

Harvest Scientific Services Pty Ltd Geotechnical Environmental & Resource Consultants ABN 43 132 363 289

CONTAMINATED LAND STUDY

Proposed Rezoning of Land

at

1 Abbotsford Road, PICTON

Prepared for:

Berten Pty Ltd

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CONTAMINATED LAND STUDY

Proposed Rezoning of Land at 1 Abbotsford Road, PICTON

Executive Summary

A Preliminary contaminated land study (the Study) was conducted during late 2012 and early 2013 over land located at 1 Abbotsford Road Picton (the "Property"). The Study was prepared in support of a rezoning application which will enable the Property to be subdivided under part R5 Large Lot Residential, part E3 Environmental Management and part RE1 Public Recreation as defined in Wollondilly Shire Councils' Local Environmental Plan 2011.

The objective of this Study is:

"To determine if there is any expectation of contamination of the study area associated with previous agricultural land uses and the likely sources of that contamination and whether there is a need for remediation before a change to the land use zoning."

Areas of Environmental Concern were noted at a number of locations throughout the study area and were identified. These processes included:

- Physical inspection of the Property;
- Review of historical aerial photos;
- Compilation of property owner responses to a contamination questionnaire;
- Review of Wollondilly Shire Council records;
- Review of historical land titles; and
- Review of NSW EPA Contamination Sites Register

Given the objective of the study, it was concluded that there is some potential that contamination may have occurred and that such contamination remains to the present day. The likely sources of the contamination are considered to be:

- The application of pesticides, herbicides and fertilizers used to increase the agricultural productivity of land; and
- Construction and application of infrastructure and other like activities in support of agricultural enterprises.

Potential contaminants have been listed for all identified AECs. However, these have been provided for guidance only, as only a full assessment of each AEC will determine which potential contaminants should be tested.

Based on the results of this Study, a number of development controls are recommended where land within the Property is to be developed by way of subdivision or other activities requiring development consent. These controls entail a detailed Phase 2 contaminated site assessments and where appropriate, remediation of any confirmed contamination.

It is not possible at this stage, to develop a specific schedule of actions and types of remediation works that will need to be undertaken should contamination be confirmed at any one site. This is because the extent and level of contaminants are currently unknown.

Each identified contamination site will have its own unique characteristics and will require a unique remediation solution which will be dependent upon the ultimate land use. In general terms however, future development can be based on the following criteria; viz:

- Contaminated sites are left untreated;
- On-site treatment of contamination;
- Off-site treatment of contaminated materials and return of materials to original site;
- Removal of contaminated materials to an appropriately licensed waste facility; or
- Consolidation and isolation of contaminated materials on-site by a properly designed barrier.

It is concluded that an assessment of the Property has identified a number of Areas of Environmental Concern. These AECs' are the result of activities associated with current and past agricultural activities. These AEC's have been documented and subject to a preliminary Phase 1 assessment. As a result of this work, the implementation of a number of development controls are recommended where land within the Property is to be developed by way of subdivision or other activities requiring development consent. These include:

- Completion of Phase 2 contamination Assessment;
- Preparation of a Remediation Action Plan (RAP) where appropriate;
- Completion of Remedial Works where applicable.

Provided that the above program is carried out to the satisfaction of the SEPP 55 guidelines, it is concluded that there appears to be no impediment related to contamination issues which might prevent the rezoning of the Property to take place.

CONTAMINATED LAND STUDY

Proposed Rezoning of Land at 1 Abbotsford Road, PICTON

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ABBREVIATIONS

AEC	Area of Environmental Concern		
BTEX	Benzene, Toluene, Ethylbenzene, Xylene		
GIPA	Government Information (Public Access) Act		
HBIL's	Health Based Investigation Levels		
HSS Pty Ltd	Harvest Scientific Services Pty Ltd		
LGA	Local Government Area		
Metals	Heavy metals: Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel and Zinc.		
OCs	Organochlorine pesticides / insecticides		
OPs	Organophosphate pesticides / insecticides		
PAH	Poly Aromatic Hydrocarbons		
TPH	Total Petroleum Hydrocarbons		

CONTAMINATED LAND STUDY

Proposed Rezoning of Land at 1 Abbotsford Road, PICTON

1.0 INTRODUCTION

A contaminated land study (the Study) was conducted during late 2012 and early 2013 over land located at 1 Abbotsford Road, Picton (the "Property"). The study was prepared in support of a rezoning application which will enable the Property to be subdivided under part R5 Large Lot Residential, part E3 Environmental Management and part RE1 Public Recreation as defined in Wollondilly Shire Councils' Local Environmental Plan 2011.

This Study is one of many specialist studies being carried out over the Property and its contents and preparation are based on guidelines issued by Wollondilly Shire Council (2012). These guidelines are outlined as follows:

Output

- A preliminary 'desk top' Contaminated Site report as required in accordance with SEPP 55 Remediation of Land.
- Field Verification of potential contamination sites.
- Recommendation for the future development controls for the management and assessment of these potential contamination sites at the development application stage.

Objectives

• To determine if there is any expectation of contamination of the study area associated with previous agricultural land uses and the likely sources of that contamination and whether there is a need for remediation before a change to the land use zoning.

Tasks/Methodology

- Perform a 'desk top' review the Wollondilly Contaminated Lands Register to establish if there is any record of contamination within the study area with field verification.
- A preliminary Contaminated Site Investigation is required in accordance with SEPP 55 –
- Remediation of Land of the site to determine the level of contamination as a consequence of previous agricultural land uses.
- In undertaking a Contaminated Site Investigation, the consultant will be provided with land use history, aerial photography and other relevant information held by Council to assist in the preliminary determination;
- Dependent on the level of potential contamination develop a schedule of actions and types of remediation works that will need to be undertaken prior to rezoning and/or at the development application stage.'

It should be noted that this Study does not seek to delineate with any accuracy, the extent and depth of any potentially contaminated site (defined herein as an Area of Environmental Concern or "AEC"), merely to note its presence for future reference. For that reason, no invasive sampling has been undertaken as this is outside the scope of the brief.

Whilst the assessment is based on the NSW EPA (1995 AND 2011) guidelines for 'Consultants Reporting on Contaminated Sites' - Phase 1, the level of detail in this Study is limited. It is understood that in the event of the rezoning proposal being accepted by Wollondilly Shire Council and the Department of Planning and Industry (DOPI), a more detailed Phase 2 contamination assessment of the Property will be required.

2.0 SITE DETAILS

2.1. Property details

The Property subject to this Contamination Study is identified as 1 Abbotsford Road, Picton (part Lot 1 DP 1086066).

2.2. Location and General Description

The Property is comprised of one portion of land located approximately 5 kilometres north-west of Picton. The Property is split by Fairleys Road and Abbotsford Road on its eastern extremity, with the bulk of the Property lying to the west and south of Abbotsford Road as depicted on Figure 1.

The property is currently used for beef cattle and sheep grazing. Previously, its main use was for dairying purposes and was supported by significant dairy industry infrastructure. The remnants of an old homestead ("Abbotsford") remain, but the Property is otherwise unoccupied.

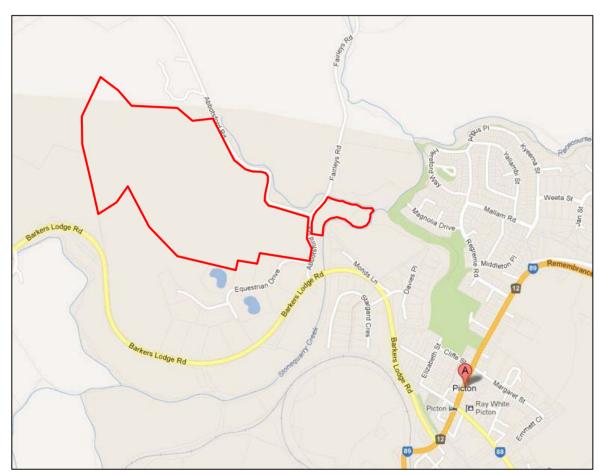


Figure 1. Location of Abbotsford Property (red boundary). Source: Google Maps, 2012.

2.3. Local Government Area

The Property is located within Wollondilly Shire Council (WSC) Local Government Area(LGA).

2.4. Catchment Area

The subject land is not located within a scheduled catchment area administered under the Drinking Water Catchments Regional Environmental Plan (REP) No. 1.

3.0 PROPERTY CHARACTERISTICS

3.1. Geology

Based on the 1:100,000 Wollongong to Port Hacking geological map sheet (Sherwin and Holmes 1982), the Property is underlain by Bringelly Shale which in turn is underlain by Ashfield Shale. The ridgetops within the Property are generally dominated by Bringelly Shales which are composed of shales, carbonaceous claystone, lithic sandstones and laminates. A thin layer of sandstone (Minchenbury Sandstone) often separates the Bringelly Shales from the Ashfield Shales. Quaternary sediments occupy the low lying drainage areas. The geology of the property and its immediate surrounds is illustrated in Figure 2.

The property is located close to but not within the Picton and Wilton Mine Subsidence Districts.

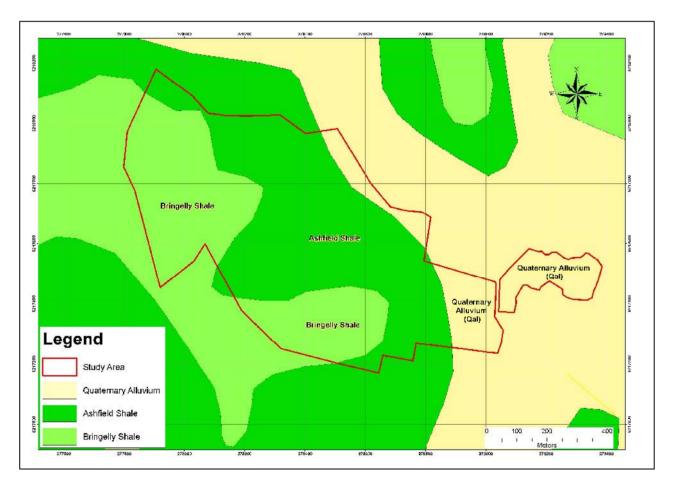


Figure 2: Regional Geology in and around the Abbotsford Property

3.2. Soil Landscape Groups

Based on the 1:100,000 Soil Landscapes of Wollongong to Port Hacking map sheet (Hazelton and Tille, 1990), soils on this Property are comprised of the Picton and Monkey Creek Soil Landscape Groups respectively. The distribution of these soil landscape groups are illustrated in Figure 3.

