

**Comments  
on  
Draft Basic Assessment  
Report  
of  
Wild Olive chicken farm project**

**NOI Reference Number: 16/3/3/6/7/1/B5/14/1003/23**

**Submitted as I&AP by  
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Report P2401

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The comments presented in this document are based on the text of the document prepared by GroenbergEnviro (2024):

The Proposed Construction of Chicken Houses on Portion 1 of Farm Wild Olive No. 234, Tulbagh.  
 Draft Basic Assessment Report. NOI Reference Number: 16/3/3/6/7/1/B5/14/1003/23.  
 Reference Number: to be determined.

For ease of reference the document will be referred to as *Draft Basic Assessment Report: Chicken Houses in Tulbagh*, or *dBar-CHT*.

Points that require clarification are listed under sub-headings named *Required*.

# Introduction

A chicken farm is to be established on a farm 6km southeast of Tulbagh Village, just off the R46 route that passes Wolseley. There will be 20 chicken houses each 2550m<sup>2</sup> in size. The total house construction will cover 51'000m<sup>2</sup> (excluding other possible constructions). Each house will contain 54'450 chickens, thus totaling 1'089'000 chickens at a time on the farm. Chickens will be kept on the farm for 32 days, with 8 cycles per year - thus 8'712'000 chickens per annum.

Water consumption will be 35.2 million liters per year.

Electricity usage requires two additional transformers from Eskom to supply a capacity of 400kV for 360kV used. Eskom supplies 11kV to Tulbagh Village.

## General comments

There are many gaps in dBar-CHT, and many points that require more information. We also challenge some conclusions. A few are highlighted here:

1. The section about electricity includes an Eskom invoice, and a statement by a practitioner electrician "verifying" the energy requirements. Neither document relates to the impact this additional load will have on the present frail local electricity grid. There is no report by a professional qualified civil electric engineer.
2. There is no analysis of the impact that abstracting 35.2 million liters per year from the underground water stock will have on other farmers. No survey is included of present water usage.
3. The analysis presented in dBar-CHT about the impact of fauna and flora is based on the present condition of the property. The natural habitat of the farm has indeed been destroyed many decades ago, but it does not follow from that condition that there will be no impact on fauna and flora. There is no analysis of the impact on roaming fauna and birds that traverse boundaries, and nothing on reclaiming or regenerating the original natural vegetation. No restoration or conservation plans are included. Only the small footprint of the farm itself was considered. The impact on the greater surrounding valley is not considered. No mention is made of the original, now vulnerable, endangered, or critically endangered plant species found in the valley.
4. There is no mention of modern approaches to responsible and sustainable farming and integration with the ecological environment. There is no plan for the proportionally larger area on the farm property not covered by buildings. That area also requires management, and an ecologically friendly plan.
5. The traffic analysis is poor with no presentation of tonnage, frequency of truck visits to the property, or maintenance of the dust access road. It seems more than 2000 ton needs to be removed regularly - with 20 ton large trucks.
6. There is no analysis of the health risk to the natural environment (wild birds, carnivores, etc.) or to humans. Pollution of foul odour, air-born disease, seepage or fire are not adequately addressed.

7. There are gaps in how exactly the 2000 ton of manure and dead chicken management will happen.

8. Vermin and pest control requires much more detailed attention. This should include preventative measure put in place to reduce risk for predator birds, reptiles and mammals that are common on all farms in the area. There is no information on the control of flies, mites, rats, lice, fleas, beetles, ants, chiggers and gnats (small flies).

9. Tourism is the second largest industry in the valley, yet there is no consideration of the impact of the planned farm on the more than 17 tourist establishments in the immediate surrounding areas, some just a few hundred meters away.

10. The proposed chicken farm does not comply with the Witzenberg IDP's goals, as will be explained.

These gaps in the present application indicate an incomplete analysis of the impact the planned chicken houses will have on the overall environment.

Until a more complete document is submitted with substantiated evidence, no further approvals by any of the stakeholder authorities can proceed.

Apart from the above reasons, the process cannot proceed until an appeal to a chicken farm project on the neighbouring farm (De Hoop) has been resolved:

Appeal of environmental authorisation – REF: 14/2/4/2/2/B5/14/0027/21  
De Hoop RE234, Jo Lister.

Appendix B.

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## A. Social-economic impact

Section 24 of the South African Constitution covers environmental rights by highlighting that the health or well-being of humans must not be harmed. The implication of this is that communities must be protected from pollution, whether in the air, water, food or soil. Pollution includes nuisance factors such as noise and bad odours. Unfortunately many EIA assessments focus solely on the natural environment, with a little bit on supposed job creation and do not consider the social impact in a more responsible and general manner.

The socio-economic impact of dBar-CHT is presented in Section 8, page 59 ff. Claims of socio-economic contribution and benefit of the project are typical of most such applications where vague and general statements of benefit for local communities are made. It focuses on alleged job-creation, and some vague benefit on health knowledge (such as HIV/AIDS education).

8.2. Explain the socio-economic value/contribution of the proposed development.  
Construction of the proposed development would result in direct job creation opportunities related to the construction of the development and indirect job creation through expenditure on sectors supplying goods and services. The operation of the proposed development would result in some permanent employment opportunities being created as part of the operational expenditure. The provision of employment opportunities during both the construction and operation of the proposed development would improve the income levels of the employees – thus, in turn, improving their standard of living.  
As the individuals become more educated and informed their understanding for conditions such as HIV/AIDS, sexually transmitted infections (“STI”) and Tuberculosis (“TB”) improves as well thereby increasing chances of better management and preferably avoidance.  
dBar-CHT

It does not seem that analysis was done on the impact on the properties of all landowners in the area. In this respect the dBar-CHT is premature.

dBar-CHT does not cover the impact on air, water, food or soil on the socio-economic life of the community, as will be explained in each Section. In this Section only alleged job-creation and knowledge benefit is challenged.

### 1. Job-creation during the construction phase

Most EIA's make claims about local job creation during the construction phase of projects. Such general statements have no meaning as for large projects construction companies bring along in their own crew. The EIA must include much more credible information about the exact number of jobs to be created, post levels, skills requirement and other HR-related matters that should in any case be available from the business plan.

The construction period of dBar-CHT is short-term. Due to very little development taking place in Tulbagh, whatever job creation opportunities are created must be long-term and sustainable. If the project will indeed employ locals, what will happen to them after completion of the project? No mention is made of skills development, or of equipping the temporary workers with entrepreneurial skills to ensure sustainable incomes once the project is completed.

There are no plans in place in the Witzenberg Municipality's SDF and IDP for sustainable economic development in Tulbagh. If the local community are not provided with opportunities of self-development, acquiring higher level skills, including entrepreneurial knowledge and skills, there is no positive long-term benefit for locals by the chicken farm project.

Accommodation of workers is not addressed. Assuming locals will be used, they live roughly 9km by road from the planned chicken farm. They will require transport to the construction site, which will add additional traffic through Tulbagh Village, which is already under pressure from too much traffic. The roads of the village were not designed or constructed to carry the present load.

If the building contractor brings its own crew, where will they be accommodated? Much more detail is required about such details. It is well-established that house break-ins occur near building construction sites. Apart from security concerns, there is concern about the damage temporary construction housing sheds and the period of staying on the property will cause to the environment.

*Required*

For the workforce to be employed during the construction phase:

1. What are the job positions that need to be filled?
2. Skills levels required for the different jobs
3. The exact number of locals that will be employed
4. Where will constructions workers that the construction company will bring along be housed?
5. What transport arrangements will be made for workers?
6. What job opportunities will there be for local workers after completion of construction?

## 2. Job creation during the operational phase

The dBar-CHT's claim that the chicken farm will contribute to job creation needs to present much more information about the nature of the jobs.

Broiler farms do not require a large workforce. Brothers (2024) state that broiler houses of 7'432m<sup>2</sup> - 11'148m<sup>2</sup> on family farms can be managed by a single farmer with limited hired labour. The planned chicken farm will have 20 houses, each of 2'550m<sup>2</sup> in size, or about 5 times the size of houses in the Brothers document. Using the Brothers' numbers, the planned chicken houses will require 5 "farmers" plus limited hired labour. Very few jobs will be created. Brown (2017) runs a family broiler farm with 116'000 chickens per cycle. Concerning the workload he says:

I do almost all of my own work on the farm, with a little help from my family on a few key days. I also work a full time job at a poultry supply company as a service technician.

and

We keep the chickens for about 35 days, until they are about 4 pounds. A crew will come in to catch all the chickens and they go to be processed.  
Brown (2017)

The dBar-CHT is very vague about the promise of jobs being created. A proper business plan would stipulate the types of jobs required, skills and qualification requirements for each job, and salary scales. Such information should be included in the EIA to determine what contribution the project will have in real terms.

### **Workers' safety**

The dBar-CHT does include some statements about workers, the handling of chemicals, and preventative measures against the intrusion of disease. But the conceptual plans do not

indicate the location of chemical storage, or where the workers will change into protective clothing. The common recommended guideline is that the interim change room where personal clothing and effects are kept must be 100-150m away from the chicken houses. Before entering the houses, washing with soap and shampoo and a second set of protective clothing is needed.

There is no indication of where this will happen. Due to the distance requirements, these facilities cannot be attached to the chicken houses, and as the submitted conceptual plans only include silos, chicken houses and evaporation ponds, it is unclear of whether additional constructions will be needed, which might add to the built surface square meters.

There is nothing in the dBar-CHT about worker safety, which would be a requirement of Section 24 of the Constitution. Workers will work with highly toxic chemicals, while feed dust pollution and chemicals released by manure will impact on workers' health.

