
**Trial
Centralised Biosolids
Storage Facility**

**Environmental Impact
Summary Report**

June 2004

Trial Centralised Biosolids Storage Facility

ENVIRONMENTAL IMPACT SUMMARY REPORT

**June 2004
C-S00026**

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REVISION STATUS

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Trial Centralised Biosolids Storage Facility

Environmental Impact Summary Report

1. Project Overview

1.1 Current Situation

The Water Corporation produces approximately 82 000 wet tonnes of biosolids (approx. 20% total solids) per year at three metropolitan wastewater treatment plants (WWTP's), located within the metropolitan area along the Swan Coastal Plain. Biosolids are the stabilised and dewatered solids produced from wastewater treatment processes.

Approximately 80% of the combined volume of biosolids produced at Beenyup and Woodman Point WWTP's are applied to agricultural properties for beneficial reuse as a fertiliser replacement for crop production. The benefits of applying biosolids to farmland include improved soil structure, increased soil moisture and nutrient retention capacity and the slow release of nutrients contained in biosolids.

Biosolids are continually produced and the WWTP's onsite storage capacity is limited to 24hrs continuous production, as a result the biosolids are transported directly to the beneficial reuse sites. Due to the seasonal nature of the WA agricultural cropping regime, biosolids delivered to farms between December and May can be spread immediately (prior to crop seeding). However biosolids delivered between June and November are stockpiled until they can be spread at the appropriate time of year. As a result, biosolids can be stored for up to eight (8) months in temporary stockpiles. These stockpiles have earthen walls but are not lined or covered.

Biosolids are applied in accordance with the Western Australian Guidelines for Direct Land Application of Biosolids and Biosolids Products (2002). Each application requires approval from the Department of Health (DoH) and the Department of Environment (DoE), in addition a DoE licence is required where applications exceed 1000t/paddock/year. The DoH and DoE must also approve each temporary biosolids stockpile that will be stored for longer than 30 days.

1.2 Project Need

The Western Australian Guidelines for Direct Land Application of Biosolids and Biosolids Products (2002), herein after referred to as the WA Guidelines; require strict controls for the storage of biosolids for periods longer than thirty (30) days. Biosolids that are stockpiled for more than thirty days are managed with control measures such as fencing and signage, stormwater management, bunding, lining, covering, monitoring and contingency planning. The controls are intended to manage vector attraction (flies), pathogen regrowth, and nutrient leaching.

In order to comply with the WA Guidelines the Water Corporation has determined that it will be necessary to construct the Centralised Biosolids Storage Facility (CBSF); a facility that is centrally positioned to the reuse locations to store biosolids not able to be carted directly to farms for immediate application, ie during the crop growing season.

1.3 Project Description

The proposed CBSF will have a capacity of approx. 36 000 wet tonnes. The biosolids will be contained in a series of above ground storage structures, each with a capacity of approx. two weeks production of biosolids (1400 wet tonnes). The structures will have impermeable floors and roofs and ventilated side walls to prevent odour generation. They will also be fully

sealed when closed to prevent potential fly breeding. See section 4.3 Vector Control for detail.

Biosolids will be transported to the facility for approximately 8 months of the year, typically between June and February. The biosolids will be delivered directly to reuse locations for the remainder of the year. The storage structures will be emptied annually, typically between March to May. This will allow for maintenance of the storage structures to be carried out during May and June.

1.4 Site Location

A site central to the agricultural reuse locations has been chosen at Gillingarra, approx. 160km NE of Perth CBD and 25km S of Moora, see Appendix 1, Figure 1. The site lies in the Shire of Victoria Plains.

The area chosen for the CBSF is part of a large property (approx. 8000ha) owned and managed by the Cocking family, known as “Annandale Farm”, freehold titled land. Access to the site is via Scholz Road, a gravel road, which is approximately 6 km off the Moora – Bindoon Rd.

The tenure of approx. 10ha has been negotiated with the Cockings’ for construction of this facility.

1.5 Scope of Works

Construction of the CBSF will occur in two stages:

- Stage 1: Trial Facility
- Stage 2: Full Scale Facility

A Trial Facility will be constructed and operated for an estimated 12 months to determine design parameters prior to the construction of a full scale CBSF. The trial facility will consist of two storage structures, with a combined storage capacity of approx. 1400 wet tonnes of biosolids, which equates to two weeks production. The storage structures will be filled, then sealed against potential fly breeding and monitored for fly breeding, leachate and odour generation, before unloading and directing the biosolids to farms for land application or temporary stockpile storage, depending on the time of year.

A plan of the trial facility is produced as Appendix 1, Figure 4 however it should be noted that the placement of the storage structures may change, depending on the best outcomes for the entomological study. The design will be finalised by July 2004.

The operation of the trial facility will address outcomes relating to:

- Construction design and material use;
- operation and management of the biosolids in the facility;
- fly breeding prevention and control;
- odour control and management; and
- leachate control.

The scope of works for the facility will consist of:

Stage 1:

- two storage structures (each 40m long x 12.8m wide);
- internal hardstand;
- gravel access road incorporating a site crossover from the paddock south perimeter road and a truck turnaround area;
- truck unloading/dump pad (concrete pad adjacent to Trial Facility); and
- temporary stock fencing;

Construction will not include establishment of permanent site infrastructure (access roads, fencing, site drainage and sewerage, power supply, lighting, water supply, wash down bay, and landscaping)

Stage 2:

The final design will be dependant on the outcomes of Stage 1, however the likely project scope may include:

- 36 buildings – parallel storage structures (total 2.7 ha);
- internal and external hardstand areas;
- access road from highway to site (approximately 6km);
- operations building (office and crib room);
- drinking/rainwater water tank;
- machinery shed;
- diesel re-fuelling station;
- truck wash facility;
- biosolids unloading areas (truck unloading/dump pads);
- clay lined storage/evaporation pond;
- water bore;
- pumping station;
- power generator;
- lighting;
- site fencing; and
- site perimeter landscaping (trees and shrubs);

1.6 Timing of the Works

The construction works of Stage 1 is planned to begin in August 2004 and will be completed in October 2004.

The final design of Stage 2 will depend on the outcomes of the trial facility. Construction will commence after the final design has been determined and capital funds are made available. Stage 2 is expected to begin in the 2005/2006 financial year.

2. Scope of Report

This Environmental Impact Summary Report will consider the Stage 1: Trial Facility only.

The report was prepared to provide detailed information regarding the project and address any potential environmental impacts associated with the construction and operation of the facility.

A two phase Environmental Risk Assessment (ERA) was prepared for this project in accordance with the Water Corporation's Environmental Risk Assessment Package. Phase 1 considered the environmental impacts listed in Part 2 of the *Environmental Approvals form to the EPA* to determine the potential risks relevant to the construction and operation of the CSBF (considered separately as a trial stage and a full scale stage). Phase 2 provided a comprehensive assessment of the potential risks (likelihood and consequences) in Phase 1. The full risk assessment is included as Appendix 2.

The risk associated with each activity is included where relevant throughout this document. The Environmental Risk Assessment is known as the ERA forthwith.

3. The Existing Environment

3.1 Site Description

The site chosen for the proposed facility is located approx. 700m to the east of Scholz Rd along a main access track within Annandale Farm. See Appendix 1, Figure 2.

The site is positioned on a relatively flat area at the top of a ridge. The ground slopes gently to the north and west before land breaks into a deeply dissected gully formation. An ephemeral creek runs west–northeast approx. 400m to the north of the site. Overland flow lines through the gullies transport runoff to the creek during periods of heavy rainfall. The buffer between the ephemeral creek and the facility boundary is approx. 350m and the top of the breakaway formation at its closest point and the facility boundary is approx. 150m. See Appendix 1, Figure 3 for more detail.

Two residences on Annandale farm are located 2.7km SSE and 3.7km NE from the facility and are occupied by members of the Cocking family who operate Annandale farm. The next closest residence is approximately 3.5km to the west of the facility and is occupied by Mr McPherson. Proximity of residences to the site can be seen on Appendix 1, Figure 2.

3.2 Flora

The site forms part of a large property that has a long history of crop production and livestock grazing. The immediate area for the proposed facility is totally devoid of native vegetation and consists of short pasture grasses and closely spaced laterite caprock boulders.

A gully formation located to the north and the west of the facility contains remnant overstorey species, including scattered to moderate trees of *Eucalyptus drummondii* and *E.wandoo* over scattered shrubs of *Hakea lissocarpha* and *Dyrandra* species. The understorey has been extensively grazed and consists of improved pasture grasses.

