



14/3/2/D5/1/0340/18

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Dear Mr Sieberhagen

**APPEAL LODGED IN TERMS OF SECTION 43(2) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AGAINST THE WASTE MANAGEMENT LICENCE VARIATION GRANTED FOR THE OPERATION OF SS TRANSPORT COMPOSTING FACILITY ON PORTION 12 OF FARM SNIPFONTEIN NO. 441, ALBERTINIA**

1. Your appeal lodged against the abovementioned Waste Management Licence Variation issued on 2 May 2018, refers.
2. After considering all relevant facts and supportive documents, in terms of section 43(6) of the *National Environmental Management Act, 1998 (Act No. 107 of 1998)* (as amended) ("NEMA"), I have decided to vary the abovementioned decision of the competent authority granted on 2 May 2018 as contained in the attached Appeal decision granted to SS Transport and partially dismiss your appeal.

**3. REASONS FOR THIS APPEAL DECISION:**

The reasons for partially dismissing your appeal and varying the aforementioned WML Variation are contained in the aforementioned WML Variation. Below find further reasons for partially dismissing the appeal and varying the decision of the competent authority:

- 3.1 On 9 December 2008, the abovementioned Waste Permit was granted by the National Department of Environmental Affairs ("DEA") for the abovementioned development with a validity period of 20 years from the date of the decision. In early 2016, the Provincial Department of Environmental Affairs and Development Planning ("DEA&DP") identified certain issues of non-compliance with the conditions of the Waste Permit that was issued in terms of the

*Environment Conservation Act, 1989 (Act No. 73 of 1989) ("ECA")*. These issues were mostly administrative in nature relating to the description of what constitutes organic waste for composting, conditions regarding the height of the fence, water quality monitoring and the generic site plan.

- 3.2 The DEA&DP directed the facility to undertake an amendment application which would address the issues raised, as well as to ensure that the WML Variation is compliant with the NEM: WA and that it could accept a wider range of organic animal materials.
- 3.3 This appeal process therefore excludes all aspects relating to the original Waste Permit i.e. site selection criteria, consultation with residents/neighbours, buffer area around the facility, etc.
- 3.4 In 2016, municipalities were instructed in terms of the NEM: WA to refrain from accepting abattoir waste at municipal disposal sites. This created a significant challenge for the abattoir industry and several alternative mechanisms were needed. Composting was identified as one of the most effective solutions. Various municipalities directed the public to make use of the existing composting facilities such as SS Composting.
- 3.5 To make the amendments inclusive of animal matter, a Part 2 amendment application in terms of the NEMA, the NEM: WA and the 2014 EIA Regulations (as amended) was submitted to the Department on 24 July 2017. Based on the amendment application process a WML Variation was issued on 2 May 2018.
- 3.6 The amendment application process and the current appeal process may only relate to the details that have been amended on the WML Variation. The original Waste Permit is not subject to the appeal process.
- 3.7 In terms of the process for amendment applications, regulation 32(1) of the 2014 EIA Regulations state that:

*"The applicant must within 90 days of receipt by the competent authority of the application made in terms of regulation 31, submit to the competent authority-*

*(a) A report, reflecting-*

- (i) an assessment of all impacts related to the proposed change;*
- (ii) advantages and disadvantages associated with the proposed change;*
- (iii) measures to ensure avoidance, management and mitigation of impacts associated with such proposed change; and*
- (iv) any changes to the EMP; which report-*
  - (aa) had been subjected to a public participation process, which had been agreed to by the competent authority, and which was appropriate to bring the proposed change to the attention of potential and registered interested and affected parties, including organs of state, which have jurisdiction in respect of any aspect of the relevant activity, and the competent authority; and*

*(bb) reflects the incorporation of comments received, including any comments of the competent authority; or ...*

*(2) In the event where subregulation (1)(b) applies, the report, which reflects the incorporation of the comments received, including any comments of the competent authority, must be submitted to the competent authority within 140 days of receipt of the application by the competent authority."*

3.8 To fulfil the requirements of regulation 32(1) of the 2014 EIA Regulations, an amendment application which contained *inter alia* the following information informed the WML Variation:

**Biodiversity**

- 3.8.1 The indigenous vegetation for the area is classified as Albertinia Sand Fynbos which according to the *National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)* vegetation classes is considered "vulnerable".
- 3.8.2 The property has neither been classified as a Critical Biodiversity Area ("CBA") nor an Ecological Support Area ("ESA") but has been identified as falling into Other Natural Areas.
- 3.8.3 Most of the property is in a near natural condition with limited grazing taking place. There are pockets of alien invasive plants that include *Acacia saligna* (Port Jackson), *Acacia cyclops* (Rooikrans) and *Pinus* species.
- 3.8.4 Most of the property has not been actively farmed for many years and it is only the composting / transport / residential areas that have been transformed, an area of approximately 6.86ha. Thus, the remainder of the property ( $\pm 44.14$ ha) is only occasionally used for grazing.
- 3.8.5 There are artificial dams / wetlands that were created as a sump for capturing run off water but this was closed on the recommendation of the specialists. There are no significant surface water features on the property.
- 3.8.6 The composting facility is an existing facility located on agricultural ground in an area used exclusively for agricultural practises. The Department of Agriculture has identified the land capability as having non-arable agricultural use with moderate potential for grazing. The current use of the property supports this assessment, as previous agricultural activities (grazing / crop production) were not seen as viable.
- 3.8.7 The Environmental Management Programme ("EMPr") which has been approved in the conditions of the WML Variation states that the area identified for the composting facility does not fall into any part of the National List of Threatened Ecosystems in terms of the NEM: BA and the CBA identified in the Garden Route Biodiversity Sector Plan. However, the EMPr requires compliance with the Control of Alien Invasive Species Regulations, 2014.