#### *Required*

1. What are the job positions that need to be filled? High-level? For menial jobs?
2. Requirements for the different jobs: skills levels, qualifications
3. Salary scales of the jobs - this can be used to determine possible positive economic impact
4. How many of the positions will be permanent?
5. How many of the positions will be part-time and how many casual?
6. When, where and how will the training be conducted for workers that need to work with hazardous chemicals?
8. What housing support will be provided to employees? And for which post levels?

### **3. Public Nuisance and Noise**

Section 24 of the South African Constitution states that the health or well-being of humans must not be harmed. The Witzenberg Municipality has Bylaws regarding nuisance factors, such as noise, that might be harmful to the health of the community. The definition of health includes irritations such as noise and foul air.

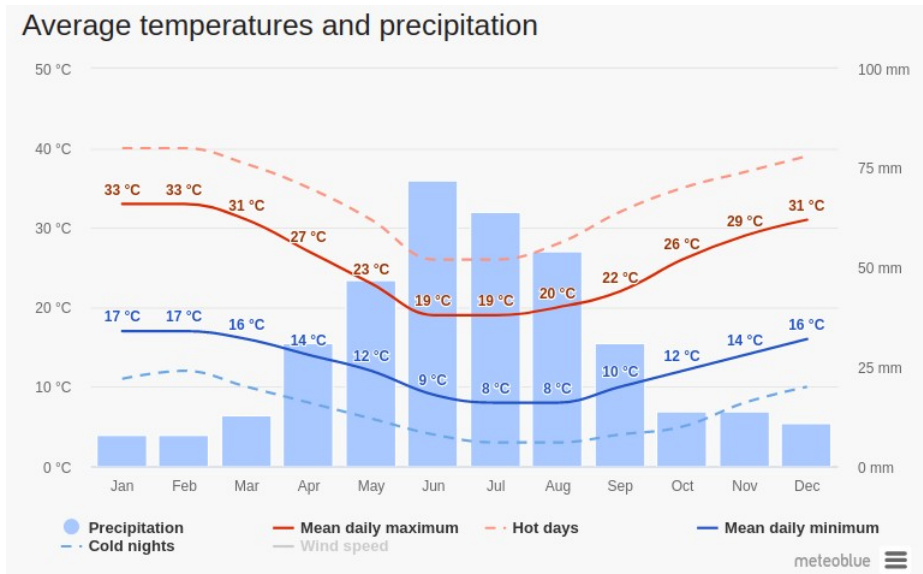
#### **Noise**

Summers in Tulbagh are hot and dry with temperatures of 40°C and above been measured each season over the past few years. The 54'450 chickens housed in a single building generate a lot of body heat. So does their manure which will be removed once at the end of each cycle of almost two months, but meanwhile generate decomposition heat.

To ensure chickens do not die from heat, houses will need to run air-conditioners day and night during summer. Apart from tapping from the local electricity grid, the peace and quiet of this rural area will be disturbed by the constant droning of air-conditioners. This will also negatively impact on the many tourist accommodation establishments surrounding the planned chicken farm location. Visitors come to experience the peace and quietness of the deep rural environment and will now be annoyed by the noise of large running air-conditioners.

Here is a summary of temperatures and precipitation supplied by Meteoblue. Tulbagh experiences daily maximum temperatures of above 30°C for four months of the year, and 20°C and above for six months of the year.





Another noise factor will be the freezers used to preserve the dead chickens.

### Noise levels

The Sound Level Chart below indicates typical sound levels. The noise created by a diesel truck ranges between 90 and 100 decibels. That of a busy road is about 80 decibels.

Source of Sound	Decibel (dB)
Jetplane (50 m)	140
Amplified rock and roll (disco) (1 m)	120
Chainsaw (3 feet)	110
Diesel truck	90-100
Subway/busy road	80
Industrial air-conditioners	70-80
Loud singing (3 feet)	75
Vacuum cleaner/food blender (3 feet)	70-75
Speech/conversation	60
Average home	50-55
Home air-conditioning unit	50
Library	40
Whisper (3 feet)	30
Rustling leaves	20
Threshold of hearing	0

The World Health Organization (WHO) published *Guidelines for Community Noise* (Berglund 1999):

For a good night's sleep continuous background sound should not exceed 30 dB(A), while individual noise events should not exceed 45 dB(A).  
 Berglund 1999: section 3 (x)

For an outdoor living area, the WHO guideline for noise is a maximum of 55 dB. Although noise levels decrease over distance, it should be clear that both the trucks to be used as well as the air-conditioning will contribute to high noise levels. The peace and quiet that tourist

come to experience in the about twenty accommodation establishments in the immediate area will certainly be disturbed. See *J. Impact on Tourism* for details.

### **Air pollution**

There are national Acts and local bylaws against air pollution. A large farming operation with 1'089'000 chickens at a time will certainly reduce the air quality of the valley. The 2'000 ton manure that needs to be handled regularly, cleaning chemicals, feed, dust by large trucks on the dirt road, and so on will all contribute to reduce air quality. More comments relating to air pollution are presented in Section E. Pollution of this document.

#### *Required*

1. What noise reduction measures are planned for?
2. How effective will these measures be? Use dB reduction as metric.
3. How will air pollution be addressed?
4. How will air quality be measured to ensure pollution does not occur?

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## **B. Impact on water sources**

#### **Acts and regulations**

- \* Section 24 of the Constitution
- \* National Water Act, 1998 (Act No. 36 of 1998)

The dBar-CHT assessment document states that impact on freshwater will be low:

Freshwater impacts will be low, as the proposed development would not be located within an acceptable distance any watercourse.  
dBar-CHT: 62

The dBar-CHT maps (Appendix 2: Environmental Sensitivity Map and Appendix D3: Watercourse Map) show the proximity of the chicken houses to natural streams. The southern cluster of chicken houses is very close to an existing dam. The conceptual plans in dBar-CHT Appendix B do not indicate exact distances. The scale of these maps is too large to give the exact distance of the houses to natural waterways and dams, but possibly less than 50m away. This does not take into account torrents during period of exceptional rainfall.

Mudslides and torrents might impact on the evaporation ponds and other waste materials, so the impact on freshwater is certainly not low. The proximity to watercourses is particularly concerning. Construction and operation within 50 meters of a watercourse could lead to increased sedimentation, chemical runoff, and potential contamination of water sources. The evaporation ponds intended to handle stormwater and wash water, while necessary, may still pose risks of overflow or seepage, further impacting the surrounding natural environment.

### **1. Water consumption**

The dBar-CHT states that an existing borehole on the property yields 20'000 L/hour (p12). The water requirements of the houses are as follows.

A freshwater specialist was consulted regarding the proposed development. The proposed development requires approximately 2.2 Million litres (2200m<sup>3</sup>) for 10 houses per cycle. This in total will be 4.4 million litres/4400m<sup>3</sup> for 20 houses per cycle.

...

The farm will have 8 Cycles per year, which would then require a total of 35 200m<sup>3</sup>/a.  
p12

The annual water consumption of the chicken farm will be 35'200'000 liters of water abstracted from the sub-terrestrial water sources. This will certainly have an impact on the neighbouring farmers, and perhaps even on the village, should the village require borehole water in future.

Tulbagh is located in an arid area with an average annual rainfall of 350mm. Dams in the valley regularly run dry. In the first quarter of 2023 Tulbagh Village was one month away from day zero with no water in the dam that supplies water. Some farmers pumped water from their sources in the village dam. Fortunately rains came just in time. To secure the future of the water supply of the village, boreholes will need to be sunk.

## 2. Groundwater impact

Freshwater Ecologist Network (FEN) Consulting (Pty) Ltd submitted a report to dBar-CHT on water related issues. Although groundwater is mentioned nine times, the report only focuses on surface water. No research was conducted on the impact of abstracting 35.2 million liters of water from the subterranean water table. Recent farming activities on the property did not require intense irrigation. The new activity of chicken house farming will certainly impact on the groundwater resources.

There is concern about the sustainability to abstract so much groundwater. The Witzenberg IDP is concerned about water usage and the impact of climate change:

The Witzenberg Municipality's local economy is driven by agriculture and there is concern about the negative impacts of climate change on the agricultural sector which will in turn impact on the local economy.  
IDP: 89-90

The *Freshwater Impact Assessment* by Freshwater Ecologist Network (FEN) Consulting (Pty) Ltd recommends against WULA and for GA:

In terms of the WUA registration process, registration via a General Authorisation (GA) is supported as opposed to a Water Use License Application (WULA) due to low risks determined in the Risk Assessment Matrix.  
FEN 23-5078: 58

Given the arid area, scarcity of water confirmed by the fact that the village is regularly experience strict water restrictions, and was just one month away from day zero in 2023, and that existing farmers have noted a reduction in the groundwater stock, we reject the conclusion that a WULA license is not required.

It seems that report only considers factors of average climatological events. Recent weather patterns caused floods and mud slides in the immediate region of the planned chicken farm. There is also a huge impact on the sub-terranean water body that is not considered.

To determine the impact a groundwater modeling exercise is required.

The dBar-CHT has no reference to current water use rights certificates.



This is how water stream down the mountain slopes after heavy rains. It does not follow natural causeways.

