Executive Summary

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Executive Summary

The Redbank at North Richmond site has been earmarked for future urban development for many years. The land is now identified in the Hawkesbury Residential Land Strategy as being within a future investigation area for residential development. The RU4 Rural Small Holdings zone proposed by Hawkesbury draft LEP 2011 appears to conflict with the status of the land in the Residential Land Strategy.

The purpose of this report is to assess the viability of the land for ongoing agricultural use and to identify the value of the land in the context of local and regional agricultural production.

Agriculture within the region has changed significantly over the last 200 years, to the point where around 50% of the most fertile land within the LGA is now used to grow turf (approx. 1,600ha) and mushrooms are now the single highest value agricultural industry, occupying a land area of only 30 hectares.

The land is no longer viable for cattle grazing at sustainable stocking rates, due largely to the high costs of council rates, taxes and other fixed costs. This is a common problem for owners of traditional farming land on the fringe of metropolitan Sydney as land value tends to reflect city prices.

The gross margin for beef cattle in NSW on land with similar physical characteristics is $200 per head per year. The subject land generates a gross margin of $36,000 per year, which is only a fraction of the fixed costs of rates and taxes.

The land is surrounded by residential and rural residential land use. It is also noted that there is no commercial agricultural production in the immediate vicinity. The surrounding land use, the soil profile of the land, and statutory controls provide insurmountable constraints to intensification of agriculture on the land.

This report finds that the annual agricultural commodity value of the subject land is 0.03% (one 33rd of 1%) of the total value of agricultural production in the Sydney Basin. It is therefore concluded that loss of the subject land for food production will have no impact on food production in the Sydney Basin.
1. Introduction

Montgomery Planning Solutions has been engaged to prepare this agricultural land study for a 180 hectare land holding at North Richmond, within the local government area of Hawkesbury. The land is described as lot 27 DP 1042890 (No. 108) Grose Vale Road North Richmond.

The land is within the Sydney North West Subregion and has a crucial role to play in meeting dwelling targets as detailed in the draft Strategy for the North West Subregion.

The purpose of this report is to:

i. assess the impact of the proposed urban development of the land on primary production on neighbouring properties; and

ii. identify whether the conversion of the land from agricultural to urban use will have a significant impact on food production in the Sydney Basin.

It is concluded that the conversion of the land from agricultural to urban use will have negligible impact on agricultural production in the Hawkesbury local government area and no impact on food production within the Sydney Basin.
2. The Site and Surrounds

2.1 Description of Site

The land is some 180 hectares in area and is bounded by Redbank Creek to the north, residential dwellings to the east, Grose Vale Road to the south and the Belmont Grove rural residential estate to the west.

Situated some 600 metres north of the Hawkesbury River, the land is gently undulating with a central saddle running approximately east-west which creates two distinct valleys.

The land varies in elevation from approximately 60 – 90m AHD along Grose Vale Road. It falls to approximately 30 – 60m AHD in the floor of the southern valley, rises to approximately 40 – 80m AHD along the central saddle, and falls north to Redbank Creek at around 30m AHD.

The land is currently used for cattle grazing and has been used in this way for many years.

Figure 1: Subject Land. Source LPMA SIX Viewer
2.2 Surrounding Land Use

The land immediately adjoining to the east forms part of the suburb of North Richmond. Land use within this area comprises detached dwellings, medium density dwellings, commercial, retail and industrial premises.

Land adjoining to the north, west and south comprises rural residential holdings, with lots as small as 8,000m² adjoining immediately to the west. There are also a number of residential sized lots within the rural residential land located on the southern side of Grose Vale Road. These lots are around 800m² in area.

Land located on the southern side of Grose Vale Road also includes the St John of God Hospital complex and a relatively large horse stabling property.

It is noted that there is no agriculture in the immediate locality, other than horse stabling on the southern side of Grose Vale Road. In fact, agriculture in the North Richmond, Kurrajong, Grose Vale and Grose Wold district is limited to a small number of stone fruit orchards only.

