

# Environmental Assessment

# Biofilter



## Teys Australia

## Bomen Beef Processing Facility

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## Table of Contents

Executive Summary .....	1
1. Introduction .....	2
1.1 Application for Development Approval .....	2
1.2 Secretary's Environmental Assessment Requirements (SEARs) .....	2
1.2.1 General Requirements .....	2
1.2.2 Key Issues .....	3
1.2.3 Consultation .....	3
2. Project Background .....	4
2.1 Property Information .....	4
2.2 Site Location .....	4
2.3 Site History .....	8
3. Project Description .....	9
3.1 Description of the Existing and Surrounding Environment .....	9
3.2 Description of the Biofilter Development .....	11
3.3 Need for Changes .....	15
3.4 Odour Control Alternatives Considered .....	15
3.4.1 Dispersion .....	15
3.4.2 Incineration .....	15
3.4.3 Scrubbing systems .....	16
3.4.4 Adsorption Systems .....	16
3.4.5 Biofilter alternatives .....	16
3.5 Project Staging .....	16
4. Statutory Planning Requirements .....	17
4.1 Definition of the Proposed Project .....	17
4.2 Zoning and Land Use .....	17
4.3 Environmental Planning and Assessment Act 1979 .....	18
4.3.1 Assessment under Section 75W of the EP&A Act .....	18
4.4 State Environmental Planning Policies .....	19
4.4.1 State Environmental Planning Policy 33 – Hazardous and Offensive Development .....	19
4.4.2 State Environmental Planning Policy (Major Development) 2005 .....	20
4.4.3 State Environmental Planning Policy (Infrastructure) 2007 .....	20
4.5 Development Control Plan 2010 .....	22
4.5.1 Introduction .....	22
4.5.2 Environmentally Sensitive Land .....	22
4.6 Regional Environmental Plans .....	23
5. Assessment of Potential Environmental Impacts .....	23
5.1 Stormwater Control .....	23
5.1.1 Construction .....	23
5.1.2 Operation .....	23
5.2 Erosion and Sedimentation Control .....	24
5.2.1 Council Guidelines .....	24
5.2.2 Construction Erosion and Sediment Control .....	24
5.3 Flooding .....	25

5.3.1	Wagga Wagga Council Flood Prone Land Map .....	25
5.4	Construction Air Pollution.....	26
5.4.1	Emissions from Construction Equipment .....	26
5.4.2	Construction Dust – Construction and Demolition.....	26
5.5	Operational Air Pollution .....	27
5.5.1	Odours.....	27
5.5.2	Dust and Gases.....	27
5.6	Greenhouse Gas Generation.....	27
5.7	Solid Waste .....	27
5.8	Construction Waste Management.....	28
5.8.1	Demolition Waste .....	28
5.8.2	Construction Waste from the Proposed Biofilter .....	28
5.9	Wastewater / Water Pollution.....	28
5.9.1	Construction Wastewater .....	28
5.9.2	Biofilter - Operations .....	28
5.10	Hazardous Materials Storage and Use.....	29
5.11	Hazardous Waste .....	29
5.12	Hazard Risk Restrictions.....	29
5.13	Mine Subsidence .....	29
5.14	Flora and Fauna / Landscaping .....	29
5.14.1	Section 5.2 of Development Control Plan – Preservation of Trees .....	29
5.14.2	Landscaping.....	29
5.15	Groundwater.....	29
5.16	Contaminated Land.....	29
5.17	Acid Sulfate Soils .....	30
5.18	Cumulative Impacts .....	30
5.19	Environmental Management .....	31
5.20	Consultation.....	31
6.	Assessment of Social and Community Impacts .....	32
6.1	Construction Traffic .....	32
6.2	Operational Traffic .....	32
6.2.1	Changes to Traffic Volumes .....	32
6.2.2	Pedestrian Movements.....	32
6.3	Odours.....	33
6.3.1	Construction.....	33
6.3.2	Start up.....	33
6.3.3	Odours - Operational .....	33
6.4	Construction Noise.....	36
6.4.1	Introduction .....	36
6.4.2	Byrnes Road Noise .....	36
6.4.3	Noise Policies .....	37
6.4.4	Construction Noise Attenuation .....	38
6.5	Operational Noise .....	41
6.6	Visual Assessment.....	42
6.7	Requirement for Additional Electrical Power .....	47
6.8	Requirement for Additional Water .....	47
6.8.1	Construction.....	47

6.8.2	Operation .....	47
6.9	Requirement for Additional Natural Gas .....	48
6.10	Requirement for Additional Telecommunications .....	48
6.11	Interruption to Utilities.....	48
6.12	Signage .....	48
6.13	Fire and Safety .....	48
6.14	Heritage.....	48
6.15	Social and Economic Impact .....	49
7.	Conclusion.....	50
8.	References .....	50

## Appendices

App. No.	Description	pages
A	Teys Sept 2015 Newsletter	1
B	Drawing 1985-001, BIOFILTER UPGRADE OPTION B	1
	Drawing 1985-002, 3 CELL BIOFILTER ARRANGEMENT	1
	Drawing 1985-003, BIOFILTER IRRIGATION SYSTEM	1

## Executive Summary

Teys Bomen Beef Processing Facility has used a biofilter to control odours from the rendering plant for over ten years. Recent inspection of the biofilter concrete block structure revealed that the blocks were slowly losing structural strength and needed to be replaced or repaired. Teys engaged The Odour Unit, a consultancy specialising in the design of odour control systems and odour monitoring, to design a system for controlling odours from the rendering plant. The Odour Unit considered several alternatives and settled on an upgraded version of the biofilter with some new features.

Following the confirmation of the design from The Odour Unit, Teys began working with the Department of Planning on the steps necessary to construct the proposed replacement biofilter. Teys provided a letter to the Department of Planning dated 1 September 2015 requesting Secretary's Environmental Assessment Requirements (SEARs). Department of Planning provided the SEARs dated 14/9/15. Consideration of all the SEARs is included in this document.

There are very few environmental issues regarding the construction and operation of the proposed biofilter. The existing biofilter has been very successful at controlling odours for many years and the new biofilter has been designed to be more effective, based on The Odour Unit's design. No daily or weekly, liquid or solid waste is generated from the operation of the biofilter. The only solid waste generated is every three to five years when the 440 cubic metres of wood chip filtration media needs to be replaced. The old wood chips are taken to a quarry to be used for erosion control. There is no noise from the biofilter. The proposed location is directly opposite the existing biofilter on barren ground within the Teys site, so there are no flora and fauna or heritage issues. Energy use, greenhouse gas generation and other potential impacts will be essentially the same as with the existing biofilter.

## **1. Introduction**

### **1.1 Application for Development Approval**

This Environmental Assessment accompanies an application by Teys Australia to the Department of Planning (DoP) under section 75W of the Environmental Planning and Assessment Act (1979) to request that the Minister modify the Minister's approval to carry out a project to which Part 3A of the Act applies. Prior to submitting this request, Teys Australia contacted the Department of Planning and Environment on 1 September 2015. The Department of Planning and Environment responded with a letter signed 14/9/15 with Secretary's Environmental Assessment Requirements (SEARs), DA 220-07-2002-I MOD 7. The Secretary's Environmental Assessment Requirements are described in the following sections.

This Environmental Assessment has been prepared to specifically respond to the SEARs as well as cover the general environmental issues that, although probably not serious, may raise questions within the community and government authorities. Teys Australia prefers to address these issues prior to any concerns from the community or government authorities.

### **1.2 Secretary's Environmental Assessment Requirements (SEARs)**

The SEARs are listed under three headings:

- General Requirements;
- Key Issues, which are divided into Odour and Air Quality, and Waste Management; and
- Consultation

#### **1.2.1 General Requirements**

The modification request must include:

- An executive summary
- A description of the existing and surrounding environment
- A detailed description of the proposal including:
  - Layout plan showing of the locations of the proposed works
  - The need for the changes ; and
  - Alternatives considered
- Consideration of relevant statutory provisions;
- A detailed assessment of the key issues specified below, including:
  - An assessment of the potential impacts, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes
  - A description of the measures that would be implemented to avoid, minimise, mitigate and if necessary, offset the potential impacts of the development , including proposals for adaptive management and/or contingency plans to manage significant risks to the environment

- A consolidated summary of all the proposed environmental management and monitoring measures highlighting commitments included in the EA;
- A conclusion justifying the proposal, taking into consideration the environmental impacts of the proposal and the suitability of the site; and
- A signed statement for the author of the application certifying that the information contained in the report is neither false nor misleading

### 1.2.2 Key Issues

The modification request must address the following specific matters:

- **Air quality and odour** – including:
  - A detailed description of the proposed biofilter, including how the structure will integrate with the existing air quality and odour management system on site; and
  - An assessment that the proposed biofilter is capable of meeting or exceeding the approved air quality limits under DA220-07-220-i;
- **Waste management** – including:
  - Identification of the quality, type and classification of waste that would be handled, stored, processed or disposed of at the site;
  - A description of the waste processing and recycling measures timeframes for processing and recycling and the quality control measures that would be implemented;
  - A description of how spent biofilter medium (sic) will be managed and disposed of;
  - Details of the potential impacts associated with treating, storing, using and disposing of any waste and waste products; and
  - An assessment of the development under the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021
- Environmental Management including:
  - Details of any required changes to management reports, plans and audits to assess the impacts of the modifications

### 1.2.3 Consultation

During the preparation of the modification, you must consult with the relevant local, state or Commonwealth Government Authorities, service providers, community groups and affected landowners. In particular you must consult with

- Wagga Wagga City Council; and
- Environment Protection Authority

The EIS (sic) must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.

## **2. Project Background**

### **2.1 Property Information**

The Name and Address of the applicant is:

Teys Australia  
PO Box 166  
WAGGA WAGGA NSW 2650

Street Address:

1 Dampier Street  
Bomen NSW 2650

Property Number: 177960

Title description:

Lot 6 DP 614169, Lot 1 DP 700113  
Lot 2 DP 700113, Lot 4 DP 700113  
Lot 11 DP 814225 & Lot 1 DP 840624

The Teys Australia Beef Processing Facility is part of Bomen Business Park in an industrial precinct. The precinct is home to general and potentially hazardous and offensive industries, including; a waste oil refinery, Bulk Fuel depot, livestock selling centre and the existing Teys Beef Processing Facility.

The Beef processing Facility's site boundary is irregular in shape. It is primarily accessed via Dampier Street with emergency and heavy vehicle access via the truck entrance off Bomen Road. The site consists of six allotments which are:

- Lot 1 DP 840624 – the eastern part of the site, which houses the Beef Processing Facility plant building;
- Lots 1, 2 and 4 DP 700113 – the western part of the site, which includes the wastewater treatment ponds;
- Lot 6 DP 614169; and,
- Lot 11 DP 814225.

### **2.2 Site Location**

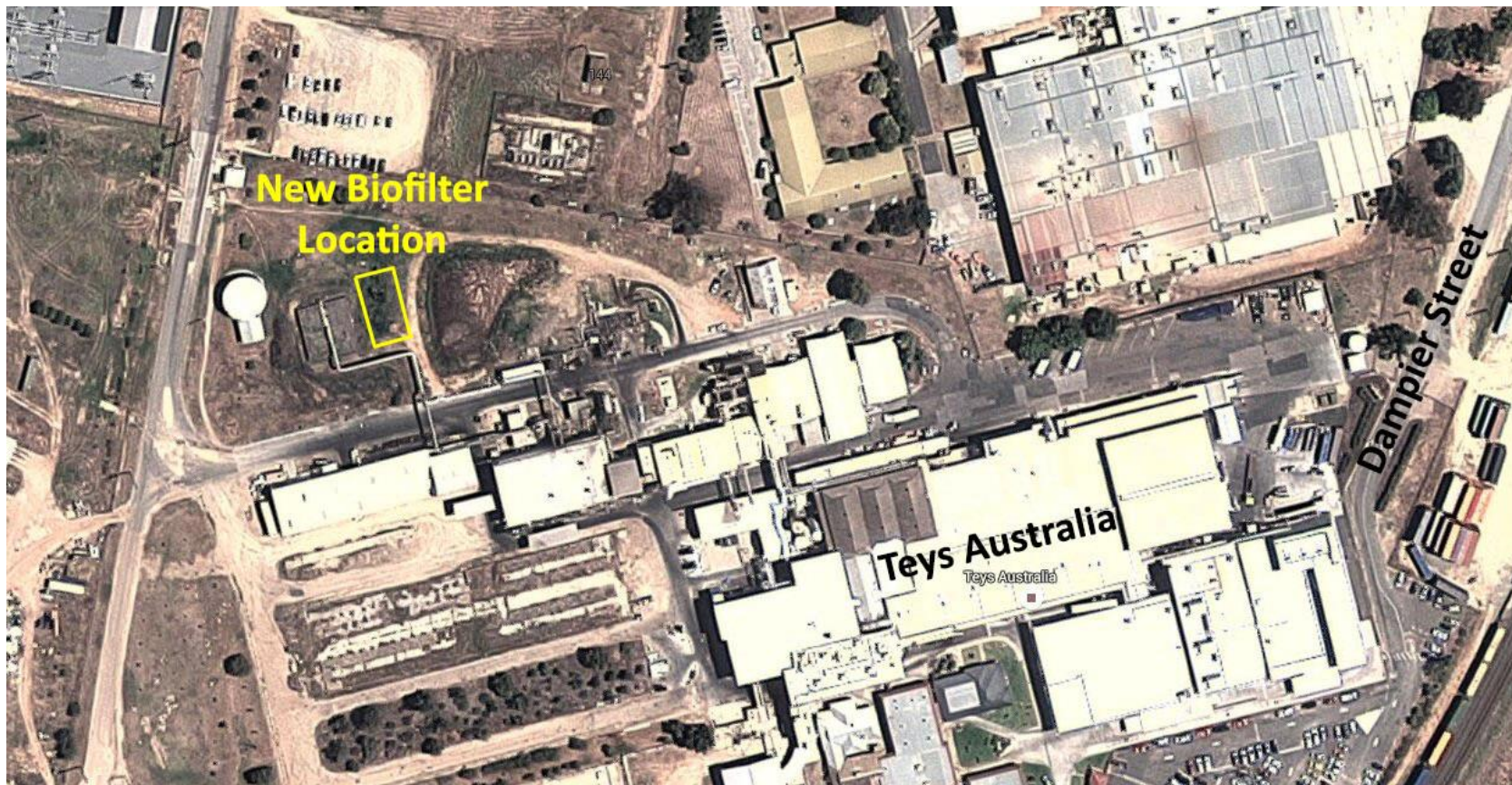
The Teys Beef Processing Facility is located south of Bomen Road and west of Dampier Street in the Bomen Industrial Area, north of Wagga Wagga, NSW. Aerial photographs showing the facility's location are shown in **Figures 1, 2 and 3**.





