Waste Management Licence Application Additional Information Annexure (application for new facilities, expansion of existing facilities or decommissioning / closure of existing facilities.)

DECEMBER 2013

DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	**16/3/3/1/B1/14/1004/18**
File reference number (Waste):	**19/2/5/1/B1/14/WL0003/18**
File reference number (Other):	

PROJECT TITLE

COMPOST FACILITY AND FEEDLOT ON PORTION 6 OF FARM MIDDELBURG 10, ROBERTSON

Kindly note that:

1. For an application for a waste management licence that must subjected to a Basic Assessment or Scoping & Environmental Impact Reporting process, this Annexure must be submitted together with the Basic Assessment Report or Environmental Impact Report. Note that when applying for decommissioning/closure of existing facility only the following sections must be completed 2, 3, 15 and 16.

2. This annexure is current as of December 2013. It is the responsibility of the Applicant / EAP to ascertain whether subsequent versions of the appendix have been published or produced by the competent authority.

3. The required information must be typed within the spaces provided in the report. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. It is in the form of a table that will expand as each space is filled with typing.

4. An incomplete annexure may result in the rejection of the Basic Assessment Report or Environmental Impact Report.

5. The use of "not applicable" in the document must be done with circumspection. Where it is used in respect of material information that is required by the Department for assessing the application, this may result in the rejection of the Basic Assessment Report or Environmental impact Report.

6. **While the different sections of the annexure report only provide space for provision of information related to one alternative, if more than one feasible and reasonable alternative is considered, the relevant section must be copied and completed <u>for each alternative</u>**.

7. Unless protected by law all information contained in, and attached to this report, will become public information on receipt by the competent authority. If information is not submitted with this report due to such information being protected by law, the applicant and/or EAP must declare such non-disclosure and provide the reasons for the belief that the information is protected.

8. This annexure must be submitted together with the Basic Assessment Report or Environmental Impact Report to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. No faxed or e-mailed reports will be accepted. **Please note that for waste management licence applications, this report must be submitted <u>for the attention</u> of the Department's Waste Management Directorate (tel: 021-483-2756 and fax: 021-483-4425) at the same postal address as the Cape Town Office Region A.**

<u>DEPARTMENTAL DETAILS</u>

DIRECTORATE WASTE MANAGEMENT

Department of Environmental Affairs and Development Planning
Attention: Directorate Waste Management Private Bag X 9086 Cape Town, 8000 Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town Queries should be directed to: Tel (021) 483-2756 Fax (021) 483-4425

Highlight the type of project:	**Recycling and/or recovery facility**	~~**Treatment facility**~~	~~**Disposal facility**~~	~~**Other**~~

Please provide a general description of the project and associated infrastructure:

Due to the lack of capacity at a Class B municipal waste disposal facility (Ashton), the South African Farm Assured Meat Group CC (SAFAM) Robertson Abattoir, one of the largest employers in the Langeberg Municipal area with over 200 employees, was obliged to manage and dispose of the by-products (i.e. wastes derived from the slaughter process) from the Robertson Abattoir in the most environmental friendly way.
[These are not waste products since it is used as an ingredient to create compost.]

The disposal of the by-products on a portion of Ptn 6 of the farm Middelburg No 10, district Robertson started in February 2017 after consultation with the Langeberg Municipality, Cape Winelands District Municipality as well as the Directorate Waste Management of the Department of Environmental Affairs and Development Planning.

Since the capacity is below 10 tons per day at present and the product is utilized on the same premises, environmental authorization is not required. This facility will be capable of handling all organic general by-products (("pensmis" (mainly water) and "derms", blood, non-infectious condemned trim and non-infectious whole carcasses)) from the Robertson Abattoir and converting it to general use compost.

In addition, it is the intention to establish a sheep feedlot adjacent to the compost facility. The capacity of the feedlot is 4500 lambs at any one time. The manure of the feedlot will be, together with the by-products of the abattoir and wood chips received from the Municipality, an essential raw material in producing compost.

Compost Facility:
A compost facility to recycle and treat abattoir by-products and organic waste to produce compost on approximately 3.6ha on Portion 6 of Farm Middelburg 10, Robertson. Construction of storm water cut-off channels and collection dams to contain and store all storm water generated on site for reuse and recycling onto the compost rows as part of the treatment and compost making process.

Proposed Feedlot:
The proposal also includes the development of a feedlot for the keeping of animals for commercial production on approximately 6000m^2 on Portion 6 of Farm Middelburg 10, Robertson. The planned stock levels under the canopy are 4500 lambs at any one time depending upon site and age.

1. SIZE OF SITE AND FACILITY, AND CLASSIFICATION OF FACILITY

Size of facility for a waste management activity	86000m^2
Area where the waste management activity takes place	36000m^2
In terms of waste disposal and composting facilities: Classification of facility in terms of climatic water balance	The site is classified as B$^-$, in terms of climatic water balance not leachate management systems would be required for the site.
In terms of waste disposal facilities: Classification of Facility in terms of the type and the quantity of waste received	Category A Facility (equivalent to Basic Impact Assessment (EIA)) General waste more specifically Part C organic waste).

2. GEOGRAPHICAL COORDINATES OF ALL EXTERNAL CORNER POINTS OF FOOTPRINT OF THE WASTE MANAGEMENT FACILITY

Number of Corners	**Latitude (S):**			**Longitude (E):**		
NW Corner	33^0	43'	50.41"	19^0	44'	41.61"
NE Corner	33^0	43'	52.27"	19^0	44'	43.84"
SW Corner	33^0	43'	55.42"	19^0	44'	35.52"
SE Corner	33^0	43'	57.01"	19^0	44'	37.27"

Please note: The corner numbers must be indicate on a site map to be attached to this annexure.

