
Agricultural Investigation of Proposed Urban Development Site – Campbelltown LGA

Mt Gilead Pty Ltd
S & A Dzwonnik

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Lee Macarthur – Onslow	Director, Mt Gilead Pty Ltd
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Abbreviations

ABS	Australian Bureau of Statistics
CCC	Campbelltown City Council
CSG	Coal Seam Gas
CLEP	Campbelltown Local Environmental Plan
LGA	Local Government Area
DPI	NSW Department of Primary Industries
DPS	Development Planning Strategies
EPI	Environmental Planning Instrument
IDO	Interim Development Order
LGA	Local Government Area
LSC	Land and Soil Capability
MDP	Metropolitan Development Program
OMP	Old Mill Properties

DISCLAIMER

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Michael Clarke
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1 Introduction

1.1 Study Purpose

This purpose of this document is to review the proposal by Campbelltown City Council (CCC) in respect of a 210 ha rural site in the Campbelltown Local Government Area (LGA) scheduled for rezoning under the State Government's Metropolitan Development Program (MDP) that addresses the following consideration outlined by Council:

'An investigation of the feasibility of the use of the land for food production and how the land fits with the stated focus of securing agricultural land as expressed in the Discussion Paper – Sydney Over the Next 20 years'.

1.2 Project Background

Under *Draft Campbelltown (Urban Area) Local Environmental Plan 2002 – Amendment No 27 – Mount Gilead*, Campbelltown City Council seeks to develop a planning proposal to enable 210 hectares of rural land at Mount Gilead to be developed for approximately 1,700 residential allotments and associated open space. The planning proposal applies to land at Mount Gilead known as Lot 59 DP 752042, part of Lot 1 DP 807555, part of Lot 2 DP 807555 and Lot 61 DP 752042, Appin Road, Campbelltown. This area has been identified for urban development under the State Government's Metropolitan Development Program (MDP).

The subject site is currently zoned Non-Urban under the provisions of Environmental Planning Instrument (EPI) *Interim Development Order (IDO) No 15 – City of Campbelltown* (IDO No 15), with a minimum residential subdivision standard of 100 hectares.

The main EPI for the Campbelltown Local Government Area is *Campbelltown (Urban Area) Local Environmental Plan 2002* (CLEP 2002). As the northern boundary of the subject site adjoins the southern boundary of CLEP 2002, CCC has considered it appropriate to include the subject site within the provisions of CLEP 2002.

A number of detailed technical studies were required to inform a final planning proposal and include matters such as flora and fauna, conservation of ecological and riparian corridors, transport and access. These technical studies also needed to include an investigation of the feasibility of the use of the subject land for food production and how this land fits with the stated focus of securing agricultural land as expressed in the *Discussion Paper – Sydney Over the Next 20 Years*.

The NSW Government (2012) *Discussion Paper – Sydney Over the Next 20 Years* identifies a number of aims for NSW through to 2021. Those relevant to agriculture and the residential development of the project site include:

- Protecting strategic agricultural land and improving agricultural productivity
- Improving productivity on NSW farms

The Discussion Paper also points to the need for the resultant Metropolitan Development Program to strike a balance between land for a growing population and land for agriculture and resources.

1.3 Approach

The feasibility study was completed in three parts:

1. Examination of the agricultural capability of the site and identification of its food production potential including:
 - Land titles
 - Site inspection, description and observations
 - Agricultural use and intensity / productivity of agricultural operations (including pasture type and condition and fertiliser history)
 - Site Infrastructure and new infrastructure needed to secure ongoing food production (e.g. surface water including dams and creeks, irrigation licences and infrastructure, stock yards and fencing condition)
 - Application of NSW Agriculture Agricultural Land Classification system and Rural Land Capability system to provide an objective assessment of the site's food production potential
 - Review of neighbouring land and other economic and social factors supporting or constraining agriculture and food production
 - Determination of the range of feasible food production enterprises using the above information and professional experience.