The buffer from the perimeter of the site to the nearest point of this gully is approx.150m. The ERA identified any environmental impacts to flora in the gully as a result of the CBSF's activities as being *low*. See Appendix 2 for full ERA.

3.3 Fauna

The site is disturbed and does not provide shelter or a unique food source for fauna. The facility will be rectangular in shape and the boundary fenced to exclude livestock. The Trial Facility will not interfere with any native wildlife movement corridors.

3.4 Surface Water

An ephemeral creek runs west–northeast approximately 350m to the north of the site. See section 4.1: Site Drainage and Runoff Management for more details.

The risk of the Trial Facility impacting on the creek is *low* according to the ERA.

3.5 Water Supply

There will be a requirement for a small amount of water during construction for general activities. This will be less than 200kL and will be provided via a water tanker.

The site operator will also have a small volume available for personal use, such as hand washing. Biosolids transport trucks carry a supply of 200L.

4. Environmental Management of Construction and Operations

This section provides information regarding the construction and operation of the Trial Facility. Permanent infrastructure will be constructed for the full scale facility.

All Contractors for both the construction and operation of the site, including the transport of biosolids to the site, will undergo a site induction that outlines all environmental commitments related to the construction, to assist them in achieving effective environmental management.

The induction will address:

- **Environmental objectives** that describe broadly what is intended to be achieved for each environmental issue.
- **Contractor's responsibilities** that outline the action that will be taken by the Contractor to achieve the environmental objectives and give effect to environmental conditions and commitments.
- **Water Corporation responsibilities** for the implementation of environmental commitments as defined in the Corporation's policy and Corporate Environmental Management System.
- **Specifications** that provide a technical description of the activities required under the contract to ensure all Contractor responsibilities are met.

4.1 Site Drainage and Runoff Management

4.1.1 Rainfall

Rainfall captured on the storage structures will be dispersed on the ground downhill away from buildings. Overland flow from this source is not expected to cause erosion due to the very stable nature of the existing gravel soils.

4.1.2 Truck and Machinery Washdown

There will be a relatively small number of truck movements during the trial, thus it is not intended to make any special provisions for washing vehicles.

Following the current practice, trucks will unload the biosolids then replace the covers over the empty trailer. The tailgate and tyres are brushed down at the delivery site. The brushing down will be carried out over the unloading pad and collected by the Front End Loader (FEL) as it moves the biosolids to the storage structures.

Clumps of biosolids will be removed from the FEL before it leaves site. As with the delivery trucks, this can be brushed off rather than washed down.

4.1.3 Leachate Control

There are three potential sources of contaminated runoff (leachate) to surface runoff or to the soil and/or groundwater identified:

1. Under the biosolids stockpiles in the storage structures;
2. Biosolids unloading pad; and
3. Areas other than the above that biosolids may be accidentally spilt during transit.

The Trial Facility will be designed and operated to minimise/exclude contaminated runoff from these sources via the following management practices:

-
- Source 1: Leachate monitoring devices will be installed to monitor material used on the storage structure floor for impermeability and durability as part of the objective of this trial.

It is expected that the floors will be impermeable, preventing leachate moving into soil profile and groundwater. The roof structures will also be impermeable, preventing contaminated surface runoff from the biosolids.

- Source 2: Biosolids will be removed from the unloading pad immediately after delivery and biosolids cleaned off the pad as much as possible. This will minimise the potential for fly strike and contaminated runoff, thus is not expected to be a source of biosolids contamination.
- Source 3: Biosolids spilt during transit will be attended to as per the Water Corporation's Transportation Contingency Plan, which involves tidying up quickly as part of the facility's general housekeeping.

4.2 Odour

The walls of the storage structures will be constructed of shadecloth, or similarly woven fabric that will allow the circulation of air to prevent the generation of odours. The weave of the fabric will be small enough not to allow flies to pass through.

Anecdotal evidence from temporary stockpiles suggests that odours are generally only created when biosolids are disturbed; ie during loading, unloading, or spreading.

The Water Corporation has engaged consultants to model potential odour issues as part of the preliminary design works. Odour dispersion was modelled using Ausplume, a standard air quality dispersion model. The model was run based on:

- The full scale facility;
- 12 months of meteorological data;
- an emission value of 20 ODU/sec/m² for disturbed biosolids¹; and
- an emission value of 2 ODU/sec/m² for undisturbed biosolids¹.

The model determined that in the worst case scenario of odours from disturbed sludge, odours emitted from the **Full-Scale** CBSF would be noticeable for a total of 44hrs per year at a distance of 750m (GHD, Feb 2002). As a result, a buffer zone of 700m was recommended, in view of the fact that the solids as received will create far less odour than disturbed lagoon sludge. The closest residence to the facility is 2.7km SSE.

The Water Corporation will undertake odour monitoring as part of the assessment of the Trial Facility.

4.3 Vector Control

The storage structures will be sealed to prevent flies entering or leaving the structure. Fly breeding will be controlled through the storage of biosolids in these structures during the high risk months of October – February. The biosolids will be spread immediately after delivery to properties from March to May. Once spread, the biosolids will quickly desiccate to a moisture level that does not support fly breeding.

The Water Corporation has engaged leading Entomologist, Dr Ian Dadour, to undertake a comprehensive monitoring program during the trial period evaluating the effectiveness of the storage structures in preventing fly breeding over a range of conditions.

¹ Odour emission values were based on previous studies carried out by GHD at Albany and Mandurah Wastewater Treatment Plants

4.4 Dust and Particulates

Dust generated during the construction of the facility will be managed with standard dust control measures.

During operation, dust may arise from the gravel road leading into the CBSF, however there will be a relatively small number of trucks movements during the trial. As the site is remote; the closest residence is approx 2.7km to the SSE, and surrounding land use practices such as ploughing, the risk of impact was identified in the ERA as *low*.

Biosolids contain approx.80% moisture, therefore there is no dust arising from biosolids loading and unloading.

4.5 Noise and Vibration

Noise may be generated by heavy machinery during construction and by biosolids haulage trucks and earthmoving machinery during the facility operation. Given the proximity of the nearest residence, noise generation is not considered to be an issue during construction.

4.6 Traffic Movements

The storage structures will be loaded and unloaded with fresh biosolids on a number of occasions throughout the trial period to provide a comprehensive evaluation of the trial objectives. The biosolids removed from the trial facility will be delivered to properties currently approved for a biosolids application.

The total estimated number of truck movements over the trial period will be 12 movements per month for six months, ie 72 movements. Given the high number of heavy haulage trucks that frequent this area, it is not expected that the additional truck movements to this site will have a noticeable impact on the local road conditions.

4.7 Waste Disposal Management

Waste material generated during the construction of the facility will be disposed of in an appropriate manner by the Contractor.

There is also a contractual obligation of the biosolids transport drivers to remove any rubbish they may inadvertently drop onsite. To date, the drivers have met this obligation. There will be a similar obligation with the operator of the Trial Facility.

5. Social Surroundings

5.1 Aboriginal Heritage and Native Title

The two tribes of Aboriginal peoples that identify with the area are the Yued and Ballardong People.

As part of the preliminary design works, external consultants have conducted desktop search of the Department of Indigenous Affairs database for registered Aboriginal heritage sites for Victoria Plains. The search indicates that there are no identified sites in the vicinity of the CBSF. This report has been included as Appendix 3. Furthermore, no sites were located during the field inspection.

The Water Corporation is currently seeking further advice from the Southwest Aboriginal Land and Sea Council (legal representatives for the Yued Aboriginal Group). Preliminary discussions with this group indicate that the area is not significant to the Yued People.

Native Title is extinguished in accordance with the Native Title Act at the CBSF site as Annandale Farm is freehold titled land.

5.2 European Heritage

The preliminary design works also consisted of a desktop search of the ethnographic and archaeological databases provided by the Heritage Council of WA and the Commonwealth Department of Heritage. The search confirmed that there are no heritage sites at a Commonwealth, State or Local Government level situated within the Shire of Victoria Plains in the vicinity of the CBSF site. The report has been included as Appendix 4.

6. Community and Stakeholder Consultation

Methods of community consultation that have been and will be used include (but are not limited to):

- Meetings with key agencies;
- Mail out of information to stakeholders and all affected and adjacent residents;
- One-to-one consultations with affected landowners;
- Advertising the “Notice of Proposal” in the West Australian and local newspapers, providing project details and a process for comments and/or objections; and
- Advertising and news articles in the local newspaper;

Community consultation conducted to date is outlined in Appendix 5.