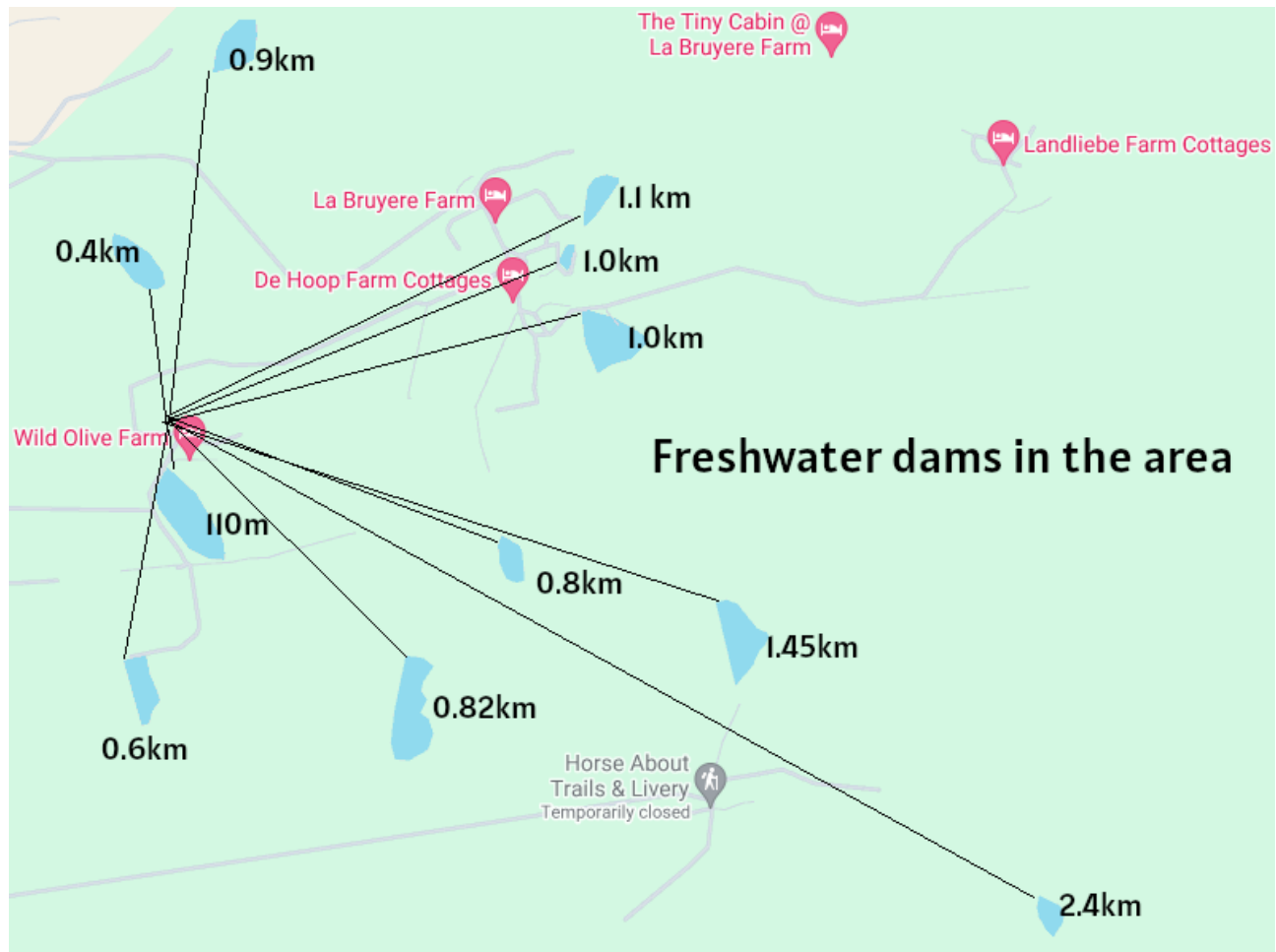
Here is photo evidence of a rock slide on the mountain slope behind Wild Olive Farm and Horse About. Note the brown murky colour of the dams below into which this slide spilled.

*Required*

1. Proper research on the present status of groundwater in Tulbagh Valley
2. A map indicating the bulk and sources of the subterranean water table
3. A study of groundwater usage especially of neighbouring farms
4. The impact of abstracting 35.2 million liters of water on other farming activities in Tulbagh Valley
5. A comprehensive groundwater modeling exercise
6. Inclusion of current water use rights certificates

### 3. Freshwater Impact Assessment

The following fresh water dams are found in the immediate surroundings.



The dBar-CHT's Freshwater Impact Assessment was performed by FEN Consulting on the Boontjies River, which is fed by the two tributary streams passing the planned chicken houses, both north and south.

The EIS assessment analysis of the riparian area provided a score of 3.3 which can be regarded as of **Very High ecological importance and sensitivity**. The assessed river reach is considered to be unique on a national or even international level based on unique biodiversity (habitat diversity, species diversity, unique species, rare and endangered species). These rivers (in terms of biota and habitat) are usually very sensitive to flou modifications and have no or only a small capacity for use.

Appendix G.2: Freshwater Impact Assessment: 25

A disturbance to the fresh surface water bodies will certainly have an impact on the environment following any human caused accidents, or natural events such as exceptional rain, or perhaps earth quake, especially when they are disastrous.

The FEN report (on page 49) states that rainwater collected from chicken house roofs might breach the downstream riparian drainage lines. The sediment discharged by this might impact negatively on the freshwater habitat of aquatic biota.

*Required*

1. Proper research conducted on the effects of possible exceptional rainfall on the property in general
2. Proper research conducted on the effects of rainfall especially on the evaporation ponds
3. Proper research conducted on the effects of possible exceptional rainfall especially on the evaporation ponds
4. Research on the impact further down should the evaporation ponds leak into the streams
5. A proper analysis of the effects of a worse case scenario should the tributaries be contaminated, or the evaporation ponds' water is released into the streams and Boontjies River.

#### **4. Impact on existing farmers**

Groundwater resources are not infinite. Tulbagh is in an arid area with an average annual rainfall of 350mm, regularly suffering droughts. At the end of the very dry 2022-2023 summer the Wild Olive Farm had no water and had to receive assistance from the neighbouring Horse About for drinking water.

Some farmers rely exclusive on abstracting groundwater due to their location away from surface water sources. Abstracting 35.2 million liters per year will certainly impact on such farmers.

A detailed and proper analysis of available groundwater as well as current use, including use during period of drought is required.

Apart from water, an analysis of the impact on existing poultry and ostrich farms in at least the immediate environment is required. In the immediate area there are several free range poultry farms as well as ostrich farms - which export feathers used for car manufacturing.

Within a radius of 6Km from the planned chicken farm lies Tulbagh village, as well as about twenty farms with guest accommodation (see *J. Impact on Tourism*). The impact if air pollution and noise on the village community and farm accommodation cannot be ignored and needs to be factored in.

*Required*

1. The present available groundwater volume needs to be determine
2. Present abstraction of groundwater by farmers must be determined
3. To counter the effects of climate change and possible long periods of drought, with the possibility that the village will need water abstracted from the water table needs to be factored in

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## C. Impact on local energy network

Present availability of the electrical network in Tulbagh is as follows:

The Tulbagh electrical network receives its bulk electricity from Eskom via one 11kV bulk metering point at Eskom's Tulbagh substation, current NMD is 4,5 MVA.  
IDP: 89-90

The dBar-CHT EIA includes the following assessment of electricity usage.

The electrical requirement for the proposed development is 18kV per chicken house, the overall requirement is 360kV (for 20 houses) (refer to Appendix E16: Confirmation of all services (water, electricity, sewage, solid waste management), page 159) for the electricity requirement). Electricity will be obtained from two existing Eskom transformers. The two transformers will be upgraded to 200kVA transformers in order to be able to service the chicken houses.

...  
The upgrade of the transformers were approved by Eskom and have been paid for by the applicant (refer to Appendix E16: Confirmation of all services (water, electricity, sewage, solid waste management), page 159).  
p11

Two documents are attached in dBar-CHT Appendix E:

- Eskom Invoice (duplicated): for a deposit and for connection charges
- BJ van der Merwe Electrical: stating the required electricity capacity

Neither document states anything about the impact on the local electricity network. The Witzenberg Municipality IDP of 2024-2025 (2022- 2027) identifies Eskom supply as a major risk:

The provision of bulk electricity by Eskom has been identified as a major risk as existing Eskom bulk infrastructure currently cannot provide for the growth requirements of Witzenberg.  
IDP: 9

and even worse

Although Eskom cannot currently increase Witzenberg's NMD, applications for additional capacity as listed below were however submitted.

...  
Should Eskom not be in a position to complete the upgrade of their bulk electricity by 2030, the Witzenberg Municipality and its agricultural economy will be brought to its knees because of Eskom's inability to provide an increased Notified Maximum Demand.  
IDP: 89

By 2030 the Witzenberg economy might collapse due to upgrading deficit and overloading. To add the additional 360kV load will bring forward the date for collapsing. It will be irresponsible to add this load prior to the 2030 upgrade.

In addition to common load-shedding schedules, the Tulbagh Valley, both the village (on the network via the Municipality) and farms (on the Eskom network), regularly suffer from blackouts caused by the poor condition of the network. Substations require major upgrading and it is likely that aging feeder cables also require replacement.

The dBar-CHT will most likely need to use generators during load-shedding and when the network is down due to commonly experience problems. There is nothing in the dBar-CHT documents about such additional energy provision which will cause air pollution and gas emissions as well as noise pollution. Large generators will be required and their low frequency droning will penetrate much further than the noise of small generators.

