ELF FARM SUPPLIES MUSHROOM SUBSTRATE FACILITY

Annual Environmental Management Review

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PREPARED BY CSTS PTY LTD

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0	Final	29 September 2017
1	EFS Internal review after Department review	22 November 2017

Executive Summary

As part of its conditions of compliance to the Department of Planning and Environment's project approval 08_255 MOD 1(2016), Elf Farm Supplies is required to produce an 'Annual Environmental Management Review' report of the environmental performance of its project and operations.

The purpose of this document is to comply with Condition 3 of Schedule 5 of project approval No 08_255. MOD 1. Which states as follows:

"By the end of September 2016, and annually thereafter, unless otherwise agreed by the Secretary, the Proponent shall review the environmental performance of the Project to the satisfaction of the Secretary. This review must

(a) describe the operations that were carried out during the reporting period;

(b) analyse the monitoring results and complaints records of the Project during the reporting period, which includes a comparison of these results against the:

i. relevant statutory requirements, limits or performance measures/ criteria;

ii. monitoring results of previous years; and

iii. relevant predictions in the EA;

(c) identify any non-compliance during the reporting period, and describe what actions were (or are being) taken to ensure compliance;

(d) identify any trends in the monitoring data over the life of the Project;

(e) describe what measure(s) will be implemented during the next reporting period to improve the environmental performance of the Project."

This report covers the 12-month period between September 2016 and August 2017. It is set out to assess compliance with items (a) to (e) of Condition 3; Schedule 5 as well as review the overall environmental performance of approval 08_255 MOD 1 project works and operations at the mushroom substrate plant at Mulgrave operated by Elf Farm Supplies for the stipulated period.

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Abbreviations

AEMR – Annual Environmental Review Report.

EA – Environmental Assessment.

EPA – Environmental Protection Authority.

EPL – Environmental Protection Licence.

EFS – Elf Farm supplies.

IEA – Independent Environmental Audit.

SEMA – Stephenson Environmental Management Australia.

ORLA – Odour Research Laboratories Australia.

MOER – Mass Odour Emission Rate.

1. Introduction

1.1. Background

Elf Farm Supplies Pty Ltd (EFS) was established at Mulgrave in 1981 and are a family owned Australian Company. Today, Elf Farm Supplies is one of the leading mushroom substrate (compost) producers in Australia. The largest agricultural enterprise in the Hawkesbury and the only substrate supplier in the Sydney region. Our products are supplied throughout Australia and are integral to the success of the Australian Mushroom Industry.

Modification approval granted on the 14th of March 2016 primarily involves upgrades to the odour management system. The works will be principally associated with the replacement of the existing Pre-Wet processing phase and enhancement of the odour management system (utilising a biofilter).

The approved modification includes;

- Replacement of existing method of odour management used,
- Installation of an emissions treatment plant and ancillary works,
- retrofitting of existing phases 2 and 3 buildings,
- converting the existing Pre-Wet shed for bale-wetting and stale bedding operations.

1.2. Review Scope

This Annual Environmental Management Review (AEMR) report has been prepared pursuant to Condition 3 of Schedule 5 of Project Approval MP 08_0255 MOD 1. This AEMR covers the period from 1 September 2016 to 31 August 2017

Table A lists the requirements of this condition and indicates where each has been addressed in this AEMR report.

Table A Compliance Conditions and Relevant Sections

Condition Requirements	Relevant Section
(a) describe the operations that were carried out during the reporting period;	Section 2.
(b) analyse the monitoring results and complaints records of the Project during the reporting period, which includes a comparison of these results against the: *i. relevant statutory requirements, limits or performance measures/ criteria;* *ii. monitoring results of previous years; and* *iii. relevant predictions in the EA;*	Sections 4, 6, and 9.
(c) identify any non-compliance during the reporting period, and describe what actions were (or are being) taken to ensure compliance;	Sections 3, 7, and 8.
(d) identify any trends in the monitoring data over the life of the Project;	Section 5.
(e) describe what measure(s) will be implemented during the next reporting period to improve the environmental performance of the Project."	Sections 12.

2. Operations Overview

Existing Operation

EFS's operations involve a complex and dynamic process that varies both spatially and temporally. The end product of the process is a mushroom substrate used for mushroom cultivation.

The facility produces mushroom substrate by utilising a five-stage composting process. An overview of the process is as follows:

1. Raw Materials Preparation: This involves combining all necessary ingredients which includes stable beddings, poultry manure, wet straw bales, etc. ready for transport to the Pre-Wet Shed. The straw bales are prepared through the bale wetting process which involves gradually adding water and pulsing fresh air through the straw bales to keep the material aerobic. Similarly, the stable bedding material undergoes wetting and fresh air is pulsed through to keep the material aerobic;

2. Pre-Wetting: the straw bales and other ingredients are blended in the Pre-Wet Shed and re-blended a number of times whilst recycled water is continuously added;

3. Phase 1: the material is processed in bunkers where temperature, oxygen and moisture conditions are controlled and regulated;

4. Phase 2: material is transferred to clean tunnels where it is pasteurised and peak heated to remove any weed, moulds or pests before spawning; and

5. Phase 3: mushroom spawn is added and grown through the substrate for a minimum of two weeks prior to mushroom farm delivery.

Detailed information of the mushroom plant operations process and production are presented thus;

Raw Materials Storage and Preparation Shed

The raw materials storage shed area consists of several bay areas that store dry additive products including poultry manure, cotton seed, gypsum and other seasonal organic nitrogen sources. The ingredients are weighed and mixed together in calculated ratios in an enclosed area.

The mixing is carried out by the "Kuhn" mixing machine. Once mixed, the material is conveyed by a front-end loader to the Pre-Wet Shed where it is placed on top of the straw bales ready for bale breaking by the 'Thilot' blending machine. The mixing of the raw materials is referred to as the preparation of the 'brew' which is a blend of the above ingredients. The frequency and duration of this process is approximately eight hours per week.

Bale Wetting and Stable Bedding Preparation Stage

The bale wetting stage involves the wetting of straw bales with process water (comprising predominately of water from the nearby creek) for several days (currently four days per week).

The stable bedding area is located in the north-eastern corner of the Pre-Wet Building. The stable bedding material is wetted prior to transfer to the Pre-Wet Shed and is placed on top of the brew "rick" as the final layer before the bale breaking process.

Pre-Wet Shed

After bale wetting, the wetted bales are transported by front-end loader into the Pre-Wet Shed and manually de-stringed. Whilst inside the Pre-Wet Shed, the construction of a rick is undertaken. The process for constructing a rick involves the breaking of bales and placement of brew and wetted stable bedding material. This essentially forms the construction of a three-layered rick which is, on average, 90 metres long, 2- 3 metres wide and 6 metres high. Once the construction of a rick is complete, a Thilot blending machine is passed over each rick to mix and break all three layers of material. This process is known as bale breaking. Once the bale breaking process is complete, air is pulsed through each rick via a proprietary in-floor aeration system. Currently, three ricks are typical constructed in the Pre-Wet Shed.

The initial low temperature stage of the mushroom composting process occurs in the Pre-Wet Shed. Building ventilation air from the Pre-Wet Shed is currently collected by four ducts, each with in-duct axial fans, and conveyed to the 'Bioscrubber System' through the Phase 1 Bunkers for treatment before discharge via a tall stack (known as the Bioscrubber Stack).

Phase 1 Working Hall & Bunkers

The material transferred from the Pre-Wet Shed is placed into a hopper mixer in the Phase 1 building. Material in the hopper mixer is conveyed into designated aerated bunkers via an enclosed inclined overhead conveyor, located external to the Phase 1 building. The material is deposited into the bunkers where the aeration rate and temperature are tightly controlled. Material in each filled bunker is removed, deposited back into the hopper mixer and returned to an available bunker, to continue the Phase 1 process. Once the Phase 1 process cycle is complete, material is transferred to the Phase 2/3 building via the Phase 1 to Phase 2 transfer conveyor located outside in the North-Western corner area of the Phase 1 building. Ventilation air from the Pre-Wet Shed is passed through the Phase 1 bunkers with the subsequent exhaust air emissions from the bunkers treated by the existing Bioscrubber System before discharge via the Bioscrubber Stack.

Phase 2/3 Building

The existing Phase 2/3 building consists of a working hall area and a total of twenty-two tunnels. Once the Phase 1 process is complete, material is loaded into a second hopper mixer in the Phase 1 building and outgoing material placed onto a conveyor (known as the Phase 1 to Phase 2 Cross Conveyor) to the Phase 2/3 building. Once material arrives at the Phase 2/3 building, a series of conveyors transfer the material into a dedicated tunnel. During this process, the tunnel is fully vented for up to two hours until filling is complete. The exhaust air during this process stage is discharged via dedicated roof stacks on the current Phase 2/3 building and is known as Tunnel Venting.

Material in the tunnels are kept constantly under aerobic conditions. This is achieved via an extensive airflow channel network. The quality of airflow is controlled by the 'Programmable Logic Controller (PLC) Supervisory' which determines the volumes of recirculated air, makeup of air and discharged air. The exhaust air is discharged via exhaust roof stacks that exist parallel to the tunnel venting exhaust roof stacks (i.e. the southern section of the Phase 2/3 building). Make-up air is drawn through filters in the Phase 2/3 Fan Room. Each tunnel has dedicated exhaust roof stacks and is capable of processing material through all Phase 2/3 stages.

The Phase 2/3 building is kept under a slight positive pressure for quarantine reasons and tunnel conditions are monitored, automated and controlled via a PLC System. The Phase 2/3 process operations consist of several process stages with all stages automatically controlled by the PLC system.

Phase 2 Process Stages

The Phase 2 process cycle consists of the following stages:

- Tunnel Filling;
- Levelling;
- Warm-up Pasteurisation;
- Pasteurisation;
- and
- Conditioning.

Once the Phase 2 process stages are complete, the process will then enter into Phase 3.

Phase 3 Process Stages

The Phase 3 process cycle is characterised by the addition of mushroom spawn and consists of the following stages:

- Spawn Run 1;
- Spawn Run 2; and
- Cool-down (spawn/ship-out).

Once the Phase 3 stages are complete, the fully processed product is shipped out either as a bulk product or packaged in twenty-kilogram blocks.

Bioscrubber System

The existing Bioscrubber System services the Pre-wet and Phase 1 process operations only. Phase 2 and 3 exhaust air emissions are currently discharged untreated via roof stacks.

3. Statutory and Regulatory Requirements

This section of the annual review report gives an overview of environmental non-compliances for the project as relates to relevant regulatory and statutory requirements as displayed in Table B. There are no non-compliances related to the environmental protection licence No: 6229.

The assessment criteria and condition requirements are derived from

- Assessment of compliance with Project approval 08_255 MOD1 (2016).

Penalty Notices

Penalty Notice issued by NSW Environmental Protection Authority
There were no penalty notices issued to EFS by the EPA this review period.

Penalty Notice issued by NSW Department of Planning and Environment

30 September 2016 – Two penalty notices were issued to EFS for breaches relating to the carrying out development not in accordance with Schedule 2, Condition 2 of the Approval 08_0255 in regard to events that occurred on 12th November 2014 and 18th February 2015 respectively.

Licence Variation

On the 23 rd. of September 2016 the EPA issued a variation on the EPL licence. Condition U3:1 imposed a reduced phase 1 weekly production tonnage it states thus

"By 4 November 2016 the Licensee shall restrict the production of mushroom substrate material at the Premises to below 1400 tonnes/week until such time as the works approved at 08_255 MOD1 are completed and operational."

3.1. Project Approval 08_255 Conditions

Table B Non-compliances

Relevant Approval - 08_0255 MOD1	Condition	Condition Description	Compliance Status	Comments
1. Administrative Conditions.				
	2. Terms of Approval	The Proponent shall carry out the Project generally in accordance with the: (a) EA; (b) statement of commitments (see Appendix 1); (c) site layout plans and drawings in the EA; and (d) MOD 1.	**Non-compliant.**	Automatically triggered by any other noncompliance with the approval. No corrective action required.
3. Specific Environmental Conditions – Substrate Plant Site.				
	20. Hours of Work.	The Proponent shall comply with the operating hours in Table 3 at the Substrate Plant site, unless otherwise agreed to in writing by the Secretary.	**Non-compliant.**	There were 3 instances of working outside construction hours. Refer to Section 7. Corrective actions from the non-compliance investigation have since been implemented.
	24. Lighting	The Proponent shall ensure that all external lighting associated with the Substrate Plant site: (a) does not create a nuisance to surrounding properties or roadways; and (b) complies with AS 4282(INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.	**Non-compliant.**	There were 2 lighting related complaints on 25/07/2017 and 29/08/2017. Investigations confirm EFS likely cause. Where applicable, corrective actions from investigation have been implemented.
5. ENVIRONMENTAL MANAGEMENT and REPORTING.				
	4. Revision of Plans & Programs.	the Proponent shall review, and if necessary revise the plans and programs required under this approval to the satisfaction of the Secretary.	**Non-compliant.**	The Independent Environmental Audit noted documents that needed review. Documents highlighted for review and revision have been reviewed or revised.

Compliance status key for Table B

Risk level	Colour code	Description
High	Non-compliant.	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence.
Medium	Non-compliant.	Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur.
Low	Non-compliant.	Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur.
Administrative non-compliance	Non-compliant.	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions).

4. Monitoring Results Analysis

Parts of the project approval conditions and relevant statutory requirements require monitoring programs for certain environmental aspects and impacts. The items for which monitoring is required include;

- Noise.
- Odour.
- Energy efficiency.

During this annual review reporting period, a total of 7 'monitoring exercises' were conducted. These include,

- 4 noise monitoring exercises as per

EPL 6229 - *Noise limits L4.1 Noise generated at the premises must not exceed the LAeq (15 minutes) noise limits presented in the table below:*

Location	Day	Evening	Night
Most effected	44	44	39

Project Approval 08_255 Schedule 3; Condition 18 – Construction noise criteria *"The Proponent shall ensure that the construction noise generated at the Substrate Plant site does not exceed the criteria in Table below"* Construction Noise impact assessment criteria dB(A)

Receiver Location	Day
R1 – 46 Mulgrave Road, Mulgrave	52
R2 – Mulgrave Industrial area	65
R3 – 2 Railway Road, Mulgrave	52
R4 – 126 Mulgrave Road, Mulgrave	52
R5 – Chisholm Place, South Windsor	51

And

Project Approval 08_255 Schedule 3; Condition 19 – Operational noise criteria *"The Proponent shall ensure that the operational noise generated by the Substrate Plant site does not exceed the criteria" Table below*

Operational Noise impact assessment criteria dB(A)

Receiver Location	Day/Evening	Night
R1 – 46 Mulgrave Road, Mulgrave	43	43
R2 – Mulgrave Industrial area	42	42
R3 – 2 Railway Road, Mulgrave	42	37
R4 – 126 Mulgrave Road, Mulgrave	44	41
R5 – Chisholm Place, South Windsor	44	42

- 2 odour monitoring exercises as per EPL6229 - *L2.3 Air Concentration Limits*

Pollutant	Units of measure	100 percentile concentration limit
Odour	odour units per second	55400

- 1 Energy efficiency monitoring which constitutes a part of this AEMR as well and is discussed in section 4.5.

4.1. Noise Monitoring Analysis

2nd September 2016 Monitoring Report

The report for this monitoring exercise indicate preliminary construction works from the EFS's substrate plant were inaudible at all reference receiver locations and would be at least 10dB below the background noise levels.

The results of site attended measurements confirmed that LAeq,15min noise levels from construction activities satisfied the project noise goals in accordance with Schedule 3 - Condition 18 of Project Approval No. 08_0255. The results also indicate compliance with Schedule 3 - Condition 19 of the project approval. (Refer to Appendix C).

14 October 2016 Monitoring Report

It was observed that construction noise from the works associated with the Substrate Plant was inaudible at all measurement locations, except for R5.

At measurement location R5, noise from the concrete vibrator was audible when operational. Noise from reverse alarms was also audible at times at this location. However, due to the influence of background noise, construction noise could not be accurately measured.

The site attended measurements on Thursday 13 October 2016 confirmed that LAeq,15min noise levels from construction activities associated with Elf Farm Supplies Pty Ltd satisfied the project noise goals in accordance with Schedule 3 -Condition 18 of Project Approval No. 08_0255.

Compliance with R5 at Schedule 3 - Condition 19 could not be deduced from the results in the report due to how the data was presented. However, noise data result from the other locations infers compliance with operational noise requirements (Refer to Appendix C).

29th November 2016 Monitoring Report

Construction noise from the upgrade works associated with the Substrate Plant were not audible at measurement locations R1, R2 and R3. Construction activities associated with the use of metal working hand tools and grinder were audible at measurement location R4. Whilst bobcat, front end loader and roller were occasionally audible at measurement location R5.

The results of site attended measurements confirmed that LAeq,15min noise levels from construction activities associated with the 08_255MOD 1 construction works at the Substrate Plant satisfied the project noise goals in accordance with Schedule 3 -Condition 18 of Project Approval No. 08_0255.

Results also infer compliance with operational noise requirements of Schedule 3 -Condition 18 of Project Approval No. 08_0255 (Refer to Appendix C).

26th May 2017 Monitoring Report

This monitoring exercise noted the instantaneous maximum noise levels (SPL) from the use of concrete agitators may approach or marginally exceed the noise limit at R5 (Chisholm Place), however this noise source is present for no more than five (5) minutes in any fifteen (15) minute assessment period and hence LAeq,15min noise level is up to 5dB lower than the measured SPL. Accordingly, although these activities are clearly audible at Chisholm Place and resulted in generation of a noise complaint, the construction noise levels comply with noise limits for construction activities.

The results of site attended measurements confirmed that LAeq,15min noise levels from construction activities at the Substrate Plant satisfied the project noise goals in accordance with Schedule 3 -Condition 18 and 19 of Project Approval No. 08_0255 (Refer to Appendix C).

4.2. Noise Monitoring results and Environmental Assessment Comparison

This section analyses comparison between the noise monitoring results and the environmental assessments (EA)' noise assessment goals and predictions.

In the environmental assessment report, noise predictions and noise assessment goals (LAeq,15min) were determined for five key assessment locations recreated in the table below.

Table C Environmental Assessment Noise Assessment Locations

Reference	Description	Location
R1*	46 Mulgrave Road,	North
R2*	Mulgrave Industrial Area	EAST
R3*	2 Railway Road, Mulgrave	South-East
R4*	126 Mulgrave Road, Mulgrave	South-East
R5*	Chisholm Place, South Windsor	West

*Noise monitoring locations

For the construction noise modelling, nine work scenarios were modelled representing various activities during the three stages of development at the substrate plant facility. The assessment noise modelling results showed that the recommended construction noise goals would generally be satisfied at the reference assessment locations.

The main noise goal exceedances noted in the environmental assessment are associated with dozer and compactor use during filling activities represented in Scenario 1 of the report. For other construction scenarios, a number of noise goal exceedances at residential

receiver locations were identified these were associated with concrete works specifically in Scenarios 2 and 5.

Tables D and E below show the environmental assessment noise goals and predictions for both construction and operations noise levels.

Table D EA Construction Noise Goal and Prediction Levels

Reference Location	Description	Assessment LAeq,15min Goal (Day)	Predicted LAeq,15min Sound Pressure Level	Compliance
R1	46 Mulgrave Road, Mulgrave	47	35	√
R2	Mulgrave Industrial Area	65-70	36	√
R3	2 Railway Road, Mulgrave	47	35	√ x
R4	126 Mulgrave Road, Mulgrave	47	38	√ x
R5	Chisholm Place, South Windsor	46	36	√ x

Note x – reference locations where noise goal exceedance is expected based on construction scenarios.
√- Compliance expected.

Table E Operational Noise Goal and Prediction Levels

Reference Location	Description	Assessment LAeq,15min Goal (Day)	Predicted LAeq,15min Sound Pressure Level	Compliance
R1	46 Mulgrave Road, Mulgrave	47	35	√
R2	Mulgrave Industrial Area	65-70	36	√
R3	2 Railway Road, Mulgrave	47	35	√
R4	126 Mulgrave Road, Mulgrave	47	38	√
R5	Chisholm Place, South Windsor	46	36	√

Note - √- Compliance expected.