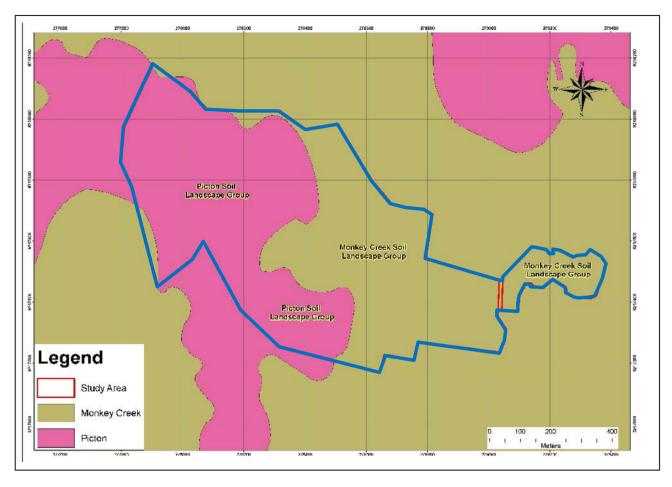


Figure 3: Soil Landscape Groups located in and around the Abbotsford Property

3.3. Slope and Topography

The slope and topography of the Property is dominated by a northwest-southeast trending ridge line with a centrally located and northerly trending sub-ridge line. The maximum vertical relief across the property is approximately 60 metres.

Slopes range from 0-5% around the lower lying (drainage) areas to between 15 and 40% for the side slopes. The ridge tops are characterized by narrow (generally less than 15-20 metres) flat areas breaking quickly into very steep slopes. These features are illustrated in Figure 4.

3.4. Vegetation

Save for some limited clumps of native bush on the southern side of the Property, the banks of Stonequarry Creek and introduced timbers in around the old homestead, virtually the entire property has been denuded of all native vegetation. Much of the Property is subject to established pasture grasses suitable for the grazing of cattle and/or sheep.

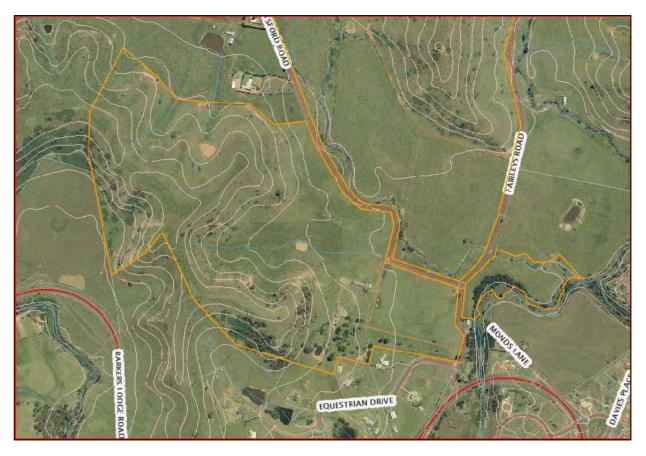


Figure 4: Topographic, vegetation and drainage features in and around the Abbotsford property

3.5. Buildings

The property is host to the ruins of the "Abbotsford" homestead as well as a number of structures related to past dairying and cattle grazing operations. These include a number of sheds, a silo and numerous yards. The Property is currently unoccupied.

3.6. Drainage Lines and Dams

The property is host to three small dams and minor intermittent drainage lines, all of which are tributaries to Matthews Creek which is located at the eastern extremity of the Property.

3.7 Groundwater

A search was made of the natural resources atlas (<u>www.nratlas.nsw.gov.au</u>), for water bores that may occur within or in close proximity to the boundaries of the Property. The search (see Figure 5) indicates the presence of several water bores near but outside the boundaries of the Property. Data regarding a selection of nearby bores is attached as Appendix 1 and summarised in Table 1.

Table 1: Summary of ground water bore data					
Water Bore ID	Water Bore IDDepth (m)SWL (m)YieldGeologySalinity				
GW 105228	63	23	1.2-1.8	Clay/shale/Sandstone	Fresh
GW 108155	51	5	0.5-6.4	Clay/shale/Sandstone	Fresh
GW 111771	120	1.5	0.25-1.15	Clay/shale/Sandstone	180-320

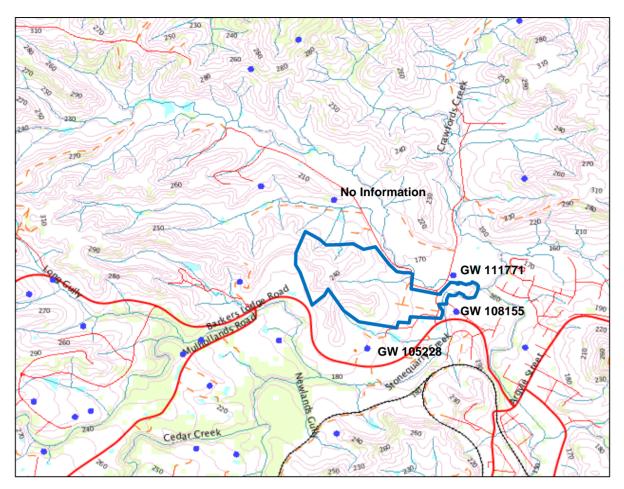


Figure 5: Water bore locations within close proximity to the Property.

3.8 Existing Property Features and Walk-over

A site walk-over was undertaken by a Senior Environmental Scientist from Harvest Scientific Services Pty Ltd during December, 2012 and January, 2013. Observations from the walk-over are discussed in detail in Sections 4 and 5.

3.9 Proposed Land Uses of the Study Area

It is proposed that the study area is to be host to residential development of a greater density than currently exists. It is understood that the minimum allotment size will be 4000 m² upon the completion of the rezoning process.

4 REVIEW OF FIELD AND HISTORICAL DATA OBSERVATIONS

4.1 Overview

The objective of the various assessments described in the following sections is to determine whether current or historical activities have led to contamination on the Property which could be harmful to human health. The desired outcome of these assessments is to delineate whether any portion of the Property can be considered as an AEC which may then require invasive investigation should the land on which any particular AEC be located upon, be subject to a residential development proposal.

For the benefit of this report, an AEC is defined as part of the land surface and subsurface which has been subjected to filling by imported materials, is covered by man-made structures or has been subjected to some form of chemical or physical treatment, any of all of which may result in a potential contamination event or issue. The delineation of any AEC will require further investigation (usually invasive) in order for it to be dealt with under any proposed development scenario.

It should be noted that an invasive investigation of any one AEC may lead to one of several results, viz;

- The AEC is found to be benign and not associated with any contamination;
- The AEC is found to be moderately contaminated but within acceptable limits as determined by the proposed future land use on which the AEC is located upon; and
- The AEC is found to be contamination which exceeds acceptable limits as determined by the proposed future land use on which the AEC is located upon. In this case, steps to remediate the AEC will need to be undertaken.

As the scope of the work undertaken on the Property is preliminary in nature, it can only generate an appreciation of the types of contamination that could be encountered, should development proposals such as a subdivision be approved. Furthermore, as this work does not entail any invasive investigations, the real limits on any one identified AEC are unknown.

Hence, whilst the Study has identified the location of a number of AEC's, their full assessment can only be advanced once development proposals are submitted for the land so affected. Furthermore, more detailed investigations may lead to the discovery of additional AEC's which are currently not obvious.

The following sections describe a number of investigative processes which have resulted in the identification of a number of AEC's.

4.2 Field Inspection of Property

A field inspection of the entire Property was conducted during December, 2012 and January 2013. This work was critical in obtaining an appreciation of existing site conditions and determining any obvious potential contamination issues. It should be noted that the extent of the inspection was limited to suit the scope of the brief. To that extent, there is thus the possibility that not all potentially contaminated sites were actually observed or identified.

Field observations together with the location of identified AEC's have been recorded in Table 3. The location of each AEC is illustrated on Figure 6. A photographic record is attached as Appendix 2.

4.3 Review of Aerial Photography

Historical aerial photos were sourced from the NSW Land and Property Management Authority (LPMA) and observations are summarised in Table 2. All photos are stored in the offices of Harvest Scientific Services Pty Ltd and are available upon request by authorised persons.

Observations together with the location of identified AEC's have been recorded in Table 4 and the location of each AEC is illustrated on Figure 7.

	Table 2: Review of aerial photography				
Photo No.	LPMA File No.	Locality Identifier	Date of Photo	Scale	Comments
1	581_502 5	Run 9	5/7/55	?	B/W. Warragamba Catchment. Moderate quality.
2	1414_50 86	Run 32	22/10/65	?	B/W. Wollongong-Port Hacking. Good quality.
3	1907_50 54	Run 30	6/7/70	?	B/W. Wollongong. Good quality.
4	2714_27 4	Run 29	14/5/78	1:16,000	B/W. B/W. Wollongong. Good quality.
5	3411	Run 8	8/10/84	1:16,000	Colour. Wollongong. Good quality.
6	3636	Run 8	29/8/88	1:16,300	Colour. Wollongong ISG. Good quality.
7	3754	Run 8	5/10/90	1:16,000	Colour. Wollongong. Good quality.
8	4178	Run 4	4/1/94	1:25,000	Colour. Wollongong. Good quality.
9	4324 (M2046)	Run 40	25/7/96	1:16,000	Colour.
10	4599(M2 300)	Run 5	22/2/02	1:25,000	Colour. Wollongong.
11	4942 (M2512)	Run 4	20/12/05	1:25,000	Colour. Wollongong.

