HERMANUS

PORTION 14 OF FARM 587, HEMEL EN AARDE, CALEDON FARMS

CELLULAR MAST

VISUAL ASSESSMENT

For consideration in the Basic Assessment

For

EnviroAfrica

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Final Report

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Relevant Qualifications & Experience of the Author

Ms Sarien Lategan holds an Honours Degree in Geography as well as a Masters Degree in Town and Regional Planning from the University of Stellenbosch. She has 7 years experience as Town planner at a local government, 3 years with South African National Parks as planner and project manager of various GEF and World Bank managed, tourist facilities in the Table Mountain National Park and since 2004 as private practitioner involved in inter alia Site Analysis and Visual Impact assessments for various types of developments ranging from housing, tourism to infrastructure developments.

Ms Lategan is registered as a professional Town and Regional Planner as well as Environmental Assessment Practitioner.

Declaration of Independence

I, Sarah C. Lategan, declare that I am an independent consultant to EnviroAfrica and, has no business, financial, personal or other interest in the proposed project or application in respect of which I was appointed, other than fair remuneration for work performed in connection with the application. There are furthermore no circumstances which compromise my objectivity in executing the task appointed for.

SC Lategan
28-05-2019

EXECUTIVE SUMMARY

Sarien Lategan was appointed to undertake the visual impact assessment of a 30m tree mast, to accommodate cell antennae, on prt 14 of Farm 587, Hemel en Aarde, Caledon Farms, Hermanus, as input to the Basic Assessment in terms of the National Environmental Management Act, 1998 (Act no. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2017, undertaken by EnviroAfrica. The site is situated on a property which accommodates the Ertjiesvlei hall which used for church and community purposes.

The aim of the assessment is to identify view receptors and assess the impact of the development on these receptors as well as the impact on the sense of place of the environment.

The site is located in the Hemel en Aarde Valley between Hermanus and Caledon. The land use of the area is predominantly wine and fruit farms which can be characterized as a production landscape.

The landscape includes various hills and hidden secondary valleys which provides a high level of visual absorption. Numerous plantation trees are present in dense stands or as windbreaks, such as Blue Gum and pine. These provide effective screening of individual sites and thus increase the absorption level of the landscape.

The overall visual impact is, due to the specific setting of the site in a secluded 'hollow', screened by large trees, rated moderate to low and no mitigation measures are required.

1 BACKGROUND

Sarien Lategan was appointed to undertake the visual impact assessment of a 30m tree mast, to accommodate cell antennae, on prt 14 of Farm 587, Hemel en Aarde, Caledon Farms, Hermanus, as input to the Basic Assessment in terms of the National Environmental Management Act, 1998 (Act no. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2017, undertaken by EnviroAfrica. The site is situated the property of the Ertjiesvlei church hall.

Figure 1: Locality

2 TERMS OF REFERENCE

The applicant intends to construct a 30m high tree mast to accommodate cell antennae, on prt 14 of Farm 587, Hemel en Aarde, Caledon Farms, Hermanus.

The objective of the Visual Impact assessment is to determine the significance of any visual impact which may result from the construction of the proposed cellular mast. This assessment will indicate whether from a visual perspective the development constitute an acceptable level of change and if so what potential mitigation measures can reduce any visual impact.

To determine the potential extent of the VIA required, the following broad criteria are considered.

Table 1: Requirements for visual assessment

Areas with protection status, e.g. nature reserves	Babilonstoring(more than 3km), Fernkloof (more than 2km).
Areas with proclaimed heritage sites or scenic routes	R320 linking Caledon with the coast (Hermanus)
Areas with intact wilderness qualities, or pristine ecosystems	Mosaic of agriculture and natural landscapes. Closest intact areas are the mountainous ridges
Areas with intact or outstanding rural or townscape qualities	The valley landscape
Areas with a recognized special character or sense of place	Potentially
Areas with sites of cultural or religious significance	The church hall serves a small community but is primarily used as weddings and not as such of cultural or religious significance
Areas of important tourism or recreation value	R320 as tourist route. Wines farms, guesthouses and restaurants in the area
Areas with important vistas or scenic corridors	Potentially.
Areas with visually prominent ridgelines or skylines.	Mountain ridges forming the valley