**Need and desirability**

- 3.8.8 The proposed variations particularly the one of including abattoir waste, is a positive impact on the environment to avoid pollution at the landfill sites.

3.8.9 The active composting area is already lined with clay to avoid leachate into the groundwater.

#### **Groundwater, soil and the geological stability of the site**

3.8.10 The groundwater specialist's Geowater report identifies the property as having the following attributes:

3.8.10.1 The property is nestled along the southern slopes of the Aasvoëlberg along the R325 en route to the Gouritz River Mouth. According to the Surveyor General data the property has a total size of about 62.3 ha. The area is drained by the Klein - Palmiet River and a few other unnamed ephemeral streams that flow eastwards into the headwaters of the Gouritz River, which in turn flows south and into the Indian Ocean at Gouritz River Mouth. The area mainly falls within the quaternary catchment J40E of the Gouritz Water Management Area.

3.8.10.2 The surface geology on the property is dominated by the Bredasdorp Group covered in places by recent grey to red sandy soil. The Bredasdorp Group of marine origin comprises of the basal De Hoopvlei, Wankoe, Klein Brak, Waenhuiskrans and Strandveld formations. The Bredasdorp Group is represented on the property by the De Hoopvlei Formation (calcarenite with shells and conglomerate lenses) and Wankoe Formation (calcarenite with aeolian cross – bedding and calcrete lenses) respectively.

3.8.10.3 Borehole drilling records in Albertinia indicate that the thickness of the Bredasdorp Group is between 25m to 30m. Near Albertinia, the Bredasdorp Group unconformably overlies the Uitenhage Group, Bokkeveld Group and Table Mountain Group respectively. The Uitenhage Group is represented by the Enon (red conglomerate with sandstone and mudstone) and Kirkwood (red and green mudstone, sandstone and conglomerate lenses, grey mudstone with tuff) formations which mainly outcrops southeast of the property along the Gouritz River channel.

3.8.10.4 The Enon Formation unconformably overlies the Bokkeveld Group of mainly shale, which in turn unconformably overlies the Skurweberg Formation of the Nardouw Sub – Group of the Table Mountain Group. The Skurweberg Formation comprises of massive light grey quartzitic sandstone which forms a prominent east to west ridge (i.e. known as the Aasvoëlberg) north of the property. The Cape Orogenic deformation resulted in east striking mega anticlines that are bordered in the south by younger strike faults.

3.8.10.5 According to Department of Agriculture, the soil type on the property is classified as grey regic soils, with limited pedological development.

3.8.11 The Parsons specialist report states the following in terms of the geology:

3.8.11.1 The general description of the geology presents that the property is located on the De Hoopvlei Formation and the Wankoe Formation, but in the conceptual model it is presented that the site overlies rocks of the Bokkeveld

Group. The published geological map indicates an extensive (and presumably thin) cover of light grey to pale red sandy soil. This matter is of importance when deciding the level of protection to be afforded to the aquifer system.

- 3.8.11.2 The area is known for high yielding springs, generally associated with the lower units of the Bredasdorp Group. At least two eyes of springs are located within 1.5 km of the composting area – and the potential contamination of these groundwater dependent ecosystems is not addressed in the report. This too is regarded as an important omission (from the Geowater report).
- 3.8.11.3 To address the shortcomings with the Geowater Report a thorough hydrocensus survey especially on the east and south of the property must be conducted to identify any water resource and its usage or impact. This requirement is addressed in the conditions of the WML.

### **Hydrogeology**

3.8.12 The geowater specialist report identifies the property as having the following attributes:

- 3.8.12.1 The main aquifer type on the property is associated with the intergranular aquifer. The recent surficial sand deposits, as well as the Bredasdorp Group sediments, constitute the intergranular aquifer. The occurrence of groundwater is due to the pore spaces that exist between sand particles. According to the Department of Water and Sanitation, the likely borehole yields associated with the intergranular aquifer vary between 0.5 – 2.0 litres per second.
- 3.8.12.2 The Bredasdorp Group is very porous and water tends to move quickly through the semi – consolidated and unconsolidated sediments to the bedrock where the main water strikes are often found at the basal conglomerate of the De Hoopvlei Formation and the contact of either the Bokkeveld Group or the Uitenhage Group.
- 3.8.12.3 The Bredasdorp Group aquifer is unique since there is hardly any build up groundwater levels and the groundwater interception in the conglomerate generally represents the true piezometric level.
- 3.8.12.4 The Bokkeveld and Uitenhage groups are in itself not generally regarded as major fractured aquifers in the area owing to their low permeabilities and consequently the groundwater potential associated with the latter systems is low. However, in areas where the bedrock below the Bredasdorp Group is associated with the fractured Table Mountain Group, elevated boreholes yields and good quality groundwater can be expected.
- 3.8.12.5 Groundwater quality associated with the Bredasdorp Group is generally very good. Electrical conductivity is generally < 100 mS/m for boreholes that do not extend into underlying Bokkeveld or Uitenhage groups where poor-quality

water can be encountered. However, in areas where the Table Mountain Group is intersected beneath the Bredasdorp Group, good quality water is generally encountered.