Surrounding land use is shown in Figure 2 below.
Figure 2: Surrounded Land Use
3. Statutory Context

Land use is controlled by Hawkesbury Local Environmental Plan 1989. However, the Council has prepared a draft LEP in accordance with the NSW Department of Planning Standard Instrument. The draft plan has been publicly exhibited and the final adopted plan is now with the Department of Planning for finalisation.

Accordingly, due to its imminent gazettal, the land use provisions of draft Hawkesbury LEP 2011 are used for the purposes of this report.

3.1 Zoning

The subject land is zoned **RU4 Rural Small Holdings**. As shown in Figure 3 below the land adjoining to the north and south is zoned **RU1 Primary Production**. The Belmont Grove estate to the west is zoned **RU1 Primary Production**, while other land to the west and south-west is zoned **RU4 Small Holdings**. Land adjoining to the east is zoned **R1 General Residential** and **RE1 Public Recreation**.

Figure 3: Extract from Draft Hawkesbury LEP 2011 Zone Maps
3.2 Minimum Lot Size
The minimum allotment size permitted on the subject land is 200 hectares, which effectively prohibits any subdivision of the land.

Land adjoining to the north, west and south has a minimum lot size of 10 hectares, while land to north-east and south-west has a minimum permissible lot size of 4 hectares. The residential land adjacent to the east has a minimum lot size of 600m2.

Figure 4: Extract from Draft Hawkesbury LEP 2011 Lot Size Maps

3.3 Inconsistency Between Zones and Lot sizes
It is clear from an examination of the minimum lot size map and the zone map that there are some peculiar anomalies between the zones, the minimum lot sizes and the actual lot sizes which currently exist. In particular the following anomalies are noted.

i. The subject land is zoned RU4 Rural Small Holdings, and yet the minimum lot size permitted is 200 hectares. The land comprises only two lots and further subdivision is prohibited. It is also noted that not all forms of agriculture are permissible in the RU4 zone.

It makes no sense to apply the Rural Small Holdings zone to a 180 hectare land holding and to set the minimum lot size to 200 hectares. The LEP objectives for this land are in total conflict with the development controls.
ii. The land immediately to the west of the subject land is zoned RU1 Primary Production, with a 10 hectare minimum lot size. This land is known as “Belmont Grove” estate and the existing rural residential lots average around 1 hectare in area.

iii. A large area of land adjoining to the north is also zoned RU1 Primary Production, with a minimum lot size of 10 hectares. There are numerous 1 hectare lots within this area and it does not appear that there are any 10 hectare lots in the vicinity of the subject land.

iv. The RU1 zone to the south of Grose Vale Road also has a minimum lot size of 10 hectares. However most of the existing land parcels (with the exception of two larger horse properties) are around 4 hectares or smaller.

v. The RU4 zone to the north-west, south-west and west of Belmont Grove has a minimum lot size of 4 hectares. An examination of the existing lot pattern reveals that the lots are mostly smaller than 4 hectares (with one exception).

In this general area, it is observed that the Primary Production zone applies mostly to existing 1 hectare lots, while the Rural Small Holdings zone applies to a number of small lots surrounding the subject land. The subject land itself, being 180 hectares in area, is zoned Rural Small Holdings, however subdivision is prohibited.

The RU4 zone is commonly applied to land in such situations to provide a buffer between smaller lot residential land use and the broader RU1 agricultural zone, to minimise land use conflicts. However, in this case the RU4 land is a 180ha agricultural parcel with no ability to subdivide and with significant constraints to the establishment of intensive agriculture.

4. Agricultural Context

4.1 History of Agriculture in the Hawkesbury

The wide floodplains of the Hawkesbury – Nepean were the location of Australia’s first agricultural industries, with much of the early colony’s cereals, fruit, vegetables, wine and table grapes, and milk produced on these fertile soils. The region was also a major supplier of meat and wool for the early settlement, with the origins of Australia’s wool industry attributed to John Macarthur at Belgenny Farm near Camden, to the south of the Hawkesbury.

Land beyond the floodplain to the south, north, and particularly west, is characterised by soils of lower chemical and physical fertility formed on predominantly Wiannamatta Group shales and Hawkesbury Sandstone. Agriculture in these areas was largely characterised by beef cattle grazing, and by orcharding based on stone and pome fruit. Both of these industries remain very important to the Hawkesbury today.