2. Comment on the availability/scarcity of this land class in the Sydney Basin and in NSW more generally (using NSW Agriculture Agricultural Land Classification system – comparison of classes found on the project site to hectares available in the rest of the state).

3. Conclude on whether the land is of strategic importance for agricultural production, its scarcity, factors offsetting scarcity that work against loss of food production potential and the need for trade-offs as expressed in the 'Discussion Paper – Sydney Over the Next 20 years'.

To discharge the feasibility study AgEconPlus reviewed relevant background documents, publications and maps and completed a site inspection and agricultural land use questionnaire with both of the relevant landholders. Site inspection was completed 14 June 2013.

2 Site Inspection and Agricultural Assessment

2.1 Land Titles

A map of the site is included as Appendix 1. The land subject to the rezoning proposal is situated at Appin Road, Campbelltown and is owned by two separate parties:

Landowner:	Mt Gilead Pty Ltd	S & A Dzwonnik	Total MDP Area
Identifier:	Lot 59 DP 752042 Part of Lot 1 DP 807555 Part of Lot 2 DP 807555	Lot 61 DP 752042	
Approximate Land Area:	175.5 hectares	34.5 hectares	210 hectares
Manager	Mr Lee Macarthur – Onslow	Mrs Anna Dzwonnik	

- Mt Gilead Pty Ltd's consultant is Old Mill Properties Pty Ltd (Darryl Kite)
- S & A Dzwonnik's consultant is Development Planning Strategies (Nigel McAndrew)

2.2 Site Inspection, Description and Observations

The following observations were made from review of the survey questionnaire and site inspection:

	Mt Gilead Pty Ltd site	S & A Dzwonnik site
Site Description and Topography	<ul style="list-style-type: none"> • Site is approximately 95% cleared for grazing with 5% sporadic eucalypt tree cover of iron bark, white gum and box with heavier concentrations of eucalypt tree cover in the riparian zone on the western side of the site. • Between 90% and 95% of the site is gently sloping (estimated 3° to 5° slope) with between 5% and 10% of site steep (up to 30° slope) around 'One Tree' hill on the northwestern side of the property. 	<ul style="list-style-type: none"> • Site is approximately 95% cleared for grazing with a 5% wooded area of eucalypt tree cover in second paddock to the western side of the site. • All of the site is flat to gently sloping (estimated 1° to 5° slope).

	Mt Gilead Pty Ltd site	S & A Dzwonnik site
Site Observations and Biophysical Factors	<ul style="list-style-type: none"> • The site is generally well managed grazing land fenced into paddocks with sound pasture cover – no cropping or cultivation observed. • Cattle are in sound condition. • Site has three creeks and several good quality rain and creek fed dams. • Some surface sandstone and minor sandstone outcropping near creek on the western side of the site. • Some shale patches noted where shale previously used to stop cattle bogging (e.g. near gates) – shale sourced on site. • Small shale excavation near 'One Tree' hill approximately 500 sq metres in area and between 5 to 10 metres deep. • No erosion noted. • No salinity noted. • Some weed shrubs evident. 	<ul style="list-style-type: none"> • Generally well managed grazing land fenced into paddocks with sound pasture cover – no cropping or cultivation observed. • Cattle are in sound condition. • Site has two good quality rain fed dams. • No stone surfaces or stone outcropping noted. • Old wooden cattle yards observed in first paddock on eastern side of site. • No erosion noted. • No salinity noted. • Some weed shrubs evident. • A significant number of in-ground cut tree stumps were observed in the second paddock to western side of site as a remainder from previous historical tree clearing activities.
Approx % of site prone to or at risk of flooding	Owner estimated percentage: 5% - accepted as reasonable based on presence of semi-permanent creek / water course on western side of site.	Owner estimated percentage: 0% - accepted as reasonable.
Soil depth and base	Predominately shallow: Manager advised approximately 10 cm of top soil, then clay over a shale rock base.	Predominately shallow: Accepted to be same as Mt Gilead Pty Ltd site land.
Rainfall	767.4 mm with an even monthly distribution	767.4 mm with an even monthly distribution