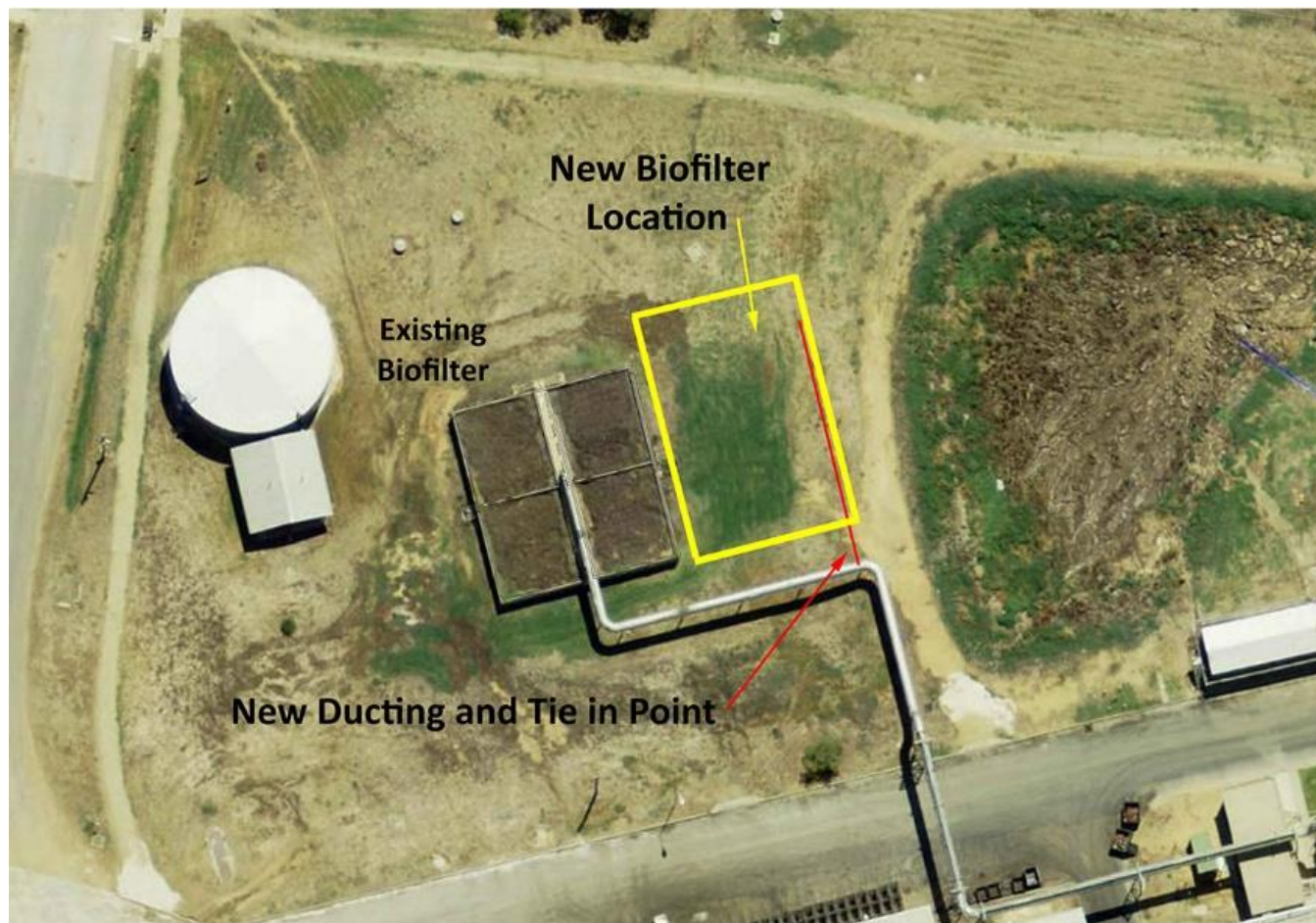
**Figure 1** – Location plan of Teys Beef Processing Facility, also showing Byrnes Road, Dampier Street and Bomen Road





**Figure 2** – Larger scale aerial photo showing the location of the Biofilter in relation to the Beef Processing Facility.





**Figure 3** – New Biofilter Location shown near the existing Biofilter.

### 2.3 Site History

The existing Bomen Beef Processing Facility is owned by Tey Australia. Tey Australia is a 50/50 partnership between the Tey Family and the Cargill Company. Cargill Beef Australia purchased the Bomen Beef Processing Facility, which was originally established in the late 1940s, in 1991.

A Development Application (DA No. 220-07-2002-i) was lodged with the DoP in 2002 for the expansion of the facility and was approved by the Minister on 27 February 2003. Four subsequent modifications were lodged with the DoP in 2003, 2004, 2008 and 2010. All four modifications were approved by the Minister.

Development Application (DA No. 220-07-2002-i) was lodged with the then Department of Urban Affairs and Planning (now DoP) in 2002 for the expansion of the facility. The proposal was classified as State Significant, Designated and Integrated Development under the Environmental Planning and Assessment Act 1979 (EPA Act) and was approved by the Minister on 27 February 2003.

An Environmental Impact Statement, prepared by HLA Envirosciences Pty Ltd (HLA) accompanied the Application. In the EIS, CBA proposed to “intensify existing production at the Bomen Beef Processing Facility to 14,000 of cattle per week, or 2,000 head per day over a seven day working week.”<sup>1</sup> The \$30 Million expansion to support the intensification included:

- an increase in load out facility;
- an increase in chiller capacity;
- an increase in freezer capacity;
- an increase in wastewater treatment capacity;
- improvements in odour controls at the plant; and
- an increase in product cold storage.

Six subsequent modifications were lodged with the DoP and approved by the Minister. This is the seventh.

- MOD-61-1-2003-i sought to alter the proposed layout of the Beef Processing Facility expansion and to amend Conditions 1.2 and 1.3 of the Consent relating to the scope of development. The modification was approved on 3 November 2003.
- MOD-4-1-2004-i sought to modify Condition 5.23 of the Consent relating to soil contamination and remediation. The modification was approved on 31 March 2004.
- DA No. 220-07-2002-i – Mod 3 sought to vary the conditions of consent to construct and operate a new covered waste water treatment pond 2B and associated flare system. The modification was approved on 29 June 2009.
- DA-220-07-2002 Mod 4 Construction and operation of the wastewater treatment plant upgrade, as described in Statement of Environmental Effects Effluent System Upgrade (ESU) for the Bomen Beef Processing Facility Wagga

Wagga, prepared by Cargill Beef Australia and dated February 2010. The modification was approved on 2 August 2010

- DA-220-07-2002 Mod 5 irrigation of the CFA Low area with treatment plant effluent. The modification request was supported by an Environmental Assessment document entitled Cargill Beef – CFA Low Environmental Assessment, prepared by Claus Environmental Engineering and dated May 2011. The modification was approved on 28 September 2011.
- DA-220-07-2002 Mod 6 involves construction of an extension to the existing main cold store building, a new loading dock, four new carcass chillers, a new gatehouse, relocation of the battery charge building, relocation of existing structures to accommodate a warehouse extension, internal refurbishments within the cold store building and formalisation of heavy vehicle access off Dampier Street. The modification request was supported by an Environmental Assessment prepared by Jenson Bowers Consultants dated 25.03.2015 entitled 'Section 75W Modification Application for Tey's Australia Bomen Beef Processing Facility.' The Development consent was modified on 7 July 2015
- DA-220-07-2002 Mod 7 is the Modification that this Environmental Assessment refers to. The detailed description of the development and the Secretary's Environmental Assessment Requirements are included in Section 1.0 of this Environmental Assessment.

### **3. Project Description**

#### **3.1 Description of the Existing and Surrounding Environment**

The existing and surrounding environment is part of the Tey's Australia Beef Processing Facility off Dampier Road, Bomen, NSW. It is a flat cleared barren area with some grass covering. As a natural environment site it has been disturbed for many decades. The site is adjacent to the existing biofilter site and the emergency overflow pond for the Save-all wastewater treatment collection system.





**Figure 4** – Aerial of Proposed Biofilter location showing the barren area with some grass



**Figure 5** – Proposed biofilter location viewed from the East behind the Save-all Emergency Pond



**Figure 6** – Photo of a biofilter similar to the one that is proposed for Teys Australia



**Figure 7** – Side view of a biofilter similar to the proposed biofilter at Teys Australia

### **3.2 Description of the Biofilter Development**

Teys is requesting approval for construction and operation of a new biofilter and demolition of the existing on-site biofilter. A modification of the engineering drawing 1985-001 (**Appendix B**) is shown in **Figure 8**. The following is the proposed new Biofilter design summary, edited from the design memorandum prepared by The Odour Unit.

The new biofilter is based on a 3-cell, open-front, The Odour Unit design. Design details are shown in Drawing 1985-002. The key design features include:

- An active surface area of 246 m<sup>2</sup> (excluding the batter area);
- A medium bed depth of 1.8 m;
- A concrete air distribution chamber;
- 3 open-front cells;
- Plenum floor system based on Fibreglass Reinforced Plastic (FRP) mesh grating and polypropylene (PP) support jacks;
- A loading rate of 180 m<sup>3</sup>/m<sup>2</sup>/hr, 100 m<sup>3</sup>/m<sup>3</sup>/hr and 36 secs EBRT; and
- A design capacity of 44,300 m<sup>3</sup>/hr.

The existing inlet duct from the rendering plant will be diverted into the new biofilter, where it will enter the biofilter horizontally at the end of the distribution chamber. The Odour Unit no longer sees a need for individual inlet ducts to the biofilter cell pairs, as the open-front design removes the need for extended isolation of cell pairs during medium replacement or maintenance.

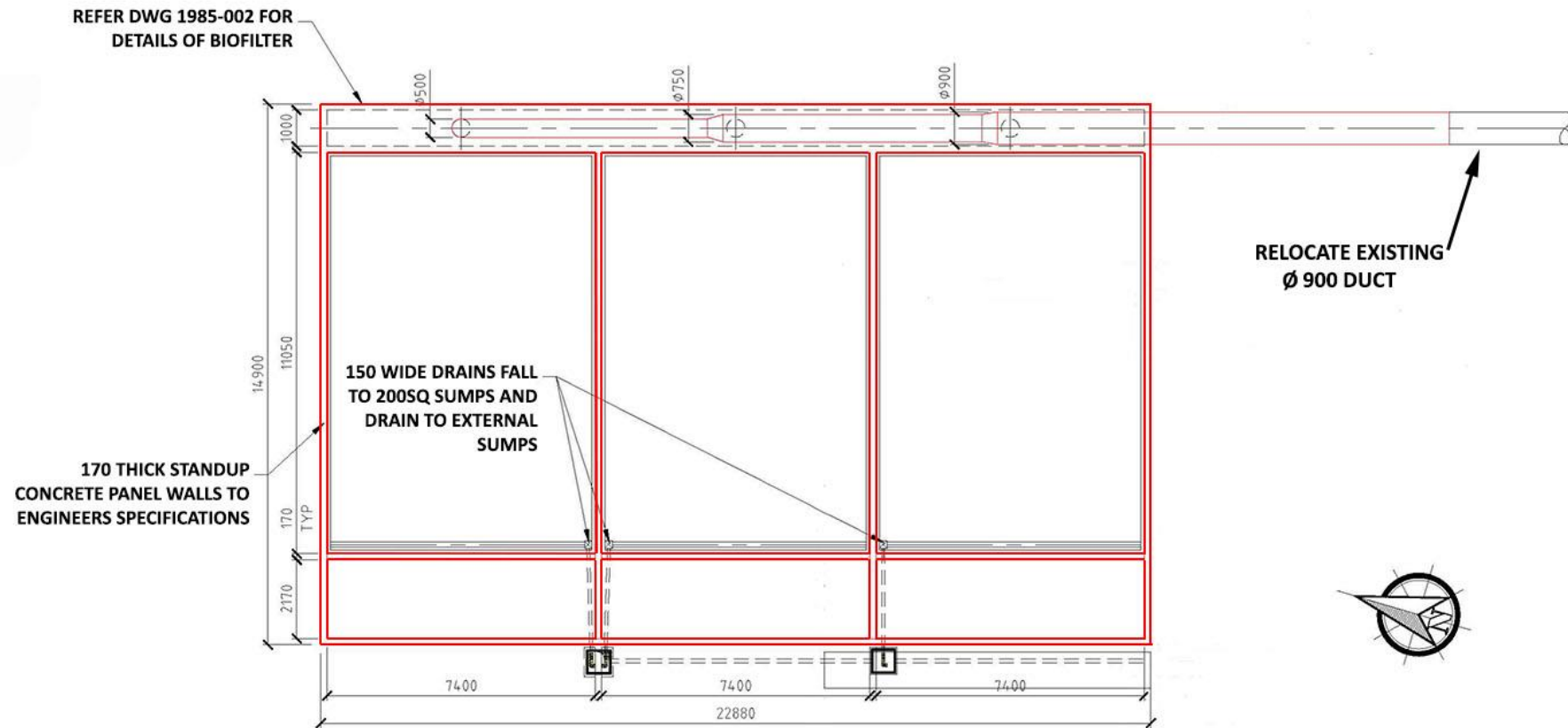
The increased capacity of the biofilter should enable Tey's to increase fan speed and/or capacity and therefore improve odour capture within the rendering building. The existing humidifier scrubber unit will be able to accommodate the increased airflow without any reduction in performance. As mentioned above, any increase in airflow will result in improved cooling of the air to the biofilter.

Drawing 1985-003 (**Appendix B**) shows the drip irrigation system that will be placed on the top of biofilter cell surface. Whilst the existing humidifier should be adequate at saturating the air stream prior to entering the biofilter, TOU recommends the drip irrigation system as part of this modern biofilter design to complement the existing humidifier system when additional moisture delivery to the beds is necessary, especially during dry and warm seasonal conditions. The drip irrigation system is considered the secondary humidification system for the biofilter and can be operated on an as-required basis.

As shown in Drawing 1985-003, the drip system will be timer-controlled from a localised control box mounted near the biofilter. The drip irrigation system can be a commercial system used in the horticultural industry. A typical operating regime would be 10-30 minutes of operation two to three times daily, depending on seasonal conditions. The control unit should be designed and programmed to irrigate each cell independently, one at a time, in sequence. This regime simplifies the water demand on the drip system. The drip lines are to be positioned at 300 mm centres across the bed, and have drip holes also at 300 mm centres. Each dripper hole will have a capacity of 1.6 l/hr.



The biofilter will have a poured concrete base with 170mm thick tilt-up pre-cast concrete walls forming the 2.4m high walls. There will be three cells with 2.4 m high walls in between each cell. The biofilter can operate with one two or three cells. The media will be 1.8m deep. The plenum under the media will be 0.5m deep and there will be 0.1m freeboard on top of the media.



**Figure 8** – Modified Drawing of The Odour Unit Drawing Number 1985-001, entitled TEYS AUSTRALIA ODOUR CONTROL SYSTEM BIOFILTER UPGRADE OPTION B. The original drawing (included in the Appendices) shows the drawing with the proposed new biofilter in a location over the top of the existing biofilter. The location has since been moved to a position just opposite to the existing biofilter as shown in **Figure 3**.

### 3.3 Need for Changes

The existing biofilter is showing signs of no longer being structurally sound. A reliable method of odour reduction is needed for the air from the rendering plant. The existing biofilter has been effective in reducing the odours over several years. Biofilter technology is a proven method that is well understood by the staff of Tey's Australia. The best option for replacing the existing biofilter would therefore be a new biofilter.

### 3.4 Odour Control Alternatives Considered

Alternatives were assessed by The Odour Unit (<http://www.odourunit.com.au/>), a consultancy specialising in odour control technology for 15 years and whose managing Director, Terry Schulz, has been working in odour control technology for over 25 years. The Odour Unit has selected the biofilter design described in the previous sections (The Odour Unit, Design memorandum, October 2014) as the most appropriate primarily with consideration for effective odour removal and reliability.

The do-nothing alternative was not considered appropriate because over time the walls of the existing biofilter will continue to chemically breakdown. This would lead to the walls eventually crumbling and the biofilter no longer being effective at removing the odours from the rendering plant discharge air.

Other odour removal systems were considered. The Department of Environment and Conservation Odour Framework 2006 recommends the following six alternatives for managing odours at the source.

- dispersion
- incineration
- scrubbing systems
- adsorption systems
- biofiltration
- adding masking compounds to odorous air.

#### 3.4.1 Dispersion

Dispersion would require a tall stack and high velocity air flow. The capital costs don't give any advantage to the stack over the biofilter and the operational costs of the fan system to provide the high velocity far exceed the biofilter. The noise, energy use and reliability make the biofilter a superior choice.

#### 3.4.2 Incineration

Incineration is preferred for gases that are not absorbed easily such as sulfur compounds. The rendering plant air odours are not caused by sulfur compounds or other vapours more suited to incineration and also has a high moisture content

which adds to the cost of incineration. A stack is also required for incineration so the costs far outweigh the biofilter with no advantages and high operational costs.

### 3.4.3 Scrubbing systems

Liquid Scrubbing is expensive, complex to operate and is not suited to rendering plant odours. Hydrogen sulphide is often scrubbed with sodium hydroxide. Exhaust gases are usually discharged through a high stack so the biofilter has many advantages over scrubbing.

### 3.4.4 Adsorption Systems

Activated Carbon adsorption systems would be effective with rendering plant air streams but are very expensive because the activated carbon needs to be regularly replaced. Activated carbon is usually used with low flowrate higher concentration air streams. The design capacity of the proposed biofilter is 44,000 m<sup>3</sup>/hour (The Odour Unit, Design Memorandum, October 2014), which would require huge amounts of activated carbon and constant maintenance and monitoring.

Other adsorption systems are generally untried. The NSW EPA webpage (<http://www.epa.nsw.gov.au/mao/odourcontrol.htm>) recommends that “Proponents wanting to use an adsorption system should provide evidence of successful long-term application of the particular process.”

### 3.4.5 Biofilter alternatives

Following the determination that a modern biofilter would be the best option, several biofilter alternatives were also considered. The front loading style is believed to be the most effective and easiest to maintain. The three cell option with the capacity to operate any one cell at a time, any two cells at a time or all three cells at the same time was also selected over four cell and two cell configurations. The three cell option combined reliability and flexibility with optimum cost and was the best fit for the area available. The drip irrigation system was not used on the existing biofilter but is believed to be an important addition despite the extra costs as it allows the bacteria to remain more effective in dry periods which are common in the warm months in Wagga Wagga.

