

ASSESSMENT REPORT

Section 75W Modification Allied Mills Grain Mill, Maldon (DA 318-12-2004-i MOD 3)

1. INTRODUCTION

This report assesses a modification request by Allied Mills Pty Ltd (the Proponent) which seeks approval for an existing unauthorised onsite sewage treatment and wastewater irrigation system at the Allied Mills Grain Mill. The request has been lodged pursuant to section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

2. BACKGROUND

The Proponent operates a grain mill located at 330 Picton Road near Maldon, in the Wollondilly local government area (the site). Allied Mills is one of Australia's largest manufacturers of bakery premixes, flour and semi-finished grain products. The site is located between Picton Road and the Southern Railway line (see **Figure 1**), around 80 kilometres (km) south of the Sydney CBD.



Figure 1: Local context of the site (shaded light green) near Maldon

The site includes silos, loading and unloading facilities, an office administration building and ancillary infrastructure and an 800 metre (m) double rail siding with shunting and turn back facilities.

On 28 April 2015, the Land and Environment Court approved a metal resource recovery and waste management facility immediately to the east of the site (See **Figure 1**). A go cart track and cement works are

located approximately 500 m to the north-west of the site. Other surrounding land use is predominantly rural-residential, with the closest property located immediately to the east of the site, approximately 250 metres from the existing mill buildings and silos.

3. APPROVAL HISTORY

On 9 August 2005, the then Minister for Planning approved the Allied Mills Grain Mill (DA 318-12-2004-i) under Part 4 of the EP&A Act. The Ministerial consent permitted the Proponent to construct and operate a grain mill and associated infrastructure with the capacity to process approximately 300,000 tonnes of grain (wheat and maize) per annum. Wheat based products such as fine low ash flour, baker's flour, biscuit flour, wheat semolina, general purpose flour, noodle and wholemeal flours are produced in the wheat mill. Maize milling produces flaking grits, semolinas, polenta and residual maize flour. These products are dispatched by trucks to Sydney for sale.

The development consent has been modified on two occasions as follows:

- on 11 June 2007, MOD 1 was approved under delegation to permit some minor changes to the location and design of the amenities building; and
- on 11 February 2008, MOD 2 was approved under delegation to amend the layout of the rail siding.

The factory commenced operating in March 2009. Up to 45 people (including staff and visitors) may be on site at any time.

5. PROPOSED MODIFICATION

5.1 Modification Description

The Proponent has lodged a request under section 75W of the EP&A Act to regularise the onsite Econocycle AWTS which was installed instead of a more open effluent management system approved under the existing development consent. The request also seeks to resolve identified non-compliances with the development consent, specifically the effluent quality target requirements and monitoring and management requirements specified in the following conditions:

- condition 1.1(b) – the requirement to carry out the development generally in accordance with the Environmental Impact Statement (EIS); and
- condition 5.4(b) - the approved Water Monitoring and Management Plan (WMMP) for the management of water on the site including the discharge of treated pollutants / effluent to land from the onsite sewage treatment system.

The modification is described in full in the Environmental Assessment (EA) included in **Appendix B**.

The Proponent's modification request seeks to:

- confirm the Econocycle Aerated Wastewater Treatment System (AWTS) is operating in accordance with current environmental guidelines - being the *Environmental Guidelines: Use of Effluent by Irrigation*, DEC 2004 (the DEC Guideline);
- demonstrate the current system is not causing harm to groundwater or soils;
- allow the continued use of the Econocycle AWTS, including the application of effluent to land; and
- nominate a revised set of effluent target criteria and monitoring requirements for inclusion in an updated WMMP.

The Econocycle AWTS consists of four separate tanks, including a septic tank, two aeration tanks and a storage tank. The existing system installed at the site is illustrated in **Figure 2** overleaf.

5.2 Proponent's Justification

The development consent for the site approved the implementation of plant and equipment described in the EIS. This included an onsite sewage treatment system comprising of a primary settling tank (10,000 litres), reed bed system (over 80 m²), storage tank (100,000 litres), UV sterilisation and irrigation to land. After the development was approved and prior to the commencement of operations, the Proponent identified several disadvantages with the approved onsite sewage treatment system, including:

- the attraction of birds, reptiles and insects and frogs which could cause a pest problem for the grain milling operations; and
- lack of capacity during high rainfall events.