3. DETAILS OF THE PERSON WISHING TO HOLD THE WASTE MANAGEMENT LICENCE

First name and surname:	South African Farm Assured Meat Group cc		
Company Name (if any):	South African Farm Assured Meat Group cc		
Identity and/or Company Registration number:	1997/017299/23		
Physical address:	Portion 6 Farm Middelburg 10, Robertson		
Postal address:	P.O. Box 895,		
	Robertson	Postal code:	6705
Telephone:	023 626 6320	Cell:	083 448 6838
E-mail:	david@robab.co.za	Fax:	023 626 6040
EAP Qualifications	B Tech Oceanography: Cape Peninsula University of Technology (2010)		
EAP Registrations/Associations	SACNASP Cand.Sci.Nat (Biological Science) no. 100126/12		

4. DETAILS OF THE OPERATIONAL TIMES

Period	**From**	**Until**
Weekdays	07h00	18h00
Saturdays	07h00	18h00
Sundays	NA	NA
Public Holidays	07h00	18h00

5. DESCRIPTION OF THE WASTE MANAGEMENT ACTIVITIES AND THE WASTE MANAGEMENT OPERATIONS

5.1 Provide a flow chart of the operation showing all inputs and outputs of the process.

Previously by-products of the Robertson Abattoir such as the "pensmis", derms and blood were removed by the Langeberg Municipality.

Ashton Municipal Dumping Site has, however, reach capacity and is Robertson's Abattoir waste has not been removed by the Langeberg Municipality as from end January 2017.

At the moment the proposed facility receives approximately 160 tons of green waste per month, i.e. approximately 5,3 tons per day which is under the threshold of 10 tons as stated in in Government Notice 921: *"The treatment of general waste using any form of treatment at a facility that has the capacity to process in excess of 10 tons but less than 100 tons."*

Since it is the expectation that up to approx. 500 tons abattoir waste a month, i.e. 16,6 tons per day, the facility will trigger a waste Management License.

Volumes of raw materials available based on the 2015/2015 outputs are as follows:
Manure: 3m3/day
Pensmis: 6m3/day
Blood : 0,75m3/day
Total: 9,75m3/day (equals 5,3 tons/day)

A bulking agent, i.e. woodchips is used to ensure that a higher volume of compost can be produced. Woodchips are added up to a total of 30m3 per day. After the composting process that involves 30% loss in moisture from the raw material, there will be a final volume of 20m3 of composted product produced per day.
[Although a cost effective composting business will require more than double this volume, the main purpose is to process the by-product of the abattoir.]

Approximately 8 condemned lamb carcasses (and only 2 beef in six months), i.e. waste that is not infectious, but not fit for human consumption, are generated per week. This is also classified as general waste according to NEM:WA.
Carcasses are broken down over a 3 months period in a separate bulk row, where-after it is added to the windrows together with the other by-products.

Infectious animal carcasses and animal waste are prohibited from disposal to land with immediate effect, implying that it needs to be treated before disposal. All infectious animals are, however, frozen

at the Robertson Abattoir and transported to the Vissershok Hazardous Waste Landfill Site in Cape Town where mortality composting takes place above ground by placing carcasses above ground between layers of soil, wood chippings and horse manure, which catalyze decomposition. The process generates heat, which sterilizes the bodies – breaking down any harmful chemicals and germs.

What entails composting?

Composting is a managed biological decomposition process that converts organic matter into stable, humus-like material. In the case of mortality composting, the organic matter being converted includes the animal carcass. Composting is a process in which micro-organisms flourish with the proper mixture of bulking agents (e.g. woodchips), animal tissue, water and air.

When done properly, the process consumes tissue, minimizes odours and produces quality finished compost.

The five criteria of a good recipe are:
- Carbon (plant) and Nitrogen (animal) ratios (C:N)
- Moisture Content
- Particle Size
- Oxygen Content
- Temperature
- pH

Carbon and Nitrogen Ratios (C:N)
The proper mix of composting materials requires both carbon and nitrogen at a 15:1 to 20:1 ratio. With the proper C:N mix, odour will be minimal and an environment conductive to the growth of micro-organisms will be obtained.
Animal by-products alone will cause the C:N ratio to be out of balance as it will have too high nitrogen level and the by-products will also tend to be wetter, with a variable particle size. In order to achieve the correct C:N ratio, plant material need to be added such as wood chips (sourced from Langeberg Municipality) and sawdust with a high absorbent nature.

Moisture Content
Moisture content of the compost mixture should be between 50% and 60%. This will vary depending upon the stage of the compost pile/windrow and where in the pile the sample was taken.
Moisture concentrations higher than 60% (when water runs from moisture compost) should be avoided as this can generate odours and increase the chance of leachate from the compost.

Particle Size & Oxygen Concentration
Particle size is critical to ensure adequate aeration of the compost pile. The ideal size is between 2,5mm to 10mm with the larger sizes increasing the porosity of the pile allowing for easier airflow in the pile, maintaining oxygen concentrations to optimize microbial growth. As the composting process progresses, the micro-organisms break down the particles, which causes compacting and reduce the airflow. Regular turning of the compost, introducing oxygen back into the pile, reduces the impact of particle size reduction.

Temperature
Temperature is both a critical parameter and reliable indicator for successful compost production. Optimal composting temperatures range from between 40-60 degrees centigrade, as this is the range where-in the specific bacteria operate. In order to ensure human and plant pathogens are killed, the compost must be at 55 degrees for a minimum of 72 hours. Five cycles of 3 days on 55 degrees are used to ensure the optimal product.

pH
Active composting will only occur within a pH range of 5,5 to 9 as this is the favourable environment of the bacteria. Below a pH of 5,5 the composting process slows down, while a high pH above 8,5 promotes the conversion of nitrogenous compounds to ammonia which is the cause of unfavourable odours. Under normal conditions the pH does not need to be adjusted because of the natural buffering capacity of commonly available components of compost and the normal pH of animal tissue.

