



Harness Racing NSW
Proposed Tamworth Harness Racing Facility
Phase 1 Contamination Site Assessment

28 January 2014

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1. Introduction

1.1 Introduction

Harness Racing NSW has embarked on a redevelopment program for a number of existing harness racing tracks in NSW. This redevelopment program will see a number of new tracks being developed in country areas of NSW. Three towns were selected for redevelopment, given existing horse and trainer populations. In addition, these three towns represent strong areas of public participation at race meetings. Strategically, the three towns are centres of strong population growth.

The three towns are Bathurst, Wagga Wagga and Tamworth. Each track would be similar in size (1000 m) and would enable country horses to 'graduate' to metropolitan tracks, particularly Menangle Park. All three tracks would be on new selected sites and not redevelopment of existing facilities. The vision for developing new track facilities at these centres is now reaching reality.

The Tamworth site is the last of the three tracks to be developed. However, to develop the new site at the corner of Burgmanns Lane and New England Highway, the land must be rezoned to permit the development.

GHD Pty Ltd has been engaged by Michael Brown Planning Strategies Pty Ltd to undertake a range of investigations to support the Planning Proposal for the rezoning of the Tamworth site.

1.2 Objectives

The objective of the Phase 1 Contamination Site Assessment (CSA) is to identify potential contamination issues at the Site and provide recommendations as to the requirement for further investigations or management of any contamination issues identified.

1.3 Scope of work

The scope of work for the Phase 1 CSA included the following:

- A Site history review including review of Tamworth Regional Council (TRC) Section 149 Certificate (Part 2 and 5), Development Applications (DAs) and historical aerial photographs.
- A review of geology, hydrology and topography information for the site.
- A review of NSW Environmental Protection Agency (EPA) notices under the *Contaminated Land Management (CLM) Act 1997*.
- A search of the NSW Natural Resource Atlas (NRA) for records of nearby registered groundwater bores.
- Preparation of a Site Specific Safety Plan (SSSP).
- Interview with the current Site owner (Neil McCulloch) regarding previous site activities.
- Completion of a Site inspection focussed on areas where contamination was considered most likely, such as around any residential premises, sheds or equipment. A general inspection of the remaining Site area was also conducted to identify other areas of potential contamination concern such as illegal dumping or burial areas.
- Preparation of this report with reference to the *Guidelines for Consultants Reporting on Contaminated Sites* (OEH, 2011) summarising the works undertaken, results of the

desktop reviews and Site inspection and provision of recommendations for further investigations (if required).

1.4 Background

The Tamworth site is a substantial land holding located on the outskirts of town, but close to the existing Australian Equine Centre (AEC). There are opportunities to leverage off the AEC and the site's location on the New England Highway. The site has a substantial frontage to this road of 570 metres, which allows for value adding to the site for future uses, other than harness racing.

Tamworth is a very strong equine region and therefore the provision of a new facility for harness racing strengthens the equine industry. Harness racing is extremely relevant to local strategies and objectives in meeting equine needs of the region.

Harness Racing NSW made a commitment to industry participants (trainers and drivers) to develop the site with a new track, grandstand, stable complex and ancillary facilities following purchase of the land. At the same time the development of the land would integrate with surrounding existing development and the future expansion of residential land at Tamworth South. The new track would also meet industry standards to provide improved safety and competitiveness for horses and drivers.

The vision was based on a number of desired outcomes for the Racing Precinct:

- To improve track facilities to new best practice standards.
- Realise the development potential of this strategically significant location and take advantage of the site's proximity to future growth in Tamworth and the Region.
- To retain the Participants within the New England Region.
- Provide new grandstand and stabling facilities for the public and participants.
- Improve safety for drivers and horses at Tamworth.
- Realise the potential for some trainers to relocate their existing stables to on-site.

1.5 Scope and limitations

This report: has been prepared by GHD for Harness Racing NSW and may only be used and relied on by Harness Racing NSW for the purpose agreed between GHD and the Harness Racing NSW as set out in section 1 of this report. GHD otherwise disclaims responsibility to any person other than Harness Racing NSW arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible. The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared. The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Harness Racing NSW and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Project description

2.1 Site details

The subject site is referred to as Lot 5 DP 1048585, Burgmanns Lane, South Tamworth. The site has a total area of 41.32 hectares. The site is located on the south eastern corner of the Burgmanns Lane and Goonoo Goonoo Road (New England Highway) intersection. The site generally slopes to the east from about 419 metres Australian Height Datum (AHD), adjacent to Goonoo Goonoo Road, towards the eastern boundary at 398m AHD. The site has been predominantly cleared with only limited vegetation, in the form of isolated trees, remaining.

The site has previously been used for agricultural purposes in the past and contains infrastructure related to agricultural use including fencing, tracks and accessways, dam, sheds and shelters. A dwelling has also been constructed on the site but has been abandoned for some time.

2.2 Proposal

Harness Racing NSW proposes to construct a 1,000 metre harness racing track and associated facilities on the site. The proposed development is detailed below:

Site Facilities

The proposed development would include the construction of:

- 1,000 metre harness racing track, located in the eastern portion of the site
- Clubhouse
- Marquee
- Stables
- Parade ring

A site plan illustrating the layout of the proposed development is contained in Appendix A.

Access and Car Parking

The proposed development will be accessed from Burgmanns Lane via a roadway through the site. The intersection between the proposed access point and Burgmanns Lane would be located over 200 metres east of the Burgmanns Lane and Goonoo Goonoo Road (New England Highway) intersection.

The proposed development would provide 238 standard car parking spaces together with 42 truck and trailer parking spaces, located in the central portion of the site. All parking spaces would be located adjacent to the proposed clubhouse, stables and parade ring.

Landscaping

The proposed development would involve landscaping in and around the trotting track, the parking areas and in and around the clubhouse and parade ring.

3. Site description and environmental setting

3.1 Zoning

The Site is currently designated in the TRC Local Environmental Plan (LEP) (2010) as *Zone RU4 - Rural Small Holdings*. The objectives of this zone are to enable sustainable primary industry and other compatible land uses and encourage and promote diversity in relation to primary industry enterprises.

It is understood that the Site is currently being considered for rezoning and as such, a Phase 1 CSA is required in order to assess the potential for contamination at the Site.