- 3.8.12.6 The groundwater recharge over the study area is spatially variable. Higher recharge is expected along the escarpment associated with the Table Mountain Group, as well as in areas with thicker sand and alluvium cover.
- 3.8.12.7 The estimated groundwater recharge for J40E catchment is 11.85 Mm<sup>3</sup>/a, whilst the groundwater use for J40E catchment is estimated at about 0.05 Mm<sup>3</sup>/a.
- 3.8.12.8 Based on sampling site elevation data the topography slopes from northwest to southeast. Hence it is also assumed that the groundwater flow direction is from northwest to southeast.
- 3.8.13 The Parsons report states the following in terms of the hydrology:
  - 3.8.13.1 The report presents the assumption that groundwater flows in a southerly or south easterly direction; without determining this with the available groundwater data. This is a critical issue when siting investigative or monitoring boreholes.
  - 3.8.13.2 The preliminary interpretation of the groundwater level data available indicates that groundwater flows eastwards toward the Gouritz River.
- 3.8.14 The Breede Gouritz Catchment Management Agency ("BGCMA") states the following:
  - 3.8.14.1 The current installed wells with maximum depths between 3 and 5m are tapping into a perched aquifer created by clay layers as indicated by geowater report and subsequent geophysical data. Because of these shallow wells there is a need to drill boreholes penetrating the main aquifer.
  - 3.8.14.2 It is therefore necessary that at least two monitoring boreholes are drilled at downgradient to have better understanding of the possible plume contamination if it exist. The monitoring boreholes are proposed at the following proposed possible downgradient positions depending on confirmation by the appointed Geohydrologist:
    - 3.8.14.2.1 East to south east of the compost (across the trench).
    - 3.8.14.2.2 South of the compost (near the Trench-Bottom).
  - 3.8.14.3 The proposed boreholes need to penetrate at depths not less that 20m with a purpose to penetrate the primary aquifer below. The borehole design needs to be slotted at the primary aquifer (i.e. below perched aquifer) to separate possible interaction between the two aquifers.
  - 3.8.14.4 Although a very localised groundwater flow may be to the east the overall groundwater flow direction of the site at the exit of the property is to the south.
- 3.8.15 The abovementioned recommendations in terms of groundwater impacts have been included in the EMPr.

## Alternatives

3.8.16 In terms of Condition 1.3.1 (fencing) of the WML Variation:

3.8.16.1 *"The permit holder must prevent unauthorised access to the site, as far as practicable. The site must be fenced with a 1.8m high fence, with gates of the same height at all entrances."*

3.8.16.2 The requirement for fencing of 1.8m high is for security where landfill facilities are located in proximity to human settlements or in terms of the size of the facility.

3.8.16.3 The then Department of Water Affairs and Forestry's Minimum Requirements for Landfill Sites states that: *"In addition to the gate, all sites must have the portion of the site currently in use adequately fenced and/or secured. In the case of medium and large general landfills and hazardous landfills, fences must be 1,8m with an overhang and must be constructed of galvanised steel wire, or of other suitably sturdy and durable material. Where normal fencing is removed, or is not practicable because of continued theft despite security measures, barbed wire fences, earth berms and/or shallow trenches must be used to prevent vehicle access. In all events, however, the site boundaries must be clearly demarcated and measures must be taken to prevent unauthorised vehicle access."*

3.8.16.4 The requirement for a 1.8m high fence is not justified in this case due to the isolation of the site and because it is a composting site and not a landfill site. Currently, the site is contained by means of a standard 1.2m high fence with gates at the entrance to the premises. The property is privately owned and situated right next to the home of Mr van Staden from where any unauthorised access can be easily monitored. The clause "as far as practicable" in this condition must be kept in mind.

3.8.16.5 The applicant has initiated also control mechanisms at the gate to monitor the use of the site and prevent unauthorised access.

3.8.16.6 The variation required for this condition does not have any negative environmental impacts.

3.8.17 In terms of Condition 2.1.1 (Management and operation) of the WML Variation:

3.8.17.1 *"The activities shall be managed and operated:*

- a) *in accordance with a certified documented management system that inter alia identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents and non-conformances and those drawn to the attention of the permit holder as a result of complaints;*
- b) *in accordance with a site operational plan;*
- c) *in accordance with the relevant minimum requirements (where applicable);*

- d) *in accordance with an Environmental Management Plan drawn from the Permit Application Report compiled by Environmental Planning and Resources Management Services cc, dated 12 February 2007;*
- e) *in accordance with conditions of this permit;*
- f) *in accordance with any other written instruction by the Director; and*
- g) *by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the activities.*

3.8.17.2 The variation required is for condition 2.1.1 (d). This must be amended to reflect the EMPr submitted with this report.

3.8.17.3 The variation required for this condition is administrative only and does not have any negative environmental impacts.

3.8.18 In terms of Condition 3.1 (Permissible waste) of the WML Variation:

3.8.18.1 *"Any portion of the Site which has been constructed or developed according to condition 4 of this permit, may be used for the transformation of organic matter such as wood waste, stabilised sewage sludge and chicken manure to compost."*

3.8.18.2 There is an argument to be made that the existing Waste Permit does allow for the use of abattoir waste at the composting facility. Item 3 of the permit refers to 'permissible waste' on the site. Although specific wastes are mentioned, their interpretation of the contents of the Waste Permit, particularly as per Item 3.1 and Item 4 appears to allow for 'general waste' inclusive of non-infectious abattoir waste.

3.8.18.3 Schedule 3 of the NEM: WA classifies the non-infectious portion of animal waste as general waste. Category B1 wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing (b) wastes from the preparation and processing of meat, fish and other foods of animal origin. Blood is included with this definition. Since animal waste matter is general waste in terms of the latest NEMA and NEM: WA definitions, as long as it is non-infectious, the acceptance of fish waste and abattoir waste appears to be authorised under the Permit.

3.8.19 In terms of Condition 4.1 (Site layout plan) of the WML Variation:

3.8.19.1 *"The site or any portion thereof may only be used for the storage and composting of permissible waste if the site or any such portion has been constructed or developed according to the conditions listed under condition 4 of this permit."*

3.8.19.2 The site layout plan referred to in this condition must refer to the site layout plan as per this report and not the generic layout plan included in the existing Waste Permit.

3.8.19.3 The variation required for this condition is administrative only and does not have any negative environmental impacts.