Cereal cropping for grain (other than maize) declined in importance in the early 1930s, and was of little importance, other than for hay, by 1940. Cereal production declined as a result of low yields caused by disease and floods, and it became an uneconomic proposition compared with intensive vegetable cropping, dairying and orcharding.

Topography beyond the floodplain prevented large scale cereal production, and the industry by the early 1930’s was largely displaced to inland areas west of the Great Dividing Range. The remaining agricultural industries have continued through to the
present, at varying levels of importance, and have been characterised by considerable intensification and the emergence of major new industries such as mushrooms, turf, poultry and plant nurseries.¹

In our observation the most productive land located on the Hawkesbury floodplain has largely been converted to turf farming in recent decades. This land is generally Class 1 agricultural land as defined by the Agricultural Land Classification Atlas². Class 1 land is defined as:

“Arable land suitable for intensive cultivation where constraints to sustained high levels of agricultural production are minor or absent.”

Turf farming has effectively removed a very large area of the most suitable agricultural land from food production. In 1996 it was estimated that turf farming within the Hawkesbury LGA occupied 1,571 ha. By comparison, an area of 1,634 ha was occupied by market gardens. In 1996, turf was the third highest in value of all agriculture within the LGA. Clearly, the development of the turf industry had a profound impact on the amount of food production within the Hawkesbury LGA.

In contrast, mushrooms, the single largest contributor to agriculture and food production within the Hawkesbury LGA, occupied an area of only 30 hectares in 1996.³

4.2 Value of Agriculture

The value of agriculture in the Sydney Statistical District, recorded by the Australian Bureau of Statistics, in the 2000/01 Agriculture Census was $437.1M. The Hawkesbury LGA produced $72.1M or 16.5% of the value of agricultural commodities produced (VACP).⁴

According to the 2005/06 Agriculture Census, the Hawkesbury LGA produced $111.3M, or 17.6% of the VACP of the Sydney Statistical Division.⁵

The two largest agricultural categories by far are Mushrooms ($25.8M in 2001) and turf and cut flowers ($21.3M in 2001). Combined, these two categories represent 65% of total agriculture production value in the Hawkesbury LGA.

The annual agricultural commodity value of the Redbank at North Richmond Site is estimated as $150,000⁶ represents approximately 0.20% (one 5⁵th of 1%) of the total value of agricultural commodities produced within the Hawkesbury LGA.

In terms of the contribution to agricultural production in the Sydney Basin, the subject land represents 0.03% (one 33rd of 1%) of the total value.

It is therefore clear that the contribution of the site to agricultural production in the Sydney Basin is so insignificant that it would be difficult to measure in reality.

¹ HARDTAC Project Report, Hawkesbury City Council, August 2005
² NSW Agriculture, Agricultural Land Classification Atlas, Sydney Basin, 1995, ISSN 0817-3036
³ Ibid
⁴ Ibid
⁵ Ibid
⁶ Industry & Investment NSW, Value of Agriculture Production Data – Interactive Spreadsheet
⁷ Based on figures provided in NSW Industry & Investment, Beef Cattle Gross Margin, growing out steers 240kg – 460kg in 12 months, November 2011.
5. Agricultural Viability

In considering the possible conversion of the subject land from rural to urban use, it is important to gain an understanding of the current viability and likely future of the land as an agricultural parcel. From casual observation it is easy to assume that the subject land is a viable farm. When one looks at the green paddocks with healthy cattle grazing over the land, one does not see the commercial reality, or the increasing threats to agricultural production from external forces.

5.1 Site Constraints

The Agricultural Land Classification Atlas for the Sydney Basin and Lower Nepean - Hawkesbury Catchment was released by the then NSW Department of Agriculture in 1995. There are five classes defined, with Class 1 being suitable for intensive cultivation with few or no constraints and Class 5 being unsuitable for agriculture.

The subject land is classified as Class 3 agricultural land. The descriptor for the land classification in the Atlas is as follows:

**Class 3**

Grazing land or land well suited to pasture improvement. It may be cultivated or cropped in rotation with pasture. The overall level of production is moderate as a result of edaphic or environmental constraints. Erosion hazard, soil structural breakdown, or other factors, including climate may limit the capacity for cultivation and soil conservation or drainage works may be required.