Process

The physical structure of the compost pile is essential in managing the above critical chemical parameters.

The nature of the by-products from the abattoir requires immediately covering after off-loading to avoid flies and minimize odours at the site. However, the blood needs to settle onto a windrow for 1 hour before turning the row to prevent clumping on the windrow turner and possible damage to the gearbox.
[In agriculture, windrow composting is the production of compost by piling organic matter or

biodegradable waste, such as animal manure and crop residues, in long rows (windrows). This method is suited to producing large volumes of compost. (Source: Wikipedia)]

As the diagram below, it is necessary to ensure that all by-products are placed on a dry plant material base, i.e. wood chips to reduce smells and attraction of flies and other pests. These chips are of an ideal size to ensure that initial porosity required is achieved to ensure airflow until the moisture levels within either the windrows or the bulk piles has equalized. The base layer of wood chips also prevents any run off of liquids onto the site. Once the piles have settled down and reduced in height after the first month, the windrow can be turned or the bulk pile added to a windrow.

The windrows are turned according to guided frequencies once the initial digestion of the by-products has taken place, taking into account the temperature and moisture levels. The compost has to be turned when the temperature gets to 65°C or above. This is critical to keep the bacteria functioning and also to prevent a fire risk which can occur above 70°C.
If the temperature is too high, moisture will be added (usually blood) and then the row will be turned to incorporate air. This will stabilize the windrow.
[Blood therefore help with the composting in terms of moisture levels as well as with the adding of needed nutrients.]

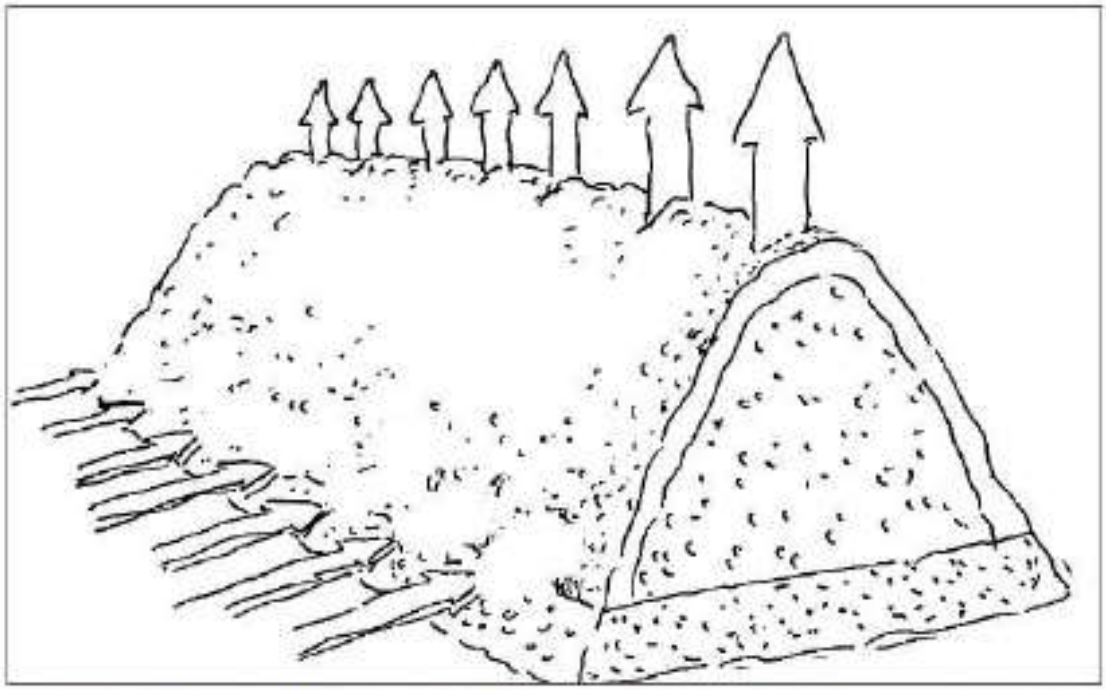
Whole animal carcasses adds a level of complexity to the usual process described above which will be in operation for the majority of the by-products. A whole carcass (condemned) can take up to 3 months to be digested via the composting process and it is critical that during this time the pile is not turned to prevent odours being released and for other health considerations. Carcasses is/are placed on top on a base of wood chips or wooden pallet and then covered again with the chips. A layer of the compost manufactured on site is added to ensure the pile is inoculated.

Five Standard Operating Procedures (SOPs) have been developed to monitor the successful operation of the composting site (attached):

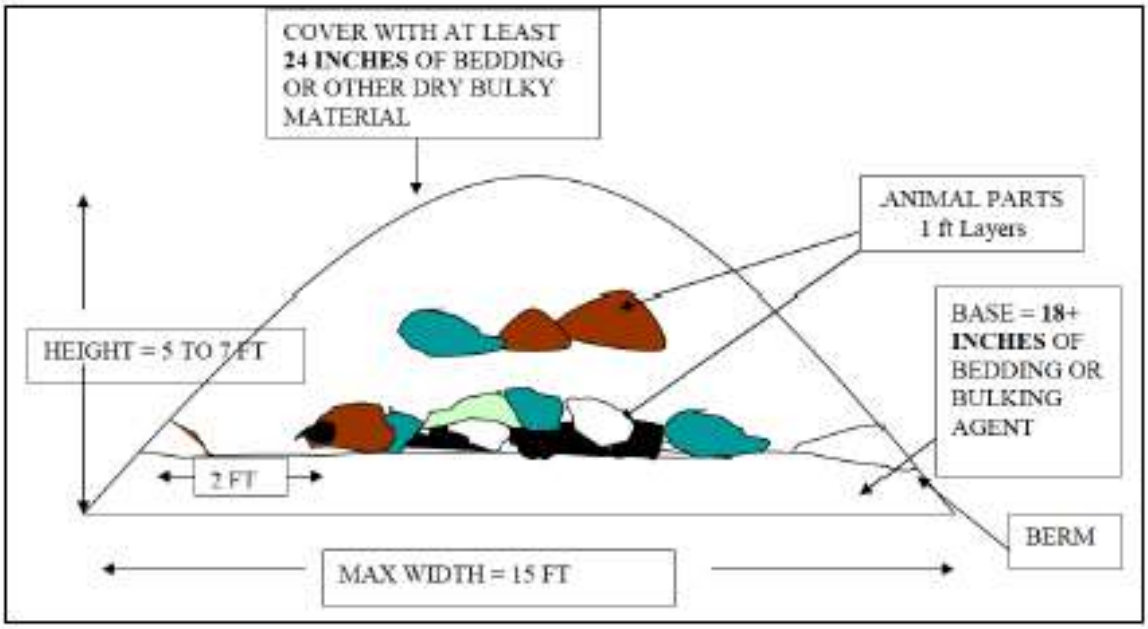
- SOP 1: Compost Process Flow / Flow diagram
- SOP 2: Removal and Delivery of By-products
- SOP 3: Site Hygiene
- SOP 4: pH and Temperature Testing and Recording
- SOP 5: Pest Control

