

6. Weed Eradication and Management Plan

6.1. Introduction

This chapter details how weeds within the VMP area and wider subject land will be managed and controlled.

6.2. Weed Control Objectives

The objective of weed management is to eradicate existing weeds recorded within the subject land, control the spread of weeds during the construction phase of the project and prevent the establishment of weed species within the recreated vegetated riparian zone. This will, in particular focus, on preventing the establishment of priority weeds listed under the Biosecurity Act such as *Lycium ferocissimum*, *Nassella neesiana* and other exotic grasses. Weeds identified within the subject land are listed with their respective control measures in **Appendix B**, which form the basis of this Weed Eradication and Management Plan. Priority weeds for the Greater Sydney Region recorded on the subject land are listed in **Table 2**.

Additionally, the Mamre Road Precinct DCP states that the WEMP is to include specific measures to manage the spread of weeds on known populations of a number of threatened flora species. Table 3 identifies the threatened species that are listed in the Mamre Road Precinct DCP as well as the weed threats as listed in the Threatened Biodiversity Data Collection (TBDC). Of particular note is the species *Eragrostis curvula* (African lovegrass) which was recorded within the subject land and is directly associated with a several species listed in Table 4. Table 4 Threatened flora species identified in the Mamre Road Precinct DCP and associated weed threat listed in the TBDC

Scientific Name	Common Name	Weed Threat (TBDC)
<i>Acacia bynoeana</i>	Bynoe's Wattle	Weeds can invade the species' habitat.
<i>Cynanchum elegans</i>	White-flowered Wax Plant	Competition and habitat degradation resulting from weed invasion.
<i>Dillwynia tenuifolia</i>		Invasive grasses - particularly African lovegrass and Coolatai Grass - can alter the ground-cover density and both out-compete the species (particularly during dry times and when young) or increase the temperature of burns as more leafy matter is available as fuel.
<i>Genoplesium baueri</i>	Bauer's Midge Orchid	Weed invasions resulting in loss of habitat pose a threat to some populations around Ku-ring-gai.
<i>Grevillea juniperina</i> subsp. <i>juniperina</i>	Juniper-leaved Grevillea	Invasion from exotic perennial grasses, particularly African lovegrass (<i>Eragrostis curvula</i>).
<i>Grevillea parviflora</i> subsp. <i>parviflora</i>	Small-flower Grevillea	Competition from increasing weed densities and further invasion.
<i>Persoonia nutans</i>	Nooding Geebung	Primarily affected by <i>Acacia baileyana</i> that has naturalized in the area, but also by other non-native and native woody weed species.
<i>Pultenaea parviflora</i>		African lovegrass and other invasive grasses, these increase biomass which fuels fires, as well as resulting in competition and shading.

6.3. Weed Control Measures

Weed control is to be implemented across the VMP area, and also where relevant during clearing within other parts of the subject land. Weed control works within the subject land will be undertaken using the strategies outlined below.

6.3.1. Manual Weed Removal

Manual removal, or hand weeding, is an effective form of weed control when all viable parts of the plant are removed from the soil (roots, fruiting material and rhizomes) and site. All weeds removed by hand will be handled according to best practice bush regeneration techniques to prevent subsequent seed set from the removed weeds. Any weed material containing propagules, or plant parts capable of asexual reproduction will be bagged and removed from site.

6.3.2. Use of Herbicides

All herbicides should be used according to recommendations on the herbicide label. Appropriate Personal Protective Equipment should be worn and consideration given to time of day, likelihood of rainfall, wind direction and likely impact on native species as per guidelines on the label. Use of glyphosate will be appropriate for most species. Glyphosate is the preferred herbicide for use in environmentally sensitive areas as it is rapidly broken down by microbes in the soil so residue and is short lived and will not affect remnant and planted native individuals in the long-term following application. In areas near watercourses, an appropriate form of the herbicide should be used to minimise impact to aquatic life and amphibians. Herbicide use should be avoided within 2m of the watercourse. Examples of appropriate herbicide forms are Roundup Biactive and Clearup Bio 360 which have surfactants that are formulated to minimise harm to amphibians. As runoff is a likely means of herbicide residue entering watercourses, chemical treatment should be avoided prior to or directly after rains.

It is important to note that there can be legal restrictions and permit requirements for use of specific herbicides for specific plants, and chemical labels and permit requirements always need to be read prior to herbicide application. While the recommended methods for weed treatment detailed in **Appendix B** are effective, some will require a permit. Some relevant permit numbers are PER9907, and PER11916. These permits need to be obtained from the Federal Government body, the Australian Pesticides and Veterinary Management Authority. Manual removal will be an appropriate form of control for some species, and all chemical treatment should be carried out according to best practice guidelines. Planting should not be undertaken within 10 days of herbicide application.

6.4. Stages of Weed Control

Typically within areas of vegetation that are to be managed and revegetated, weed control involves a primary weeding phase in order to reduce weed cover prior to planting, followed by maintenance weeding. However for the VMP area, no existing vegetation is to be managed, and revegetation will take place following the removal of all existing vegetation and the re-alignment of a watercourse. As such, other than clearing of weeds prior to construction, the only stage of weed control will be maintenance weeding.

6.4.1. Maintenance Weeding

Weed suppression methods such as jute matting will suppress mass regrowth of weeds in revegetation areas initially, but not entirely prevent regrowth of weeds. The most cost and time effective method of controlling weed regrowth in a revegetation area or weedy bushland area is by spraying a non-selective glyphosate herbicide. A list of effective methods for control of weeds on site is found in **Appendix B**. Undertaking a spray-prep by first hand-weeding around natives and de-seeding exotics prior to spraying also removes the need for tree guards.