3.2 Surrounding land uses

The surrounding land uses include:

- **North** – Burgmanns Lane borders the northern boundary of the Site. Land uses to the north of Burgmanns Lane include a caravan park near the intersection of Burgmanns Lane and the New England Highway, and rural residential properties towards the north western boundary of the site.
- **South** – Agricultural grazing land, rural residences and associated agricultural infrastructure are located on the agricultural property.
- **East** – Agricultural grazing and cropping land with rural residences and associated agricultural infrastructure. Goonoo Goonoo Creek is located approximately 750 m east of the site.
- **West** – The New England Highway borders the western boundary of the Site. Land use to the west of the New England Highway consists of agricultural grazing land with rural residences and associated agricultural infrastructure.

3.3 Site description and observations

A detailed site inspection was conducted by a senior GHD Environmental Engineer on 16 December 2013, at which time the Site was vacant.

Observations noted during the inspection are documented below. Relevant site features are provided in Figure 2, Appendix A. Photographs are presented in Appendix B. A summary of the observations are provided as follows:

- The site is relatively flat with a gentle slope to the east.

- The Site was generally cleared of vegetation, consisting of pasture, mown grass and scattered trees and shrubs.
- The northwest portion of the Site contained five sheds and an abandoned farm house (Photos 1-9).
- The Site, with the exception of the area around house and sheds, was fenced and locked hence secure from illegal dumping.
- The Site had recently been used for recreation in the form of motorbike riding, as evident by tracks crossing the Site.
- Several small farm dams were located onsite and the nearest watercourse was noted to be Goonoo Goonoo Creek, approximately 750 m east of the Site.
- No evidence of petroleum storage tanks, burning/furnaces, odours or soil fill were noted onsite.
- The Site was relatively clear from garbage with the exception of some areas around the sheds and house (as detailed below) and scattered tires used to make the motorbike tracks.
- A summary of the sheds and an abandoned farm house are as follows:
 - The abandoned farm house contained possible asbestos containing material (ACM), lead based paint and polychlorinated biphenyls (PCBs) in the form of old fluorescent lights (Photo 3).
 - Shed 1 (Photos 4 and 5) was used for tyre, chemical and possibly machinery storage. It contained approximately 300 used truck tires, a lawn mower and an empty 1000 L Glyphos (glyphosate) herbicide drum that was open at the bottom and dated 10/6/10. The base of the shed was dirt and free from vegetation. Possible staining on soil was noted in the vicinity of the herbicide drum.
 - Shed 2 (Photo 6) was derelict and possibly used as a stable or for livestock/dairy. The shed had a concrete floor and presented no obvious signs of contamination.
 - Shed 3 (Photos 6 and 7) was derelict and possibly used for storage. It had a concrete floor and contained a 20-30 L un-labelled drum of an unidentified, blue, viscous liquid and several drums containing wood and metal waste.
 - Shed 4 (Photo 8) was possibly used as a shearing shed. No access inside shed 4 was available. The outside of the shed contained a caravan, approximately 50 used truck tyres and some metal/wood waste. No obvious signs of contamination were noted.
 - Shed 5 (Photo 9) was a shelter with a concrete floor that was possibly used for machinery storage. No obvious signs of contamination were noted. A bore water tank and dumpster containing standard, household waste were also noted in this vicinity.
- A derelict sheep dip/spray (Photos 11 and 12) was located to the north west of shed 4. It consisted of a concrete floor with 50 mm bund, metal sides, overhead spray unit, sump and pump. It is possible that the chemicals used may have overflowed the bund however no evidence of impacted vegetation was noted.

In summary, the potential sources of contaminants identified from the site visit include possible ACM, lead based paint and PCBs in the house, spilled herbicides and possible staining in shed 1, a drum of unidentified liquid in shed 3 and the derelict sheep dip/spray.

3.4 Interviews

GHD staff conducted a brief phone interview with the Site owner, Neil McCulloch on December 16th 2013. Relevant outcomes of the interview include:

- Mr McCulloch had owned the Site for approximately eight years, having purchased the Site off a dairy farmer.
- The site is currently used for recreation in the form of motorbike riding.
- Mr McCulloch was not sure of the former history of the Site but suspected that it had been used for mixed farming including grazing, dairy and possible cropping (likely oats).
- The Site had been agisted for grazing at various times.
- Mr McCulloch did not know of any petroleum storage tanks onsite.
- The sheep dip/spray was identified. It had not been used for approximately 40-50 years. No information regarding the chemicals used was available.
- The abandoned farm house likely contains asbestos.
- No other sources of contamination (other than those identified above) were known.

3.5 Topography

The Site and surrounding area was generally flat and located at approximately 400 m¹ AHD.

3.6 Hydrology

The regional hydrology of the area is expected to be dominated by Goonoo Goonoo Creek which is located approximately 750 m to both the east and south of the Site.

All surface water on the Site is expected to either infiltrate into surface soils or run off into swales or adjacent properties. Runoff in the north-western corner of the Site is expected to be diverted into swales alongside the New England Highway while runoff from the south-western corner of the Site is expected to be directed towards the adjacent property. The eastern boundary is expected to be the main discharge location for the Site.

Given the distance of Goonoo Goonoo Creek from the Site, it is unlikely that surface water would directly run off into the creek system. Furthermore, it is not expected that the Site would experience flooding due to the Goonoo Goonoo Creek water levels but rather, would undergo minor local flooding due the concentration of runoff.

3.7 Soil landscape and geology

Reference to the 1:100,000 Soil Landscape Sheet of the Tamworth Region, produced by the NSW Department of Land and Water Conservation (DLWC, 2001), indicates that the Site is characterised by the Duri (du) landscape unit.

The Duri landscape unit consists of extensive undulating to rolling low hills and hills on Devonian and Carboniferous sedimentary rocks of the Duri Hills. Local relief is less than 100 m with most of the landscape unit being less than 60 m, slopes are less than 10 % and elevation is between 360 and 540 metres. Vegetation is described as mostly cleared open woodland and grassland used for agriculture.

Soils are noted to be extremely complex due to rapid changes in underlying lithology but are generally dominated by duplex soils such as moderately deep and moderately well-drained red and brown chromosols with minor occurrences of shallow, very well-drained rudosols around rock outcrops, deep, imperfectly drained red vertosols and deep to very deep, imperfectly drained red and brown chromosols and possibly some sodosols occur along drainage lines and on sodic bedrock.

¹ Topographic information sourced from SixMaps (<http://maps.six.nsw.gov.au/>, accessed 16/12/2013)

Reference to the Tamworth 1:250,000 *Geological Series Sheet SH 56-13* published by the NSW Department of Mines (1971) indicates that the Site is underlain by Mandowa Mudstone of the Upper Devonian period. Mandowa Mudstone consists of mudstone and arenite.

3.8 Acid Sulphate Soils

There are no published Acid Sulphate Soils (ASS) Risk Maps for the Tamworth area. Acid sulphate soils are not known or expected to occur in this environment.