There is nothing in the report for any green energy plans. The Witzenberg IDP clearly sets this as a goal:

Develop incentives for smarter/ green agricultural practices and technologies  
IDP: 61

Research by El-Maghawry finds that:

Energy usage is one of the largest overall contributors to environmental risk from broiler production process...  
El-Maghawry 2024: 198

A thorough analysis by a qualified large stream electrical engineer is required. This should include an analysis of the life expectancy of the present aging network, the present capacity and quality of substations, and the quality of the cables. The analysis must also include reference to the additional load required by the three approved property developments in Tulbagh known as Waverenskroon Country Estate, Dalskroon Retirement Village and Edenhof Lifestyle Village, as well as any other developments known by the municipality. In addition, as the Eskom supply in the larger area regularly breaks down, the impact on the neighbouring regions, such as Wolseley, Gouda and Ceres needs to be factored in.

#### *Required*

1. A Professional Engineering Services Report by a specialist electrical engineer needs to be submitted on the quality, capacity and status of the present electrical network and sub-stations.
2. This report must include the status of equipment in sub-stations with special reference to its age and expected lifetime.
3. This report must specifically include how the required additions will impact on the whole Tulbagh Valley, Wolseley and Gouda.
4. The report must include how the chicken farm's energy requirements will impact on the local energy network
4. An alternative plan for green energy must be submitted
5. A plan must be submitted on power supply during load-shedding and other downtimes of the greater electricity network.
6. If fuel-powered generators will be used, a plan for noise control must be submitted. This plan must include expected dB noise levels.

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## **D. Stormwater and effluent management**

The dBar-CHT states that the development is within an acceptable distance from any watercourse:

Freshwater impacts will be low, as the proposed development would not be located within an acceptable distance any watercourse.  
dBar-CHT: 62

That might be the case during seasons of average rainfall. But during the rainfall season of 2023 these streams (the riparian drainage lines) caused a lot of damage to neighbouring farms not only by streams turning into torrents but also dam bursts. Mudslides also occurred.



The immediate neighbour to the south of the planned chicken farm property suffered mud slide damage. A dam burst on Fynbos Guest Farm, which is 5.0 km south of the property.

Two evaporation ponds with a capacity of storing 15'000'000 will be used (dBar-CHT: 12).

In our section *B. Impact on water sources* reference was made to the research of Bosman (1993) on evaporation and seepage losses from irrigation canals and tanks. He also refers to evaporation and seepage of chemicals and pollutants that always pose an environmental risk.

The dBar-CHT does not conclude any preventative plan on how to prevent evaporation and seepage from the evaporation ponds. Given the recent mudslides in the area, we expect a proper plan for stormwater and effluent management.

*Required*

1. A stormwater and effluent management plan must be submitted.
2. The plan must address measures to counter the effects of worst case scenarios such as mudslides that happen in the area

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## **E. Impact on the natural environment**

It should be noted that Tulbagh Valley is located within the Cape Floral Region (CFR) with its endemic fynbos vegetation, including the endangered Renosterveld biome. The northern boundary of Tulbagh Valley is the Groot Winterhoek Wilderness Area which has UNESCO World Heritage Status.

Responsible developments should have explicit plans on how to protect this unique heritage, and how to restore it where irresponsible previous farming techniques caused large-scale destruction of the biosphere. We live in a different era where agricultural practices should be in harmony with nature rather than regarding it as its enemy.

Using a screening tool, Biodiversity Africa conducted a Terrestrial Ecological Compliance Statement (dBar-CHT Appendix G.3: Botanical Compliance Statement) and disagreed with the Screening Report of the *Department of Forestry, Fisheries, and the Environment* (DFFE). Biodiversity Africa rated the area where the chicken farm is planned for as follows:

However, based on the findings of the site sensitivity verification undertaken for this project, the Animal Species Theme was found to be LOW the Plant Species Theme was found to be LOW, and the Terrestrial Biodiversity Theme was found to be LOW to VERY LOW.

Biodiversity Africa: 14

Their screen mechanism seems to have considered only the state and condition at the time of site visit, and the current state of the site. The low observance of biodiversity is due to not considering the history of the area, or the immediate surroundings. This interpretation is confirmed by their statement:

The entire project area was not surveyed/groundtruthed. Rather sampling focused around the proposed development footprint and the different vegetation types present within the project area.

...

This assessment includes plants, birds, mammals, amphibians and reptiles. It does not include the

assessment of invertebrates or insects.

The faunal assessment is based on a field survey to assess available habitat present within the project area, coupled with a desktop assessment to determine the likelihood of occurrence of SCC.

Biodiversity Africa: 16

and

Based on the findings of the field survey, these vegetation types are not present within the project area and will therefore not be affected by the proposed development...

Biodiversity Africa: 27

With "*within in the project area*" they must certainly refer to the building site, as this is not true of the immediate neighbouring areas and the larger environment. That their assessment is restricted to the construction site only, and thus not particularly useful, is evident in the light of the following fauna and flora that have been observed on surrounding farms.

## 1. Fauna

The following animals have been observed in the immediate surrounding areas. Mice and rats are not listed, but are abundantly present.

Fauna		
<b>Carnivores</b>		
<i>Panthera pardus pardus</i>	Cape leopard	Kaapse luiperd
<i>Ictonyx striatus</i>	Cape Polecat	Kaapse muishond
<i>Caracal caracal</i>	Caracal / Cape lynx	Rooikat
<i>Aonyx capensis</i>	Cape otter	Kaapse otter
<i>Genetta tigrina</i>	Cape genet	Muskeljaatkat
<i>Mellivora capensis</i>	Honey badger	Ratel
<i>Herpestes pulverulentus</i>	Cape grey mongoose	Kaapse grysmuishond
<i>Otocyon megaloti</i>	Bat-eared fox	Bakoorjakkals / draaijakkals
<i>Papio ursinus</i>	Cape baboon (Chacma)	Bobbejaan
<i>Procavia capensis</i>	Rock hyrax / Cape hyrax, Rock Rabbit	Dassie
<i>Hystrix africae australis</i>	Cape porcupine	Ystervark
<i>Raphicerus melanotis</i>	Cape grysbok	Grysbok
<i>Cephalophini</i>	Duiker	Duiker
<i>Oreotragus oreotragus</i>	Klipspringer	Klipspringer
<i>Raphicerus campestris</i>	Steenbok / Steinbuck / Steenbuck	Steenbok

## 2. Birds

The following birds have been observed in the immediate area by farmers, visitors and bird watchers. The author of this Comments document personally observed a Hamerkop at the dam adjacent to the chicken farm property.

Birds		
<i>Accipiter melannoleucus</i>	Black Sparrowhawk	Swart sperwer
<i>Accipiter rufiventris</i>	Redbreasted Sparrowhawk	Rooibors sperwer
<i>Accipiter tachiro</i>	African goshawk	Afrikaans sperwer
<i>Aquila verreauxii</i>	Verreaux's Eagle	Witkruis arend
<i>Bubo africanus</i>	Spotted Eagle-Owl	Gevlekte oor uil

<i>Bubo capensis</i>	Cape Eagle-Owl	Kaapse oor uil
<i>Buteo buteo</i>	Common Buzzard	Bruin jakkalsvoël
<i>Elanus caeruleus</i>	Black-winger kite	Blouvalk
<i>Falco naumanni</i>	Lesser Kestrel	Klein rooivalk
<i>Falco rupicolus</i>	Rock Kestrel	Kransvalk
<i>Grus paradisea</i> *	Blue crane	Bloukraanvoël
<i>Haliaeetus vocifer</i>	African Fish Eagle	Visarend
<i>Hieraetus pennatus</i>	Booted Eagle	Dwergarend
<i>Milvus aegyotius</i>	Yellow-billed kite	Geelbekwou
<i>Polemaetus bellicosus</i>	Matial Eagle	Breëkop arend
<i>Polyboroides typus</i>	African Harrier-Hawk	Kaalwang valk
<i>Sagittarius serpentarius</i>	Secretary bird	Sekretarisvoël
<i>Scopus umbretta</i>	Hamerkop	Nonnetjies uil
<i>Tyto alba</i>	Western barn owl	
* Vulnerable on the Red List of the International Union for the Conservation of Nature.		

### 3. Flora

The Tulbagh Valley is presently home to 9 vulnerable, endangered and critically endangered plant species:

#### Critically Endangered species

*Circandra serrata*



*Leucadendron chamelea*

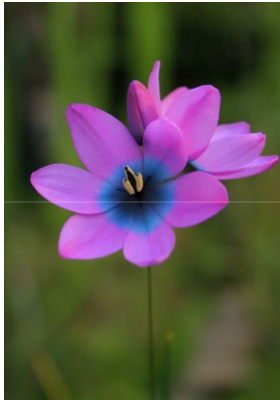


*Aspalathus tulbaghensis*



## Endangered species

*Ixia vinacea*



*Geissorhiza tulbaghensis*



*Ixia viridiflora subsp. viridiflora*



*Aristea nigrescens*



## Vulnerable species

*Sparaxis grandiflora subsp. grandiflora*



*Moraea incurva*



## 4. Reptiles

All six potentially deadly snakes of the Western Cape have been spotted in the valley. Cape cobra is perhaps the most actively observed and even found on residential properties in the village, in homes, and regularly kill dogs in the yards of residents. A chicken house would be an open invitation to increase snake activity.