Follow-up weeding should be undertaken in within Management Zone 1 that have received past primary weeding treatments in the following months, to treat any regrowth of weeds. Ongoing maintenance of the revegetation and natural regeneration areas should occur for a five year period by the contracted bushland regeneration company, and each area should be covered in its entirety once every month, to diminish the soil seed bank of exotic weed species present on site. In order to eliminate the occurrence of these species they need to be controlled before they have a chance to set seed.

It is important during site visits for ongoing weed maintenance that as many weeds as possible are controlled so individuals are not able to achieve maturity and set seed between site visits. Some weed species are prolific seeders, and many exotic plants can have seed that remains viable in the soil for long periods of time. In order to effectively diminish the soil seed bank occurrences of exotic species it is important that individuals are not allowed to set seed.

During site visits for weed control, Priority Weeds, other weeds of regional concern, and WoNS (**Table 2**) should be prioritised for control. Individual plants of these species on site should not be allowed to achieve a reproductive stage in their life cycles.

Temporary sediment fencing should be retained until it is determined plants have established enough to prevent surface soil runoff.

Follow-up weeding should be implemented under this VMP for a minimum period of five continuous years, after revegetation works have been completed. After the initial two-year revegetation and weed management has been implemented, resources required for ongoing maintenance weeding should be reviewed and identified on an annual basis from year 3 – 5 based on the annual assessment of site conditions and response to prior works completed.

APPENDIX B :

Weed Control Measures

Table 9 Weed control measures for weed species present in the subject land

Species	Common Name	Family	Treatment Methods
<i>Araujia sericifera</i>	Moth Vine	Apocynaceae	<ul style="list-style-type: none"> - Hand Weed Juveniles - Spray juveniles with glyphosate 10mL/1L - Skirt mature vines (cut through plant close to root) and then pull root manually or apply undiluted glyphosate to cut surface - Scrape and paint vine with undiluted glyphosate
<i>Axonopus fissifolius</i>	Carpet Grass	Poaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Bidens pilosa</i>	Cobbler's Pegs	Asteraceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Brassica fruticulosa</i>	Twiggy Turnip	Brassicaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Brassica rapa</i>	Turnip	Brassicaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Briza subaristata</i>	Chilean Quaking Grass	Poaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Bromus catharticus</i>	Prairie Grass	Poaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Bromus hordeaceus</i>	Soft Brome	Poaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Bromus molliformis</i>	Soft Brome	Poaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Cardamine hirsuta</i>	Common Bittercress	Brassicaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Cenchrus clandestinus</i>	Kikuyu Grass	Poaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L

Species	Common Name	Family	Treatment Methods
<i>Centaurium tenuiflorum</i>	Branched Centaury, Slender centaury	Gentianaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Cerastium fontanum</i>		Caryophyllaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Cerastium glomeratum</i>	Mouse-ear Chickweed	Caryophyllaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Chenopodium album</i>	Fat Hen	Chenopodiaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Chloris gayana</i>	Rhodes Grass	Poaceae	- Hand weed juveniles - Remove carefully with secateurs and bag seed plumes of mature plants - Dig mature plants out of the ground with a mattock; or - Brushcut mature plants to near ground level and spray with glyphosate 10mL/1L - During subsequent site visits spray regrowth foliage with glyphosate 10mL/1L
<i>Chloris virgata</i>	Feathertop Rhodes Grass	Poaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Cirsium vulgare</i>	Spear Thistle	Asteraceae	Fluroxypyr 140 g/L + Aminopyralid 10 g/L (Hot Shot™); 500 mL in 100 L of water, Hand gun application to actively growing plants
<i>citrus x taitensis</i>	Rough Lemon	Rutaceae	Hand weed or if not possible cut-back to stump and paint stem with undiluted Glyphosate
<i>Clivia miniata</i>	Clivia	Amaryllidaceae	-Hand Weed - Spot Spray suckers - Glyphosate 10mL/1L
<i>Conyza bonariensis</i>	Flaxleaf Fleabane	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Conyza sumatrensis</i>	Tall Fleabane	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Cyclospermum leptophyllum</i>	Slender Celery	Apiaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L

Species	Common Name	Family	Treatment Methods
<i>Cyperus eragrostis</i>	Umbrella Sedge	Cyperaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Cyperus rotundus</i>	Nutgrass	Cyperaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Cyperus sesquiflorus</i>		Cyperaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Datura stramonium</i>	Common Thornapple	Solanaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Digitaria sanguinalis</i>	Crab Grass	Poaceae	- This species is present above ground generally only during the warmer months of the year when it grows densely, in large abundances, after seedlings germinate from soil seed. It seeds profusely and it is important to prevent seed from being deposited in the soil to prevent dense infestations the following year. It is important to control juveniles before they are able to produce and set seed. On any plant that is seeding the seed head needs to be cut off and bagged, with secateurs for individual plants, or use of shears in areas with large amounts of the grass seeding. - The most effective control methods is to spray all patches of juvenile plants with glyphosate 10mL/1L before they reach maturity. This needs to be repeated during every site visit during the warmer months as germination of new plants will occur throughout this period.
<i>Dovyalis caffra</i>	Kei Apple	Flacourtiaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Echinochloa crus-galli</i>	Barnyard Grass	Poaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Ehrharta erecta</i>	Panic Veldtgrass	Poaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L