As displayed in Table F below aggregate noise monitoring results indicate noise levels are below both the noise assessment goals and predicted noise levels for each category (construction and operation).

The result is consistent with the environmental assessment which predicted complete compliance with operational noise assessment goals and predictions. It should be noted however, regarding compliance with construction noise assessment goals and prediction three of the nine scenarios assessed in the environmental assessment for R5-*Chilsom Place, South Windsor* and R3- *2 Railway Road, Mulgrave* were expected to display noise goal exceedances, whilst noise goal exceedance was expected in one scenario at R4-126 Mulgrave Road, Mulgrave.

In conclusion, review of the noise monitoring exercise measurements and comparison with noise assessment goals and predictions of the environmental assessment indicate overall noise compliance.

Table F Noise Monitoring and EA Predictions Comparison

Location	Noise Assessment Goal LAeq,15min		Predicted Noise Level LAeq,15min		Noise Monitoring LAeq,15min			
	Construction Goal	Operational Goal	Construction Level	Operational Level	Sept 2016	Oct 2016	Nov 2016	May 2017
R1	52	47	50	35	<38	Minimal (inaudible, below background noise level)	<32	<37
R2	65	65-70	56	36	<46	Minimal (inaudible, below background noise level)	<40	<42
R3	52	47	56	35	<43	Minimal (inaudible, below background noise level)	<38	<36
R4	52	47	60	38	<40	Minimal (inaudible, below background noise level)	<44	<43
R5	51	46	55	36	<38	<48 (observed during lulls in ambient sound)	<40	<46

Note: *Due to the use of nine possible scenarios in assessing predicted construction sound levels in the EA, the highest predicted sound level at each location from all nine scenarios was selected as representative for that location.*
Day time operational noise levels were selected as noise monitoring occurred in day time.

4.3. Odour Monitoring Analysis

This section details the results of the bi-annual odour monitoring exercises conducted in compliance with conditions L2 and M2 of the EPL No:6229. These state as follows respectively;

"L2 concentrations limits

L2.1 For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table."

Pollutant	Units of measure	100 percentile concentration limit
Odour	Odour units per second	55400

"M2 Requirement to monitor concentration of pollutants discharge

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns"

M2.2 Air Monitoring Requirements

Pollutant	Units of measure	Frequency	Sampling Method
Odour	odour units per second	Special Frequency 1	OM-7
Temperature	Kelvin	Special Frequency 1	TM-2
Velocity	metres per second	Special Frequency 1	TM-2
Volumetric flowrate	cubic metres per second	Special Frequency 1	TM-2

M2.3 For the purposes of the table above 'Special Frequency 1' means 'six monthly'."

26-31 October 2016 Odour Monitoring

This odour emission survey was conducted over a typical composting cycle. The measured stack Mass Odour Emission Rate (MOER's) for the monitoring period were in the range of 31,000 ou.m3/s to 43,000 ou.m3/s. The average MOER for the spring 2016 composting cycle, which was considered to be typical, was 36,000 ou.m3/s. Therefore, these MOER's comply with the EPA/OEH EPL No. 6229 Licence Criteria of 55,400 ou.m3/s Rolling Annual Average. Data results from the monitoring exercise are displayed in Table G.

Table G Odour Emission Concentration Results Oct 2016

Day of Week	Wednesday	Thursday	Friday	Sunday	Monday
Date	26/10/2016	27/10/2016	28/10/2016	30/10/2016	31/10/2016
Time Sample Taken (hours)	13:52	03:00	03:13	08:35	03:11
SEMA Sample No.	725834	725835	725837	725838	725839
ORLA Sample No.	4590	4591	4594	4596	4597
Concentration (ou)	1,800	2,000	2,400	2,000	2,200
Stack Velocity (m/s)	15.4	15.0	15.9	14.1	14.7
MOER (ou.m3/s)	31,000	34,000	43,000	33,000	37,000

Key:
ou = odour unit
m/s = metres per second
MOER = Mass Odour Emission Rate
ou.m3/s = odour unit volumes per second

03-08 May 2017 Odour Monitoring

This odour emission survey was also conducted over a typical composting cycle. The measured stack MOER's for the monitoring period were in the range of 27,000 ou.m3/s to 48,000 ou.m3/s. The average MOER for the autumn 2017 composting cycle, which was considered to be typical, was 40,000 ou.m3/s. Therefore, these MOER's comply with the EPA EPL No. 6229 Licence Criteria of 55,400 ou.m3/s Rolling Annual Average. Data results from the monitoring exercise are displayed in Table H.

Table H Odour Emission Concentration Results May 2017

Day of Week	Wednesday	Thursday	Friday	Sunday	Monday
Date	03/05/2017	04/05/2017	05/05/2017	07/05/2017	08/05/2017
Time Sample Taken (hours)	13:55	03:00	03:19	16:01	03:05
SEMA Sample No.	726212	726213	726214	726215	726216
ORLA Sample No.	4712	4713	4714	4715	4716
Concentration (ou)	2,900	2,400	2,900	1,700	2,200
Stack Velocity (m/s)	14.4	14.7	15.1	14.6	15.0
MOER (ou.m3/s)	48,000	39,000	48,000	27,000	38,000

Key:
ou = odour unit
m/s = metres per second
MOER = Mass Odour Emission Rate
ou.m3/s = odour unit volumes per second

4.4. Odour Monitoring Results and Environmental Assessment Comparison

The environmental assessment predicted emissions would be within the existing licence limit at all times for existing production rates.

The data and estimates in Table I below derived from the environmental assessment indicate bio-scrubber stack odour testing result for phase 1 will be well below the emissions limit of 55,400 odour units per second annual rolling average contained in the licence.

Table J below confirms this assessment, though on aggregate the average 1000tpw MOER for the two monitoring results are higher than was recorded in the environmental assessment.

Table I Environmental Assessment Testing for Bio-scrubber

Date	Average material amount loaded in Phase 1 tunnels (tonnes)	Equivalent product material in Phase 1 tunnels (tonnes)	Average odour Concentrations (ou)	Average odour emission rate (ou.m^3/s)
14th Mar to 20th Mar 2007	1360	1046	1271	19447
28th Sept to 2nd Oct 2009	2309	1775	1847	29640
11th Oct to 15th Oct 2010	1611	1239	1627	27438
Estimated bioscrubber stack emission 1	1300	1000	-	19200

Table J Existing and Predicted Odour Emissions

UNITS	Estimated 1000 tpw	Oct 2016 Estimate for 1000 tpw	May 2017 Estimate for 1000tpw
Concentration (ou)	-	2100	2400
Stack Velocity (m/s	-	15.0	14.8
MOER (ou.m3/s)	19200	27692	28715

4.5. Energy Efficiency Monitoring Analysis

Electricity bills are reviewed monthly and gas bills quarterly. Total energy consumption data is compiled annually and reviewed against production data as per energy efficiency plan to confirm that energy efficiency is being maintained or improved.

At first glance, current data analysis would indicate a decline in electricity energy efficiency as shown in Table K below. Data sets in Table K show energy use per tonne increase year on year as well as a 27.7% per tonne increase in electricity use for 2017 financial year compared to the figure for the environmental assessment.

However, reduced annual phase 1 tonnage production was a result of licence variation imposed by the EPA which limited phase 1 substrate production to 1400 tonnes per week.

The reduced tonnage production of phase 1, did not impact transfer rate to Phase 2/3 which is where the bulk of the electricity consumption occurs. This is because though phase 1 tonnage was reduced the tonnage transferred to Phase 2/3 remained consistent. Consequently, the reduction in tonnage in phase 1 does not translate to a proportional reduction in tonnage in phase 2/3 and by extension electricity consumption.

Table K Existing and Predicted Electricity Consumption

	Annual Electricity Consumption Summary					
Month	Environmental Assessment		Energy for Financial Year 2017		Energy for Financial Year 2016	
	Usage (MWh)	Production (Tonnes)	Usage (MWh)	Production (Tonnes)	Usage (MWh)	Production (Tonnes)
Total	3000	52000	5342.6	72504	5324.9	78,110
Electricity consumption rate (kWh/tonne)	57.7kWh/t		73.7kWh/t		68.2Kwh/t	

5. Trends in Monitoring Data

5.1. Noise Data Trend Analysis

Overall, all noise results are well below imposed construction and operational noise limits.

Locations R4 and R5 registered modest upticks in sound levels, with R5 showing a progressive increase in sounds levels. This is to be expected however, as R5 is the closest location to most of the construction works and the most densely populated assessment location.

Three of the nine scenarios explored in the environmental assessment also indicated the potential for increased sound levels at these locations.

Conversely Location R3, displayed a steady decrease in noise levels. This could be attributed to the location being further away from the site than R2 and R4, as such its more impacted by ambient noise than by the construction noise.

Locations R1 and R2 show an overall drop in noise levels from the first noise testing of 2nd September 2016, however there was a slight uptick in noise levels between noise readings of November 2016 and May 2017.

When current readings are expressed as a percentage of construction noise limits, data indicates noise level are below 85% of maximum allowable levels at all monitoring locations.

R1 = 71%

R2 = 64.6%

R3 = 69%

R4 = 82.69%

R5 = 75.41%

Further assessment will be conducted to explore ways of reducing the trending increase in noise levels observed at locations R4 and R5. Refer to Table L for data.

Table L Noise limits and EA estimates

Location	Construction Noise Limit LAeq,15min	Sept 2016 Estimated Construction Noise Contribution LAeq,15min	Oct 2016 Estimated Construction Noise Contribution LAeq,15min	Nov 2016 Estimated Construction Noise Contribution LAeq,15min	May 2017 Estimated Construction Noise Contribution LAeq,15min
R1	<52	<38	Minimal (inaudible, below background noise level)	<32	<37
R2	<65	<46	Minimal (inaudible, below background noise level)	<40	<42
R3	<52	<43	Minimal (inaudible, below background noise level)	<38	<36
R4	<52	<40	Minimal (inaudible, below background noise level)	<44	<43
R5	<61	<38	<48 (observed during lulls in ambient sound)	<40	<46

5.2. Odour Data Trend Analysis

Odour unit concentrations displayed a slight daily increase in daily measurements between the two analysed reporting periods. The average for the most recent data period i.e. May

2017 is 2420 ou compared to an average of 2080ou for the October 2016 measurements representing a 16% increase in average daily odour readings.

The annualised rolling average for Mass Odour Emission Rate (MOER) showed an 11% increase for results between both sampling exercises. However, the most recent (May 2017) result indicate annualised rolling average MOER is below the permitted licence allowance by 28%.

Stack velocity remained constant over both monitoring periods.

The average MOER for the autumn 2017 composting cycle, which was considered to be typical, was 40,000 ou.m3/s while the average MOER for the spring 2016 composting cycle, which was considered to be typical, was 36,000 ou.m3/s.

This implies a 4000 ou.m3/s increase in MOER. There was an increase in average weekly Phase 1 substrate production of 60tpw between the October 2016 monitoring exercise and the May 2017 monitoring exercise representing a 3.57% increase in average weekly production. However, the rolling annual MOER recorded an annualised percentage increase of 11%.

It is plausible the 3.57% increase in substrate weekly tonnage production resulted in an annualised MOER of 11%, however, there could also be other extraneous factors such as climatic season of the year having an impact.

Table M shows a comparison of the data between the two monitoring periods for odour concentrations, stack velocity and MOER.

Table M Sampling Exercise Odour Comparison

UNIT	Oct 2016	May 2017
Concentration (ou)	2080	2420
Stack Velocity (m/s	15.0	14.8
MOER (ou.m3/s)	36000	40000

Key
ou = odour unit
m/s = metres per second
MOER = Mass Odour Emission Rate
ou.m3/s = odour unit volumes per second

5.3. Energy Data Trend Analysis

Electricity Use Trend Analysis

The average production rate for mushroom substrate (phase 1 as per licence) 2017 financial year is 1394 tonnes per week. Total electricity consumption for the financial year is 5 342 567 KWH. Averaged out on a weekly bases electricity is consumed at a rate of 102742 Kwh, this itemised per tonnage equates to 73.7 Kwh. Compared to the electricity consumption per tonnage last year there was an 8.2% increase in electricity consumption. The cause of this increase has been explored in section 4.5 above. Refer to Table N below.

Table N Annual Electricity Consumption Data Comparison

	Electrical Energy Consumption Annual Summary					
Month	Energy for Financial Year 2018		Energy for Financial Year 2017		Energy for Financial Year 2016	
	Usage (MWh)	Production (Tonnes)	Usage (MWh)	Production (Tonnes)	Usage (MWh)	Production (Tonnes)
July	424.5	6905	410.3	5962	434.3	6,055
August	429.1	5524	393.6	7391	430.6	7,547
September			392	5834	429.7	6,068
October			416.3	6731	474.7	6,041
November			415.7	4858	432.0	7,238
December			474.9	5528	457.6	6,096
January			525.9	6947	488.3	6,067
February			480.2	5581	459.1	7,563
March			512.4	5583	473.1	5,990
April			442.7	5590	431.9	5,935
May			452.5	6971	407.9	7,508
June			426.1	5528	405.7	6,002
Total			**5342.6**	**72504**	**5324.9**	**78,110**
Energy consumption rate (kWh/tonne)	**NA**		**73.7Kwh**		**68.2Kwh**	

Gas Consumption Trend Analysis

Total substrate production for the periods under comparison were 77861 tonnes and 71580 tonnes for September 2015 – August 2016 and September 2016 – August 2017 respectively.

Total gas use was 1606.5 GJ (2017) compared to the same period in 2016 which recorded 1805.9GJ, this represents a 199.4 GJ decrease. Representing a 11.04% reduction in gas consumption.

On a per tonnage basis, gas consumption this 2017 period stands at 22.44 kj/tonne compared to 23.19 kj/tonne for the same period last year (2016). (See Table O).

Table O Annual Gas Consumption Data Comparison

Gas Consumption Annual Summary: 2016 – 2017							
Review Period (Sept 2016 – Aug 2017)				Review Period (Sept 2015 - Aug 2016)			
Billing Period	Usage (GJ)	Bill days	Production (Tonnes)	Billing Period	Usage (GJ)	Bill days	Production (Tonnes)
September 2016 - November 2016	461.9	90	17423	**September 2015 - November 2015**	464.3	91	19347
December - 2016 February 2017	487.8	91	18056	**December 2015 - February 2016**	472.5	90	19726
March 2017 - May 2017	257.5	90	18144	**March 2016 - May 2016**	391.7	90	19433
June 2017 – August 2017	399.3	91	17957	**June 2016 - August 2016**	477.4	91	19355
Total Gas consumption (GJ)/	1606.5 GJ			1805.9 GJ			
Total production Tonnes	71580 tonnes			77861 tonnes			
Total Gas consumption rate (kJ/tonne)	22.44 kj/tonne (0.02244 GJ/tonne)			23.19 kj/tonne (0.02319 GJ/tonne)			

Note – Figures are rounded to nearest decimals

6. Complaints Records Analysis

6.1. Trends – complaints data

Complaints peaked in May 2017 (11) and September 2016 (10) and remained relatively stable across the remaining months. On average, six complaints or enquires were received each month. The lowest number of complaints was in June 2017 (2). Enquires were only received in six out of the twelve months.

6.2. Comparing data from the previous year

Compared to the same reporting period last year, there was a 17% increase in complaints and enquires this year (Table P). The breakdown of complaint and enquiry type has remained relatively the same. There were slightly less odour complaints this reporting year but a higher number of complaints / enquires in all other categories. Comparatively more complaints were lodged with the EPA this reporting year, compared to the previous year.

Table P Number of complaints and enquires by reporting period

Reporting period	Number of enquires and complaints
1 September 2015 to 31 August 2016	59
1 September 2016 to 31 August 2017	69

6.3. Actions taken to address complaints

Investigations limited to desktop due to timing of reports received. Desktop investigations were conducted in accordance with complaints procedure.

Elf Farm Supplies is in the process of constructing MOD1 to fully enclose the operations and install the new emissions plant.

Table Q Complaint Data Analysis

Complaints Period	Number of Complaints	Number of Wind Direction - Confirmed	Number of Wind Direction - Uncertain	Number of No-Location of Complaint Given	Mushroom Substrate Process		
					Complaints when undertaking Transfer	Complaints when Blending Phase 1	Complaints when Blending PW
Sept-Dec '12	2	1	1	1	n/a	n/a	n/a
2013	109	43	46	22	22	13	39
2014	68	30	30	9	9	13	17
2015	125	74	32	8	14	44	22
Jan-Sept '16	35	20	15	-	9	22	8
Sept 16 - Oct 17	53	10	21	4	28	12	19
Totals	**392**	**178**	**145**	**44**	**82**	**104**	**105**