3.9 Hydrogeology and groundwater bore search

Based on Site observations and GHD's understanding of the environmental setting of the Site, regional groundwater would generally be expected to flow in an easterly to southerly direction towards the Goonoo Goonoo Creek.

A search of the NSW Natural Resource Atlas (NRA) database was undertaken on 16 December 2013. The results of this search (and site confirmation) showed that there is one registered groundwater well located onsite (approximately 10 m west of Shed 5) and 24 registered groundwater wells within approximately 500 m of the Site. An additional 13 groundwater wells were located within 500 m of the Site however, there was no information available for these wells within the NRA database at the time of the search. The onsite well is registered as approximately 30 m deep and fills a water tank (located approximately 10 m east of Shed 5) that is potentially used for stock and/or domestic purposes.

Nineteen registered wells were located to the north of the Site, three registered wells were located to the east of the Site and two registered wells were located to the south of the Site. Table 3-1 presents a summary of the available information for the 24 registered groundwater wells surrounding the Site, including the one located onsite.

Table 3-1 Summary of Groundwater Database Search

Bore ID	Proximity to site	Standing Water Level	Water bearing zones	Final Depth	Salinity (mg/L)	Authorised / Intended Purpose
GW965771	On-site	-	-	30.00	Unknown	Domestic Stock
GW046672	50 m N	10.00	16.00 – 25.00	61.00	Unknown	Domestic
GW057322	100 m N	21.30	31.90 – 32.30	54.80	Unknown	Domestic Stock
GW046726	100 m N	-	17.70 – 22.60 32.00 – 34.10 49.40 – 51.50	53.00	Unknown	Domestic
GW969501	100 m E	12.80	21.30 – 21.50 27.30 – 27.60 42.60 – 42.90	67.00	Unknown	Domestic
GW901777	150 m N	9.76	36.59 – 137.00 118.90 – 119.00	128.66	Unknown	Domestic Stock / Town Water Supply
GW965005	200 m N	-	-	-	Unknown	Domestic Farming Stock
GW003392	200 m NE	15.80	20.70 – 20.70	23.50	Good	Domestic Stock
GW055458	200 m E	7.60	24.40 – 24.70 30.50 – 30.80	32.00	Unknown	Domestic Stock
GW064887	200 m E	6.30	22.00 – 27.00	27.30	Unknown	Stock / Domestic
GW037718	200 m	-	13.40 – 13.40	33.50	Unknown	Domestic Stock

Bore ID	Proximity to site	Standing Water Level	Water bearing zones	Final Depth	Salinity (mg/L)	Authorised / Intended Purpose
	NW		29.80 – 29.80			– General Use
GW902006	250 m NE	6.00	12.80 – 14.02 40.24 – 41.16	48.78	Unknown	Domestic Stock
GW900738	250 m NW	-	-	97.50	Unknown	Test Bore
GW054976	250 m W	-	-	22.90	Unknown	Domestic Stock
GW900739	300 m W	-	-	91.40	Unknown	Test Bore
GW902179 ²	300 m NW	7.00	21.50 – 21.80 34.90 – 35.20 51.70 – 52.00	61.00	Unknown	Domestic
GW901195	300 m NW	-	-	54.90	Unknown	Test Bore / Domestic
GW901196	400 m NW	-	-	97.50	Unknown	Test Bore / Domestic
GW901194	400 m NW	7.00	21.50 – 21.80 34.90 – 35.20 51.70 – 52.00	61.00	Unknown	Domestic
GW901197	400 m NW	-	-	91.40	Unknown	Test Bore / Domestic
GW037812	450 m NW	2.10	13.70 – 15.20 25.90 – 28.90	36.20	Unknown	Domestic Stock / Irrigation
GW900737	450 m NW	-	-	54.90	Unknown	Test Bore
GW968471	400 m S	22.50	24.40 – 24.70 36.50 – 36.80	48.80	Unknown	Stock
GW035499	400 m S	9.10	12.10 – 12.10	18.20	Fresh	Stock / Industrial
GW055344	500 m NW	4.90	16.50 – 21.40	22.60	Unknown	Domestic Stock

The results of the search are presented in Appendix C.

Some standing water levels and water bearing zones were not detailed in the reports, but the details available indicate that groundwater could be expected at between 2.1 and 22.50 m below ground level (mbgl).

Based on the information provided within the groundwater reports, the majority of groundwater wells surrounding the Site are utilised for domestic or stock purposes. Given that the majority of land use surrounding the Site is agricultural with small rural residences, it is considered possible that groundwater within the area would be utilised for both stock watering, irrigation and domestic consumption. One groundwater well located to the north of the Site (GW901777) was noted to be utilised for town water supply purposes and it is therefore considered likely that extracted groundwater from this groundwater well would be utilised for human consumption.

² GHD recognises that the information provided for wells GW901194 and GW902179 is the same. This is likely to be due to an error within the NRA database.

3.10 Sensitive receptors

Based on the desktop review and detailed Site inspection, the following sensitive potential environmental receptors were identified for the Site and surrounding area:

- Residents, site workers and subcontractors
- Site visitors including members of the public
- Residents, workers and visitors of surrounding properties
- Flora and fauna on the site and surrounding land
- Ponds/dams on surrounding properties, Goonoo Goonoo Creek and local drainage channels
- Groundwater beneath the site

4. Site history

GHD undertook a review of historical data for the Site including aerial photographs, Section 149 Planning certificates, TRC DAs and the EPA CLM Register. The following section outlines the results of the Site history review.

4.1 Historical aerial photographs

Historical aerial photographs of the Site and surrounding area were obtained for 1976, 1989, 1998 and 2004. These photographs were reviewed, along with a current aerial photograph from SixMaps (NSW Government) accessed on 16 December 2013. Results of the historical aerial photograph review are summarised in Table 4-1 and the photographs are presented in Appendix D.

