS2870-2011 and recommendations referred to in this report are based solely on the observed soil profile at the time of the investigation for this report and account has been taken of Clause 2.1.1 of AS2870 - 2011. Other abnormal moisture conditions as defined in AS2870 - 2011 Clause 1.3.3 (a) (b) (c) and (d) may need to be considered in the design of the structure. Without designing for the possibility of all abnormal moisture conditions as defined in Clause 1.3.3, distresses will occur and may result in non "acceptable probabilities of serviceability and safety of the building during its design life", as defined in AS2870 - 2011, Clause 1.3.1. Furthermore the classification is preliminary in nature and needs verification at the founding surface inspection phase. The classification may be changed at this time based upon the nature of the founding surface over the entire footprint of the project area. Any costs associated with a change in the site classification are to be incurred by the client. Furthermore any costs associated with delayed works associated with a founding surface inspection or a change in classification are to be borne by the client. Where founding surface inspections are not commissioned the classifications contained within this report are void. Classification is based upon a range of expected ground surface movement as indicated in AS2870-2011. Where the range of movement exceeds the stipulations for the nominated classification Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever suffered by the Client or any other person.

Slope Instability Risks

Where comment, modelling or treatment options are suggested to limit the risk of slope instability Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from actual slope instability or mass movement over the site at any point over the design life of any structures or neighbouring structures.

Subsurface Variations with Time

Any report provided by Strata is based upon subsurface conditions encountered at the time of the investigation. Conditions can and do change significantly and unexpectedly over a short period of time. For example groundwater levels may fluctuate over time, affecting latent soil bearing capacity and ex-situ/insitu fill sediments may be placed/removed from the site. Changes to the subsurface conditions that were encountered at the time of the investigation void all recommendations made by Strata in any report. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from any change to the subsurface conditions that were encountered at the time of the investigation. In the event of a delay in the commencement of a project or if additional information becomes available to the Client about a change in conditions becomes available to the Client, the Client should engage Strata to make a further investigation to ensure that the conditions initially encountered still exist. Further advice will be provided at the Client's cost. Without limiting the generality of the above statement, Strata does

not accept liability where any report is relied upon after three months from the date of the report, (unless otherwise provided in the report or required by the Australian Standard which the report purports to comply with), or the date when the Client becomes aware of any change in condition. Any report should be reviewed regularly to ensure that it continues to be accurate and further advice requested from Strata where applicable.

Interpretation

Site investigation identifies subsurface conditions only at the discrete points of geotechnical drilling, and at the time of drilling. All data received from the geotechnical drilling is interpreted to report to the Client about overall site conditions as well as their anticipated impact upon the specific project. Actual site conditions may vary from those inferred to exist as it is virtually impossible to provide a definitive subsurface profile which accounts for all the possible variability inherent in earth materials. Soil depths and composition can vary due to natural and anthropogenic processes. This is particularly pertinent to some weathered sedimentary geologies or colluvial/alluvial clast deposits which may show significant variability in depth to refusal over a development area. Furthermore where rocky profiles are encountered no comment is made about the potential size of liberated rocks from bulk earthworks or vertical boring. Where large rocks are liberated this may impact upon the ability to cost effectively build on the site and further advice should be sought from Strata. Such profiles may also significantly increase earthworks costs and or materials cost in foundations. Rock incongruities such as joints, dips or faults may also result in subsurface variability. Variability may lead to differences between the design depth of bored/driven piers compared with the actual depth of individual piers constructed onsite. It may also affect the founding depth of conventional strip, pier and beam or slab footings, which may result in increased costs associated with excavation (particularly of rock) or materials costs of foundations. Founding surface inspections should be commissioned by the Client prior to foundation construction to verify the results of initial site characterisation and failure to insure this will void the classifications and recommendations contained within this report. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from any variation from the site conditions inferred to exist.

Strata is not responsible for the interpretation of site data or report findings by other parties, including parties involved in the design and construction process. The Client must seek advice from Strata about the interpretation of the site data or report.

Report Recommendations

Any report recommendations provided by Strata are only preliminary. A report is based upon the assumption that the site conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. This assumption cannot be substantiated until earthworks and/or foundation construction is almost complete. Where variations in conditions are encountered, Strata should be engaged to provide further advice. Further advice will be provided at the Client's cost. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever if the results of selective point sampling are not indicative of actual conditions throughout an area or if the Client becomes aware of variations in conditions and does not engage Strata for further advice.

Geo-environmental Considerations

Where onsite wastewater site investigation and land application system designs are provided by Strata, reasonable effort will be made to minimise environmental and public health risks associated with the disposal of effluent within site boundaries with respect to relevant Australian guidelines and industry best practise at the time of investigation. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from:

- (i) changes to either the project or site conditions that affect the onsite wastewater land application system's ability to safely dispose of modelled wastewater flows; or
- (ii) seepage, pollution or contamination or the cost of removing, nullifying or clearing up seepage, polluting or contaminating substances; or
- (iii) poor system performance where septic tanks have not been de-sludged at maximum intervals of 3 years or AWTS systems have not been serviced in compliance with the manufacturers recommendations; or
- (iv) failure of the client to commission both interim and final inspections by the designer throughout the system construction; or
- (v) the selection of inappropriate plants for irrigation areas; or
- (vi) damage to any infrastructure including but not limited to foundations, walls, driveways and pavements; or
- (vii) land instability, soil erosion or dispersion; or
- (viii) design changes requested by the Permit Authority.

Furthermore Strata does not guarantee septic trench and bed design life beyond 5 years from installation, given the influence various household chemicals have on soil structural decline and premature trench failure in some soil types

Strata does not consider site contamination, unless the Client specifically instructs Strata to consider the site contamination in writing. If a request is made by the Client to consider site contamination, Strata will provide additional terms and conditions that will apply to the engagement.

Copyright and Use of Documents

Copyright in all drawings, reports, specifications, calculations and other documents provided by Strata or its employees in connection with the Services remain vested in Strata. The Client has a licence to use the documents for the purpose of completing the project. However, the Client must not otherwise use the documents, make copies of the documents or amend the documents unless express approval in writing is given in advance by Strata. The Client must not publish or allow to be published, in whole or in part, any document provided by Strata or the name or professional affiliations of Strata, without first obtaining the written consent of Strata as to the form and context in which it is to appear.

If, during the course of providing the Services, Strata develops, discovers or first reduces to practice a concept, product or process which is capable of being patented then such concept, product or process is and remains the property of Strata and:

- (i) the Client must not use, infringe or otherwise appropriate the same other than for the purpose of the project without first obtaining the written consent of Strata; and
- (ii) the Client is entitled to a royalty free licence to use the same during the life of the works comprising the project.

Digital Copies of Report

If any report is provided to the Client in an electronic copy except directly from Strata, the Client should verify the report contents with Strata to ensure they have not been altered in any way from the original provided by Strata.