Table 2: Nature of intended development

High-intensity type projects including large-scale infrastructure	Medium to small scale
A change in land use from the prevailing use	Yes.
A use that is in conflict with an adopted plan or vision for the area	None known
A significant change to the fabric and character of the area	Potentially
A significant change to the townscape or streetscape	Potentially
Possible visual intrusion in the landscape	Potentially
Obstruction of views of others in the area	Potentially

From the above, it is clear that the receiving environment holds certain visual elements which may be impacted upon by development of the site.

It is thus clear that the potential exists that the construction of the cell mast may have a visual impact. In order to assist authorities thus to make an informed decision, the input of a specialist is required to assist in the project design and assess the visual impact of the preferred project proposal.

The term visual and aesthetic is defined to cover the broad range of visual, scenic, cultural, and spiritual aspects of the landscape. The terms of reference for the specialist are to:

- Provide the visual context of the site with regard to the broader landscape context and site-specific characteristics.
- Provide input in compiling layout/design alternatives.
- To describe the affected environment and set the visual baseline for assessment
- Identify the legal, policy and planning context
- Identifying visual receptors
- Predicting and assessing impacts
- Recommending management and monitoring actions

3 Methodology and principles

3.1 Methodology

Table 4: Summary of methodology

Task undertook	Purpose	Resources used
A screening of the site and environment	To obtain an understanding of the site and area characteristics and potential visual elements	Photographs Site visits
Identify visual receptors	To assess the visual impact from specific viewpoints	Photographs, profiles
Contextualize the site within the visual resources	To present an easy to understand context of the site within the visual resource baseline	Specialist: S Lategan Graphic presentation Superimposed photo's
Propose possible mitigation measures	To present practical guidelines to reduce any potential negative impacts.	Specialist: S. Lategan

Throughout the evaluation the following fundamental criteria applied:

- Awareness that "visual' implies the full range of visual, aesthetic, cultural and spiritual aspects of the environment that contribute to the area's sense of place.
- Consideration of both the natural and cultural (urban) landscape, and their inter-connectivity.
- The identification of all scenic resources, protected areas and sites of special interest, as well as their relative importance in the region.
- Understanding of the landscape processes, including geological, vegetation and settlements patterns which give the landscape its particular character or scenic attributes.
- The inclusion of both quantitative criteria, such as visibility and qualitative criteria, such as aesthetic value or sense of place.
- The incorporation of visual input as an integral part of the project planning and design process, so that the findings and recommended mitigation measures can inform the final design and quality of the project.
- To test the value of visual/aesthetic resources through public involvement.

3.1.1 Principles

The following principles to apply throughout the project:

- The need to maintain the integrity of the landscape within a changing land use process
- To preserve the special character or 'sense of place' of the area
- To minimize visual intrusion or obstruction of views
- To recognize the regional or local idiom of the landscape.

3.1.2 Fatal flaw statement

A potentially fatal flaw is defined as an impact that could have a "no-go" implication for the project. A "no-go" situation could arise if the proposed project were to lead to (Oberholzer, 2005):

1. Non-compliance with Acts, Ordinance, By-laws and adopted policies relating to visual pollution, scenic routes, special areas or proclaimed heritage sites.
2. Non-compliance with conditions of existing Records of Decision.
3. Impacts that may be evaluated to be of high significance and that are considered by the majority of stakeholders and decision-makers to be unacceptable.

The screening of the site and initial project intentions did not reveal any of the above issues which may result in a fatal flaw.

3.1.3 Gaps, limitations and assumptions

The assessment is based on the information provided by the developer.

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3.1.4 Assessment explained

The assessment of visual impact is done on two levels namely the absorption rate of the receiving environment and the individual view receptors. The absorption rate of the receiving environment is determined by various elements e.g. topography, land use etc. and the assessment will focus on the acceptable level of change of the area.