Note: The quality of these photos varied considerably and the level of detail – particularly for such a small site, is limited. Although they merely represent a "snapshot" in time, these photos are useful for determining the presence of significant infrastructure (such as buildings, roads etc) and changes to the surrounding areas which may have implications for any assessment of the land and its proposed development.

4.4 Interview with Property Owners and/or Occupiers

The current property owners and/or occupiers or their representatives were forwarded a questionnaire in relation to potential contamination issues associated with the Property. A copy of the completed questionnaire is attached as Appendix 3.

4.5 Wollondilly Shire Council Files

Records pertaining to the Property were made available by Wollondilly Shire Council during February 2013 in response to a GIPA request. The number of records were relatively limited and were focused on land now located on the periphery of the Property. Of note are the following records:

• Community Title Subdivision at 150 Barkers Lodge Road, Picton. This property is located immediately south of the Property (between the Abbotsford homestead and Barkers Lodge Road). The subdivision was granted on 28/8/1998. Subsequent reporting covered reports covering geotechnical matters, water quality aspects and agricultural land classifications. Contamination does not appear to have been addressed as an issue during the application process.

• Soil and Water Management Plan for Lot 55 Barkers Lodge Road, Picton (report dated 14/4/1997). Contamination not an issue.

4.6 Department of Lands Title Search

Records held by the Department of Lands (Sydney) were reviewed with the main objective being to identify whether the Property was owned by entities that might suggest past contaminating activities. The records, which provide ownership details back to 1822, indicate that the Property was predominantly owned by a variety of individuals either singularly or in joint ownership.

At the times the property was leased – some to enterprises including dairying and others suggestive of low level industrial activity (Perpetual Tractor Company Ltd). It is also noted that Tess Mines NL was registered in 1973 as the registered proprietor of coal and other minerals "in and under the land".

The records over the last half century however provide no indication of "contaminating activities".

4.7 S 149 Planning Certificate

A Section 149 certificate was obtained from WSC and is attached as Appendix 4. The most notable issues include:

- An archaeological site is recorded to occur on the property;
- The Property is not affected by any road widening or road realignment;
- The Property is not affected by hazard risk restrictions, flood related development controls;
- The Property is partially bush fire prone;
- The Property is not currently affected by any nominations under section 59(2) of the Contaminated Land Management Act 1997.
- 4.8 NSW EPA Contaminated Sites Register

None of the properties located within the Study Area is listed on the Contaminated Sites register (EPA, 2011) held by the NSW EPA under section 58 of the Contaminated Land Management Act 1997.

4.9 Workcover Authority of NSW

Enquiries were made of the Workcover Authority of NSW for reportable incidents or activities which might suggest the presence of potential contamination issues within the Study Area. Unlike the NSW EPA Contaminated Site Register, there is no similar register that is publically available. Furthermore, information under the GIPA legislation may be made available only upon the request against a specific reportable incident, location and time. A generalised list of incidents or rulings within a geographic area is not available.

5 PRELIMINARY CONTAMINATION ASSESSMENT

5.1 Overview of Observations

A preliminary contamination assessment was conducted on the Property during 2012-13. Areas of Environmental Concern were noted at a number of locations throughout the study area and were identified as a result of the process described in Section 4 of this Study. These processes included:

- Physical inspection of the Property;
- Review of historical aerial photos;
- Compilation of property owner responses to a contamination questionnaire;
- Review of Wollondilly Shire Council records;
- Review of historical land titles; and
- Review of NSW EPA Contamination Sites Register

A summary of findings is outlined in the following sections.

- 5.2 Assessment of Identified AEC's
- 5.2.1 Field Assessment and Observations

This assessment identified several Area's of Environmental Concern (AEC's), the location of which are illustrated in Figure 6. A summary of each AEC is given in Table 3.

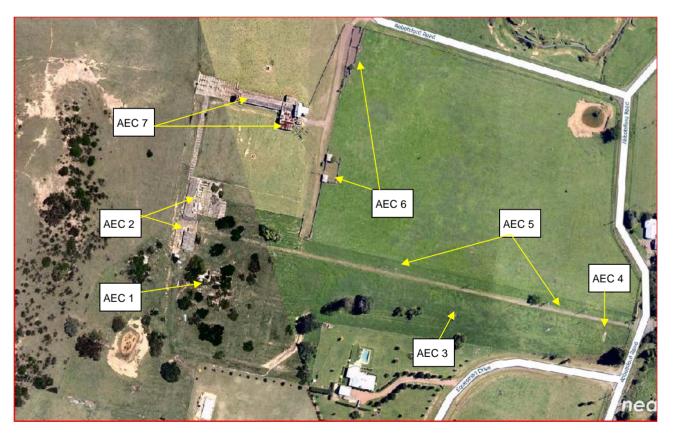


Figure 6: Location of Areas of Environmental Concern (AEC)

Tab	ble 3. Areas of Environmental Concern (AEC) ic	lentified as a res	sult of Field Inspections
AEC #	Land use	Area affected	Potential contaminants
AEC 1	Old Abbotsford residence and surrounds – now derelict. Evidence of past renovations.	~2,500m ²	Heavy metals, OC/Ops, Asbestos
AEC 2	Dairy and Milking area and immediate surrounds – now in disrepair. Probable host for farm machinery, fuels and chemicals. Extensive use of asbestos in roofing and walls.	~2,500m ²	Heavy metals, OC/Ops, Asbestos
AEC 3	Waste stockpile – mostly organic, but potentially hosting metal sheeting.	~25m ²	Heavy metals, OC/Ops, Asbestos
AEC 4	Footings from old farm building. Potential host to farm fuels and chemicals.	~200m ²	Heavy metals, TPH, BTEX,
AEC 5	Driveway from Fairleys Road to Homestead. Type of fill (at depth) used for road-base unknown.	~ 1000m ²	Heavy metals, OC/Ops, TPH, BTEX, Asbestos
AEC 6	Cattle yards and sheds.	~ 1000m ²	Heavy metals, OC/Ops, Asbestos
AEC 7	Cattle feeding shed adjacent to silo, and shed. Extensive use of asbestos roofing.	~ 1000m ²	Heavy metals, OC/Ops, TPH, BTEX, Asbestos

5.2.2 Assessment of Historical Aerial Photography

The assessment of historical aerial photography indicated that the Property has been cleared of most natural vegetation since the 1950's. A number of paddocks however have been used for pasture/crop growth. In addition, the infrastructure that was obvious in the first aerial photo still remains in the most recent photos. The only significant exception to this observation is the complete removal of built infrastructure between Abbotsford Road and the immediate drainage line located to the north. The above mentioned features are illustrated in Figure 7 and summarized in Table 5.

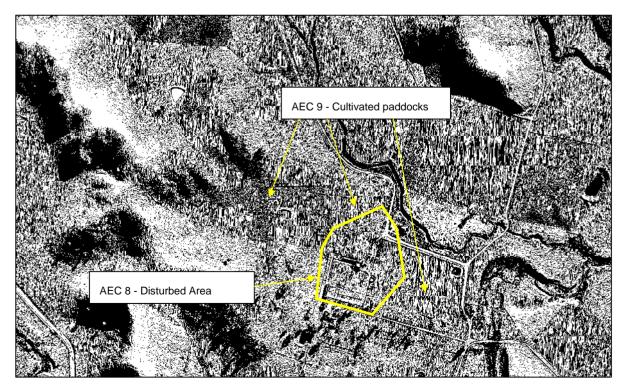


Figure 7: Scene from Air Photo 3 (1970) illustrating cultivated paddocks and disturbed area.

Tab	le 4. Area	as of Environmental Concern (AEC) ide	ntified from Histor	ical Aerial Photography
Air Photo	AEC #	Land use	Area affected	Potential contaminants
1		Land completely cleared, with minor trees preserved around homestead and farm infrastructure.	Entire property	
2	AEC 8	Potentially disturbed areas visible north and south of Feeding shed	Infrastructure zone	Heavy metals, OC/Ops, TPH, BTEX. Asbestos around infrastructure areas.
3	AEC 9	Much of the property split into paddocks for pasture growth. Zone of infrastructure from dairy to feed shed to Abbotsford Road and across to creek appears disturbed	Entire property	OC/Ops
4		Features less clear than above	N/A	
5		No change to above	N/A	
6		No change to above	N/A	
7		No change to above. Note drainage trail on eastern side of property (after flooding?)	N/A	
8		No change to above	N/A	
9		No change to above.	N/A	
10		No change to above	N/A	
11		No change to above	N/A	

5.2.3 Assessment of EM Survey

An Electromagnetic Survey was undertaken during the course of site investigations. This work outlined several zones of shallow high electromagnetic conductivity, which are potentially attributable to high salt contents. These zones are potentially linked to discharge plumes arising from the wash-down and/or run-off derived from the Milking Area and could potentially carry other chemical residues. The location of these plumes which are illustrated in Figure 8 and summarised in Table 5, represents an additional Area of Concern.

Other features identified by the EM survey have been covered in previous sections.

Table 5. Areas of Environmental Concern (AEC) identified as a result of an EM Survey			
AEC #	Land use	Area affected	Potential contaminants
AEC 10	Drainage plumes discharging from dairy infrastructure	~30,000m ²	Heavy metals, OC/Ops,

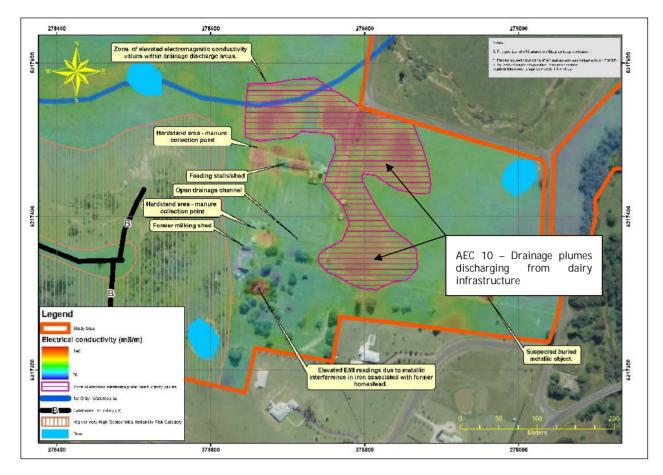


Figure 8: High conductivity plumes emanating from the Milking Shed area.