These were developed in December 2016 and March 2017 and were updated in May 2017. It is a learning curve in South Africa and the current operation has improved to a large extent over the last few months.

Forms that needed to be completed by the workers throughout the process can be found in the Operation EMPr in Appendix H of the BAR.



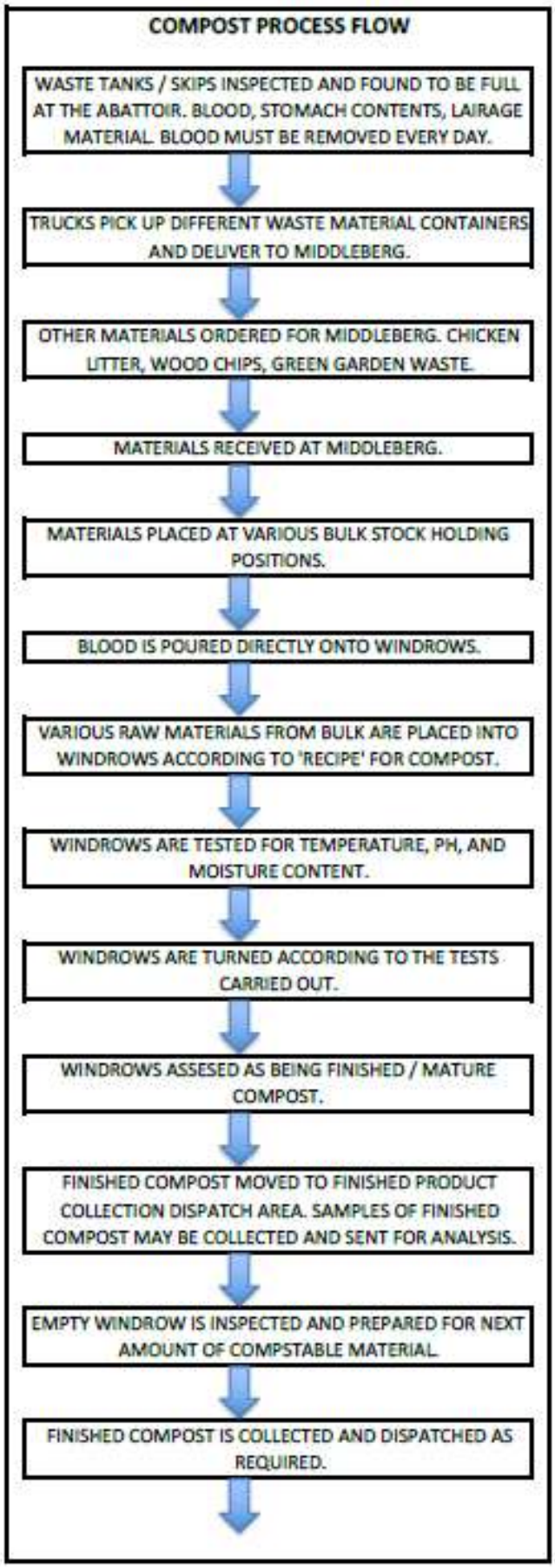
In well-built piles with chunky carbon bases, air circulates naturally through the pile.



Cap or Cover:
- insulates and isolates,
- sheds precipitation
- adsorbs gases and odors,
- deters pests

Core Media:
- adsorbs gases and odors,
- separates carcasses and isolates intermediate layers,
- provides C, energy, mass and volume,
- absorbs liquids.

Base: adsorbs liquids, allows air to enter.


COMPOST PROCESS FLOW
WASTE TANKS / SKIPS INSPECTED AND FOUND TO BE FULL AT THE ABATTOIR. BLOOD, STOMACH CONTENTS, LAIRAGE MATERIAL. BLOOD MUST BE REMOVED EVERY DAY.
TRUCKS PICK UP DIFFERENT WASTE MATERIAL CONTAINERS AND DELIVER TO MIDDLEBERG.
OTHER MATERIALS ORDERED FOR MIDDLEBERG. CHICKEN LITTER, WOOD CHIPS, GREEN GARDEN WASTE.
MATERIALS RECEIVED AT MIDDLEBERG.
MATERIALS PLACED AT VARIOUS BULK STOCK HOLDING POSITIONS.
BLOOD IS POURED DIRECTLY ONTO WINDROWS.
VARIOUS RAW MATERIALS FROM BULK ARE PLACED INTO WINDROWS ACCORDING TO 'RECIPE' FOR COMPOST.
WINDROWS ARE TESTED FOR TEMPERATURE, PH, AND MOISTURE CONTENT.
WINDROWS ARE TURNED ACCORDING TO THE TESTS CARRIED OUT.
WINDROWS ASSESED AS BEING FINISHED / MATURE COMPOST.
FINISHED COMPOST MOVED TO FINISHED PRODUCT COLLECTION DISPATCH AREA. SAMPLES OF FINISHED COMPOST MAY BE COLLECTED AND SENT FOR ANALYSIS.
EMPTY WINDROW IS INSPECTED AND PREPARED FOR NEXT AMOUNT OF COMPSTABLE MATERIAL.
FINISHED COMPOST IS COLLECTED AND DISPATCHED AS REQUIRED.