## 3.5 Project Staging

The project will be staged in an effort to cause the minimum disruption to traffic and community amenity. The construction is likely to take about 4 weeks. Construction equipment will enter through the northwest gate. The number of vehicles and the volume of materials to be brought on site is minor compared to the daily operations of the Beef Processing Facility. The construction area is near the northwest gate so there should not be any impacts on the Facility operations.

## 4. Statutory Planning Requirements

### 4.1 Definition of the Proposed Project

The existing Beef Processing Facility is defined as a ‘rural industry’ under the provisions of Clause 4 of the Environmental Planning and Assessment Model Provisions 1980 (Model Provisions) being a development which involves the *“handling, treating, processing or packing of primary products and includes the servicing in a workshop of plant or equipment used for rural purposes in the locality.”* The proposed construction and operation of the biofilter are ancillary components to the operation of the Beef Processing Facility.

### 4.2 Zoning and Land Use

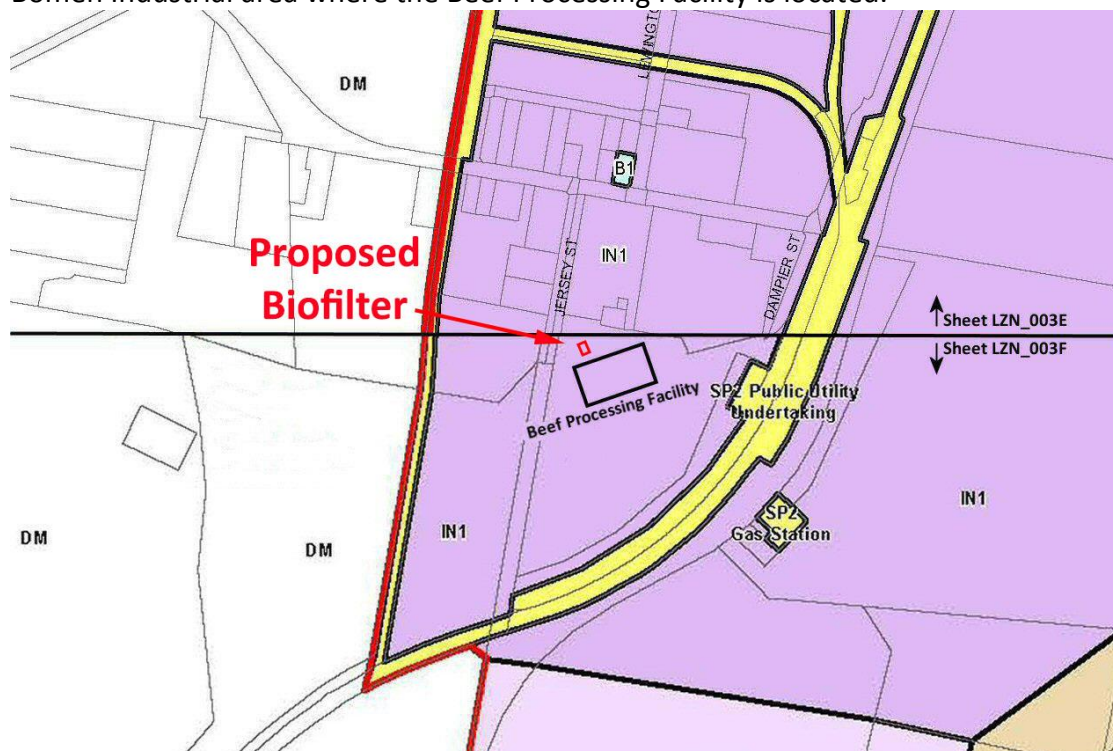
The land where the biofilter is proposed, is within Zone:

- IN1 General Industrial, under Wagga Wagga Local Environmental Plan (WWLEP) 2010.

Teys owns land that is under the following categories but these areas outside the General Industrial area are not impacted by the proposed biofilter development.

- RU1 Primary Production, under WWLEP 2010.
- 1 Rural, under WWLEP 1985.
- 5 Special Uses, Under WWLEP 1985.

**Figure 9** shows cut down sections of the two Local Environmental Plan maps for the Bomen Industrial area where the Beef Processing Facility is located.



**Figure 9** – Wagga Wagga City Council Local Environmental Plan Maps joined together and showing the location of the proposed biofilter.



**Figure 10** – Wagga Wagga City Council Local Amended Zoning Map Proposed Zoning for Cartwrights Hill as shown on the Council website, showing the Deferred Matter areas rezoned. The Deferred Matter Zoning and the proposed Rezoned areas do not impact the area of the Proposed Biofilter.

### 4.3 Environmental Planning and Assessment Act 1979

#### 4.3.1 Assessment under Section 75W of the EP&A Act

Planning and development in NSW is carried out under the legislative structure of the Environmental Planning and Assessment Act 1979 (EP&A Act). The original development proposal was assessed under Part 4 of the EP&A Act. Part 4 of the EP&A Act has now been repealed.

Transitional provisions in the EP&A Regulation (2000), which commenced on 3 September 2010, require certain existing consents granted by the Minister under Part 4 of the EP&A Act to be modified under section 75W of the Act.

In 2011 the NSW Government repealed Part 3A of the EP&A Act and announced that it will stop accepting any new projects in the Part 3A assessment system. This system has been replaced by the State significant development and infrastructure assessment systems which commenced on 1 October 2011. The transition projects and modifications, like this proposal, are now covered in Schedule 6A of the EP&A Act.

Section 75W of the EP&A Act states:

**75W Modification of Minister's approval**

(1) In this section:

Minister's approval means an approval to carry out a project under this Part, and includes an approval of a concept plan.

Modification of approval means changing the terms of a Minister's approval, including:

- (a) revoking or varying a condition of the approval or imposing an additional condition of the approval, and
- (b) changing the terms of any determination made by the Minister under Division 3 in connection with the approval.

(2) The proponent may request the Minister to modify the Minister's approval for a project. The Minister's approval for a modification is not required if the project as modified will be consistent with the existing approval under this Part.

(3) The request for the Minister's approval is to be lodged with the Director General. The DG may notify the proponent of environmental assessment requirements with respect to the proposed modification that the proponent must comply with before the matter will be considered by the Minister.

(4) The Minister may modify the approval (with or without conditions) or disapprove of the modification.

#### **4.4 State Environmental Planning Policies**

##### **4.4.1 State Environmental Planning Policy 33 – Hazardous and Offensive Development**

State Environmental Planning Policy 33 – Hazardous and Offensive Development (SEPP 33) defines 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment' for all NSW planning instruments, existing and future. The definitions enable decisions to approve or refuse a development to be based on the merit of proposal.

SEPP 33 also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy pursuant to Clause 12 of the SEPP. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA). SEPP 33 does not change the role

of councils as consent authorities, land zoning, or the designated development provisions of the EPA Act.

Previous modifications have been considered under the SEPP 33 definition of 'potentially offensive' and been approved. There is nothing new regarding odour or any other factor that might impact the previous assessment. The new biofilter will be more effective than the existing biofilter.

#### 4.4.2 State Environmental Planning Policy (Major Development) 2005

State Environmental Planning Policy (Major Development) 2005 was formerly SEPP (Major Projects) 2005 and before that it was SEPP (State Significant Development) 2005 (SSD SEPP). The previous SEPP's defined certain developments that were classed as 'major developments' under Part 3A of the EPA Act and determined by the Minister for Planning. This part of the SEPP has been repealed.

The original development application was classified as a 'State Significant Development' under the SSD SEPP. The DoP is therefore the consent authority for this development proposal. This development proposal is the seventh modification of the approved State Significant Development and since Part 3A has been repealed this SEPP is subject to Schedule 6A of the EP&A Act, as described previously.

#### 4.4.3 State Environmental Planning Policy (Infrastructure) 2007

The Aim of State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP), is to facilitate the effective delivery of infrastructure across the State. This is important to cater for developments that will require new infrastructure.

Several types of infrastructure are defined in the Infrastructure SEPP:

1. Air Transport Facilities
2. Correctional Centres
3. Educational Establishments
4. Electricity Generating works or solar energy systems
5. Electricity transmission or distribution
  - 1) Electricity Transmission or distribution networks
  - 2) Development likely to affect an electricity transmission or distribution network
6. Emergency Services facilities and bush fire hazard reduction
7. Flood mitigation work
8. Forestry
9. Gas transmission or distribution and pipelines
10. Health Services facilities
11. Public authority precincts
12. Parks and other public reserves
13. Port Wharf or boating facilities
14. Public Administration buildings and buildings of the Crown



15. Railways
16. Research and monitoring stations
17. Roads and traffic
  - 1) Road infrastructure facilities
  - 2) Development in or adjacent to road corridors and road reservations
18. Sewerage Systems
19. Soil Conservation works
20. Stormwater management systems
21. Telecommunication and other communication facilities
22. Travelling stock reserves
23. Waste or resource management facilities
24. Water supply systems
25. Waterway or foreshore management activities

The modifications in this proposal do NOT involve the construction of Air Transport Facilities, Correctional Centres, Educational Establishments, Electricity Generating works or solar energy systems, Electricity Distribution networks, Emergency Services facilities and bush fire hazard reduction, Flood mitigation work, Forestry, Gas transmission or distribution and pipelines, development in gas pipeline corridors, Health Services facilities, Public authority precincts, Parks and other public reserves, Port Wharf or boating facilities, Public Administration buildings and buildings of the Crown, Railways, development in railway corridors, Research and monitoring stations, Sewerage Systems, Soil Conservation works, Stormwater management systems, Telecommunication and other communication facilities, Travelling stock reserves, Waste or resource management facilities, Water supply systems, or Waterway or foreshore management activities.

This leaves one considerations in the Infrastructure SEPP. That is Roads and Traffic.

The modifications in this proposal will not generate any additional traffic or require the construction, widening or enhancement of any roads.

Clause 104 of State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP), which replaces State Environmental Planning Policy 11 – Traffic Generating Development, ensures that the traffic management authority is given the opportunity to make a representation on certain ‘traffic generating’ development before a consent authority can make a determination on the proposal. The Infrastructure SEPP establishes the RTA as the sole traffic management authority to be consulted when a development is listed in Schedule 3. Schedule 3 says that an industrial development greater than 20,000 m<sup>2</sup> in area should be reviewed. The area of the proposed biofilter is less than 20,000 m<sup>2</sup> (the total construction catchment area is less than 4000m<sup>2</sup>), so there is no requirement for the RTA (currently titled the Roads and Maritime Services (RMS)) to review the development.

## 4.5 Development Control Plan 2010

### 4.5.1 Introduction

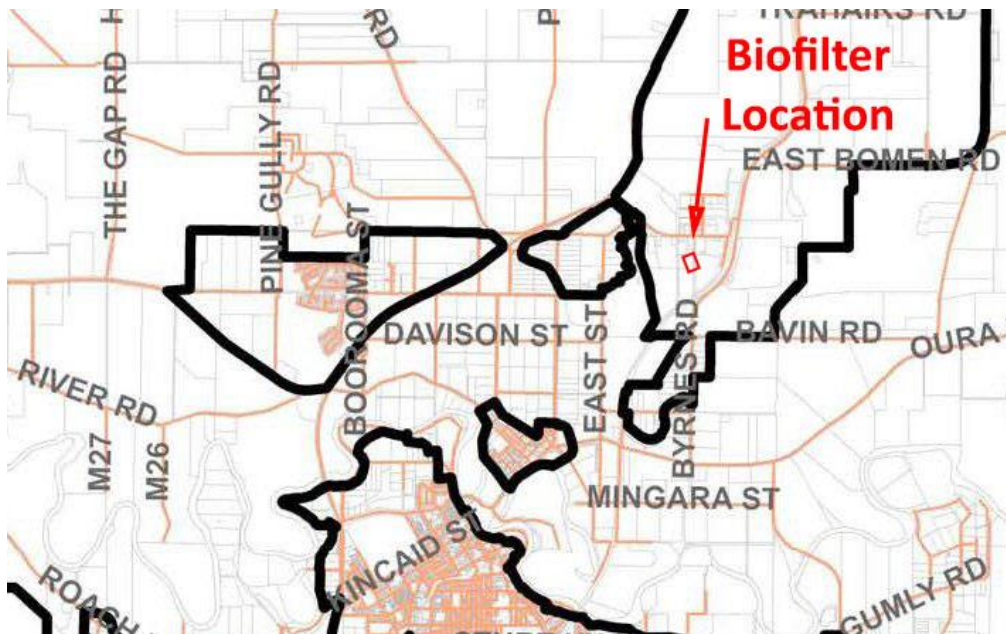
The Development Control Plan (DCP) 2010 is designed to provide support for the Local Environmental Plan 2010 by providing additional objectives and controls. Many of those objectives and controls are not relevant to the proposed biofilter modifications described previously. Many other objectives and controls are considered in detail in Sections 4 and 5. The following sections reflect some key elements of the DCP but most of the relevant objectives and controls are considered in Sections 4 and 5.

### 4.5.2 Environmentally Sensitive Land

Section 5.4, of the Development Control Plan, entitled Environmentally Sensitive Land applies to five kinds of land defined by the Wagga Wagga City Council Local Environmental Plan (page 96/180). The first two are land zoned E2 and E4. None of the land proposed for the proposed biofilter is in land zoned E2 or E4. The last 2 are land identified as a “Sensitive Area” on the Natural Resources Sensitivity Map – Land or the Natural Resources Sensitivity Map – Water. None of the land proposed for the proposed biofilter is identified on these maps.

The fifth kind of land is identified as a “Sensitive Area” on the Natural Resources Sensitivity Map – Biodiversity. In order to determine the sensitivity of the land the LEP receives a “biodiversity certification” from the Minister for Environment and Climate Change. Biodiversity certification is limited to the land identified in Schedule 1 of the “Draft Order of Certification,” as shown in Appendix 2 of the DCP and shown in **Figure 11** below.

The primary effect of receiving biodiversity certification is that any development requiring consent is understood to be a development that is not likely to significantly affect threatened species. This removes the need to prepare species impact statements or meet consultation requirements involving the Director General or the Minister (page 97/180 of the DCP). The Proposed Tey's Beef Processing Facility including the proposed biofilter location are shown inside the boundaries of the “biocertified area” so the modifications are not likely to affect threatened species and there is no requirement to prepare species impact statements or meet consultation requirements.



**Figure 11** - Biodiversity Certification Area Map as referenced in Section 5.4 of the DCP and shown in Appendix 2 of the DCP.

#### **4.6 Regional Environmental Plans**

There are no Regional Environmental Plans applicable to the Teys site including Draft Regional Environmental Plans.

### **5. Assessment of Potential Environmental Impacts**

#### **5.1 Stormwater Control**

##### **5.1.1 Construction**

Management of stormwater during construction is a minor issue because the construction area covers a small catchment and the surrounding has well established stormwater controls connected to a first flush system. Specific details will be included in the contractor's Erosion and Sedimentation Control Plan which will be prepared prior to the start of construction. The management of stormwater is also discussed as part of the erosion and sediment control section below.

##### **5.1.2 Operation**

There is a very small catchment around the proposed biofilter that could generate stormwater, and any runoff from the area would flow to the overall stormwater management system for the entire beef processing facility. The volume of runoff is unlikely to change due to the construction. Rainfall that falls directly on the biofilter first soaks the wood chips and then drains through to drains within the biofilter which flow to the beef processing stormwater system. No new drains or stormwater channels will be constructed for this development.

## 5.2 Erosion and Sedimentation Control

### 5.2.1 Council Guidelines

Some brief Erosion and Sedimentation Control Guidelines are included on page 42 of the Development Application Preparation and Lodgement Guide

**Soil erosion control:**

- Sediment control – Is there a location on site to store construction materials not subject to overland flows during and after periods of rainfall? What measures will be taken to divert flows and contain construction material dumps? What dust control measures will be taken?
- Erosion control – Is the area of excavation works subject to inundation from stormwater overland flows? What measures will be taken to divert these flows safely and without adverse impact on neighbouring residents? State any revegetation/rehabilitation measures taken to stabilise battered sections of landscaping.