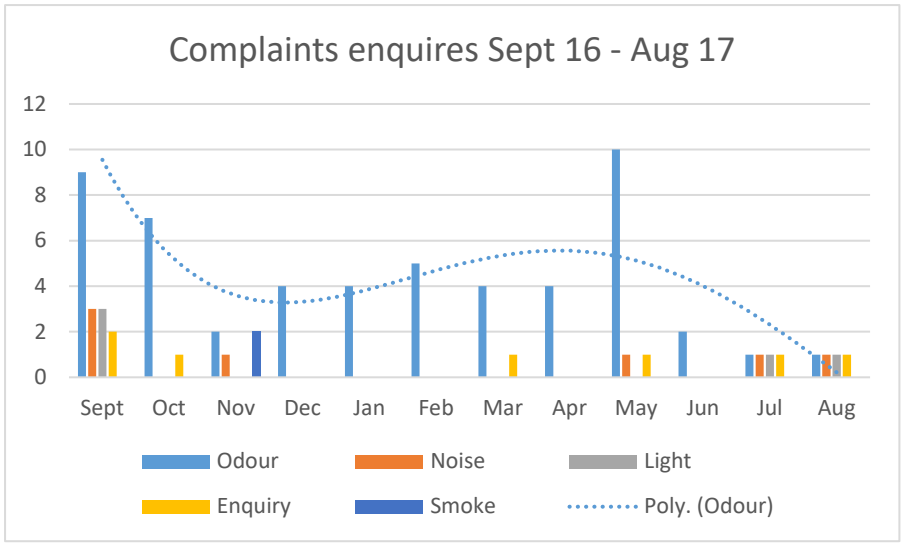

Figure 1 Complaints Chart

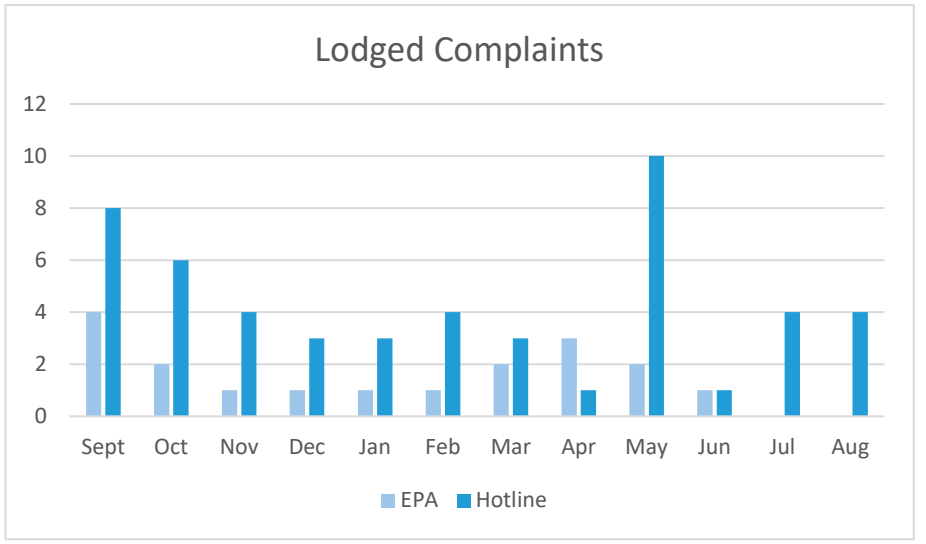

Figure 2 Lodged Complaints

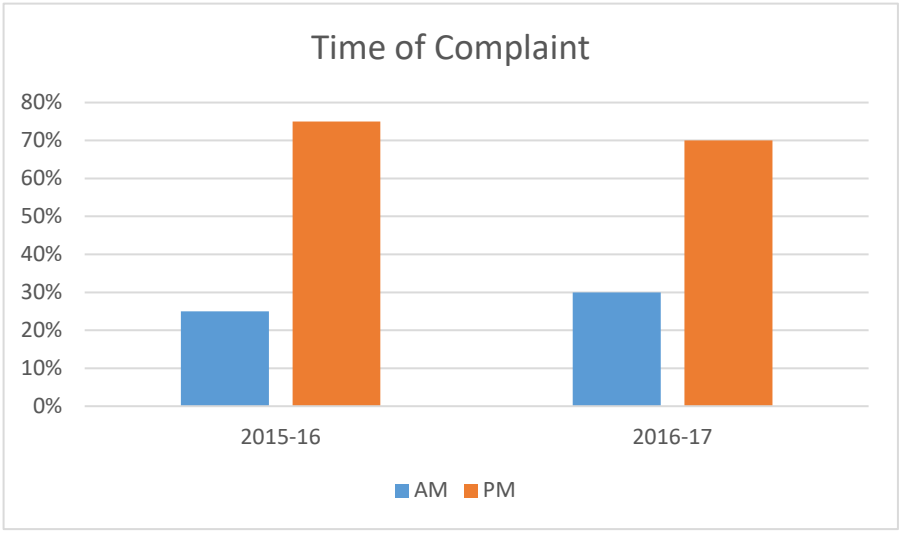

Figure 3 Time of Complaint comparison

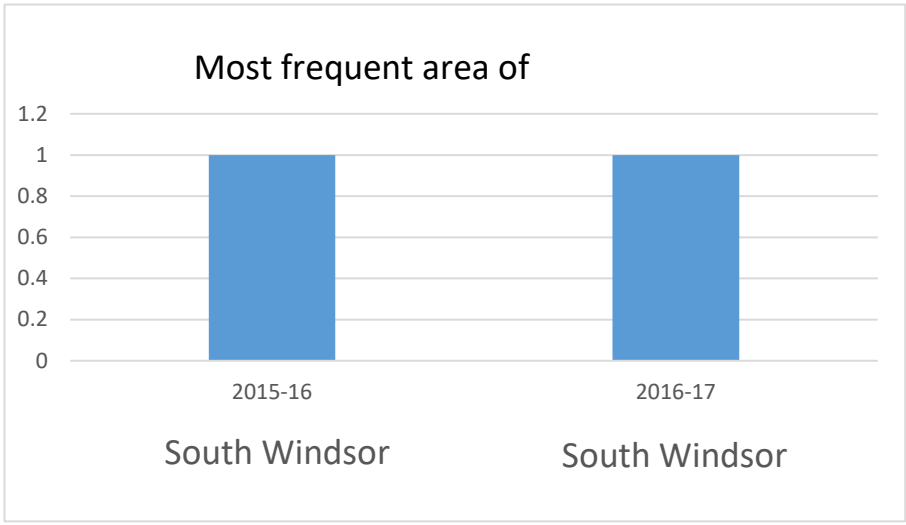

Figure 4 Frequent Location comparison

7. Non-compliances

This section addresses the non-compliances that occurred in the year under review as required by subclause(c) of condition 3; schedule 5.
"identify any non-compliance during the reporting period, and describe what actions were (or are being) taken to ensure compliance;"

7.1. Summary of Non-compliances

A total of 4 incidents of non-compliance were recorded for this annual review year, 3 were construction related, and 1 was in relation to an administrative condition of the approval.

The 3 non-compliances for construction activities were for working outside construction work hours, specifically, '*Schedule 3; Condition 20 - Hours of Work*'.

It states as follows:

"The Proponent shall comply with the operating hours in Table 3 at the Substrate Plant site, unless otherwise agreed to in writing by the Secretary."
Operating Hours

Activity	Day	Time
Construction	Monday – Friday	7:00am to 6:00pm
	Saturday	8:00am to 1:00pm
	Sunday and Public Holidays	Nil
Operation	All days	Any time

The 1 non-compliance related to an administrative condition of the approval specifically Schedule 2: Condition 2(d);
"2. The Proponent shall carry out the Project generally in accordance with the:
(d) MOD 1."

This non-compliance is automatically triggered by any other non-compliance. As such corrective actions for the triggering non-compliance automatically addresses this non-compliance.

Table R below gives a summary of the non-compliances and the relevant statutory requirements.

7.2. Non- Compliance Analysis

Table R Non-compliances

Approval/Licence	Noncompliance Number (NCN)	Schedule	Condition	Requirement
Project approval 08_0255 MOD 1.	**NCN 1**	Schedule 3	Condition 20 – Hours of Work.	Construction hours.
Project approval 08_0255 MOD 1.	**NCN 2**	Schedule 2	Condition 2(c) Terms of approval.	The Proponent shall carry out the Project generally in accordance with the: (d) MOD 1.
Project approval 08_0255 MOD 1.	**NCN 3**	Schedule 3	Condition 20 – Hours of Work.	Construction hours.
Project approval 08_0255 MOD 1.	**NCN 4**	Schedule 3	Condition 20 – Hours of Work.	Construction hours.

7.3. Corrective Actions

Table S details the non-compliances recorded for the annual review year and the respective corrective actions recommended.

Table S Corrective actions

Date	NCN	Non-Compliance	Details of Non-compliance	Corrective Actions
7/09/2016	**1**	**Hours of Work**	Construction work outside of stipulated constructions hours. Work lasted till 8pm. 2 hours past stipulated construction stoppage time of 6pm (weekdays). **Cause:** Trailing of special mix concrete that cured slower than anticipated.	When doing larger pours/afternoon pours concrete accelerant may be used.
7/09/2016	**2**	**Terms of approval.**	**Cause:** Caused by other non-compliances as relates to requirement to carry out works in general accordance with project approval MOD 1.	Constant diligence to avoid triggering non-compliances.
30/11/2016	**3**	**Hours of Work**	Construction work outside of stipulated constructions hours. Construction works lasted 2 hours and 50 minutes past stipulated construction time. **Cause:** Four-hour delay in concrete delivery and rainfall later in the day.	Cause of incident is extraneous factors which resulted in a 4-hour delay to delivery of concrete for pouring and thus a 2 hour 50 min extension in construction works. It is anticipated that situations such as this would arise again in the future, consequently the most feasible corrective actions would be reactive rather than proactive. As a result, the Department of Planning and Environment Should be contacted and a workable solution that allows for working outside construction hours in special circumstances need to be sought.
21/07/2017	**4**	**Hours of Work**	Construction work outside of stipulated constructions hours. Construction works lasted 4 hours and 45 minutes past stipulated construction time. **Cause:** Delay in concrete delivery and winter conditions.	Cause of incident is extraneous factors which are not within the management purview of EFS. Discussions were taken up with the supplier about our working hours requirements.
25/07/2017	**5**	**Lighting**	Construction work, 21/07/2017, outside of stipulated constructions hours. Construction works lasted 4 hours and 45 minutes past stipulated construction time which required lighting to complete task. **Cause:** Delay in concrete delivery and winter conditions.	All efforts were made to avoid lighting being directed to residential area. This was demonstrated as the complaint was for only a 30 minute timeframe over the 4 hours and 45 mins of work. Discussions were taken up with the supplier about our working hours requirements.
29/08/2017	**6**	**Lighting**	Delivery of shipping container.	Port operations dictate time slots for transport companies to pickup containers. All efforts are made by drivers to keep lights to a minimum, which includes switching off headlights once positioned. Future Containers were unloaded in different area of the site.

Note: NCN – Non-compliance number

8. Independent audits summary

One audit exercise was conducted during the reporting period, this was the Independent Environmental Audit (IEA) which was completed as per schedule 5; Condition 3A of project approval 08_055 MOD1.

The Independent Environmental Audit (IEA) was carried out between September 2016 and March 2017.

The IEA deemed all non-compliances were of a low risk.

8.1. IEA recommendation

The recommendations from the independent audit are itemised thus;

- Ensure that the review of all plans and programs required under this development consent is undertaken as soon as possible.
- Elf Farm Supplies website should be reviewed as the auditor found it difficult to find information, it did not appear to be in logical locations.
- Also recommend including dates of entry for construction updates, to allow verification of when the updates occurred.
- Suggest having the 'Complaints Procedure' under 'Environmental Reporting' instead of 'Document Archive' on the website.

These recommendations have since been completed.

9. Community

A number of engagement activities and feedback opportunities have been provided during the reporting year, and these have been extensively promoted to the local community and registered parties.

The below table identifies the community engagement activities that have been delivered by Straight Talk, an independent community engagement consultancy, on behalf of EFS between 1 September 2016 to 31 August 2017.

Table T Community engagement activities (September 2016 to August 2017)

Community engagement activities	Frequency	Promotion
Community Liaison Committee	One meeting	• Via committee member email list • Committee meeting notes published on committee website
Complaints and enquires line (email and phone)	Throughout	• Hawkesbury Gazette (X2)* • Hawkesbury Courier (X2)* • Hawkesbury District Independent (X2)* • E-newsletter (X5) • Website • CLC meetings (X1)
Website	Throughout	• Hawkesbury Courier advertisement (X6) • Hawkesbury Gazette advertisement (X6) • Hawkesbury District Independent (X5) • E-newsletter (X4)
Four Community Information Sessions (three-hours per session)	Quarterly	• Hawkesbury Gazette (X6) • Hawkesbury Courier (X6) • The Hawkesbury District Independent (X5) • E-newsletter (X4) • Website • Invitations sent to the project mail list (X3)
Construction Update E - newsletters	Five E-newsletters	• Hawkesbury Courier advertisement (X2) • Hawkesbury Gazette advertisement (X2) • Hawkesbury District Independent (X2) • E-newsletter (X4) • Website

*The combined circulation of the Hawkesbury Courier, Hawkesbury Gazette and Hawkesbury District Independent per edition is approximately 47,000 copies.

**Web analytics captured from 13 November 2016.

EFS established a Community Liaison Committee (CLC) to facilitate and support effective communication between EFS and the Mulgrave area community.

Through two-way communication the CLC discussed community issues and concerns in relation to the operation of EFS. The CLC played a role in monitoring and reviewing the performance of the facility, in terms of its impact on the surrounding community.

The CLC, assisted EFS to establish a constructive relationship with the community and develop a collaborative approach to discussing and addressing issues of concern that impact on the community, related to the operation of the mushroom compost facility.

The final CLC meeting took place on Wednesday 23 November 2016.

The CLC website is still available and provides information about the CLC as well as records of past meeting agendas and meeting notes from each quarterly CLC meeting these can be accessed at *http://www.elffarmsupplies.com.au/elfclc/*.

Further to this, information and reports relating to complaints/feedback received by EFS through its complaint/feedback line are also uploaded monthly to the EFS website (www.elffarmsupplies.com.au*)*.

Elf Farm Supplies continues to hold a series of public information session on the upgrade of its Mulgrave facility. The information sessions provide the community with an opportunity to learn more about the project and to talk with members of the project team.

10. General Environmental Performance Review

During this annual review reporting period (September 2016 – August 2017) EFS has continued undertaking measures to improve best practise environmental management standards were possible. To this end, various initiatives have been undertaken with regards to the existing plant operations and processes and project construction works. Specifically, the handling of raw and product materials during the mushroom substrate process. Though much of the current initiative to control fugitive odour emissions is aimed to be achieved through infrastructure modifications in accordance with current undertaking.

General Conditions Licences and Approval

EFS continued endeavouring to achieve complete compliance with statutory and regulatory conditions. This goal was achieved this review period as relates to the EPL No:6229, however there is opportunity for improvement for compliance with conditions of project approval 08_055 MOD 1.

Waste Minimisation

EFS continues to improve on its construction and operations process to ensure all materials are utilised in their entirety. There is a recycling program in place to recycle and reuse waste construction materials from the project works. Current operations do not leave any excess compost on site as these and packaged and forwarded to landscaping companies for use.

Leachate Control & Containment

In accordance with EPA Licence 6229 Condition O4.5*; the licensee must "De-Sludge the leachate collection pit (if sludge is present) at least fortnightly and keep a record".*

A copy of the register is kept on-site at all times. This de-sludge register was also audited as part of the Independent environmental audit and found to be compliant.

Air Quality and Dust

Access roads are sealed, with significant parts gravelled, as most of the construction activities conducted in the review period were structural not civil there were no issues with air quality or dust control. There were no dust complaints during the reporting period.

There was no visible dust was observed leaving the site during routine site inspections.

Noise

There were six noise complaints lodged this reporting period. Though all noise monitoring data indicate compliance with noise assessment criteria limits, there were instances where works extended beyond approved work hours and noise complaint was received. Working within approved work hours is a performance indicator for noise, as such, there is room for improvement in this instance.

To ensure continued best practice performance for this environmental aspect efforts will continue to be made to undertake construction activities in accordance with AS 2436:1981, *Guide to Noise Control on Construction, Maintenance and Demolition Sites,* with all equipment demonstrating compliance with the noise levels recommended in the standard.

these efforts will include;

- Selecting plant and equipment based on acoustic performance where practicable;
- Reduce operating speeds where practical and switching off idle plant;
- Arranging for trucks to travel in a forward direction throughout the site and minimise reversing or manoeuvring where possible;
- Confining construction work to hours approved in condition 20 of the appproval;
- Review the use of mobile plant reversing sirens and alter work practices where practical, or replace with broad band or level varying alarms;
- When concrete pours are taking place, locate concrete trucks and pumps in a manner that will maximise screening to residential properties to the south and west;
- Where practicable scheduling the noisiest activities to occur during parts of the day when ambient noise levels are higher;
- Continued implementation of site noise and vibration minimisation as part of induction and toolbox for all staff and contractors.

Energy Efficiency

EFS continues to explore means of improving its energy efficiency and further reducing its ecological footprint. Options being considered include implementing energy saving equipment and operational processes where viable.

Annual Returns and Annual Waste Summary

The Annual Return and annual waste summary for 2017 have been lodged in accordance with the NSW EPA requirements. There were no non-compliance incidents that resulted in a Penalty Notice or referrals for this review period. Refer to Section 7.2 Table R of Non-Compliance also see Appendix D – annual returns and waste summary.

Stormwater and Erosion and Sediment Control

Efforts were made to minimise stormwater discharge impacts. Erosion and consequent sediment deposition efforts include extensive use of bioretention and sediment basins and dams.

Performance indicators include;

- No visible evidence of sediment or turbid water escaping the work sites.;
- No bare patches of ground following restoration works;
  and
- Temporary structures are to be removed when they are no longer required.

These indicators were adequately satisfied, as evidenced from routine site inspections.

Flora and Fauna

As per the recommendations of the Flora and Flora impact assessment of the environmental assessment.

- Tree removal was avoided wherever possible and tree planting was actively conducted where feasible for example with the tree corridor. Currently, there are no further clearing or civil works ongoing or required.
- There was no machinery incursion or works in remnant woodlands areas.

- There was no stormwater discharge or sediment deposition in remnant woodland areas.
- Plans are being considered to plant more local native species at the eastern (road frontage) end of the property and as screen plants around the site.
- Suppression of weeds on the construction site and protect existing landscape planting that is to be retained.

There was no disturbance to vegetation beyond fill areas, other than normal maintenance and weed removal. There is also no evidence of significant weed outbreak in the landscaped areas affected by construction work. Indicating overall compliance with the key performance indicators for this environmental aspect.

11. Action Items from Previous Annual Review

Proposed action items from the last AEMR were mostly related to measures to further ensure the minimisation of odour emissions from the EFS substrate facility the proposed measures include:

- Continue with the installation of plastic strips or similar along the northern section of the Raw Materials Storage Shed; *This has since been completed in December 2016.*

- Install plastic strips or similar in the upper section of the doorways at both the north-eastern and south-eastern corner of the Prewet building; *All plastic sheeting has been completed and repaired.*

- Continue cladding and sheeting repair works to the southern and eastern wall and 1 metre section (eastern) roofing of the Phase 1 building; *Phase 1 building is sealed and all damages are repaired as soon as possible (usually within 24 hours). No outstanding works required as at compilation of this annual review report.*

- Phase 1 to Phase 2 Building Transfer Conveyor - Install/enclose Phase 1 Transfer Conveyor transfer point located next to the Phase 1 building northern wall. This should be carried out in a manner that attenuates fugitive odour emissions from this area. *These works have since been completed*

11.1. Action Required from Department or other agencies from previous review

No Actions provided from previous annual review.

12. Forecast and Proposed Environmental Improvements

Construction works continue to progress to significantly improve the control, capture and treatment of process odours in accordance with project approval 08_0255 MOD 1.

The modifications and engineering upgrades are already underway and slated to be completed by March 2018.

It is expected that all construction works would be completed by the next annual review reporting period. This would imply the possibility of limited monitoring data from the new operational biofilter systems. It would also have an impact on what monitoring data is collected and how it is collected.

Proposed measures to improve environment performance over the next review period include;

- Ensuring all project submission and re-submission requirements are entered into a compliance tracking system to ensure they are followed through on in the prescribed timeframes.
- (Consideration) of possible transition from the Environmental Management Strategy procedure to an ISO 14001 compliant Environmental Management System.

12.1. Next Annual Review

The next annual review is due a year from this report date that is by the end of September 2017 as per the requirements in Condition 3 Schedule 5 of project approval No 08_255.

Appendix A

Environmental Protection Licence No: 6229

Section 58(5) Protection of the Environment Operations Act 1997

Licence Variation

Licence - 6229

ELF FARM SUPPLIES PTY LTD
ABN 71 131 333 830
PO BOX 615
WINDSOR NSW 2756

Attention: Robert Tolson

Notice Number	1543371
File Number	EF13/5158
Date	23-Sep-2016

NOTICE OF VARIATION OF LICENCE NO. 6229

BACKGROUND

A. ELF FARM SUPPLIES PTY LTD ("the Licensee") is the holder of Environment Protection Licence No. 6229 ("the Licence") issued under the *Protection of the Environment Operations Act 1997* ("the Act"). The licence authorises the carrying out of activities at 108 MULGRAVE ROAD, MULGRAVE, NSW, 2756 ("the Premises").

Potential for offensive odour emission from the Premises

B. The EPA has received numerous complaints from the public alleging strong odours in the Mulgrave Windsor area.

C. EPA has identified onsite activities that have the potential to generate odours that may cause offensive odours to be emitted offsite which is an offence under section 129 of the POEO Act, 1997.

D. EPA has detected off-site offensive odour emanating from the Premises onsite activities on 26 June 2014, 29 June 2014, 15 August 2015 and 18 July 2016 and issued the Licensee penalty notices 3085774818, 3085774827, 3085777788 and 3085779869 respectively for these detected breaches of section 129 of the Act.

E. EPA varied the Licence on 24 September 2014 to require the Licensee to enclose and treat plant and activities that generate odour.

F. The Licensee submitted odour impact assessment modelling (Appendix C of Perram and Partners *Environmental Assessment Report 136R2* dated February 2015) attached to the application to the Department of Planning and Environment ("DP&E") to modify the consent ("08_255 MOD1") for activities at the Premises. This modelling demonstrated the production of mushroom substrate at the Premises has the potential to cause the emission of significantly elevated levels of odour at neighbouring premises.

G. The Licensee's odour modelling supporting 08_255 MOD1 demonstrates that these offensive odour emissions will continue until those proposed odour modification works are operational.

H. The Licensee has informed the EPA (including 17 September 2015; 6 October 2015; 24 February 2016; 22 April 2016; 3 May 2016) that it cannot make any further improvements in odour performance until the 08_255 MOD1 odour treatment system is constructed.

I. On 18 July 2016 EPA detected offensive odour (penalty notice 3085779869) emanating from the Premises onsite activities demonstrating the potential for the emission of offensive odour continues.