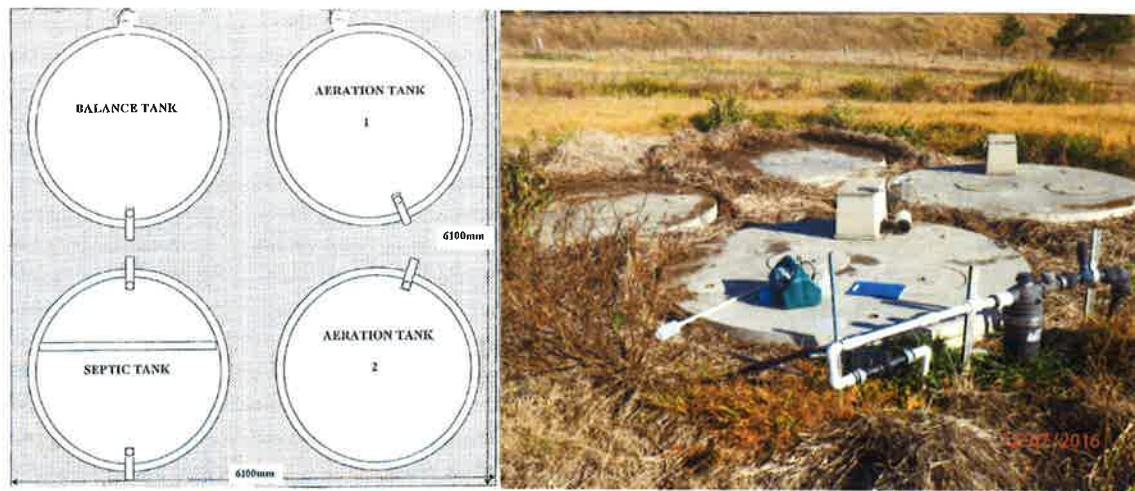


Figure 2: The existing Econocycle AWTS installed at the site

Subsequently, the approved system was not installed at the site, and an alternate system, known as an Econocycle AWTS, was installed. The Econocycle system does not require a primary settling tank or sub-surface flow reed bed. Approval for the use of the Econocycle AWTS was granted by Wollondilly Shire Council under section 68 of the *Local Government Act 1993* on 29 September 2007. However, the Proponent did not seek to modify the consent to permit installation and use of the alternate system at this time. This modification request now seeks the Minister's consent to operate this system.

5.3 Compliance

During its review of the Proponent's 2015 Annual Environmental Management Report (AEMR), the Department noted several inconsistencies between the approved and installed equipment and the effluent discharge quality. The Department subsequently raised a number of concerns with the Proponent, the prime concern being that effluent concentration characteristics were higher than predicted in the EIS and the approved Water WMMP (including for Total Phosphorus, Total Nitrogen, Thermotolerant coliforms¹ and pH). Other concerns were also raised, including:

- the groundwater monitoring bores are located outside of the directional flow of groundwater;
- effluent and water quality monitoring (in accordance with the WMMP) was not being undertaken;
- soil testing results for the irrigation area indicate elevated nutrient concentrations in soils; and
- the use of the Econocycle AWTS being unauthorised by the Department.

On 12 September 2016, an Order under section 121B of the EP&A Act was issued by the Department for non-compliance with Condition 5.4(b) of the consent, which requires the preparation and implementation of a WMMP. The Order required Allied Mills to cease all use of the irrigation area until the Department is satisfied that treated effluent from the AWTS is compliant with the effluent quality as described in the original EIS, or any later modification determination.

The Proponent has undertaken fortnightly monitoring of the effluent water quality between 25 May 2017 and 29 September 2017 as required by the Order to demonstrate compliance with the effluent water quality criteria proposed in this modification request. The monitoring has demonstrated the system is meeting the proposed criteria, is operating effectively without causing environmental harm and soils on the site have the capacity to assimilate the nutrients applied. Should this modification be approved, the Order will be satisfied and subject to complying with any relevant modified conditions of consent, the Proponent can recommence the irrigation of treated effluent on the site. It is understood a pump out system is being used to truck treated effluent off the site as an interim measure while this modification request is being assessed.