5.2.4 Assessment of Property Owner Questionnaire and Wollondilly Shire Council Records

In terms of the contamination issues outlined in the questionnaire (Appendix 3), Mr N Arber, representing the property owners, indicated that the Milking Area had an asbestos roof and that an application had been submitted to the EPA for its removal (Question 9). The response to questions 6, 7 and 8 were answered in the negative.

5.2.5 Historical Title Search

A historical title search did not reveal any specific AECs' not covered by other searches.

5.2.6 Results of Review of Wollondilly Shire Council Records

A review of Wollondilly Shire Council records revealed no specific contamination data relevant to the Property.

5.3 Results of the Assessment Process

The assessment process has indicated that a number of AECs occur throughout the Property. These AEC's are varied in nature and are associated with activities predominantly occurring many years (if not decades) ago. The principle objective of this assessment was to determine if there is any expectation of contamination associated with previous agricultural land use. This is taken to mean activities such as:

- The application of pesticides, herbicides and fertilizers used to increase the productivity of land used for agricultural purposes; and
- Construction and application of infrastructure and other like activities in support of agricultural enterprises in this regard, the extensive use of asbestos bearing materials for roofing and cladding in much of the infrastructure should be noted.

Given that infrastructure representing dairying activities still remains in place in combination with the visual and historical record, there is some potential that contamination may have occurred and that such contamination remains to the present day. In addition, chemical residues may still be found in areas where past agricultural practices have taken place.

Potential contaminants have also been listed in Tables 4, 5 and 6. However, these are provided for guidance only, as only a full assessment of each AEC will determine which potential contaminants should be tested. Furthermore, these AECs only represent the most obvious and visible examples of potentially contaminating activities. Only a detailed assessment will provide a more confident assessment of contamination on the Property, such assessment being conducted under the auspices of a Phase 2 contamination assessment.

5.4 Conclusions

As a result of this contaminated land study, it is concluded that:

- Due to past agricultural practices there may be potential for contaminants to occur on the Property;
- No area within the Property is listed on the EPA website as contaminated or have been reported for contamination events;
- An inspection of the Property files at Council under a GIPA application did not reveal any contamination issues or events of significance.
- In general terms and subject to further detailed assessment under the guise of a Phase 2 contamination assessment, it is considered that there will be no impediment to the further subdivision of the Property as a result of the findings of this study.

5.5 Recommendations

It is recommended that areas proposed for residential development should be investigated by a Phase 2 detailed site investigation as part of the development approval process and prior to any rezoning being approved. This assessment is to be conducted subject to guidelines outlined in "Consultants Reporting on Contaminated Sites" (NSW EPA, 2011), details of which are provided in the following Section 6.

6.0 RECOMMENDATIONS FOR THE FUTURE DEVELOPMENT CONTROLS FOR THE MANAGEMENT AND ASSESSMENT OF POTENTIAL CONTAMINATION SITES AT THE DEVELOPMENT APPLICATION STAGE.

6.1 Introduction

It is recommended that further development of the Property is to be subject to the following contamination assessment procedures: viz:

- A detailed Phase 2 site contamination assessment;
- Implementation of a Remedial Action Plan (RAP) over land found to be contaminated; and
- Validation of land that has been remediated.

These procedures are detailed in the following sections and represent the development controls that are to be implemented to assess and then manage any areas that have been identified as containing contaminants.

6.2 Detailed Phase 2 contamination assessment

The objective of a Phase 2 Contamination Assessment on all areas proposed for development is to undertake laboratory analysis of onsite soils, waters and air to determine the extent of contamination to a level that presents or potentially presents a risk of harm to human health and/or the environment. A detailed site investigation report is to be prepared which will provide detailed information on:

- Issues raised in this preliminary investigation; and
- The type, extent and level of contamination.

The assessment process will entail:

- Contaminant dispersal in air, surface water, groundwater, soil and dust;
- The potential effects of contaminants on public health, the environment and building structures;
- Off-site impacts on soil, sediment and biota where applicable; and
- The adequacy and completeness of all information available to be used in making decisions on remediation.

Contamination sampling and assessment will focus on two aspects identified by the preliminary findings of this report, viz;

- Assessment of all AECs already identified; and
- Assessment of land excluding these AECs.

A Phase 2 Contamination Assessment will initially be focused on the soils located within the area to be developed and is to include the following activities:

- A Sampling Analysis Plan (SAP) is to be prepared based on the following criteria:
 - Volume based: Where AEC's have been identified as being restricted to a discrete volume of material (such as a stockpile of imported earth), the sampling is to be based on a volumetric approach. The sampling density is to be determined subject to the investigators assessment of the material in question.
 - Area based: Where AEC's have been identified over a large area (such as a paddock where agricultural activities have taken place) a grid-based sampling protocol is to be undertaken. The sampling density is to be based on 'Table A' of the NSW EPA guidelines for 'Consultants Reporting on Contaminated Sites' (NSW EPA, 1995).

- At times there may be instances where both sampling options need to be considered. In such cases, the project environmental scientist will need to determine the optimum sampling regime so as to focus on the areas considered to have the greatest likelihood for contamination.
- > The SAP is to include the following details:
 - AEC Number
 - Land Use
 - Area affected (in m2) or volume affected (m3);
 - Number of sampling locations;
 - Application of composite sampling:
 - Sample depths; and
 - Nature of laboratory analysis to be undertaken (reflecting potential contaminants that may be found). All samples are to be analyzed by a NATA registered laboratory.
- All sampling is to incorporate field and laboratory quality assurance and quality controls;
- All analytical results are to be assessed against adopted Health Based Investigation Levels (HIBL's) and Provisional phytotoxicity-based Investigation Levels (PPIL's) where appropriate. The main references currently for these HIBL's and PPIL's include:
 - NEPC (1999 and 2006).
 - NSW EPA (1994, 1995 and 2011)
- Where it is suspected that contamination has entered the groundwater system, an appropriate testing regime will be determined and executed; and
- A report on the findings is to be prepared and submitted as part of the conditions of consent for any proposed development.
- 6.3 Remediation of Contaminated Land

In the event that contamination is identified, a Remedial Action Plan (RAP) is to be submitted which will outline the measures that need to be taken to remediate the site affected. The RAP is to be completed inclusive of validation testing and reporting prior to the development being approved.

It is not possible at this stage, to develop a specific schedule of actions and types of remediation works that will need to be undertaken should contamination be confirmed at any one site. This is because the extent and level of contaminants are unknown. Each identified contamination site will have its own unique characteristics and will require a unique remediation solution which will be dependent upon the ultimate land use. In general terms however, there will be five main approaches, viz:

- Contaminated sites are left untreated;
- On-site treatment of contamination;
- Off-site treatment of contaminated materials and return of materials to original site;
- Removal of contaminated materials to an appropriately licensed waste facility; or
- Consolidation and isolation of contaminated materials on-site by a properly designed barrier.

The nature of the final land use or "exposure settings" is important in determining any treatment option (Taylor and Langley, 1998). These exposure settings (abbreviated) are:

- 'Standard' residential;
- Residential with substantial vegetable garden;
- Residential with substantial vegetable garden, poultry excluded;
- Residential with minimal opportunities for soil access;
- Parks, recreational open space and playing fields; and
- Commercial/industrial.

Each of these exposure settings have their own acceptable Health Based Investigation Level (HBIL) for any one contaminant.

In certain cases, exceedances of HBILs for a nominated land use can be dealt with by on-site vertical mixing. This has application for general broad-acre agricultural land and may or may not be appropriate for the study area.

In the case of those sites found to be contaminated with asbestos, the likely option is complete removal to an appropriate waste facility.

In conclusion, remediation options are very much dependent on the nature and level of individual contaminants in combination with the proposed land use. Until sites are fully investigated and tested, the most appropriate remediation option cannot be determined.

6.4 Validation of Remediated land

The RAP process discussed in the above section is to be completed inclusive of validation testing and reporting prior to the development being approved.

The purpose of site validation and subsequent reporting requirements is to ensure that the objectives stated in the RAP have been achieved. The extent of validation required will depend on:

- The degree of contamination originally present;
- The type of remediation processes that have been carried out; and
- The proposed land use.

Where full clean-up is not feasible or on-site containment of contamination is proposed, the need for an on-going monitoring program will be assessed. Such a program would assess a monitoring strategy, parameters to be monitored, locations frequency and reporting requirements.

6.5 Update on Contamination Guidelines

It should be noted that the environment ministers from across Australia and New Zealand recently affirmed their commitment to environment and water issues of national significance and agreed to a work plan for 2013-14 focusing on progressing national water reform, national waste policy and air quality improvements (Appendix 5). Based on the outcomes of a review commenced in 2005, the COAG Standing Council on Environment and Water approved an amendment to the National Environment Protection (Assessment of Site Contamination) Measure. The Measure establishes a nationally consistent approach to the assessment of site contamination to ensure sound environmental management practices by the community. The amendment ensures it will remain the premier document for the assessment of site contamination in Australia, used by regulators, site assessors, consultants, environmental auditors, landowners, developers and industry. The measure incorporates updated methodologies for assessing human and ecological risks and site assessment methods now in line with advances in Australia and overseas.

The amendment to the Assessment of Site Contamination NEPM was officially approved on 12th April, 2013, but at the date of this Study has still to be gazetted. It is understood that gazettal is imminent and as a result, any assessment of contamination of the Property will need to be cognisant of these updated guidelines.

7.0 SATISFACTION OF SPECIALIST STUDY GUIDELINES

Table 6 provides a summary of the Study and identifies how each of the guidelines have been met.