<i>Bitis atropos</i>	Berg adder
<i>Naja nigricollis</i>	Black spitting cobra

<i>Dispholidus typus</i>	Cape Boomslang
<i>Naja nivea</i>	Cape cobra
<i>Hemachatus haemachatus</i>	Rinkhals / Ring-necked spitting cobra

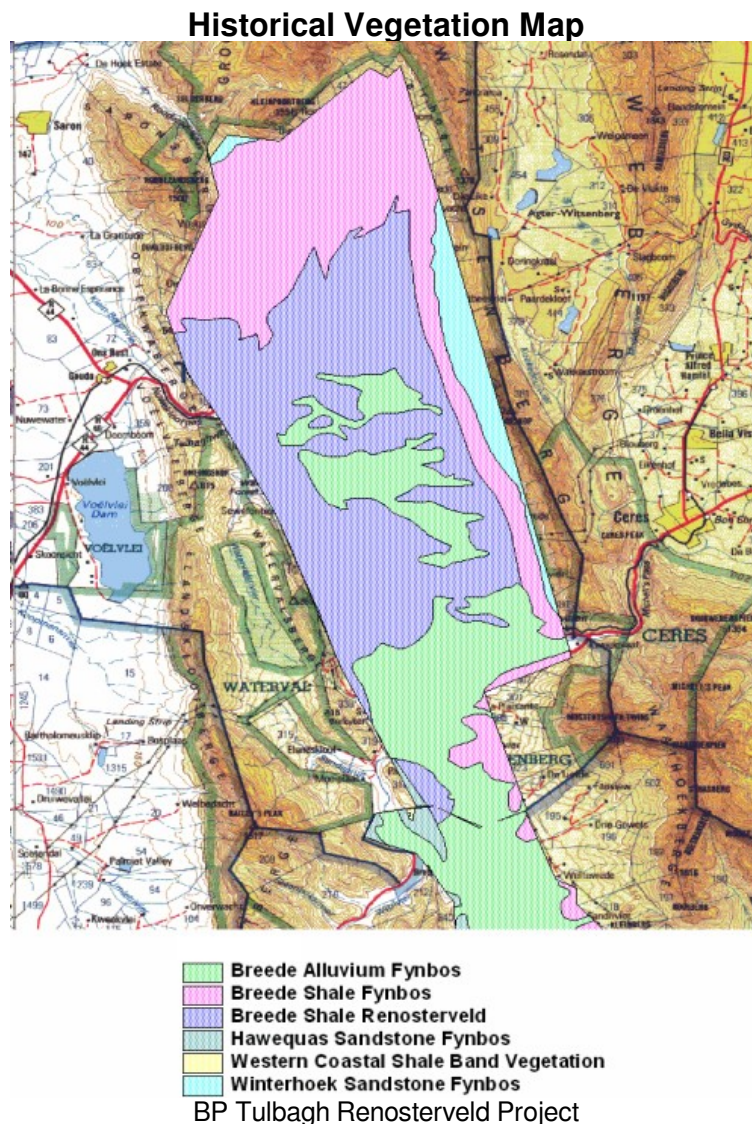
## 5. Renosterveld

Intense crop farming destroyed the traditional Renosterveld and fynbos. Immediately adjacent to the chicken farm property is a large patch of Renosterveld. The fact that no Renosterveld was found on the property only indicates that it is no longer there due to irresponsible farming techniques. Many farmers in Tulbagh Valley set aside portions of their farms to conserve Renosterveld and fynbos.

The *BP Tulbagh Renosterveld Project* (undated) includes the following maps to show the distribution of Renosterveld in Tulbagh Valley.

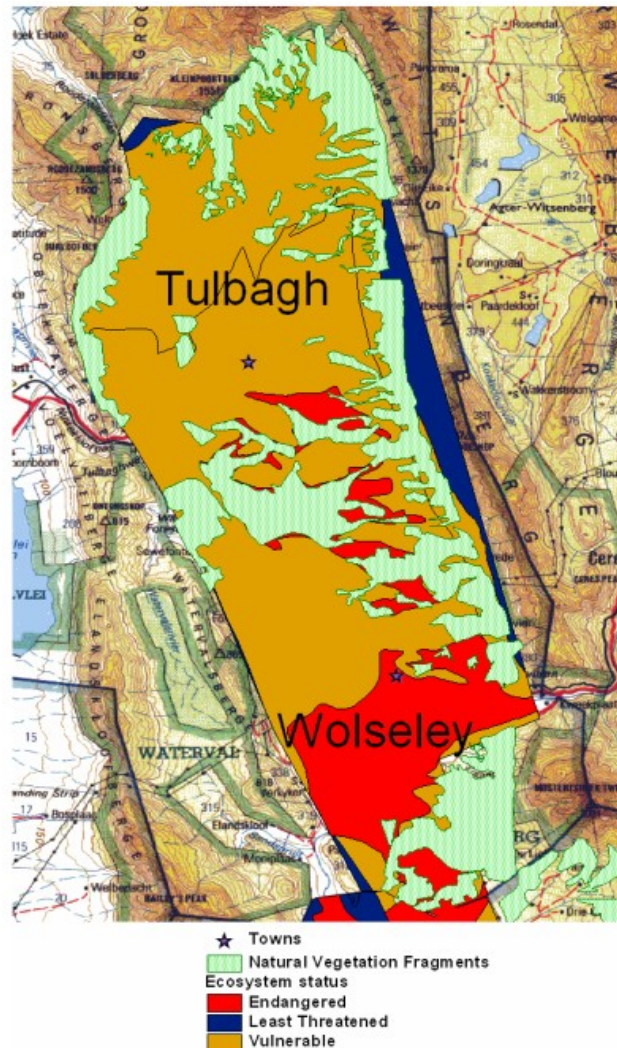
## 6. Vegetation Maps

Before farming the natural vegetation was Fynbos and Renosterveld. Here is a reconstruction of the original natural vegetation habitats in Tulbagh Valley.



The present state of the Tulbagh vegetation is indicated in the map below of the Tulbagh Valley. The red areas in show endangered areas.

### The present state of the Tulbagh vegetation



BP Tulbagh Renosterveld Project

Note that apart from the two large green patches, most of the remaining fragments of natural vegetation are found on the eastern side of the valley, where the chicken farm is planned for.

There is a worldwide interest in Regenerative Agriculture, which is farming in a way that improves agricultural ecosystems, farming with nature rather than against it. Poultry farming should not be excluded from such initiatives that will have positive results on the future of the environment.

## 7. Erosion

The original vegetation of the farm was destroyed by farming, possibly by grass/grain-related crops that are grown all over the valley. Biodiversity Africa includes an aerial photo taken in 1973 of the area, which shows cleared agricultural land. Deep ploughing techniques were

widely implemented since the 1950s in the valley. But past destruction does not negate the need for responsible farming that includes plans for regeneration to restore nature.

Grain farming is a major contributor to soil erosion as farmers leave a very short stalk after harvesting. Strong winds in the area then blow away top sand which leads to erosion.

A map of the state of South Africa's biodiversity shows that the grain producing areas of the Western Cape are critically endangered.  
Smith HJ, in Laker (2019: 3)

The land on which the chicken farm is planned for was once used for grain production. If the land is not restored and regenerated, erosion will continue.

#### *Required*

1. A plan must be submitted on how the rich distribution of animals, birds, reptiles and water species will be protected
2. A plan must be submitted on how the fauna, flora and in fact the whole spectrum of biodiversity will be reinstated and developed to ensure their protection for future generations
3. A plan regeneration plan must be submitted on how the non-built areas on the property will be restored to protect the historical Renosterveld and fynbos vegetation

\*

\*

\*

## **F. Pollution**

Section 24 of the Constitution addresses the impact of air, water, food or soil on the environment. To state the obvious, humans are part of the environment. Thus the impact on human communities must be included in EIA studies. Relating to a chicken house, in addition to the effects on the natural environment, pollution includes nuisance factors such as noise and bad smells.

#### **Acts and regulations**

- \* Section 24 of the Constitution
- \* National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
- \* Environment Conservation Act, 1989 (Act No. 73 of 1989) – Noise Control
- \* Regulations in terms of Section 25 of the Environment Conservation Act, 1989

### **1. Air quality**

#### **Greenhouse Gas Emissions**

Broiler chicken production is a big contributor to greenhouse gas emissions, as found by research of El-Maghawry:

Greenhouse gas emissions are one of the major environmental challenges facing broiler chicken production.  
El-Maghawry 2024: 185

Feed production consists a range of processes, including transport, and of course the end-result of the process is manure. El-Maghawry states:

Considering non-mechanical emissions, results in Fig. 4 showed that feed contributes to the

most of the GHG emissions followed by manure (with/without litter), bedding, and water that gives the lowest values of emissions.  
El-Maghawry 2024: 185

El-Maghawry concludes that environmental control of the various polluting process requires a profound approach to how chicken rearing is implemented.

Electricity and feed representing the mechanical and non-mechanical emissions, respectively were the most participants to the overall emissions of GHG.

...

A profound look is required to review rearing implementations for getting a sustainable system of broiler chicken production, thus decreasing GHG emission percentages. Hence, environmental control strategies inside broiler chicken production systems have to be implemented to improve the quality of indoor conditions, thus enhancing productive performance and making broiler chicken production environmentally friendly.

El-Maghawry 2024: 199

## Odours

A chicken house produces a wide variety of odours based on the chemicals used, as well as the chemicals produced. One of the strongest odours is from ammonia.

The odor that is detected from a poultry operation is a complex mixture of gases. Most often the odor is a result of the uncontrolled anaerobic decomposition of manure. However, feed spoilage can also contribute to the odor. The odor that our noses detect can be a combination of 60 to 150 different compounds. Some of the most important types of odor causing compounds are: volatile fatty acids, mercaptans, esters, carbonyls, aldehydes, alcohols, ammonia, and amines. The odor strength of these compounds do not combine in an additive manner. That is, sometimes mixing several of these compounds can result in reduced odor by dilution of the strongest smelling compounds.

...