- 3.8.20 In terms of Condition 4.2 (Site layout and construction) of the WML Variation:
- 3.8.20.1 *"Construction and further development within the site must be carried out under the supervision of a registered professional engineer appointed by the permit holder and according to the site layout plan (Annexure VI hereafter) who must give a written report to the Director that the site is constructed in accordance with engineering requirements."*
  - 3.8.20.2 The development layout provided in the Permit Application Report was a generic plan for watered composting. This requires ponds and windrows that are watered on a regular basis and that subsequently results in 'weeping' that may result in ponding. The SS Composting facility as it currently operates does not use additional water due to the use of animal matter which breaks down into proteins and water thereby providing sufficient fluid for the micro-organisms to function. There is thus no need for run off ponds, channels or irrigation systems as shown in the generic plan. As such, no registered professional engineer was required to supervise the construction activities.
  - 3.8.20.3 The requirement for a registered professional engineer to oversee construction is excessive and not necessary for the compost operation as it has evolved.
  - 3.8.20.4 The variation required for this condition is administrative only and does not have any negative environmental impacts.
- 3.8.21 In terms of Condition 4.4 (cut off drains) of the WML Variation:
- 3.8.21.1 *"Works shall be constructed and maintained on a continuous basis by the permit holder to divert and drain from the site in a legal manner, all runoff water arising on the land adjacent to the site, which could be expected as a result of the estimated maximum precipitation during a period of 24 hours with an average frequency of once in fifty (50) years (hereinafter referred to as the "estimated maximum precipitation"). Such works shall, under the said rainfall event, maintain a freeboard of half a meter."*
  - 3.8.21.2 It is requested that this condition be amended from "all runoff water" to include both surface and subsurface flow. The operator constructed a cut off drain to the east and south of the composting facility which was aimed at diverting sub-surface flow around the active composting site. Runoff from rainfall events on the active compost site should be collected and contained, although given the size of the piles and the porosity of compost, it is unlikely that significant runoff will occur. This is backed up by the rainfall figures and the climatic water balance calculations.
  - 3.8.21.3 The small dam that was previously excavated to collect runoff (although it was never fully utilised) was closed based on a specialist's recommendation in 2017. It is therefore recommended that the monitoring of the groundwater be undertaken for a six-month period, at which a decision is made on whether or not to excavate another runoff dam.

3.8.21.4 It must be noted that the existing Waste Permit already indicates that the composting site is classified as a G: S: B site. This implies that the site is a water deficit area and therefore only sporadic leachate is expected.

3.8.21.5 The environmental impacts are expected to be limited, however since the dam has already been filled in on the recommendations of geowater, only the groundwater monitoring suggested by the BGCMA will confirm if the leachate is an issue:

3.8.21.5.1 Boreholes must be drilled within six (6) months of the Licence issuance and revised geohydrological report must be submitted to the relevant authorities for further assessment if any impact is found.

3.8.21.5.2 A remediation strategy plan will need to be submitted to the relevant authority if positive and significant contamination is observed from the new drilled boreholes.

3.8.22 In terms of Condition 6.2.1 (Upstream borehole) of the WML Variation:

3.8.22.1 *"The permit holder must establish an upstream borehole that would be used as a background monitoring and borehole G40117 downstream (east) of the site (latitude 21°41'35" and longitude 34°13'20") must be maintained at all times by the permit holder accordingly, to the satisfaction of the Director and the Regional Director so that unobstructed sampling, as required in terms of this permit, can be undertaken."*

3.8.22.2 This condition reflects several inaccuracies that must be amended. These are as follows:

3.8.22.2.1 The upstream of the site is to the north as per the groundwater flow confirmed by BGCMA. Thus, the Department of Water and Sanitation's borehole (Borehole GZ00332) located on the property would be considered the upstream borehole and can be used for baseline quality monitoring.

3.8.22.2.2 Borehole G40117 is located significantly further east of the site and certainly not at the coordinates provided. It is also not "downstream" of the site given the flow direction confirmed by the BGCMA. This borehole was used as a reference site in the geowater report but should not be referenced as a monitoring / sampling location.

3.8.22.2.3 The upstream borehole must be reflected as borehole GZ00332 and it is located at 34° 13' 20.97"S / 21° 41' 34.89"E.

3.8.22.2.4 The variation required for this condition is administrative only and does not have any negative environmental impacts.

3.8.23 In terms of Condition 6.2.3 (Surface and groundwater monitoring protocol) of the WML Variation:

- 3.8.23.1 *"Surface water monitoring must be performed within the first hour of rain in all storm water drain outlets that discharge to the natural environment."*
- 3.8.23.2 There are no stormwater outlets on the site that are draining into natural areas. The cut off drain is sampled and monitored although no reporting format is in place that will provide the information in a form required by the DEA&DP.
- 3.8.23.3 A more structured monitoring protocol has been included in the EMPr. This condition must be amended to refer to the protocol in the EMPr and include the following recommendations from the BGCMA:
  - 3.8.23.3.1 The monitoring of the water quality must be conducted quarterly in the first two years and bi-annually should the quarterly results indicate insignificant or no pollution.
  - 3.8.23.3.2 Groundwater levels must be monitored quarterly and reported to the relevant authorities with water quality results.
- 3.8.23.4 The recommended bi-annual monitoring should as much as possible coincide with wet and dry seasons.
- 3.8.23.5 The variation required for this condition is administrative only and does not have any negative environmental impacts.
- 3.8.24 In terms of Condition 8 (Monitoring timeframes) of the WML Variation:
  - 3.8.24.1 The timeframes for monitoring / auditing must be amended to reflect the recommendations provided by the BGCMA:
    - 3.8.24.1.1 The monitoring of the water quality must be conducted quarterly in the first two years and bi-annual should the quarterly results indicate insignificant or no pollution.
    - 3.8.24.1.2 Groundwater levels must be monitored quarterly and reported to the relevant authority with water quality results.
    - 3.8.24.1.3 The recommended bi-annual monitoring should as much as possible coincide with wet and dry seasons.
  - 3.8.24.2 The variation required for this condition is administrative only and does not have any negative environmental impacts.