Visual receptors are assessed individually based on the sensitivity of the receptor, exposure to the development and intrusion rate.

The following framework is used in order to assess view receptors:

Criteria	High	Moderate	Low
Exposure	Dominant, clearly visible	Recognizable to the viewer	Not particularly noticeable to the viewer
Sensitivity	Residential, nature reserves, scenic routes	Sporting, recreational, places of work	Industrial, mining, degraded areas
Intrusion/Obstructive	A noticeable change, discordant with surroundings	Partially fits but clearly visible	Minimal change or blends with surroundings

A sensitive receptor with low exposure and/or low intrusion rate can be regarded as a low significance rating. A receptor of low sensitivity but with high exposure can be of high significance if the intrusion rate is also high but is reduced if the intrusion rate is medium or low.

The overall significance, therefore, depends not only on the sensitivity of the receptor but also on the exposure and intrusion rate and thus a combination of the criteria.

3.2 Legal Framework, Guidelines and policies

3.2.1 National Environmental Management Act, 107, 1998 and relevant Guidelines

An assessment in terms of any activity that requires an EIA or Basic Assessment may be subjected to a specialist visual assessment in order to determine the significance of the potential impacts to result from a proposed activity.

3.2.2 Western Cape PSDF

No specific references on this scale of development

3.2.3 Overstrand Spatial Development Framework, 2015

R320 between Hermanus (Sandbaai) and Caledon is proposed as a scenic route

4 Development Proposal

The mast and supporting infrastructure will be positioned on behind the buildings in the far end corner of the property.

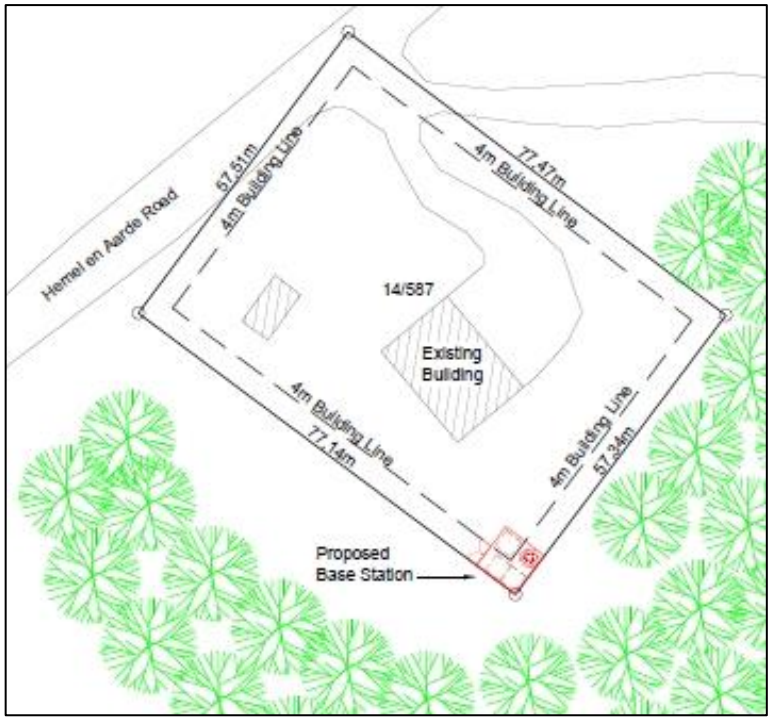

Figure 2: Position of mast on site

The mast consists of a 30m high tree mast. The mast will accommodate the necessary navigation lights. The site consists of an 8m x 8m area to be enclosed with a clearvue fence.