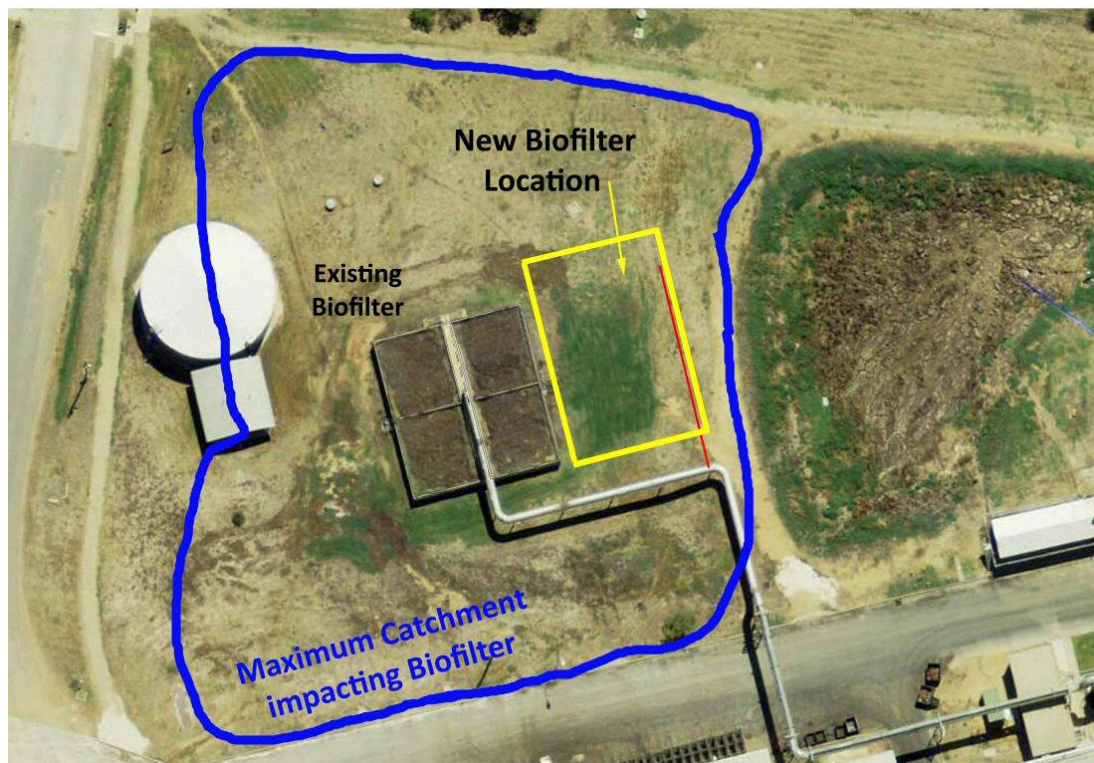
The answers to these basic questions are addressed in the sections below and in the Air Pollution section for the question about dust control measures.

A much more detailed set of guidelines is included in Wagga Wagga City Council's Engineering Guidelines for Subdivisions & Developments (1996).

### 5.2.2 Construction Erosion and Sediment Control

The potentially disturbed catchment surrounding the construction area is very small. It is estimated at a maximum of 4000 m<sup>2</sup> as shown by the blue line on **Figure 12**. The site is flat so there are no opportunities for high velocities which could generate scouring. Due to the kerbs and gutters and stormwater management on the surrounding roads there are no areas that flow on to the construction site that might have to be diverted. This also reduces the risk of the generation of sediment. The construction period will be short (a few weeks) so the probability of a significant storm is low. There will not be any stockpiles that could generate sediment. There is no potential for inundation in a storm event unless the entire beef processing facility stormwater system failed. No revegetation is required for the construction area. The area is currently mostly barren with some grasses. Following construction the disturbed areas are likely to grow back to a similar covering as is currently there.

The Erosion and Sediment Control system to be implemented by the contractor has an additional level of safety with a baffle basin and First Flush Pond which act as further protection against sediment getting into any downstream receiving waters.



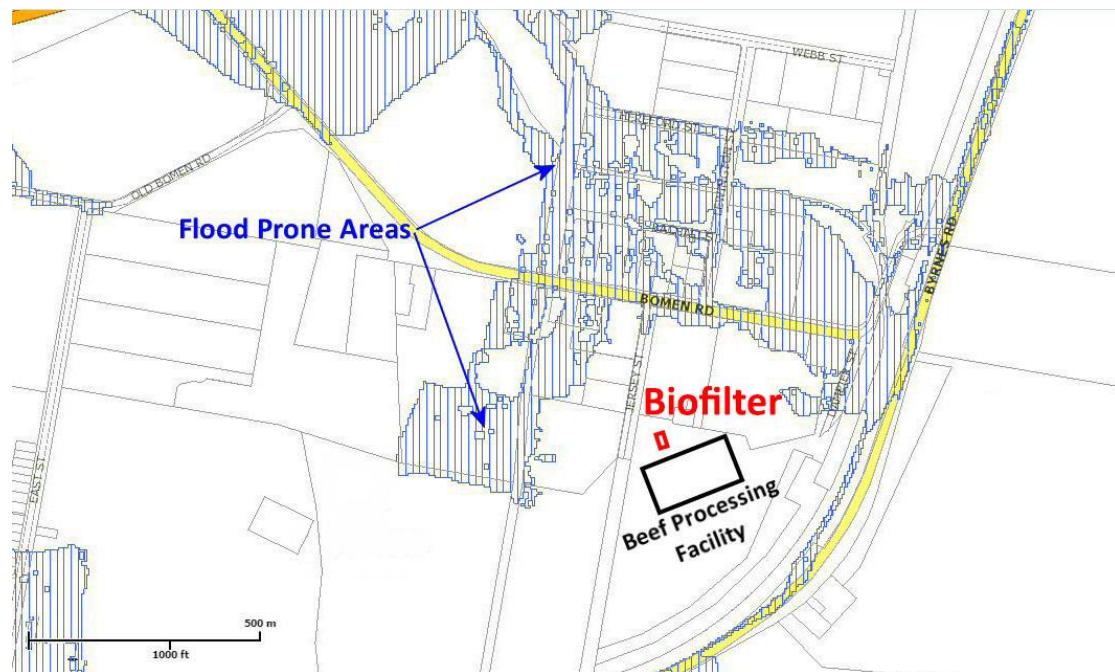
**Figure 12** – Aerial showing the maximum catchment surrounding the biofilter site that could potentially impact stormwater and create erosion control concerns. The area is estimated at 4000 m<sup>2</sup>.

### 5.3 Flooding

#### 5.3.1 Wagga Wagga Council Flood Prone Land Map

Wagga Wagga Council have published a map of the Flood Prone land on the Council Online Services webpage with the sub-heading Online Mapping. **Figure 13** shows that the Biofilter is NOT within the Flood Prone Areas.





**Figure 13** – The section of the Wagga Wagga City Council Flood Prone Land Map around the Beef Processing Facility from the Council’s Online Mapping web page. The Biofilter is not within the Flood Prone Areas.

## 5.4 Construction Air Pollution

### 5.4.1 Emissions from Construction Equipment

The minor earthworks and demolition will be carried out with diesel burning excavators and other heavy construction equipment. All the equipment will be properly maintained to ensure that there are no excessive emissions. There may also be generators, cranes and other equipment that will generate gaseous and particulate emissions. As with all equipment used in the project it will be well maintained to ensure there are no excess emissions.

### 5.4.2 Construction Dust – Construction and Demolition

Any trucks carrying waste that might cause dust to be generated as the truck speeds up will be covered to prevent dust generation. The construction will not generate much dust as the footprint is relatively small and the excavation required is relatively minimal.

It is likely that the demolition of the existing biofilter will create some dust as the walls are being broken up, but this will be minor because the block walls are already in a degraded condition. The walls will not require any high energy demolition to be broken into manageable pieces. The media will also be removed with relatively little dust generation. The biofilter is generally kept in a moist condition so this will also reduce the potential dust.

## **5.5 Operational Air Pollution**

### **5.5.1 Odours**

Operational odour impacts from the proposed biofilter will be negligible at the nearest residence. The detailed description of the odour impacts including references from The Odour Unit documents, are shown in section 6.

### **5.5.2 Dust and Gases**

No additional local air pollution will be generated from the proposed modifications. The small pumps and fans will be electrically powered so they will not generate dust or gases. The number of trucks entering and leaving the site will be the same as for the existing biofilter, so there will be no additional vehicle exhausts.

## **5.6 Greenhouse Gas Generation**

The Greenhouse gas generation from the new Biofilter will be slightly better than the existing biofilter assuming that the new biofilter will work more efficiently than the existing biofilter it is replacing.

The biofilter is designed to capture and breakdown Volatile Organic Compounds (VOCs) in the air leaving the rendering plant that cause odours. The destruction of non-methane volatile organic compounds (NMVOCs) in the atmosphere can produce ozone and CO<sub>2</sub>. Ozone and carbon dioxide are also greenhouse gases that hold heat in the earth's atmosphere. Reducing the amount of VOC's that get into the atmosphere reduces global warming.

## **5.7 Solid Waste**

No solid waste is generated on a daily or weekly basis as part of the normal operation of the biofilter. There is no requirement to handle, store, process or dispose of any waste on a daily or weekly basis. There is no waste to recycle or process on a daily or weekly basis, so no quality control methods are required. Therefore there are no impacts to be considered.

Over time the media (planned to be wood chips) needs to be replaced. The wood chips usually last three to five years. When the wood chips are replaced they can be taken to a local quarry which uses them for erosion control. In the event that the quarry no longer wants to take the wood chips they can be composted, so they will not be taken to landfill in either option.

The wood chips are not toxic, in any way, either before installing in the biofilter, or after three to five years, when they are ready to be recycled or composted. This means that they can be stockpiled near the biofilter for a week without any significant risk to the environment. In a stockpile they are porous so not subject to erosion and they are not fine particles so there is little likelihood of dust impacts.

The volume of media in the new biofilter will be about 440 cubic metres (Surface area 246 m<sup>2</sup> x depth 1.8m). This is similar to the volume of media in the existing biofilter. The wood chips can be trucked to the quarry with little environmental impact. The wood chips are not dusty so there are no concerns about dust generated in loading or transporting. The wood chips are not toxic in any way so there are no special requirements for transport.

## **5.8 Construction Waste Management**

### **5.8.1 Demolition Waste**

The existing biofilter is proposed to be demolished as part of the new biofilter project. The existing wood chips will be recycled at a quarry for erosion control as described above. The concrete blocks will be recycled at a local quarry. The plastic pieces that make up the plenum and some dividers will also be taken to the Kurrajong Recycling Centre (54 Chaston Street, Wagga Wagga) or at a similar facility. The ductwork that is removed will be taken to steel recyclers.

The concrete pad that the existing biofilter is built on, will remain to be used as a hardstand area for the maintenance of the proposed biofilter.

### **5.8.2 Construction Waste from the Proposed Biofilter**

There may be some packaging that requires disposal, but it will be minimal. There will not be any significant earthworks or soil disposal. There is usually some clean-up waste that must be taken to landfill after a construction project is completed but this will be minimal.

## **5.9 Wastewater / Water Pollution**

### **5.9.1 Construction Wastewater**

The construction of all parts of the project will include portable toilet facilities and the use of the existing facilities for the extra construction workers on site. This will generate a very small amount of wastewater compared to the total volume produced daily and only for the few weeks that the construction is underway.

### **5.9.2 Biofilter - Operations**

No additional wastewater will be generated by the proposed Biofilter. A small amount of water will be dripped onto the wood chips to improve the biological conditions in the biofilter which improves the removal rate. The flow of water is designed to just keep the media moist enough to improve biological activity. There will be no wastewater from the biofilter. Drains are located at the base of the biofilter. They are required to collect rainwater as the top of the biofilter is open to the rain. The drains are connected to the Beef Processing Facility stormwater collection system.

The number of workers will remain the same so there will be no additional wastewater / sewage generated by any additional workers.



### **5.10 Hazardous Materials Storage and Use**

The proposed biofilter will require small amounts of cleaning fluids and lubricants, etc. that are the same as the ones that are currently stored and used safely on site. The methods used for storage, the MSDS register and all the other procedures that are used now, will be continued to be used for the chemicals / oils that will be needed for the proposed biofilter.

### **5.11 Hazardous Waste**

There won't be any hazardous waste created by the Biofilter, but that there will be small amounts of cleaning fluids, lubricants, oily rags etc. that will be disposed of as they are currently being disposed.

### **5.12 Hazard Risk Restrictions**

There is no part of the proposed biofilter that is affected by land slip, bush fire, tidal inundation, subsidence or acid sulphate soils.

### **5.13 Mine Subsidence**

There is no land proclaimed to be in a mines subsidence district under s.15 of the Mines subsidence Compensation Act 1961

### **5.14 Flora and Fauna / Landscaping**

#### **5.14.1 Section 5.2 of Development Control Plan – Preservation of Trees**

Section 5.2 – Item C2, Table 5.2.1 states that in Zones IN1 and RU6 consent must be granted to cut down trees exceeding 5m in height. No trees will be cut down for the construction of the Biofilter. There are no trees in the construction area.

#### **5.14.2 Landscaping**

No landscaping is planned for the area around the Biofilter following the completion of construction. If there are any bare areas that would be prone to erosion in a heavy rain event, they may be re-grassed to prevent erosion, as required.

### **5.15 Groundwater**

The excavation for the new biofilter will be less than 1.0 metre. The base of the biofilter will be concrete so there will be no water getting into the groundwater, which is the same as the current operation of the existing biofilter.

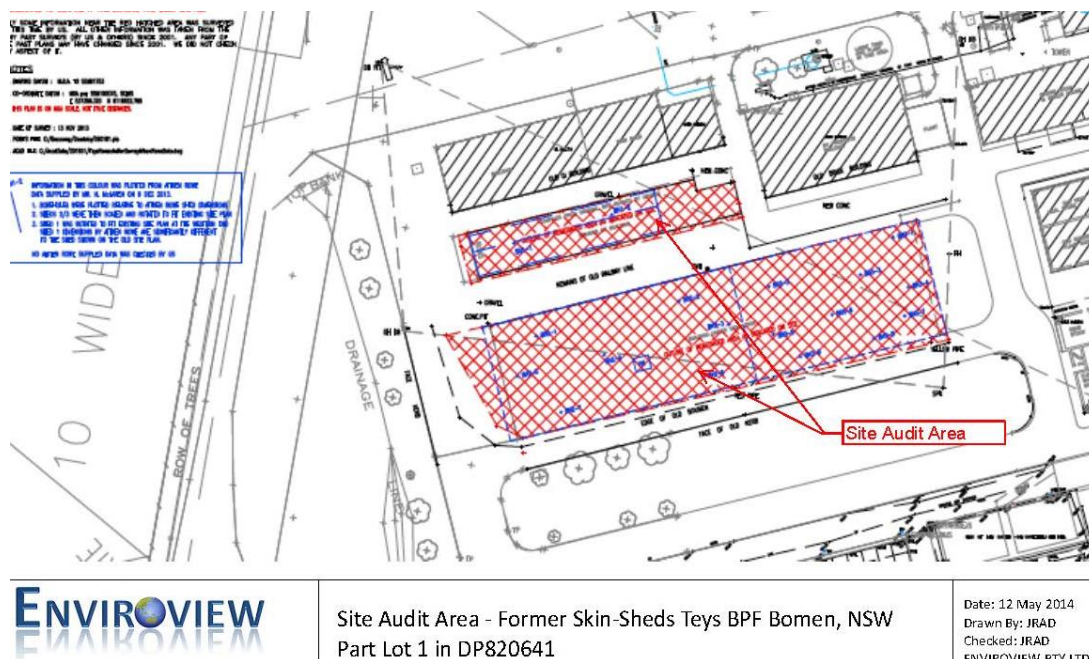
### **5.16 Contaminated Land**

No part of the land being developed for the proposed biofilter is significantly contaminated under the definition of contaminated in the Contaminated Land Management Act 1997. There are no management orders, maintenance orders or voluntary management proposals as per the meanings described in the Act.

All contaminated lands on site have been remediated in accordance with the original conditions of consent. This work was completed in April and May 2014 and reported

to Wagga Wagga City Council. Site Audit Statement No. 0301-1310, prepared by James Davis of Enviroview Pty Ltd states:

I certify that, in my opinion, the site is **SUITABLE** for the following use(s)  
✓ Commercial/Industrial



**Figure 14** – Plan from Site Audit Report No. 0301-310 showing the areas audited by Enviroview.

### 5.17 Acid Sulfate Soils

There are no Acid Sulfate Soils around the areas of the proposed biofilter. The excavations for the biofilter will be less than 1.0 metres and the state of the ground around the emergency pond for the Save-all is very well known.