Table 4-1 Review of historical aerial photographs

Photograph	Site observations
1976 Tamworth Run: Unknown Type: B & W NSW 2385-137 Scale: Unknown	<p>The Site has been largely cleared of native vegetation with the exception of some moderate size trees remaining in the north western portion of the Site.</p> <p>A number of buildings are located in the north western portion of the Site. The size of the buildings varies and it is assumed that they are being utilised for a variety of purposes including storage, residential premises and sheds. A number of dirt access tracks link the buildings within the north western portion of the Site while a single dirt access track extends to the south of the Site.</p> <p>A number of small dams are located on the Site which are accessed via minor dirt access tracks.</p> <p>Surrounding land is predominantly cleared and being utilised for agricultural purposes. A number of residential premises exist to the north and north west of the Site.</p>
1989 Tamworth Run: Unknown Type: Colour NSW 3667-147 Scale : Unknown	<p>The Site appears largely unchanged from the previous photograph with the exception of a number of buildings in the north western portion of the Site which have been removed or altered. This could provide potential for building residues from former buildings, however, none were evident from site inspection. Remaining buildings appear similar to the previous photograph and consist of a small residential premises and a number of large storage sheds/workshops.</p> <p>A small area of possibly dumped materials is located in the centre of the Site (which was not noted during the Site inspection).</p> <p>Surrounding land use appears relatively unchanged from the previous photograph with the exception of a large caravan park which has been constructed to the north of Burgmanns Lane and a number of residential properties which have been constructed to the north and east of the Site.</p> <p>Residential/agricultural proposes generally appear to consist of small to medium sized residential premises and large storage sheds/workshops.</p>

Photograph	Site observations
1998 Tamworth LGA Run: 11 Type: Colour NSW 4442 (M2135) Scale: 1:8000	<p>The Site appears largely unchanged from the previous photograph. Buildings within the north western portion of the Site appear to be in a relatively similar configuration as the previous photograph with the exception of some minor additions and alterations which appear to have been performed on the residential premises.</p> <p>Possible dumped materials noted in the previous photograph are no longer evident.</p> <p>Additional vegetation has been cleared around the residential premises in the north western portion of the Site.</p> <p>Surrounding land use appears relatively unchanged from the previous photograph with the exception of a number of additional residential/agricultural properties which have been constructed to the south and south east of the Site.</p>
2004 Tamworth Run: 5 Type: Colour NSW 4871 (M2441) Scale: 1:16 000	<p>The Site appears largely unchanged from the previous photograph with the exception of a number of buildings which have been removed and/or altered within the northern portion of the Site. This could provide potential for building residues from former buildings, however, none were evident from site inspection. Water tanks and other materials surrounding the residential premises have been removed in addition to a number of buildings which were once located adjacent to the residential premises.</p> <p>Additional vegetation has been cleared around the residential premises in the north western portion of the Site.</p> <p>Surrounding land use appears relatively unchanged from the previous photograph with the exception of a number of sheds which have been constructed on surrounding properties.</p>
2013 Source: SixMaps (accessed 16/12/2013)	<p>The Site appears largely unchanged from the previous photograph with the exception of a number of larger dirt access tracks which have been constructed in the north western and south eastern portions of the Site. A possible race track also appears to have been constructed in the north western portion of the Site.</p> <p>The corridor running from north to south through the centre of the Site has been revegetated while the remainder of vegetation appears largely unchanged from the previous photograph.</p> <p>Additional residential and agricultural properties have been constructed to the north, east and west of the Site.</p> <p>A property to the east of the Site now appears to be utilised for cropping while a pocket of land on this property in addition to road verges have also been revegetated. Pockets of land on properties to the north also appear to have been revegetated.</p>

Based on the historical aerial photograph review, the Site has remained largely unchanged since 1976 with the exception of a number of buildings which have been removed and/or altered within the northern portion of the Site. Since this time, the Site has generally consisted of cleared agricultural land with residential and agricultural buildings in the north western portion of the Site. Since 1976, the number and configuration of buildings within this area of the Site has changed slightly.

Surrounding land use has also remained relatively unchanged with the majority of land surrounding the Site being utilised for agricultural purposes since 1976. Additional residential properties and associated infrastructure have been constructed in addition to a caravan park to the north of the Site which was constructed between 1976 and 1989.

4.2 Section 149 Certificates and Council Search

The Section 149 (Part 2 and 5) certificate was obtained from TRC for the Site and is included in Appendix E.

Key information pertaining to the environmental condition of the Site is summarised below:

- The Site is Zoned RU4 – Primary Production Small Lots. Under this zone, a development standard applies requiring a minimum of 40 ha in relation to the erection of a dwelling-house on the subject land.
- The land has not been proclaimed to be a mine subsidence district.
- The land is not affected by a policy adopted by Council or any other public authority that has been notified to Council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk other than flooding.
- It was noted on the Section 149 (Part 2) that Council was unable to confirm whether or not development on the land is subject to flood related development controls.
- The land is not identified as being bushfire prone land.
- The land is not subject to the matters identified by Section 59(2) of the *Contaminated Land Management (CLM) Act 1997*.

4.3 EPA contaminated land management register search

A search of both the web site database for EPA record of notices within the Tamworth area and the list of NSW contaminated sites notified to the EPA on 16 December 2013 revealed that there are no notices for properties within the direct vicinity of the Site.

5. Site characterisation

The subject site is referred to as Lot 5 DP 1048585, Burgmanns Lane, South Tamworth. The site has a total area of 41.32 hectares.

The surrounding land uses include:

- **North** – Burgmanns Lane, caravan park and rural residences
- **South** – Agricultural grazing land and rural residences
- **East** – Agricultural grazing and cropping land and rural residences. Goonoo Goonoo Creek is located approximately 750 m east of the site
- **West** – New England Highway and agricultural grazing land with rural residences beyond

The Site is relatively flat with a gentle slope to the east. The regional hydrology of the area is expected to be dominated by Goonoo Goonoo Creek which is located approximately 750 m to both the east and south of the Site. All surface water on the Site is expected to either infiltrate into surface soils or run off into swales or adjacent properties.

Soils at the Site is characterised by the Duri (du) landscape unit. Soils are noted to be extremely complex due to rapid changes in underlying lithology but are generally dominated by duplex soils. Acid sulphate soils are not known or expected to occur in this environment. Vegetation is described as mostly cleared open woodland and grassland used for agriculture.

Groundwater in the area is expected to be between 2.1 and 22.50 mbgl. A groundwater bore registered for stock purposes is present on the Site. Twenty four registered wells were located in the vicinity of the Site. Based on the information provided within the groundwater reports, the majority of groundwater wells surrounding the Site are utilised for domestic or stock purposes and could be utilised for both stock watering, irrigation and domestic consumption. One groundwater well located to the north of the Site (GW901777) was noted to be utilised for town water supply purposes and it is therefore considered likely that extracted groundwater from this groundwater well would be utilised for human consumption.

Based on the historical aerial photograph review, the Site has remained largely unchanged since 1976. Since this time, the Site has generally consisted of cleared agricultural land with residential and agricultural buildings in the north western portion of the Site. Since 1976, the number and configuration of buildings within this area of the Site has changed slightly.

At the time of the site inspection, the Site was generally cleared of vegetation, consisting of pasture, mown grass and scattered trees and shrubs. The Site contained five sheds and an abandoned farm house.