Approval for construction and operation of the Trial CBSF has been sought from the Department of Health. Approval was granted in the form of a letter from a delegate of the Executive Director for Public Health, dated 23 November 2003 and has been included in Appendix 5.

Approval was also sought from the Department of Environment to store biosolids for greater than 30 days as part of the Trial CBSF. Approval was also granted by the A/Director of the Pollution Prevention Division on 24 November 2003. A copy of this letter has also been included in Appendix 5.

7. Other Relevant Reports and Guidelines

GHD (2003) *Preliminary Design Report – Centralised Biosolids Storage Facility*. Report prepared for the Water Corporation.

GHD (2003) *Trial Biosolids Storage – Gillingarra Centralised Biosolids Storage Facility*. Report prepared for the Water Corporation.

GHD (2004) *Trial Biosolids Storage – Centralised Biosolids Storage Facilities: Report on Peer Review*. Report prepared for the Water Corporation.

WA DEP (Department of Environmental Protection), February 2002, *Interim Guidelines for Direct Land Application of Biosolids and Biosolids products*, Department of Environmental Protection

8. Appendices

Appendix 1: Locality Maps

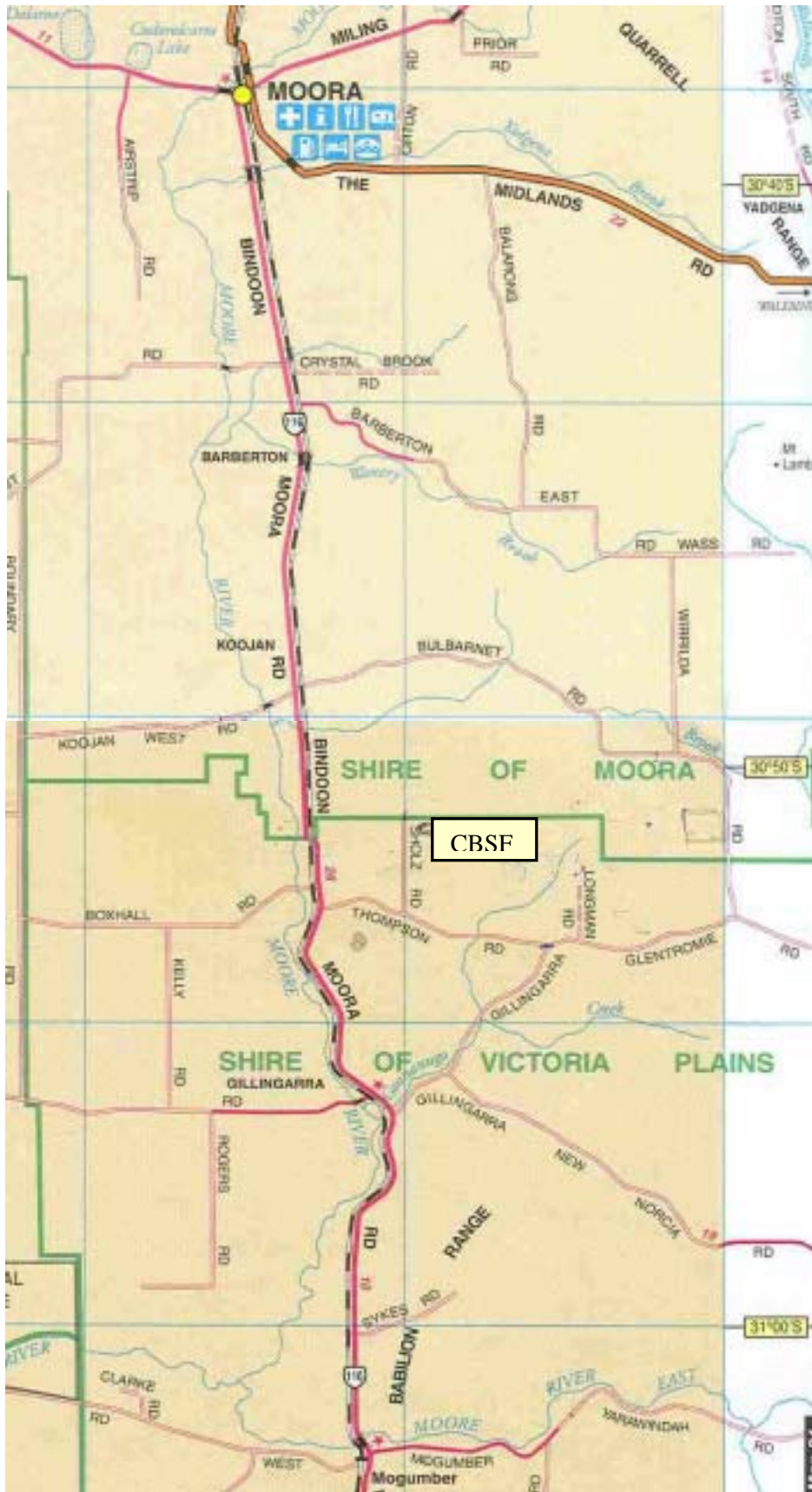


Figure 1: Broad Scale Locality Plan

Source: The West Australian Travellers Atlas, Edition 3

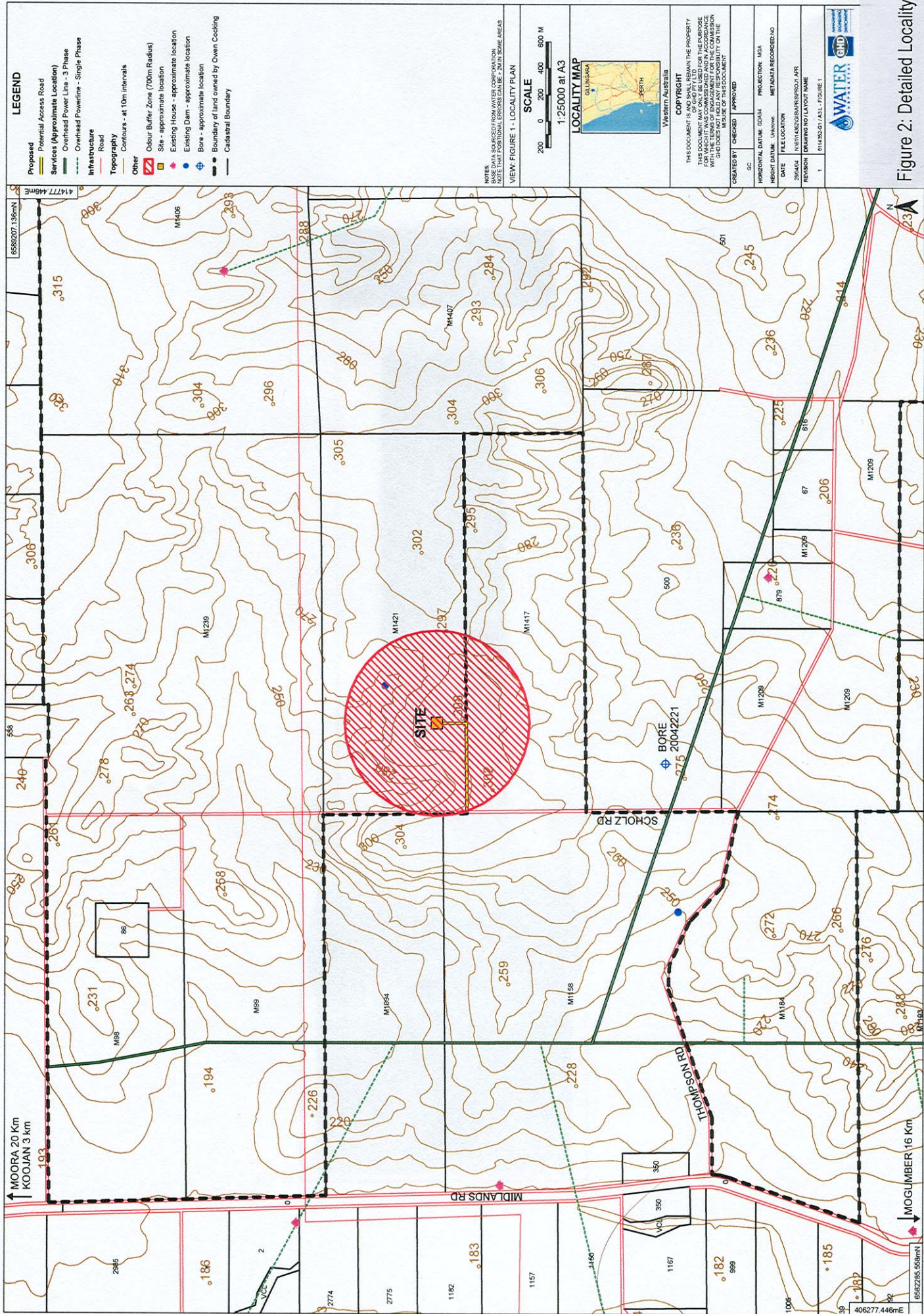


Figure 2: Detailed Locality Plan



Photo 1: Site Proposed for CBSF – looking North West



Photo 2: Site Proposed for CBSF – looking North East



Photo 3: Site Proposed for CBSF

Figure 5: Photos of Site

Appendix 2: CBSF Environmental Risk Assessment

REVIEW OF ENVIRONMENTAL ASPECTS & IMPACTS CENTRALISED BIOSOLIDS STORAGE FACILITY April 2004

Prepared by: Vanessa Metham, Rod Brooks

Background:

Environment: means living things, their physical, biological and social surroundings, and interactions between all of these.