5.2 Give particulars of the source, location, nature, composition and quantity of emission to the atmosphere, surface water, sewer, and ground-water including noise emissions. Solid waste must be in cubic metres (m^3) or tons (t) and specify units for liquids and gases.

Flies:

- All by-products are covered immediately on delivery which reduces the numbers of flies to a large extent.
- The composting process will control the spread of diseases through correct management of temperature and ph. No larva/eggs/worms/bacteria can live in the desirable 55ºC within the windrows.
- The rows are covered with dry kraal manure from the feedlot that reduce the smell, prevent the attraction of flies and are not favourable for flies to lay eggs as it is too dry and warm for them.
- In addition, the rows are also treated with chemicals such as Neoprene from Coopers which is aimed at killing the eggs and larvae of the flies. Baycidal and Temprid from Bayer are also used to kill the flies and larvae. Quik Bayt is dry crystals which attracts and kills flies on contact and are placed at several points around the site.
- The sheep and manure will attract flies that live in the plants/fynbos in the surrounding area, but will be managed by providing fly traps at the feedlot, similar to the 19+ pheromone fly traps hanging on the fence alongside the composting facility.
- This will be replaced on a regularly basis. In addition, the sheep and manure will be treated as explained above.

Odours:

- The balance of PH, temperature, air, moisture are critical parameters to ensure correct fermentation/digestion without causing odour or any other problems in the composting facility. These are monitored by the farm manager on a daily basis. Bemlab results for testing compost samples shows a good quality compost with a desirable C:N ratio.
- Any abattoir product that is brought to the site is covered immediately, except for blood that needs to be soaked for 1 hour before turning and covering.
- Standard operating procedures have been adapted to ensure that no deliveries leave the abattoir after 15:30 so that it can be received and covered before the end of the shift on the farm.
- Blood is brought daily to the application site, in comparison with previously when the tanker was filled before delivery to the application site. The blood is also top up with water at the abattoir that has reduced the smell considerably.
- The manager stays on the farm, approximately 120 meters from the application site and monitors the odours on a daily basis.
- The nearest residential uses within prevailing wind direction are 2km away and will not be adversely affected.
- Three or more official inspections were conducted over the past months by officials from various authorities and none of them have complained about any offensive smells, even though this was one of the aspects they were inspected specifically.

Employment / Security:

- The application site have two controlled access gates and no unauthorized persons are allowed on site. A site access register will be kept on site.
- Fencing around the facility ensures that no unwanted animals enter the site.
- Security lights will improve the security at the feedlot during the evenings.
- The facility will employ seven permanent workers (two at compost facility, four at feedlot and remaining farm and one Site/Farm manager) that will maintain and secure the facilities.

Impacts of trucks: dust, noise and obstruction in DR 1377:

- The Abattoir by-products (blood, "pensmis", and minimal carcasses) are gathered on the Abattoir property in the industrial area of Robertson.
- This is transported in dedicated blood tanks (honey suckers) and skip trucks daily to the application site. The number of trips are/will be:
  - ❖ Honey suckers with blood: once per day
  - ❖ 8 ton skip trucks (truck with tank on top): approx. every second day
  - ❖ No trip on weekends, except in emergency cases
  - ❖ Sheep will be transported in livestock trucks to/from the site once a day.
- Most of the trip length will be on tar road (R60 and DR 1384), with only 2km on DR 1377 (gravel) that will create dust.

- The two to three additional trips daily will not have an additional substantial impact if compared to the surrounding environment:
  - ❖ The R60 carries many trucks between Robertson and Worcester and the railway line runs adjacent to the road;
  - ❖ DR 1384 (tar road) between the R60 and the lime quarry carries many and much heavier trucks to and from the quarry to the lime industry adjacent to the R60;
  - ❖ The lime factory/industry itself creates much noise and dust from their 20/25 ton trucks alongside the R60; and
  - ❖ DR 1377 (gravel road) between Rooiberg Cellar and Nuy carries many trucks from wine farmers, sheep/cattle farmers, and a brewery on a daily basis.
- The two gates to the application site were placed approximately 20m inside the boundary of the application site to prevent any obstructions by trucks in road DR 1377.

Other noise impacts on site:
A compost turner, front loader and tractor on site will contribute to noise, but are all agricultural related implements that are associated with buffer areas.

Visual:
The feedlot steel structure (see attached drawing) will be seen from Road R60, similar to the existing stores on Ptn 6 and the neighbouring farm.

The compost facility has an agricultural feel with no negative visual impacts.

Possible water pollution:
The soil study indicated that the high clay content of the site will prevent any nutrient contained leaching into the soil. The site also flows towards the required run off collection dams. The windrows are more than 235m from the side of the Middelstekloof River.

The implementation of the existing Standard Operating Procedures (SOPs) for the composting facility as well as the SOPs of the feedlot will mitigate the impacts effectively. These will be monitored regularly. Problems experienced / complaints received will be recorded in a complaints register and addressed when required.

6. WASTE QUANTITIES

6.1 Indicate or specify types of waste and list the estimated in cubic meters (m^3) or tons (t) expected to be managed daily (in cubic meters or tons):

Hazardous waste	Non hazardous waste	Total
NA	Organic	9.75m^3 per day

6.2 Indicate the source of information supplied in the table above:

Determined from volumes	Determined with weighbridge/scale	~~Estimated~~
If estimation is utilised please describe the method used):		
See pages 11 - 12 of Soil Study in Appendix G of the BAR. Volumes have been based on the 2014/2015 abattoir outputs.		