### 5.18 Cumulative Impacts

The nature of the biofilter development does not lead to cumulative environmental impacts. There are no cumulative water quality, wastewater or erosion issues. The biofilter does not generate any significant noise. There are no cumulative or otherwise biodiversity or native vegetation issues. There are no cumulative impacts on the oceans. There are no acids generated that might increase acidity in the soils, oceans or atmosphere. There may be a reduction in organic acids if the proposed biofilter is more efficient than the existing biofilter. There are no cumulative solid waste or hazardous waste issues. The majority of the solid wastes from the decommissioned biofilter will be recycled. The only operational solid wastes are the media / wood chips that are recycled for erosion control and then break down biologically as in a natural setting.

The total greenhouse gas impact may be reduced if the new biofilter is more efficient and more complex organic molecules are absorbed and converted to carbon dioxide

and water. The converted carbon dioxide will have a smaller impact than the complex organic molecules. There are no cumulative dust or air pollution issues. The odour from the rendering plant has historically been well managed with the use of the biofilter.

## **5.19 Environmental Management**

All the environmental management systems including monitoring and reporting that are currently in place, will continue to be used for the proposed biofilter. No additional monitoring or reporting requirements are necessary.

During construction, the Environmental Manager and assisting staff will work with the contractor to ensure that the requirements of this Environmental Assessment, and the approval, are adhered to and any questions that the contractor has, can be quickly answered.

During the first few months of operation the Environmental Manager will devote some extra time to ensuring that the start-up is effective and the biofilter is working as designed. The new irrigation system for the proposed biofilter is a new feature of the biofilter system and will require some time to determine the best ways to adjust the timer system to get the appropriate volumes of water onto the media in all weather conditions. Diary entries on the monitoring of the biofilter irrigation system are likely to be made, along with the weather to make the best assessment of the appropriate irrigation system settings.

## **5.20 Consultation**

The requirements for consultation from the SEARs are shown below:

During the preparation of the modification, you must consult with the relevant local, state or Commonwealth Government Authorities, service providers, community groups and affected landowners. In particular you must consult with

- Wagga Wagga City Council; and
- Environment Protection Authority

The EIS (sic) must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.

Wagga Wagga City Council officers visited the Teys Beef Processing Facility site on 28 September 2015 and were given a brief description of the proposed biofilter project. The Council officers did not make any requests for design changes or alterations to any of the environmental protection systems that are currently being used and will continue to be used for the proposed biofilter.

Officers from NSW EPA Wagga office were consulted on 10 February 2015 during routine site inspection of the Tey's Beef Processing Plant site. Plans for the biofilter were shared and the EPA officers were asked if they had any comments. The EPA officers had some questions but did not request any amendments to the design or changes to the environmental management systems.

A newsletter describing the proposed biofilter was distributed to 50 local residents in late September 2015. A copy of the newsletter is included in **Appendix A**. The newsletter includes phone numbers for the General Manager, Engineering Manager, Plant Manager and Environmental Manager. The Environmental Manager also provided his email address to make it easier for the residents to make comments. There have been no comments or requests for amendments up to the date of submitting this Environmental Assessment.

Since there have been no issues raised there was no requirement for amendments to the design or changes to the environmental management process.

## **6. Assessment of Social and Community Impacts**

### **6.1 Construction Traffic**

Heavy and oversized vehicles with equipment, building materials, cranes etc. will be entering the site over the construction period. Building material deliveries will generally be during normal hours of construction, 7am to 6pm. Construction vehicles will use the northwest entrance adjacent to the biofilter site. The total number of construction vehicles will be minor compared to the approximately 28 heavy vehicles (56 vehicle movements) per day (Monday to Friday) that enter and leave the site during the normal operation of the Facility. The trucks carrying the concrete panels, biofilter media and other equipment, and the concrete mixer trucks should average less than one per day over the length of the construction (about 4 weeks).

The cars of the construction workers will also be relatively minor compared to the hundreds of cars driven by the Beef Processing Facility Workers each day.

### **6.2 Operational Traffic**

#### **6.2.1 Changes to Traffic Volumes**

The number of workers vehicles and other vehicles will not change due to the proposed biofilter. No new staff are required to maintain the proposed biofilter compared to the existing biofilter.

#### **6.2.2 Pedestrian Movements**

The proposed biofilter will have no impact on pedestrian movements on Dampier Street or any other street around the Bomen area.

## **6.3 Odours**

### **6.3.1 Construction**

No odours will be generated in the building of the proposed biofilter.

### **6.3.2 Start up**

It is likely that there will be some odours during the changeover from the existing biofilter to the proposed new biofilter. The organic chemicals that cause the odours are removed by bacteria that grow on the media in the biofilter. A few days are needed to allow the bacteria to grow on the new media, so there may be some minor odours in the first few days after the first air flow from the rendering plant starts flowing through the new biofilter. The Biofilter is a biological system so there may be some minor odours as the microorganisms in the filter start growing and the biofilter begins to operate as designed. In most cases the initial odour removal is 50 to 80% and then after a few weeks gets up to 95 - 100%.

### **6.3.3 Odours - Operational**

There should be no odours or other significant gaseous emissions from the Biofilter while it is being operated properly.

The Report from The Odour Unit, the designers of the biofilter states:

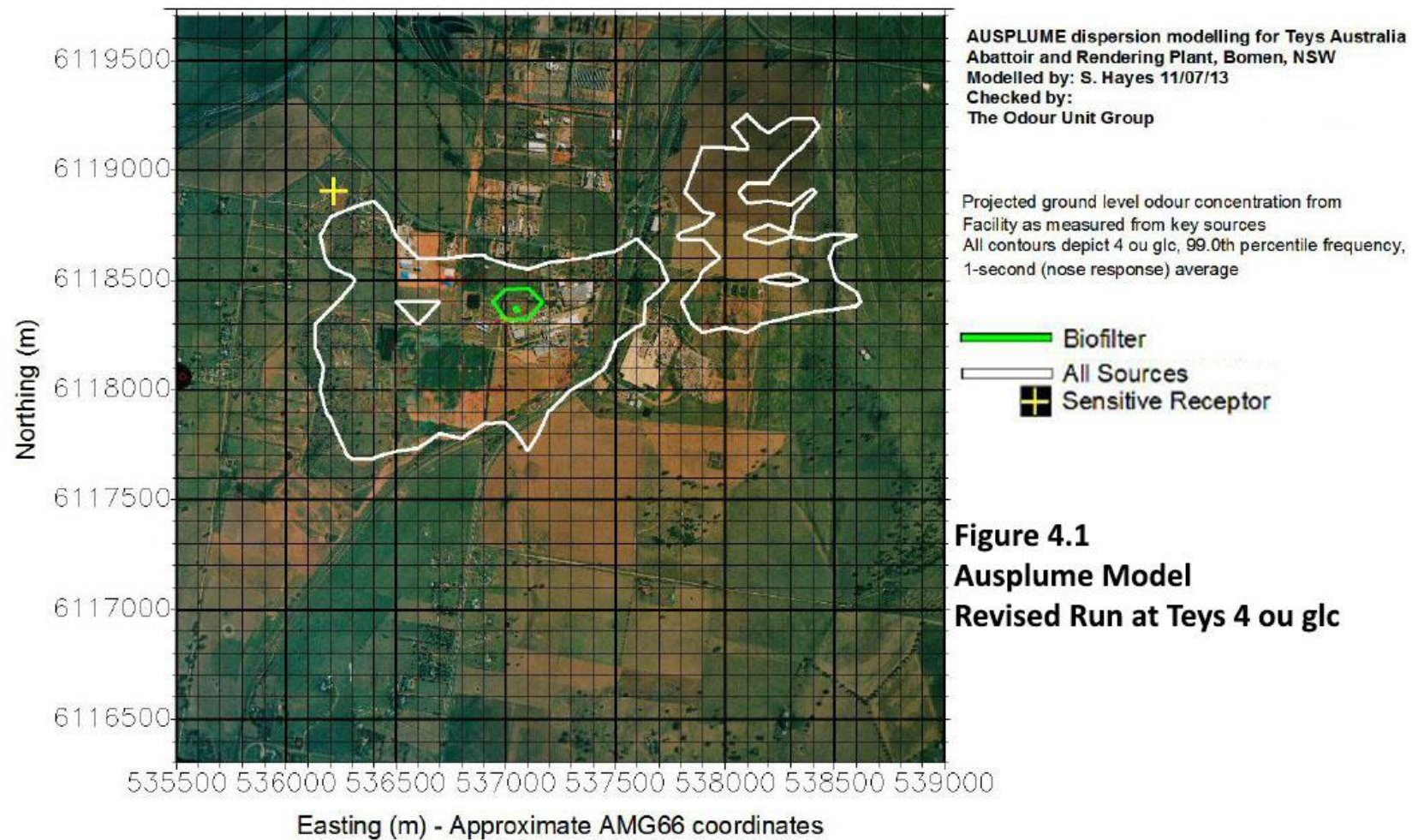
The new biofilter is expected to achieve full odour removal from the rendering plant airstream, such that no rendering odour character will be evident in the treated air from the surface of the biofilter. Depending on the type of medium used, the treated air should have an odour level in the range 500-700 ou.

The odour assessment from the Teys Australia Beef Processing Facility must consider all the odours from the facility not just the odours from the biofilter. In 2013, The Odour Unit collected samples and analysed the odour strength from all the odour sources at the Teys Australia Beef Processing facility.

Using this data, dispersion modelling was carried out to determine how the odours would be carried off site under the prevailing atmospheric conditions. The overall assessment was performed based on the guidelines from the DEC Odour Technical Framework (2006) and the DEC Odour Technical Notes (2006). The Odour Unit found that when all the odours were considered, the impact was still below the 4 odour unit standard at the nearest residence.

The Odour Unit also found that the existing biofilter created the least odour of all the odours investigated including wastewater treatment plant, the roof vents and the cattle holding area. The October 2014 Design Memorandum from The Odour Unit concludes that the proposed biofilter will be more effective at removing odour from the rendering plant air than the existing biofilter.

**Figure 15** shows the total impact of all the odours combined with the white line indicating 4 odour units as defined by the DEC Odour Technical Framework (2006). The very small area defined by the green line on **Figure 15** shows the 4 odour unit contour if the only odours were from the biofilter. This line shows that the green 4 odour unit line defining the biofilter impacts are all on the Tey's Australia site. No odours from the existing biofilter would escape the Tey's Australia site even in the least favourable atmospheric conditions.



**Figure 15** – Figure 4.1 from The Odour Unit report, *Odour Impact Assessment Study*, July 2013. The existing biofilter odour impact at 4 Odour units is shown in green. The Existing Biofilter is the smallest impact of all the odours and the proposed biofilter will be better.



## 6.4 Construction Noise

### 6.4.1 Introduction

For the purposes of understanding the noise levels in the area and the potential noise levels from the noisiest parts of the project, The NSW DECC Interim Construction Noise Guideline (2009) will be used as a starting point.

The proposed biofilter will not require the extensive use of heavy equipment over a long period. The demolition of the existing biofilter may require some heavy (and in some cases noisy) equipment, but this will be done relatively quickly.

Construction Noise is unlikely to have any significant impact on the nearest residences for the following reasons:

- The nearest residences to the west on East Road about 1000 metres away from the work and over a ridge that is about 12 metres higher than the biofilter. This ridge will attenuate the noise from the proposed biofilter demolition and construction.
- The nearest residences to the south are over 1000 metres from the work area and most of the noise sources are blocked by buildings on the path to the nearest residences.
- The Noise impact of Byrnes Road for the residents near Byrnes Road far outweighs the noise from any demolition or construction work on the proposed biofilter.

### 6.4.2 Byrnes Road Noise

Noise Monitoring was carried out in October 2006 by Carey Murphy and Associates at a Byrnes Road receiver and a Bavin Street receiver (called Bavin Road in the Carey Murphy report). Noise Monitoring was also carried out by Atkins Acoustics and Associates in October 2007. This noise monitoring showed a significant difference in between the  $L_{Aeq}$  noise levels and the  $L_{A90}$  (often referred to as the Background Level) noise levels.

This data indicates, as quoted in the Murphy and Associates report:

“The inference from these results, . . . was that traffic noise was the dominant noise source at this receiver.”

Noise levels at the Byrnes Road sites (**Table 1**) indicate that the noise levels from Byrnes Road are much more significant than any potential noise that could come from the Beef Processing Facility or the proposed biofilter construction and demolition over 1000 metres or more away.



<b>Table 1 – Historical Noise Monitoring Data on Byrnes Road</b>						
	Background L <sub>A90</sub> dB(A)			Assessment L <sub>Aeq</sub> dB(A)		
Source of Data – Location	Day	Eve	Night	Day	Eve	Night
Murphy 2006-Byrnes	36	33	37	54	53	48
Atkins 2007-R2 Byrnes 35m from road	48	54	51	59	62	62
Atkins 2007-R4 171 Byrnes 130m from road	37	38	33	53	52	52

Sources: Murphy (2009), The Murphy 2006 data was reported in the 2009 Report, Atkins (2008)

The Evening and Night-time L<sub>Aeq</sub> noise levels at the Atkins Byrnes Road site 35m from the road are higher than the day-time noise levels. That is a good indication that night-time traffic is heavier. The 59 dB(A) L<sub>Aeq</sub> noise level 35m from Byrnes Road indicates that the 50 dB(A) noise level guideline set by the EPA in the Industrial Noise Policy document is not achievable.

#### 6.4.3 Noise Policies

The NSW DECC Interim Construction Noise Guideline (2009) recommends an L<sub>Aeq</sub> noise level of Background (L<sub>A90</sub>) Noise Level plus 10 dB(A) or 75 dB(A) for Major Construction Projects (page 18/62) during normal working hours. As **Table 2** shows the Background plus 10 dB(A) guideline is generally meaningless for the sites around Bomen where background noise has been measured. **Table 2** shows that the average difference between the Background noise and the L<sub>Aeq</sub> Assessment Noise is about 14 dB(A).

<b>Table 2 – Comparison of L<sub>A90</sub> and L<sub>Aeq</sub> Noise Levels during Daytime monitoring and the difference compared to the 10 dB(A) difference recommended by the NSW DECC Interim Construction Noise Guideline (2009)</b>			
	L <sub>A90</sub> dB(A)	L <sub>Aeq</sub> dB(A)	dB(A)
Source of Data - Location	Day	Day	Difference
Murphy-Byrnes 2006	36	54	18
Atkins-R2 Byrnes 2007 35m from road	48	59	11
Atkins-R4 171 Byrnes 2007 130m from road	37	53	16

Sources: Murphy (2009), Atkins (2008)

The Industrial Noise Policy should be much tougher than the Construction Noise Policy because the Industrial Noise Policy is for Noise generated on an ongoing basis throughout the years, while the construction noise guidelines are only representative of short term construction projects.

The EPA Industrial Noise Policy (2000) recommends acceptable and recommended maximum noise levels under a variety of conditions from a variety of sources in Table 2.1. The L<sub>Aeq</sub> Acceptable level for Daytime (7am to 6pm Monday to Saturday and 8am

to 6pm Sundays and Public Holidays) when the Beef Processing Facility is operating is 50 dB(A) as shown in **Table 3**. New draft Industrial Noise Guidelines have recently been introduced by NSW EPA. Some of the terminology has changed but the “Acceptable” Levels and new “Trigger” Levels are the same for Rural areas like the area around Bomen.

<b>Table 3 – Acceptable and Recommended Maximum <math>L_{Aeq}</math> Noise Levels in dB(A) for Rural Areas</b>			
	Day	Evening	Night
Acceptable	50	45	40
Recommended Maximum	55	50	45

Table 2.1 Amenity Criteria, page 16, Industrial Noise Policy, January 2000

#### 6.4.4 Construction Noise Attenuation

Estimates of Construction Noise can be made using the assumed noise levels from the assumed equipment that will be used to construct the project and then attenuating that noise using the noise with distance attenuation equation:

$$\text{Noise-Far} = \text{Noise-Near} - 20 \log (\text{Distance-Far/Distance-Near})$$

(page 23/62 of Interim Construction Noise Guideline, Department of Environment and Climate Change (2009))

This is a conservative measure of the noise level at an affected premises, especially for long distances, because noise is also attenuated when it is blocked or when it follows uneven terrain. **Figures 16 and 17** show that the distances to the nearest affected premises are all over 1000 metres to the biofilter.

Appendix B of the NSW Interim Construction Noise Guideline (page 54/62) recommends using the equipment noise levels in DEFRA (2005) among other references. The Tracked Excavator is one of the loudest pieces of equipment likely to be used in the construction of the biofilter. DEFRA (2005) has several noise levels listed for Tracked Excavators when they are idling (52, 63 and 68 dB(A)) to doing several other tasks (69 to 86 dB(A)).