Reduced substrate production rate to improve odour emissions

J. On 10 June 2016 the EPA wrote to the Licensee regarding a proposed modification to the Licence to restrict the weekly rate of production of odorous mushroom substrate at 108 Mulgrave Road, Mulgrave (the Premises). The proposed “break-even” restriction would last until such time as the odour modifications works approved under 08_255 MOD1 were constructed and operational.

K. On 28 June 2016 (DOC16/320924) the Licensee provided comment to the EPA that included that at the substrate production rate proposed 10 June 2016 it would not be able to finance the odour modifications works approved under 08_255 MOD1.

L. The EPA reviewed the Licensees and comments of 28 June 2016. On 22 August 2016 the EPA wrote to the Licensee providing a further draft licence variation for comment.

M. On 8 September 2016 the Licensee provided correspondence (DOC16/456871) to the EPA regarding the proposed variation stating that at least 6 weeks would be required to organise the reduction in the production rate to 1400 tonnes/week.

N. EPA has given due consideration to the Licensees comment and varied the Licence.

Variation to the Licence

O. In accordance with section 45 of the Act, the EPA has considered varying the Licence in a manner that reduces or mitigates odorous emissions to the environment.

P. EPA has now varied EPL 6229 at condition U3 to restrict the production of mushroom substrate to 1400 tonnes/week until such time as the works approved under 08_255 MOD1 are completed and operational.

VARIATION OF LICENCE NO. 6229

1. By this notice the EPA varies licence No. 6229. The attached licence document contains all variations that are made to the licence by this notice.
2. The following Pollution Reduction Program has been added to the licence:

Licence Variation

- U3.1: By 4 November 2016 the Licensee shall restrict the production of mushroom substrate material at the Premises to below 1400 tonnes/week until such time as the works approved at 08_255 MOD1 are completed and operational.
- U3.2 The Licensee shall provide the EPA written advice that the works approved at 08_255 MOD1 are completed ten working days prior to these beginning operation.

.....

Trevor Wilson

Unit Head

Waste & Resource Recovery

(by Delegation)

INFORMATION ABOUT THIS NOTICE

- This notice is issued under section 58(5) of the Act.
- Details provided in this notice, along with an updated version of the licence, will be available on the EPA's Public Register (http://www.epa.nsw.gov.au/prpoeo/index.htm) in accordance with section 308 of the Act.

Appeals against this decision

- You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

When this notice begins to operate

- The variations to the licence specified in this notice begin to operate immediately from the date of this notice, unless another date is specified in this notice.
- If an appeal is made against this decision to vary the licence and the Land and Environment Court directs that the decision is stayed the decision does not operate until the stay ceases to have effect or the Land and Environment Court confirms the decision or the appeal is withdrawn (whichever occurs first).

Environment Protection Licence

Licence - 6229

Licence Details	
Number:	6229
Anniversary Date:	20-May

Licensee

ELF FARM SUPPLIES PTY LTD

PO BOX 615

WINDSOR NSW 2756

Premises

ELF FARM SUPPLIES PTY LTD

108 MULGRAVE ROAD

MULGRAVE NSW 2756

Scheduled Activity

Composting

Waste storage

Fee Based Activity	Scale
Composting	> 5000-50000 T annual capacity to receive organics
Waste storage - other types of waste	Any other types of waste stored

Region

Waste & Resource Recovery

59-61 Goulburn Street

SYDNEY NSW 2000

Phone: (02) 9995 5000

Fax: (02) 9995 5999

PO Box A290 SYDNEY SOUTH

NSW 1232

Environment Protection Licence

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Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

ELF FARM SUPPLIES PTY LTD
PO BOX 615
WINDSOR NSW 2756

subject to the conditions which follow.

Environment Protection Licence

Licence - 6229

1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Composting	Composting	> 5000 - 50000 T annual capacity to receive organics
Waste storage	Waste storage - other types of waste	Any other types of waste stored

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
ELF FARM SUPPLIES PTY LTD
108 MULGRAVE ROAD
MULGRAVE
NSW 2756
LOT 13 DP 1138749, LOT 14 DP 1138749

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:
a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

Environment Protection Licence

Licence - 6229

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Air

EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Bioscrubber chimney labelled as "Chimney" on "Figure 5.2 - Plant Layout" and "Figure 5.5 - Stage 1 - Phase 1 Bioscrubber Detail" contained in the "Mulgrave Mushroom Substrate Plant Environmental Management Plan" dated August 2002.

P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Concentration limits

L2.1 For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L2.2 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.

L2.3 Air Concentration Limits

POINT 1

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Odour	odour units per second	55400			

L2.4 For each monitoring/discharge point specified in the table(s) in L2 above (by a point number), the reference conditions and averaging period of a pollutant discharged at that point must be reported at the reference conditions and averaging period specified for that pollutant in the following table.

Pollutant	Reference Conditions	Duration	Averaging Period
Odour	dry, 293K, 101.3kPa	1 hour	Rolling annual

L3 Waste

L3.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled “Waste” and meeting the definition, if any, in the column titled “Description” in the table below.
Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled “Activity” in the table below.
Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled “Other Limits” in the table below.
This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	Chicken manure			NA
NA	Feather meal			NA
NA	Cotton seed meal			NA
NA	Natural organic fibrous materials			NA
NA	Horse stable bedding			NA
NA	General or Specific exempted waste			NA
NA	Waste			NA

L3.2 The licensee must ensure that the amount of excess compost that is stored at the premises does not exceed 150 tonnes at any one time.

L4 Noise limits

L4.1 Noise generated at the premises must not exceed the $L_{Aeq\ (15\ minutes)}$ noise limits presented in the table below:

Location	Day	Evening	Night
Most effected residence	44	44	39

L4.2 Noise from the premises is to be measured at the most affected point on or within the residential boundary or at the most affected point within 30m of the dwelling (rural situations) where the dwelling is more than 30m from boundary to determine compliance with the LAeq(15 minute) noise limits in condition L4.1.

Where it can be demonstrated that direct measurement of noise from the premises is impractical, the EPA may accept alternative means of determining compliance. See Chapter 11 of the NSW Industrial

Noise Policy.

The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise level where applicable.

L4.3 The noise emission limits identified in condition L4.1 apply under meteorological conditions of:
a) wind speeds up to 3 m/s at 10 metres above ground level; and/or
b) temperature inversion conditions of up to 3 oC/100m.

L5 Potentially offensive odour

L5.1 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.
This includes:
a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
a) must be maintained in a proper and efficient condition; and
b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O4 Other operating conditions

O4.1 There must be no incineration or open burning of any material(s) on the premises, except as specifically authorised by the EPA.

O4.2 The licensee must ensure that the area in which the pre-wet process is conducted is fully enclosed within a building which is under negative pressure and ventilated through the bio-scrubber.

O4.3 Clean up any spillage in front of the raw material ingredients storage building; including poultry manure, gypsum, meals, corn cobs, cotton seed, straw or elsewhere on a daily basis.

O4.4 Remove solid material from the leachate collection pit screen daily when water is flowing to the pit (wet weather or bale wetting).

O4.5 De-Sludge the leachate collection pit (if sludge is present) at least fortnightly and keep a record.

O4.6 Keep doors to process buildings closed immediately before and after the movement of plant or people through the door.

O4.7 All movement of material between the Pre-wet building and the Phase 1 building must be through the sealed corridor that connects these two buildings. That corridor must be effectively sealed during all processing activities. To be implemented by and ongoing from the 17 November 2014.

O4.8 All process buildings and conveyor systems must be constructed and maintained so that these do not allow fugitive odour emissions. This condition to be effected ongoing from 7 November 2014.

Fugitive odour emissions points include holes, leaks, gaps, corrosion points and other similar failures in containment structures without inclusion of the mechanical extraction vents.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:
a) in a legible form, or in a form that can readily be reduced to a legible form;
b) kept for at least 4 years after the monitoring or event to which they relate took place; and
c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.

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M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Air Monitoring Requirements

POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Odour	odour units per second	Special Frequency 1	OM-7
Temperature	Kelvin	Special Frequency 1	TM-2
Velocity	metres per second	Special Frequency 1	TM-2
Volumetric flowrate	cubic metres per second	Special Frequency 1	TM-2

M2.3 For the purposes of the table above ‘Special Frequency 1’ means ‘six monthly’.

M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M4 Recording of pollution complaints

M4.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M4.2 The record must include details of the following:
a) the date and time of the complaint;
b) the method by which the complaint was made;

c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
d) the nature of the complaint;
e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the licensee, the reasons why no action was taken.

M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M5 Telephone complaints line

M5.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M5.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
a) the licence holder; or
b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
a) where this licence applies to premises, an event has occurred at the premises; or
b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:
a) the cause, time and duration of the event;
b) the type, volume and concentration of every pollutant discharged as a result of the event;
c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

R4 Other reporting conditions

R4.1 The licensee must notify the EPA in writing at least 24 hours prior to irrigating waste water from the dam on the premises.

Annual Waste Summary Reporting

R4.2 The licensee must complete and submit to the EPA an Annual Waste Summary Report each financial year.

R4.3 The Annual Waste Summary Report must be submitted to the EPA via the Waste and Resource Reporting Portal (WARRP) within 60 days of the end of the financial year.

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

8 Pollution Studies and Reduction Programs

U1 Ensure negative pressure in Pre-wet and Phase 1 buildings under all operating conditions and treatment of air discharges

U1.1 Construct and operate an air extraction and treatment system that:
1. Maintains negative pressure conditions within the pre-wet and phase 1 buildings under all (barr natural disasters) operating conditions;
2. Includes a structure and extraction system to enclose the activities of receiving manures, handling and storing manures, mixing the manure and wetted bale brew;
3. Treats air emissions from these buildings to a level that ensures these do not create offsite odour impact under all (barr natural disasters) operating conditions; and
4. Install and commission these works before 1 June 2015.

U2 Community engagement

U2.1 The licensee shall employ a suitably qualified and experience community liaison person or company to engage the community; maintain the Odour Complaints/Feedback Management System detailed in Special Condition E1; and maintain a community consultative committee that meets quarterly. This shall commence by the 6 December 2014 and continue until 6 December 2016

U3 Restrict substrate production rate until odour mitigation works are completed

U3.1 By 4 November 2016 the Licensee shall restrict the production of mushroom substrate material at the Premises to below 1400 tonnes/week until such time as the works approved at 08_255 MOD1 are completed and operational.

U3.2 The Licensee shall provide the EPA written advice that the works approved at 08_255 MOD1 are completed ten working days prior to these beginning operation.

9 Special Conditions

E1 Odour Complaints/Feedback Management System

E1.1 The licensee must maintain and operate an Odour Complaints/Feedback Management System. The licensee must adhere to the complaints/feedback management system which is to contain the procedures outlined below.

E1.2 An advertised telephone number for complaints/feedback:

A 24-hour telephone number is to be set aside for complaints and/or feedback. The number must be made known to the public by
a) Inclusion in future telephone directory listings for Elf Farm Supplies
b) Direct advice to Hawkesbury City Council, the EPA and any persons who may contact the plant regarding odour by mail or using existing phone numbers

c) Inclusion on a sign at the property entrance
d) Issue to interested persons via business cards or other media as the case arises.

E1.3 Complaints logging and investigation:

Details of any complaints received by the Licensee must be documented and kept at a location on the premises as follows:

a) Every complaint is to be investigated at the time it is received and a record created of the response.
b) If the complaint is received by staff at the time the odour is claimed to be present, the location where the odour is detected must be attended to confirm the report and note relevant details.
c) If for any reason it is not possible to attend the location of the reported odour, and where contact details are available, the Licensee is to contact the complainant for more information regarding the complaint.
d) Where investigation or further contact is not possible due to a delayed or anonymous complaint, no contact details for the complainant or difficulty in attending the reported location, a record must nonetheless be made of the complaint.
e) A record is to be made of activities at the plant during the period leading up to the time of the reported incident.
f) The wind strength and direction is to be obtained and recorded from the weather station for the period of one hour prior to the reported incident.
g) The oxygen content (%) of compost in the pre-wet processing phase is to be obtained and recorded from one hour preceeding the odour incident until the time the incident is reported to have ceased.

E1.4 An Odour Complaint Report is to be completed to summarise all actions taken to investigate the complaint including:
a) Time, date and location of the odour report;
b) Name and address of the complainant (if provided);
c) The name of the person conducting the investigation;
d) The activities in the plant in the one hour preceding the reported incident;
e) The average wind speed and direction during the one hour preceding the odour incident;
f) The oxygen content (%) of compost in the pre-wet processing phase from one hour preceeding the odour incident until the time the incident is reported to have ceased;
g) Any other observations as to the possible source of the odour incident.

E1.5 A summary of the information documented under Condition E1.4 (a)-(e) and (g) is to be given to the complainant, where possible, in a follow-up telephone call or letter.

E1.6 a) The record of a complaint must be kept for at least 4 years after a complaint was made.
b) Records must be made available to an authorised officer of the EPA who asks to see them.

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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environmen t Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder describe d at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 mo nths. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Ms Nadia Kanhoush

Environment Protection Authority

(By Delegation)

Date of this edition: 01-August-2000

Environment Protection Licence

Licence - 6229

End Notes

1	Licence varied by notice 1001783, issued on 19-Sep-2000, which came into effect on 14-Oct-2000.
2	Licence varied by notice 1010892, issued on 19-Oct-2001, which came into effect on 13-Nov-2001.
3	Licence varied by notice 1015799, issued on 20-Mar-2002, which came into effect on 14-Apr-2002.
4	Licence varied by notice 1018881, issued on 17-Jul-2002, which came into effect on 11-Aug-2002.
5	Licence varied by notice 1019967, issued on 29-Aug-2002, which came into effect on 23-Sep-2002.
6	Licence varied by notice 1021960, issued on 28-Nov-2002, which came into effect on 23-Dec-2002.
7	Licence varied by notice 1031591, issued on 13-Oct-2003, which came into effect on 13-Oct-2003.
8	Licence varied by notice 1032264, issued on 02-Dec-2003, which came into effect on 27-Dec-2003.
9	Licence varied by notice 1040144, issued on 08-Sep-2004, which came into effect on 03-Oct-2004.
10	Licence varied by notice 1064617, issued on 08-Sep-2006, which came into effect on 08-Sep-2006.
11	Licence varied by notice 1073027, issued on 28-May-2007, which came into effect on 28-May-2007.
12	Licence transferred through application 145582, approved on 06-Aug-2008, which came into effect on 01-Jul-2008.
13	Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
14	Licence varied by notice 1096799, issued on 04-Feb-2009, which came into effect on 04-Feb-2009.
15	Licence varied by Correction to EPA Regional data record., issued on 23-Jun-2010, which came into effect on 23-Jun-2010.
16	Licence varied by correction to DECCW Region data record, issued on 07-Jul-2010, which came into effect on 07-Jul-2010.
17	Licence varied by notice 1507559 issued on 14-Sep-2012
18	Licence transferred through application 1515019 approved on 24-Jun-2013 , which came into effect on 01-Jul-2013

Environment Protection Licence

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19	Licence varied by notice 1515813 issued on 07-Aug-2013
20	Licence varied by notice 1519001 issued on 15-May-2014
21	Licence varied by notice 1523940 issued on 24-Sep-2014
22	Licence transferred through application 1525415 approved on 07-Oct-2014 , which came into effect on 01-Oct-2014
23	Licence varied by notice 1535927 issued on 08-Mar-2016

Appendix B

Consolidated Project Approval 08_055 MOD1

ELF FARM SUPPLIES
MUSHROOM SUBSTRATE PLANT
CONSOLIDATED LIST OF CONDITIONS

This consolidated list of conditions has been created by combining MS Word versions of the original approval document and the MOD1 approval document, both supplied by the Department of Environment and Planning. The document has been created to enable easier reference to the conditions.

The MS word versions used are not official documents and the Department does not guarantee that they are correct. This compilation should not be relied upon for any legal purpose. The legal instruments are the signed pdf versions of the original approval and the MOD1 approval which have to be read together.

Only schedules 2, 3 and 5, relevant to Elf Farm Supplies' Substrate Plant are shown. Schedule 4 relevant to the Londonderry Mushroom Farm is not shown. Note that MOD1 contains the statement "*The modification relates to the Substrate Plant site only …*", suggesting that the original conditions continue to apply to the mushroom farm site.

Changes or insertions created by MOD1 are highlighted in yellow. Superseded conditions deleted by MOD1 are not shown but can be found by reference to the original approval.

While this compilation has been carefully compiled, its accuracy cannot be guaranteed and it is again stressed that for legal certainty, the signed instruments of approval should be consulted.

DEFINITIONS

APZ	Asset Protection Zone
BCA	Building Code of Australia
Construction	The demolition of buildings or works, carrying out of works, including bulk earthworks, and erection of buildings and other infrastructure covered by this approval
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment or its successors in title
EA	Environmental assessment titled Mushroom Industry Expansion in Western Sydney – Environmental Assessment dated December 2010 and the associated response to submissions, dated 17 March 2011 and 15 June 2011
ENM	Excavated Natural Material
EPA	Environment Protection Authority
EP&A Act	Environmental Planning & Assessment Act 1979
EP&A Regulation	Environmental Planning & Assessment Regulation 2000
EPL	Environment Protection Licence
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build
Heavy Vehicle	Any vehicle with a gross vehicle mass of 5 tonnes or more
Incident	An incident causing or threatening material harm to the environment, and/or an exceedance of the limits or performance criteria in this approval
Land	In general, the definition of land is consistent with the definition in the EP&A Act.
LGA	Local government area
Material harm to the environment	Harm to the environment is material if it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Minister	Minister for Planning
Mitigation	Activities associated with reducing the impacts of the Project
MOD 1	The modification as described in the Environmental Assessment, titled *Mushroom Substrate Plant Modification to Approved Project Environmental Assessment* dated February 2015, prepared by Perram and Partners, the letter Response to Submissions titled *Mushroom Substrate Plant, Mulgrave Application to Modify Project Approval and Concept Plan Approval (08_0255 MOD 1)*, dated 29 August 2015, prepared by Perram and Partners and the *Assessment of Biofilter Filling* dated 17 December 2015, including the letter by WMA Water dated 21 January 2016, prepared by Perram and Partners
Mushroom Farm site	Lot 138 DP 752037 521 The Northern Road, Londonderry
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
Noise Wall	As described in the EA
NOW	NSW Office of Water
Odour emissions plant	Ammonia scrubbers and biofilter as described in MOD 1
OEH	Office of Environment and Heritage
Operation (Mushroom farm site)	Operation commences when the Substrate Plant increases production above 1,000 tonnes of substrate per week
Operation (Substrate Plant site)	Operation commences upon receipt of substrate at the Mushroom Farm site
Phase 1 substrate	Substrate that has been through the composting process only
Phase 2 substrate	Phase 1 substrate that has been pasteurised at high temperature
Phase 3 substrate	Phase 2 substrate that contains mushroom spawn
POEO Act	Protection of the Environment Operations Act 1997
Project	Development described in the EA as modified by MOD 1
Proponent	Elf Farm Supplies Pty Ltd and Elf Mushrooms or their successor in title
Reasonable	Reasonable relates to the application of judgment in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided community views, and the nature and extent of potential improvements.
Rehabilitation	The treatment or management of land disturbed by the Project for the purpose of establishing a safe, stable and non-polluting environment
RTA	Roads and Traffic Authority
Secretary	Secretary of the Department of Planning and Environment, or nominee
SRDAC	Sydney Regional Development Advisory Committee

Stages 1 to 5 at the Mushroom Farm site	The development stages shown on the plan in Appendix 4
Stages 1 to 3 at the Substrate Plant site	The development stages shown on the plan in Appendix 2
Statement of Commitments	The Proponent's Statement of Commitments in Appendix 1
Substrate	Mushroom growing medium
Substrate Plant site	Lot 14 DP 1138749 and part Lot 13 DP 1138749, 108 Mulgrave Road, Mulgrave
Vegetation Management Area	The area shown on the Plan in Appendix 5
VENM	Virgin Excavated Natural Material

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or decommissioning of the Project.