Species	Common Name	Family	Treatment Methods
<i>Eleusine indica</i>	Crowsfoot Grass	Poaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Eleusine tristachya</i>	Crab Grass	Poaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Eragrostis curvula</i>	African Lovegrass	Poaceae	<ul style="list-style-type: none"> - Any seed heads present on mature individuals should be cut from plants with secateurs and bagged and removed from site - Dig large individuals out with a mattock - Juvenile individuals can be dug out using hand tools or spot sprayed using glyphosate 10mL/1L - Spot spraying with glyphosate 10mL/1L is effective during the growth period during Spring and Summer - During this period large individuals can be mown or brushcut to the ground level and regrowth foliage sprayed with glyphosate - Spot spraying the herbicide Fluproponate (745g/L formulation) at 3mL/1L concentration (as per label) is effective at eradicating African Lovegrass and will kill any seedling regrowth for up to 4 years as the herbicide may remain active in the soil for this time period. This time period exceeds the length of time African Love Grass seed remains viable in the soil so will eradicate the grass in areas where it is sprayed. The herbicide is taken up through the roots of the plants following rain and it may take up to 3 months for plants to yellow, and 18 months for them to die back. As the herbicide will inhibit regrowth of native grasses for up to 4 years and may harm other native plants through ground water movement it is not recommended for use in bushland remnant or revegetation areas, though is the most effective herbicide for controlling African Love Grass in nearby flat areas from which the weed may spread into bushland areas. Many native grasses such as <i>Microlaena stipoides</i> and <i>Themeda australis</i> are extremely sensitive to this herbicide. If applied before heavy rain the

Species	Common Name	Family	Treatment Methods
			herbicide may be removed from the area of soil around the root zone of targeted weeds before uptake through plant roots, and may harm nearby native grasses. This herbicide should not be used on slopes (> than 10 degrees) as it is transported through groundwater and may accumulate at the base of slopes. It should not be used in close proximity to water bodies of any kind. The herbicide remains in clay soils such as the shale soils on the Cumberland Plain for longer time periods than in well-drained soils (for a period of up to 800 mm of accumulated rain fall).
<i>Euphorbia peplus</i>	Petty Spurge	Euphorbiaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Foeniculum vulgare</i>	Fennel	Apiaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Gamochaeta americana</i>	Purple Cudweed	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Gamochaeta pensylvanica</i>	Cudweed	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Gnaphalium americanum</i>	Purple Cudweed	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Gomphocarpus fruticosus</i>	Narrow-leaved Cotton Bush	Apocynaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Grevillea robusta</i>	Silky Oak	Proteaceae	Large trees must be ring-barked or cut down below ground level and any regrowth treated with Glyphosate 50% v/v herbicide.
<i>Herbertia lahue</i>		Iridaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Hypochaeris albiflora</i>	White Flatweed	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Hypochaeris radicata</i>	Catsear	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L

Species	Common Name	Family	Treatment Methods
<i>Jacaranda mimosifolia</i>	Jacaranda	Bignoniaceae	Large trees must be ring-barked or cut down below ground level and any regrowth treated with Glyphosate 50% v/v herbicide.
<i>Lactuca saligna</i>	Willow-leaved Lettuce	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Lepidium africanum</i>	Common Peppergrass	Brassicaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Lepidium bonariense</i>	Argentine Peppergrass	Brassicaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Linum trigynum</i>	French Flax	Linaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Lolium perenne</i>	Perennial Ryegrass	Poaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Lotus uliginosus</i>	Birds-foot Trefoil	Fabaceae (Faboideae)	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Lycium ferocissimum</i>	African Boxthorn	Solanaceae	- Heavy PPE such as leather gloves, and caution should be used when working with this plant due to the presence of large thorns - Juvenile individuals can be hand weeded - Mature individuals should be cut at the base with a hand saw and undiluted glyphosate painted on to the cut stump surface - Alternatively for large individuals a power drill can be used to drill holes 5 cm apart which should be filled with undiluted glyphosate
<i>Lysimachia arvensis</i>	Scarlet Pimpernel	Primulaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Malva parviflora</i>	Small Flowered Mallow	Malvaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Medicago polymorpha</i>	Burr Medic	Fabaceae (Faboideae)	- Hand Weed - Spot Spray - Glyphosate 10mL/1L

Species	Common Name	Family	Treatment Methods
<i>Modiola caroliniana</i>	Red-flowered Mallow	Malvaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Nassella neesiana</i>	Chilean Needle Grass	Poaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Olea europaea subsp. cuspidata</i>	African Olive	Oleaceae	- Spray juveniles with glyphosate 10mL/1L - Cut mature individuals with saw or loppers near ground level and paint stump with undiluted glyphosate or Triclopyr (600g/L formulation)/diesel at 4L/60L concentration (as per Garlon 600 label) - Use a power drill (9mm drill bit with dowelling tip) to drill holes less than 20 mm apart throughout lignotuber of mature trees and fill holes with glyphosate a 1:5 mixture with water. After all holes have been filled with herbicide mixture refill holes with herbicide mixture a second time (plant will have absorbed herbicide by this time). Check trees monthly for regrowth and repeat treatment if resprouting foliage is observed
<i>Oxalis corniculata</i>	Yellow Wood Sorrel	Oxalidaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Panicum maximum</i>	Guinea Grass	Poaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Paronychia brasiliiana</i>	Chilean Whitlow Wort, Brazilian Whitlow	Caryophyllaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Paspalum dilatatum</i>	Paspalum	Poaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Phytolacca octandra</i>	Inkweed	Phytolaccaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Plantago lanceolata</i>	Lamb's Tongues	Plantaginaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Plantago myosuros</i>		Plantaginaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L