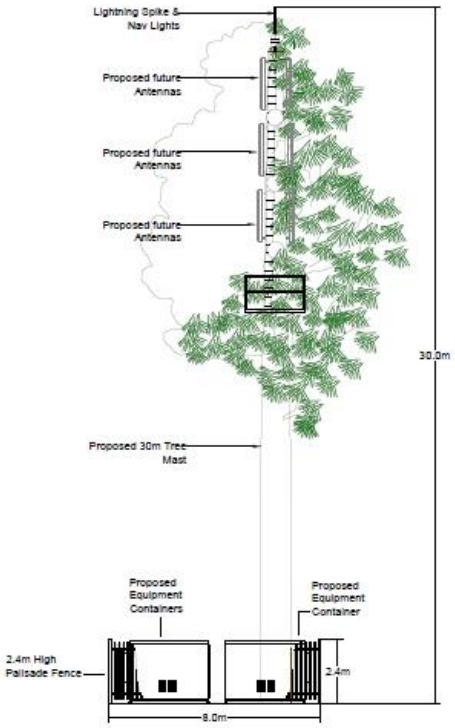

Figure 3: Mast side view

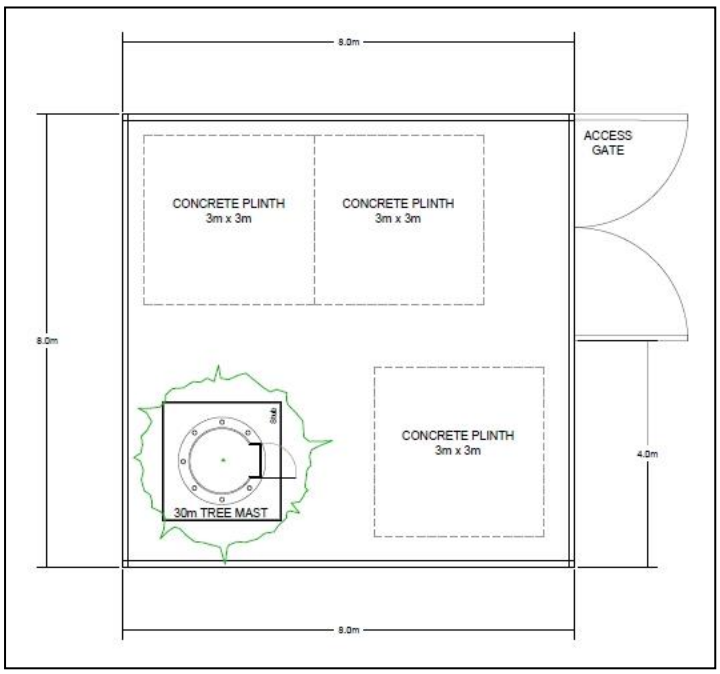

Figure 4: Site components

4.1.1 Operational elements

Only occasional maintenance is required. The site is serviced with a light delivery vehicle and potentially climbers to access equipment on the mast.

4.2 Construction elements

For the construction of the mast, typically LDV or small trucks and cranes may be required. Construction process entails:

- clearing and levelling of the site,
- construction of mast
- fitting of antenna and equipment
- Fencing and security infrastructure
- Construction of support facilities such as a container, etc.

5 RECEIVING VISUAL ENVIRONMENT

5.1 Description

Understanding the potential impact of a proposed development, an understanding of the receiving environment is important. In this regard, the main elements of the receiving environment relate to the character of the current surrounding land use and the absorption capacity of the area. The character of the area entails the sense of place created by the current land use and the scale and type of infrastructure or physical elements within the immediate area. The absorption capacity relates to the density of physical elements and topographical variations of the landscape, which will determine the catchment area. The human eye will observe the horizon on a perfectly flat surface at a distance of 30km. This is however significantly reduced by landscape elements which obstruct the view or increased if the viewer is elevated above the site.

5.1.1 Catchment area

The site is situated in the Hemel en Aarde Valley which accommodates intensive wine and fruit farms with thus the landscape hosting a range of vineyards, orchards, plantations and windbreaks with farmsteads and rural accommodation estates.