TERMS OF APPROVAL

2. The Proponent shall carry out the Project generally in accordance with the:
   (a) EA;
   (b) statement of commitments (see Appendix 1);
   (c) site layout plans and drawings in the EA; and
   (d) MOD 1.

3. If there is any inconsistency between the above, the conditions of this approval shall prevail to the extent of any inconsistency.

4. The Proponent shall comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:
   (a) any reports, plans, strategies, programs or correspondence that are submitted in accordance with this approval; and
   (b) the implementation of any actions or measures contained in these reports, plans, strategies, programs or correspondence.

5. This approval shall lapse if the Proponent does not physically commence the proposed development associated with this approval within 5 years of the date of this approval.

LIMITS ON APPROVAL

Substrate Plant Site

6. (1) The Proponent shall ensure that the Project on the Substrate Plant site does not:
   a) produce more than 3,200 tonnes per week of phase 1 substrate; subject to (2) below and
   b) dispatch more than 1,920 tonnes of phase 3 substrate per week.

   (2) The proponent must not produce on the Substrate Plant site more than 1,000 tonnes of phase 1 substrate per week except in accordance with a staged approval granted by the Secretary in accordance with condition 7 Schedule 2 below.

7. (1) The Proponent may apply to the Secretary for approval to increase production of substrate up to the rate of 1,600 tonnes of phase 1 substrate a week on the Substrate Plant site if –
   a) the Odour Management Plan required under condition 6 of Schedule 4 has been prepared to the satisfaction of the Secretary and is being implemented; and
   b) an independent odour audit has been prepared and submitted in accordance with condition 5 of Schedule 3.

   (2) The Proponent may apply to the Secretary for approval to increase production of substrate up to the rate of 2,400 tonnes of phase 1 substrate a week on the Substrate Plant site if –
   a) the site has been producing phase 1 substrate at a rate between 1,500 and 1,600 tonnes per week in accordance with an approval granted by the Secretary under this condition; and
   b) an independent audit of the site operating in this range has been prepared and submitted in accordance with Condition 5(c) of Schedule 3.

   Production of up to 2,400 tonnes of phase 1 substrate a week may not occur until the Proponent has received the written approval of the Secretary.

   (3) The Proponent may apply to the Secretary for approval to increase production of substrate up to the rate of 3, 200 tonnes of phase 1 substrate a week on the Substrate Plant site if –
   a) the site has been producing phase 1 substrate at a rate between 2,300 and 2,400 tonnes per week in accordance with an approval granted by the Secretary under this condition; and
   b) an independent audit of the site operating in this range has been prepared and submitted in accordance with Condition 5(c) of Schedule 3.

   Production of up to a maximum of 3,200 tonnes of phase 1 substrate a week may not occur until the Proponent has received the written approval of the Secretary.

(4) In deciding whether to approve an increase in substrate production under this condition, the Secretary must:
   a) assess the odour performance of the premises at its current rate of production; and
   b) assess the likely odour impacts from the proposed increase; and
   c) consider the requirement not to cause or permit the emission of offensive odours from the Substrate Plant site as defined in section 129 of the POEO Act;
   d) consider EPA advice regarding compliance with the POEO Act.

7A Unless otherwise agreed in writing by the Secretary, the Proponent shall ensure that the work associated with MOD 1, with the exception of the additional Phase 2/3 tunnels and the pre-wet tunnels to be constructed as part of Stage 3 (as identified on the plan in Appendix 2), has been constructed and is operating within two years from the date of the approval of MOD 1.

7B Nothing in this approval permits the construction of the landscaped mound along the Substrate Plant site's western boundary identified in the letter from WMA Water dated 21 January 2016.

Mushroom Farm Site

8. The Proponent shall ensure that the Mushroom Farm site does not produce more than 220 tonnes mushrooms per week.

EXISTING DEVELOPMENT CONSENTS AND RIGHTS

9. The Proponent shall surrender all existing development consents in accordance with Clause 97 of the EP&A Regulation for the land referred to in Schedule 1, within 12 months of commencement of stage 1 operations, or as otherwise agreed by the Secretary.

Note: This requirement does not extend to the surrender of construction and occupation certificates for existing and proposed building works under Part 4A of the EP&A Act. Surrender of a consent or approval should not be understood as implying that works legally constructed under a valid consent or approval can no longer be legally maintained or used.

TRANSITIONAL ARRANGEMENTS

10. All existing environmental management plans that apply to the Substrate Plant site under DA No. 0623/02, DA No. 0571/06, DA No. 0921/06, DA No. 0701/07 and DA No. 0120/09 shall continue to be fully applied until replaced under this approval.

STRUCTURAL ADEQUACY

11. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures are constructed in accordance with the relevant requirements of the BCA.

Notes:

- *Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the Project.*

11A The Proponent shall ensure that any structures which require a relevant alternative solution developed to meet the performance requirements of the BCA shall be designed in consultation with Fire and Rescue NSW.

DEMOLITION

12. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601:2001: The Demolition of Structures*, or its latest version.

OPERATION OF PLANT AND EQUIPMENT

13. The Proponent shall ensure that all plant and equipment used for the Project is:
   (a) maintained in a proper and efficient condition; and
   (b) operated in a proper and efficient manner.

UTILITIES

14. Prior to the construction of any utility works, the Proponent shall obtain the necessary approvals from relevant service providers.

SUBMISSION OF PLANS OR PROGRAMS

15. With the written approval of the Secretary, the Proponent may:

(a) submit any reports, plans, strategies or programs required by this approval on a progressive basis; and
(b) combine any reports, plans, strategies or programs required for the Substrate Plant site with any similar reports, plans, strategies or programs for the Mushroom Farm site.
(c) separate any reports, plans, strategies or programs required for the Substrate Plant site from any similar reports, plans, strategies or programs for the Mushroom Farm site.

SCHEDULE 3
SPECIFIC ENVIRONMENTAL CONDITIONS – SUBSTRATE PLANT SITE

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

1. The Proponent shall prepare and implement a Construction Environmental Management Plan for the Substrate Plant site to the satisfaction of the Secretary. This Plan must:
   (a) be prepared in consultation with NOW and EPA;
   (b) be submitted for approval prior to commencement of construction, and include:
      - a noise and vibration management plan, including a noise monitoring program that can be used to demonstrate compliance with the construction noise criteria in Condition 18 below;
      - an air quality management plan;
      - a soil and water management plan, including details of the erosion and sediment control measures to be used on site;
      - a flora and fauna management plan;
      - a heritage management plan;
      - a traffic management plan; and
      - a waste management plan.

1A The Proponent shall update the CEMP required by Condition 1 of Schedule 3 to include the works associated with MOD 1. The updated plan shall be submitted to and approved by the Secretary prior to the commencement of any construction works associated with MOD 1.

The revised CEMP shall be implemented throughout the construction works.

AIR QUALITY

Offensive Odours

2. The Proponent shall not cause or permit the emission of offensive odours from the Substrate Plant site, as defined under Section 129 of the POEO Act.

Odour Emissions Plant Design and Construction

3. Prior to the commencement of construction of the works associated with MOD 1, the Proponent shall commission and pay the full cost of an independent odour specialist to review the detailed design of the odour emissions plant and assess its capacity to meet the performance criteria within the Environmental Assessment for MOD 1. The review shall:
   (a) be provided to the Secretary and the EPA within two weeks of finalisation of the review; and
   (b) be endorsed by the Secretary in consultation with the EPA prior to the commencement of construction of the works associated with MOD 1.

Should the review not certify that the odour emissions plant has the capacity to meet the performance criteria within the Environmental Assessment for MOD 1, then the Proponent shall undertake additional design to meet the criteria, to the satisfaction of the Secretary within the timeframe specified by the Secretary. The additional design is to be endorsed by the independent odour specialist.

3A The Proponent shall construct the odour emissions plant in accordance with the final design endorsed by the independent odour specialist required by Condition 3.

3B Prior to the commencement of operation of the odour emissions plant, the Proponent shall commission and pay the full cost of an independent odour specialist to certify that the 'as constructed' odour emissions plant has been undertaken in accordance with the final detailed design with reference to the Environmental Assessment for MOD 1 and the outcomes of Condition 3 of Schedule 3.

A copy of the certification is to be provided to the Secretary and the EPA within one week of its finalisation.

3C The Proponent shall implement all reasonable and feasible measures to ensure that all new structures are constructed to prevent corrosion from the atmosphere contained within those structures.

Odour Management Plan

4. The Proponent shall prepare and implement an Odour Management Plan for the Substrate Plant site to the satisfaction of the Secretary. This plan must:
   (a) be prepared in consultation with the EPA by a suitably independent, qualified and experienced expert whose appointment has been endorsed by the Secretary;
   (b) be submitted to the Secretary for approval within 3 months of the date of this approval;
   (c) describe in detail the measures that would be implemented on site to minimise the odour impacts of the Project, such as storing the stable bedding in the pre-wet shed extension building in Stages 2 and 3, and to ensure that these measures remain effective over time;

(d) identify triggers for remedial and contingency action; and
(e) include a program for monitoring the odour impacts of the Project.

4A The Proponent shall update the Odour Management Plan for the Substrate Plant site, in consultation with the EPA, to the satisfaction of the Secretary. This plan is to update the plan approved under Condition 4 of Schedule 3 and shall:
(a) be prepared a suitably independent, qualified and experienced expert whose appointment has been endorsed by the Secretary;
(b) be submitted to the Secretary for approval within one month of the date of endorsement by the Secretary of the odour emissions plant design as required under Condition 3(a) of the approval;
(c) identify of all major sources of odour;
(d) include management measures to ensure no offensive odours from the Substrate Plant site;
(e) include procedures for the monitoring of odour emissions, in accordance with the requirements of the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* and any requirements of the EPA. The odour monitoring program shall include, but not be limited to:
i. results of the complaints handling system; and
ii. system and performance review for continuous improvement;
(f) include odour management performance parameters that are consistent with the manufacturers' performance guarantees provided for the biofilter and scrubbers;
(g) include measures to prevent and/or mitigate fugitive emissions;
(h) include triggers for remedial and contingency action; and
(i) include contingency measures in the event of failure of any component of the odour emissions plant and biofilter system or identification of fugitive emissions from the facility. Contingency measures shall include enclosing the West Water Recycle pit and treating the post 36 hour emissions from the Phase 2/3 building via the ammonium scrubbers and biofilter.

4B The approved updated Plan (as revised and approved by the Secretary from time to time), shall be implemented for the life of the Project as soon as written endorsement by the Secretary is received.

Odour Emissions and Biofilter Control System Audit

5. The Proponent shall undertake an Odour Emissions and Biofilter Control System Audit to quantify the odour abatement efficiency of the odour emissions plant and assess the effectiveness of all other odour controls on the Substrate Plant site:
(a) within six weeks of the commissioning of the biofilter;
(b) within six weeks of the decommissioning of the bioscrubber;
(c) prior to the commencement of each increase in production, in accordance with Conditions 7(2) and 7(3) of Schedule 2;
(d) and as directed by the Secretary;
(e) each audit required under (a) to (d) inclusive, shall:
i. be undertaken and prepared by a suitably qualified, experienced and independent expert whose appointment has been endorsed by the Secretary;
ii. be prepared in consultation with the EPA;
iii. report on the results of the source emissions sampling and analysis undertaken in accordance with the Odour Management Plan (required by Condition 4A of Schedule 3) or as otherwise agreed to in writing by the EPA;
iv. review the Proponent's production data (that are relevant to the audit) and complaints record;
v. review any complaints received during the relevant period;
vi. determine whether the Project is complying with condition 2 of Schedule 3; and, if necessary;
vii. recommend whether any additional management works and/or management practices are required to ensure no offensive odours from the Substrate Plant site.

6. Within 2 weeks of this audit being completed, or in a timeframe as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to EPA and the Secretary together with an action plan demonstrating how the findings of the audit are to be implemented.

6A Two months after the completion of the audits required under Conditions 5 (a) and 5(b) of Schedule 3, the Proponent shall submit to the satisfaction of the Secretary, a report verifying that any actions identified in the audit have been implemented.

Dust

7. The Proponent shall implement all reasonable and feasible measures to minimise dust generated at the Substrate Plant site.

8. During the construction and operation of the project, the Proponent shall ensure that:
(a) all trucks entering or leaving the Substrate Plant site with loads have their loads covered;
(b) the trucks associated with the Project do not track dirt onto the public road network;

(c) all areas are maintained in a condition to minimise the emission of wind-blown or traffic-generated dust,
to the satisfaction of the Secretary.

GREENHOUSE GAS

Energy Efficiency Plan

9. The Proponent shall prepare and implement an Energy Efficiency Plan on the Substrate Plant site to the satisfaction of the Secretary. This plan must:
   (a) be submitted to the Secretary for approval prior to the commencement of operations on the site;
   (b) describe the measures that would be implemented to minimise energy use on the site;
   (c) explore the possibility of using renewable energy use to generate power; and
   (d) include a program to monitor the effectiveness of these measures, and a protocol to periodically review the plan.

SITE OPERATION

Fire Management

10. The Proponent shall:
   (a) implement suitable measures to minimise the risk of fire on the Substrate Plant site;
   (b) extinguish any fires on the Substrate Plant site promptly; and
   (c) maintain adequate fire-fighting capacity on the Substrate Plant site.

Hazards

11. The Proponent shall ensure that all dangerous goods and hazardous substances are stored and handled on the Substrate Plant site in accordance with the Dangerous Goods Code and *AS 1940-2004: The storage and handling of flammable and combustible liquids and AS 3780-2008 The Storage and Handling of Corrosive Substances*.

Waste

12. The Proponent must not cause, permit or allow any waste generated outside the Substrate Plant site to be received at the site for storage, treatment, processing, reprocessing or disposal of at the Substrate Plant site, except with the approval of the Secretary and as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*.

Bunding

13. The Proponent shall store all chemicals, fuels and oils used on the Substrate Plant site in appropriately bunded areas, with impervious flooring and sufficient capacity to contain 110% of the largest container stored within the bund, unless double-skinned tanks are used. Any bunds shall be designed and installed in accordance with the requirements of all relevant Australian Standards, and/or DECCW's *Storage and handling liquids: Environmental Protection – Participant's Manual.*

SOIL and WATER

Discharge Limits

14. Except as may be expressly provided by an EPL for the Substrate Plant site, the Proponent must comply with Section 120 of the POEO Act.

15. The Proponent shall ensure that only VENM and/or ENM or material approved by the EPA is used as fill.

16. The Proponent shall ensure that filling of the manoeuvring area shall be undertaken in accordance with plans submitted with DA 0571/06.

16A The Proponent shall ensure that the earthworks associated with the biofilter pad do not act as a source of sedimentation. The Proponent shall stabilise the area of fill associated with the biofilter within one week of the approval of MOD 1.

16B Prior to the commencement of construction of the biofilter, the Proponent shall submit to the Secretary, details demonstrating that the earthworks in the area of the biofilter have been:
   (a) undertaken in accordance with AS 3798; and
   (b) compacted to 98% Standard dry density ratio (AS1289 E4.1).

Water Management Plan

17. The Proponent shall prepare and implement a Water Management Plan for the Substrate Plant site to the satisfaction of the Secretary. The plan must be submitted to the Secretary for approval prior to the commencement of operation of Stage 1 and be prepared in consultation with EPA and NOW.

17A The Proponent shall prepare an updated Water Management Plan for the Substrate Plant site required by Condition 17 of Schedule 3 to include the works associated with MOD 1. The plan shall be submitted to the Secretary for approval prior to the commencement of operation of MOD 1.

Operation of works associated with MOD 1 shall not commence until the Proponent has received written approval of the plan. The approved Plan shall be implemented for the life of the Project.

17B The Proponent shall ensure that the western dam at the Substrate Plant site (identified on the plan in Appendix 2 of this approval) does not receive process water.

Notes: The dam may receive water from direct rainfall, area runoff and groundwater and during times of emergency.

17C Notwithstanding Condition 17B of Schedule 3, in the event of an emergency such as a high rainfall event or plant breakdown, the Proponent may use the western dam. Notification of any emergency use of the dam shall be provided to the Secretary in writing within 7 days of the emergency.

NOISE

Construction Noise Criteria

18. The Proponent shall ensure that the construction noise generated at the Substrate Plant site does not exceed the criteria in Table 1.

Table 1: Construction Noise impact assessment criteria dB(A)

Receiver/Location	**Day** $L_{Aeq(15\ minute)}$
R1 – 46 Mulgrave Road, Mulgrave	52
R2 – Mulgrave Industrial area	65
R3 – 2 Railway Road, Mulgrave	52
R4 – 126 Mulgrave Road, Mulgrave	52
R5 – Chisholm Place, South Windsor	51

Notes:

- *Noise generated by the Project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.*

Operational Noise Criteria

19. The Proponent shall ensure that the operational noise generated by the Substrate Plant site does not exceed the criteria in Table 2.

Table 2: Operational Noise impact assessment criteria dB(A)

Receiver/Location	**Day /Evening** $L_{Aeq(15\ minute)}$	**Night** $L_{Aeq(15\ minute)}$
R1 – 46 Mulgrave Road, Mulgrave	43	43
R2 – Mulgrave Industrial area	42	42
R3 – 2 Railway Road, Mulgrave	42	37
R4 – 126 Mulgrave Road	44	41
R5 – Chisholm Place, South Windsor	44	42

Noise generated by the Project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.

Hours of Work

20. The Proponent shall comply with the operating hours in Table 3 at the Substrate Plant site, unless otherwise agreed to in writing by the Secretary.

Table 3: Operating hours

Activity	Day	Time
Construction	Monday – Friday	7:00am to 6:00pm
	Saturday	8:00am to 1:00pm
	Sunday and Public Holidays	Nil
Operation	All days	Any time

Additional Noise Mitigation Measures

21. The Proponent shall construct the 7 m high noise wall adjacent to the southern side of the bale storage shed or implement 'other noise mitigation measures' with the same or greater effect, prior to commencement of stage 2B construction works.

Should 'other noise mitigation measures' be implemented, the Proponent shall demonstrate, to the satisfaction of the Secretary, that the chosen measures will be as effective as modelled for the noise wall. Construction of Stage 2B cannot commence unless the Proponent has received the Secretary's approval for the 'other noise mitigation measures'.

Noise Management Plan

22. The Proponent shall prepare and implement a Noise Management Plan for the Substrate Plant site in consultation with EPA to the satisfaction of the Secretary. The Plan must be submitted to the Secretary for approval prior to commencement of operations, and include a noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this approval.

22A The Proponent shall update the Noise Management Plan for the Substrate Plant site, to the satisfaction of the Secretary. This plan is to update the plan approved under Condition 22 of Schedule 3 and shall include:
(a) the works associated with MOD 1; and
(b) a revised monitoring protocol for evaluating compliance with the noise impact assessment criteria in this approval once all construction works associated with MOD 1 are complete.

22B Operation of works associated with MOD 1 shall not commence until the Proponent has received the Secretary's written approval of the plan. The approved Plan (as revised and approved by the Secretary from time to time), shall be implemented for the life of the Project as soon as written endorsement by the Secretary is received.

BIODIVERSITY

Riparian Management Area

23. The Proponent shall establish a fenced, 35 metre wide riparian corridor along the length of South Creek within 12 months of commencement of operation of Stage 1. The Proponent shall consult with the Hawkesbury-Nepean Catchment Management Authority on methods and species selection to ensure that best practise techniques are used at the site, to the satisfaction of the Secretary.

VISUAL AMENITY

Lighting

24. The Proponent shall ensure that all external lighting associated with the Substrate Plant site:
(a) does not create a nuisance to surrounding properties or roadways; and
(b) complies with *AS 4282(INT) 1995 – Control of Obtrusive Effects of Outdoor* Lighting.

24A The Proponent shall prepare a Landscape Management Plan for the Substrate Plant site. The plan shall:
(a) be prepared in consultation with Council;
(b) identify screen planting to minimise visual impacts of the site, particularly the new biofilter; and
(c) be approved by the Secretary prior to the commencement of construction of the works associated with MOD 1.

24B The landscaping around the site of the new biofilter required under MOD 1 shall be installed within three months following the completion of the construction of the biofilter. All other landscaping shall be installed prior to the commencement of operation of the works associated with MOD 1.