2.3 Agricultural Use and Intensity / Productivity of Operations

	Mt Gilead Pty Ltd site	S & A Dzwonnik site
Historical land use	<ul style="list-style-type: none"> Dairy cattle until 1986, beef cattle production since 1986. Oat crops for grazing sometimes instead of purchasing hay. Up until 10 years ago, approx. 20% of cleared site was used for irrigation with irrigation water sourced from on-site dam. 	<ul style="list-style-type: none"> Site has been owned by S & A Dzwonnik for approximately 30 years and during this time has always been used for beef cattle production. No cultivation or cropping undertaken during 30 year tenure.
Current land use	<ul style="list-style-type: none"> Beef cattle breeding and sale (i.e. weaner production). 	<ul style="list-style-type: none"> Beef cattle fattening and sale (i.e. weaner production). Weaners are bred off site at other nearby properties owned by S&A Dzwonnik.
Intensity / Productivity of Operations	<ul style="list-style-type: none"> Site is able to produce up to 100 weaners pa worth between \$500 and \$700 per head at current market prices. Site can support approx. 1 cow and calf per 2 ha in a reasonable to good year; supplementary fodder (hay) purchased in drought periods. 	<ul style="list-style-type: none"> Site is able to produce approx. 25 weaners pa worth between \$500 and \$700 per head at current market prices. Site can support approx. 1 weaner per ha in a reasonable to good year.
Pasture Type	<ul style="list-style-type: none"> Predominately kikuyu and other perennial grasses with some clover 	<ul style="list-style-type: none"> Mixture of annual and perennial pasture species including clover.
Pasture Condition	<ul style="list-style-type: none"> Good on most areas 	<ul style="list-style-type: none"> Good on most areas
Irrigation	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A
Fertiliser History	<ul style="list-style-type: none"> When operated as a dairy pre 1986, 100kg of regular fertiliser per ha pa plus chicken manure. Regular fertiliser and some chicken manure applied since 1986 but at a much lower rate. 	<ul style="list-style-type: none"> No fertiliser has been applied since the owners acquired the site.
Weeds Present	<ul style="list-style-type: none"> Some paddocks noted as almost weed free others with significant weed infestation. Weeds noted included: <ul style="list-style-type: none"> Paddy's Lucerne Fireweed Stinking Roger Manager performs periodic control with herbicide. 	<ul style="list-style-type: none"> Both paddocks noted as mostly weed free except for some significant weed infestation on northern and western section of western paddock. Weeds noted included: <ul style="list-style-type: none"> African Box Thorn Blackberry Manager performs periodic control with herbicide.

2.4 Site Infrastructure and New Infrastructure Needed

	Mt Gilead Pty Ltd site	S & A Dzwonnik site
Surface water / dams	Site has several good quality rain and creek fed dams.	Site has two good quality rain fed dams.
Irrigation licence	N/A	N/A
Stock handling yards / pens	None sighted	Old wooden cattle yards observed in first paddock on eastern side of site.
Fencing	Fencing noted as being in good condition with gates well hung and secure from animal egress.	Fencing noted as being in good condition with gates well hung and secure from animal egress.

2.5 Agricultural Land Classification and Capability

	Mt Gilead Pty Ltd site	S & A Dzwonnik site
Agricultural Land Classification	Notated as Class 3 <i>(i.e. well suited to grazing including use of improved pastures, cultivation limited to cash or forage crop in rotation with pastures. Limitations to production include shallow, stony or eroded soils.)</i> - accepted as appropriate	Notated as Class 3 <i>(i.e. well suited to grazing including use of improved pastures, cultivation limited to cash or forage crop in rotation with pastures. Limitations to production include shallow, stony or eroded soils.)</i> - accepted as appropriate
Land and Soil Capability classes	Estimated at: Class 2 to 3 on the gently sloping grazing land Class 4 to 5 on the moderately hilly grazing land	Estimated at: Class 2 to 3 on the flat to gently sloping grazing land

The study site overlaid with land classification is shown as Appendix 2.