Normal distance-only Noise attenuation will reduce an excavator with an  $L_{Aeq}$  noise level of 83 dB(A) at 10 metres away to 43 dB(A) at 1000 metres away.

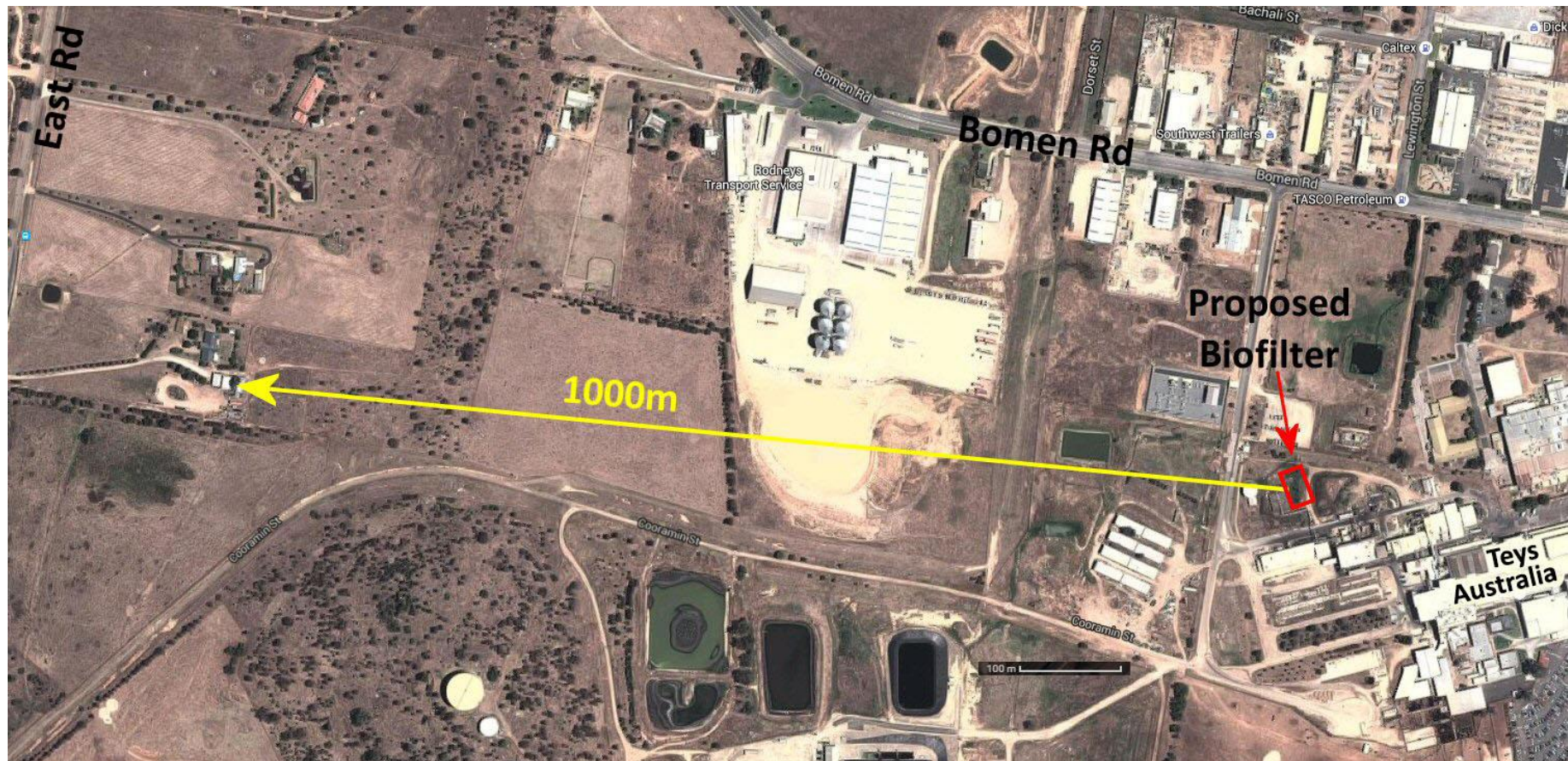
$$\text{Noise-Far} = \text{Noise-Near} - 20 \log (\text{Distance-Far/Distance-Near})$$

$$\text{Noise-Far} = 83 - 20 \log (1000/10) = 83 - 20 \log (100) = 83 - 20 \times 2 = 43 \text{ dB(A)}$$

The calculated noise level 43 dB(A) is well below the 53 to 59 dB(A) noise levels that would follow the recommendation of the NSW DECC Interim Construction Noise Guidelines. They are also far below the acceptable 50 dB(A) during the daytime, from the EPA Industrial Noise Policy.

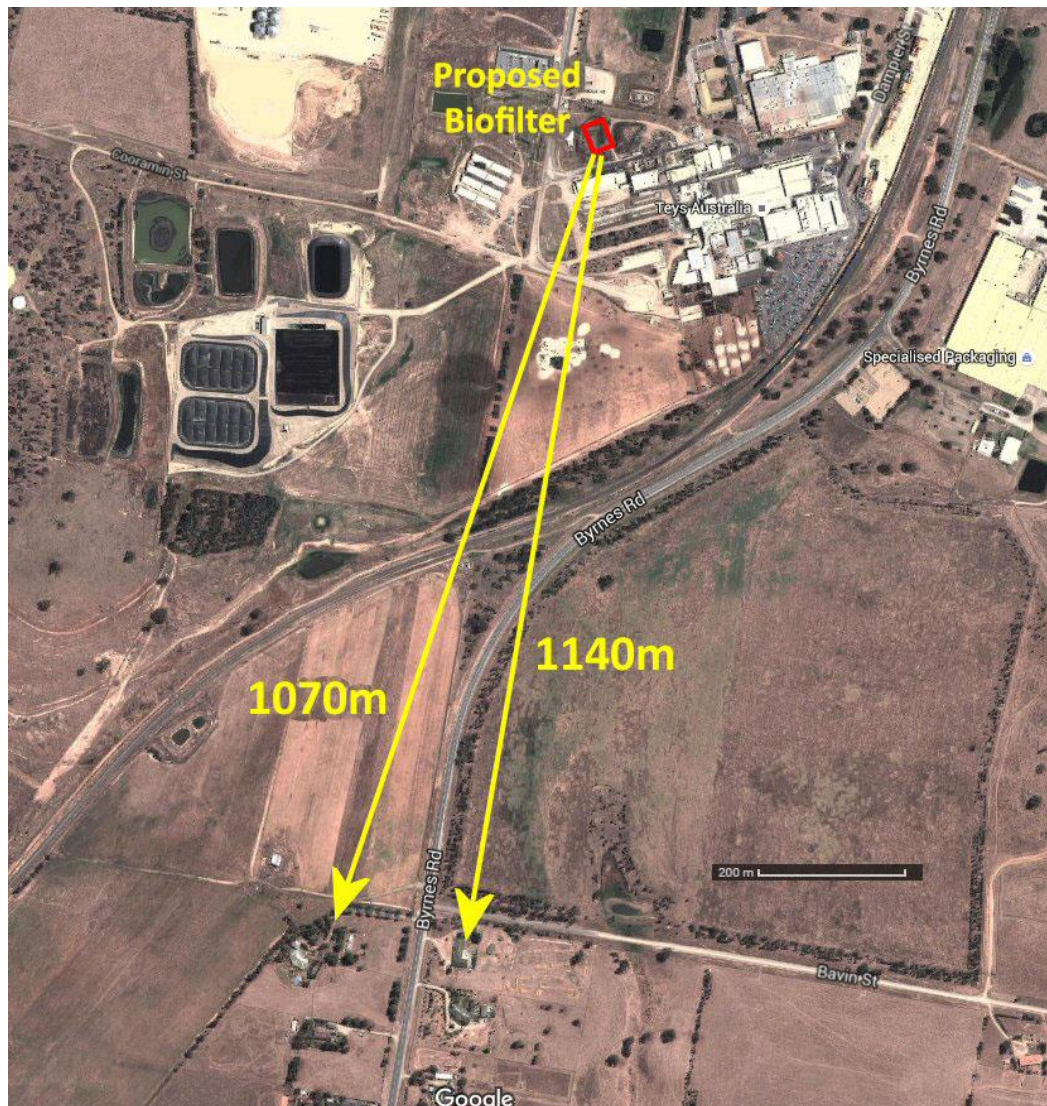
These noise calculations are the worst case for the biofilter because the residences to the south will be blocked by buildings and the residences to the west are blocked by the natural ridge. Both these factors reduce the noise to below the 43 dB(A).

This combination of factors strongly indicates that the noise levels from the construction activities will not have a significant effect, even temporarily, on the amenity of the nearest residents.



**Figure 16** – Aerial Photo showing the distance from the Proposed Biofilter to the nearest Residence on East Road. The proposed biofilter to the residence is not a direct line of sight. There is a ridge about 13m higher than the biofilter between the biofilter and the residence.





**Figure 17** – Aerial Plan showing the nearest affected residences to the south of the biofilter project.

## 6.5 Operational Noise

The factors influencing the construction noise, distance and noise barriers, will be the same for the Operational noise. The most significant difference is that the operational noise generated will be much quieter than the construction noise. The noise of the air flowing through the biofilter or the intermittent sprinkler system will be less than 70 dB(A) (and probably too quiet to hear compared to the other noise of the Beef Processing Facility). Even without the blockage by the existing buildings and the natural ridge, the noise 1000 metres away would be less than 30 dB(A) which is far below the night-time acceptable noise level of 40 dB(A) and generally considered to be too quiet to hear.

## 6.6 Visual Assessment

The new biofilter is proposed to be constructed with concrete panels such that it will look similar to the existing biofilter. The proposed biofilter will not be visible from any of the nearest residences.

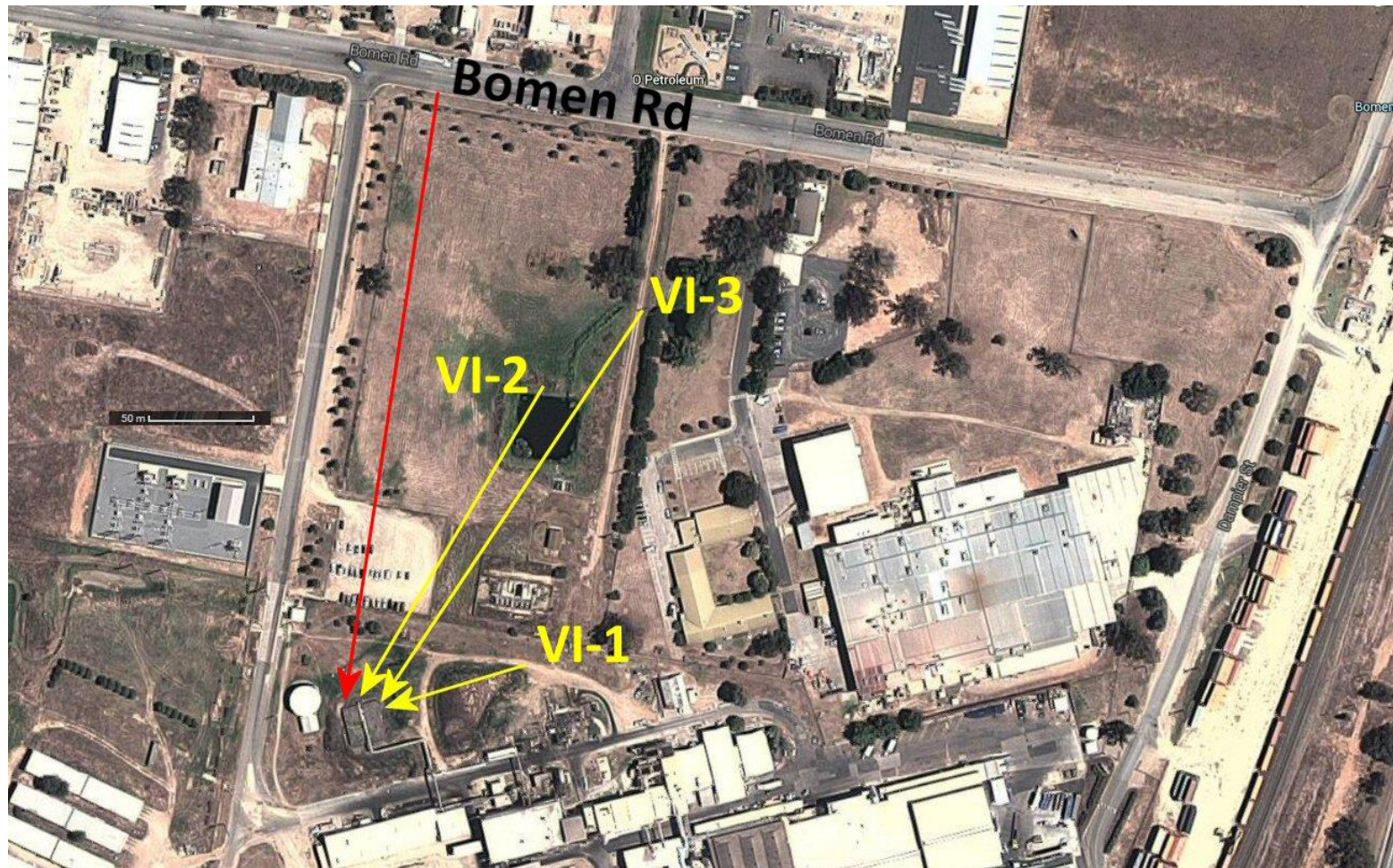
The nearest public area that could view the biofilter when not travelling to Tey's Australia or the neighbouring Heinz factory is Bomen Road. Bomen Road is about 290 metres from proposed biofilter location. **Figure 18** shows the angles and locations of three viewing positions closer to the existing biofilter than Bomen Road. These viewing positions show that the existing biofilter is barely visible from these nearby positions, so it will be much less visible from Bomen Road.

**Figures 19, 20 and 21** show views that can be seen from the locations of VI-1, VI-2 and VI-3. **Table 4** shows the distances from VI-1, VI-2 and VI-3 to the existing biofilter.

<b>Table 4 – Distances and Locations of viewing positions to Existing Biofilter</b>		
Position	Distance (m)	Description
VI-1	75	Near Save-all Emergency pond
VI-2	170	Behind First Flush Pond
VI-3	225	About half way up the dirt road from Bomen Road
Bomen Rd	290	North of the existing biofilter

Based on these similarity of construction to the existing construction and the remoteness of the location from public viewing, the visual impact will be negligible.





**Figure 18** – Aerial photo of three nearby viewing positions to the existing biofilter and the nearest angle from Bomen Road





**Figure 19** – Location VI-1 – Looking toward the existing biofilter from the Save-all emergency pond





**Figure 20** – Location VI-2 – Looking toward the existing biofilter from the first flush pond



**Figure 21** – Location VI-3 – Looking toward the existing biofilter from the dirt road leading from Bomen Road to the Beef Processing Facility

## 6.7 Requirement for Additional Electrical Power

There is no requirement for additional electrical power for the proposed biofilter. The new biofilter will use the exact same blower to push the rendering plant air through the biofilter media as is currently being used. The blower may even use less power if the flow through the media is less constrained due to the damage to the existing biofilter.

## 6.8 Requirement for Additional Water

### 6.8.1 Construction

During construction there will be about 5 construction workers on site, for about four weeks. Assuming an average water usage of 30 Litres per person, the total additional water usage will be about 3,000 Litres in 4 weeks. This amounts to less than one minute's normal daily water usage, or in other words, an amount too small to accurately measure in comparison to the overall operations.

### 6.8.2 Operation

The proposed biofilter has an additional sprinkler system that was not included in the existing biofilter. The following description is from the Design Memorandum prepared by The Odour Unit, dated 21 October 2014.

A typical operating regime would be 10-30 minutes of operation two to three times daily, depending on seasonal conditions. The control unit should be designed and programmed to irrigate each cell independently, one at a time, in sequence. This regime simplifies the water demand on the drip system. The drip lines are to be positioned at 300 mm centres across the bed, and have drip holes also at 300 mm centres. Each dripper hole will have a capacity of 1.6 l/hr.