The abandoned farm house contained possible ACM, lead based paint and PCBs in the form of old fluorescent lights.

Shed 1 contained used truck tyres and an empty glyphosate herbicide drum. Possible staining was noted in soil around this drum. Shed 3 contained a 20-30 L un-labelled drum of an unidentified, blue, viscous liquid.

A former sheep dip was located to the north west of shed 4. It was noted that the chemicals used may have overflowed the bund however no evidence of impacted vegetation was noted.

An interview with the site owner, Mr McCulloch, who had owned the Site for approximately eight years, indicated that he was not sure of the former history of the Site but suspected that it had been used for mixed farming including grazing, dairy and possible cropping (likely oats). The sheep dip had not been used for approximately 40-50 years. No information regarding the

chemicals used was available. No other sources of contamination (other than those identified above) were known.

Based on the desktop review and Site visit, the following sensitive potential environmental receptors were identified for the Site and surrounding area:

- Residents, site workers and subcontractors
- Site visitors including members of the public
- Residents, workers and visitors of surrounding properties
- Flora and fauna on the Site and surrounding land
- Ponds/dams on surrounding properties, Goonoo Goonoo Creek and local drainage channels
- Groundwater beneath the site

Based on the desktop review and Site visit, potential Areas of Environmental Concern and associated contaminants are shown in **Table 5-1**.

Table 5-1 Outcomes of desk top review – potential areas of environmental concern

Description	Rationale/Details	Contaminants of Potential Concern
Buildings	Past use of lead based paint, ACM and fluorescent lights. Removal of previous buildings as noted in 1989 and 2004 aerial photographs (i.e. building demolition residues).	Lead, asbestos and PCBs.
Past weed and pest control	Glyphosate herbicide drum and associated staining of soil, drum of unknown blue liquid. Possible historical use over the Site.	OCP, OPP3, arsenic
Sheep dip	Past use with hazardous chemicals	Arsenic, OCP, OPP, rotenone, synthetic pyrethroids
Past fertiliser use	Possible historical fertiliser use over the Site. (Low level diffuse source, if present)	Metals, nutrients
Historical waste disposal / fill material	1989 aerial photograph indicated a possibly area of dumped materials in the centre of the site. Also, on-site burial of waste was common on older agricultural properties.	Metals, asbestos, hydrocarbons (TPH/BTEX), chemicals (eg. OCPs)

TPH – Total Petroleum Hydrocarbons

BTEX – Benzene, Toluene, Ethyl-benzene and Xylenes

PAH – Polycyclic Aromatic Hydrocarbons

OCP – Organochlorine Pesticides

OPP – Organophosphorus Pesticides

PCB – Polychlorinated biphenyls

Based on the results of the desktop assessment, the likelihood for significant chemical contamination to be present at the majority of the Site is considered to be low however, the identification of the hazardous materials in the residential building, the drum of unknown blue liquid and herbicide drum with potentially stained soil and the sheep dip site indicate that the likelihood for localised chemical contamination around these areas is considered to be moderate. There is also the potential for isolated areas of contamination that were not apparent from the site inspection, such as historical burial of waste, possible fill material and residues from removal of former buildings.

³ The presence of OPPs is considered unlikely due to degradation in the surface environment.

Based on the above assessment, GHD consider that the areas identified above require further assessment in the form of a limited Phase 2 Contamination Assessment to target the potential areas of environmental concern and further assess the potential for contamination to be present. Any redevelopment of the site should also have an “unexpected finds” protocol in case isolated areas of contamination are encountered during future development or use of the site.

6. Conclusions

Harness Racing NSW has embarked on a redevelopment program for a number of existing harness racing tracks in NSW. This redevelopment program will see a number of new tracks being developed in country areas of NSW. Three towns were selected for redevelopment, given existing horse and trainer populations.

The Tamworth site is the last of the three tracks to be developed. However, to develop the new site at the corner of Burgmanns Lane and New England Highway, the land must be rezoned to permit the development.

GHD Pty Ltd has been engaged by Michael Brown Planning Strategies Pty Ltd to undertake a range of investigations to support the Planning Proposal for the rezoning of the Tamworth site.

The objective of the Phase 1 CSA is to identify potential contamination issues at the Site and provide recommendations as to the requirement for further investigations or management of any contamination issues identified.

These Conclusions present a brief summary of the information described in this report and should be read in the context of the more detailed information presented in the body of this report, the Scope of Works in Section 1.3 and the limitations in Section 1.5.

Based on the desktop review, historical searches and Site inspection, potential sources of contamination were considered to be associated with the use of hazardous materials in site buildings (including buildings that may have been removed), storage and use of potentially contaminating materials, past pest and weed control or past fertiliser use across the Site and the sheep dip. It is considered that the contamination risk across the Site is generally low, although there is a potential for localised areas of the Site with a higher contamination risk, which includes:

- Present and potential former buildings on site – past use of lead based paint, ACM and fluorescent lights.
- Past weed and pest control - glyphosate herbicide drum, drum of unknown blue liquid. Possible historical use over the site.
- Sheep dip – past use with hazardous chemicals.
- Past fertiliser use - possible historical fertiliser use over the site.
- Historical fill or on-site waste disposal.

Based on the above assessment, GHD recommends the following measures be undertaken to address the identified issues:

- Undertake a hazardous buildings and material survey of the structures on the site if they may be demolished as part of the redevelopment, and detailed inspection (with limited soil sampling) of former building locations.
- Removal of herbicide drums and drum of unknown blue liquid. It is noted that TRC holds a chemical collection program twice yearly to enable safe disposal of chemicals. The program focuses on agricultural and veterinary chemicals.
- Undertake soil sampling within the areas of the herbicide drum and associated soil staining, drum of unknown liquid and in the area of the sheep dip. Assessment of past fertiliser use could be conducted in conjunction with this sampling.
- Undertake soil sampling within the vicinity of the residence to identify the presence of ACM fragments and potential for contamination.

- Detailed inspection and possible soil sampling of areas of historical or recent fill on the site.

Given the size of the site it is not feasible to rule out all areas of potential contamination, given that localised areas such as buried waste could be present but not apparent from site inspection. GHD recommends an unexpected finds protocol be developed for any future development and use of the site, incorporating the results of the investigations recommended above.

7. References

NSW DEC (2006). Contaminated sites: Guidelines for NSW site Auditor Scheme, (2nd Edition), 2006.

NSW Department of Land and Water Conservation (2001), 1:100,000 Soil Landscape Sheet of the Tamworth Region.