Signage

25. The Proponent shall not install any advertising signs on the Substrate Plant site without the written approval of the Secretary.

TRANSPORT

26. The Proponent shall ensure that:
    (a) car parking is constructed in accordance with the relevant requirements of the latest version of *AS 2890.1*; and
    (b) vehicles associated with the Substrate Plant site do not park or queue on the public road network at any time.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT and REPORTING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent shall prepare and implement an Environmental Management Strategy for the Project to the satisfaction of the Secretary. The Strategy must:

    a) be submitted to the Secretary for approval prior to the commencement of operation;
    b) provide the strategic framework for environmental management of the Project;
    c) identify the statutory approvals that apply to the Project;
    d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the Project;
    e) describe the procedures that would be implemented to:
        - keep the local community and relevant agencies informed about the operation and environmental performance of the Project;
        - receive, handle, respond to, and record complaints;
        - resolve any disputes that may arise during the course of the Project;
        - respond to any non-compliance; and
        - respond to emergencies;
    f) include:
        - copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and
        - a clear plan depicting all the monitoring currently being carried out within the Project area.

Management Plan Requirements

2. The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:
    a) detailed baseline data;
    b) a description of:
        - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
        - any relevant limits or performance measures/criteria; and
        - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Project or any management measures;
    c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
    d) a program to monitor and report on the:
        - impacts and environmental performance of the Project;
        - effectiveness of any management measures (see c above);
    e) a contingency plan to manage any unpredicted impacts and their consequences;
    f) a program to investigate and implement ways to improve the environmental performance of the Project over time;
    g) a protocol for managing and reporting any:
        - incidents;
        - complaints;
        - non-compliances with statutory requirements; and
        - exceedances of the relevant limits and/or performance measures / criteria; and
    h) a protocol for periodic review of the plan.

Review

3. By the end of September 2016, and annually thereafter, unless otherwise agreed by the Secretary, the Proponent shall review the environmental performance of the Project to the satisfaction of the Secretary. This review must.
    (a) describe the operations that were carried out during the reporting period;
    (b) analyse the monitoring results and complaints records of the Project during the reporting period, which includes a comparison of these results against the:
        i. relevant statutory requirements, limits or performance measures/ criteria;
        ii. monitoring results of previous years; and
        iii. relevant predictions in the EA;
    (c) identify any non-compliance during the reporting period, and describe what actions were (or are being) taken to ensure compliance;
    (d) identify any trends in the monitoring data over the life of the Project; and

(e) describe what measure(s) will be implemented during the next reporting period to improve the environmental performance of the Project.

Independent Environmental Audit

3A Within six months of the approval of MOD 1, and every two years thereafter, unless otherwise agreed by the Secretary, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the Project. This audit must:

(a) be conducted by suitably qualified, experienced and independent team of experts (including an odour expert), whose appointment has been endorsed by the Secretary;
(b) include consultation with the relevant agencies;
(c) include a full odour audit of the Project, taking into consideration the relevant technical guidelines and any odour complaints made since the previous audit;
(d) assess the environmental performance of the project and assess whether it is complying with the relevant requirements in this approval and any other licenses and approvals that apply to the project, (including any assessment, plan or program required under these approvals);
(e) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate;
(f) recommend measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under these approvals.

Within six weeks of the completing of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

Revision of Plans & Programs

4. Within three months of the submission of an:

(a) incident report under condition 5 of schedule 5;
(b) review under condition 3 of schedule 5, and
(c) audit under condition 3A of Schedule 5,

the Proponent shall review, and if necessary revise the plans and programs required under this approval to the satisfaction of the Secretary.

Note: This is to ensure the plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Project.

REPORTING

Incident

5. The Proponent shall notify the Secretary and any other relevant agencies of any incident associated with the Project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Secretary and any relevant agencies with a detailed report on the incident.

Access to Information

6. The Proponent shall prepare a Community Consultation Strategy for the Substrate Plant site to address existing and future operations at the Substrate Plant site, including construction of works associated with MOD 1. This Plan shall:

(a) be submitted to the satisfaction of the Secretary within one month from the approval of MOD 1;
(b) include procedures for updating the community on the general operation of the site as well as the progress of any construction works; including
  i. a newsletter for the local community which details the:
    - construction activities and the expected duration of works;
    - a general summary of the environmental management to be implemented; and
    - telephone number for taking complaints or enquiries in relation to the activities;
  ii. the website required by Condition 7 of Schedule 5; and
  iii. public meetings;
(c) describe the distribution area for the newsletter (at a minimum all residents within 2 km from the site boundary), prepared in consultation with Council; and
(d) include procedures for handling and monitoring all complaints received; and detail what management and/or contingency actions will be taken if complaints are received.

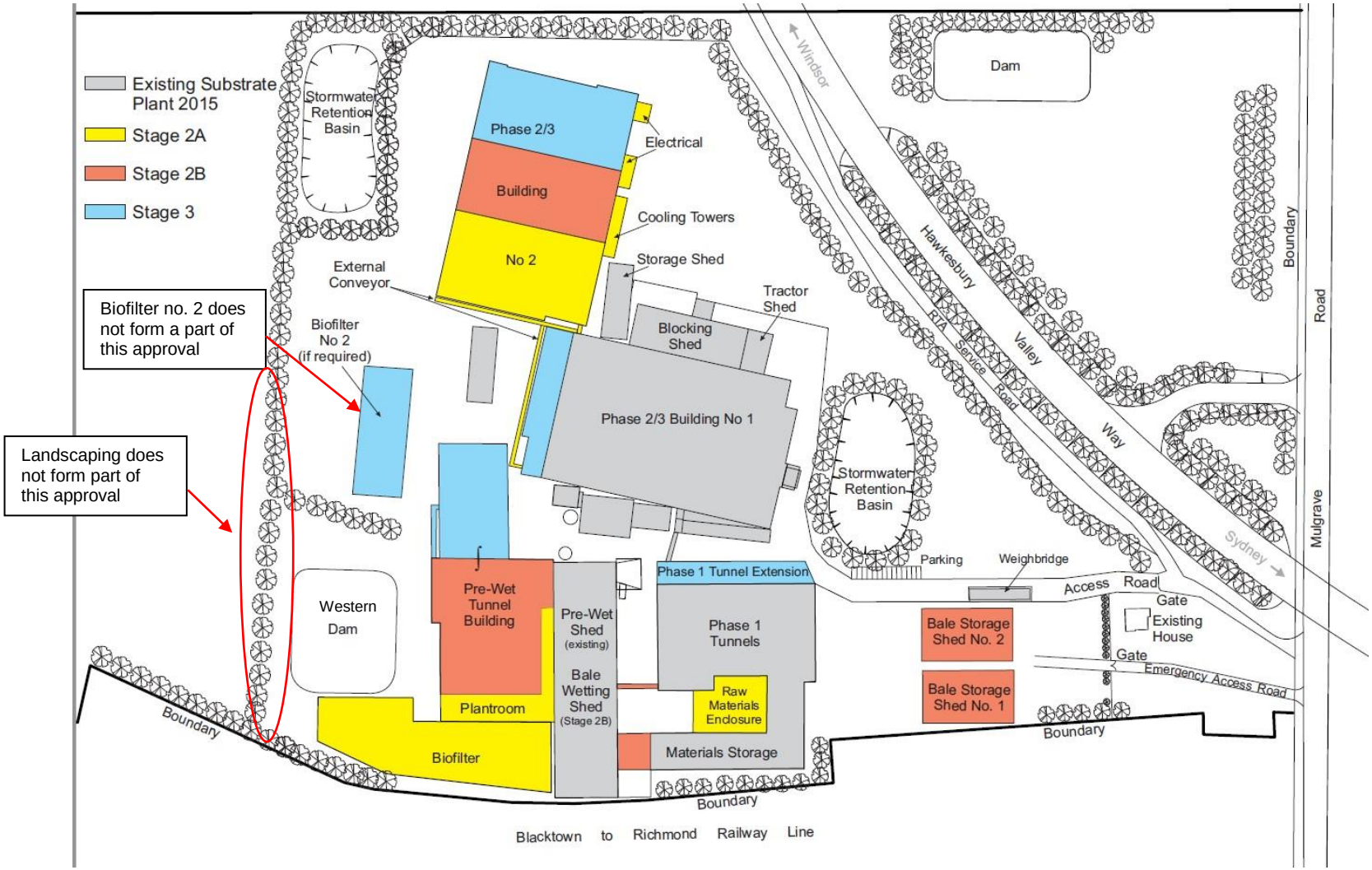
7. The approved Strategy (as revised and approved by the Secretary from time to time), shall be implemented for the life of the Project as soon as written endorsement by the Secretary is received.

8. Within three months from the date of the approval of MOD 1, the Proponent shall make the following information (unless commercially sensitive) freely available on a publicly accessible website, as it is progressively required under the approval:

(a) all current statutory approvals, including this approval and any modifications to it;
(b) plans and programs required under this approval;
(c) technical analysis/reports of monitoring results, which have been reported in accordance with the various plans and programs approved under the conditions of this approval;
(d) a complaints register, which is to be updated on a monthly basis;
(e) a copy of any review as required under Condition 3 of Schedule 5 (over the last five years);
(f) updates on the progress of the construction works associated with MOD 1; and
(g) any other material as required by the Secretary.

APPENDIX 1
The revised proponent's statement of commitments forms part of the conditions

APPENDIX 2
SUBSTRATE PLANT SITE LAYOUT and STAGES



Appendix C

Monitoring Reports

Acoustic Consulting Engineers
Sound and Vibration Consulting Engineers
ABN 44 133 737 443

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Friday 2 September 2016

Elf Farm Supplies Pty Ltd
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1/78 Owen Street
GLENDENNING NSW 2761

Our Reference 160787-03-01L-CF

For the attention of Mr Tete Awotedu

Construction Noise Monitoring
Mulgrave Substrate Plant
108 Mulgrave Road, Mulgrave

1.0 INTRODUCTION

Acoustic Consulting Engineers Pty Ltd was engaged by Elf Farm Supplies Pty Ltd to conduct a site attended construction noise audit for the preliminary construction works associated with the upgrade works for the existing Mulgrave Substrate Plant.

The purpose of the attended audit was to assess noise emissions from construction activities with reference to the *'Construction Noise & Vibration Management Plant. Substrate Plant. Mulgrave'* Report No. 46.6411.CNVMP_MUL:GD/DT/CF/2016 Rev07 prepared by Atkins Acoustics and compliance with Schedule 3 - Condition 18 of the Project Approval No. 08_0255 that states:

Construction Noise Criteria

18. The Proponent shall ensure that the construction noise generated at the Substrate Plant site does not exceed the criteria in Table 1.

Table 1: Construction Noise impact assessment criteria dB(A)

Receiver/Location	Day $L_{Aeq(15\ minute)}$
R1 – 46 Mulgrave Road, Mulgrave	52
R2 – Mulgrave Industrial area	65
R3 – 2 Railway Road, Mulgrave	52
R4 – 126 Mulgrave Road, Mulgrave	52
R5 – Chisholm Place, South Windsor	51

Notes:

- *Noise generated by the Project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.*

2.0 SITE ATTENDED NOISE AUDIT

This report presents the results and findings of site attended noise audits conducted from approximately 11.00am to 2.00pm on Wednesday 31 August 2016. Weather conditions during the audits were typically clear and dry with light to gusty breeze from the north-west. At the time of the audit construction activities typically comprised of unloading and

placement of demountable buildings, minor excavation, hand tools and small concrete slab pour on southern boundary of site.

The site attended noise measurements were conducted at five (5) reference residential receivers identified outlined in Project Approval No. 08_0255 as follows:

R1 46 Mulgrave Road (north)

R2 Mulgrave Industrial Area (east)

R3 2 Railway Road (south-east)

R4 126 Mulgrave Road (south-east)

R5 Chisholm Place (west)

The reference receiver locations are identified in *Figure 1*.

Figure 1: Reference Receiver Locations

Measurement instrumentation consisted of a Type 1 SVAN959 sound and vibration analyser and a Type 1 GRAS 40-AE prepolarised condenser microphone. The instrumentation was checked before and after the measurements with a SVAN SV30A acoustic calibrator and no drift in calibration was detected.

Measurements at each reference receiver location were conducted over two (2) fifteen (15) minute periods, instantaneous noise levels observed during the audit where appropriate were used to assess source noise contributions from construction activities. A summary of the measurement results is presented in *Table 1*.

Table 1 Noise Audit Measurement Results

Location	Statistical Noise Levels (dB(A))				Estimated Construction Noise Contribution $L_{Aeq,15min}$	Construction Noise Limit $L_{Aeq,15min}$	Compliance
	L_{Aeq}	L_{A90}	L_{A10}	L_{A1}			
R1	55.0 55.1	47.5 50.3	57.6 57.9	66.3 61.8	<38	52	√
R2	61.9 67.1	56.2 55.6	64.6 67.1	71.0 75.0	<46	65	√
R3	59.9 58.6	52.6 54.2	61.7 60.2	69.0 65.6	<43	52	√
R4	54.0 53.2	50.4 50.1	55.8 55.3	62.1 58.9	<40	52	√
R5	54.0 53.0	48.0 48.3	54.7 55.1	64.2 62.6	<38	51	√

Ambient noise during the site attended noise measurements were influenced by local and distant traffic, domestic activities, birds, dogs, trains, noise from Mulgrave Industrial Area, activities at R1 (see below) and natural elements.

Site observations confirmed that civil earthworks are presently being conducted at 46 Mulgrave Road, Mulgrave (R1) involving the filling and compaction of the southern portion of the site to accommodate a truck parking area and construction of storage and work sheds. Activities at R1 effectively controlled measured noise levels at this location, and these activities were also audible at R2.

Preliminary construction works from Mulgrave Substrate Plant were inaudible at all reference receiver locations and would be at least 10dB below the background noise levels. The results of site attended measurements confirmed that $L_{Aeq,15min}$ noise levels from construction activities satisfied the project noise goals in accordance with Schedule 3 - Condition 18 of Project Approval No. 08_0255.

We trust the information in this letter is satisfactory. Please do not hesitate to contact our office should further information or clarification be required.

Yours sincerely,

Carl Fokkema
Senior Acoustic Engineer
Acoustic Consulting Engineers Pty Ltd

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Friday 14 October 2016

Elf Farm Supplies Pty Ltd
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1/78 Owen Street
GLENDENNING NSW 2761

Our Reference 160787-03-03L-DD

For the attention of Mr Tete Awotedu

Construction Noise Monitoring
Mulgrave Substrate Plant
108 Mulgrave Road, Mulgrave

1.0 INTRODUCTION

Acoustic Consulting Engineers Pty Ltd was engaged by Elf Farm Supplies Pty Ltd to conduct a site attended construction noise audit for the preliminary construction works associated with the upgrade works for the existing Mulgrave Substrate Plant.

The purpose of the attended audit was to assess noise emissions from construction activities with reference to the *'Construction Noise & Vibration Management Plant. Substrate Plant. Mulgrave'* Report No. 46.6411.CNVMP_MUL:GD/DT/CF/2016 Rev07 prepared by Atkins Acoustics and compliance with Schedule 3 - Condition 18 of the Project Approval No. 08_0255 that states:

Construction Noise Criteria

18. The Proponent shall ensure that the construction noise generated at the Substrate Plant site does not exceed the criteria in Table 1.

Table 1: Construction Noise impact assessment criteria dB(A)

Receiver/Location	Day $L_{Aeq(15\ minute)}$
R1 – 46 Mulgrave Road, Mulgrave	52
R2 – Mulgrave Industrial area	65
R3 – 2 Railway Road, Mulgrave	52
R4 – 126 Mulgrave Road, Mulgrave	52
R5 – Chisholm Place, South Windsor	51

Notes:

- *Noise generated by the Project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.*

2.0 SITE ATTENDED NOISE AUDIT

This report presents the results and findings of site attended noise audits conducted from approximately 7.40am to 10.55am on Thursday October 2016. Weather conditions during the audits were typically clear and dry with light to strong breeze from the south at times.

The site attended noise measurements were conducted at five (5) reference residential receivers identified outlined in Project Approval No. 08_0255 as follows:

R1 46 Mulgrave Road (north)

R2 Mulgrave Industrial Area (east)

R3 2 Railway Road (south-east)

R4 126 Mulgrave Road (south-east)

R5 Chisholm Place (west)

The reference receiver locations are identified in *Figure 1*.

Figure 1 Reference Receiver Locations

Measurement instrumentation consisted of a Type 1 SVAN959 sound and vibration analyser and a Type 1 GRAS 40-AE prepolarised condenser microphone. The instrumentation was checked before and after the measurements with a SVAN SV30A acoustic calibrator and no drift in calibration was detected.

Measurements at each reference receiver location were conducted over two (2) fifteen (15) minute periods, instantaneous noise levels observed during the audit where appropriate were used to assess source noise contributions from construction activities.

At the time of the audit, construction activities comprised of concrete truck unloading, concrete pump, a mobile generator, a mobile compressor, a concrete vibrator, hammer drills and nail gun.

It was observed that construction noise from the upgrade works associated with the Mulgrave Substrate Plant was inaudible at all measurement locations, except for R5.

At measurement location R5, noise from the concrete vibrator was audible when operational. Noise from reverse alarms was audible at times at this location. However, due to the influence of background noise, construction noise could not be accurately measured.

Table 1 provides a summary of the site observations and *Table 2* provides the estimated noise from construction. It should be noted that the measured 15-minute statistical noise levels presented in *Table 2* are information only and not due to construction activities.

Table 1 Site Observations

Location	Observation
R1	Construction noise from Elf Farm was inaudible. Noise environment was controlled by construction activities at the measurement location (soil filling and compaction for construction of commercial facility).
R2	Construction noise from Elf Farm was inaudible. Noise environment was controlled by road traffic from Hawkesbury Valley Way).
R3	Construction noise from Elf Farm was inaudible. Noise environment was controlled by intermittent road traffic, birds, roosters, dog barking and natural environment.
R4	Construction noise from Elf Farm was inaudible. Noise environment was controlled by intermittent road traffic, birds, roosters, dog barking, cows and wind in trees.
R5	Construction noise from Elf Farm was audible when the concrete vibrator was operational. Construction noise could not be accurately measured due to the influence of background noise (birds, distant traffic, roosters and intermittent train pass-bys).

Table 2 Noise Audit Measurement Results

Location	15-min Statistical Noise Levels, (dB(A))			Estimated Construction Noise Contribution, $L_{Aeq,15min}$	Construction Noise Limit $L_{Aeq,15min}$	Compliance
	L_{Aeq}	L_{A10}	L_{A90}			
R1	67.9	71.8	56.9	Minimal (inaudible, below background noise level)	52	√
	67.8	71.3	59.9			
R2	64.0	66.9	57.7		65	√
	65.9	67.8	56.2			
R3	60.3	63.4	48.4		52	√
	56.6	56.9	47.2			
R4	54.2	56.3	48.6		52	√
	55.8	57.8	48.3			
R5	55.0	54.3	46.0	<48 (observed during lulls in ambient sound)	51	√
	55.9	53.3	46.8			

The site attended measurements on Thursday 13 October 2016 confirmed that $L_{Aeq,15min}$ noise levels from construction activities associated with Elf Farm Supplies Pty Ltd satisfied the project noise goals in accordance with Schedule 3 -Condition 18 of Project Approval No. 08_0255.

We trust the information in this letter is satisfactory. Please do not hesitate to contact our office should further information or clarification be required.

Yours sincerely,

Dan Dang
Principal Acoustic Engineer
Acoustic Consulting Engineers Pty Ltd

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Tuesday 29 November 2016

Elf Farm Supplies Pty Ltd
C/- Compaction and Soil Testing Services P/L
1/78 Owen Street
GLENDENNING NSW 2761

Our Reference 160787-03-03L-CF

For the attention of Mr Tete Awotedu

Construction Noise Monitoring
Mulgrave Substrate Plant
108 Mulgrave Road, Mulgrave

1.0 INTRODUCTION

Acoustic Consulting Engineers Pty Ltd was engaged by Elf Farm Supplies Pty Ltd to conduct a site attended construction noise audit for the preliminary construction works associated with the upgrade works for the existing Mulgrave Substrate Plant.