Ammonia can create strong odors near the manure storage or building, but is not a significant component of odor downwind from a poultry facility. Ammonia is highly volatile and moves upward in the atmosphere quickly where it is diluted.

Chastain: 9-1

Sources of these odours include:

- wet litter from leaky waterers,
- poultry bedding that is overloaded with manure (that is too little bedding relative to the amount of manure produced by the birds),
- wet manure below caged layer houses due to water leaks or inadequate drying by ventilation,
- spoiled or moldy feed,
- dust from feeders and animals,
- exhaust ventilation air,
- uncovered manure piles,
- poorly managed stacking sheds,
- poorly managed or located covered manure piles, and
- improper disposal of dead animals.

Chastain: 9-1

These odours are usually removed from chicken house with ventilation system, which means that the odours are merely directed from the interior to the exteriors of the houses. Natural ventilation (in the exterior) uses local wind and thermal buoyancy. The odours can thus be carried over distances to the surrounding environment.

The location of the chicken farm is southeast of Tulbagh Village, 6km away in a straight line. That is directly in the path of one of the dominant strong wind directions. The regular southeast wind will thus carry the odour to the village.



This map in the dBar-CHT documentation indicates the chicken houses south-east of the village.

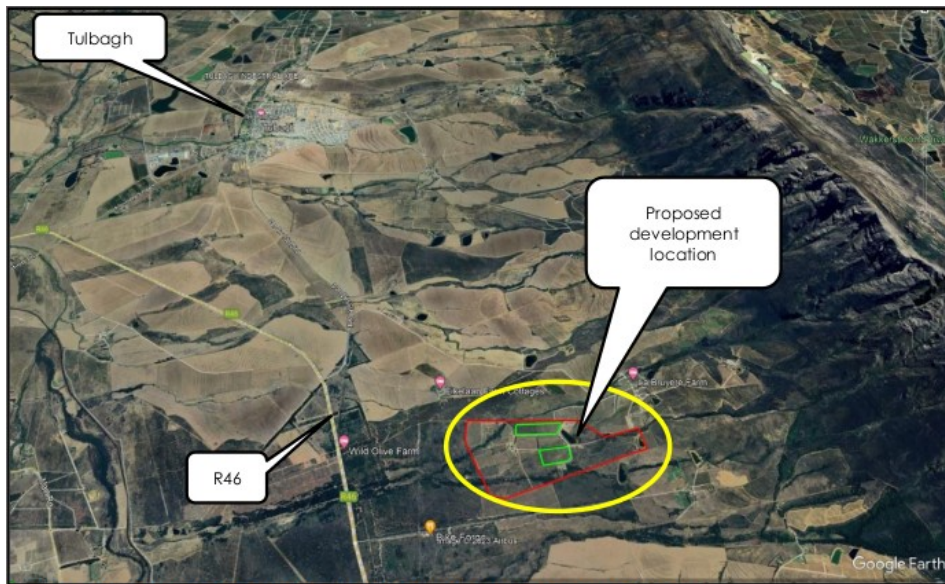
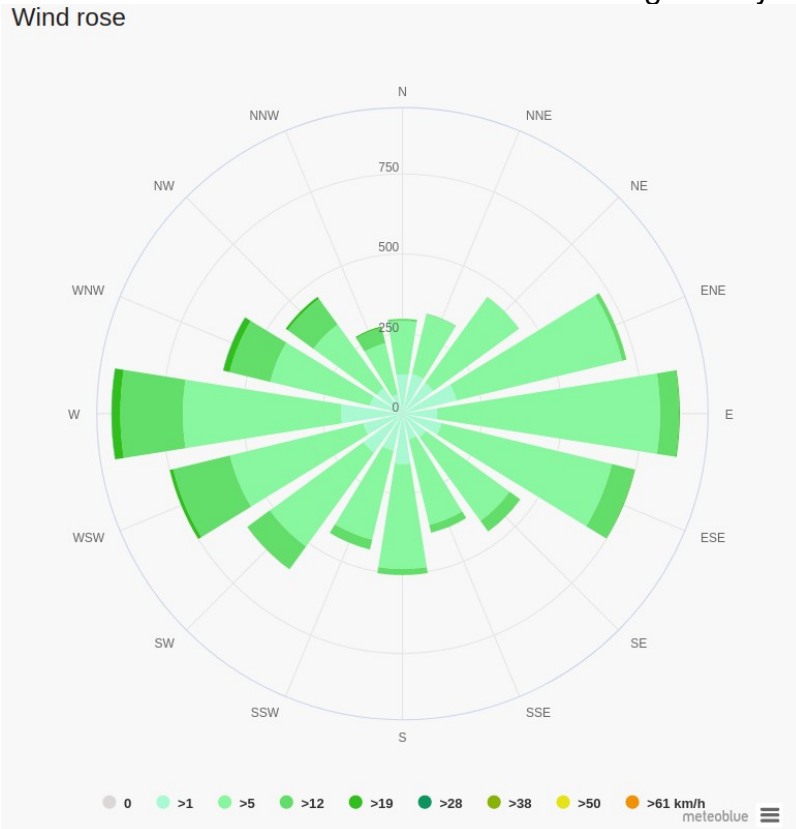


Figure 10: Aerial Imagery of the development location (indicated by the yellow oval)

This wind rose by Meteoblue shows the wind directions in Tulbagh Valley:



Note that one of the dominant wind directions is from the southeast, thus from the chicken farm to Tulbagh Village with its population of about 10'000 residents. The southeast wind is active in summer. The summer heat will add do decomposition and fermentation, leading to more prominent fould odour.

## 2. Seepage

Two evaporation ponds will be used to store water used for cleaning the houses, each with the capacity of 750'000 of water, in total 15'000'000 (dBar-CHT: 12). The ponds will be lined, but that is no guarantee against seepage.

The *Freshwater Impact Assessment* by Freshwater Ecologist Network (FEN) Consulting (Pty) Ltd concludes as follows:

A quantum of impact is envisaged for riparian drainage lines 1-3 and seep wetland 2 during the construction phase, and additionally for riparian drainage line 4 during the operational phase. This report therefore assesses the potential impacts of the proposed development on riparian drainage lines 1, 3 and 4 and seep wetland 2.  
FEN 23-5078: 58

That report indicates a possible negative impact for streams and seepage.

Bosman (1993) measured evaporation and seepage losses from irrigation canals and tanks. Although ponds were not included in his research, they are also open water bodies, and in fact larger than canals. Of note for our comments is that evaporation and seepage control are important factors in the arid climate of South Africa. Not only water evaporates. So do chemicals and pollutants. The point is, no matter what preventative methods are implemented, evaporation and seepage from water bodies that contain chemicals and pollutants always pose an environmental risk.

Environmental consequences such as water-logging adjacent to earth canals, and seepage further afield are unacceptable in a country such as South Africa where both water and irrigable land are scarce.

Efficient management of a canal system depends on knowledge of losses en route, notably by evaporation, leakage and wetting of the concrete lining of the canals. Of the two main water loss components, leakage cannot easily be measured unless it is possible to get a reasonable estimate of evaporation.

Bosman 1993: 171

The dBar-CHT application does not present any details on how exactly pollutants released by evaporation will be managed, and neither which preventative measures will be in place to prevent seepage into the environment, and especially into the subterranean water bodies.

### *Required*

1. A detailed report on exact methods and technologies to be used to contain air borne pollution
2. A detailed report on exact methods and technologies to be used to contain seepage
3. What environmental control measures will be in place to reduce greenhouse gas emissions?

## 3. Fire

Biodiversity Africa conducted a Terrestrial Ecological Compliance Statement (dBar-CHT Appendix G.3: Botanical Compliance Statement). Their report warns about the vulnerability of fire in Fynbos.

Fire dynamics in Fynbos are influenced by several factors including global warming, grazing practices and fire management (ignition events, size of burns) but their relative importance and interactions are poorly understood.

...

It is important that these ecological drivers are considered during land use planning and the design and planning of a project as any land-changes that affects ecological drivers within remaining natural areas will have significant implications for biodiversity and the ecosystems services derived from it.

Biodiversity Africa: 24-25

There are regular fires in the valley during dry summers. In January 2024 runaway fires destroyed large areas of the surrounding mountains and farms, as well as buildings. If such a fire should reach the chicken houses there will be large scale destruction. It is possible that the infrastructure would be so damaged that feed from the silos run out, that the evaporation ponds and stored cleaning chemicals leak into the environment and streams.

#### *Required*

1. What fire management plans and systems will be in place to control the outbreak of any fires
2. Plans must include not only the protection of the buildings, but of the whole property and wider environment

## **4. Biosecurity**

The dBar-CHT includes preventative measures for the health of their chicken stock, including measures to deal with mass mortalities in case of a virus outbreak (dBar-CHT: 29).

The potential high risk of the impact of the chicken houses on the health of the wider environment cannot be ignored. There are several existing dams with abundant bird life (see *E. Impact in the natural environment*). Should there be an outbreak of avian flu there will be a risk to the natural bird life, an increased risk to humans too, as well as to existing farmers, such as ostrich farms that export ostrich produce.

Many poultry diseases are carried by birds, by the wind, flies and vermin. Any airborne molecules, including dust, water, fog and so on is a potential carrier of disease. Dust particles attach to these molecules and then spread by the wind.

Poultry diseases are the following.