Assuming twice per day operation 250 days per year for an average of 20 minutes the water usage per year from each drip hole would be:

$1.6 \text{ Litres/hour} \times \frac{1}{3} \text{ hour} \times 250 \text{ days/year} \times 2 \text{ irrigations/day} = 267 \text{ L/yr/dripper hole}$

The number of dripper holes to be used can be calculated based on The Odour Unit drawing:

$41 \text{ dripper holes per line} \times 25 \text{ dripper lines per biofilter section} \times 3 \text{ sections} = 3075 \text{ dripper holes total}$

Calculating the total estimated water use per year:

$3075 \text{ dripper holes} \times 267 \text{ Litres/ dripper hole / year} = 820,000 \text{ Litres/year}$

This water usage is less than 0.1% of the total water usage at the Tey's Beef Processing Plant.

There will be no additional staff required to operate the proposed biofilter so there will be no requirement for extra water for any extra staff.

### **6.9 Requirement for Additional Natural Gas**

There will be no requirement for additional natural gas due to the proposed biofilter.

### **6.10 Requirement for Additional Telecommunications**

There won't be any new internet or telephone requirements for the proposed biofilter.

### **6.11 Interruption to Utilities.**

There will be no interruption to any services outside the Beef Processing Facility during the construction of the proposed biofilter.

### **6.12 Signage**

There will be no additional signage required for the proposed biofilter.

### **6.13 Fire and Safety**

The proposed biofilter will meet the requirements of the Building Code of Australia for Fire Safety and Structural Considerations.

In the event of an emergency the following phone numbers will be available to construction contractors and appropriate Tey's staff.

<b>Table 5 – Emergency Phone Numbers</b>	
Organisation	Phone Number
Fire, Police and Ambulance	000
Tey's Site General Manager – Andrew Ross	0400 765-281
Tey's Environmental Manager – Dean Loughran	0427 810-649
Tey's Facility Asset Manager – Jan Oostendurp	0400 822-035

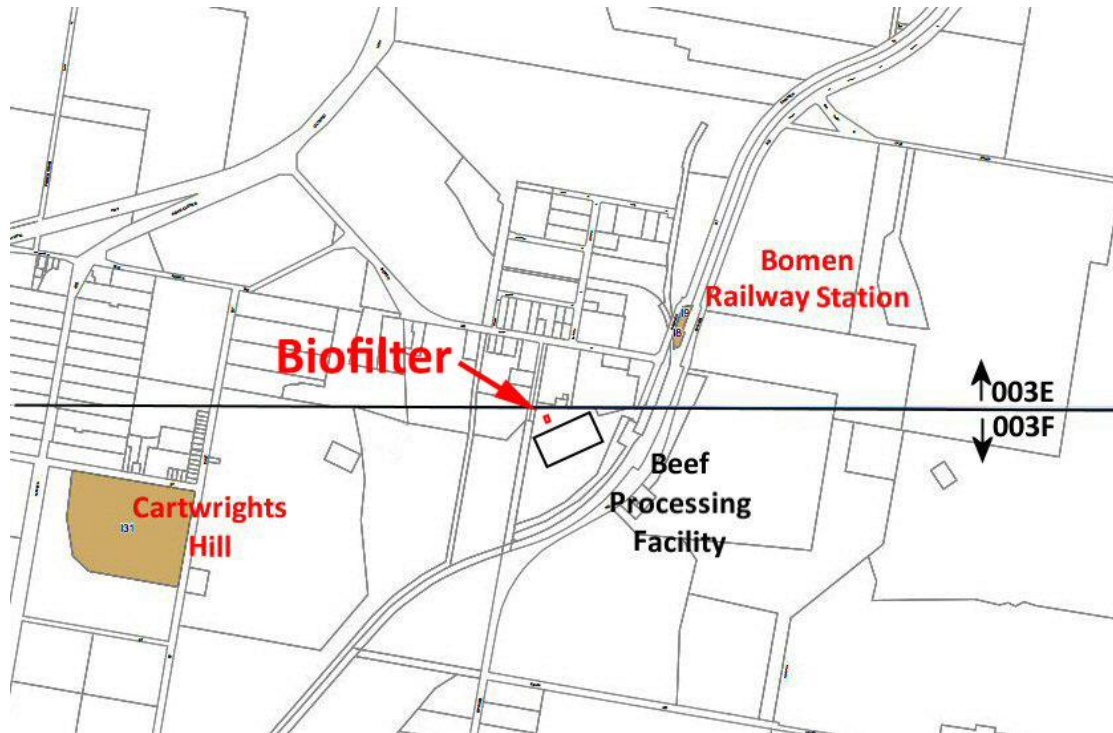
The construction materials and the location of the proposed biofilter development mean that it is a relatively low risk project. There are no high place where falls from a high position could take place, no gases under pressure and the electrical connections are low voltage to small motors compared to some other parts of the Beef Processing Facility.

### **6.14 Heritage**

The area where the biofilter is proposed has been part of the Beef Processing Facility since it was originally constructed in the 1940's. There are no Heritage areas that will be disturbed or impacted. The subject site is not listed as an Item of Environmental Heritage and there are no known significant heritage values associated with the site. The site is not located in a Conservation Area designated by the Wagga DCP (**Figure 22**).



It is unlikely that there will be deep excavations but if an excavation reveals any item that might be considered to have heritage value Teys will report it to Council.



**Figure 22** – Sections of Council Heritage Map 003F and 003E in the area around the Beef Processing Facility. The only Heritage items in the area are the Bomen Railway Station, The Bomen Stationmaster's Residence and Cartwright's Hill.

### 6.15 Social and Economic Impact

The number of workers at the Beef Processing Facility is not planned to change due to the proposed biofilter. The number of trucks entering and leaving the facility will remain constant during the operational stage. During construction there will be less than 10 vehicles per day including construction workers cars, deliveries of materials and removal of waste and recyclables. The vehicles will use the northwest entrance which is generally not crowded or congested. The extra traffic is not expected to cause any social impact.

Improvements and upgrades to the Beef Processing Facility like the proposed biofilter make Teys business more sound, which means that the jobs of the workers at the Facility would be more secure. Since the jobs were already relatively secure, this is not expected to have a significant social impact, but if there is an impact it would be a positive impact.

The construction work will benefit the local economy as local electricians, plumbers, labourers, concreters, surveyors and other trades and professions etc. are likely to be hired. The construction work will also generate some additional traffic on the roads around Bomen with the associated noise and air pollution. The net effect is expected to be a minor positive social impact.

There will be no changes to public safety or public security due to the proposed biofilter.

## 7. Conclusion

The SEARs require:

A conclusion justifying the proposal, taking into consideration the environmental impacts of the proposal and the suitability of the site.

The existing biofilter is showing signs of no longer being structurally sound. A reliable method of odour reduction is needed for the air from the rendering plant. The existing biofilter has been effective in reducing the odours over several years. Biofilter technology is a proven method that is well understood by the staff of Teys Australia. The best option for replacing the existing biofilter would therefore be a new biofilter.

The environmental impacts of the proposed biofilter development are likely to be slightly better than the existing biofilter development and at worst exactly the same as the existing biofilter. It is likely that there will be some minor disturbances (minor noise, dust and waste impacts) in the short term due to normal construction impacts. In the long term the proposed new biofilter will be more effective at removing odours and more reliable.

The proposed biofilter site is right next to the existing biofilter site. Assuming the existing site was suitable, the site directly adjacent will also be suitable.

## 8. References

Atkins Acoustics and Associates, Consulting Acoustical and Vibration Engineers, Noise Planning Assessment, Industrial Land Study, Bomen. Wagga Wagga, 38.6221.R1:GACD02 Rev 01, February 2008

[http://www.wagga.nsw.gov.au/\\_data/assets/pdf\\_file/0005/4649/Acoustics2.pdf](http://www.wagga.nsw.gov.au/_data/assets/pdf_file/0005/4649/Acoustics2.pdf)

Atkins Acoustics and Associates, Consulting Acoustical and Vibration Engineers, Noise Impact Assessment, Bomen Industrial Sewage Treatment Facility, Bomen. Wagga Wagga, 46.6774.R1:GA/DT/2012 Rev 01, September 2012

[http://www.wagga.nsw.gov.au/\\_data/assets/pdf\\_file/0010/21061/20.-Noise-Impact-Assessment-Bomen-Industrial-Sewage-Treatment-Facility-Acoustic-Report.pdf](http://www.wagga.nsw.gov.au/_data/assets/pdf_file/0010/21061/20.-Noise-Impact-Assessment-Bomen-Industrial-Sewage-Treatment-Facility-Acoustic-Report.pdf)

Carey Murphy and Associates, *Addendum to Environmental Noise Audit, Cargill Beef, Bomen, dated 18 Oct 2006*, Signatory: Carey J. Murphy, Certified Occupational Hygienist, 29 October 2009

Department of Environment and Conservation NSW, *Technical framework, assessment and management of odour from stationary sources in NSW*, November 2006, DEC 2006/440

Department of Environment and Conservation NSW, *Technical notes, assessment and management of odour from stationary sources in NSW*, November 2006, DEC 2006/441

Department of Environment, Food and Rural Affairs (2005), United Kingdom, *Update for Prediction of Noise on Construction and Open Sites*,  
<http://archive.defra.gov.uk/environment/quality/noise/research/construct-noise/constructnoise-database.pdf>

EPA Industrial Noise Policy, January 2000,

Essential Energy Electrical Supply Agreement, 24 January 2012, Commercial-in-Confidence

GHD (2008) Report for Wagga Planning Studies, Traffic Management – Bomen, 23/12229/45338  
[http://www.wagga.nsw.gov.au/\\_data/assets/pdf\\_file/0020/4637/Bomen\\_Traffic2.pdf](http://www.wagga.nsw.gov.au/_data/assets/pdf_file/0020/4637/Bomen_Traffic2.pdf)

NSW Department of Environment and Climate Change (2009), *Interim Construction Noise Guideline*, DECC 2009/265, July 2009  
<http://www.environment.nsw.gov.au/resources/noise/09265cng.pdf>

NSW Site Auditor Scheme, Site Audit Statement No. 0301-1310, Prepared by James Davis, Enviroview Pty Ltd, PO Box 327, Gladesville NSW 1675, dated 12 May 2014

State Environmental Planning Policy (Infrastructure) 2007, Viewed 19 September 2014  
<http://www.legislation.nsw.gov.au/maintop/view/inforce/epi%2B641%2B2007%2BFIRST%2B0%2BN/>

The Odour Unit, *Design Memorandum*, 21 October 2014, DETAILED DESIGN SUMMARY FOR THE NEW BIOFILTER SERVICING THE WAGGA WAGGA ABATTOIR RENDERING PLANT

The Odour Unit, *Odour Impact Assessment Study, Required by Development Consent DA 220-7-2002, Conditions 5.5. 6.1, 6.2 and 6.3*, Tey Australia Pty Ltd, Wagga Wagga, NSW, Addendum Report, July 2013

Wagga Wagga City Council, Planning Certificate No: ePL2014/0134, dated 15 May 2014

Wagga Wagga City Council Development Control Plan

<http://www.wagga.nsw.gov.au/city-of-wagga-wagga/planning/strategic-planning/wagga-wagga-planning-documents-lepdc2/wagga-wagga-development-control-plan-2010>

Wagga Wagga City Council Development Control Plan, Appendix 3 Biodiversity Certification Area Map, as referenced in Section 5.4 of the DCP

[http://www.wagga.nsw.gov.au/\\_data/assets/pdf\\_file/0005/29138/11.-Version-Control-Project-Wagga-Wagga-DCP-2010-as-amended-Appendix-3-Biodiversity-Certification-Area-Version-9-Adopted-131210.pdf](http://www.wagga.nsw.gov.au/_data/assets/pdf_file/0005/29138/11.-Version-Control-Project-Wagga-Wagga-DCP-2010-as-amended-Appendix-3-Biodiversity-Certification-Area-Version-9-Adopted-131210.pdf)

Wagga Wagga City Council Local Environmental Plan, text on Austlii website

[www.austlii.edu.au/au/legis/nsw/consol.../nsw/.../wwlep2010294.rtf](http://www.austlii.edu.au/au/legis/nsw/consol.../nsw/.../wwlep2010294.rtf)

U.S. Department of Energy, Determining Electric Motor Load and Efficiency

[https://www1.eere.energy.gov/manufacturing/tech\\_assistance/pdfs/10097517.pdf](https://www1.eere.energy.gov/manufacturing/tech_assistance/pdfs/10097517.pdf)

Integrated Movement Study for the City of Wagga Wagga, Urban Research and Planning –TTW Pty Ltd, December 2008

[http://www.wagga.nsw.gov.au/\\_data/assets/pdf\\_file/0008/2879/Integrated\\_Movement\\_Study\\_Dec\\_08-web-optimised-1.pdf](http://www.wagga.nsw.gov.au/_data/assets/pdf_file/0008/2879/Integrated_Movement_Study_Dec_08-web-optimised-1.pdf)

Bomen Strategic Master Plan 2009, Wagga Wagga City Council

<http://www.businesswaggawagga.com.au/media/uploads/BomenStrategicMasterPlan.pdf>

Wagga Wagga City Council Exhibition of Draft Proposal to amend Wagga Wagga Local Environmental Plan (LEP) 2010, reviewed 9 September 2014

<http://www.wagga.nsw.gov.au/city-of-wagga-wagga/planning/strategic-planning/whats-on-exhbition/exhibition-period-closed>

Wagga Wagga City Council, Cartwrights Hill Previously Exhibited Zoning Map, reviewed 9 September 2014

[http://www.wagga.nsw.gov.au/\\_data/assets/pdf\\_file/0007/21040/1.-Previously-Exhibited-Zoning-Map-Cartwrights-Hill.pdf](http://www.wagga.nsw.gov.au/_data/assets/pdf_file/0007/21040/1.-Previously-Exhibited-Zoning-Map-Cartwrights-Hill.pdf)



Wagga Wagga Council Online Mapping Services. This webpage has links to both Bushfire Prone Land and Flood Prone Land. The Local Environmental Plan (2010) is also available but includes the version prior to the proposed amendments for Cartwrights Hill. Reviewed 10 September 2014.

<http://203.38.125.77/T1PRWeb/eProperty/P1/WWCustom/maps/Maps.aspx?r=WW.P1.WEBGUEST&f=WW.P1.MAPS.VIW>

Wagga Wagga City Council, Appendix A: Glossary of the Flood Plain Development Manual (April 2005 edition) as published in the Wagga Wagga Major Overland Flood Study. Reviewed 11 September 2014.

[http://www.wagga.nsw.gov.au/data/assets/pdf\\_file/0006/4389/Appendix A - Glossary.pdf](http://www.wagga.nsw.gov.au/data/assets/pdf_file/0006/4389/Appendix_A_-_Glossary.pdf)

Wagga Wagga City Council, Development Application Preparation and Lodgement Guide, Reviewed 11 September 2014

[http://www.wagga.nsw.gov.au/data/assets/pdf\\_file/0008/16595/Development-Application-Preparation-and-Lodgement-Guide.pdf](http://www.wagga.nsw.gov.au/data/assets/pdf_file/0008/16595/Development-Application-Preparation-and-Lodgement-Guide.pdf)

# **Appendix A**

## **Teys Beef Processing Facility**

### **September 2015 Newsletter**

# **Appendix B**

## **Engineering Drawings - Proposed Biofilter**

Drawing 1985-001, BIOFILTER UPGRADE OPTION B

Drawing 1985-002, 3 CELL BIOFILTER ARRANGEMENT

Drawing 1985-003, BIOFILTER IRRIGATION SYSTEM

# Teys Australia

## Site Activities Update – September 2015, Wagga



### Introduction

Hi all,

My name is Stephanie Agius, and I have recently moved from Newcastle (along the Central Coast) to start at Teys as a Graduate Environmental Officer. I will be working alongside Dean, and will continue to work with him in not only providing outstanding environmental performance, but also improving it at the Wagga site.

Kind Regards, Stephanie Agius.