Iddle	e 6A: Satisfaction of Guidelines - Output
Output	How and where Guideline addressed
A preliminary 'desk top' Contaminated Site report as required in accordance with SEPP 55 - Remediation of Land.	This report in its entirety satisfies this output requirement.
Field Verification of potential contamination sites.	Sections 4and 5 outline all of the steps taken to assess contamination on the Property. This has included field inspections and surveys as detailed in Section 4.2 and Appendix 2.
Recommendation for the future development controls for the management and assessment of these potential contamination sites at the development application stage.	Section 6 outlines a number of development controls that are to be applied where the Property is to be developed by way of subdivision or other activities requiring development consent. These controls entail a detailed Phase 2 contaminated site assessment and where appropriate, remediation of confirmed contamination.
Table 6	B: Satisfaction of Guidelines - Objectives
Objectives	How and where Guideline addressed
To determine if there is any expectation of contamination of the study area associated with previous agricultural land uses and the likely sources of that contamination and whether there is a need for remediation before a change to the land use zoning.	Section 5 provides a summary of Areas of Concern considered to have potential for contamination. Each AEC, is described and its location illustrated.

Table 6A: Satisfaction of Guidelines - Output

Table 6C: Satisfaction of Guidelines – Tasks/Methodology

How and where Guideline addressed
Review undertaken and covered in Section 4.5 and 5.2.6.
This report in its entirety satisfies this output requirement.
This information has been provided under the CIDA provisions and
This information has been provided under the GIPA provisions and the results are summarised in Section 5.2.6 and summarised in
Sections 4.5 to 4.9.
Any development proposal for the Property is to be subject to a
Phase 2 contamination assessment as described in Section 6.

8.0 CONCLUSIONS

It is concluded that an assessment of the Property has identified a number of Areas of Environmental Concern. These AECs' are the result of activities associated with current and past agricultural activities. These AEC's have been documented and subject to a preliminary Phase 1 assessment.

As a result of this work, the implementation of a number of development controls are recommended where land within the Property is to be developed by way of subdivision or other activities requiring development consent. These include:

- Completion of Phase 2 contamination Assessment;
- Preparation of a Remediation Action Plan (RAP) where appropriate;
- Completion of Remedial Works where applicable.

Provided that the above program is carried out to the satisfaction of the SEPP 55 guidelines, it is concluded that there appears to be no impediment related to contamination issues which might prevent the rezoning of the Property to take place.

9.0 LIMITATIONS OF THIS REPORT

This report has been prepared subject to a number of limitations. These include:

- No contamination assessment can eliminate all risk. Even a rigorous professional assessment may
 not detect all contamination within a site. Contaminants may be present in areas that were not
 sampled or surveyed, or may migrate to areas which did not show any signs of contamination
 when sampled. Contaminant analysis cannot cover every type of contaminant that may occur, only
 the most likely contaminants are screened;
- Site assessment identifies actual sub-surface conditions only at those points where samples are taken and when they are taken. Data obtained from the sampling and subsequent laboratory analysis are interpreted by professional consultants and opinions are drawn about the overall subsurface conditions, the nature and extent of the contamination, the likely impact on any proposed development and appropriate remediation measures. Actual conditions may differ from those inferred, because no professional no matter how qualified and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated;
- In preparing this report, Harvest Scientific Services Pty Ltd has relied upon certain verbal information and documentation provided by the client and/or third parties. Harvest Scientific Services Pty Ltd did not attempt to independently verify the accuracy or completeness of that information. To the extent that the conclusions and recommendations in this report are based in whole or in part on such information, they are contingent on its validity. Harvest Scientific Services Pty Ltd assumes no responsibility for any consequences arising from any information or condition that was concealed, withheld, misrepresented, or otherwise not fully disclosed or available to Harvest Scientific Services Pty Ltd.
- The findings contained in this report are the result of discrete/specific methodologies used in accordance with normal practices and standards. To the best of our knowledge, they represent a reasonable interpretation of the general condition of the site in question. Under no circumstances, however, can it be considered that these findings represent the actual state of the site/sites at all points.

The application of conditions of approval or impacts of unanticipated future events could modify the outcomes described in this document. In particular, implications of climate change and/or global warming of any magnitude and extreme rainfall events have not been considered but should they occur, may have a significant impact on the site. The client agrees that such events are possible but nevertheless accepts the risk that they pose.

Prepared by:

Mart Rampe

Mart Rampe BSc (Applied Geology) Principal

10 REFERENCES

Imray, P. and Langley, A. 1996. Health-based Soil Investigation Levels, National Environmental Health Forum Monographs, Soil Series No. 1, SA Health Commission, Adelaide.

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NSW Environment Protection Authority, 1998. Contaminated Sites: Guidelines for NSW Site Auditor Scheme.

Sherwin, L. and Holmes, G.G., 1982. Geology of the Wollongong and Port Hacking 1:100,000 sheets 9029,9129. New South Wales Geological Survey, Sydney.

Taylor and Langley, 1998. Exposure Settings and Exposure Scenarios. National Health Forum Soils Monograph No.2. 2nd Edition. Adelaide: South Australia Health Commission.

APPENDIX 1 Water Bore Data

Groundwater Works Summary

For information on the meaning of fields please see <u>Glossary</u> Document Generated on Saturday, April 27, 2013

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW105228

Works Details (top)

GROUNDWATER NUMBER	GW105228
LIC-NUM	10WA110830
AUTHORISED-PURPOSES	DOMESTIC STOCK
INTENDED-PURPOSES	DOMESTIC STOCK
WORK-TYPE	Bore
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Rotary
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	2003-03-27
FINAL-DEPTH (metres)	63.00
DRILLED-DEPTH (metres)	63.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	an
GW-ZONE	46
STANDING-WATER-LEVEL	23.00
SALINITY	
YIELD	1.50

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	212 - HAWKESBURY RIVER
AREA-DISTRICT	
CMA-MAP	9029-4S
GRID-ZONE	56/1
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	(Unknown)
NORTHING	6216837.00
EASTING	278451.00
LATITUDE	34 9' 57"
LONGITUDE	150 35' 47"
GS-MAP	

AMG-ZONE 56 COORD-SOURCE REMARK

Form-A (top)

COUNTY	CAMDEN
PARISH	PICTON
PORTION-LOT-DP	51 810496

Licensed (top)

COUNTY	CAMDEN
PARISH	PICTON
PORTION-LOT-DP	51 810496

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
Annah		Hole	Hole	0.00	19.00	200			Rotary Air
and the second s		Hole	Hole	19.00	63.00	162			Rotary Air
connector	Anna	Casing	PVC Class 6	-0.30	23.00	158			Glued; Driven into Hole

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	5-W- "L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
29.00	29.20	0.20		23.00		1.80	35.00	0.50	Fresh
40.50	40.70	0.20		23.00		1.20	45.00	0.50	Fresh
48.50	48.70	0.20		23.00		1.50	63.00	0.50	Fresh

Drillers Log (top)

FROM	ТО	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.30	0.30	TOPSOIL		
0.30	5.50	5.20	RED CLAY		
5.50	10.00	4.50	YELLOW CLAY		
10.00	10.50	0.50	WEATHERED SHALE		
10.50	19.00	8.50	BLUE SHALE		
19.00	63.00	44.00	SANDSTONE		

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Groundwater Works Summary

For information on the meaning of fields please see <u>Glossary</u> Document Generated on Saturday, April 27, 2013

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW108155

Works Details (top)

GROUNDWATER NUMBER	GW108155
LIC-NUM	10WA111116
AUTHORISED-PURPOSES	DOMESTIC STOCK
INTENDED-PURPOSES	DOMESTIC STOCK
WORK-TYPE	Bore
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Rotary
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2004-06-02
FINAL-DEPTH (metres)	51.00
DRILLED-DEPTH (metres)	51.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	MADGWICK
GWMA	
GW-ZONE	
STANDING-WATER-LEVEL	5.00
SALINITY	
YIELD	8.90

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6217250.00
EASTING	279212.00
LATITUDE	34 9' 44"
LONGITUDE	150 36' 18"
GS-MAP	

Groundwater Works Summary

 AMG-ZONE
 56

 COORD-SOURCE
 GIS - Geographic Information System

 REMARK

Form-A (top)

COUNTY	CAMDEN
PARISH	PICTON
PORTION-LOT-DP	201 1016493

Licensed (top)

COUNTY	CAMDEN
PARISH	PICTON
PORTION-LOT-DP	201 1016493

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	(mm)	INTERVAL	DETAIL
weath		Hole	Hole	1.00	18.00	200			Rotary
in the second		Hole	Hole	18.00	51.00	165			Rotary
1	-	Casing	P.V.C.	-0.30	21.00	160	148		Glued; Driven into Hole

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S-W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
24.00	24.05	0.05		11.00		0.50			Fresh
32.00	32.10	0.10		5.00		2.00			Fresh
47.00	47.15	0.15		5.00		6.40			Fresh

Drillers Log (top)

FROM	то	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.00	1.00	Annual Annual Annual Agenes		
1.00	1.50	0.50	clay		
1.50	3.00	1.50	shale, weathered		
3.00	4.50	1.50	shale, brown		
4.50	23.00	18.50	shale, blue		
23.00	51.00	28.00	sandstone,		

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Groundwater Works Summary

For information on the meaning of fields please see <u>Glossary</u> Document Generated on Saturday, April 27, 2013

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW111771

Works Details (top)

GROUNDWATER NUMBER	GW111771
LIC-NUM	10WA117920
AUTHORISED-PURPOSES	RECREATION (GROUNDWATER)
INTENDED-PURPOSES	RECREATION (GROUNDWATER)
WORK-TYPE	Bore
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Rotary Air
OWNER-TYPE	Local Govt
COMMENCE-DATE	
COMPLETION-DATE	2012-03-30
FINAL-DEPTH (metres)	120.00
DRILLED-DEPTH (metres)	120.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	PICTON OVAL
GWNA	ω.
GW-ZONE	-
STANDING-WATER-LEVEL	1.50
SALINITY	180.00
YIELD	0.25