### **Bacterial diseases**

- Salmonella
- Haemophiles (Coryza)
- Ornitho bacterium rhinotracheitis
- Pasterella

### **Viral diseases**

- Newcastle disease
- Infectious bronchitis
- Egg Drop Syndrome
- Infectious laryngotracheitis
- Infectious Bursal Disease
- Marek's Disease
- Fowl Pox
- Avian Encephalitis

- Reo Virus
- Pneumovirus
- Chicken infectious Anaemia Virus
- Avian influenza

### **External Parasites**

- Red Mite
- Northern Fowl Mite
- Lice
- Fleas

### **Internal Parasites (Coccidiosis)**

- Worms

### **Mycoplasma**

- Mycoplasma gallisepticum
- Mycoplasma synoviae

Salmonella infection, Newcastle disease, mycoplasma infection and Avian influenza are the most common diseases.

### **Salmonella infection**

- Salmonella is prevalent in rats and other animals, birds and humans.
- Salmonella is carried by rats, wild birds, humans and contaminated feed or water.
- Salmonella bacteria can kill 10-60% of susceptible chickens.
- Chickens infected with salmonella remain carriers of the infection and hence the only means of stopping transmission thereof is to slaughter the infected flock.
- Chickens which survive salmonella can remain infected and pass on the disease to consumers.
- Two types of salmonella have been known to cause death by human consumption of infected poultry.

### **Newcastle disease**

- Newcastle disease is prevalent in wild birds and poultry. It is carried by wild birds, domesticated birds and vectors such as human flies, insects windborne dust, etc.
- Newcastle disease constitutes the most dangerous threat to poultry production in South Africa.
- The virus can cause 100% mortality and significantly reduces growth in surviving birds.
- Vaccinated birds that survived Newcastle disease frequently remain infected for weeks after recovery and constitute an uncontrollable source of infection which can result in an epidemic.
- Once infected, a poultry farmer would be required to slaughter his entire stock.

### **Mycoplasma infection**

- Mycoplasma infection is prevalent in avian species and carried most commonly by wild birds, poultry or rats, windborne and humans/vehicles as vectors.
- Mycoplasma infection is chronic erosive disease.
- Mycoplasma can only be treated by eradicating the broiler stock.
- Mycoplasma infection is transmitted vertically, so a hen can pass on the infection to her eggs and thereafter to the hatching chicks.

- Mycoplasma can only be treated by eradicating the breeding stock, and this will require months or years to eliminate its effect on breeding stock.

*Required*

1. A Disaster Management Plan is required that would include preventative measures from leakages into the environment.
2. What plans are in place for fire hazard?
3. How will the bird-life in the surrounding area be protected against possible avian flu?

\* \* \*

## G. Waste management

The dBar-CHT application is unclear about the details of manure and dead chicken management.

**Acts and regulations**

\* National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)

### 1. Manure

The dBar-CHT application states the following about manure management:

Manure is removed after every cycle (every 43 days) in terms of an agreement between the growers and Vallei Organies. They will arrive at the facility; manure will be loaded onto trucks via a conveyor belt and will be then covered before being removed from the farm. The manure will be used for fertilizer.

dBar-CHT: 27

Manure is thus kept in the houses for 6 weeks before removal. The dBar-CHT states manure will be removed by conveyor belts. Vallei Organies is based in Worcester, so the large manure trucks will add to the road load to that destination. It is unclear who the growers are.

There is no indication in the dBar-CHT of what kind of bedding will be used in the chicken houses, and whether this bedding will also be removed by Vallei Organies. El-Maghawry finds that if no proper bedding is used, greenhouse gas emissions increase by 65.71% (2024: 196).

According to Ritz and Merka (2013) 14'000 chickens produce about 150 ton manure per year. Calculated on the work of Ritz and Merka, the annual population of 8'712'000 chickens will be producing 93'342 tons of manure. Each cycle will thus produce 11'667 tons of manure, or 500 tons per house per cycle. If 20 ton trucks are used to transport this tonnage, 583 truck are required.

The previous paragraph is based on Ritz and Merka (2013) as no detailed analysis is presented in dBar-CHT. Such calculations are required to determine the implications for manure management.

*Required*

1. How were dBar-CHT's calculations made to determine manure produced?
2. Detailed calculations about tonnage manure per house and per the entire farm are required
3. Details about protection of chicken health who will live on a floor of manure for about two months at a time must be provided
4. Indicate where the conveyor belts used to move manure are installed
5. How long does it take to clean out the tonnage per house?
6. How many trucks will be needed per house per cleaning period? And the total for the farm?
7. Indicate how many manure removal trucks will be on the property per day

## 2. Dead chickens

The dBar-CHT document states the following plan to manage dead chickens:

Mortalities will be removed daily and kept in a freezer. The abattoir owned by Rainbow Chickens will collect them daily (per contractual agreement) and they are used in the rendering plant at their abattoir.  
dBar-CHT: 12

There are no freezer spaces indicated on any of the maps in the dBar-CHT. It is also not known what electricity requirements are needed for the freezers, generator use during energy outages, polluting emissions and noise pollution caused by running freezers.

*Required*

1. Where are the freezers located on the property?
2. How many dead chickens do similar farms need to manage daily?
3. What is the frequency of checking for dead chickens? Hourly? Daily? What?
4. What are the energy and pollution management plans for running freezers?
5. What are the noise levels of the freezers?

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## H. Vermin / pest control

Poultry operations can be infested by flies, mites, rats, lice, fleas, beetles, ants, chiggers and gnats (small flies).

The dBar-CHT document states that rat poison will be used inside and outside the chicken houses to control rat infestation, but does not address how all the other pests are dealt with:

The houses have rat bait stations all around and the inside of the houses are disinfected after every cycle.  
dBar-CHT: 13

Plans also need to be submitted to manage all the above-mentioned pests. Flies and gnats are already a problem in the area.

Serieys LEK, *et al* (2019) present research on how poisons affect wild life around the City of Cape Town, which most likely has fewer fauna than Tulbagh Valley. They have measured

levels in local fauna of *Anticoagulant rodenticides* (ARs) that are used worldwide to control rodent populations, and most likely to be used at the planned chicken farm.

We tested livers from all species, and blood from ten caracals, for eight AR compounds to assess prevalence and amount of exposure for each compound.

...

We detected at least one of the four most toxic AR compounds in six species. Exposure was high for caracals (92%) and all species combined (81%).

Series LEK, et al (2019: Abstract)

Given the large number of predator fauna, birds and snakes in the area, their health will certainly be affected by the chicken farm. Rat poison will also be put outside the buildings, while poisoned rats might be eaten by any of these animals, birds and reptiles.

#### *Required*

1. Where are the freezers located on the property?
2. How many dead chickens do similar farms need to manage daily?
3. What is the frequency of checking for dead chickens? Hourly? Daily? What?
4. What plans are in place to deal with all types of vermin and pests?
5. What plans are made to ensure wild life will not be affected by these poisons?

\*

\*

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## **I. Traffic impact**

A Traffic Statement was done by BEC PTY (Ltd), but no such enterprise name is listed as a registered business (Appendix A). This statement does not clarify exactly how many trucks and of what tonnage will be traveling to and from the planned chicken farm.

There is no analysis of the damage the many heavy trucks will do to the dirt access road, which is also used by other establishments. Nor is there a statement as to the maintenance and upkeep of the dirt road.

The dBar-CHT document states that the farm will have 50 silos, each with capacity of 40 ton.

2.5 silos will be provided per house; thus 50 silos will be provided in total. Each silo has a capacity of 40 ton.

dBar-CHT: 10, 25

Possibly 2000 ton of feed will need to be transported to the site per cycle. But as there is no mention of the frequency of deliveries, it is impossible to determine the tonnage and thus the impact of transporting feed.

Assuming 2000 tons of feed is required per cycle, the implications are as follows. Using 10-ton trucks will require 200 trucks to move 2000 ton of feed or manure. If 20 ton trucks are used, 100 trucks are required. If the volume is 2000 tons per cycle, 16'000 tons of manure will be transported annually. That means 1'600 10-ton trucks, or 800 20-ton trucks. Such a high number of trucks certainly does not amount to no traffic impact on the road infrastructure.

The vague number of expected traffic as stated in the Traffic Statement might give a very wrong impression if there are indeed 8 cycles of 2000 ton feed per annum. This criticism stands until proper figures are presented.

There is no incubator on the farm, so chicks will be transported to the farm. Nothing is mentioned in dBar-CHT about how many trucks are expected to deliver new chicks.

Unitrans South Africa specializes in chicken transport. They state:

Heat load from 35 000 to 45 000 chicks in transit can be controlled with powerful air refrigeration units and recycled air, but not in very large loads.

Unitrans: Page not numbered.

If an air-conditioned trucks can take loads of 35'000 to 45'000 chicks, to supply the 1'089'000 chickens for each cycle (dBar-CHT: 10), 45 large trucks are required every 8 weeks. To transport adult chickens many more trucks are required. For the 8 cycles 8'712'000 chickens are required per annum, requiring 360 large trucks.

Daily traffic:

- Rainbow Chickens truck transporting dead chickens
- Workers traveling to and from the farm

Other traffic:

- Trucks removing 2000 ton manure
- Trucks removing dead chickens
- Trucks supplying chicks
- Trucks supplying feed
- Trucks supplying chemicals

Based on Ritz and Merka (2013) 11'667 tons of manure will be produced during every cycle. If 20 ton trucks are used, 583 trucks will be required after each cycle to remove manure (see E. Waste management).

We require much more clarity on how the applicant calculated the tonnage of manure production. The above numbers are speculative deductions as the Traffic Statement of dBar-CHT is totally inadequate. If these numbers are even remotely correct, traffic will increase by much more than 1000 units, which contrary to the conclusion of the Traffic Statement will certainly have an impact on the road infra-structure, and especially the dust road bit from the tarred road to the farm.