The landscape includes various hills and hidden secondary valleys which provides a high level of visual absorption. Numerous plantation trees are present in dense stands or as

windbreaks, such as Blue Gum and pine. These provide effective screening of individual sites and thus increase the absorption level of the landscape

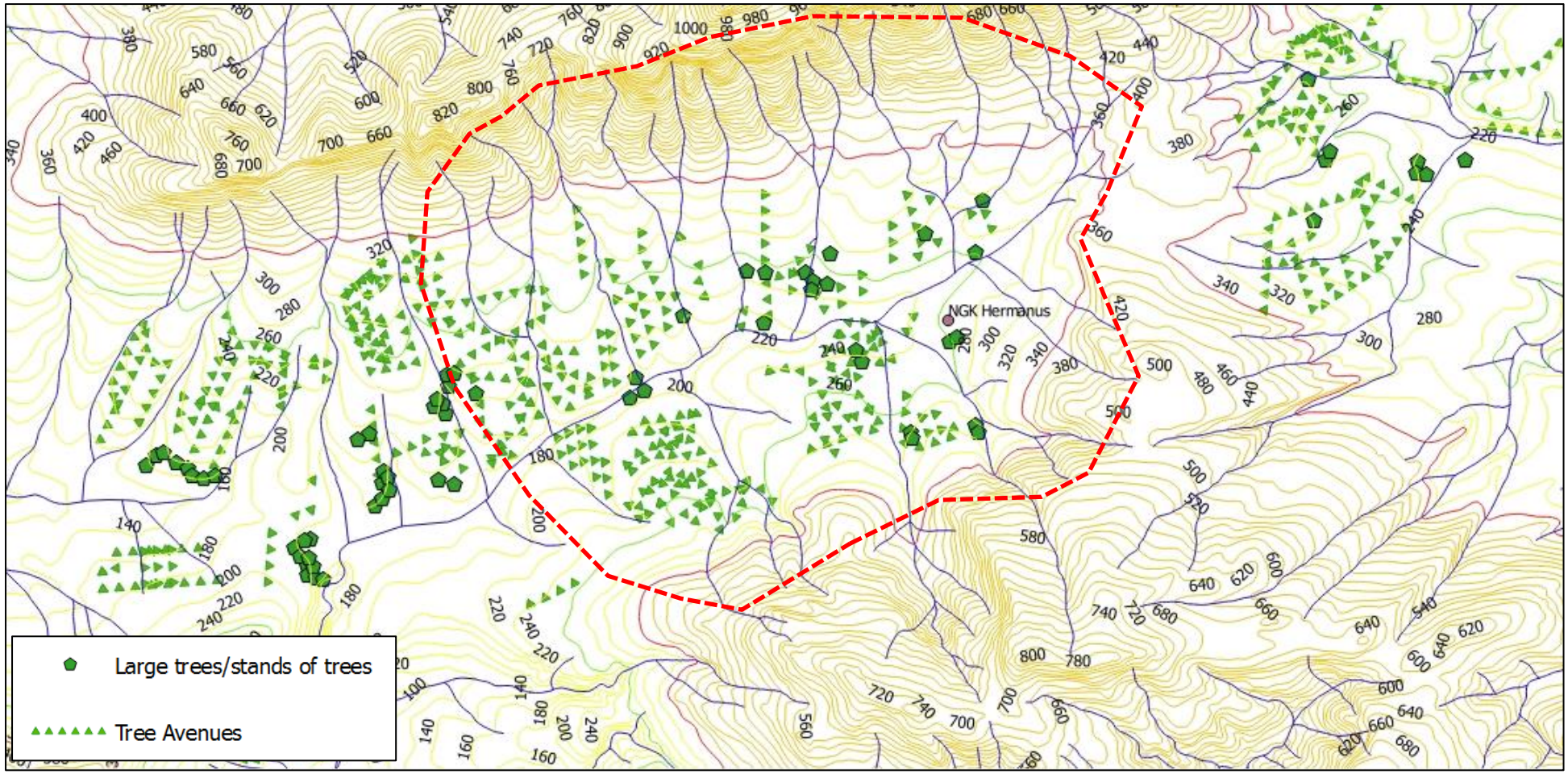

Figure 5: Potential Viewshed

5.1.2 Sense of Place:

The site is situation in the Hemel en Aarde valley. The valley consists of a number of side valleys branching out from the main valley with hills and spurs which creates a number of secluded and hidden areas. The presence of large tree avenues (windbreaks) and stands of plantation trees creates secluded pockets. The cultivated areas contains predominantly of vineyards and orchards with related infrastructure. The landscape can thus be characterized as a production landscape with natural areas on the higher slopes of the valley sides.