7. RECOVERY, REUSE, RECYCLING, TREATMENT AND DISPOSAL QUANTITIES (NOT APPLICABLE FOR DECOMMISSIONING / CLOSURE APPLICATIONS):

7.1 Indicate the applicable waste types and quantities expected to be recovered, reused, recycled, treated and disposed of annually.

pes of waste (see page 13 for waste classification)	Main Source (name of company)	Quantities (tons or m^3)	On-site recovery reuse recycling treatment or disposal	Offsite recovery reuse recycling treatment or disposal	Offsite disposal

		Quantities/day	Quantities/month	Method &location	Method location and contractor details	
General waste						
Manure	Robertson Abattoir	3m^3	75m^3	75m^3	NA	NA
"Pensmis"		6m^3	150m^3	150m^3	NA	NA
Blood		0.75m^3	18.75m^3	18.75m^3	NA	NA
Hazardous waste						
NA	NA	NA	NA	NA	NA	NA

8. SIZE OF THE POPULATION TO BE SERVED BY THE FACILITY

8.1 Indicate the size of the population to be served by the waste management facility:

Size of Population	Comment
0-499	Due to the lack of capacity at a Class B municipal waste disposal facility (Ashton), the South African Farm Assured Meat Group CC (SAFAM) Robertson Abattoir, one of the largest employers in the Langeberg Municipal area with over 200 employees, was obliged to manage and dispose of the by-products (i.e. wastes derived from the slaughter process) from the Robertson Abattoir in the most environmental friendly way. [These are not waste products since it is used as an ingredient to create compost.]
500-9,999	
10,000-199,999	
200,00	

~~9. WASTE DISPOSAL FACILITY PARAMETERS (ONLY APPLCABLE TO WASTE DISPOSAL FACILITIES)~~

~~9.1 It is imperative that the holder of the waste licence is a fit and proper person in terms of section 59 of the National Environment Management: Waste Act, 2008 (Act No. 59 of 2008). Please disclose the following:~~

a) ~~The method of disposal of waste (only applicable to waste disposal facilities):~~

~~Land building~~	
~~Land-filling~~	
~~Both~~	

b) ~~The dimensions of the disposal site in metres:~~

	~~At commencement~~	~~After rehabilitation~~
~~Height/Depth~~		
~~Length~~		
~~Breadth~~		

c) ~~The total volume available for the disposal of waste on the site:~~

~~Volume Available~~	~~Mark with "x"~~	~~Source of information (determined by surveyor/estimated~~
~~Up to 99~~		
~~100 – 34 999~~		
~~35 000 – 3,5 million~~		
~~> 3,5 million~~		

d) ~~Compacting and covering of the waste body:~~

~~Confirm that the waste body will be covered daily~~	~~Yes~~	~~No~~	~~If no, please explain~~
~~Confirm that that sufficient cover material is available~~		~~No~~	~~If no, please explain~~
~~Give an indication of where the cover material will be sourced and indicate the distance in kilometres/metres from waste disposal facility.~~			

Confirm that the waste will be compacted daily		No	If no, please explain

10. THE RECLAMATION/DIVERSION METHOD AT THE WASTE DISPOSAL FACILITY

10.1. Mark with an "x" the method to be used (reclamation not allowed at the working face of the disposal facility):

At source	
Recycling installation	
No reclamation/diversion planned	
Estimate the planned diversion rate in percentage	

11. FATAL FLAWS FOR THE SITE (ONLY APPLICABLE TO WASTE DISPOSAL FACILITIES):

Indicate which of the following apply to the facility for a waste management activity:

Within a 3000m radius of the end of an airport landing strip	Yes	No
Within the 1 in 50 year flood line of any watercourse	Yes	No
Within an unstable area(fault zone, seismic zone, dolomitic area, sinkholes)	Yes	No
Within the drainage area or within 5 km of water source	Yes	No
Within an area with shallow and/or visible water table	Yes	No
Within an area adjacent to or above an aquifer	Yes	No
Within an area with shallow bedrock and limited available cover material	Yes	No
Within 100 m of the source of surface water	Yes	No
Within 1km from the wetland	Yes	No
Indicate the distance to the boundary of the nearest residential area	..... **metres**	
Indicate the distance to the boundary of the industrial area	..... **metres**	

12. RAINFALL (ONLY APPLICABLE TO WASTE DISPOSAL FACILITIES):

a) Indicate the wettest 6 months of the year:

November – April	
May - October	

For the wettest six month period indicated above, indicate the following for the preceding 30 years

	Total rainfall for 6 months	**Total A-pan evaporation for 6 months**	**Climatic water balance**
For the 1st wettest year			
For the 2nd wettest year			
For the 3rd wettest year			
For the 4th wettest year			
For the 5th wettest year			
For the 6th wettest year			
For the 7th wettest year			
For the 8th wettest year			
For the 9th wettest year			
For the 10th wettest year			

~~13. LOCATION AND DEPTH OF GROUND WATER MONITORING BOREHOLES (ONLY APPLICABLE TO WASTE DISPOSAL FACILITIES):~~

~~Codes of boreholes~~	~~Borehole locality~~	~~Depth (m)~~	~~Latitude~~			~~Longitude~~		
.....	.....		°	'	''	°	'	''
.....	.....		°	'	''	°	'	''
.....	.....		°	'	''	°	'	''
.....	.....		°	'	''	°	'	''

~~14. LOCATION AND DEPTH OF LANDFILL GAS MONITORING TEST PIT (ONLY APPLICABLE TO WASTE DISPOSAL FACILITIES):~~

~~Codes of boreholes~~	~~Borehole locality~~	~~Latitude~~			~~Longitude~~		
.....	.....	°	'	''	°	'	''
.....	.....	°	'	''	°	'	''
.....	.....	°	'	''	°	'	''