Environmental Protection Act 1986

The Centralised Biosolids Storage Facility (CBSF) will complement the Water Corporation's Biosolids Management Program in providing a sustainable, robust management practice for the direct land application of biosolids.

The facility will provide adequate storage for dewatered biosolids cake during the times of the year that it cannot be carted directly to the farms for immediate application to land.

The facility will be constructed in two stages; a trial facility that will be operated for approximately 12 months and a full scale facility, whose final design will depend on the outcomes of the trial.

Aims

- *Phase 1:* To complete an initial review of the Environmental Impacts listed in the Environmental Approvals form to determine the potential risks relevant to the construction and operation of the CSBF (considered as a trial stage and a full scale stage);
- *Phase 2:* To complete a detailed review of the construction and operation of the Trial Facility, i.e. activities, products and services, the aspects of these that currently (or could) impact on the environment and the potential impact(s).
- To apply a risk assessment to understand the likelihood and consequence of the impacts.

Objective

- An agreed, prioritised list of issues that have the potential to impact on the environment.

Method

Significant Aspects:

- Review list of activities, products and services;
- Review environmental aspects and impacts;
- Review risk assessments;
- Confirm significant aspects for Division Register;

Risk Treatment Measures:

- Identify options for treatment of priority risks (eg. new contingency plans, work instructions, capital works, operating procedures)
- Assess options in terms of costs and benefits;

Actions:

- Decide on the top priorities
- Document improvement actions.

Key Reference Documents

- Procedure BWW031 Environmental Management
- Procedure BWW 010 – Effluent and Biosolids Reuse and Disposal (and work instructions)
- Corporate EMS Standards
- Western Australia Guidelines For Direct Land Application Of Biosolids And Biosolids Products 2002

Phase 1: Review of Environmental Impacts listed in EPA Environmental Approvals

Centralised Biosolids Storage Facility																					
Phase 1 - Identify the risks																					
Activity	Environmental Considerations																				
	Flora and Vegetation	Fauna	River, creeks, wetlands and estuaries	Significant areas and/ or land features	Coastal zone areas	Marine areas and biota	Water supply	Pollution													
								Drainage catchment surface water and soil	Drainage catchment leachate to groundwater	Odour	Noise	Dust	Vibration	Gaseous Emissions	Solid Waste	Vector Attractiveness	Greenhouse gas emissions	Contamination to groundwater from previous land use practices	Contamination to soil from previous land use practices	Social surroundings	
Construction of Trial Facility											•	•			•						
Operation of Trial Facility								•	•	•	•	•				•					
Construction of Full-scale Facility											•	•			•						
Operation of Full-scale Facility								•	•	•	•	•				•					

Phase 2: Risk Assessment Process

Table 1: Severity of Consequence

Consequence	Descriptor	Ecological	Social	Political	Legal
1	Insignificant	Minimal effect on the receiving environment	Minimal effect or disruption to community access	Little or no community/media interest	Unlikely to be of interest to Regulators
2	Minor	Short-term effect only, to limited area	Disruption to community access	Minor community interest. Perhaps special interest group attention.	Requires routine incident report to Regulators.
3	Severe	Medium term effect or large area effected.	Increased potential for additional disruption of public access.	Rising community concern and local action, increasing media interest.	Breach of license, or legal infringement. Fine(s) possible.
4	Major	Extensive and significant effect on receiving environment.	Extensive disruption to public access	High community concern, broad media interest, loss of community confidence and political action	Regulators involved in incident response, high level discussions on repercussions, large fine.
5	Catastrophic	Extensive, significant effect with long term effect on receiving environment	Long term, extensive effect on community access.	Public furor and investigations. National action. Ongoing national/international media interest.	Possible court action resulting in large fine and/or gaol.

Table 2: Likelihood (actual and/or potential) of an event

Likelihood	Descriptor	Description
A	Almost certain	The event is expected to occur in most circumstances
B	Likely	The event will probably occur in most circumstances
C	Moderate	The event should occur at some time
D	Unlikely	The event could occur at some time
E	Rare	The event may occur only in exceptional circumstances

Factors to consider: A range of factors will affect the likelihood or a particular event/aspect occurring. These factors must be considered to ensure that likelihood is appropriately assessed. Factors include: Age/condition of asset, adequacy of monitoring, adequacy of maintenance, adequacy of operating procedures and appropriateness of practices, expertise of staff, third party influence or access, climate & time of year.

Table 3: Determining Risk Exposure

Likelihood	Consequence				
	1 (Insignificant)	2 (minor)	3 (Moderate)	4 (Major)	5 (Catastrophic)
A (Almost certain)	High	High	Extreme	Extreme	Extreme
B (Likely)	Moderate	High	High	Extreme	Extreme
C (Moderate)	Low	Moderate	High	Extreme	Extreme
D (Unlikely)	Low	Low	Moderate	High	Extreme
E (Rare)	Low	Low	Moderate	High	High

Table 4: Risk Management

Extreme	Immediate operational action is required and emergency response plans may be required.
High	Measures to mitigate risks should be implemented as soon as possible.
Moderate	Planning to identify risk mitigation measures should be undertaken as soon as possible
Low	Maintain operational controls, monitoring and reporting

1 Risk Assessment

Activity, Product or Service	Environmental aspect/consideration (issue)	Environmental impacts	Consequence (C) 1 = insignificant 5 = catastrophic				Likelihood A=almost certain E=rare			Risk rating S,H, M,L	Comments/Control Measures			
			Ecology	Social	Political	Legal	N	A	E					
Operation of Trial Facility														
Construction of Trial Facility	Noise	Disruption to local community	1	1	1	1	E			1	E	L		
	Dust	Disruption to local community	1	1	1	1	E			1	E	L		
	Solid Waste – incorrect disposal of overburden	<ul style="list-style-type: none"> Poor visual amenity Sedimentation of waterways 	1	1	1	1	E			1	E	L		
Operation of Trial Facility														
Truck and FEL Movements	Potential spillage of biosolids during transport	Pollution of surface water	1	1	1	1	E			1	E	L	Control Measures: <ul style="list-style-type: none"> Additional safety measures on transport trucks, inc. sealed tailgates, locking mechanisms, covering loads. All drivers familiar with WC's Transportation Contingency Plan 	
		Pollution of groundwater	1	1	1	1	E			1	E	L		
		Soil contamination	1	1	1	1	E			1	E	L		
	Spillage of biosolids clumps at facility outside unloading area	Fly strike (vector activeness)	1	2	1	1	E				2	E	L	Control Measures: <ul style="list-style-type: none"> Research into reducing vector attraction Work Instruction relating to TCP, public health when handling biosolids Facility well signposted and fenced
		Public health	1	1	1	1	E				2	E	L	
		Poor visual amenity	1	1	1	1	E				2	E	L	
Contaminated run-off during vehicle washdown	Ponding of polluted water	2	1	1	1	E				2	E	L	Control Measures: <ul style="list-style-type: none"> Truck will be managed using the same procedure currently used Where required, max. vol of 200L will be used. 	
	Eutrophication/pollution of waterways	1	1	1	1	E				2	E	L		
Odour during unloading (1/2hr)	Disruption to local community	1	1	1	1	E				1	E	L	Control Measures: <ul style="list-style-type: none"> Buffer to neighbours house >2km 	
	Noise	Disruption to local community	1	1	1	1	E			1	E	L		