#### **Public participation process**

- 3.9 Regulation 41(2) of the 2014 EIA Regulations states that the person conducting the public participation process may give notice to potential interested and affected parties of an application by:
  - 3.9.1 Fixing a board at the place accessible by the public at the boundary, on the fence or along the corridor of the site where the activity will be undertaken.
  - 3.9.2 Giving written notices to the occupiers of the site, occupiers of the land adjacent to site where the activity is or is to be undertaken, the municipality, the municipal councillor, any organ of state having jurisdiction and any other party as required by the competent authority.
  - 3.9.3 Placing a newspaper advertisement.

- 3.10 The following public participation process was conducted by the independent Environmental Assessment Practitioner ("EAP"), to bring the proposed amendments to the attention of interested and affected parties:
- 3.10.1 Notices were placed on the site.
  - 3.10.2 Advertisements were placed in the *South Cape Forum* newspaper and *Die Burger* newspaper.
  - 3.10.3 Stakeholders' notices were emailed to the relevant interested and affected parties.
  - 3.10.4 Notification letters were also posted to the interested and affected parties.
- 3.11 A comments and responses report which demonstrates that the appellant's issues have been addressed during the abovementioned public participation process was submitted together with the amendment application which informed the WML Variation decision under appeal. The comments received are summarised as follows:
- 3.11.1 Pests and vermin scavenging on raw materials delivered to the facility.
  - 3.11.2 Flies associated with raw materials delivered to the facility.
  - 3.11.3 Odour associated with the composting processes.
  - 3.11.4 Possible source of contaminants.
  - 3.11.5 Delivery vehicles causing spills on the access route.
  - 3.11.6 Possible groundwater contamination.
  - 3.11.7 Managerial succession and competency.
  - 3.11.8 Complaints procedure not known.
  - 3.11.9 Proximity to neighbouring properties.
- 3.12 The EAP responded to the abovementioned issues as follows:
- 3.12.1 Flies are always a potential pest on agricultural properties, as well as any area where organic material decomposes. Correctly managed compost heaps that are turned regularly and where a carbon-based material (wood chips/ sawdust) is placed on top of any nitrogen material (such as abattoir waste) will disable flies to breed and keep them to a minimum. There have been very little evidence of maggots and flies breeding during the several inspections conducted by the EAP, although it is likely that occasional outbreaks can occur. The EMPr has included some recommendations to minimise flies on the site but it must be noted that flies are a natural pest on agricultural areas.
  - 3.12.2 In terms of the distance to the neighbouring properties, international buffer zones are determined by the type of material being composted and range from 45m for Category 1 materials (green waste) up to 500m on municipal solid waste sites with Category 3 materials (includes abattoir material). According to the National Organic Waste Composting Strategy, buffers are determined in terms of the technology used for composting and the type of materials. These range from 60 – 450m and more. The recommendation for buffers is as follows:
    - 3.12.2.1 60 – 150m for Category 1 and 2 materials.
    - 3.12.2.2 450m and more for Category 3 materials.

- 3.12.3 The requirements for fencing are aimed at protecting human health by preventing unauthorised access to people. As such, there are no requirements for fences that prevent the movement of fauna. In fact, fencing to prohibit fauna, unless in special circumstances, is not encouraged by environmental authorities. The correct management of the facility by means of timeously covering and processing abattoir material is recognised as sufficient actions to discourage vermin. Where vermin occur in excessive numbers, eradication mechanisms can be implemented.
- 3.12.4 Currently there is no evidence that the vermin numbers are excessive on this site, but are more opportunistic.
- 3.12.5 The blood trucks are not sewage trucks although they look very similar. The drivers of the trucks arrive and deliver the materials and are only there for a short period and cannot be used as sufficient witnesses as to how long the material is exposed.
- 3.12.6 Abattoir waste must be covered with wood chips, sawdust or product compost as soon as possible after its delivery. This should take place within 2 hours as a minimum to avoid the active state of decomposition which attracts vectors. To achieve this, the facility may not be unmanned on delivery dates, or if there are no personnel available, the generators must be informed that the facility is closed and they must store the material until such time that someone is available to process it.
- 3.12.7 Birds, particularly Sacred ibis and crows will dig for the material, as such sufficient covering must be placed over the abattoir material.
- 3.12.8 The compost facility is licenced and this process is in place to make some amendments. The activity is in keeping with accepted activities on agriculturally zoned land whereas guest facilities require consent use. Odour is very subjective but can become a nuisance very quickly. The EMPr has included practical mechanisms to manage odour.
- 3.12.9 The generators of waste who deliver materials to the site are responsible for the transport requirements. The Licence holder can notify generators that they must ensure that the transport of material is done correctly. They can be held responsible for clean-ups.
- 3.12.10 Fire requires oxygen and fuel, which is provided by the organic materials typically composted. Compost fires can be caused by spontaneous combustion, lightning strikes, heat from equipment or vehicles, sparks from welding activities, wildfires and arson. Spontaneous combustion is the most common cause.
- 3.12.11 Spontaneous combustion occurs when materials self-heat to a temperature high enough to cause them to ignite. Typically, composting materials ignite at temperature between 150<sup>o</sup> and 200<sup>o</sup> Celsius. Compost that is not regularly aerated is more likely to reach ignition point.
- 3.12.12 One of the most effective ways of managing this risk is by keeping the compost moist for as long as possible and aerated. SS Composting uses abattoir material and blood as a source of moisture in the process. Once most of the organic material is broken

down, the bacteria stop working and the temperature in the compost starts decreasing. Product compost therefore does not pose any fire risks. The EMPr has provided recommendations for fire management.