15. EVERY CLOSURE APPLICATION FOR FACILITIES SHOWN IN THE TABLE BELOW MUST AS A MINIMUM BE ACCOMPANIED BY DOCUMENTATION AS INDICATED HEREAFTER:

Requirements	**Recycling &/ recovery Facility**	**Treatment facility**	**Disposal facility**
Design of storm-water management	X	X	X
Design of leachate management			X
Design & duration of landfill gas monitoring and management			X
Design of settlement/surface pondage			X
Design of access roads			X
Topographic Map indicating the property	X	X	
Topographic Map indicating the landfill property boundary, cells (fill areas), wells, and structures within and surrounding the landfill site			X
Plan Drawings (including Final Contour Grade Map) indicating (a) the final contours and vegetation in relationship to the surrounding land and any run-off control structures			X
Plan Drawings (including Final Contour Grade Map) indicating (b) well location(s), depth to groundwater and flow direction			X
Plan Drawings (including Final Contour Grade Map) indicating (c) the locations at which gas monitoring takes place			X
Drawings showing the proposed final restored profile for the landfill accompanied by calculations of the remaining tonnages of waste (void space) and materials necessary to close, cap and restore the landfill			X
Provision of services that were provided by the facility being closed	X	X	X
Post Closure Site management & Operation	X	X	X
Monitoring Plan	X	X	X
Emergency Preparedness plan	X	X	X
Rehabilitation measures including removal of site structures,	X	X	X
Rehabilitation measures including waste compaction and capping; application of topsoil & vegetation establishment			X

Procedures for the inspection or auditing of the rehabilitation process	X	X	X
and mechanisms for reporting to the licensing authority.			
Long and short term stability			X
Procedures and timescales for ensuring final levels are achieved			X

16. INFORMATION NEEDED WHEN APPLYING FOR ACTIVITIES LISTED UNDER CATEGORY A AND B, BUT IS NOT LIMITED THERETO:

The following MUST be included in the application as supporting documentation and the applicant must indicate specific section(s) where they are appended in the reports.

REQUIRED PIECE OF INFORMATION	SECTION IN THE REPORTS WHERE IT CAN BE FOUND	COMMENTS (If any)
1. 1:50 000 topography /topo-cadastral map of the area showing:	Basic Assessment Report - Appendix A	
1.1 The site and 5km radius	Basic Assessment Report - Appendix D2	
1.2 Existing neighbouring residential and industrial areas	Basic Assessment Report - Appendix D2	
1.3 Possible future development (indicate the type of development)	Basic Assessment Report - Appendix D2	
1.4 Other waste handling facilities (existing or closed) in the area	Basic Assessment Report - Appendix D2	
1.5 Existing and possible future neighbouring residential areas.	Basic Assessment Report - Appendix D2	
2. The site plan drawn to scale showing the site"s boundary showing:	Basic Assessment Report - Appendix B1	
2.1 Activities or development existing on all 4 directions of the facility.	Basic Assessment Report - Appendix D2	
2.2 Waste receipt, storage and handling areas	Basic Assessment Report - Appendix B1	
2.3 Impermeable surfaces	Basic Assessment Report - Appendix B1	
2.4 Sealed drainage systems	Basic Assessment Report - Appendix B1	
2.5 Drainage system for the facility including sumps and discharge points	Basic Assessment Report - Appendix B1	
2.6 Road names and access from all major roads in the area	Basic Assessment Report - Appendix A	
2.7 Buffersone (waste disposal and composting facilities)	Basic Assessment Report - Appendix B1	
3. Security and access aspects of the facility	Basic Assessment Report - Appendix B1	
4. Emergency preparedness plan	Basic Assessment Report - Appendix H	
5. Waste hierarchy implementation plan	Basic Assessment Report - Appendix H	
6. Operational plan	Basic Assessment Report - Appendix H	

7. Latest external audit report (only apply for permit/licence amendment)	NA	
8. Geo-hydrological report (only apply to waste disposal facilities , storage facilities and treatment of waste)	NA	
7. Description risk assessment	Basic Assessment Report - Appendix H	

17. ANY OTHER REQUIREMENTS IN TERMS OF THE WASTE ACT

Please describe how the principles of waste management as set out in section 16 of National Environment Management: Waste Act, 2008 (Act No. 59 of 2008) have been taken into account:

The re-use of organic material for compost for use on the lands is critical in ensuring soil health and sustainability. Use of manure to land has been practised since the onset of agriculture and it is merely the process of composting that is now considered a waste activity. The impacts of composting the manure means there is a better quality product available for use on land. Thus the impacts associated with this activity are positive and the location of the activity has ensured that no sensitive areas are affected

In this section please describe how any other requirements in terms of the National Environment Management: Waste Act, 2008 (Act No. 59 of 2008), not dealt with above, have been complied with/addressed:

The development of the compost facility requires an Environmental Authorisation. This BAR includes information on both the waste and EIA aspects. Please see Appendix J of the BAR for full details of the impacts identified.