Activity, Product or Service	Environmental aspect/consideration (issue)	Environmental impacts	Consequence (C) 1 = insignificant 5 = catastrophic				Likelihood A=almost certain E=rare			Risk rating S,H, M,L	Comments/ Control Measures	
			Ecology	Social	Political	Legal	N	A	E			C
	Dust from road into facility	Disruption to local community	1	1	1	1	1	E	1	E	L	
	Dried wind blown biosolids during unloading	Potential threat to human health by exposure to pathogens	1	1	1	1	1	E	1	E	L	Control Measures: • Biosolids Approx. 75% moisture (risk would be greater with dry biosolids)
Storage												
	Odours	Disruption to local community	1	1	1	1	1	E	1	E	L	Control Measures: • Buffer from neighbours residence >2km • Biosolids will be stored in ventilated structures, preventing build up of odours (risk would be greater w/out controls)
	Vector attraction of biosolids – Working shadehouse	Fly strike, resulting in: • Public nuisance • Livestock disturbance	1	1	1	1	1	E	1	E	L	Control Measures: • Buffer from neighbours residence >2km • Biosolids will be stored in sealed structures (trial) • WC's biosolids contingency for fly strike
	Vector attraction of biosolids – Failure of shadehouse	Fly strike, resulting in: • Public nuisance • Livestock disturbance	3	2	2	3	E		3	D	M	Greatest risk Oct-March when flies are active Control Measures: • Trailing biosolids covers • WC's biosolids contingency for fly strike
	Leachate from under stockpile	• Pollution of surface water • Pollution of groundwater • Soil contamination	1	1	1	1	E	E	1	E	L	Control Measures: • Facility will trial two types of flooring for impermeability and durability • Biosolids will be covered, thus no surface runoff from stockpile

Activity, Product or Service	Environmental aspect/ consideration (issue)	Environmental impacts	Consequence (C) 1 = insignificant 5 = catastrophic				Likelihood A=almost certain E=rare				Risk rating S,H, M,L	Comments/ Control Measures	
			Ecology	Social	Political	Legal	N	A	E	C			L
Site Drainage Management	Disposal of uncontaminated drainage water on-site	<ul style="list-style-type: none"> • Soil Erosion • Sedimentation of waterways 	1	1	1	1	E						
			1	1	1	1	E			1	E	L	
	Disposal of contaminated drainage water on-site	Eutrophication/ pollution of waterways	1	1	1	1	E			1	E	L	Control Measures: <ul style="list-style-type: none"> • Spills outside unloading area will be managed as per SMP • Unloading area will be kept clean and tidy when not unloading biosolids • Buffer to water ways >150m
Site Use And Management	Visual amenity	<ul style="list-style-type: none"> • Poor aesthetics 	1	1	1	1	E						
	Fence integrity	<ul style="list-style-type: none"> • Public safety 	1	1	1	1	E						
	Weed infestation	<ul style="list-style-type: none"> • Detrimental impacts on flora and landuse 	2	1	1	2	E			2	E	L	Control Measures: <ul style="list-style-type: none"> • Facility included in the Weed Management Program for WWTB
	Fire resulting from Facility activities	<ul style="list-style-type: none"> • Destruction of native habitats, flora and fauna • Destruction of adjacent pasture / crops • Stock loss 	1	2	1	1	E			2	E	L	Control Measures: <ul style="list-style-type: none"> • Water for fire fighting available onsite

2 Issues ranked

2.1 Extreme

nil

2.2 High

nil

2.3 Moderate

Operation of Trial Facility

2.3.1 *Storage: Vector attraction of biosolids – Failure of shade house. Fly strike, resulting in: Public nuisance, Livestock disturbance.*

Greatest risk Oct-March when flies are active.

Control Measures:

- Trailing biosolids covers.
- WC's biosolids contingency for fly strike

2.4 Low

2.4.1 *Construction of Trial Facility: Noise: Disruption to local community*

2.4.2 *Construction of Trial Facility: Dust: Disruption to local community*

2.4.3 *Construction of Trial Facility: Solid Waste: incorrect disposal of overburden. Poor visual amenity. Sedimentation of waterways*

Operation of Trial Facility:

2.4.4 *Truck and FEL Movements: Potential spillage of biosolids during transport. Pollution of surface water, pollution of groundwater, soil contamination.*

Control Measures:

- Additional safety measures on transport trucks, inc. sealed tailgates, locking mechanisms, covering loads.
- All drivers familiar with WC's Spillage Management Plan (SMP)

2.4.5 *Truck and FEL Movements: Spillage of biosolids clumps at facility outside unloading area. Fly strike, public health, poor visual amenity.*

Control Measures:

- Research into reducing vector attraction
- Work Instruction relating to SMP, public health when handling biosolids
- Facility well signposted and fenced

2.4.6 *Truck and FEL Movements: Contaminated run-off during vehicle washdown. Ponding of polluted water, eutrophication / pollution of waterways.*

Control Measures:

- Truck will be managed using the same procedure currently used
- Where required, max. vol of 200L will be used. Truck and FEL Movements:

2.4.7 *Truck and FEL Movements: Odour during unloading (1/2hr). Disruption to local community.*

Control Measures:

- Buffer to neighbours house >2km

2.4.8 *Truck and FEL Movements: Noise. Disruption to local community.*

Control Measures:

- Buffer to neighbours house >2km

2.4.9 *Truck and FEL Movements*: Dust from road into facility

2.4.10 *Truck and FEL Movements*: Dried wind blown biosolids during unloading.

Control Measures:

- Biosolids Approx. 75% moisture (risk would be greater with dry biosolids)

2.4.11 *Storage*: Odours. Disruption to local community.

Control Measures:

- Buffer from neighbours residence >2km
- Biosolids will be stored in ventilated structures, preventing build up of odours
- (risk would be greater w/out controls)

2.4.12 *Storage*: Vector attraction of biosolids – working shadehouse. Fly strike, resulting in: public nuisance; livestock disturbance.

Control Measures:

- Buffer from neighbours residence >2km
- Biosolids will be stored in sealed structures (trial)
- WC's biosolids contingency for fly strike.

2.4.13 *Storage*: Leachate from under stockpile. Pollution of surface water, pollution of groundwater, soil contamination.

Control Measures:

- Additional safety measures on transport trucks, inc. sealed tailgates, locking mechanisms, covering loads.
- All drivers familiar with WC's Spillage Management Plan (SMP)

2.4.14 *Storage*: Site drainage management. Disposal of uncontaminated drainage water on site. Soil erosion, sedimentation of waterways.

2.4.15 *Storage*: Site drainage management. Disposal of contaminated drainage water on site. Eutrophication / pollution of waterways.

Control Measures:

- Spills outside unloading area will be managed as per SMP
- Unloading area will be kept clean and tidy when not unloading biosolids
- Buffer to water ways >150m

2.4.16 *Site use and management*. Visual amenity. Poor aesthetics

2.4.17 *Site use and management*. Fence integrity. Public safety

2.4.18 *Site use and management*. Weed infestation. Detrimental impacts on flora and land use.

Control Measures:

- Facility included in the Weed Management Program for WWTB

2.4.19 *Site use and management*. Fence integrity. Fire resulting from facility activities.

Destruction of native habitats flora and fauna. Destruction of adjacent pasture / crops, stock loss.

Control Measures:

- Water for firefighting available on site.