Species	Common Name	Family	Treatment Methods
<i>Romulea rosea</i> var. <i>australis</i>	Onion Grass	Iridaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Rumex crispus</i>	Curled Dock	Polygonaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Senecio madagascariensis</i>	Fireweed	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Senecio pterophorus</i>		Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Setaria parviflora</i>	Pigeon Grass	Poaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Sida acuta</i>	Spinyhead Sida	Malvaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Sida rhombifolia</i>	Paddy's Lucerne	Malvaceae	- Hand weed - Spray with glyphosate 10mL/1L - Cut large, firmly rooted individuals at the base with secateurs and paint with undiluted glyphosate
<i>Sisymbrium officinale</i>	Hedge Mustard	Brassicaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Solanum chenopodioides</i>	Whitetip Nightshade	Solanaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Solanum linnaeanum</i>	Apple of Sodom	Solanaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Solanum nigrum</i>	Blackberry Nightshade	Solanaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Solanum pseudocapsicum</i>	Jerusalem Cherry	Solanaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Solanum radicans</i>	Cusmayllo	Solanaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Solanum sisymbriifolium</i>	Sticky Nightshade	Solanaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L

Species	Common Name	Family	Treatment Methods
<i>Soliva sessilis</i>	Bindyi	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Sonchus oleraceus</i>	Milk Thistle	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Stenotaphrum secundatum</i>	Buffalo Grass	Poaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Strelitzia reginae</i>	Bird of Paradise	Strelitziaceae	- Saw plant off at base and apply undiluted glyphosate to the cut stump. Glyphosate should be applied to the stump immediately after cutting - To improve efficacy of herbicide application, dig around the base to expose roots which can be pierced with a knife or trowel and glyphosate applied - The plant may reshoot from the centre. The new shoot should be sawn off and glyphosate applied to freshly cut surface monthly until the plant is dead
<i>Syagrus romanzoffiana</i>	Cocos Palm	Arecaceae	-Hand Weed - Spot Spray - Glyphosate 50% v/v for spot treatment into drill holes. Undiluted for cut stump treatments.
<i>Taraxacum officinale</i>	Dandelion	Asteraceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Trifolium repens</i>	White Clover	Fabaceae (Faboideae)	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Verbena bonariensis</i>	Purple Top	Verbenaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Verbena quadrangularis</i>		Verbenaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Verbena rigida</i>	Veined Verbena	Verbenaceae	- Hand Weed - Spot Spray - Glyphosate 10mL/1L
<i>Vicia sativa</i>	Common vetch	Fabaceae (Faboideae)	- Hand Weed - Spot Spray - Glyphosate 10mL/1L

Species	Common Name	Family	Treatment Methods
<i>Vulpia bromoides</i>	Squirrel Tail Fescue	Poaceae	<ul style="list-style-type: none"> - Hand Weed - Spot Spray - Glyphosate 10mL/1L

APPENDIX C :

Species Planting List



Table 10 Proposed planting list for revegetation of the VMP area

Family	Species Name	Common Name
Canopy trees		
Myrtaceae	<i>Angophora floribunda</i>	Rough-barked Apple
Myrtaceae	<i>Eucalyptus amplifolia</i>	Cabbage Gum
Myrtaceae	<i>Eucalyptus moluccana</i>	Coastal Grey Box
Myrtaceae	<i>Eucalyptus tereticornis</i>	Forest Red Gum
Sub-canopy trees / tall shrubs		
Casuarinaceae	<i>Casuarina glauca</i>	Swamp Oak
Celastraceae	<i>Denhamia silvestris</i>	Orange Bark
Fabaceae (Mimosoideae)	<i>Acacia parramattensis</i>	Parramatta Wattle
Myrtaceae	<i>Acmena smithii</i>	Lilly Pilly
Myrtaceae	<i>Melaleuca decora</i>	-
Myrtaceae	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark
Myrtaceae	<i>Melaleuca styphelioides</i>	Prickly-leaved Tea Tree
Phyllanthaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	Cheese Tree
Pittosporaceae	<i>Bursaria spinosa</i>	Blackthorn
Rhamnaceae	<i>Alphitonia excelsa</i>	Red Ash
Small shrubs		
Asteraceae	<i>Ozothamnus diosmifolius</i>	Sago Bush
Araliaceae	<i>Polyscias sambucifolia</i>	Elderberry Panax
Sedges, sedges and aquatic species for bio-retention basins and stream channel		
Alismataceae	<i>Alisma plantago-aquatica</i>	Water Plantain
Cyperaceae	<i>Baumea articulata</i>	Bare Twig-rush
Cyperaceae	<i>Baumea juncea</i>	Bare Twig-rush
Cyperaceae	<i>Bolboschoenus fluviatilis</i>	Marsh Club-rush
Cyperaceae	<i>Carex appressa</i>	Tall Sedge
Cyperaceae	<i>Cyperus difformis</i>	Variable Flat-sedge
Cyperaceae	<i>Cyperus exaltatus</i>	Tall Flat-sedge
Cyperaceae	<i>Cyperus laevis</i>	Flat-sedge
Cyperaceae	<i>Eleocharis sphacelata</i>	Tall Spike-rush
Cyperaceae	<i>Fimbristylis velata</i>	Fringe-rush
Cyperaceae	<i>Isolepis inundata</i>	-