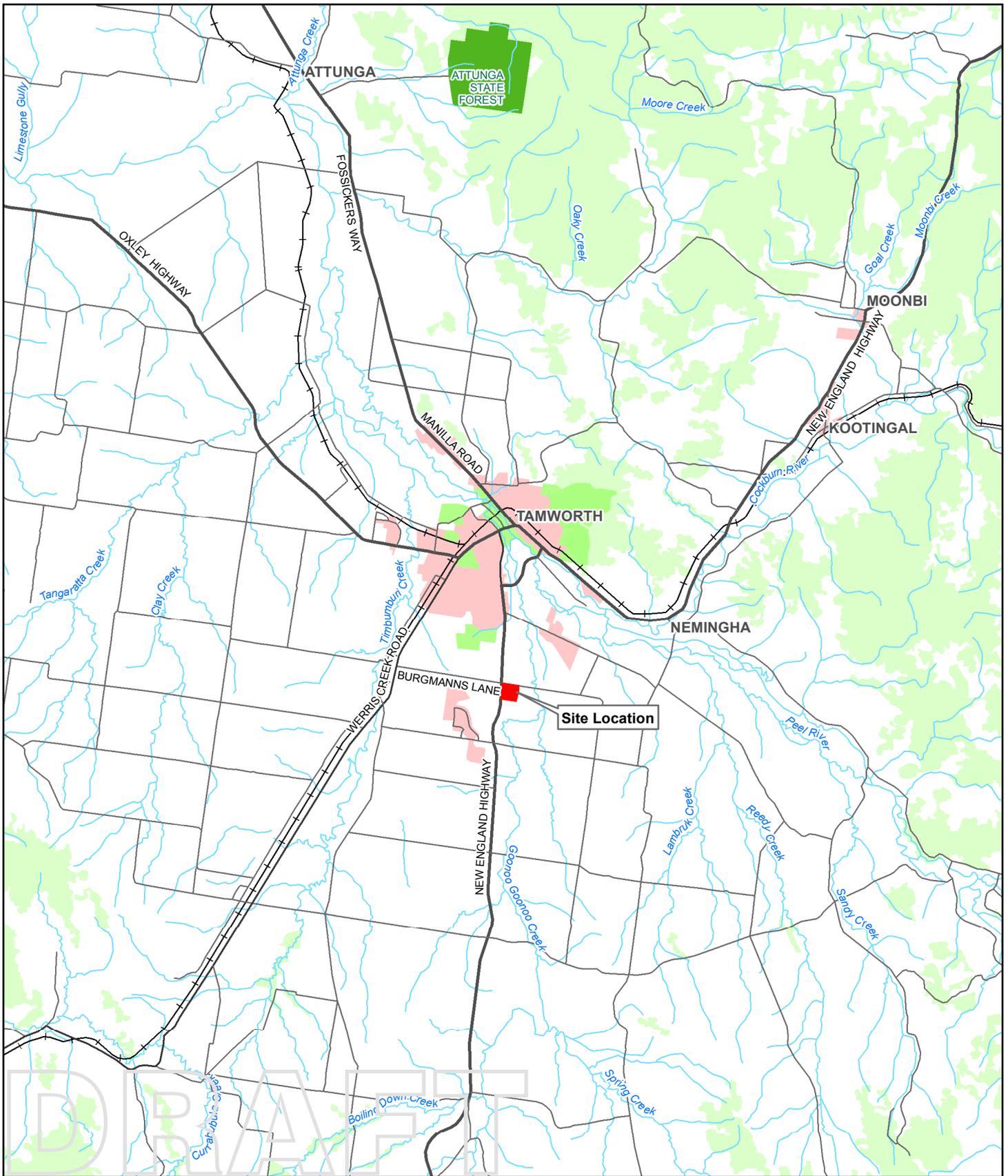
NSW Department of Mines (1971), Tamworth 1:250,000 Geological Series Sheet SH 56-13.

NSW Government (2010), Tamworth Regional Local Environmental Plan, NSW Legislation <http://www.legislation.nsw.gov.au/maintop/view/inforce/epi+27+2011+cd+0+N>, accessed 16 December 2013.

NSW OEH (2011). Contaminated sites: Guidelines for Consultants Reporting on Contaminated sites.

Appendices

Appendix A – Figures



LEGEND

- | | | | |
|--|--|---|---|
|  Site Location |  Principal Road |  Built Up Area |  State Forest |
|  Railway |  Secondary Road |  Recreation Area |  Forest Or Shrub |
|  Watercourse |  Minor Road | | |

Paper Size A4
 0 1.5 3 4.5 6
 Kilometres
 Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 56



Harness Racing New South Wales
 Phase 1 Contamination Site Assessment
 Lot 5, DP 1048585, Tamworth, NSW

Job Number | 22-17125
 Revision | A
 Date | 16 Dec 2013

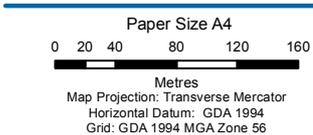
Site Location

Figure 1



LEGEND

- Site Boundary
- Sheep dip
- Groundwater bore



Harness Racing New South Wales
Phase 1 Contamination Site Assessment
Lot 5, DP 1048585, Tamworth, NSW

Job Number	22-17125
Revision	A
Date	16 Dec 2013

Site Layout

Figure 2

Appendix B – Photographic log

Site Photographs



Photo 1. NW portion of site containing house and sheds, looking NW from central portion of the Site.



Photo 2. Sheds 5,4,3 and 2, from left to right, looking NW.



Photo 3. The abandoned house, looking W.



Photo 4. Shed 1, looking NE.



Photo 5. Tires, empty glyphosate herbicide drum and possible staining in Shed 1, looking E.



Photo 6. Shed 2 and 3, looking NW.



Photo 7. Chemical drum and waste storage drums in Shed 3, looking NW.



Photo 8. Shed 4, looking NW.



Photo 9. Shed 5, looking SW.



Photo 10. Sheep dip/spray, looking NE.



Photo 11. Sheep dip/spray, looking NW, showing sump, pump and bund.



Photo 12. Typical view of SE portion of site, looking SE from central portion of site.