18. COMPETENCE OF THE PERSON/COMPANY THAT WILL HOLD THE WASTE MANAGEMENT LICENCE

It is imperative that the holder of the waste management licence is a fit and proper person in terms of section 59 of the National Environment Management: Waste Act, 2008 (Act No. 59 of 2008). Please disclose the following:

(a) Legal compliance:

	Yes / No	**Details**
Has the applicant ever been found guilty or issued with a non compliance notice in terms of any national environmental management legislation?	No	A pre-compliance notice was issued by the DEA&DP: Environmental Governance on the 06 August 2013 (reference 14/1/1/DR9/Farm 10/0 Robertson) indicating their intention to issue a compliance notice in terms of Section 31L of NEMA in respect of the Remainder of Farm Middelburg 10, Robertson. Umsiza Planning responded to the notice on the 22 August 2013 on behalf of Mr. De Bod. To date no further correspondence was received on the matter. A notice of intention to issue a directive for engaging in water uses without authorisation on Farm Middelburg 10/0 Robertson was issued by The Department of Water Affairs on the 09 September 2013 (reference Farm Middelburg 10/0). Umsiza Planning responded to the notice on the 23 September 2013 on behalf of Mr. De Bod. The letter was sent again to DWS on the 26 September 2013 on request by the case officer. To date no further correspondence was received on the matter.
Has the applicant"s licence in terms of the Waste Act 2008 ever been revoked?	No	
Has the applicant ever been issued with a non compliance notice or letter in terms of any South African Law?	No	

Please note: Details required above include any information that the applicant wants the Department to take into consideration in determining whether they are a "fit person" and this includes reasons why the offence happened and measures in place to prevent recurrence.

(b) Technical competence:

What technical skills are required to operate the site?	The loading and unloading of material is of an unskilled nature. Training can be given within one day. The monitoring of the compost ageing process entails the daily measuring of temperature with an extended probe temperature gauge and logging the temperature on graph paper. This will be done by the farm manager.
How will the applicant ensure and maintain technical competency in the operation of the site?	Written training manuals On-the-job training

	Training of back-up personnel Audits to ensure competencies
Qualifications of person and relevant employees?	David Houghton - Chief Operating Officer of SA Farm Assured Meat Group CC: B.Sc (hons) in food science and technology as well as an LLM Masters of Law Farm Manager
Experience of person and relevant employees? (highlight the persons/employees duties and responsibilities in terms of the experience)	David Houghton: Operating Officer responsible for overseeing all abattoir and compost related operations. Farm Manager: Has worked on farms in America for 6 years where he was also responsible for managing the compost sites there. The monitoring of the compost ageing process entails the daily measuring of temperature with an extended probe temperature gauge and logging the temperature on graph paper. This will be done by the farm manager. Ensuring that the farm is managed in accordance with the SOPs developed

(c) Financial Provisions:

Attach to this annexure a plan of estimated expenditure for the following:

Environmental Monitoring	Refer to EMP in Appendix H of the BAR
Provision and replacement of infrastructure	Refer to EMP in Appendix H of the BAR
Provision of appropriate equipment	Refer to page 13 of the Soil Study in Appendix G3
Closure/decommissioning/rehabilitation and aftercare	Refer to EMP in Appendix H of the BAR
Confirmation and adequate funds have been budgeted for the above aspects	Refer to the Declaration attached to the Basic Assessment Report

~~19. INFORMATION FOR WASTE DISPOSAL FACILITIES - NA~~

~~The following aspects MUST be addressed and included in the application documentation for waste disposal facilities and the applicant must indicate specific section(s) where they are appended in the reports.~~

~~REQUIRED PIECE OF INFORMATION~~	~~SECTION IN THE REPORTS WHERE IT CAN BE FOUND~~	~~COMMENTS (If any)~~
~~Waste disposal facility designs~~		
~~Closure plan (report)~~		
~~Closure/Remedial designs~~		
~~Landfill conceptual designs (only apply for construction and decommissioning of waste~~		

~~disposal facilities~~		
~~End-use plan (only apply to waste disposal facility closure)~~		
~~Design for site roads~~		
~~The 1 in 50 year flood-line of all watercourses~~		
~~Laboratory facilities~~		
~~Design and location of fuel storage areas~~		
~~Design and location waste quarantine areas~~		
~~Design and location of waste Inspection areas~~		
~~Site"s drainage system~~		
~~Site"s emergency control system and plan~~		
~~Liner specifications~~		
~~Leak detection system and monitoring~~		
~~Leachate management plan~~		
~~Calculations of leachate generation~~		
~~Leachate collection and treatment~~		
~~Groundwater monitoring~~		
~~Gas management and/or harvesting~~		
~~Air quality monitoring and management~~		
~~Co-disposal ratio calculation~~		
~~Stability monitoring and management~~		
~~Daily and intermediate cover requirements~~		
~~Temporary and permanent capping requirements~~		

DECLARATIONS

THE INDEPENDENT ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

I …**Lauren Abrahams**…, as the appointed independent environmental practitioner ("EAP") hereby declare that I:

- act/ed as the independent EAP in this application;
- regard the information contained in this report to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and the NEM: Waste Act (Act no 59 of 2008);
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and the NEM: Waste Act (Act no 59 of 2008);
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and the NEM: Waste Act (Act no 59 of 2008), and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the application was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- have ensured that the comments of all interested and affected parties were considered, recorded and submitted to the competent authority in respect of the application;
- have kept a register of all interested and affected parties that participated in the public participation process;
- have provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Note: The terms of reference must be attached.

Signature of the environmental assessment practitioner:

Eco Impact Legal Consulting (Pty) Ltd
Name of company:

Date:
12 March 2018

GENERAL WASTE CATEGORISATION

Municipal Waste
Commercial and industrial waste
Brine
Fly ash and dust from miscellaneous filter sources
Bottom slag
Organic
Construction and demolition waste
Paper
Glass
Metal
Tyres
Other (specify)

HAZARDOUS WASTE CATEGORISATION

Gaseous waste
Mercury containing waste
Batteries
POP Waste
Pesticide containing waste
Inorganic chemical waste
Asbestos containing waste
Waste oils
Organic halogenated and/or sulphur containing solvents
Organic halogenated solids and compounds with sulphur
Organic solvents without halogens and sulphur
Other organic waste without halogens and sulphur
Tarry and bituminous waste
Brine
Fly ash and dust from miscellaneous filter sources
Bottom ash
Slag
Mineral waste
Waste of Electric and Electronic Equipment (WEEE)
Metal scrap
Health care risk waste
Miscellaneous