6. STATUTORY CONTEXT

6.1 Approval Authority

The Minister for Planning is the approval authority for the request. Under the Minister's delegation of 11 October 2017, the Director, Industry Assessments, may determine the request under delegation as:

- the relevant local council has not made an objection; and

¹ Coliform bacteria are the commonly used bacterial indicator for sanitary quality of water. Thermotolerant coliforms are the group of coliform bacteria which are capable of growth at 44 to 45 degrees Celsius, which include faecal coliforms and *Escherichia coli*.

- a political disclosure statement has not been made; and
- there are no public submissions in the nature of objections.

6.2 Section 75W

Under Clause 8J(8)(b) of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) a development consent granted by the Minister for Planning under State Environmental Planning Policy No.34 - Major Employment-Generating Industrial Development (SEPP 34), is to be modified under section 75W of the EP&A Act. Despite the repeal of Part 3A on 1 October 2011, the effect of section 75W is continued for such consents by the operation of Clause 12 of Schedule 6A of the EP&A Act.

The Department notes:

- the primary function and purpose of the approved project would not change as a result of the proposed modification;
- the modification is of a scale that warrants the use of section 75W of the EP&A Act;
- the proposed modification is of a minor nature and would not result in any changes to the approved operations at the mill; and
- any potential environmental impacts would be appropriately managed through the existing or modified conditions of consent.

Therefore, the Department is satisfied the proposed modification is within the scope of section 75W of the EP&A Act, and does not constitute a new development application. Accordingly, the Department considers that the request should be assessed and determined under section 75W of the EP&A Act rather than requiring a new development application to be lodged.

6.3 Other Licences and approvals

Activities at Allied Mills are also regulated under an Environment Protection Licence (EPL 12498) granted under the *Protection of the Environment Operations Act 1997*. A licence variation is not required.

The operation of the existing AWTS was approved by Council under section 68 of the *Local Government Act 1993* (section 68 approval) on 29 September 2007.

7. CONSULTATION

Under section 75W of the EP&A Act, the Department is not required to notify or exhibit the modification request. Upon receipt, the request was placed on the Department's website and following a review of the documentation, the Department did not consider that further consultation was necessary. Notwithstanding, the Department sought comments from the Environment Protection Authority (EPA), Office of Environment and Heritage (OEH), Wollondilly Shire Council (Council), Department of Primary Industries (DPI Water) and the Department of Industry (Resources and Energy).

A total of three submissions were received from the EPA, Council and the Department of Industry (Resources and Energy), none of which were objections.

The **EPA** did not object to the modification, however:

- requested the Proponent consider the AWTS with reference to the DEC Guideline;
- sought justification for the change in size of the irrigation area (from the area proposed in the EIS);
- requested additional details on the storage of effluent during wet weather; and
- queried whether town sewerage is now available to the site.

Council did not object to the modification request, and provided recommended conditions relating to servicing, maintenance, a water diversion bank around the irrigation area and water ponding in the irrigation area. Council also sought clarification on whether the sub-surface irrigation of wastewater might be more appropriate for the site to prevent spray drift.

The **Department of Industry** noted there is a shale quarry (Maldon Shale Quarry owned by Boral Ltd) adjacent to the site (not currently operating) and there are currently mining exploration and extraction titles over the subject site.

No comments were received from OEH or DPI Water. No public submissions were received.

8. ASSESSMENT

The Department has assessed the merits of the proposed modification. During this assessment, the Department has considered the:

- EIS and assessment report for the original development application;
- existing conditions of consent (as modified);
- the EA supporting the proposed modification (**Appendix B**);
- submissions from State government authorities and Council (**Appendix C**);
- the Proponent's responses to issues raised in submissions (**Appendix D**);
- relevant environmental planning instruments, policies and guidelines; and
- requirements of the EP&A Act, including the objects of the EP&A Act.