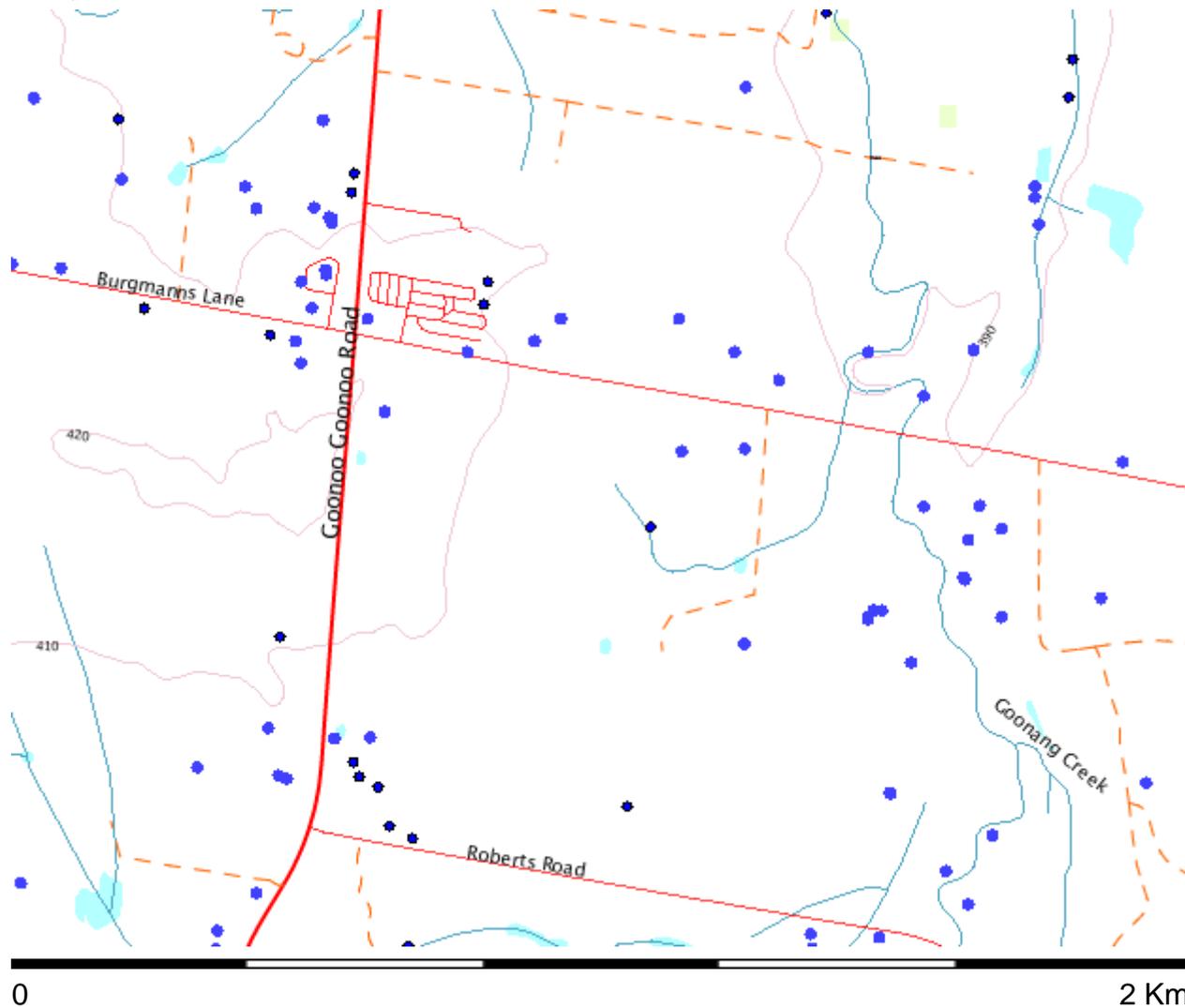
Photo 13. Typical view of NE portion of site, looking SW.

Appendix C – Groundwater search results

Map from the NSW Natural Resource Atlas

Map created with NSW Natural Resource Atlas - <http://www.nratlas.nsw.gov.au>

Monday, December 16, 2013



Legend

Symbol	Layer	Custodian
	Cities and large towns	renderImage: Cannot build image from features
	Populated places	renderImage: Cannot build image from features
	Towns	
	Groundwater Bores	
	Catchment Management Authority boundaries	
	Major rivers	
	Topographic base map	



Copyright © 2013 New South Wales Government. Map has been compiled from various sources and may contain errors or omissions. No representation is made as to its accuracy or suitability.

Appendix D – Historical aerial photographs



Aerial Photographs



1976



Aerial Photographs



1989



Aerial Photographs



1998



Aerial Photographs



2004

Appendix E – Section 149 (2 and 5) certificates

Certificate No: PC0960/2014
Receipt No:
Date: 14 January 2014
Applicants Ref: 221712503

**PLANNING CERTIFICATE
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

Applicant:

GHD Pty Ltd
Level 3
24 Honeysuckle Drive
NEWCASTLE NSW 2300

Owner (as recorded by Council):

Mr MA McCulloch
4 Werona Place
HILLVUE NSW 2340

Land: Burgmanns Lane HILLVUE NSW 2340
Lot 5 DP 1048585

This certificate is provided pursuant to Section 149(2) of the Act. At the date of this certificate, the subject land is affected by the following matters.

Names of relevant planning instruments and development control plans

Note: Current environmental planning instruments (State environmental planning policies, regional environmental plans and local environmental plans) may be viewed at the NSW Government legislation web-site – www.legislation.nsw.gov.au.

Names of relevant State Environmental Planning Policies

1. State Environmental Planning Policy No. 4 – Development Without Consent and Miscellaneous Exempt and Complying Development
2. State Environmental Planning Policy No. 6 – Number of Storeys in a Building
3. State Environmental Planning Policy No. 15 – Rural Landsharing Communities
4. State Environmental Planning Policy No. 21 – Caravan Parks
5. State Environmental Planning Policy No. 22 – Shops and Commercial Premises
6. State Environmental Planning Policy No. 30 – Intensive Agriculture
7. State Environmental Planning Policy No. 32 – Urban Consolidation (Redevelopment of Urban Land)
8. State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
9. State Environmental Planning Policy No. 36 – Manufactured Home Estates
10. State Environmental Planning Policy No. 44 – Koala Habitat Protection
11. State Environmental Planning Policy No. 50 – Canal Estate Development
12. State Environmental Planning Policy No. 55 – Remediation of Land
13. State Environmental Planning Policy No. 62 – Sustainable Aquaculture
14. State Environmental Planning Policy No. 64 – Advertising and Signage
15. State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development
16. State Environmental Planning Policy (Affordable Rental Housing) 2009
17. State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
18. State Environmental Planning Policy (Exempt and Complying Development) 2008
19. State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
20. State Environmental Planning Policy (Infrastructure) 2007
21. State Environmental Planning Policy (Major Development) 2005
22. State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
23. State Environmental Planning Policy (Rural Lands) 2008
24. State Environmental Planning Policy (Temporary Structures) 2007
25. State Environmental Planning Policy (State and Regional Development) 2011