In 2005 Hawkesbury City Council facilitated a project titled “Hawkesbury Agricultural Retention through Diversification and Clustering” or HARTDAC. The project examined a small number of farms with the LGA in terms of soil properties, microclimate and irrigation needs and made recommendations in relation to suitable crops which may be grown. HARTDAC also examined the key agricultural commodities of the region and identified the most suitable commodities for Hawkesbury. Three rural properties were examined within close proximity to the subject land. These were a six hectare orchard and tea rooms, a four hectare rural residential property and a 20 hectare hobby farm growing lavender.

The investigations showed that soil would require considerable improvement, with measures such as deep ripping of lime at a rate of between 15 to 40 tonnes per hectare, application of organic matter at a rate of 30 tonnes per hectare and application of triple superphosphate at the rate of 1.5 tonnes per hectare. This varies depending on the crop and the particular property.

In all three cases the report recommends that machinery should not be used when the soil is very dry or wet, to avoid slaking and surface sealing. It is interesting to note that in the six years since 2005, the lavender farm no longer exists and the stone fruit orchard has not expanded.

The three properties have similar slopes and similar microclimates to the subject land. By extrapolation the HARTDAC report gives a very good indication that any agricultural use of the subject land other than light grazing would require significant modification to the soils and bring with it significant risks of soil erosion.
The report identified 15 commodities for potential growth in the Hawkesbury area: Australian red cedar, burdock, figs, ginseng, gooseberry, grapes, green tea, gourmet potatoes, native grasses, kiwi fruit, stone fruit, truffles, warrigal green, walnuts and wattle seed. To date, none of the new recommended crops have appeared in the area.

Due to slope, high potential for soil erosion and general topography the subject land is not suitable for cultivation or cropping. Light grazing is the highest agricultural value which can be placed on the land.

5.2 Threats from Adjoining Land Use

5.2.1 Strategic Considerations

In 2004 Whitehead\(^7\) examined the common clash between residential use and agriculture. He cites as typical conflicts noise from farming equipment, odour from fertilisers, chemicals and intensive animal industries, and visual intrusion from hail netting and polyhouses. One of Whitehead’s preferred mechanisms for reducing conflict is improved strategic planning which requires consideration of the potential ramifications created by urban encroachment towards agricultural lands and agricultural industries. It also requires new agricultural industries to choose the most appropriate site and locality for an industry or an activity.

Based on the latest zoning for the site and surrounding land, as contained within draft Hawkesbury LEP 2011, it is clear that strategic planning for the area has not recognised any agricultural potential for the land. On the contrary, the land has been identified by Hawkesbury City Council for many years as an investigation area for future urban development.

The status of the land as within a future potential development area was recently confirmed in the Hawkesbury Residential Land Strategy adopted by the Council in May 2011. This may be the reason why subdivision is prohibited by the draft LEP. That is, any fragmentation of ownership would make it very difficult to achieve urban settlement in the future.

5.2.2 Statutory Provisions

Hawkesbury City Council introduced the requirement for development consent for intensive agriculture some years ago. Unfortunately this has only made it more difficult for new agriculture to start in Hawkesbury. A number of development applications have been lodged in recent years. Each application has been the subject of neighbour objections, which necessitated debate by Council and resulted in some very strict and costly conditions of consent in an attempt to provide buffers between agriculture and residential.

In relation to the subject land, residential development has already encroached from both the east and west, without provision for any buffers. Rural residential development adjoins the land to the north and south. While light grazing is generally compatible with the surrounding land, any attempt to intensify the agricultural production of the land would create considerable impacts on the amenity of surrounding residents.

\(^7\) Whitehead, R. 2004, Wollongbar Agricultural Institute, NSW Agriculture, Buffers – Planning for Sustainable Agriculture
The following is a list of some of the more intensive agriculture which could occur on the land and the likely potential impacts. All of the uses listed are permissible with consent in the RU4 zone under draft Hawkesbury Local Environmental Plan 2011.