- 3.12.13 In terms of the management of the facility in the absence of the owner, a Standard Operating Protocol must be in place and available to ensure standardised management.
- 3.12.14 The use of machinery is critical to the management of a composting facility to process the material and ensure management of odours and pests. Composting bacteria does not follow standard operating hours and it is expected that the machinery will be used almost every day of the week. However, the holder should refrain from using heavy machinery between 10pm and 6am as per the municipal noise bylaws.
- 3.12.15 The holder of the Licence is required to keep a record of complaints which must then be included in any of the audits requested by the competent authority. Along with the audit, there must be clarity on whether the incident was handled and how.
- 3.12.16 The original Permit used the Department of Water and Sanitation requirements for the fencing height for landfill sites, particularly those close to urban environments. The requirement for a 1.8m high fence is not justified in this case due to the isolation of the site and because it is a composting site and not a landfill site. There is no requirement for screening on composting sites.
- 3.12.17 The composting facility is licenced and this process is in place to make some amendments. The activity is in keeping with accepted activities on agriculturally zoned land.
- 3.12.18 The most important issue about odour is that compost must be regularly turned and aerated to allow bacterial decomposition.
- 3.12.19 There is extensive documentation globally that shows that the composting of organic waste is the most inexpensive and effective mechanism to address this waste stream. Abattoir waste provides important nitrogen to the compost which can then be taken up by plants once it is reused on soils.
- 3.12.20 As long as material is biodegradable, it is not considered infectious and can be properly managed, then composting is a well-supported means of treatment on any site. Recently, composting was used to solve the problem of the millions of chickens that had to be disposed of due to the bird flu.
- 3.12.21 The compost facility is licenced and this process is in place to make some amendments. The investigation that was done, was to advise on whether or not contamination of groundwater might occur due to the processing of abattoir waste. As mentioned above, the use of composting of abattoir waste is well established globally. It must be noted that infectious carcasses are specifically excluded from this Licence and only non-infectious abattoir material may be accepted.
- 3.12.22 Correct management of the compost heaps minimises the impacts of pests. The EMPr includes recommendations to address this matter.

- 3.12.23 Excessive odour and vermin are an indication that management practices are not being correctly implemented. The holder of the Licence must ensure that correct procedures are undertaken to minimise these problems. One of the primary means is the regular turning and aeration of the compost heaps as well as covering raw materials as they arrive on site. Part of this amendment application process is to put in place conditions and protocols which can be used to measure and manage the actions on site to achieve a beneficial outcome for all.
- 3.12.24 The recommendation provided by the BGCMA have been included in the WML Variation as conditions of approval, which must be strictly adhered to.
- 3.13 The EMPr has included *inter alia* the following mitigation measures to manage the abovementioned impacts:
- 3.13.1 Ongoing alien clearing must be undertaken for the several alien invasive species that have been identified on the property.
- 3.13.2 The composting area must be lined with clay to prevent leaching from the compost piles and proof of clay lining has been provided with the amendment application reports and the EMPr.
- 3.13.3 The BGCMA has recommended the implementation of two additional boreholes to a depth of 20m. These, along with the upstream borehole (GZ00332) must be used to monitor possible plume pollution that could emanate from the composting facility.
- 3.13.4 One of the recommendations from the specialist was the closure of the small dam located south of the composting facility. The dam's water has been pumped out, but some still seeps from below into the original excavation. The dam was initially put in place as a sump for run off from the composting area, but since the operation of the facility does not use water to irrigate the heaps, it has never been used for that function.
- 3.13.5 A thorough survey especially on the east and south of the property must be conducted to identify any water resource and its usage or impact.
- 3.13.6 The holder of the Licence in consultation with the contractor must ensure that adequate environmental awareness training of senior site personnel take place and that all construction workers receive an induction presentation on the importance and implications of the Licence and EMPr.
- 3.13.7 The access to the site is controlled by means of a lockable gate and a 1.2m high fence that prevents unauthorised vehicle access. All deliveries made to the composting facility must be logged in the available logbook and the records must be transcribed to a digital medium as a back-up copy.
- 3.13.8 All deliveries to the facility must be done during the operating hours of the facility or normal farm working hours, as long as there are authorised personnel or the holder of the Licence available to accept the material. This will ensure that no organic materials are delivered and then left unprocessed which may lead to odour and pest issues. The gate must be locked outside of these hours to ensure that no unauthorised

deliveries take place. All generators of the material must be informed that under no circumstances will unsupervised deliveries be accepted.

- 3.13.9 The operator has the discretion to refuse entry to any waste generators who do not abide with the site rules or try to deliver waste that is not included in the permissible waste as per the WML Variation.
- 3.13.10 Noise generation must be kept to a minimum and construction activities must be confined to normal farm working hours.
- 3.13.11 The following noise abatement (reduction of intensity and amount) measures must be implemented:
  - 3.13.11.1 Provide baffle and noise screens to noisy machines as necessary.
  - 3.13.11.2 Provide absorptive linings to the interior of engine compartments.
  - 3.13.11.3 Ensure machinery is properly maintained (fasten loose panels, replace defective silencers).
  - 3.13.11.4 Switch off machinery immediately when not in use.
  - 3.13.11.5 Reduce impact noise by careful handling.
- 3.13.12 The property must be kept clean and tidy and free of any wind-blown litter or waste.
- 3.13.13 All outside bins and waste storage containers must be covered, tip-proof, weatherproof and scavenger proof.
- 3.13.14 Any temporary waste disposal and storage area (where the farm's household waste is temporarily stored) must be bunded with drain connection into the sewerage system (to prevent waste leachate from entering stormwater run-off) and fenced off (to prevent wind-blown litter).
- 3.13.15 The organic waste delivered to the facility must be restricted to: non-infectious abattoir waste, appropriate sewage sludge, chicken manure, wood waste and/or chipped garden waste and any other general organic waste.
- 3.13.16 The method of composting undertaken at the facility is to pile the material into heaps without any irrigation. The material received by the facility has sufficient moisture content that the extra irrigation is not necessary.
- 3.13.17 As the organic material starts to decompose, the moisture leaches out of the heaps and collects at the base of the pile due to the concave nature of the active composting area. Wood shavings and sawdust are used to soak up the moisture and the saturated wood is then placed back onto the pile. This continues until no more moisture leaches from the compost heap.
- 3.13.18 When receiving abattoir blood, wood bark and chips must be used to create a "dam" within which the blood is poured. Sawdust is then placed on top of the blood to soak it up. Once the moisture is absorbed, the sawdust and wood is pushed into a heap to continue composting.
- 3.13.19 The compost heaps must be regularly aerated to avoid anaerobic decomposition from taking place which can lead to odours. Furthermore, waterlogging or overwatering of compost heaps must be avoided.