**Appendix 3: Register of Aboriginal Sites in the Victoria
Plains LGA**



Register of Aboriginal Sites

Report run on: April 26, 2002 11:23 AM

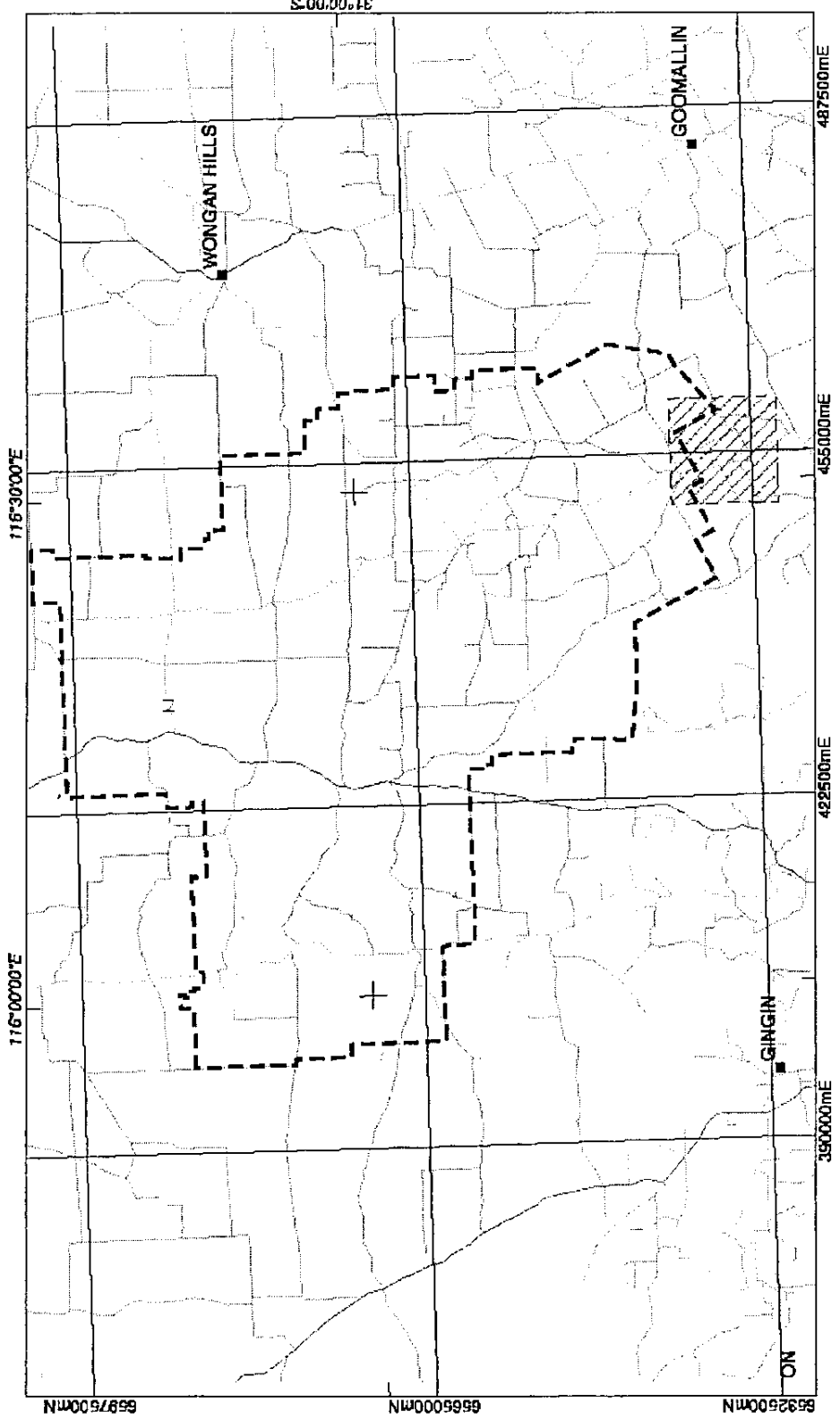
Reference No: IQ-RPGSR-25631#

Selection Criteria		Legend	
Query By Theme	Theme Type: Sites Within a LGA Area	Status	Site Types
Parameter: VICTORIA PLAINS	2 Site Records Found	I Interim Register	C Ceremonial
		P Permanent Register	RP Repository / cache
		S Stored Data	S Man-Made Structure
		Restriction	T Modified Tree
		F Female Access Only	E Engraving
		M Male Access Only	ART Artefact
		N No Gender Restrictions	HIST Historical
		Access	Reliability
		C Closed	R Reliable
		O Open	U Unreliable
		V Vulnerable	
			M Mythological
			BUR Skeletal material/Burial
			F Fish Trap
			P Painting
			Q Quarry
			MD Midden / Scatter
			G Grinding patches / grooves

Map coordinates (Latitude / Easting & Longitude / Northing) are based on the GDA94 datum. Coordinates are indicative locations and may not necessarily represent the true centre of sites, especially if access to specific site information is tagged as "Closed" or "Vulnerable". The metric grid on Site Search Maps are for a specific MGA zone, and does not cater for MGA metric coordinates for a different MGA zone.

Site Id	Status	Access	Restriction	Latitude / Easting	Longitude / Northing	Reliability	Site Type	Site Name	Informants	Site No
4048	I	O	N	31°19'2"S 116°31'43"E	U	U	M	WATTENING-BOLGART		S01351
5882	I	O	N	455140 mE 6535149 mN	30°50'0"S 116°17'44"E	U	S	PIAWANNING		S00140
				432639 mE 6588650 mN						

Site Search Map



31°00'00"S

**Appendix 4: Register of European Heritage Sites in the
Victoria Plains LGA**

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LOCATION REPORT
SAVE DATA

WHAT IS THE REGISTER
HOW ARE PLACES NOMINATED
ASSESSMENT PROCESS
IMPLICATIONS OF REGISTRATION

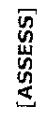
HELP

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Navigate: [1-50][51-100][101-150][151-197]

- Essex (12895) Essex Rd, Piawaning
- Eucalyptus Oil Distillery (12996) Piawaning
- Fairlawn, Dalmeny Downs (12925) Mogumber-Yarawindah Rd, Yarawindah
- Farm Levy banks (13010) Yerecoin-Wongan Hills Rd, Yerecoin
- Ferguson's Place (12972) Carani
- Flour Mill (2623) Great Northern Hwy, New Norcia
- Footbridge (12983) Marbro
- Fowler's (fmr) (12906) Carani West Rd, Carani
- Gangers house (post office & telephone exchange) (12924) Lot 6 Landon St, Wyening
- George Skilling's shearing shed (12942) Yerecoin
- Gillingarra School (12909) Gillingarra
- Gillingarra PO & Telephone Exchange (12867) Gillingarra
- Gillingarra Recreation Hall (12911) Moora Rd, Gillingarra
- Gillingarra Siding & goods shed (12908) Gillingarra
- Glentromie Cemetery (fmr) (12872) Great Northern Hwy, New Norcia

<input type="checkbox"/>	Victoria Plains Road Board Office (2616)	19 Cavell St, Calingiri
<input type="checkbox"/>	Victoria Plains Rural Service (12936)	Lot 29 Bindi Bindi - Yerecoin Rd, Yerecoin
<input type="checkbox"/>	Victoria Plains School (fmr) (12855)	Great Northern Hwy, Yarawindah
<input type="checkbox"/>	Victoria Plains War Memorial (12863)	Cnr Railway & Yulgering Rds, Calingiri
<input type="checkbox"/>	Waddington 'Ballroom' (ruins) (12852)	Great Northern Hwy, Waddington
<input type="checkbox"/>	Waddington Graves (12986)	Waddington
<input type="checkbox"/>	Waddington Oval, Hall & Racecourse (12987)	Waddington
<input type="checkbox"/>	Washpool Farm (12899)	Calingiri
<input type="checkbox"/>	Washpool Well (12865)	Calingiri
<input type="checkbox"/>	Waterloo homestead (12981)	Great Northern Hwy, Waterloo
<input type="checkbox"/>	Waters house (fmr) (12932)	Lot 6 Bindi Bindi - Yerecoin Rd, Yerecoin
<input type="checkbox"/>	Wicklow ruins & pumping pool (12913)	Gillingarra
<input type="checkbox"/>	Wyening Mission Group (fmr) (2968)	Behanging Rd, Wyening (approx 14 km north of Bolgart)
<input type="checkbox"/>	Wyening Mission House (2617)	South Rd, Wyening
<input type="checkbox"/>	Wyening Racecourse (12998)	Wyening
<input type="checkbox"/>	Wyening Reserve (13000)	Wyening
<input type="checkbox"/>	Wyening School (12997)	Fordham Rd, Wyening
<input type="checkbox"/>	Wyening Siding (12999)	Wyening
<input type="checkbox"/>	Wyngarry (12904)	Calingiri
<input type="checkbox"/>	Yelland's Butcher shop & house (fmr) (12897)	Lot 30 Cavell St, Calingiri
<input type="checkbox"/>	Yerecoin Bakery & residence (fmr) (12933)	Lot 12 Toodyay-Bindi Bindi Rd, Yerecoin
<input type="checkbox"/>	Yerecoin Farm & Fuel Supplies (12930)	Yerecoin
<input type="checkbox"/>	Yerecoin Football field (13006)	Yerecoin
<input type="checkbox"/>	Yerecoin Golf Club & course (12940)	Yerecoin



[REG]



[ASSESS]