Family	Species Name	Common Name
Cyperaceae	<i>Schoenoplectus mucronatus</i>	Club-rush
Cyperaceae	<i>Schoenoplectus validus</i>	River Club-rush
Juncaceae	<i>Juncus kraussii</i> subsp. <i>australiensis</i>	Sea Rush
Juncaceae	<i>Juncus planifolius</i>	Broad Rush
Juncaceae	<i>Juncus usitatus</i>	Common Rush
Lomandraceae	<i>Lomandra longifolia</i>	Spiny-headed Mat Rush
Onagraceae	<i>Ludwigia peploides</i>	Water Primrose
Poaceae	<i>Paspalum distichum</i>	Freshwater Couch
Poaceae	<i>Phragmites australis</i>	Common Reed
Grasses		
Poaceae	<i>Austrostipa verticillata</i>	Slender Bamboo Grass
Poaceae	<i>Bothriochloa decipiens</i> var. <i>decipiens</i>	Pitted Blue Grass
Poaceae	<i>Chloris truncata</i>	Windmill Grass
Poaceae	<i>Echinopogon ovatus</i>	Forest Hedgehog Grass
Poaceae	<i>Entolasia marginata</i>	Bordered Panic
Poaceae	<i>Entolasia stricta</i>	Wiry Panic
Poaceae	<i>Eriochloa pseudoacrotricha</i>	Early Spring Grass
Poaceae	<i>Eragrostis leptostachya</i>	Paddock Love Grass
Poaceae	<i>Imperata cylindrica</i>	Blady Grass
Poaceae	<i>Microlaena stipoides</i>	Weeping Grass
Poaceae	<i>Oplismenus aemulus</i>	Basket Grass
Poaceae	<i>Oplismenus imbecillis</i>	-
Poaceae	<i>Panicum effusum</i>	Hairy Panic
Poaceae	<i>Sporobolus creber</i>	Slender Rat's Tail Grass
Forbs		
Acanthaceae	<i>Brunoniella australis</i>	Blue Trumpets
Acanthaceae	<i>Brunoniella pumilio</i>	Dwarf Blue Trumpets
Apiaceae	<i>Centella asiatica</i>	Indian Pennywort
Campanulaceae	<i>Wahlenbergia gracilis</i>	Sprawling Bluebell
Chenopodiaceae	<i>Einadia hastata</i>	-
Chenopodiaceae	<i>Einadia nutans</i> ssp. <i>linifolia</i>	Climbing Saltbush

Family	Species Name	Common Name
Chenopodiaceae	<i>Einadia trigonos</i>	Fishweed
Chenopodiaceae	<i>Einadia polygonoides</i>	Knotweed Goosefoot
Commelinaceae	<i>Commelina cyanea</i>	-
Convolvulaceae	<i>Dichondra repens</i>	Kidney Weed
Fabaceae (Faboideae)	<i>Desmodium gunnii</i>	-
Fabaceae (Faboideae)	<i>Glycine clandestina</i>	Twining Glycine
Goodeniaceae	<i>Brunonia australis</i>	Blue Pincushions
Lobeliaceae	<i>Pratia purpurascens</i>	White Root
Oxalidaceae	<i>Oxalis perennans</i>	-
Phormiaceae	<i>Dianella caerulea</i>	Blue Flax-lily
Plantaginaceae	<i>Veronica plebeia</i>	Creeping Speedwell
Solanaceae	<i>Solanum prinophyllum</i>	Forest Nightshade
Violaceae	<i>Viola hederacea</i>	Native Violet