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trc@tamworth.nsw.gov.au
www.tamworth.nsw.gov.au

Development Control Plans

26. Tamworth Regional Development Control Plan 2010.

Zoning and land use under relevant LEPs

27. The subject land is affected by the Tamworth Regional Local Environmental Plan 2010. Under this plan, the land is zoned -

RU4 Primary Production Small Lots**1. Objectives of zone**

- To enable sustainable primary industry and other compatible land uses.
- To encourage and promote diversity and employment opportunities in relation to primary industry enterprises, particularly those that require smaller lots or that are more intensive in nature.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

2. Permitted without consent

Environmental protection works; Extensive agriculture; Home-based child care; Home occupations; Moorings; Roads

3. Permitted with consent

Agricultural produce industries; Cellar door premises; Dual occupancies (attached); Dwelling houses; Farm buildings; Intensive plant agriculture; Kiosks; Landscaping material supplies; Light industries; Markets; Plant nurseries; Roadside stalls; Rural workers' dwellings; Any other development not specified in item 2 or 4

4. Prohibited

Amusement centres; Backpackers' accommodation; Cemeteries; Child care centres; Commercial premises; Crematoria; Eco-tourist facilities; Entertainment facilities; Exhibition villages; Heavy industrial storage establishments; Home occupations (sex services); Industrial retail outlets; Industrial training facilities; Industries; Intensive livestock agriculture; Mortuaries; Recreation facilities (major); Registered clubs; Residential accommodation; Respite day care centres; Restricted premises; Rural industries; Service stations; Serviced apartments; Sex services premises; Storage premises; Vehicle body repair workshops; Vehicle repair stations; Wharf or boating facilities; Wholesale supplies

28. The Tamworth Regional Local Environmental Plan 2010 provides a development standard requiring a minimum of 40 hectares in relation to the erection of a dwelling-house on the subject land. For further information, see clause 4.2B of the Plan.

Complying Development***General Housing Code***

29. Development specified as Complying Development for the General Housing Code in Part 3 of the State Environmental Planning Policy (Exempt and Complying Development Code) 2008 is not prevented by a land exemption specified in clause 1.19.

Rural Housing Code

30. Development specified as Complying Development for the Rural Housing Code in Part 3A of the State Environmental Planning Policy (Exempt and Complying Development Code) 2008 Rural Housing Code is not prevented by a land exemption specified in clause 1.19.

Housing Alterations Code

31. Development specified as Complying Development for the Housing Alterations Code in Part 4 of the State Environmental Planning Policy (Exempt & Complying Development Code) 2008 is not prevented by a land exemption specified in clause 1.19.

General Development Code

32. Development specified as Complying Development for the General Development Code in Part 4A of the State Environmental Planning Policy (Exempt & Complying Development Code) 2008 is not prevented by a land exemption specified in clause 1.19.

General Commercial and Industrial Code

33. Development specified as Complying Development for the General Commercial and Industrial Code in Part 5 of the State Environmental Planning Policy (Exempt & Complying Development Code) 2008 is not prevented by a land exemption specified in clause 1.19.

Subdivisions Code

34. Development specified as Complying Development for the Subdivisions Code in Part 6 of the State Environmental Planning Policy (Exempt & Complying Development Code) 2008 is not prevented by a land exemption specified in clause 1.19.

Demolition Code

35. Development specified as Complying Development for the Demolition Code in Part 7 of the State Environmental Planning Policy (Exempt & Complying Development Code) 2008 is not prevented by a land exemption specified in clause 1.19.

Coastal Protection

36. The land is not affected by the operation of Section 38 or 39 of the Coastal Protection Act.

Mine subsidence

37. The land has not been proclaimed to be a mine subsidence district within the meaning of Section 15 of the Mine Subsidence Compensation Act 1961.

Road widening and road realignment

38. The land is not affected by any road widening or road realignment proposal under:-
(1) section 262 of the Local Government Act, 1919;
(2) an environmental planning instrument; or
(3) any resolution of Council.

Council and other public authority policies on hazard risk restrictions

39. The land is not affected by a policy adopted by any other public authority that has been notified to Council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).
40. The land is not affected by a policy adopted by Council that restricts the development of the land because of the likelihood of landslip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

Flood related development control information

41. Council is unable to confirm whether or not development on the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.

Note: Clause 7.2 of the Tamworth Regional Local Environmental Plan 2010 defines the flood planning level as *the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 metres freeboard.*

This Clause was inserted into the Tamworth Regional Local Environmental Plan 2010 by the Minister for Planning after the Council had submitted it to the Minister for approval. The flood planning level is not known by the Council. Consequently the Council has been unable to map the extent of land affected by the flood planning level.

You should conduct studies necessary for determining flood levels in relation to the land if you consider the land may be at or below the flood planning level.

42. Council is unable to confirm whether or not development on the land or part of the land for any other purpose is subject to flood related development controls.

Note: Clause 7.2 of the Tamworth Regional Local Environmental Plan 2010 defines the flood planning level as *the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 metres freeboard*. This Clause was inserted into the Tamworth Regional Local Environmental Plan 2010 by the Minister for Planning after the Council had submitted it to the Minister for approval. The flood planning level is not known by the Council. Consequently the Council has been unable to map the extent of land affected by the flood planning level.

You should conduct studies necessary for determining flood levels in relation to the land if you consider the land may be at or below the flood planning level.

Land reserved for acquisition

43. There are no environmental planning instruments applying to the land which provide for the acquisition of the land by a public authority, as referred to in Section 27 of the Act.

Contributions plans

44. Tamworth Regional Council Section 94 (Direct) Development Contributions Plan 2013 applies to the land.
45. Tamworth Regional Council Section 94 (Indirect) Development Contributions Plan 2013 applies to the land.

Bushfire Prone Land

46. The subject land is not identified as being "bushfire prone land" on the Bushfire Prone Land Map, certified by the NSW Rural Fire Service.

Contaminated Land Management Act 1997

47. The land to which this certificate relates is not subject to the matters identified by Section 59(2) of the Contaminated Land Management Act 1997.

Site Compatibility Certificates for Infrastructure

48. Council is not aware of a valid site compatibility certificate (infrastructure) in respect of proposed development on the land.

Site Compatibility Certificates and Conditions for Affordable Rental Housing

49. Council is not aware of a current site compatibility certificate (affordable rental housing) in respect of proposed development on the land.

Additional information provided pursuant to Section 149(5)

50. For information regarding buildings and structures on the land, please obtain a Building Certificate under Section 149A of the Environmental Planning and Assessment Act 1979.

GHD

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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	D Collins	I. Gregson		J McPherson		24/01/2014

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