- 3.13.20 There should be immediate attention to potential odorous organic loads, such as rapidly biodegradable organics.
- 3.13.21 Rapidly biodegradable organics must be covered (covering does include product compost), and the quantity of such material exposed to the atmosphere must be kept to a minimum, rapidly biodegradable organics include grass clippings, food and animal organics and organic sludges.
- 3.13.22 Records of complaints about odours should be kept, and they should be correlated with the weather conditions and deliveries of categories of organics.
- 3.13.23 Where odour issues become severe, effective microorganisms must be used to inoculate the compost to manage the problem.
- 3.13.24 In terms of pests and vermin impacts, the following must be implemented:
  - 3.13.24.1 Cover rapidly biodegradable organics, keeping the quantity exposed to a minimum. Rapidly biodegradable organics include grass clippings, food and animal wastes and organic sludges.
  - 3.13.24.2 Steps must be taken to ensure that surfaces are adequately drained to prevent ponds of water forming on the site.
  - 3.13.24.3 Episodic outbreaks of pests or vermin at composting and related organics processing facility sites must be controlled by established deterrence and eradication measures.
  - 3.13.24.4 Regular aeration and turning of compost to destroy maggots must be undertaken.
  - 3.13.24.5 Fly traps must be placed around the periphery of the composting area.
- 3.13.25 In terms of the fire impacts:
  - 3.13.25.1 Adequate fire prevention measurements must be put in place, fire-fighting equipment must be accessible and staff must be trained to manage the fire outbreaks at any part of the facility.
  - 3.13.25.2 Clear signs must tell the public that flammable liquids are not licenced on the site. This must be reinforced by advice to customers at the gatehouse.
  - 3.13.25.3 All fuels or flammable solvents for operational use must be stored in an appropriately ventilated and secure store. This store must be located away from reception, storage and processing areas. All flammable liquids must be stored within a bund that can hold 110% of the volume of the flammable liquids stored so that any release of raw or burning fuel cannot cause a fire in the combustible organics present on the site or affect the stormwater.
  - 3.13.25.4 Any fires from the compost heaps must be extinguished immediately.
  - 3.13.25.5 Correct management, moisture and aeration of the compost areas must take place to avoid potential fires from occurring.

- 3.13.26 Groundwater quality monitoring must be used during the operational phase of the development to monitor for potential impacts on the aquifer. To improve on the current borehole and 5 well points, the following must be implemented:
- 3.13.26.1 At least two monitoring boreholes must be drilled downgradient to have a better understanding of the possible plume contamination if it exists. The proposed monitoring boreholes must be located at the following proposed possible downgradient positions depending on confirmation by the appointed geohydrologist:
- East to southeast of the compost.
  - South of the compost (near the trench-bottom).
- 3.13.26.2 The proposed boreholes must penetrate at depths not less than 20m with a purpose to penetrate the primary aquifer. The borehole design must be slotted at the primary aquifer (i.e. below perched aquifer) to separate possible interaction between the two aquifers.
- 3.13.27 Borehole GZ00332 must be used as a monitoring point representing the upper-gradient which will reduce cost for drilling.
- 3.13.28 A remediation strategy plan must be submitted to the relevant authority if positive and significant contamination is observed from the new drilled boreholes.
- 3.13.29 The frequency of monitoring must include:
- 3.13.29.1 The monitoring of the water quality must be conducted quarterly in the first two years and bi-annually should the quarterly results indicate insignificant or no pollution.
- 3.13.29.2 Groundwater levels to be monitored quarterly and reported to the relevant authority with water quality results.
- 3.13.29.3 The recommended bi-annual monitoring must coincide with wet and dry seasons.
- 3.13.30 The following determinants must be analysed from the water samples in the field:
- 3.13.30.1 Electrical conductivity
- 3.13.30.2 pH
- 3.13.30.3 Temperature
- 3.13.30.4 Total dissolved solids
- 3.13.31 The following determinants must be analysed from the water samples in an approved laboratory:
- 3.13.31.1 Electrical conductivity
- 3.13.31.2 pH
- 3.13.31.3 Nitrate
- 3.13.31.4 Ammonium
- 3.13.31.5 Sulphate
- 3.13.31.6 Dissolved organic carbon
- 3.13.31.7 Phosphates