FIGURES

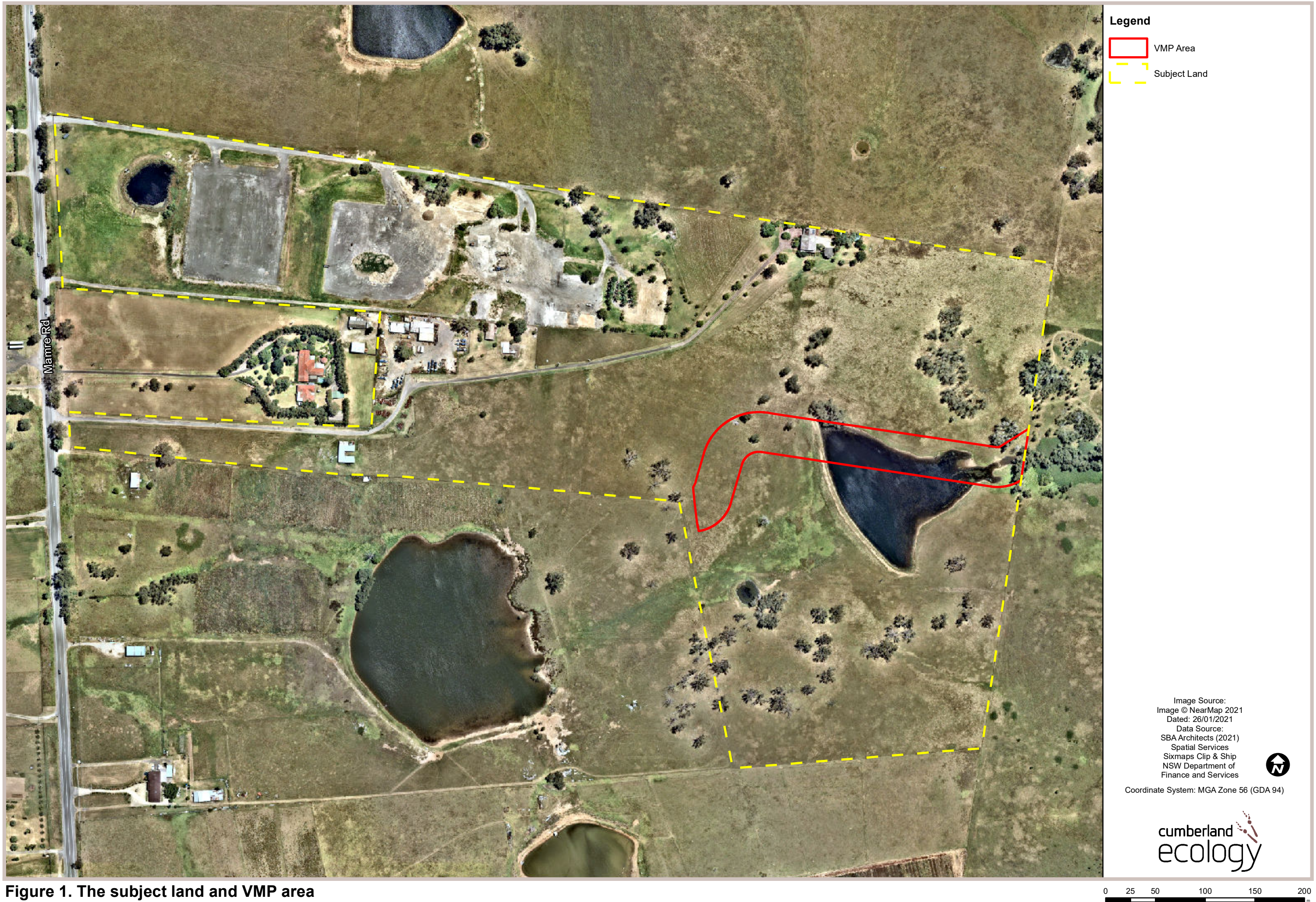
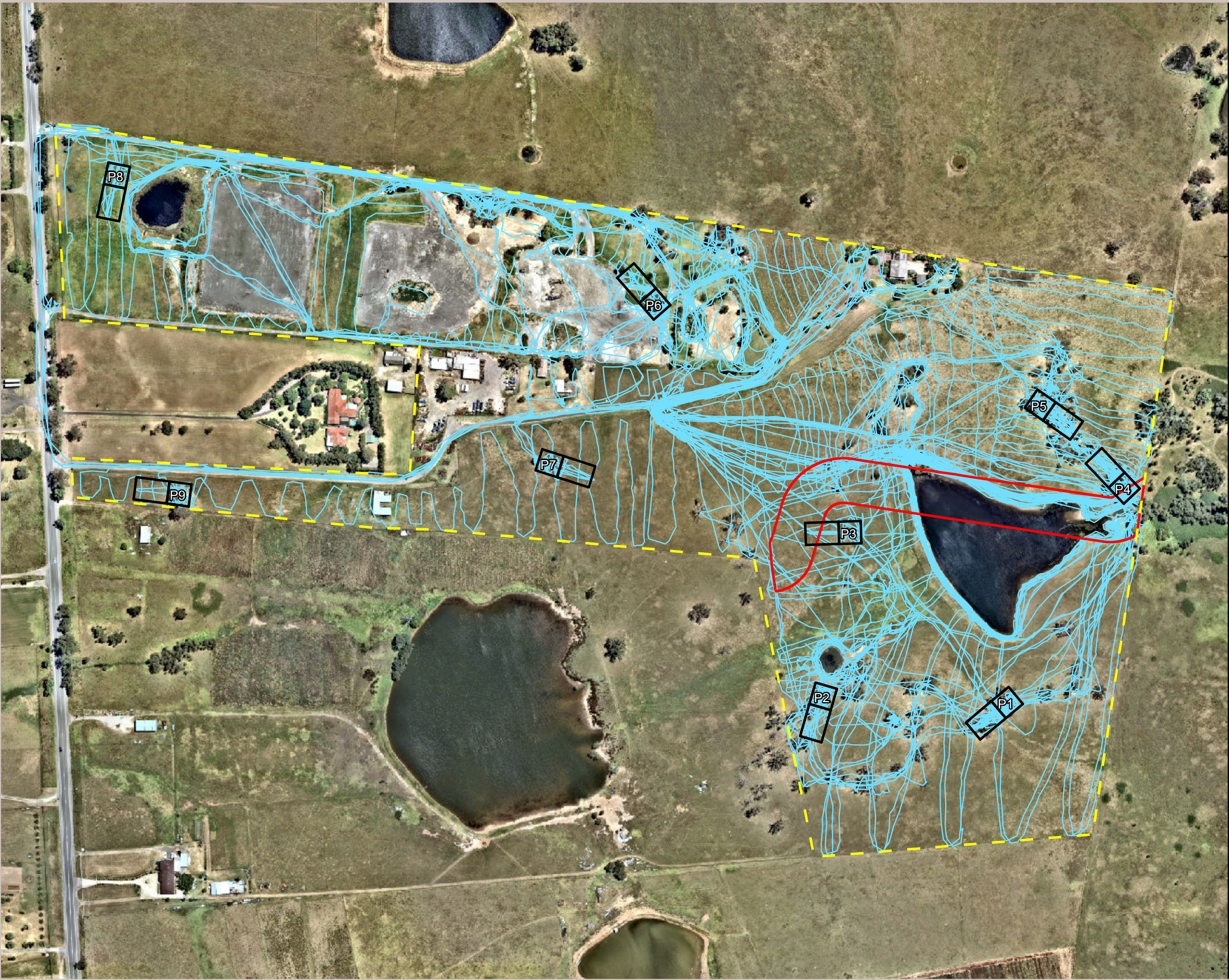


Figure 1. The subject land and VMP area



Legend

- VMP Area
- Subject Land
- BAM Plot
- Parallel Traverses

Image Source:
Image © NearMap 2021
Dated: 26/01/2021
Data Source:
Spatial Services
Sixmaps Clip & Ship
NSW Department of
Finance and Services

Coordinate System: MGA Zone 56 (GDA 94)