### Key Site Contacts

Teys All Hours:	02 6938 3080
Andrew Ross - General Manager:	02 6938 3026
Jan Oostendurp - Engineering Manager:	0400 822 035
David Jenkins – Plant Manager:	0447 556 035
Dean Loughran – Environmental:	0427 810 649



### New Biofilter

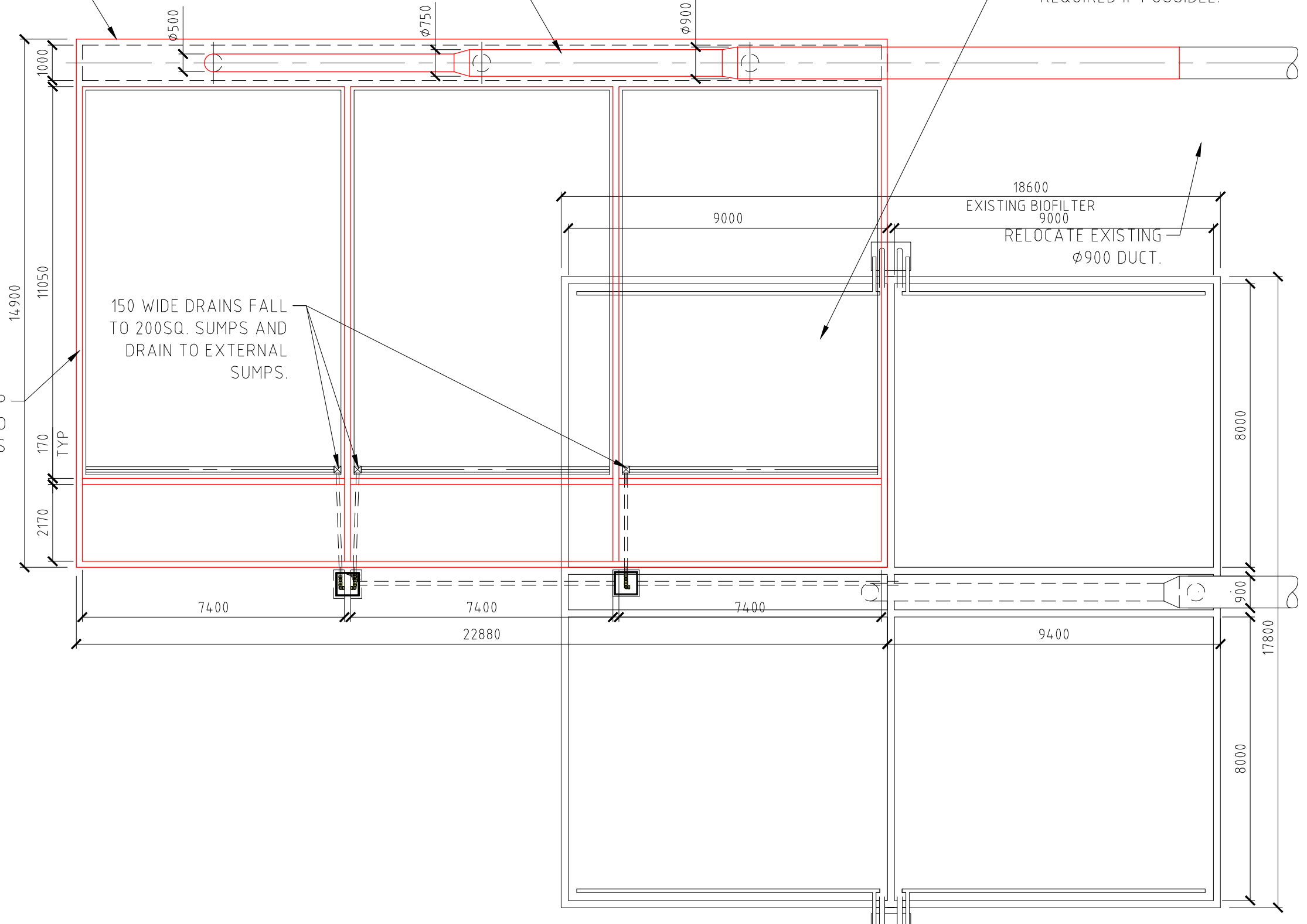
Construction of the new Biofilter is planned to commence in January next year. As we still have a commitment to not only the environment, but the community, the new biofilter will be placed alongside the existing biofilter, which will continue to manage odour control until the new one has finished construction.

We will be utilising the same treatment method, but constructing a biofilter with a new design to help improve our odour control. The biofilter works by trapping rendering odour and sending it into a bed of wood chips, where microorganisms break down odorous air.

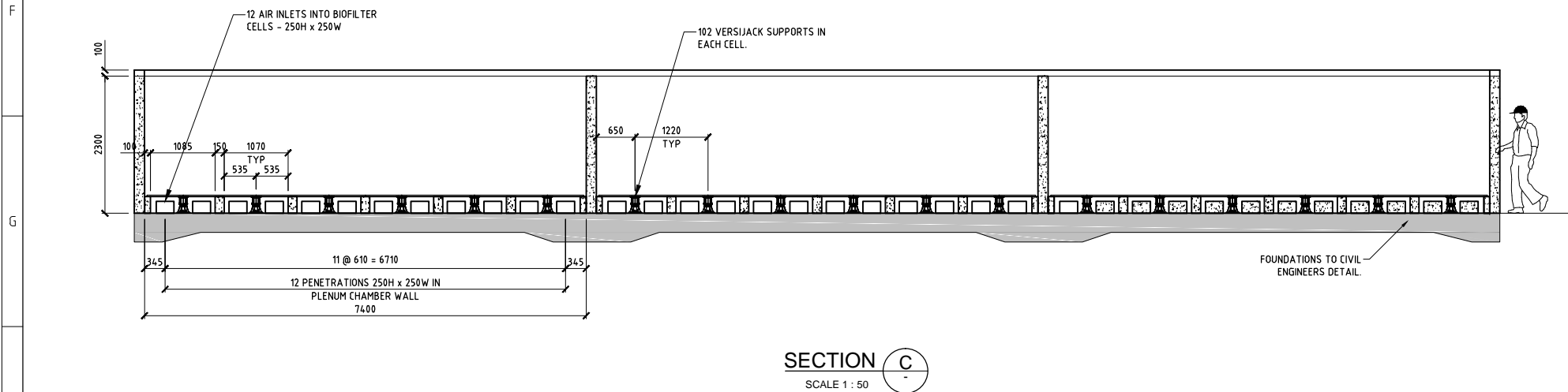
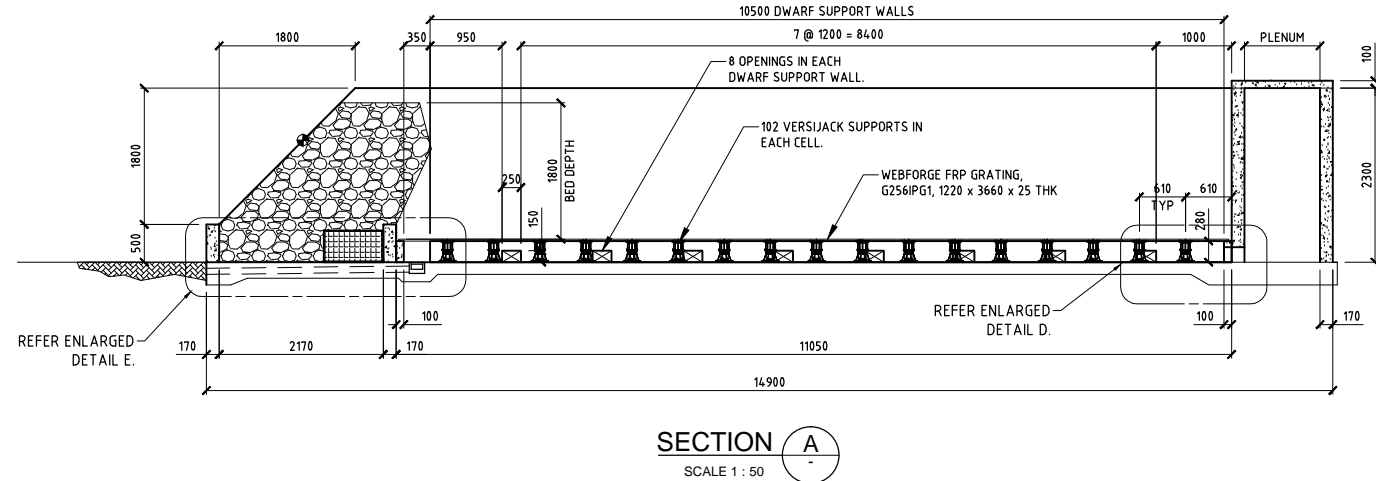
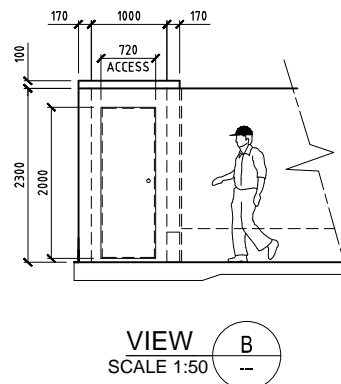
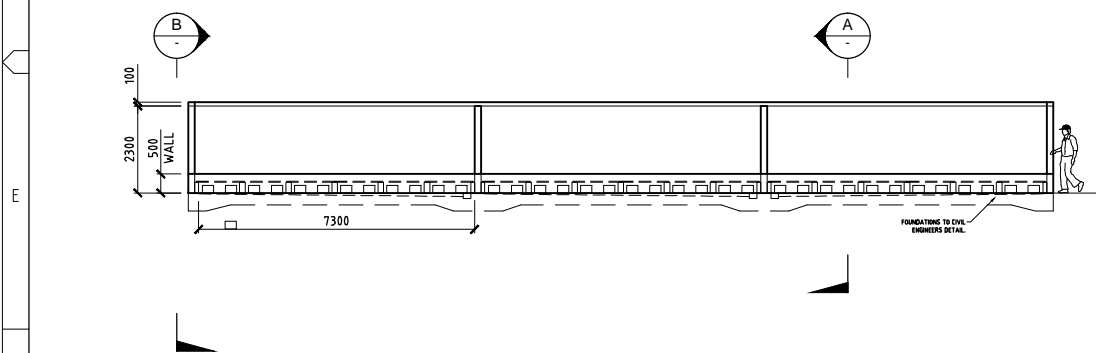
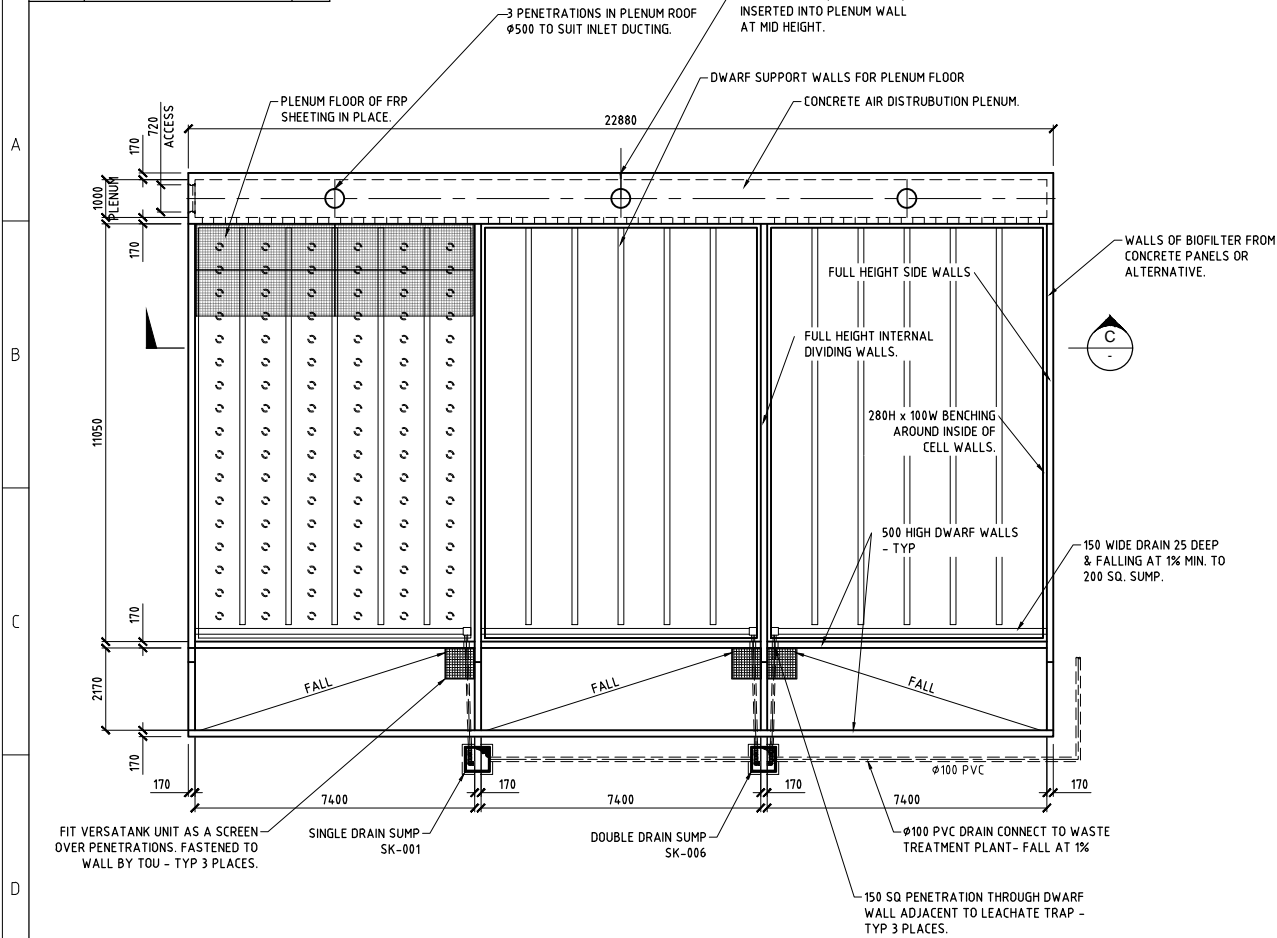
We will continue to keep you posted on progress of the biofilter construction. In the meantime, if you have any questions about the biofilter, or the plant in general; please do not hesitate to call, or alternatively you can email me at [deanl@teysaust.com.au](mailto:deanl@teysaust.com.au).

Regards, Dean L.



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<div> REVISIONS </div>	REV	BY	DATE	A.R.N.	DESCRIPTION	<div> <div> THE ODOUR UNIT PTY LTD  Australian Technology Park  Bay 4, Suite 3011, 2 Locomotive St. Eveleigh. NSW. 2015  Ph: (02) 9209 4420 – Fax: (02) 9209 4421 </div> <div> This design remains the property of The Odour Unit Pty Limited and may not be reproduced or used without permission.   © Copyright The Odour Unit Pty Ltd. </div> </div>	DRAWN TO	SCALE	<div> CLIENT / PROJECT Teys Australia (Southern) Pty Ltd  Wagga Wagga, NSW, 2 </div> <div> TITLE </div> <div> <div> TEYS AUSTRALIA  ODOUR CONTROL SYSTEM  BIOFILTER UPGRADE  OPTION B </div> <div> DRAWING No.  1985-001 </div> <div> C/CODE N1985L  JOB No. 1985  AutoCAD FILENAME  1985-001A.dwg </div> <div> REV  A </div> <div> A3 </div> </div>
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							CHECKED		
							APPROVED	T. SCHULZ	
							DESIGN ENG.	W. WESTWOOD.22 SEPT 14	



- NOTES:**
1. INTERNAL SURFACES OF BIOFILTER SHALL BE WATERPROOFED WITH EITHER FRP OR EPOXY OR APPROVED ALTERNATIVE.
  2. ALL JOINTS BETWEEN FLOOR AND WALL PANELS OR INDIVIDUAL WALL PANELS SHALL BE SEALED TO ENSURE AN AIRTIGHT CONSTRUCTION. REFER TO CIVIL ENGINEERS SPECIFICATION.

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DO NOT SCALE, IF IN DOUBT ASK - DIMENSIONS IN MILLIMETRES U.N.O.

CONTROL  
UNIT

SUPPLY BY OTHERS

$\phi 32$   
 WATER  
 MAIN

— 32mm BALL  
ISOLATION VALVE.

— FILTER, 32 BORE.

DN32 PVC PRESSURE PIPE  
HEADER CLASS 12 TYP

Ø25 FEEDER PIPE.

D

14900

11050

41 DRIPPERS @ 300 = 12000

TYPICAL 3 CELL

2170

25 ROWS @ 300 = 7200  
TYPICAL - 3 CELLS

7400 CELL TYP

— EXIT HEADERS LOCATED MIDWAY DOWN  
SLOPE OF HOPPER FRONT OF CELLS.

NOTE:

ENSURE ALL BAYONET JUNCTIONS ARE SECURED WITH STAINLESS STEEL HOSE CLAMPS.

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							DRAWN	W.WESTWOOD. 15-10-14		TITLE <div>TEYS AUSTRALIA ODOUR CONTROL SYSTEM BIOFILTER BIOFILTER IRRIGATION SYSTEM</div>	C/CODE N1985L	A3
						CHECKED		JOB No. 1985				
						APPROVED	T. SCHULZ	AutoCAD FILENAME				
						DESIGN ENG.	W. WESTWOOD. 15-10-14	1985-003A.DWG				
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5-Oct-14