2.6 Neighbouring Land and Other Factors Relevant to Agriculture

	Mt Gilead Pty Ltd site	S & A Dzwonnik site
Remaining agricultural land owned by owner	Approximately 575 hectares adjoining site to the west and south-west.	Approximately 195 hectares in total in two separate properties in nearby area: Campbelltown and Camden Valley Way.
Off-site support Infrastructure	Owner / manager has cattle yards on their remaining land to support agricultural enterprise of beef cattle production.	Owner / manager has cattle yards on their remaining land to support agricultural enterprise of beef cattle production.

Use of neighbouring land	<ul style="list-style-type: none"> To the East (eastern side of Appin Rd): small area of rural cleared land of approximately 50 ha and native bush land further south. To the North: native bush land (Noorumba Reserve) and residential housing. To the North-West: Sydney Water Corporation water supply channel and Menangle Creek. To the West: rural cleared land comprising remainder of Mt Gilead Pty Ltd property being other part of Lot 1 DP 807555 and other part of Lot 2 DP 807555. Also a Coal Seam Gas plant (Rosalind Park Gas Plant – part of Camden Gas Project operated by AGL). To the South: native bush land and an area of rural cleared land.
Regional factors	<ul style="list-style-type: none"> Nearest saleyards: Camden, then Moss Vale Nearest fertiliser supplier: Port Kembla Nearest rural supplier: Campbelltown, Camden, then Goulburn
Labour Availability	<ul style="list-style-type: none"> No constraints noted by owner or manager in relation to labour hire or permanent employment.
Peri urban land use restrictions	<ul style="list-style-type: none"> None advised by owner / managers. However, land intensification with high spray load horticulture or poultry, pigs or cattle feedlot likely to be inconsistent with community expectations.

2.7 Agriculturally Feasible Food Production Enterprises

Based on the above agricultural assessment, key factors that set the parameters for the range of feasible food production enterprises are as follows:

- Site topography: mostly cleared and predominantly gently sloping
- Site biophysical factors: three creeks and several good quality rain and creek fed dams
- Soil depth and base: predominately shallow soil depth on top of clay base with shale rock base underneath - limited capacity for cultivation and cropping
- Rainfall: 767.4 mm with an even monthly distribution
- Traditional agricultural use: beef cattle breeding, fattening and sale; or dairy cattle for milk production
- Ag Land Classification: notated as Class 3 – this is accepted due to the limited capacity for cultivation and cropping.

Consequently feasible food production is limited to horticulture that is able to cope with shallow and relatively low fertility soil, intensive animal production or some form of extensive animal grazing activity.

Feasible horticulture is limited to the growing of a tenacious tree or vine crop that requires limited irrigation water and is productive in shallow soils – a crop such as olives or wine grapes would be agronomically feasible on the site. However, both these crops would require significantly more high priced labour than is currently used on either farm, additional capital

equipment for harvesting and processing as well as access to specialised and difficult to secure markets. Both commodities are currently oversupplied and prices are depressed.

Whilst more intensive agricultural activities such as beef feedlotting, pig or poultry production could be accommodated on the site, these activities would require a large upfront capital investment to establish the operation and a significant increase in labour hires (management), labour costs and feed input costs. Intensive livestock production on the site is likely to be inconsistent with Campbelltown community values and would generate odour and noise complaints. Furthermore, modern intensive animal production tends to locate close to large scale grain production areas west of the Great Dividing Range to take advantage of all important freight cost savings on bulk livestock feed. The Mt Gilead site would be considerably less feasible than an alternative in either the NSW North West or Riverina.