Figure 2. Flora survey locations

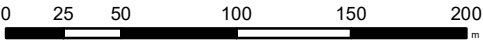




Figure 3. Fauna survey locations

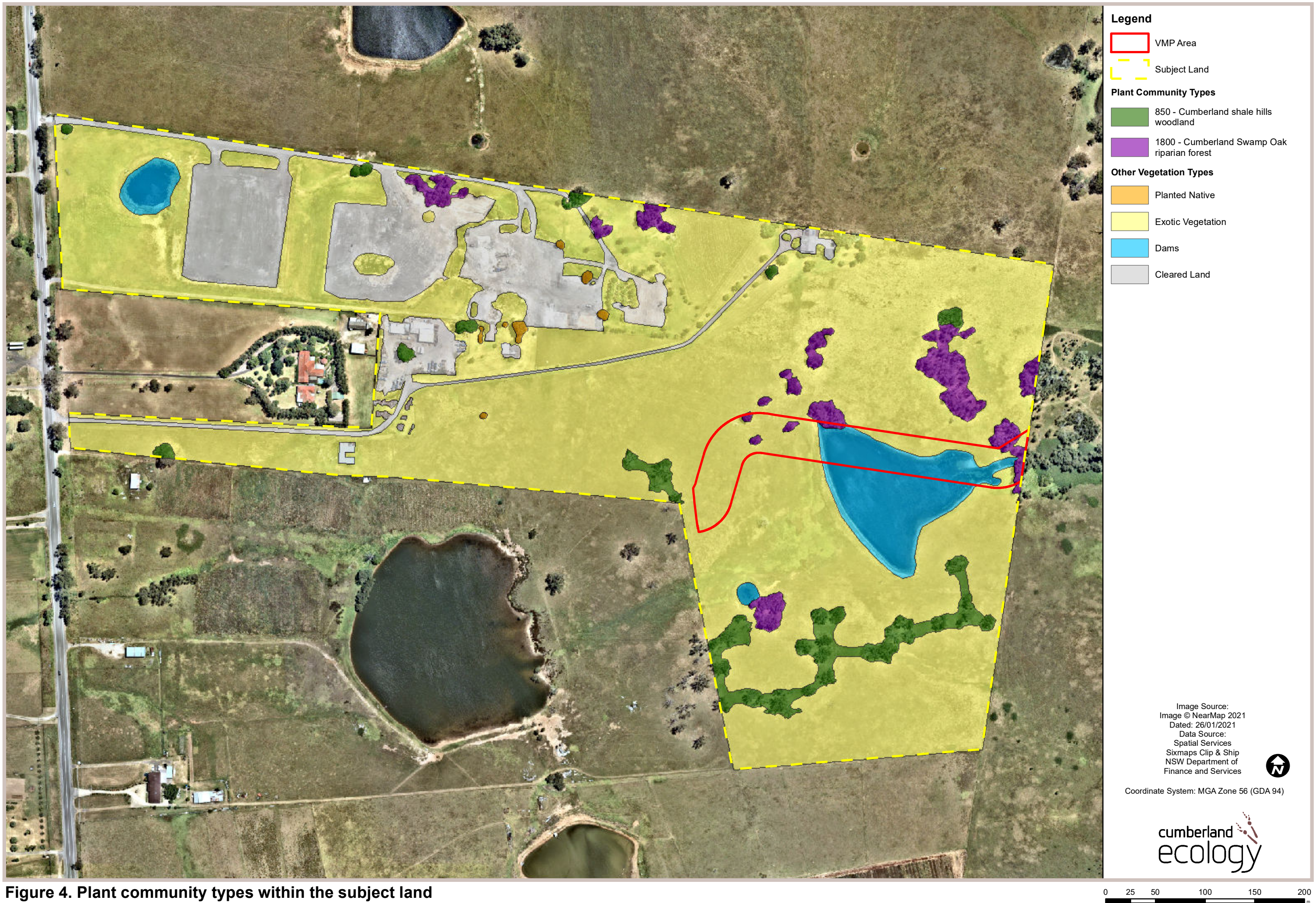


Figure 4. Plant community types within the subject land