Figure 6: Production landscape

6 VISUAL RECEPTORS

Visual receptors are those positions from where the development site is potentially visible. Based on the character of the locality of the receptor its sensitivity can be rated. Generally, residential areas and tourism-related destinations and routes are sensitive to visual intrusions as they relate to the well-being of residents and the tourism quality of the area.

6.1 Potential Receptors

The following potential visual receptors have been identified:

- A – R320 approach from Caledon
- B – R 321 approach from Hermanus
- C –Spookfontein cottages and restaurant
- D – Opposite valley side
- E – Site entrance

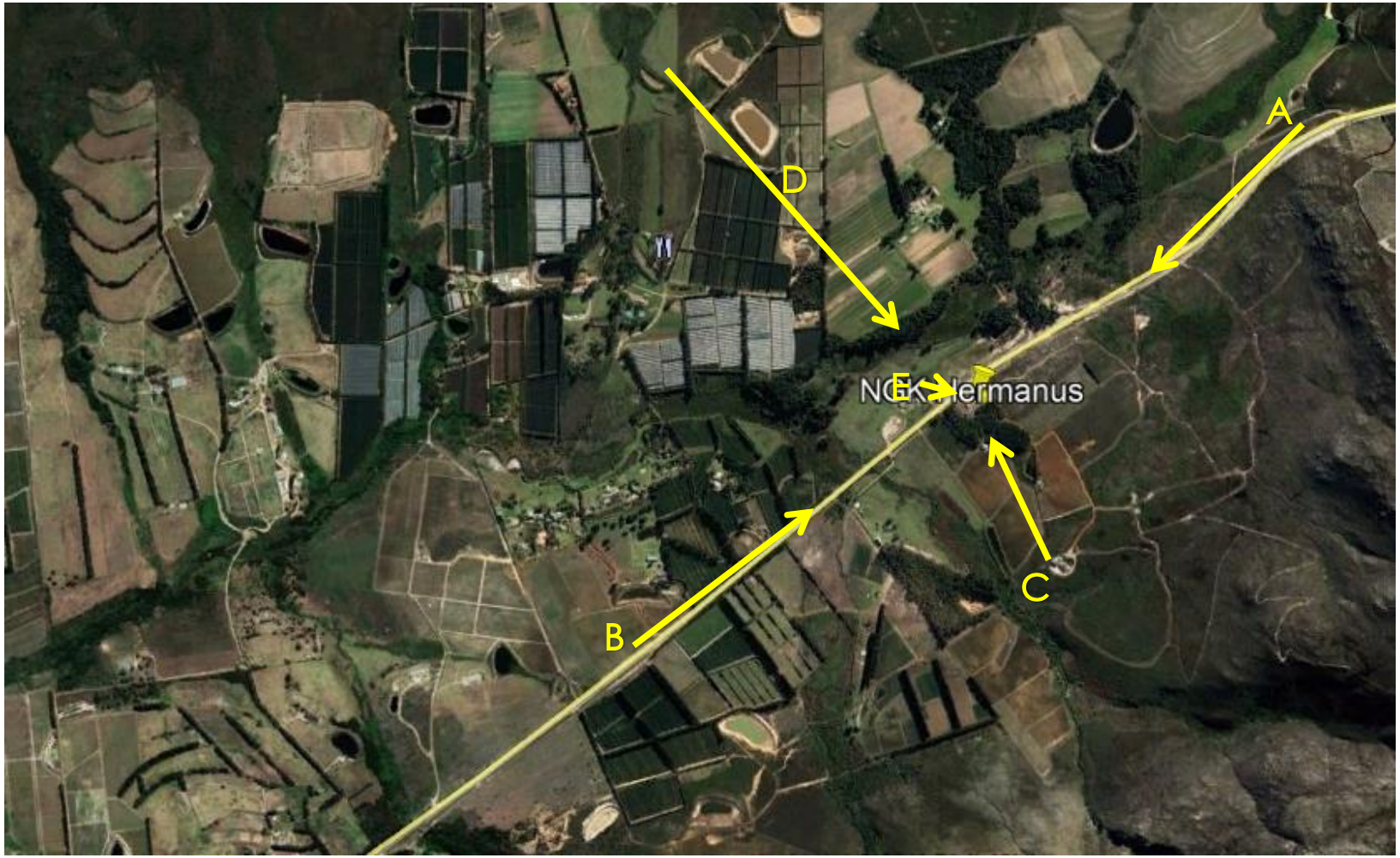

Figure 7: Potential Receptors

6.2 Assessment of Receptors

6.2.1 R320 Caledon Approach

Approaching the site on the R320 from Caledon, the site only comes into view when the ridge.

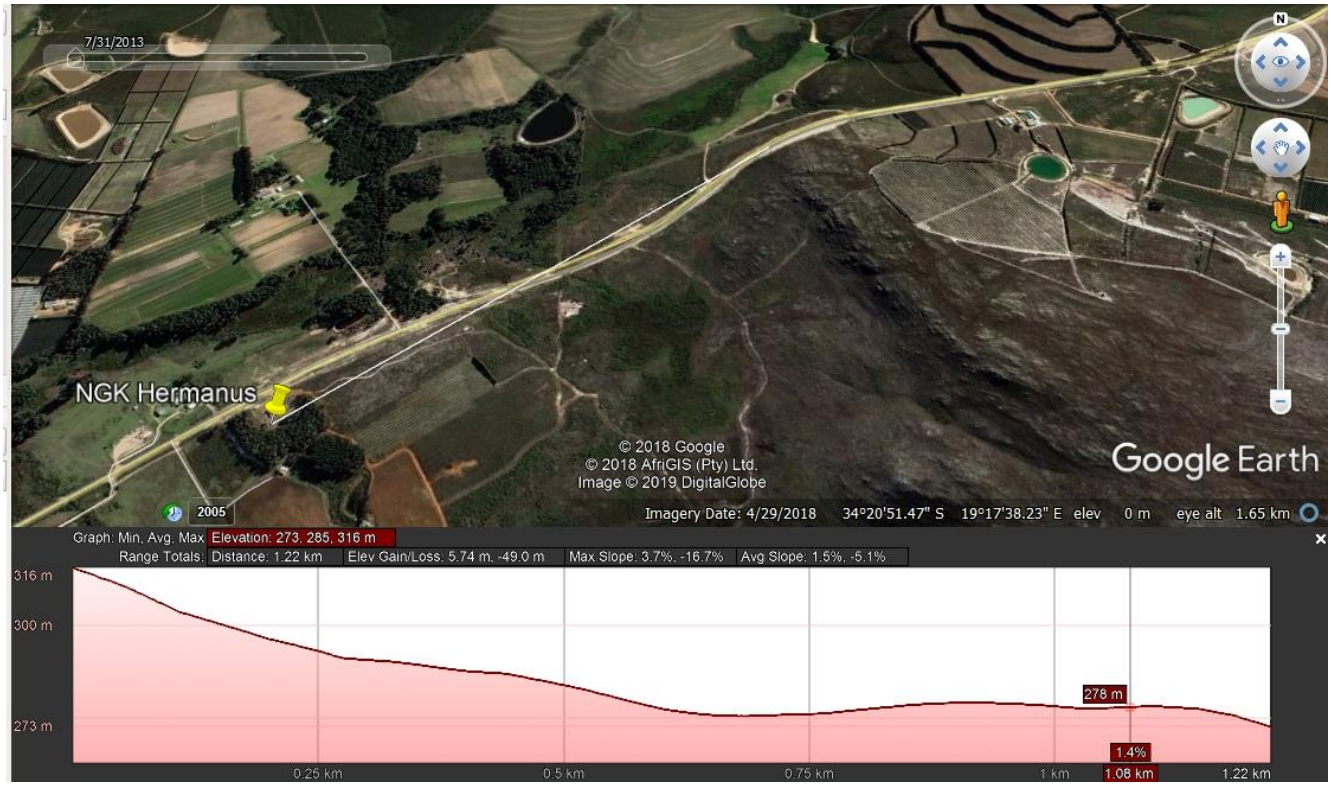

Figure 8: R320 Caledon Approach

The tree mast will be against a backdrop of stand of Blue gum and pine trees of approximately 20m in height. Although the mast is higher than the trees, the trees in the background also increase the tree backdrop and therefor the visual impact from this viewpoint is anticipated to be minimal.