Animal grazing options include open range beef cattle breeding, fattening and sale, open range dairy production, or sheep/goats/alpaca for meat, milk or wool production. Alternative range grazing enterprises such as alpaca, goats and dairy sheep require considerable capital, specialised skills, labour and access to niche markets. The long term viability of these enterprises is normally associated with some form of supply chain partnership. Sheep for wool production is considerably more labour intensive and consequently less profitable than say beef cattle grazing. Wool returns are reliant on scale operations which are not available to the operators of the Mt Gilead site. Historically dairy grazing has been profitable within the Campbelltown Camden area but with the deregulation of the fresh milk market in 2000 the NSW dairy industry has contracted to a few key sites where larger production areas and lower land values provide an adequate return on investment. Beef cattle grazing provides a low capital, labour and risk enterprise for the site. Weaners require few capital inputs other than adequate fodder, water and fencing. Labour is less than alternative enterprises and easily serviced markets are available through saleyards in Camden and Moss Vale.

In terms of food production, the study site is best suited for grow out of beef cattle weaners.

2.8 Economic Feasibility of Food Production

While the study site is technically suitable for the grow out of beef cattle weaners, it is not an economically rational use for the asset. Gross receipts from cattle production are approximately \$75,000 per year (125 head of beef cattle at an average value of \$600) of which direct costs, including animal health and pasture maintenance, account for approximately half this total (NSW DPI 2012). Annual return per hectare, before allowing for capital costs, is therefore a modest \$189 (gross margin of \$39,737 divided by 210 ha).

3 Scarcity of Land for Food Production

Chapter 3 addresses the scarcity of Class 3 agricultural land for food production and Table 3.1 shows the availability of this asset class.

Table 3.1 Area of Class 3 Land across Various Assets Available for Food Production

Asset Available for Food Production	Area of Class 3 Land (ha)	Development Site as a Share of Asset (%)
Campbelltown <ul style="list-style-type: none"> Local Government Area 	12,000	2%
Sydney Basin <ul style="list-style-type: none"> Excluding Wollongong, Gosford, Lithgow and Wingecarribee LGAs 	150,000	0.2%
NSW <ul style="list-style-type: none"> Excluding the Riverina and most of the South West Slopes that have not yet been mapped 	3,400,000	0.01%

Source: Land Class Atlas Mapping

Table 3.1 shows that relative to the state of NSW, the Sydney Basin and even the Campbelltown LGA, the area of grazing land proposed for urban development at the study site is modest.

3.1 Factors Offsetting Scarcity

Factors mitigating the loss of food production potential include:

- Class 3 grazing land is not necessarily ‘strategically important’ agricultural land. Class 3 is general grazing land not suitable for high value agricultural uses such as intensive vegetable production that more closely aligns to concerns about securing land for long term food production
- Reallocation of 210ha of Class 3 grazing land for urban development does not necessarily result in a reduction in beef cattle production. Land is only one factor of production and a reduction in land may be offset with investment in other inputs. For example Mt Gilead Pty Ltd and S & A Dzwonnik may choose to further improve the pastures on the balance of their Class 3 land, through addition of improved pasture species and or additional fertiliser or they may choose to purchase additional fodder and graze more livestock.

3.2 Scale of Production Loss in the Absence of Offsetting Factors

In the absence of investment to offset carrying capacity loss, the NSW beef herd would be reduced by 125 head. According to the Australian Bureau of Statistics (ABS) the NSW beef herd is greater than 6 million head.

4 Study Conclusion

The feasibility study has shown that from a food production perspective the study site is best suited to beef cattle grazing. Loss in beef cattle grazing can be offset through pasture improvement or purchase of fodder. In the absence of offsetting investment in pasture or fodder the NSW beef herd would be reduced by approximately 0.002% (i.e. 125 head in a total NSW herd of more than 6 million beasts). Reallocation of the land for urban development will not affect food production and is consistent with the need to strike a balance between land for a growing population and land for agriculture expressed in the Discussion Paper – Sydney Over the Next 20 Years.