A much more detailed analysis of traffic by an expert traffic engineer is required. Such an analysis must include the minimum truck tonnage required and frequencies of trips.

There is no plan included in dBar-CHT regarding the upkeep and maintenance of the access dust road that services several properties. The Municipality will not be able to do that as they presently cannot even maintain the roads in Tulbagh Village.

*Required*

1. A plan must be submitted for the maintenance and upkeep of the dirt access road, and who will take responsibility for this.
2. A detailed analysis of truck loads, the number of trucks and the frequency must be submitted as per the table below.



<i>Required</i>			
<b>Purpose</b>	<b>Load/Tonnage</b>	<b>Number of trucks</b>	<b>Frequency</b>
Chick supply			
Removal of dead chickens			
Feed supply			
Chemical supplies			
Manure removal			

\* \* \*

## J. Impact on Tourism

The Witzenberg Municipality's LED, SDF and IDP recognize that the major sectors contributing to the local economic are agriculture and tourism. Many farms are involved in both sectors.

Tourists visit Tulbagh Valley for its natural resources, wine and fruit, as well as heritage. On guest farms visitors wish to experience the quiet natural environment and its beauty. That sense of place will be destroyed by the pollution and noise created by the chicken farm.

Tourism activities in the immediate neighbourhood of the proposed dBar-CHT are:

	Direct distance
Bikeforge	1.0 km
Eikelaan Farm Cottages	1.3 km
Fraaigelegen Farm	2.7km
Fynbos Guest Farm	5.0 km
Guinevere Guest Farm	5.7 km
La Bruyee Farm	0.7 km
Landliebe Farm Cottages	2.0 km
Mountain Haven	4.7 km
Nibbana Farm	5.9 km
Noah Farm Campsite	5.6 km
Rustic Venues	5.2 km
Schalkenbosch Wine Estate and Accommodation	2.4 km
Steenbok Farm Cottages	2.4 km
Tulbagh Mountain Cabin	5.2 km
Waterval Country Lodge	7.0 km
Witzenberg Guest Farm	4.7 km
Zia Cottage	5.4 km
<b>Other</b>	
Horse about	1.0 km
Tulbagh Village	6.0 km
Wolseley	6.7 km

Air pollution such as noise, foul odour and air-borne ailments and disease will negatively impact on these establishments.

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## K. Modern farming practice

Section IV of the Witzenberg IDP (Agriculture in the Witzenberg Area) includes the following plans for a sustainable future of the area:

- Enable the diversification of farmer income through enabling complimentary uses on farms in a manner which does not detract from the functionality and integrity of farming areas and landscapes.
  - Develop incentives for smarter/green agricultural practices and technologies.
  - Support alternative farming models such as the possibility of transforming unused and uncontaminated industrial land into community gardens.
  - Support private initiatives to provide in the housing needs of agri-workers and the provision and management of associated social services.
- IDP: 61

The proposed chicken farm is a single product farm with no diversification. There is nothing in the proposal about smarter or greener practices. No alternative farming model is considered. There is no indication of how housing of workers will be addressed. The proposed chicken farm does not comply with the Witzenberg IDP's goals.

The planned chicken farm thus does not contribute to a sustainable future of the valley.

There is no statement by an agricultural expert in the PCE document set. The only statement included is signed by Andre Schulenberg, the owner who wants to establish the chicken houses (Appendix G: Specialist Report(s) Appendix G.1: Agricultural Statement).

### *Required*

1. A better explanation than in dBar-CHT is required on how the planned farm will not detract from the functionality and integrity of farming areas and landscapes.
2. A plan is required on which green technologies will be implemented
3. A plan is required on how the unused areas on the farm will be regenerated to reinstate the historical vegetation, or to conserve the endangered plants in Tulbagh Valley
4. A plan needs to be submitted on how housing for employees will be addressed.

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## L. References

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## Appendix A.

The Government Biz Portal lists the following registered business containing *BEC*. There is no registered enterprise consisting only of the letters *BEC*.

Enterprise Name	Enterprise / Tracking Number	Status	View
ALPHAWAY BEC	9286183697	RESERVED	
BEC COACHING	9222283496	RESERVED	
BEC CONCEPTS	9230858350	RESERVED	
BEC LUXURY	9388177624	RESERVED	
BEC MACHI TRANSPORT	9401220181	RESERVED	
BEC METALS	9170833664	RESERVED	
BEC PANEL AND PAINTS	9400860068	RESERVED	
BEC PETROLEUM	9209611013	RESERVED	
BEC PLUMBING AND PROPERTY SERVICES	9399520871	RESERVED	
BEC SPECIALISTS	9374929523	RESERVED	
BEC TRAINING CONSULTANTS	9115091835	RESERVED	
BEC WORKS	9368116713	RESERVED	
BEC WORLD WIDE	9398332505	RESERVED	
CEDAR PROJECTS TRADING AS BEC CONTRACTORS	9230754088	RESERVED	
MAUDA BEC	9346746233	RESERVED	
WGT - BEC	9381904060	RESERVED	
ABBOTT BEC	2016/491928/07	REGISTERED	
ALPHAWAY BEC	2020/609497/07	REGISTERED	
ALPHEN BEC	2015/262649/07	REGISTERED	
BEC CONSTRUCTION	2016/309854/07	REGISTERED	
BEC ALUMINUM GLASS AND STEEL	2021/498047/07	REGISTERED	
BEC AVIATION	2017/007704/07	REGISTERED	
BEC BELEGGINGS	1990/025453/23	REGISTERED	
BEC BOUKONTRISIES	2017/065033/07	REGISTERED	
BEC COACHING	2020/026360/07	REGISTERED	
BEC COMMUNICATIONS	2002/050275/23	REGISTERED	

BEC CONSULTING	2010/171104/23	REGISTERED	
BEC CONTRACTORS	2012/001392/07	REGISTERED	
BEC ENGINEERING AND CONSTRUCTION	2016/365715/07	REGISTERED	
BEC ENTERPRISES	2018/623329/07	REGISTERED	
BEC EVENT MANAGEMENT ENTERPRISES	2008/202190/23	REGISTERED	
BEC FINANCE	2003/019423/07	REGISTERED	
BEC FINANCIAL SERVICES	2002/019164/07	REGISTERED	
BEC HOLDINGS	2001/015117/07	REGISTERED	
BEC INTERNATIONAL TRADE	2022/860828/07	REGISTERED	
BEC INVESTMENTS	2016/385737/07	REGISTERED	
BEC LUXURY	2023/807891/07	REGISTERED	
BEC MACHI DENTAL LABORATORY	2023/625892/07	REGISTERED	
BEC MACHI TRANSPORT	2024/029544/07	REGISTERED	
BEC MAIL AND STATIONERY	2005/052633/23	REGISTERED	
BEC MANAGEMENT SOLUTIONS	2001/029431/07	REGISTERED	
BEC MEDICAL	2006/125485/23	REGISTERED	
BEC METALS	2019/150784/07	REGISTERED	
BEC PANEL AND PAINTS	2024/014823/07	REGISTERED	
BEC PETROLEUM	2019/548967/07	REGISTERED	
BEC PLUMBING AND PROPERTY SERVICES	2012/182177/07	REGISTERED	
BEC PROJECTS	1999/062256/23	REGISTERED	
BEC PROPERTIES	1989/036825/23	REGISTERED	
BEC PROPERTIES (CAPE TOWN)	1998/031933/23	REGISTERED	
BEC SAFETY INDUSTRIES	1999/052075/23	REGISTERED	
BEC SALES	2015/167549/07	REGISTERED	
BEC SALES	2004/028477/23	REGISTERED	
BEC SALES	1953/001109/07	REGISTERED	
BEC SPECIALISTS	2022/777433/07	REGISTERED	
BEC SUPPLIERS AND GENERAL TRADING	2007/202958/23	REGISTERED	
BEC TECHNOLOGY	2013/216374/07	REGISTERED	

BEC THABO TRAINING INSTITUTE	2020/046834/07	REGISTERED	
BEC TRADING	2017/500624/07	REGISTERED	
BEC TRAINING CONSULTANTS	2018/263698/07	REGISTERED	
BEC WORKS	2022/647323/07	REGISTERED	
BEC WORLD WIDE	2023/218982/07	REGISTERED	
BEC-NEL BELEGGINGS	1999/063894/23	REGISTERED	
BEC-PHIL ENTERPRISES	1998/031808/23	REGISTERED	
BERACAH EDUCATIONAL CORPORATION (BEC)	1997/035236/23	REGISTERED	
CEDAR PROJECTS TRADING AS BEC CONTRACTORS	2020/116123/07	REGISTERED	
HAR BEC PACKAGING	2008/042400/23	REGISTERED	
IKAMVA BEC	2020/677923/07	REGISTERED	
INGQALABUTHO BEC	2016/204360/07	REGISTERED	
KDM BEC	2020/781767/07	REGISTERED	
LOX-BEC RAMMER HIRE	2007/234985/23	REGISTERED	
MAGALELA BEC	2016/013640/07	REGISTERED	
MAUDA BEC	2021/643524/07	REGISTERED	
MCKEOWN-BEC GROUP	2003/026601/07	REGISTERED	
MUN BEC CONSTRUCTION AND MAINTENANCE	2013/120378/07	REGISTERED	
SENATLA TRADING ENTERPRISE BEC	2018/328680/07	REGISTERED	
TWIN-BEC	2022/821967/07	REGISTERED	
XINHUA BEC EDGE CUTTING DRILLS ENTERPRISES	2022/602964/07	REGISTERED	