The Department considers the key assessment issue is the potential soil and groundwater impacts resulting from the irrigation of effluent to land. These impacts are assessed in **Section 8.1** below.

8.1 Soils and Groundwater Quality

Given the small daily wastewater volume generated at the site and the distance from the site to Picton (> 4 km), the site is not currently connected to the Picton sewerage system. An onsite sewage treatment system (the Econocycle AWTS) has therefore been installed to manage wastewater generated by staff and visitors at the grain mill (refer **Figure 3**). As treated effluent from this system is not complying with the effluent target criteria nominated in the original EIS for the grain mill, irrigation of effluent to land has the potential to have adverse impacts on soil and groundwater quality.



Figure 3: Location of Econocycle AWTS and effluent irrigation area

The Econocycle AWTS installed at the site has a maximum capacity of 8,000 litres (L) a day and requires a 900 m² land application (irrigation) area. The system is required to treat wastewater from staff and visitor use at the site (now around 45 people), estimated at 3,870 L per day (or 86 L per person per day).

The Proponent engaged a wastewater expert to undertake a peer review of the EIS requirements, the approved Operational Environmental Management Plan (OEMP) (including the WMMP), the installed Econocycle AWTS and the recommendations made in the most recent AEMR. Water quality testing was undertaken on the effluent from the AWTS, including levels of dissolved oxygen (DO), pH, electrical conductivity (EC) and free chlorine. Following a request from the EPA, the Proponent also carried out an assessment against the environmental performance objectives of the DEC Guideline.

The Proponent's assessment concludes the existing system is resulting in acceptable environmental outcomes, despite non-compliances with the effluent quality parameters in the original EIS. Soil samples within the irrigation area show no signs of overloading. It was also concluded that disinfection was successful with

the bacteriological indicators meeting Australian drinking water quality standards for faecal coliforms (<1 colony forming units (cfu) per 100 millilitres (ml)) and *E.coli* (<1 cfu per 100 ml). In the Proponent's view, the original criteria were inappropriately based on the concentration of target effluent parameters as an indicator of performance, rather than effluent load. The Proponent concludes the environmental performance objectives are achieved by the existing system.

Additional more recent monitoring undertaken in response to the Order issued by the Department has further refined the effluent quality target criteria. The Proponent has now committed to achieve the following key effluent quality target requirements in the irrigation chamber:

- faecal coliforms, or *E.coli* (thermotolerant coliforms) meet the requirement of < 100 colony forming units per 100 ml;
- dissolved oxygen is more than 5 mg of Oxygen per litre at 20 degrees Celsius; and
- free available chlorine is 0.01 to 2.0 mg/L.

To ensure the system is operating effectively on an ongoing basis, the Proponent has proposed the following:

- quarterly monitoring of the three key effluent quality parameters and quarterly servicing of the AWTS;
- twice yearly monitoring of effluent nutrient levels and annual soil monitoring and reporting by a soil scientist;
- the creation of a small diversion bank (of around 200 mm high and 60 m long) between the road and the irrigation area to divert runoff away from the irrigation area and into the row of trees near the site access road (see **Figure 3**); and
- levelling of natural depressions and wheel tracks in the irrigation area with topsoil to prevent pooling (affecting the hydraulic loading).

Given the Proponent's assessment of the existing system against the DEC Guideline, the Department, EPA and Council all agree that the monitoring of nutrients in the treated effluent is not necessary as this is a low risk system. Council also notes this additional monitoring could be potentially expensive for the Proponent and more suited to a high risk (that is, located near an environmentally sensitive area) or large system. Therefore, Council recommended scaling down the Proponent's initial monitoring and management commitments to the following:

- servicing of the AWTS prior to any irrigation recommencing and submission of a service report to the Department;
- quarterly maintenance and servicing of the AWTS;
- quarterly monitoring and reporting on compliance with effluent quality target requirements for faecal coliforms, dissolved oxygen and free chlorine; and
- development of an annual soil monitoring program for the irrigation area.

The Department has included the above requirements in the recommended conditions of consent.