References

ABS NSW Regional Statistics Catalogue Number 1304.1 ISSN 0818-2272

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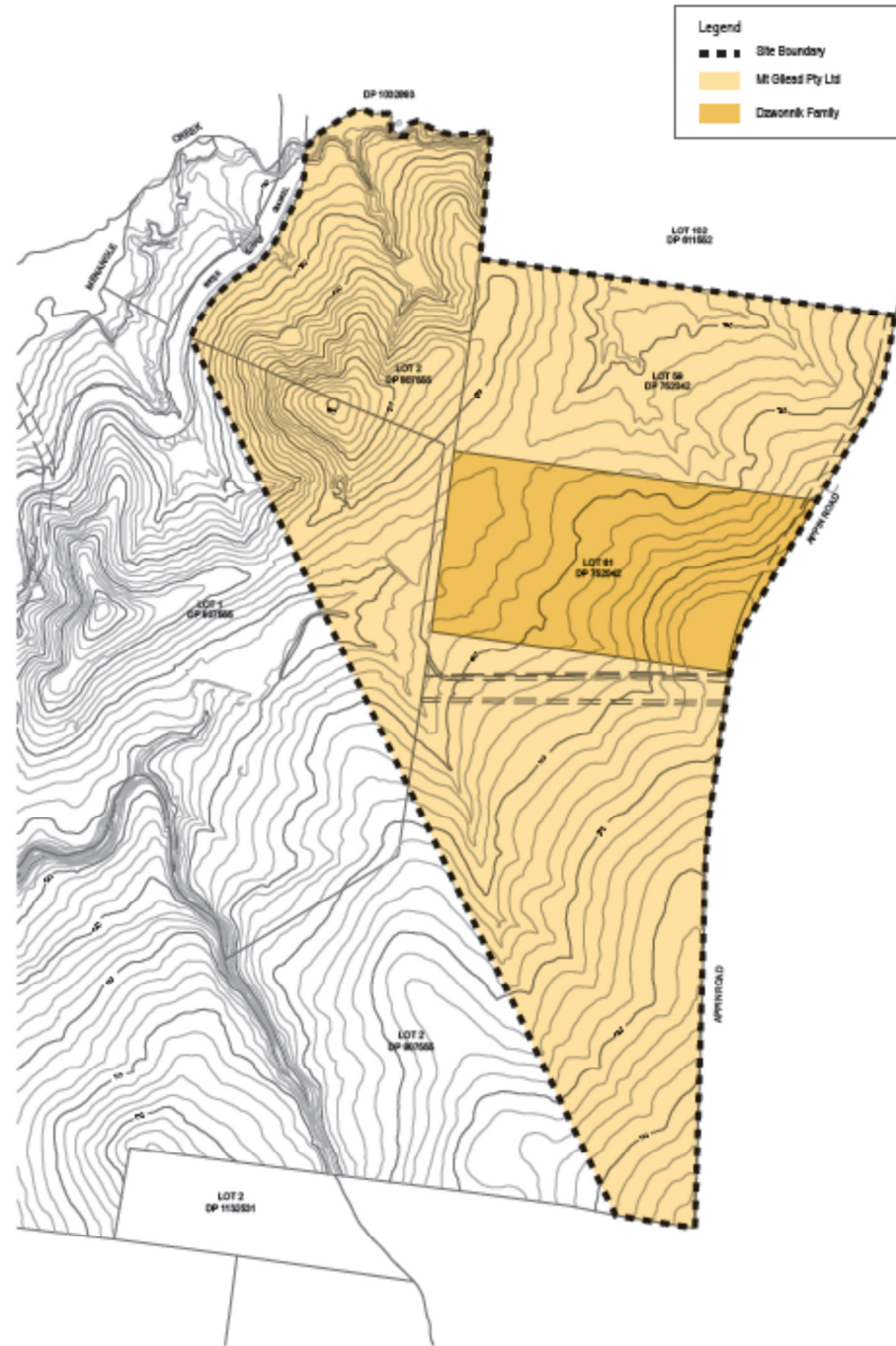
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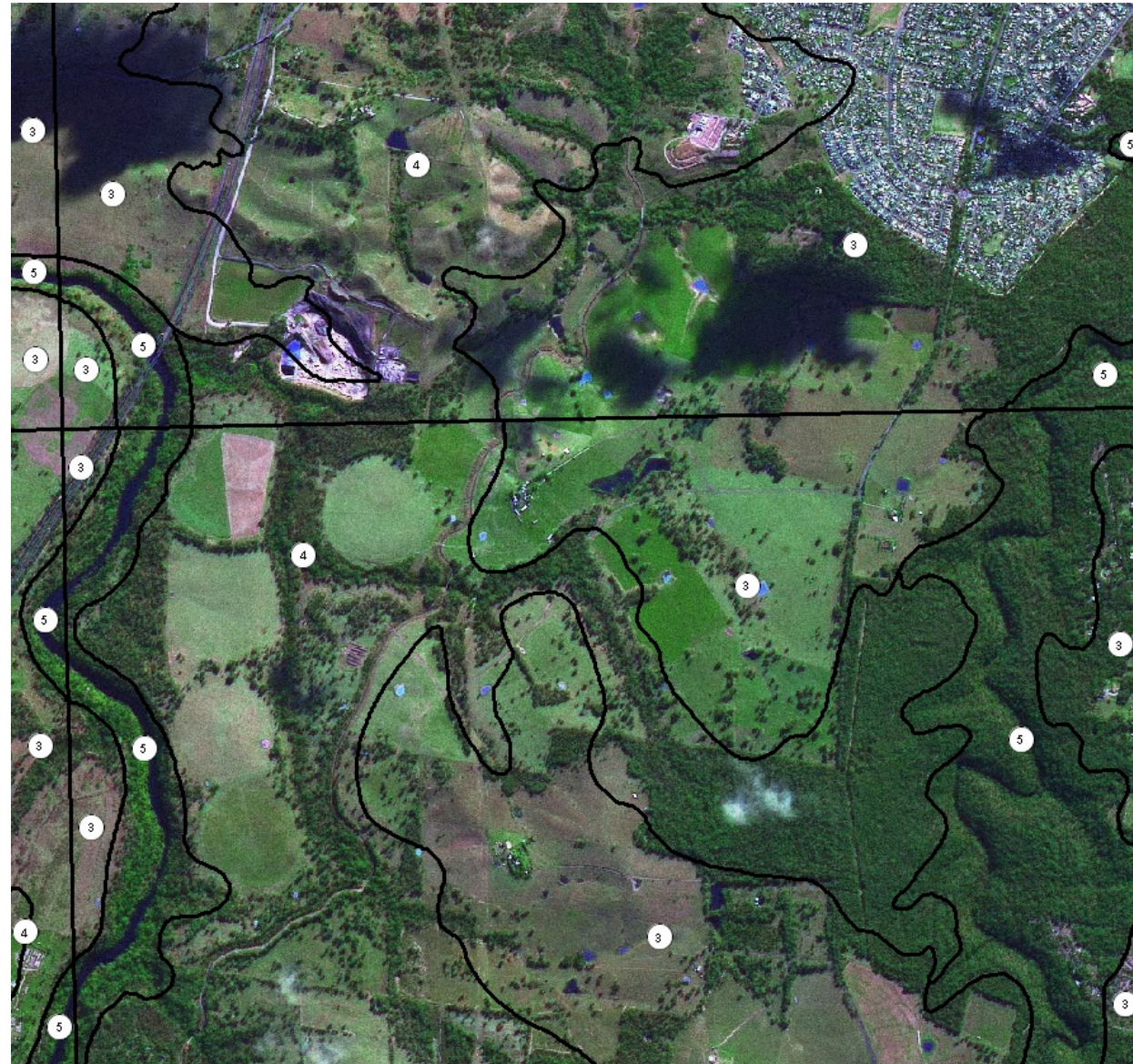
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SIX Maps online mapping tool – NSW Government Department of Finance and Services, Land and Property Information

Appendix 1 Map of Proposed Rezoning Development Site



Appendix 2 Agricultural Land Classification Data for the Site



Scale: 1:17,040

Note: Proposed Rezoning Development site has a NSW Agricultural Land Classification of Class 3