The purpose of the attended audit was to assess noise emissions from construction activities with reference to the *'Construction Noise & Vibration Management Plant. Substrate Plant. Mulgrave'* Report No. 46.6411.CNVMP_MUL:GD/DT/CF/2016 Rev07 prepared by Atkins Acoustics and compliance with Schedule 3 - Condition 18 of the Project Approval No. 08_0255 that states:

Construction Noise Criteria

18. The Proponent shall ensure that the construction noise generated at the Substrate Plant site does not exceed the criteria in Table 1.

Table 1: Construction Noise impact assessment criteria dB(A)

Receiver/Location	Day $L_{Aeq(15\ minute)}$
R1 – 46 Mulgrave Road, Mulgrave	52
R2 – Mulgrave Industrial area	65
R3 – 2 Railway Road, Mulgrave	52
R4 – 126 Mulgrave Road, Mulgrave	52
R5 – Chisholm Place, South Windsor	51

Notes:

- *Noise generated by the Project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.*

2.0 SITE ATTENDED NOISE AUDIT

This report presents the results and findings of site attended noise audits conducted from approximately 10.00am to 1.15pm on Monday 28 November 2016. Weather conditions during the audits were typically clear and dry with light to mild breeze from the north-north-east, north-east and east.

The site attended noise measurements were conducted at five (5) reference residential receivers identified outlined in Project Approval No. 08_0255 as follows:

R1 46 Mulgrave Road (north)

R2 Mulgrave Industrial Area (east)

R3 2 Railway Road (south-east)

R4 126 Mulgrave Road (south-east)

R5 Chisholm Place (west)

The reference receiver locations are identified in *Figure 1*.

Figure 1: Reference Receiver Locations

Measurement instrumentation consisted of a Type 1 SVAN959 sound and vibration analyser and a Type 1 GRAS 40-AE prepolarised condenser microphone. The instrumentation was checked before and after the measurements with a SVAN SV30A acoustic calibrator and no drift in calibration was detected.

Measurements at each reference receiver location were conducted over two (2) fifteen (15) minute periods, instantaneous noise levels observed during the audit where appropriate were used to assess source noise contributions from construction activities.

At the time of the audit, construction activities comprised of bobcat, water truck, telehandler, front end loader and small drum roller. In addition there was occasional use of metal working hand tools including grinder.

Construction noise from the upgrade works associated with the Mulgrave Substrate Plant were not audible at measurement locations R1, R2 and R3.

Construction activities associated with the use of metal working hand tools and grinder were audible at measurement location R4. Whilst bobcat, front end loader and roller were occasionally audible at measurement location R5.

Table 1 provides a summary of the site observations and *Table 2* the measurement results and estimated noise from construction activities. It should be noted that the measured 15-minute statistical levels presented in *Table 2* are for information only and not due to construction activities.

Table 1 Site Observations

Location	Observation
R1	Construction noise from Mulgrave Substrate Plant inaudible. Noise environment controlled by local and distant road traffic, occasional soil dumping at measurement location, chickens, birds, planes
R2	Construction noise from Mulgrave Substrate Plant inaudible. Noise environment controlled by local and distant road traffic, local industrial activities, cicadas, plane
R3	Construction noise from Mulgrave Substrate Plant generally inaudible. Occasional hammering on steel structure audible. Noise environment controlled by local and distant road traffic, local domestic activities, trains, birds
R4	Construction noise from Mulgrave Substrate Plant associated with metal working hand tools including grinder occasionally audible. Noise environment influences by distant road traffic, trains, birds, and maintenance activities on Pre Wet shed at Mulgrave Substrate Plant
R5	Construction noise from Mulgrave Substrate Plant associated with bobcat, front end loader and roller occasionally audible. Noise environment influences by local road traffic, trains, birds, chickens and distant thunder

Table 2 Noise Audit Measurement Results

Location	15-min Statistical Noise Levels (dB(A))			Estimated Construction Noise Contribution $L_{Aeq,15min}$	Construction Noise Limit $L_{Aeq,15min}$	Compliance
	L_{Aeq}	L_{A10}	L_{A90}			
R1	51.0	54.8	41.6	<32	52	√
	54.2	55.1	42.0			
R2	65.2	67.1	52.3	<40	65	√
	64.3	65.1	50.3			
R3	57.6	58.3	50.1	<38	52	√
	61.2	60.5	47.7			
R4	49.8	52.4	45.4	<44	52	√
	48.5	51.3	44.0			
R5	46.8	48.6	40.2	<40	51	√
	48.4	51.9	39.7			

The results of site attended measurements confirmed that $L_{Aeq,15min}$ noise levels from construction activities associated with the upgrade of the Mulgrave Substrate Plant satisfied the project noise goals in accordance with Schedule 3 -Condition 18 of Project Approval No. 08_0255.

We trust the information in this letter is satisfactory. Please do not hesitate to contact our office should further information or clarification be required.

Yours sincerely,

Carl Fokkema
Senior Acoustic Engineer
Acoustic Consulting Engineers Pty Ltd

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Friday 26 May 2017

Elf Farm Supplies Pty Ltd
Compaction and Soil Testing Services P/L
1/78 Owen Street
GLENDENNING NSW 2761

Our Reference 160787-03-04L-CF

For the attention of Mr Tete Awotedu

Construction Noise Monitoring
Mulgrave Substrate Plant
108 Mulgrave Road, Mulgrave

1.0 INTRODUCTION

Acoustic Consulting Engineers Pty Ltd was engaged by Elf Farm Supplies Pty Ltd to conduct a site attended construction noise audit for the construction activities associated with the upgrade works for the existing Mulgrave Substrate Plant.

The purpose of the attended audit was to assess noise emissions from construction activities with reference to the *'Construction Noise & Vibration Management Plant. Substrate Plant. Mulgrave'* Report No. 46.6411.CNVMP_MUL:GD/DT/CF/2016 Rev07 prepared by Atkins Acoustics and compliance with Schedule 3 - Condition 18 of the Project Approval No. 08_0255 that states:

Construction Noise Criteria

18. The Proponent shall ensure that the construction noise generated at the Substrate Plant site does not exceed the criteria in Table 1.

Table 1: Construction Noise impact assessment criteria dB(A)

Receiver/Location	Day $L_{Aeq(15\ minute)}$
R1 – 46 Mulgrave Road, Mulgrave	52
R2 – Mulgrave Industrial area	65
R3 – 2 Railway Road, Mulgrave	52
R4 – 126 Mulgrave Road, Mulgrave	52
R5 – Chisholm Place, South Windsor	51

Notes:

- *Noise generated by the Project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.*

In addition the monitoring was to investigate noise levels at Chisholm Place following receipt of a noise compliant on 12 May 2017 by Elf Farm Supplies relating to concrete pouring activities.

2.0 SITE ATTENDED NOISE AUDIT

This report presents the results and findings of site attended noise audits conducted from approximately 10.00am to 1.45pm on Thursday 25 May 2017. Weather conditions during the audits were clear, dry and calm with occasional very light breeze from the north -east, east and south-east. The site attended noise measurements were conducted at five (5) reference residential receivers identified outlined in Project Approval No. 08_0255 as follows:

R1 46 Mulgrave Road (north)

R2 Mulgrave Industrial Area (east)

R3 2 Railway Road (south-east)

R4 126 Mulgrave Road (south-east)

R5 Chisholm Place (west)

The reference receiver locations are identified in *Figure 1*.

Figure 1: Reference Receiver Locations

Measurement instrumentation consisted of a Type 1 SVAN959 sound and vibration analyser and a Type 1 GRAS 40-AE prepolarised condenser microphone. The instrumentation was checked before and after the measurements with a SVAN SV30A acoustic calibrator and no drift in calibration was detected.

Measurements at each reference receiver location were conducted over two (2) fifteen (15) minute periods, instantaneous noise levels observed during the audit where appropriate were used to assess source noise contributions from construction activities.

At the time of the audit construction activities comprised of 3-5t excavator, scissor lifts, compressor, concrete trucks, concrete pump and crane with boom, and agitators for concrete pour. In addition there was occasional use of hand tools.

Construction noise from the upgrade works associated with the Mulgrave Substrate Plant were not audible at measurement locations R1, R2 and R3.

Construction activities associated with the use of hand tools and agitators were occasionally audible at measurement location R4. Whilst the scissor lifts, compressor, concrete trucks, concrete pump and crane with boom and agitators were audible at measurement location R5.

Table 1 provides a summary of the site observations and *Table 2* the measurement results and estimated noise from construction activities. It should be noted that the measured 15-minute statistical levels presented in *Table 2* are for information only and not due to construction activities.

Table 1 Site Observations

Location	Observation
R1	Construction noise from Mulgrave Substrate Plant inaudible. Noise environment controlled by local and distant road traffic, construction activities at measurement location, chickens, birds, planes, dog
R2	Construction noise from Mulgrave Substrate Plant inaudible. Noise environment controlled by local and distant road traffic, local industrial activities, birds, plane, train
R3	Construction noise from Mulgrave Substrate Plant inaudible. Noise environment controlled by local and distant road traffic, trains, birds, planes, level crossing
R4	Construction noise from Mulgrave Substrate Plant associated with hand tools and low level motor noise occasionally audible. Noise environment influences by distant road traffic, trains, birds, and plant in shed at measurement location
R5	Construction noise from Mulgrave Substrate Plant associated with scissor lifts, compressor, concrete trucks, concrete pump and crane with boom and agitators were audible. Noise environment also influenced by local road traffic, trains, planes, birds, chickens and dogs (5 Chisholm Place) and motorbike

Table 2 Noise Audit Measurement Results

Location	15-min Statistical Noise Levels (dB(A))			Estimated Construction Noise Contribution $L_{Aeq,15min}$	Construction Noise Limit $L_{Aeq,15min}$	Compliance
	L_{Aeq}	L_{A10}	L_{A90}			
R1	59.0	63.6	47.3	<37	52	√
	63.6	65.6	50.8			
R2	65.8	67.9	51.9	<42	65	√
	63.3	66.8	52.5			
R3	56.5	57.1	46.0	<36	52	√
	58.6	57.7	46.5			
R4	47.6	49.4	42.5	<43	52	√
	45.1	47.1	41.2			
R5	48.2	49.0	40.0	<46	51	√
	50.3	49.9	41.9			

It is noted that the instantaneous maximum noise levels (SPL) from the use of concrete agitators may approach or marginally exceed the noise limit at R5 (Chisholm Place), however this noise source is present for no more than five (5) minutes in any fifteen (15) minute assessment period and hence $L_{Aeq,15min}$ noise level is up to 5dB lower than the measured SPL. Accordingly although these activities are clearly audible at Chisholm Place and resulted in generation of a noise complaint, the construction noise levels comply with noise limits for construction activities.

The results of site attended measurements confirmed that $L_{Aeq,15min}$ noise levels from construction activities associated with the upgrade of the Mulgrave Substrate Plant satisfied the project noise goals in accordance with Schedule 3 -Condition 18 of Project Approval No. 08_0255.

Additional near-field audits were conducted at the construction site with reference levels recorded at seven (7) metres from the mobile compressor and the combined activity of concrete truck, pump, crane, boom and hand held agitator. *Table 3* presents the measured sound pressure levels and resultant sound power levels.

Table 3 Octave 1/1 Band Levels of Construction Activities (dB(A))

Noise Source	Frequency (Hz)									dB(A)
	31.5	63	125	250	500	1k	2k	4k	8k	
Mobile Compressor (SPL@7m)	86	93	75	70	68	66	62	56	54	71
Mobile Compressor (Lw@7m)	111	118	100	95	93	91	86	81	79	96
Concrete truck, pump, crane, boom, agitator (SPL@7m)	80	78	73	78	76	74	67	61	51	77
Concrete truck, pump, crane, boom, agitator (Lw@7m)	105	103	98	103	101	99	92	86	76	102

A review of the above audit measurements of construction activities confirm noise levels in accordance with the EA Noise Assessment for assessment of construction activities.

We trust the information in this letter is satisfactory. Please do not hesitate to contact our office should further information or clarification be required.

Yours sincerely,

Carl Fokkema
Senior Acoustic Engineer
Acoustic Consulting Engineers Pty Ltd

Odour Emission Report Summary

INTRODUCTION

The principal objectives of the tests were to measure odour emission concentrations from the stack and to determine compliance of the odour emission with the facility's Environment Protection Licence (EPL) No. 6229. The EPL was issued by the Environment Protection Authority (EPA) in accordance with the Protection of the Environment Operations Act 1997. The EPA is now incorporated into the Office of Environment and Heritage (OEH).

The emission parameters monitored in this survey were:

- Odour concentration
- Stack exhaust gas velocity, exhaust gas temperature, and hence discharge volume
- Moisture
- Mass Odour Emission Rate (MOER).

Odour emission testing was undertaken between 26 and 31 October 2016 at various times during a typical composting cycle.

Table 1-1 shows when emission testing was carried out on the stack.

Day of the Week	Date	Time of the Day Sample was Taken	Number of Odour Samples Taken per Visit
Wednesday	26/10/2016	PM	1
Thursday	27/10/2016	AM	1
Friday	28/10/2016	AM	1
Sunday	30/10/2016	AM	1
Monday	31/10/2016	AM	1

PRODUCTION CONDITIONS

The odour emission samples were collected with the composting plant operating under a normal cycle commencing on a Wednesday. Samples were taken on five separate days over a six day period.

Odour Emission Report Summary

EMISSION TEST RESULTS

The results of the compliance emission tests are presented in Table 3-1. SEMA completed the odour sampling. SEMA is NATA accredited for the odour sampling, NATA accreditation number 15043.

Odour Research Laboratories Australia (ORLA) performed the odour analysis. ORLA is a division of Peter W Stephenson & Associates Pty Ltd and is NATA accredited to AS4323.3 for odour analysis, accreditation number 15043.

The Certificates of Analysis, Olfactometer Test Reports No. 5719/ORLA/01, 5719/ORLA/02 and 5719/ORLA/03 are presented in Appendix A of this report.

TABLE 3-1 ODOUR EMISSION CONCENTRATION RESULTS

Day of Week	**Wednesday**	**Thursday**	**Friday**	**Sunday**	**Monday**
Date	26/10/2016	27/10/2016	28/10/2016	30/10/2016	31/10/2016
Time Sample Taken (hours)	13:52	03:00	03:13	08:35	03:11
SEMA Sample No.	725834	725835	725837	725838	725839
ORLA Sample No.	4590	4591	4594	4596	4597
Concentration (ou)	**1,800**	**2,000**	**2,400**	**2,000**	**2,200**

Key: ou = odour unit

Table 3-2 summarises the odour emission limit for the tunnel composter stack at Elf Farm Supplies Pty Ltd under their EPL Licence No. 6229. The criterion is defined by the 100th percentile odour emission limit as a Mass Odour Emission Rate (MOER) in Odour Units per second (ou/s) on a rolling annual average.

TABLE 3-2 100TH PERCENTILE ODOUR EMISSION LIMIT

	EPA Licence Criteria
100th Percentile MOER Limit	55,400 ou/s
Averaging Period	Rolling annual

Key: MOER = Mass odour emission rate ou/s = Odour units per second which is a misnomer in EPA Licence 6229 (EPL) and should now read odour units. cubic metres per second (ou.m3/s)

Odour Emission Report Summary

ODOUR EMISSION RATES

The MOER for all samples was determined to establish compliance with the EPA/OEH EPL criteria.

The MOER can be calculated using the following formula: MOER = velocity (m/s) x internal area of the stack (m2) x odour concentration (ou).

TABLE 3-3 ODOUR EMISSION RATES OVER A TYPICAL SEVEN DAY COMPOSTING CYCLE SPRING 2016

Day	Wed	Thurs	Fri	Sun	Mon	Ave.
Date	26 Oct 16	27 Oct 16	28 Oct 16	30 Oct 16	31 Oct 16	
ORLA Sample No.	4590	4591	4594	4596	4597	
Time (hours)	13:52	03:00	03:13	08:35	03:11	
Odour Concentration (ou)	1,800	2,000	2,400	2,000	2,200	2,100
MOER (ou.v/s)	31,000	34,000	43,000	33,000	37,000	36,000
EPL MOER Limit (ou/s) Annual Rolling Average	55,400	55,400	55,400	55,400	55,400	55,400

Key: Ave. = average No. = Number ou = odour unit m/s = metres per second m2 = square metres MOER = Mass Odour Emission Rate ou.v/s = Odour Unit volumes per second ou/s = Odour Units per second

CONCLUSIONS

This odour emission survey was conducted over a typical composting cycle. The measured stack MOER's for the monitoring period were in the range of 31,000 ou.m3/s to 43,000 ou.m3/s. The average MOER for the spring 2016 composting cycle, which was considered to be typical, was 36,000 ou.m3/s.

Therefore, these MOER's comply with the EPA/OEH EPL No. 6229 Licence Criteria of 55,400 ou.m3/s Rolling Annual Average.

Odour Emission Report Summary odour testing exercise 03 – 08 May 2017

1 - INTRODUCTION

The principal objectives of the tests were to measure odour emission concentrations from the stack and to determine compliance of the odour emission with the facility's Environment Protection Licence (EPL) No. 6229. The EPL was issued by the Environment Protection Authority (EPA) in accordance with the Protection of the Environment Operations Act 1997.

The emission parameters monitored in this survey were:

- Odour concentration
- Stack exhaust gas velocity, exhaust gas temperature, and hence discharge volume
- Moisture
- Mass Odour Emission Rate (MOER).

Odour emission testing was undertaken between 03 and 08 May 2017 at various times during a typical composting cycle.

Table 1-1 Odour Testing Program

Day of the Week	Date	Time of the Day Sample was Taken	Number of Odour Samples Taken per Visit
Wednesday	3/05/2017	PM	1
Thursday	4/05/2017	AM	1
Friday	5/05/2017	AM	1
Sunday	7/05/2017	AM	1
Monday	8/05/2017	AM	1

2 - PRODUCTION CONDITIONS

The odour emission samples were collected with the composting plant operating under a normal cycle commencing on a Wednesday. Samples were taken on five separate days over a six day period.

Elf Farm Supplies holds all relevant production records should they be required for review.

3 RESULTS AND DISCUSSION

3.1 Emission Test Results

The results of the compliance emission tests are presented in Table 3-1. SEMA completed the odour sampling. SEMA is NATA accredited for the odour sampling, NATA accreditation number 15043.

Odour Research Laboratories Australia (ORLA) performed the odour analysis. ORLA is a division of Peter W Stephenson & Associates Pty Ltd and is NATA accredited to AS4323.3 for odour analysis, accreditation number 15043.

The Certificates of Analysis, Olfactometer Test Reports No. 5817/ORLA/01, 5817/ORLA/02 and 5817/ORLA/03 can be provided on request to Elf farm supplies.

The odour emission sampling and olfactometric analysis was conducted in accordance with Australian Standard (AS) 4323.3. Refer to Section 5 of this report for further detail.

Table 3-1 Odour Emission Concentration Results

Day of Week	Wednesday	Thursday	Friday	Sunday	Monday
Date	03/05/2017	04/05/2017	05/05/2017	07/05/2017	08/05/2017
Time Sample Taken (hours)	13:55	03:00	03:19	16:01	03:05
SEMA Sample No.	726212	726213	726214	726215	726216
ORLA Sample No.	4712	4713	4714	4715	4716
Concentration (ou)	2,900	2,400	2,900	1,700	2,200

Key: ou = odour unit

Table 3-2 summarises the odour emission limit for the tunnel composter stack at Elf Farm Supplies Pty Ltd under their EPL Licence No. 6229. The criterion is defined by the 100th percentile odour emission limit as a Mass Odour Emission Rate (MOER) in Odour Units per second (ou/s) on a rolling annual average.