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6217642.00
EASTING	279177.00
LATITUDE	34 9' 32"
LONGITUDE	150 36' 16"
GS-MAP	

AMG-ZONE 56 COORD-SOURCE REMARK

Form-A (top)

COUNTY	CAMDEN
PARISH	PICTON
PORTION-LOT-DP	2//1086066

Licensed (top)

COUNTY	CAMDEN
PARISH	PICTON
PORTION-LOT-DP	2 1086066

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	9.00	240			Rotary Air
quee		Hole	Hole	9.00	120.00	173			Rotary - Percussion (Down Hole Hammer)
1	- Alerer	Casing	Steel - ERW	0.50	8.50	219	207		Welded - Butt
4	1	Casing	PVC Class 9	0.50	60.00	152	140		Glued
n na	www.	Casing	PVC Class 12	60.00	120.00	152	136		Glued
4	Ţ	Opening	Slots - Horizontal	18.00	24.00	152			PVC Class 9; Casing - Hand Sawn Slot; SL: 75mm; A: 3mm; Welded - Butt
1	Year	Opening	Slots - Horizontal	90.00	120.00	152			PVC Class 12; Casing - Hand Sawn Slot; SL: 75mm; A: 3mm; Welded - Butt

Water Bearing Zones (top)

FROM- DEPTH (metres)	 THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
(ling line to the		200		(IIICU CS)		

22.00	24.00	2.00		0.60	1.00	320.00
106.00	108.00	2.00		1.15	1.00	200.00
111.00	114.00	3.00	1.50	0.25	1.00	180.00

Drillers Log (top)

FROM	то	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	8.00	8.00	CLAY BROWN		
8.00	24.00	16.00	SHALE		
24.00	94.00	70.00	SANDSTONE		
94.00	97.00	3.00	SHALE		
97.00	106.00	9.00	SANDSTONE		
106.00	120.00	14.00	SANDSTONE / SHALE		

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APPENDIX 2 Photographic Record

APPENDIX 1

ABBOTSFORD

CONTAMINATION ASSESSMENT – PICTORIAL

A number of Areas of Environmental Concern (AEC) identified during site inspections are illustrated in the following pictorial. The location of each AEC is indicated on Figure 1 below.

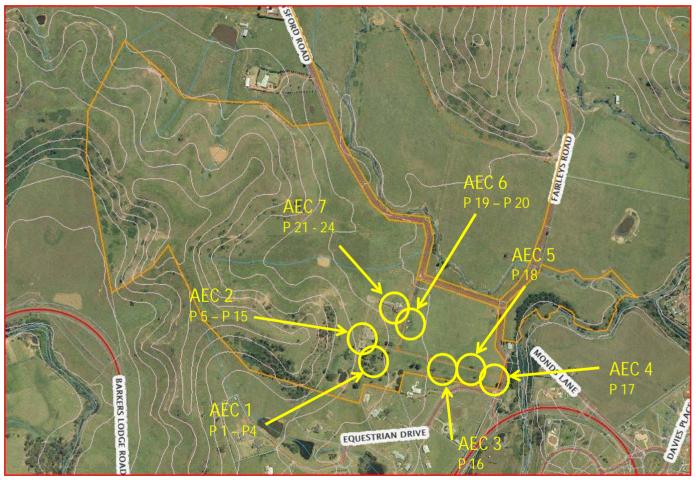


Figure 1: Location of Areas of Environmental Concern and Plates 1 to 24.



Plate 1: Remnants of Abbotsford Homestead. Predominantly a brick/stone residence.



Plate 2: Rubbish strewn about the Abbotsford Homestead. Metal roofing sheets, glass and fibro sheeting.



Plate 3: Internal photo of Abbotsford Homestead. Potential for lead paint and asbestos materials.



Plate 4: Example of rubbish strewn around the Abbotsford Homestead.



Plate 5: Old dairy with asbestos roof.



Plate 6: Old Dairy – internal. Used for the storage of machinery, fuels etc. Potential for storage of agricultural chemicals. Internal walls painted.



Plate 7: Looking at northern side of Dairy and milking pens. Abandoned vehicle and other industrial items.

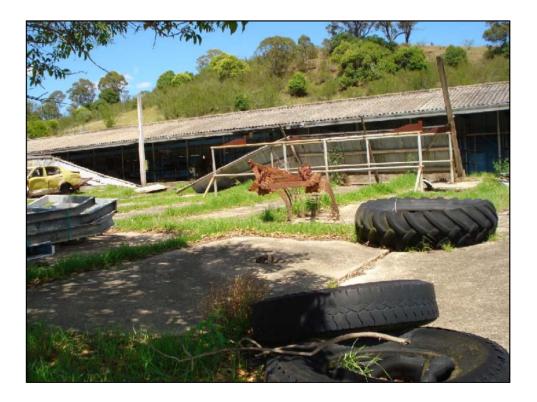


Plate 8: Same as Plate 6, showing abandoned tyres.



Plate 9: Abandoned milking shed.



Plate 10: Abandoned milking shed and office. Asbestos sheeting and fragments everywhere..



Plate 11: Old abandoned asbestos roofing sheets and numerous fibro fragments located adjacent to old dairy.



Plate 12: Abandoned kitchen area adjacent milking area.



Plate 13: Abandoned caravan containing empty fuel? canisters and other waste materials located adjacent to dairy.



Plate 14: Abandoned waste bin with steel and aluminum filings.



Plate 15: Abandoned industrial waste located on southern side of dairy.



Plate 16: Waste pile – predominantly of timber but inclusive of old metal sheeting.



Plate 17: Footings from old building – located at eastern end of Property.



Plate 18: Old access track leading to Abbotsford Homestead. Fill for track (at depth) is unknown.



Plate 19: Yards and shed actively used for goat/sheep.

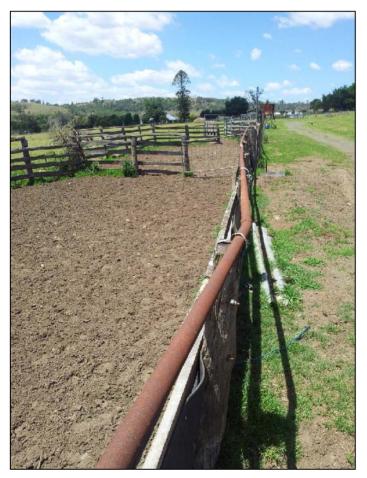


Plate 20: Looking southerly along actively used cattle yrds.



Plate 21: Looking southerly at cattle feed shed, silos and other infrastructure.



Plate 22: Looking inside shed next to silo. Abandoned vehicle with potential for farm fuels and chemicals.



Plate 23: Cattle feeding shed with asbestos roof.



Plate 24: As above with close-up of asbestos roof.

APPENDIX 3 Property Owner Questionnaire

Question 1	Registered	Randk	ZIEMS	and Se	m		
	Property	PILLIE	THOM FORD R	100000	And	Ale	An
2	owner Property	969013	1 1900	F 3000	10400	1	10 / 9.0
2	Address	ABBOTSI	EORD K	OAO I	DICTO	$\partial \omega$	
3	Period of Ownership	50	Years				
4	Current Land Use (please tick box)	4(a) Agricultural	4(b)Hobby Farm	4(c) Industr Commercial	rial or	4(d) Othe	er
5	Site history	1					
	Please describe land use activities during the period of your ownership.			AGRICULTURE / GRAZ. OF CATTLE / SHEE			
	Please descri and/or site his		wn past land-uses				
6	Are you aware of any places on your property where waste, chemical, industrial or agricultural based substances (liquids or solids) of any kind has been disposed or stored before or after your ownership (please tick box).			Yes		No	
7	Please describe type of waste and location if you answered yes.			1 1		No	Y
	Please descril answered yes	••	and location if you				
8	otherwise) t property eith	hat has been im er before or after yo				No	d
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APPENDIX 4 Planning Certificate under Section 149(2)



PLANNING CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT, 1979

APPLICANT:

Harvest Scientific Services PO Box 427 NARELLAN NSW 2567

Planning Certificate No.: Receipt No.: Issue Date: Applicant's Reference: Property No.: 20121591 387166 17 December 2012 201368 21134

DESCRIPTION OF PROPERTY

Address:	15 Fairleys Road PICTON 2571
Land Description:	Lot: 1 DP: 1086066

Notes:

The following prescribed matters may apply to the land to which this certificate relates.

Where this certificate refers to a specific allotment (or allotments) within a strata plan, the certificate is issued for the whole of the land within the strata plan, not just the specific allotment(s) referred to, and any information contained in the certificate may relate to the whole, or any part, of the strata plan.

The following information is provided pursuant to Section 149(2) of the Environmental Planning and Assessment Act 1979 as prescribed by Schedule 4 of the Environmental Planning and Assessment Regulation 2000 and is applicable as at the date of this certificate.

Information provided in this certificate should be interpreted in conjunction with the relevant plans, policies and documents held at Council. In order to obtain copies of these documents you may purchase them from Council's Administration Centre at 62-64 Menangle Street, Picton or view free of charge on Council's Website www.wollondilly.nsw.gov.au.

1. NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPS

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.
- (2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).
- (3) The name of each development control plan that applies to the carrying out of development on the land.
- (4) In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.

ENVIRONMENTAL PLANNING INSTRUMENTS

Wollondilly Local Environmental Plan 2011.

Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997)

Sydney Regional Environmental Plan No 9 Extractive Industries (No 2 - 1995)

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004

State Environmental Planning Policy No 6 - Number of Storeys in a Building

State Environmental Planning Policy No 21 - Caravan Parks

State Environmental Planning Policy No 22 - Shops and Commercial Premises

State Environmental Planning Policy No 30 - Intensive Agriculture

State Environmental Planning Policy No 33 - Hazardous and Offensive Development

State Environmental Planning Policy No 44 - Koala Habitat Protection (Note: Excludes land dedicated or reserved as National Park)

State Environmental Planning Policy No 50 - Canal Estate Development

State Environmental Planning Policy No 55 - Remediation of Land

State Environmental Planning Policy No 64 - Advertising and Signage

State Environmental Planning Policy No 65 - Design Quality of Residential Flat Development

State Environmental Planning Policy (Major Development) 2005

State Environmental Planning Policy (Temporary Structures) 2007

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

State Environmental Planning Policy No 62 - Sustainable Aquaculture

State Environmental Planning Policy (Affordable Rental Housing) 2009

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy No 4 - Development Without Consent and Miscellaneous Exempt and Complying Development (with exception of Clause 6 and Parts 3 and 4)

PROPOSED ENVIRONMENTAL PLANNING INSTRUMENTS

Draft State Environmental Planning Policy (Competition) 2010

DEVELOPMENT CONTROL PLANS

Wollondilly Development Control Plan 2011

2. ZONING AND LAND USE UNDER RELEVANT LEPS

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

WOLLONDILLY LOCAL ENVIRONMENTAL PLAN 2011

 the identity of the zone, whether by reference to a name (such as "Residential Zone" or "Heritage Area") or by reference to a number (such as "Zone No 2 (a)"),

Zone RU2 Rural Landscape

(b) the purposes for which the instrument provides that development may be carried out within the zone without the need for development consent:

Extensive agriculture; Home occupations and development listed in Schedule 2 of Wollondilly Local Environmental Plan 2011 provided it meets the criteria in that schedule

(c) the purposes for which the instrument provides that development may not be carried out within the zone except with development consent,

Agriculture; Airports; Animal boarding or training establishments; Bed and breakfast accommodation; Boat building and repair facilities; Boat sheds; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Farm stay accommodation; Flood mitigation works; Forestry; Freight transport facilities; Funeral homes; Group homes; Home-based child care; Home businesses; Home industries; Home occupations (sex services); Hospitals; Information and education facilities; Landscaping material supplies; Mortuaries; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Research stations; Roads; Roadside stalls; Rural industries; Rural supplies; Rural workers' dwellings; Signage; Transport depots; Veterinary hospitals; Water recreation structures; Water supply systems

(d) the purposes for which the instrument provides that development is prohibited within the zone,

Stock and sale yards; Turf farming; Any other development not specified in item (b) or (c)

(e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling house on the land and, if so, the minimum land dimensions so fixed,

A dwelling house cannot be erected on any lot created under clause 4.2 of Wollondilly Local Environmental Plan 2011. That is, a dwelling house cannot be erected on lots less than the minimum allotment size for subdivision which have only been created for the purpose of primary production.

Reference must be made to clause 4.2 of Wollondilly Local Environmental Plan 2011 and the Lot Size Map for further information.

Wollondilly Local Environmental Plan 2011 Clause 4.2A and the Minimum Lot Size Map sets the minimum land dimensions for the erection of a dwelling house on this land as follows:

Development consent for the purposes of the erection of a dwelling house may only be granted if no dwelling house has been erected on the land (unless the application is to replace the existing dwelling-house) and;

(a) the lot is at least the minimum lot size specified for that land by the Lot Size Map being 40 hectares; or

- (b) the lot was created before this Plan commenced and on which a dwelling house was permissible immediately before that commencement; or
- (c) the lot resulted from a subdivision for which development consent (or equivalent) was granted before this Plan commenced and on which the erection of a dwelling house would have been permissible if the plan of subdivision has been registered before that commencement.

Reference must be made to Clause 4.2A of Wollondilly Local Environmental Plan 2011 and the Lot Size Map for further information.

(f) whether the land includes or comprises critical habitat,

None known

(g) whether the land is in a conservation area (however described),

The land is not located within a Heritage Conservation Area as provided by clause 5.10 and Schedule 5 of Wollondilly Local Environmental Plan 2011.

(h) whether an item of environmental heritage (however described) is situated on the land.

This land contains an Archaeological Site as provided by clause 5.10 and Schedule 5 Part 3 of Wollondilly Local Environmental Plan 2011.

2A. ZONING AND LAND USE UNDER STATE ENVIRONMENTAL PLANNING POLICY (SYDNEY REGION GROWTH CENTRES) 2006

This clause is not applicable to the Wollondilly Local Government Area.

3. COMPLYING DEVELOPMENT

- (1) Whether or not the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (c) and (d) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.*
- (2) If complying development may not be carried out on that land because of the provisions of clauses 1.17A (c) and (d) and 1.19 of that Policy, the reasons why it may not be carried out under that clause.

THE GENERAL HOUSING CODE

Complying development under the General Housing Code in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 MAY NOT be carried out on the land. The land comprises, or is land on which there is, an item of environmental heritage that is subject to an interim heritage order under the Heritage Act 1977 or that is listed on the State Heritage Register under the Heritage Act 1977.

THE RURAL HOUSING CODE

Complying development under the Rural Housing Code in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 MAY NOT be carried out on the land. The land comprises, or is land on which there is, an item of environmental heritage that is subject to an interim heritage order under the Heritage Act 1977 or that is listed on the State Heritage Register under the Heritage Act 1977. Note: The land is a lot to which the Rural Housing Code applies, complying development may be carried out on the part of the lot to which this clause does not apply.

THE HOUSING ALTERATIONS CODE

Complying development under the Housing Alterations Code in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 MAY NOT be carried out on the land. The land comprises, or is land on which there is, an item of environmental heritage that is subject to an interim heritage order under the Heritage Act 1977 or that is listed on the State Heritage Register under the Heritage Act 1977.

THE GENERAL DEVELOPMENT CODE

Complying development under the General Development Code in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 MAY NOT be carried out on the land. The land comprises, or is land on which there is, an item of environmental heritage that is subject to an interim heritage order under the Heritage Act 1977 or that is listed on the State Heritage Register under the Heritage Act 1977.

THE GENERAL COMMERCIAL AND INDUSTRIAL CODE

Complying development under the General Commercial and Industrial Code in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 MAY NOT be carried out on the land. The land comprises, or is land on which there is, an item of environmental heritage that is subject to an interim heritage order under the Heritage Act 1977 or that is listed on the State Heritage Register under the Heritage Act 1977.

THE SUBDIVISIONS CODE

Complying development under the Subdivisions Code in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 MAY NOT be carried out on the land. The land comprises, or is land on which there is, an item of environmental heritage that is subject to an interim heritage order under the Heritage Act 1977 or that is listed on the State Heritage Register under the Heritage Act 1977.

THE DEMOLITION CODE

Complying development under the Demolition Code in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 MAY NOT be carried out on the land. The land comprises, or is land on which there is, an item of environmental heritage that is subject to an interim heritage order under the Heritage Act 1977 or that is listed on the State Heritage Register under the Heritage Act 1977.

4. COASTAL PROTECTION

Whether or not the land is affected by the operation of section 38 or 39 of the *Coastal Protection Act* 1979, but only to the extent that the council has been notified by the Department of Services, Technology and Administration.

No

4A. CERTAIN INFORMATION RELATING TO BEACHES AND COASTS

This clause is not applicable to the Wollondilly Local Government Area.

4B. ANNUAL CHARGES UNDER LOCAL GOVERNMENT ACT 1993 FOR COASTAL PROTECTION SERVICES THAT RELATE TO EXISTING COASTAL PROTECTION WORKS

This clause is not applicable to the Wollondilly Local Government Area.

5. MINE SUBSIDENCE

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of section 15 of the *Mine Subsidence Compensation Act* 1961.

The land is not in a Mine Subsidence District.

6. ROAD WIDENING AND ROAD REALIGNMENT

Whether or not the land is affected by any road widening or road realignment under:

- (a) Division 2 or Part 3 of the *Roads Act* 1993, or
- (b) Any environmental planning instrument, or
- (c) Any resolution of the council.
- No

7. COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

Whether or not the land is affected by a policy:

- (a) Adopted by the council, or
- (b) Adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the 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).

No

7A. FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

- (1) Whether or not development on that land or part of 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.
- No
- (2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.

No

(3) Words and expressions in this clause have the same meanings as in the instrument set out in the Schedule to the Standard Instrument (Local Environmental Plans) Order 2006.

8. LAND RESERVED FOR ACQUISITION

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act.

Wollondilly Local Environmental Plan 2011 does not provide for the acquisition of the subject land by a public authority as referred to in section 27 of the Act.

9. CONTRIBUTIONS PLANS

The name of each contributions plan applying to the land.

Wollondilly Development Contribution Plan 2011 applies to the land.

9A. BIODIVERSITY CERTIFIED LAND

If the land is biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*), a statement to that effect.

The land is not biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995).

10. BIOBANKING AGREEMENTS

If the land is land to which a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995* relates, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Director-General of the Department of Environment, Climate Change and Water).

Council has not been notified by the Director-General of the Department of Environment, Climate Change and Water of any biobanking agreement approved under the Threatened Species Conservation Act 1995 for this land.

11. BUSH FIRE PRONE LAND

If any of the land is bush fire prone land (as defined in the Act), a statement that all or as the case may be, some of the land is bush fire prone land.

If none of the land is bush fire prone land, a statement to that effect.

The land is partially bush fire prone land as shown in Council's records. Further details of any applicable restrictions on development of the land may be obtained on application to Council.

12. PROPERTY VEGETATION PLANS

Whether or not the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies, a statement to that effect (but only if the council has been notified of the existence of the plan by the person or body that approved the plan under the Act).

Council has not been notified of any such plan that affects this land.

13. ORDER UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Whether an order has been made under the *Trees (Disputes between Neighbours) Act 2006* to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

No

14. DIRECTIONS UNDER PART 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No

15. SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

If the land is land to which *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* applies:

- (a) a statement of whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:
 - (i) the period for which the certificate is current, and
 - (ii) that a copy may be obtained from the head office of the Department of Planning, and

There is not a current site compatibility certificate (seniors housing) as described that applies to this land.

(b) a statement setting out any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.

There are currently no conditions of consent relating to a development application for seniors housing that apply to the land.

16. SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

A statement of whether there is a valid site compatibility certificate (infrastructure), of which the Council is aware, in respect of proposed development on the land and, if there is a certificate, that statement is to include:

- (a) the period for which the certificate is valid, and
- (b) that a copy may be obtained from the head office of the Department of Planning.
- There is not a valid site compatibility certificate (infrastructure) as described that applies to this land.

17. SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

- (1) A statement of whether there is a current site compatibility certificate (affordable rental housing), of which the Council is aware, in respect of proposed development on the land and, if there is a certificate, that statement is to include:
 - (a) the period for which the certificate is current, and
 - (b) that a copy may be obtained from the head office of the Department of Planning

There is not a current site compatibility certificate (affordable rental housing) as described that applies to this land.

(2) A statement setting out any terms of a kind referred to in clause 17 (1) or 37 (1) of *State Environmental Planning Policy (Affordable Rental Housing) 2009* that have been imposed as a condition of consent to a development application in respect of the land.

There are currently no conditions of consent relating to a development application for affordable rental housing that apply to the land.

NOTE. The following matters are prescribed by section 59(2) of the *Contaminated Land Management Act 1997* as additional matters to be specified in a planning certificate:

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act – if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act – if it is subject to such an order at the date when the certificate is issued,

No.

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act – if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act – if it is subject to such an order at the date when the certificate is issued,

No.

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act – if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

NOTE. Section 26 of the *Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009* provides that a planning certificate must include advice about any exemption under section 23 or authorisation under section 24 of that Act if the council is provided with a copy of the exemption or authorisation by the Co-ordinator General under that Act.

Council has not been provided any advice about any exemption under section 23 or authorisation under section 24 of the Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009 which affects this land.

In respect of matters beyond the control and/or responsibility of Council, information provided is provided only to the extent that Council has been so notified by the relevant Authorities or Departments, which have responsibility for the administration of the particular status referred to.

~ Mihalo

L McMahon GENERAL MANAGER

Any request for further information in connection with the above should be directed to Council's Duty Planner, Monday to Friday between the hours of 8am and 12pm, by telephoning (02) 4677 1100.

NOTICE TO PURCHASERS OF RURAL LAND

Wollondilly Shire Council supports the rights of persons in rural areas of the Shire to undertake and pursue agricultural production activities that are consistent with land capability and use reasonable and practical measures to avoid environmental harm and minimise impact to adjoining land users. Intending purchasers are advised that agricultural production **can** include the following activities that may have implications for occupiers and prospective purchasers of rural land:

Use of agricultural machinery (tractors, chainsaws, motorbikes)

Use of bird-scare devices Intensive livestock production (cattle feedlots, poultry farms, piggeries, restricted dairies) Operation of rural industries (packing sheds, abattoirs, stock and sale yards, sawmills) Vegetation clearing Grazing of livestock

Crop and fodder production

Soil cultivation

Crop harvesting

Use of firearms

Bushfire hazard reduction burning

Construction of firebreaks

Earthworks (construction of dams, drains, contour banks, access roads and tracks)

Fencing

Pumping and irrigation

Use of pesticides and herbicides

Spreading of manure, compost and treated effluent

Fertiliser usage

Slashing and mowing of grass

Production of silage

Re-vegetation activities (planting trees and shrubs)

Agroforestry

Livestock droving on roads

This is not an exhaustive list and intending purchasers of rural land should assess surrounding agricultural land uses and the impact these activities may have when being pursued in close proximity their proposed purchase. If you think these types of activities will affect your ability to live in a rural locality then intending purchasers are advised to reconsider their purchase and seek independent advice.

This notice is not intended to affect the rights of individuals to take action under the common law or legislation and is provided for information purposes only.

APPENDIX 5 Communiqué by COAG (11/4/2013)

Communiqué

11 April 2013

The Standing Council on Environment and Water held its 4th meeting today in Wellington, New Zealand. Environment Ministers from across Australia and New Zealand along with a representative from the Australian Local Government Association affirmed their commitment to environment and water issues of national significance. Ministers agreed to a work plan for 2013-14 focusing on progressing national water reform, national waste policy and air quality improvements.

The meeting was preceded by a presentation from New Zealand on the new conservation model it is building with business to increase resources to protect biodiversity. Ministers expressed interest in the partnerships New Zealand has forged with the private sector and the environmental returns they are delivering.

New Zealand's natural resources, like those in other countries, are under pressure. The increasing competition for scarce natural resources, combined with changing consumer values, now means that business is more directly connected to the economics of biodiversity conservation. Business is beginning to understand that the country's natural capital needs to be maintained for business to be sustainable. As a result, New Zealand is developing a new conservation model that works with business to provide a positive impact on the environment.

Council agreed to release for public consultation three Consultation Regulation Impact Statements (on the management of chemical environmental risks, reduction of emissions from wood heaters, and potential regulation of water market intermediaries). The three Consultation Regulation Impact Statements will shortly be released at http://www.scew.gov.au/

Ministers received a progress report on the development of a packaging waste and litter Decision Regulation Impact Statement. Once finalised and considered by Ministers, the Statement is expected to be released later in the year.

Council agreements that could involve regulatory change typically undergo a two-stage process of analysis. A Consultation Regulation Impact Statement considers the relative costs and benefits of different regulatory options and seeks the views of stakeholders. All members of the public are invited to make submissions and all submissions are considered equally. A Decision Regulation Impact Statement provides analysis on whether regulation is beneficial and, if so, what the most efficient and effective regulatory approach might be, taking into account the outcomes of the consultation process.

National Waste Policy

Council has previously recognised the strong support from industry, the community and local governments for further action to address the environmental impacts of packaging waste and litter.

Today, Council considered a progress report on the development of a Decision Regulation Impact Statement and noted the progress that has been achieved to date, particularly the focus on consultation with key stakeholders on the options. Ministers requested that work on the Statement and its modelling be completed as soon as possible to enable a facts-based approach on this issue.

Council agreed on the need to include end-of-life handheld batteries and waste paint on the Council's work plan. More than 264 million handheld batteries reach the end of their useful life each year and the equivalent of 18,000 tonnes of paint require disposal each year. There could be significant environmental and community benefits to be gained from working with industry to find better management solutions for these products. Ministers asked officials to develop a work program and examine funding arrangements to progress these issues.

Based on the outcomes of a review commenced in 2005, Council approved an amendment to the National Environment Protection (Assessment of Site Contamination) Measure. The Measure establishes a nationally consistent approach to the assessment of site contamination to ensure sound environmental management practices by the community. The amendment ensures it will remain the premier document for the assessment of site contamination in Australia, used by regulators, site assessors, consultants, environmental auditors, landowners, developers and industry. The measure incorporates updated methodologies for assessing human and ecological risks and site assessment methods now in line with advances in Australia and overseas. Ministers recognised the contributions from all stakeholders, including the National Health and Medical Research Council, in the development of the updated measure.

Environmental Investment and Biodiversity Banking

New South Wales provided an update on the review of its Biodiversity Banking Scheme. Ministers requested officials to investigate a possible national approach to biobanking as part of the work being undertaken on private investment in the environment.

Ministers agreed that further work be undertaken, led by Victoria, to identify principles of good practice in encouraging private investment in the environment, which could be adopted by jurisdictions on an opt-in basis.

National Harmonisation of Environmental Regulation

Council adopted a set of regulatory practice principles to guide environmental regulators. These principles will assist agencies to develop and apply regulation in an effective and accountable way and provide certainty to agencies across Australia applying similar regulatory approaches. Council noted the status of six pilot projects, begun in 2011, to help achieve consistent implementation and administration of environmental regulation across jurisdictions.

Review of the National Environment Protection Council Acts

The Council considered the report of the review of the National Environment Protection Acts. The review recognises the ongoing value of the Acts and associated National Environment Protection Measures and opportunities to streamline the administrative and decision making provisions of the Acts. The potential benefits in expanding the scope of the Acts to encompass a broader range of mechanisms for environment protection, such as setting environment performance standards for products and equipment, was noted by Ministers.

COAG Chemical Reform Agenda

Ministers agreed to the release of the Council of Australian Governments (COAG) Consultation Regulation Impact Statement on the management of chemical environmental risks. The Consultation Regulation Impact Statement outlines options for the development of a national standard-setting body to better manage the environmental risks from chemicals.

This is a major step towards implementing COAG's response to the Productivity Commission's 2008 research report on chemicals and plastics regulation. When implemented, these reforms will close a significant gap in the current arrangements for the environmental management of chemicals.

Air

Air quality in Australia is generally good, however a number of significant air quality challenges remain. Wood smoke emissions are a significant contributor to air pollution in a number of jurisdictions.

Ministers agreed to the release of a Consultation Regulation Impact Statement on reducing emissions from wood heaters. This Consultation Regulation Impact Statement explores options for a national policy and/or regulatory framework for reducing emissions from wood heaters and is an important element of the work program in the development of a National Plan for Clean Air.

Water

Council also agreed to release a Consultation Regulation Impact Statement on the potential regulation of water market intermediaries. The water market Consultation Regulation Impact Statement reviews options to manage the risk of any misconduct by intermediaries to the integrity of Australian water markets. The Consultation Regulation Impact Statement provides an opportunity for public input to the options under consideration. Ministers emphasised that a preferred approach has not yet been identified, but that a phased approach may be preferable and that stakeholder input is vital in testing the range of possible approaches. Comments are sought by 7 June 2013.

Council agreed to submit to COAG an enhanced water reform agenda, including a work plan for the next five years.

Record of Appreciation

Council expressed deep regret at the passing of Keiran McNamara, who recently stepped down as Director General of Western Australia's Department of Environment and Conservation. Mr McNamara contributed to environment and conservation ministerial council matters for more than two decades, making a real and positive difference to conservation in his home state and across the nation. Ministers extended their sincerest condolences to his family, friends and colleagues and were pleased to note the naming of a recently discovered Western Australian plant, *Cochlospermum macnamarae*, in acknowledgement of Mr McNamara's outstanding legacy.

Media contact: 02 6275 9880 or media@environment.gov.au