- Monastery (2916)** *Great Northern Hwy, New Norcia*
- Moore River East Branch Road Bridge (15399)** *Gt Northern Hwy, Victoria Plains*
- Mrs Mac's Cottage (12880)** *Lot 92 George St, Bolgart*
- Mt Marie Homestead (12916)** *Mogumber-Yarawindah Rd, Mogumber*
- Mt Mary Homestead (12868)** *Mogumber-Yarawindah Rd, Mogumber*
- Murphys, Dalmeny Downs (12926)** *Mogumber-Yarawindah Rd, Yarawindah*
- Murphys, Dalmeny Downs (13002)** *Mogumber-Yarawindah Rd, Yarawindah*
- Museum & Art Gallery (4133)** *Gt Northern Hwy, New Norcia*
- New Convent (4131)** *Gt Northern Hwy, New Norcia*
- New Norcia Aboriginal Cottage (3504)** *Great Northern Hwy, New Norcia*
- New Norcia Court House (3502)** *Great Northern Hwy, New Norcia*

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Navigate: [1-50][51-100][101-150][151-197]



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- New Norcia Hotel and Quarters (3507) Great Northern Hwy, New Norcia
- New Norcia Police Station (4146) Gt Northern Hwy, New Norcia
- New Norcia Post & Telegraph Office (3509) Great Northern Hwy, New Norcia
- New Norcia Trading Post (3508) Great Northern Hwy, New Norcia
- Newington Park (12941) Skilling Rd, Yerecoin
- Nooda Shed (12923) Piawaning
- Noondagoonda Cemetery (9203) Gt Northern Hwy, New Norcia
- Old Convent (4135) Gt Northern Hwy, New Norcia
- Old New Norcia Police Station (3503) Great Northern Hwy, New Norcia
- Old Plains Road (12954) Old Plains Rd, Bolgart
- Olive Press and Carpenters Shop (4145) Gt Northern Hwy, New Norcia
- Opal Mine (12968) 2.5 k W of Toodyay-Bindi Bindi Rd NW of, Calingiri
- Opie's house, garage, store & power house (fmr) (12864) Lot 25 Yulgering Rd Cnr Cavell St, Calingiri
- Original Bolgart Golf Course (12948) Bolgart
- Original Bolgart Townsite Precinct (12856) Bolgart

- Smiths Store (12945)**
Cnr Albert & George St, Bolgart
- Sonny Burk's Cottage (12953)**
near Solomon's Well, Bolgart
- Southview (12871)**
Great Northern Hwy, New Norcia
- St Ansolum's Catholic Church (12890)**
Lot 31 Cavell St, Calingiri
- St Augustine of Canterbury Anglican Church (12848)**
George St, Bolgart
- St Benedicts Church (12939)**
Wongan Hills-Yerecoin Rd, Yerecoin
- St Gertrude's College (4141)**
Gt Northern Hwy, New Norcia
- St Gertrude's Group (4139)**
Gt Northern Hwy, New Norcia
- St Ildephonsus College (4138)**
Gt Northern Hwy, New Norcia
- St Ildephonsus's Group (4136)**
Gt Northern Hwy, New Norcia
- St John the Baptist Anglican Church (2615)**
NW Cnr Yulgering Rd & Cavell St, Calingiri

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Navigate: [1-50][51-100][101-150][151-197]



- Yerecoin Hall (12928) *Cnr Toodyay-Bindi Bindi Rd & McDonald St, Yerecoin*
- Yerecoin Hotel (fmr) (12929) *Lot 8 Toodyay-Bindi Bindi Rd, Yerecoin*
- Yerecoin Nursing Post (13009) *Yerecoin*
- Yerecoin School (12937) *Bindi Bindi - Yerecoin Rd, Yerecoin*
- Yerecoin Tennis Club (fmr) (13005) *Bindi Bindi - Yerecoin Rd, Yerecoin*
- Yerecoin siding & wheat bin (12927) *Yerecoin*
- Yulgering Homestead (12905) *Yulgering*
- Yulgering Reserve: school, golf course, community sheep dip (12970) *Calingiri Wongan Hills Rd, Yulgering*

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Appendix 5: Community Consultation

Gillingarra Centralised Biosolids Storage Facility – Stakeholder Consultation Summary

Agencies, Community Group, Individuals	Contact(s)	Timing and Method of Communication (from the Water Corporation)	Subject of Communication	Concerns or issues (raised if any)	Resolution of concerns or issues (if applicable)
Department of Health	Neil McGuinness Manager, Wastewater Management Branch	Letter from WC to DoH 4 November 2004	1. Notify DoH of plans to build a Centralised Biosolids Storage Facility (CBSF) 2. Requested DoH approval to construct a trial facility	None	Not Applicable
Department of Health	Dr Donna Mak Delegate of Executive Director, Public Health	Letter from DoH to WC 26 November 2004	DoH approved the trial facility to be built and operated at Annadale Farm	None	Not Applicable
Department of Environment	Kelly O'Neill Director, Environmental Regulation Division	Letter from WC to DoE 4 November 2004	1. Notify DoE of plans to build the CBSF 2. Requested DoE approval to stockpile biosolids for > 30 days as part of the trial facility	None	Not Applicable
Department of Environment	Robert Atkins A/Director, Pollution Prevention Division	Letter from DoE to WC 24 November 2004	No objections to the proposal provided works are carried out in accordance with the conditions set out in WC letter to DoE dated 4/11/04	None	Not Applicable
Business Director, Wootheroo Minerals	Bill Walker	Not applicable (Individual contacted the Water Corporation)	Mr Walker was interested in project scope as his business is keen to supply bentonite material for the Trial Facility internal hardstands.	None	Not Applicable

Agencies, Community Group, Individuals	Contact(s)	Timing and Method of Communication (from the Water Corporation)	Subject of Communication	Concerns or issues (raised if any)	Resolution of concerns or issues (if applicable)
Adjacent landowner – Norm McPherson	Norm McPherson	Group project briefing held at Annandale Farm on 14/5/04	Project and Trial Facility overview and biosolids general information	<p>1. None during briefing.</p> <p>2. Post briefing: On 18/5/04 Mr McPherson raised his concern verbally (not written) to the Water Corporation of the potential extended period of odour that may exist during the in and out loading months of the facility (i.e. February to April). This period predominantly has easterly winds and is likely to cause odour to drift across his dwelling (approx. 3km west of proposed facility). Mr McPherson was concerned about unpleasant odour and the regular loss of outdoor amenity (e.g. BBQ's) to his family and the pending future family generation (who will continue the farming business). He advised that during the short period (1 – 2 weeks) whilst Mr Cocking spreads biosolids on his farm, odour could be detected at the McPherson dwelling. Mr McPherson did not have an issue with this period but only when truck loading occurs during the outloading period.</p> <p>3. The Corporation and Mr McPherson spoke again on 24/5/04 to resolve a path forward.</p>	<p>1. Not Applicable.</p> <p>2. The Water Corporation advised that one of the aims of the Trial Facility is to assess odour control and management. The trial period (approx. 12 months) is also aimed at trialling various other parameters such as type of construction, fly breeding prevention, and the operation and management of the facility. The odour assessment will involve modelling and surveys with the adjacent landowners. This will allow the true evaluation of any odour impact on surrounding landowners. Only after all trial parameters are considered satisfactory to the Corporation and all Stakeholders (DoH, DoE, community, etc) will the full scale facility be recommended. Mr McPherson was satisfied with the trial proposal but requested written correspondence that his concern with odour would not be put aside and he will have the opportunity to be considered during the odour trial process.</p> <p>3. The Corporation confirmed similar advice as per item 2 above and issued a written letter to Mr McPherson to confirm acknowledgement of his concern and provide reassurance that odour requires further assessment (during the trial period) before final resolution of his concern could be achieved. Mr McPherson will be provided regular progress of the trial activities.</p>
Nearby landowner – Kevin Minson	Kevin Minson	Group project briefing held at Annandale Farm on 14/5/04	Project and Trial Facility overview and biosolids general information	None during briefing	Not Applicable
Nearby landowner – Dave McGillivray	Dave McGillivray	Group project briefing held at Annandale Farm on 14/5/04	Project and Trial Facility overview and biosolids general information	None during briefing	Not Applicable