Table 3-2 100th Percentile Odour Emission Limit

	EPA Licence Criteria
100th Percentile MOER Limit	55,400 ou/s
Averaging Period	Rolling annual

Key:
MOER = Mass odour emission rate
ou.m^3/s = odour unit volume cubic metres per second

3.2 Odour Emission Rates

The MOER for all samples was determined to establish compliance with the EPA EPL criteria.

The MOER can be calculated using the following formula: MOER = velocity (m/s) x internal area of the stack (m2) x odour concentration (ou).

TABLE 3-3 ODOUR EMISSION RATES OVER A TYPICAL SEVEN DAY COMPOSTING CYCLE SPRING

Day	Wed	Thurs	Fri	Sun	Mon	**Ave.**
Date	3.05.2017	4.05.2017	5.05.2017	7.05.2017	8.05.2017	
ORLA Sample No.	4712	4713	4714	4715	4716	
Time (hours)	13:55	03:00	03:19	16:01	03:05	
Odour Concentration (ou)	2,900	2,400	2,900	1,700	2,200	2,400
MOER ($ou.m^3/s$)	48,000	39,000	48,000	27,000	38,000	40,000
EPL MOER Limit ($ou.m^3/s$) Annual Rolling Average	55,400	55,400	55,400	55,400	55,400	55,400

Key:
Ave. = average
No. = Number
ou = odour unit
m/s = metres per second
m2 = square metres
MOER = Mass Odour Emission Rate
ou.m3/s = odour unit volume cubic metres per second
ou/s = Odour Units per second

4. CONCLUSIONS

This odour emission survey was conducted over a typical composting cycle. The measured stack MOER's for the monitoring period were in the range of 27,000 ou.m3/s to 48,000 ou.m3/s. The average MOER for the autumn 2017 composting cycle, which was considered to be typical, was 40,000 ou.m3/s.

Therefore, these MOER's comply with the EPA EPL No. 6229 Licence Criteria of 55,400 ou.m3/s Rolling Annual Average.

Appendix D

Annual Returns and Waste Summary

ANNUAL RETURN

LICENCE NO	**6229**
LICENCE HOLDER	ELF FARM SUPPLIES PTY LTD
REPORTING PERIOD	20-May-2016 to 19-May-2017

If your licence has been transferred, suspended, surrendered or revoked by the EPA during this reporting period, cross out the dates above and specify the new dates to which this Annual Return relates below:

REVISED REPORTING PERIOD _____ / _____ / _____ **to** _____ / _____ / _____

(Note: the revised reporting period also needs to be entered in Section H)

THIS ANNUAL RETURN MUST BE RECEIVED BY THE EPA BEFORE 19-Jul-2017

Your Annual Return must be completed, including certification in Section H, and submitted to the EPA no later than 60 Days after the end of the reporting period for your licence.

Failure to submit this Annual Return within 60 days after the reporting period ends may result in:

- **the issue of a Penalty Notice for $1500 (individuals) or $3000 (corporations);**

OR

- **prosecution.**

Please send your completed Annual Return by **Registered Post** to:

Regulatory and Compliance Support Unit
Environment Protection Authority
PO Box A290
SYDNEY SOUTH NSW 1232

It is an offence to supply any information in this form to the EPA that is false or misleading in a material respect, or to certify a statement that is false or misleading in a material respect.

THERE IS A MAXIMUM PENALTY OF $250,000 FOR A CORPORATION OR $120,000 FOR AN INDIVIDUAL.

Details provided in this Annual Return will be available on the EPA's Public Register in accordance with section 308 of the *Protection of the Environment Operations Act 1997.*

Annual Return

ELF FARM SUPPLIES PTY LTD

Use the checklist below to ensure that you have completed your Annual Return correctly.

(✓ the boxes)

CHECKLIST		
☐	Section A:	All licence details are correct
☐	Section B1:	You have entered the correct number in the complaints table
☐	Section B2 – B3:	If there are tables, you have provided the required details
☐	Section C:	You have answered question 1, and 2 if applicable
☐	Section D:	If applicable, you have completed all load calculation worksheets
☐	Section E:	You have answered question 1, 2, 3, 4, 5 and 6 if applicable
☐	Section F:	You have answered question 1, 2 and 3 if applicable
☐	Section G:	You have answered question 1 and question 2, 3 and 4 or question 5 through to 11 if applicable
☐	Section H:	The Annual Return has been signed by appropriate person(s) and, if applicable, the revised reporting period entered
☐	Make a copy of the completed Annual Return and keep it with your licence records	

Please send your completed Annual Return by **Registered Post** to:

Regulatory and Compliance Support Unit
Environment Protection Authority
PO Box A290
SYDNEY SOUTH NSW 1232

A Statement of Compliance - Licence Details

ALL licence holders must check that the licence details in Section A are correct

If there are changes to any of these details**you must advise the EPA and apply as soon as possible for a variation to your licence or for a licence transfer.**

Licence variation and transfer application forms are available on the EPA website at: http://www.epa.nsw.gov.au/licensing, or from regional offices of the EPA, or by contacting us on telephone 02 9995 5700.

If you are applying to vary or transfer your licence you must still complete this Annual Return.

A1 Licence Holder

Licence Number	6229
Licence Holder	ELF FARM SUPPLIES PTY LTD
Trading Name *(if applicable)*	
ABN	71 131 333 830

A2 Premises to which Licence Applies (if applicable)

Common Name (if any)	ELF FARM SUPPLIES PTY LTD
Premises	108 MULGRAVE ROAD MULGRAVE NSW 2756

A3 Activities to which Licence Applies

Composting
Waste storage

A4 Other Activities (if applicable)

A5 Fee-Based Activity Classifications

Note that the fee based activity classification is used to calculate the administrative fee.

Fee-based activity	Activity scale	Unit of measure
Waste storage - other types of waste		other types of waste stored
Composting	> 5,000.00 - 50,000.00	T annual capacity to receive organics

A6 Assessable Pollutants (Not Applicable)

B Monitoring and Complaints Summary

B1 Number of Pollution Complaints

Number of complaints recorded by the licensee during the reporting period. **If no complaints were received enter nil in the attached box, otherwise complete the table below.**	79

Pollution Complaint Category	Number of Complaints
Air	63
Water	
Noise	7
Waste	
Other	9

B2 Concentration Monitoring Summary

For each monitoring point identified in your licence complete all the details for each pollutant listed in the tables provided below.

If concentration monitoring is **not** required by your licence, **no tables** will appear below.
Note that this does not exclude the need to conduct appropriate concentration monitoring of assessable pollutants as required by load-based licensing (if applicable).

Discharge & Monitoring Point 1

Discharge to air
Air emissions monitoring, Bioscrubber chimney labelled as "Chimney" on "Figure 5.2 - Plant Layout" and "Figure 5.5 - Stage 1 - Phase 1 Bioscrubber Detail" contained in the "Mulgrave Mushroom Substrate Plant Environmental Management Plan" dated August 2002.

Pollutant	Unit of measure	No. of samples required by licence	No. of samples you collected and analysed	Lowest sample value	Mean of sample	Highest sample value

Odour	odour units per second	10	10	31 000	36 000	43 000
Temperature	Kelvin	10	10	293	298	303
Velocity	metres per second	10	10	14.1	15.0	15.9
Volumetric flowrate	cubic metres per second	10	10	17	17	18

B3 Volume or Mass Monitoring Summary

For each monitoring point identified in your licence complete the details of the volume or mass monitoring indicated in the tables provided below.

If volume or mass monitoring is not required by your licence, **no tables** will appear below.

Note that this does not exclude the need to conduct appropriate concentration monitoring of assessable pollutants as required by load-based licensing (if applicable).

C Statement of Compliance - Licence Conditions

C1 Compliance with Licence Conditions

(☑ the boxes)

1 Were all conditions of the licence complied with (including monitoring and reporting requirements)? ☐ Yes ☑ No

(✓ a box)

2 If you answered 'No' to question 1, please supply the following details for each non -compliance in the format, or similar format , provided on the following page.

Please use a separate page for each licence condition that has not been complied with.

a) What was the specific licence condition that was not complied with?

b) What were the particulars of the non -compliance?

c) What were the date(s) when the non -compliance occurred, if applicable?

d) If relevant, what was the precise location where the non -compliance occurred?

Attach a map or diagram to the Statement to show the precise location.

e) What were the registrati on numbers of any vehicles or the chassis number of any mobile plant involved in the non-compliance?

f) What was the cause of the non -compliance?

g) What action has been, or will be, taken to mitigate any adverse effects of the non -compliance?

h) What action has been, or will be, taken to prevent a recurrence of the non -compliance?

3. How many pages have you attached?

Each attached page must be initialled by the person(s) who signs Section G of this Annual Retum

1

C2 Details of Non-Compliance with Licence

Licence condition number not complied with
Emissions of offensive odour
Summary of particulars of the non-compliance **(NO MORE THAN 50 WORDS)**
Odour from Bale wetting activity was observed by EPA authorised officer(s) off site
If required, further details on particulars of non-compliance
Date(s) when the non-compliance occurred, if applicable
18th July 2016
If relevant, precise location where the non-compliance occurred (attach a map or diagram)
See attached
If applicable, registration numbers of any vehicles or the chassis number of any mobile plant involved in the non-compliance
Cause of non-compliance
Bale wetting activity odour
Action taken or that will be taken to mitigate any adverse effects of the non-compliance
Completion of MOD1 construction works
Action taken or that will be taken to prevent a recurrence of the non-compliance
Completion of MOD1 construction works

D Statement of Compliance - Load-Based Fee Calculation Worksheets

If you are not required to monitor assessable pollutants by your licence, no worksheets will appear below. Please go to Section E.

If assessable pollutants have been identified on your licence (see licence condition L2), complete the following worksheets for each assessable pollutant to determine your load-based fee for the licence fee period to which this Annual Return relates.

Loads of assessable pollutants must be calculated using any of the methods provided in the EPA's Load Calculation Protocol for the relevant activity. A Load Calculation Protocol would have been sent to you with your licence. If you require additional copies you can download the Protocol from the EPA's website or you can contact us on telephone 02 9995 5700.

You are required to keep all records used to calculate licence fees for four years after the licence fee was paid or became payable, whichever is the later date.

PENALTIES APPLY FOR SUPPLYING FALSE OR MISLEADING INFORMATION

D1 - D8 (Not Applicable)

E Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan (PIRMP) Under Section 153A of the POEO Act 1997

1 Have you prepared a PIRMP as required under s153A of the Protection of the Environment Operations Act 1997?

(✓ a box) ☑ Yes ☐ No

If you answered 'Yes' to question 1, please tick the appropriate box to indicate the following:

2 Is the PIRMP available at the premises?

(✓ a box) ☑ Yes ☐ No

3 Is the PIRMP available in a prominent position on a publicly accessible web site?

(✓ a box) ☑ Yes ☐ No

If the PIRMP is available on a publicly accessible web site please indicate clearly below the address of the web site where the PIRMP can be accessed:

Web site Address: www.elffarmsupplies.com.au/document-archive/

4 Has the PIRMP been tested in the last 12 months?

(✓ a box) ☑ Yes ☐ No

If you answered 'Yes' to question 4 please indicate clearly below the date that the PIRMP was last tested:

The PIRMP was last tested on: 04 / 11 / 2016

5 Has the PIRMP been updated?

(✓ a box) ☑ Yes ☐ No

If you answered 'Yes' to question 5 please indicate clearly below the date that the PIRMP was last updated:

The PIRMP was last updated on: __ / 07 / 2016

6 How many times has the PIRMP been activated in this reporting period? 1

If the PIRMP has been activated, please indicate clearly below the date/s when the PIRMP was activated:

The PIRMP was activated on: 04 / 11 / 2016

The EPA's guidelines for preparation of pollution incident response management plans are available at

http://www.epa.nsw.gov.au/legislation/20120227egpreppirmp.htm

F Statement of Compliance - Requirement to Publish Pollution Monitoring Data Under Section 66(6) of the POEO Act 1997

1 Are there any conditions attached to your licence that require pollution monitoring to be undertaken?

(✓ a box) ☑ Yes ☐ No

If you answered 'Yes' to question 1, please tick the appropriate box to indicate the following:

2 Do you operate a web site?

(✓ a box) ☑ Yes ☐ No

3 Is the pollution monitoring data published on your web site in accordance with the EPA's written requirements for publishing pollution monitoring data?

(✓ a box) ☑ Yes ☐ No

If you publish pollution monitoring data on a web site please indicate clearly below the address of the web site where the pollution monitoring data can be accessed:

Web site address: www.elffarmsupplies.com.au

The EPA's written requirements for publishing pollution monitoring data are available at http://www.epa.nsw.gov.au/legislation/20120263regpubpmdata.htm

Note - if you do not maintain a web site, you must provide a copy of any monitoring data that relates to pollution, to any person requests a copy of the data at no charge to the person requesting the data.

G Statement of Compliance - Environmental Management Systems and Practices

1 Do you have an environmental management system (EMS) certified to IS0 14001 or any other demonstrated equivalent system[1]? (see note below on demonstrated equivalent)

(✓ a box) ☑ Yes ☐ No

If your answer to question 1 is 'No', please proceed to question 5. If your answer to question **1** is 'Yes', please proceed to question 2.

2 When was the last check of the EMS[2] completed (see note below on check of EMS)? 10 / 03 / 2017

3 Were there any non-conformances related to environmental issues identified in the last check of the EMS?

(✓ a box) ☑ Yes ☐ No

4 If there were non-conformances identified, were these non-conformances rectified?

(✓ a box) ☑ Yes ☐ No

If you answered 'No' to question 1, please answer questions 5 - 11. If you answered 'Yes' to question 1 please proceed to section H. Questions 5-11 relate to any documented environmental practices, procedures and systems in place. Refer to http://www.epa.nsw.gov.au/licensing/EMCP.htm for guidance on how to complete questions 5 to 11. If unsure of the answer, tick No.

5 Have you conducted an assessment of your activities and operations to identify the aspects that have a potential to cause environmental impacts and implemented operational controls to address these aspects?

(✓ a box) ☐ Yes ☐ No

6 Have you established and implemented an operational maintenance program, including preventative maintenance?

(✓ a box) ☐ Yes ☐ No

7 Do you keep records of regular inspections and maintenance of plant and equipment?

(✓ a box) ☐ Yes ☐ No

8 Do you conduct regular site audits to assess compliance with environmental legal requirements and assess conformance to the requirements of any documented environmental practices, procedures and systems in place?

(✓ a box) ☐ Yes ☐ No

9 Are the audits of documented environmental practices, procedures and systems undertaken by a third party?

(✓ a box) ☐ Yes ☐ No

10 Have you established and implemented an environmental improvement or management plan?

(✓ a box) ☐ Yes ☐ No

11 Do you train staff in environmental issues that may arise from your activities and operations and keep records of this

(✓ a box) ☐ Yes ☐ No

[1] Demonstrated equivalent refers to an environmental management system that the EPA considers is equivalent to the accountability, procedures, documentation and record keeping requirements of an ISO 14001 system. For further information go to:
http://www.epa.nsw.gov.au/resources/licensing/150402-environmental-management-systems-guidelines.pdf

[2] Undertaking a 'check of an EMS' refers to the ISO 14001 requirements that an organisation demonstrates conformity to the requirements of its EMS and to the standard, these checks require third-party certification that requirements have been met.

H Signature and Certification

This Annual Return may only be signed by a person(s) with legal authority to sign it as set out in the categories below. **Please tick (✓) the box** next to the category that describes how this Annual Return is being signed.

If you are uncertain about who is entitled to sign or which category to tick, please contact us on telephone 02 9995 5700.

If the licence holder is:	the Annual Return must be signed and certified by one of the following:
an individual	☐ the individual licence holder, or ☐ a person acting on behalf of the individual licence holder in accordance with a power of attorney for the individual. A copy of the power of attorney must be submitted with the Annual Return.
a company	☐ by two directors, or ☐ by a director and a company secretary, or ☐ if a proprietary company that has a sole director who is also the sole company secretary - by that director, or ☑ by a person delegated to sign a copy of the Annual Return on the company's behalf in accordance with the Corporations Act 2001. Delegation of authority must be submitted with the Annual Return, or. ☐ by affixing the common seal, in accordance with the Corporations Act 2001
a public authority other than a Council	☐ by the Chief Executive Officer of the public authority, or ☐ by a person delegated to sign on the public authority's behalf in accordance with its legislation.
a local Council	☐ by the General Manager in accordance with s377 of the Local Government Act 1993 , or ☐ by affixing the seal of the Council in a manner authorised under the Local Government Act 1993.

It is an offence to supply any information in this form that is false or misleading in a material respect, or to certify a statement that is false or misleading in a material respect. There is a maximum penalty of $250,000 for a corporation or $120,000 for an individual.

I/We

- *declare that the information in the Monitoring and Complaints Summary in section B of this Annual Return is correct and not false or misleading in a material respect, and*
- *certify that the information in the Statement of Compliance in sections A, C, D, E, F and G and any pages attached to Section C is correct and not false or misleading in a material respect.*

If your licence has been transferred, suspended, surrendered or revoked by the EPA during this reporting period, cross out the dates below and specify the new dates to which this Annual Return relates below:

For the reporting period 20-May-2016 to 19-May-2017 or ____/____/____ to ____/____/____

SIGNATURE:_____ SIGNATURE:_____

NAME:
(printed)_____ NAME:
(printed)_____

POSITION:_____ POSITION:_____

DATE:_____/_____/_____ DATE:_____/_____/_____

SEAL(if signing under seal)

PLEASE ENSURE THAT ALL APPROPRIATE BOXES HAVE BEEN COMPLETED AND THAT THE CHECKLIST ON PAGE 2 OF THE ANNUAL RETURN HAS BEEN COMPLETED

Annual Waste Report: Elf Farm Supplies Pty Ltd - 6229

Reporting Period: **2016 - 2017**
Status: **Certified**
Printed on: 18/07/2017, 8:30 a.m.

Due: **29 August 2017**
Report Version: **1**
Printed by: Neil Cockerell, Certifier

☐ No waste has been received, processed or removed from site during this period

Waste Received	Metropolitan Levy Area

Municipal

Waste type	Quantity (tonnes)
Total Municipal	**0.00**

Commercial and Industrial

	Waste type	Quantity (tonnes)
Received	Biosolids or manures	12,294.00
	Vegetation or garden	19,715.00
	Total Commercial and Industrial	**32,009.00**

Construction and Demolition

Waste type	Quantity (tonnes)
Total Construction and Demolition	**0.00**

Unknown

Waste type	Quantity (tonnes)
Total Unknown	**0.00**

Deduction - Waste Transported from Site

Please note the proximity principle offence commenced on 1 November 2014. This makes it an offence to transport waste generated in NSW beyond 150km from its point of generation, with limited exceptions.

Waste transported from site for disposal at a licensed waste facility

Waste type	Quantity
Total	**0.00**

Waste transported from site under a Resource Recovery Order

	Waste type				Quantity
***Specific RRO**	Composts or mulches				72,545.00
Estimate of waste stream at time of receipt	☐ Unknown	MUN: 0.00%	C&I: 100.00%	C&D: 0.00%	
			Total		**72,545.00**

Waste transported from site for lawful recovery

Waste type	Quantity
Total	**0.00**

Annual Waste Report: Elf Farm Supplies Pty Ltd - 6229

Reporting Period: **2016 - 2017**
Status: **Certified**
Printed on: 18/07/2017, 8:30 a.m.

Due: **29 August 2017**
Report Version: **1**
Printed by: Neil Cockerell, Certifier

Summary Details

Details

	Tonnes
Waste Received - Waste received - Metropolitan Levy Area	32,009.00
	less
Waste transported from site	72,545.00
Net position for reporting preiod	-40,536.00

Certification Statement

I Neil Cockerell certify that the information contained in the report in respect of waste facility Elf Farm Supplies Pty Ltd located at 108 Mulgrave Road, Mulgrave , 2756 for the reporting period 2016 - 2017 is true and correct.

I further certify that the occupier of the waste facility has kept the necessary records to substantiate the information provided in this report in accordance with the Protection of the Environment Operations (Waste) Regulation 2014.

Please select the option that applies to you:

I am a person delegated to sign on the occupier's behalf and approved by the EPA in writing to sign this report