<table>
<thead>
<tr>
<th>Permissible Use</th>
<th>Description</th>
<th>Potential Impacts</th>
</tr>
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| Market Gardens            | The land is usually ploughed into growing rows, or hydroponic tables are constructed on level terraces. Glass or poly igloos are becoming more common to control growing climate. | • Chemical Spray drift  
• Odour from fertilisers  
• Noise impacts of harvesting and loading before dawn.  
• High nutrient runoff. |
| Orchards                  | Would need to include hail netting to protect crops from hail and flying foxes. | • Chemical Spray drift  
• Visual impact. |
| Poultry – egg or meat production | Current practice is to house birds in rows of sheds, which would require land to be terraced with significant earthworks required. | • Visual impact  
• Noise  
• Odour  
• Truck movements |
| Mushrooms                 | Mushrooms grown in large climate-controlled buildings.                         | • Visual impact  
• Noise  
• Odour  
• Truck movements |

In my opinion, it would be extremely difficult to establish a more intensive agricultural use of the land due to the likely visual and environmental impacts and the potential adverse effect on the amenity of a large number of surrounding residents.

5.3 Financial Viability

Until recently, the land had been in family ownership for many years. It has been used continually for cattle grazing in association with other cattle properties owned by the family. The land is still used for grazing by the Peel family under a lease arrangement with the current owner.

The use of the land for grazing is no longer viable. This is largely due to increasing land values and subsequent rates and taxes. This is a common problem for owners of traditional farming land on the fringe of metropolitan Sydney as land value tends to reflect city prices.

The Moss Vale Rural Lands Protection Board has assessed the carrying capacity of the subject land as 8 DSE (Dry Stock Equivalent) per hectare. Advice from the Moss Vale Rural Lands Protection Board is that one 40kg sheep is 1 DSE and one 400kg steer is 10 DSE. Dry stock equivalent carrying capacity is based on normal conditions (not drought) without supplemented feeding. So the carrying capacity of the subject land is in the order of 170 head of cattle.

Currently there is 180 head of cattle on the land, which are supplemented by dry feed which is imported to the site.
The NSW Department of Industry and Investment has recently calculated the gross margins for NSW beef enterprises. The report calculates the gross margin by deducting the variable costs over 12 months from the sales income of the fully grown steers. The variable costs include cartage, vet costs, fodder, pasture maintenance and selling costs. At a DSE rating of 8.63, the gross margin is calculated at $200 per head.

When extrapolated to the subject land, the total estimated gross margin is $36,000. As stated above the gross margin is calculated by deducting the variable costs only and does take fixed costs into account. In the case of North Richmond, the highest of the fixed costs is council rates, which were approximately $85,000 in 2010/11, including the rural rate reduction. Even if the gross margin was double the estimated rate (perhaps due to site specific circumstances or market fluctuations), the income would not cover the council rates, let alone other fixed costs such as labour, farm equipment, machinery, taxes, etc.

The ongoing use of the land for grazing is clearly no longer viable. Given the significant constraints to any intensification it is unlikely that the land will be used for agriculture in the future.

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8 NSW Industry & Investment, Beef Cattle Gross Margin, growing out steers 240kg – 460kg in 12 months, November 2011.
6. Conclusion

The purpose of this report is to:

i. assess the impact of the proposed urban development of the land on primary production on neighbouring properties; and

ii. identify whether the conversion of the land from agricultural to urban use will have a significant impact on food production in the Sydney Basin.

In answering these questions, this report has taken the following matters into consideration:

- Surrounding land use;
- Zoning;
- Other statutory controls
- The value of agriculture for the site, the LGA and the Region;
- Site constraints and threats to intensive agriculture; and
- Financial viability.

In answer to the first question, it is concluded that the conversion of the land from agricultural to urban use will have no impact on primary production on neighbouring properties, essentially because the adjoining properties are mostly residential or rural residential. The only agricultural property is a horse training / stabling establishment located on the southern side of Grose Vale Road. Urban development of the subject land will have no impact on this enterprise.

In answer to the second question, this report finds that the annual agricultural commodity value of the subject land is 0.03% (one 33rd of 1%) of the total value of agricultural production in the Sydney Basin. It is therefore concluded that loss of the subject land for food production will have no impact on food production in the Sydney Basin.