- 3.13.31.8 Calcium
- 3.13.31.9 Magnesium
- 3.13.31.10 Potassium
- 3.13.31.11 Total organic carbon
- 3.13.31.12 Chemical oxygen demand
- 3.13.31.13 Microbiological determinants
- 3.13.32 All sampling results must be kept on file and copies provided to the relevant authority.
- 3.13.33 Audits must be undertaken at the request of the competent authority when necessary or as provided for in the Licence. The monitoring results mentioned above must be included in any required audit report.
- 3.14 I concur with the applicant's responding statement that:
  - 3.14.1 The Eden area is not a conservation area in totality but has many conservation areas within it. The ecosystem type is Albertinia Sand Fynbos which is considered Vulnerable in terms of the biodiversity planning framework.
  - 3.14.2 The WML Variation being appealed does not apply to the removal of any vegetation. The original license was issued in 2008 and any removal of vegetation occurred 10 years ago.
  - 3.14.3 Two Geohydrological studies, with final comment from the Department of Water and Sanitation's mandated authority, Breede Gouritz Catchment Management Area, were presented during the Amendment Application process. The water is considered to have a high salt content hence it is "brak" or saline in the most part.
  - 3.14.4 Cape EAPrac was appointed as the independent EAP for the amendment application.
  - 3.14.5 Scientific research has shown that the only effect of odour from composting on bees is when the facility is not correctly managed i.e. the compost is not regularly turned and becomes anaerobic. All it does is cause aggravation in bees but does not kill them or cause them to move away.
  - 3.14.6 This clay surface protection for the activity processing phase was a vital part of the original license and the requirements for stormwater that have been included in the WML Variation are to further ensure groundwater pollution and monitoring.
  - 3.14.7 There is a member of staff available at all times at the workshop and the applicant is currently in the process of moving his office from his house to the workshop to improve access control at their main gate even further.
  - 3.14.8 The presence of domesticated animals such as sheep (which were there long before the composting facility) will attract predators to the area. Therefore, the composting facility cannot, on its own, be blamed for loss of lambs or moving around of predators within the area.
  - 3.14.9 It is however not the responsibility of the holder of the Licence to determine whether water on other properties is potentially polluted and what the source of such pollution

may be (especially considering that groundwater flow direction is in a different direction to that of the appellant's location).

- 3.14.10 A Water Use License in proximity to a wetland is only required in circumstances where the activity will take place within 500m from the edge of a wetland (as per the 2014 EIA Regulations). The activity of establishing and developing the composting facility took place prior to the 2014 EIA Regulations coming into effect.
  - 3.14.11 The original license stipulates that the buffer should be maintained. The affected land owners (specifically neighbours) should have opposed the buffer area during the original Waste Permit application. The buffer area was specifically created to ensure that potential operational impacts are mitigated as best possible.
  - 3.14.12 The Amendment to the original Waste Permit does not interfere with or expand this buffer area, as such it falls outside the scope of the Amendment Application and therefore outside the scope of this appeal process.
  - 3.14.13 Condition 6.7 of the WML Variation is not unrealistic. The condition requires fencing and screening for "residential areas" and "roads" and the facility is not situated against any of these. Therefore, this condition need not be implemented and therefore does not impact on any requirement for a fire break. The holder of the Licence may however still decide to screen the property with vegetation if ever there is a requirement for it.
  - 3.14.14 The amendment application for the SS Composting facility considered potential water, air and soil pollution as part of the investigation. Various competent authorities also participated in the process to help resolve issues of concern.
  - 3.14.15 The quality of water in the area is not of potable standards to begin with. The water is brackish and therefore most residents rely on rainwater or alternatively treat their groundwater.
  - 3.14.16 Water quality tests have confirmed that there is no evidence of the composting facility being responsible for any groundwater pollution. As an additional measure however, various recommendations for improving operations at the facility, creating additional detention ponds and continuous monitoring of groundwater into the future, were put in place. The monitoring results from future groundwater monitoring must be kept and submitted to the BGCMA and the DEA&DP to ensure proper quality control.
  - 3.14.17 The procedures of the *Western Cape Health Care Waste Management Act, 2007 (Act No. 7 of 2007)* cannot be followed as they are not applicable to composting and refer to health care waste which does not form part of the feed stock for SS Composting.
  - 3.14.18 Irrespective of the decision on the appeal process, the original license is still applicable and composting operations will continue albeit without the clarification of the waste streams that may be treated on the site and the imposition of adequate mitigation measures for abattoir waste impacts.
- 3.15 The DEA&DP's Directorate: Waste Management advised that:

- 3.15.1 Abattoir waste was not specifically mentioned in the original Permit. The wording of the Permit and the supporting documentation (i.e. condition 3.1 of the original Permit) is "Any portion of the Site which has been constructed or developed according to condition 4 of the permit, may be used for the transformation of organic matter **such as** wood waste, stabilised sewage sludge and chicken manure to compost."
- 3.15.2 As the Waste Permit condition and supporting documents were not restrictive in what types of organic matter could be composted and utilised the wording "such as", non-infectious abattoir waste could be composted at the Facility hence this appeal decision.
- 3.16 Considering the above, the appeals are partially dismissed as the impacts have been adequately addressed in the amendment application process and the responding statements submitted during this appeal process.

#### 4. CONCLUSION:

In view of the above, the NEMA principles, compliance with the conditions stipulated in the Appeal WML Variation and compliance with the conditions of the EMPr, the proposed activities will not conflict with the general objectives of integrated environmental management stipulated in Chapter 5 of the NEMA and any potentially detrimental environmental impacts resulting from the activities can be mitigated to acceptable levels.

#### 5. DISCLAIMER:

The Western Cape Government, the Local Authority, committees or any other public authority or organisation appointed in terms of the conditions of this EA shall not be responsible for any damages or losses suffered by the holder, developer or his/her successor in any instance where construction or operation subsequent to construction is temporarily or permanently stopped for reasons of non-compliance with the conditions as set out herein or any other subsequent document or legal action emanating from this decision.

Yours faithfully



**ANTON BREDELL**  
**PROVINCIAL MINISTER OF LOCAL GOVERNMENT,**  
**ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING**

DATE: 9/2/2019