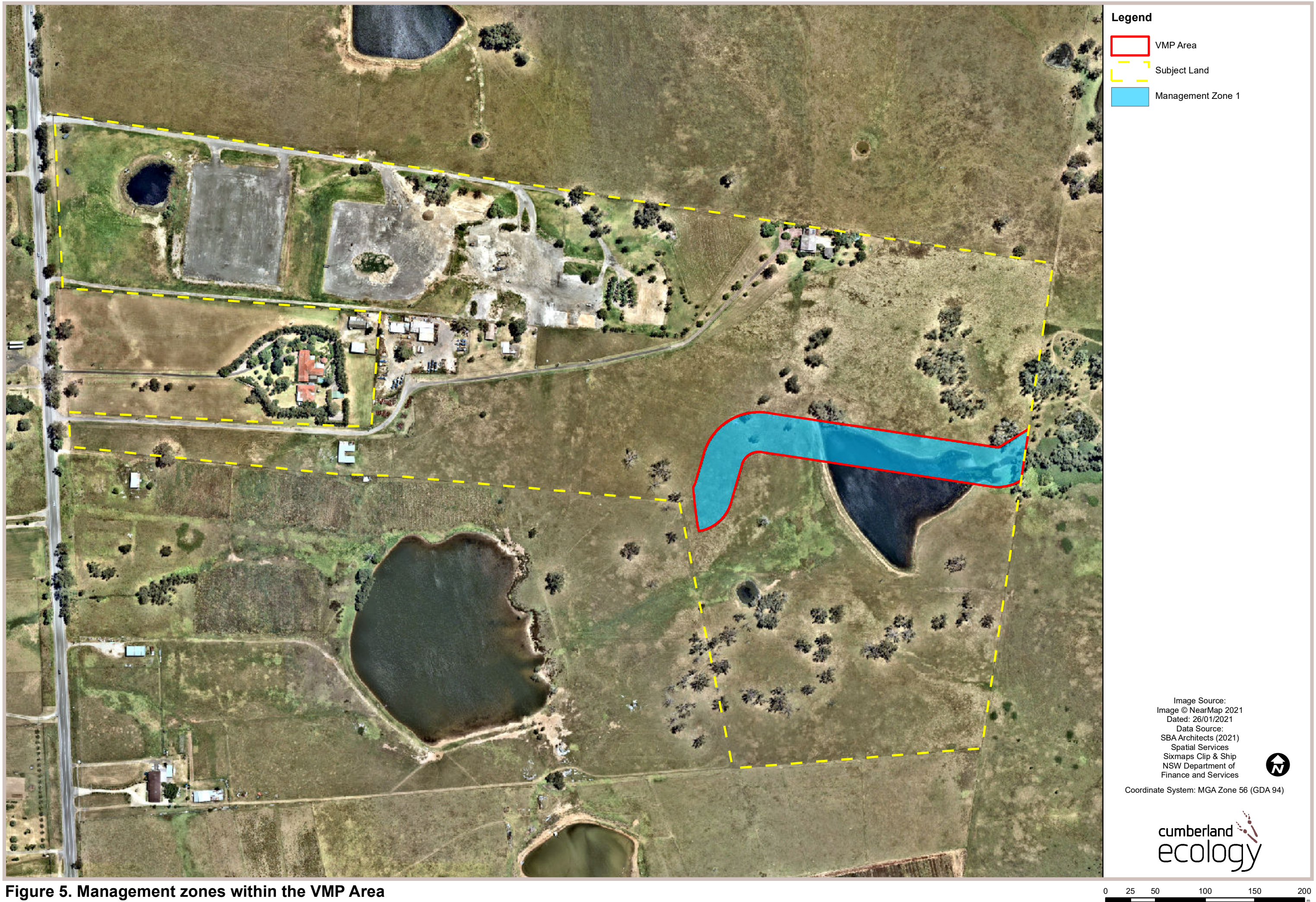


Figure 5. Management zones within the VMP Area

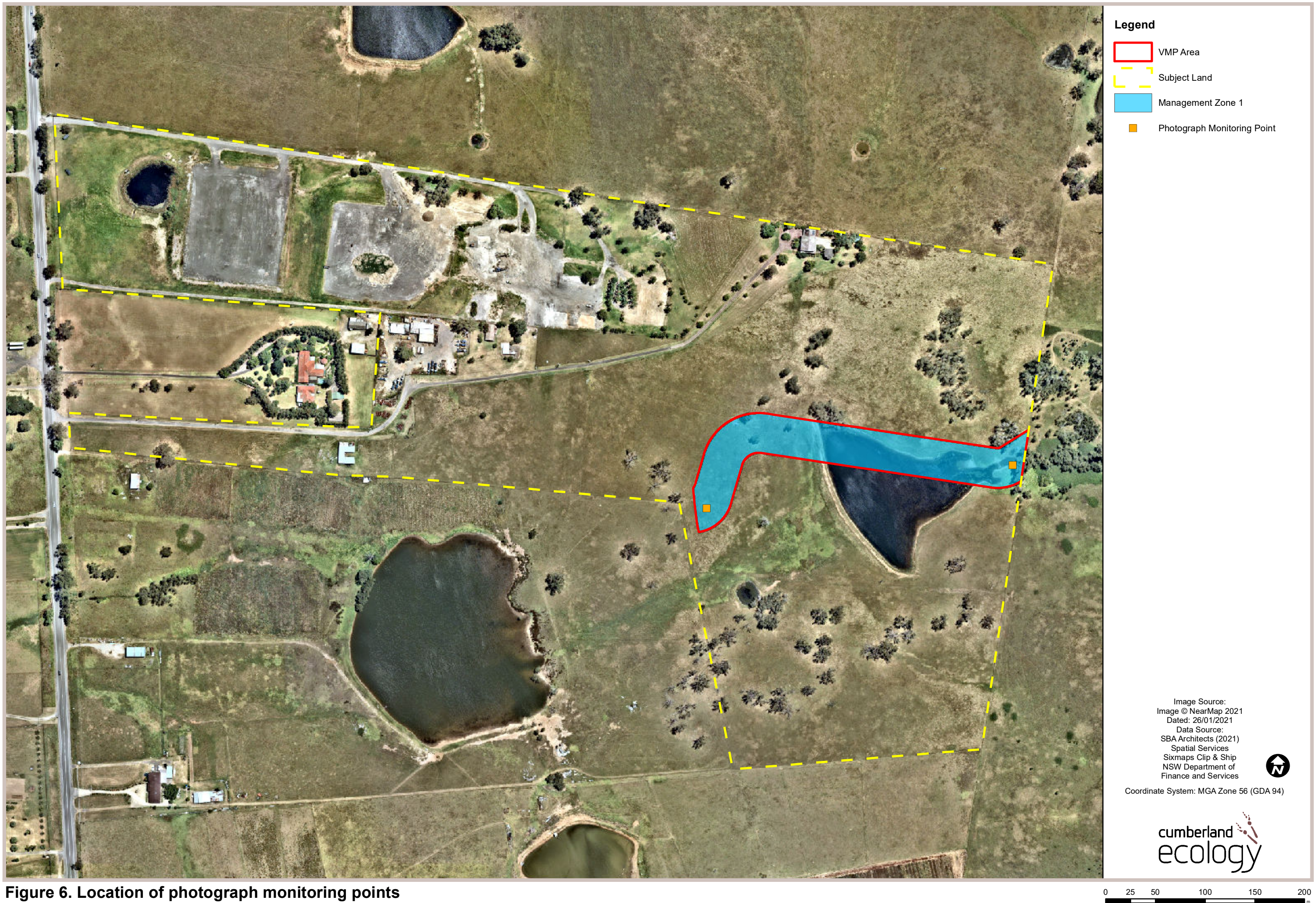


Figure 6. Location of photograph monitoring points