Notwithstanding, the Department considers annual soil monitoring, as recommended by the EPA and the Proponent, would assist in determining whether the effluent/solids applied to the irrigation area are continuing to be 'effectively utilised'. Soil monitoring would act as a safeguard in managing any potential longer-term impacts of effluent irrigation. The Department has therefore recommended a consent condition requiring the Proponent to annually monitor soils in accordance with the DEC Guideline.

The EPA generally agreed with the Proponent's conclusions and the target effluent criteria proposed. However, to further ensure irrigation to land occurs without causing environmental harm, the EPA recommended the following requirements:

- effluent application must not occur in a manner that causes surface runoff;
- spray from effluent application must not drift beyond the boundary of the premises;
- crops must not be harvested before the effluent application area has dried; and
- the volume of effluent applied to land must not exceed the capacity of the area to effectively utilise the effluent.

The EPA's requirements have been included in the recommended modified conditions of consent.

In addition, both Council and the EPA have recommended conditions that would maximise nutrient uptake in the effluent irrigation area and maximise evapo-transpiration and percolation capabilities, including regular mowing of the irrigation area. The Department has included these requirements in the recommended modified conditions.

While there may be a technical 'non-compliance' with the concentration limits in the EIS and WMP, the Proponent's assessment has confirmed the irrigation area effectively utilises all applied nutrients both in the short and long term, and the existing system meets the environmental performance objectives in the DEC Guideline. These objectives include the protection of surface water, groundwater, soils and amenity. The Department notes groundwater is at a depth of 50 m, nitrogen is not leaching beyond 600 mm deep, and phosphorus can be applied for around 200 years at the current rate before affecting groundwater. In addition, pH is ideal and disinfection is currently successful.

Further monitoring undertaken by the Proponent to satisfy the Order issued by the Department has confirmed the system is operating effectively without causing any environmental harm and soils on-site have the capacity to assimilate the nutrients applied. The monitoring results have been used to inform appropriate effluent quality target requirements for faecal coliforms and free chlorine, which have been included in the recommended modified conditions of consent.

To consolidate these requirements into the operational management regime for the grain mill, the Department has also recommended a condition of consent that requires the Proponent to update the site Water Monitoring and Management Plan within two months of the determination of this modification to include the new management and monitoring requirements detailed above.

The Department is satisfied the Proponent's proposed mitigation measures, the ongoing requirement for effluent quality monitoring, regular servicing of the AWTS and additional management requirements regarding surface runoff, spray drift, harvesting and effluent volume will ensure adequate protection of the environment and human health. The Department's assessment concludes the use of the AWTS installed at the site is acceptable and ongoing requirements for monitoring and reporting on the system will ensure the Department and EPA can monitor its performance on a regular basis. Therefore, should the modification be approved, the application of effluent to land can recommence, subject to compliance with the recommended modified conditions of consent.

9. CONCLUSION

The Department has assessed the proposed modification in accordance with the relevant requirements of the EP&A Act. The Department considers the proposed modification is appropriate on the basis that:

- the existing system is currently being operated without harm to the environment; and
- the Proponent has demonstrated the soil within the irrigation area supports the irrigation of treated effluent.

The Department is satisfied the modification should be approved, subject to conditions.

10. RECOMMENDATION

It is recommended that the Director, as delegate for the Minister for Planning:

- consider the findings and recommendations of this report;
- determine the request to modify DA 318-12-2004-i MOD 3 falls within the scope of section 75W of the EP&A Act;
- modify the consent DA 318-12-2004-i; and
- sign the attached instrument of modification (**Appendix A**).

Kerry Hamann / Sally Munk
Industry Assessments

Recommended by:

 30/11/17.
Joanna Bakopanos
Team Leader, Industry

DECISION

The recommendation is: Approved by:

 30/11/17.
Chris Ritchie
Director, Industry Assessments
as delegate of the Minister for Planning

APPENDIX A – INSTRUMENT OF MODIFICATION

See separate file at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7384

APPENDIX B – ENVIRONMENTAL ASSESSMENT

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7973

APPENDIX C – SUBMISSIONS

See separate files at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7973

APPENDIX D – RESPONSE TO SUBMISSIONS

See separate file at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7973

APPENDIX E – CONSOLIDATED APPROVAL

See separate file at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7973