Agencies, Community Group, Individuals	Contact(s)	Timing and Method of Communication (from the Water Corporation)	Subject of Communication	Concerns or issues (raised if any)	Resolution of concerns or issues (if applicable)
Nearby landowner – Terry Murray	Terry Murray	Group project briefing held at Annandale Farm on 14/5/04	Project and Trial Facility overview and biosolids general information	None during briefing	Not Applicable
Nearby landowner – Shane Kelly	Shane Kelly	Did not attend group briefing on 14/5/04. Mailed out information packs, including Water Corporation contacts on 25 th May 2004.	Project and Trial Facility overview and biosolids general information	None	Not Applicable
Nearby landowner – Peter Nixon	Peter Nixon	Did not attend group briefing on 14/5/04. Mailed out information packs, including Water Corporation contacts on 25 th May 2004.	Project and Trial Facility overview and biosolids general information	None	Not Applicable
Nearby landowner – Peter McDonald	Peter McDonald	Did not attend group briefing on 14/5/04. Mailed out information packs, including Water Corporation contacts on 25 th May 2004.	Project and Trial Facility overview and biosolids general information	None	Not Applicable
Nearby landowner – Luke Poplavovich	Luke Poplavovich	Did not attend group briefing on 14/5/04. Mailed out information packs, including Water Corporation contacts on 25 th May 2004.	Project and Trial Facility overview and biosolids general information	None	Not Applicable
Adjacent landowner – David Cocking	David Cocking	Did not attend group briefing on 14/5/04. Mailed out information packs, including Water Corporation contacts on 25 th May 2004.	Project and Trial Facility overview and biosolids general information	None	Not Applicable

Agencies, Community Group, Individuals	Contact(s)	Timing and Method of Communication (from the Water Corporation)	Subject of Communication	Concerns or issues (raised if any)	Resolution of concerns or issues (if applicable)
Annandale Farm landowner – Owen Cocking	Owen Cocking	1. Meeting held with Mr Cocking on 16 March 2004 to initiate land tenure discussions. 2. Subsequent meetings and discussion between the Water Corporation's Corporate Real Estate Branch and Mr Cocking has occurred between March and June to resolve land tenure arrangement. (Note: General consultation with Mr Cocking has occurred for several years prior)	1. Overview of Trial Facility scope and timing for construction of Trial Facility and proposed 12 month trial period. Proposed land area also discussed. 2. Land tenure arrangements and conditions have been negotiated.	No concerns raised as Mr Cocking is in support of the proposed facility. Mr Cocking did request however that any compensation for use of the land be equivalent to the revenue per hectare that he would normally generate.	A Head of Terms agreement has been signed by Mr Owen Cocking in May 2004. A formal Licence is now being prepared for execution between the Water Corporation and Owen Cocking.
Shire of Victoria Plains	Shire CEO Phil Anning	General briefing given to shire council on 20 th April 2004.	Project and Trial Facility overview and biosolids general information	No concerns raised. However, the Shire noted that the Water Corporation will need to submit an application for Planning Approval for the proposed trial facility.	Planning Approval scheduled to be submitted on 4 June 2004 and presented at the Shire's 15 June council meeting.
Shire of Moora	Shire CEO Peter Stubbs	General briefing given to shire council on 20 th April 2004.	Project and Trial Facility overview and biosolids general information	None	Not Applicable
Calingiri-New Norcia Land Care Development Committee	John Young	Mailed out information packs, including Water Corporation contacts on 25 th May 2004.	Project and Trial Facility overview and biosolids general information	None	Not Applicable
West Koojan-Gillingarra Land Care Development Committee	Lex Langridge	Mailed out information packs, including Water Corporation contacts on 25 th May 2004.	Project and Trial Facility overview and biosolids general information	Mr Lex Langridge raised concerns on behalf of the West Koojan-Gillingarra LCDC regarding potential for nutrient rich leachate to contaminate ground and surface waters from land application of the biosolids. Concern over the proposed facility was not raised. Mr Langridge requested a further 8 information packs be sent to him to hand out to other members of the LCDC.	The Water Corporation assured Mr Langridge that the trial facility would answer some of his concerns and that when or if the Corporation built the larger facility most of his environmental concerns would be addressed. Mr Langridge was sent a further 8 information packs for to him to hand out.

Agencies, Community Group, Individuals	Contact(s)	Timing and Method of Communication (from the Water Corporation)	Subject of Communication	Concerns or issues (raised if any)	Resolution of concerns or issues (if applicable)
East Gillingarra Land Care Development Committee	Shane Kelly	Mailed out information packs, including Water Corporation contacts on 25 th May 2004.	Project and Trial Facility overview and biosolids general information	None	Not Applicable
Solomon-Yulgan Catchment Group	David Cale	Mailed out information packs, including Water Corporation contacts on 25 th May 2004.	Project and Trial Facility overview and biosolids general information	None	Not Applicable
South West Aboriginal Land & Sea Council (who legally represent Yued Aboriginal Group).	South West Aboriginal Land & Sea Council	A briefing was scheduled on 8 April but did not occur. It has been twice rescheduled on 25 May and 6 July by SWALSC. Briefing is now confirmed for the council's 6 July council meeting. Brett De Beaux will conduct briefing.	Project and Trial Facility overview and biosolids general information	* To be updated (Note: Preliminary advice from SWALSC is that no heritage concerns should exist).	* To be updated
School Bus Contractor (in Gillingarra)(school bus route along Thompson and Scholz Rd – David Cockings son)	Lee Rowland	Phone call to Ms Rowland and mailed out information packs, including Water Corporation contacts on 2 June.	Project and Trial Facility overview and biosolids general information	No concern raised during phone call. However, Ms Rowland did advise in previous years during delivery of biosolids to the Gillingarra area (namely Thompson and Scholz Roads), the Water Corporation managed the trucks to travel outside the morning and afternoon bus pick-up and drop-off times of approx. 8am and 4pm.	The Water Corporation proposed to continue to trucks to travel outside the morning and afternoon bus pick-up and drop-off times of approx. 8am and 4pm.
Shire of Victoria Plains and Moora general community	N/A	Public notification advertisement placed in the Central Midlands and Coastal Advocate (community newspaper) and run for two consecutive weeks on 5 and 12 May.	Project and Trial Facility overview and biosolids general information	None raised	Not applicable



Department of Health
Government of Western Australia

6534/00
J Phelps 9388 4934

Mr Peter Spencer
Supervising Engineer
Wastewater Treatment Branch
Water Corporation
PO Box 100
LEEDERVILLE WA 6902

Dear Mr Spencer

CENTRALISED BIOSOLIDS STORAGE FACILITY

I refer to your recent submission and discussions with Ms Julie Phelps of the Wastewater Management Branch regarding the trial Centralised Biosolids Storage Facility at Annadale Farm.

The Department of Health wishes to encourage research into biosolids use and has no objections to this trial. I look forward to receiving the report on the aims identified for the project.

I trust that this information is of use to you. If you should have any questions, please contact Ms Phelps on 08 9388 4934.

Yours sincerely

Dr Donna Mak
delegate of
**EXECUTIVE DIRECTOR
PUBLIC HEALTH**

26 November 2003
3b26pj1a

Environmental Health
All Correspondence: PO Box 8172 Perth Business Centre Western Australia 6849
Grace Vaughan House 227 Stubbs Terrace Shenton Park WA 6008
Telephone: (08) 9388 4999 Facsimile: (08) 9388 4955
ABN 28 684 750 332

Your ref: JTI 2001 07512 VO1
Our ref: L13/01
Enquiries: Kelli O'Neill
Direct tel: 6250 8011

Environmental Project Officer - Biosolids Management
Water Corporation
PO Box 100
LEEDERVILLE WA 6902
ATTENTION: IAN TOLEMAN

Dear Mr Toleman

RE: REQUEST TO STOCKPILE BIOSOLIDS FOR > 30 DAYS ON ANNADALE FARM. LICENCE NUMBER 17644/3.

I refer to your letter dated 4th November to request to store biosolids on Annadale farm for a period of greater than 30 days as part of a trial for a Centralised Biosolids Storage Facility (CBSF) focusing on a different construction material for the hardstand.

I understand that construction will be undertaken next year and this raises the issue as to whether a works approval is required to prevent any potential pollution impacts arising during the construction stage of the project. As these works, by themselves, will not cause or increase the discharge of waste or emissions from the CBSF a works approval application is not required in this instance.

Therefore, the Department has no objections to this proposal provided the works are carried out in accordance with your letter dated 4 November 2003 and the *Western Australian Guidelines for Direct Land Application of Biosolids and Biosolid Products* (February 2002).

In addition please make note of the appropriate conditions S3(b) and S3(d) in the your licence (number 7644/3) which apply to the storage of biosolids for a period of greater than 30 days.

The licence for this facility will be amended in due course to reflect the above changes. If there are any changes to the proposal please inform the Department of Environment in writing as soon as possible.

If you have any questions relating to the above please do not hesitate to contact Kelli O'Neill of the Swan Goldfields Agricultural Regional Office on 6250 8011.

Yours sincerely,



Robert Atkins
ACTING DIRECTOR
POLLUTION PREVENTION DIVISION

24th November 2003

cc Julie Phelps, Department of Health