Photo 1: R320 approach from Caledon

Table 3: R320 Caledon approach assessment

Criteria	High	Moderate	Low
Exposure	dominant, clearly visible	recognizable to the viewer	not particularly noticeable to the viewer
Sensitivity	residential, nature reserves, scenic routes	sporting, recreational, places of work, national road	industrial, mining, degraded areas
Intrusion/Obstructive	noticeable change, discordant with surroundings	Partially fits but clearly visible	minimal change or blends with surroundings
Duration			short

The overall visual significance is low. .No mitigation is required.

6.2.2 R320 Hermanus approach

When approaching the site from Hermanus, the site only come into view when crossing a rise approximatly 1.25km from the site.

Figure 9: Viewline from R320, Hermanus approach

When crossing the rise looking towards the site, the stand of trees is in the distance. At this point the site is still too far to distinguish the mast behind the trees. Only at night the navigation lights will be visible above the tree line. Only when the observer reaches the bottom of the side valley, the site is close enough to distinguish the mast but due to the tree type, it will not be obtrusive and most travellers may not even notice the mast.

The on-site trees consist of blue gum and pines trees of approximately 12 to 20 m in height.

Photo 2: R320 Hermanus approach

Photo 3: R320 Hermanus approach

Table 4: Assessment from R320, Hermanus approach

Criteria	High	Moderate	Low
Exposure	dominant, clearly visible	recognizable to the viewer	not particularly noticeable to the viewer
Sensitivity	residential, nature reserves, scenic routes	sporting, recreational, places of work, national road	industrial, mining, degraded areas
Intrusion/Obstructive	noticeable change, discordant with surroundings	Partially fits but clearly visible	minimal change or blends with surroundings
Duration			short

The visual impact is moderate due to the sensitivity of the R320 as a scenic drive and the on-site venue. The use of a tree type which is in context with the landscape elements reduces the intrusion level and therefor this view is acceptable.

6.2.3 Spookfontein cottages and restaurant

The adjacent property host tourist accommodation and a restaurant. The restaurant is located high above the valley with views of the valley. The site is directly below the restaurant. From the front porch, the stand of trees surrounding the site (Ertjiesvlei venue) screens the site as such that the buildings are not even visible. The mast will protrude above the trees but due to the tree design, it will not be obtrusive. The navigation lights will be visible at night.

The accommodation cottages are direct behind the stand of trees and thus the mast will not be visible from the cottages due to the proximity to the trees which screen the site.

Photo 4: Spookfontein restaurant view

Table 5: Spookfontein assessment

Criteria	High	Moderate	Low
Exposure	dominant, clearly visible	recognizable to the viewer	not particularly noticeable to the viewer
Sensitivity	residential, nature reserves, scenic routes	sporting, recreational, places of work, national road	industrial, mining, degraded areas
Intrusion/Obstructive	noticeable change, discordant with surroundings	Partially fits but clearly visible	minimal change or blends with surroundings
Duration			short

The visual significance is rated as moderate. The tree design is in context with the landscape elements and thus the intrusion level is moderate to low and thus within acceptable levels as it would not detract from the quality of experience of Spookfontein patrons.

6.2.4 Opposite valley side

The opposite slope of the valley directly across from the site accommodates agricultural land and homesteads. Due to the topography, the "Werf" area fronts down the valley

and not in the direction of the site. The Babilonstoring Forest reserve is located on the opposite ridge toward the leeward side and no facilities in this reserve will be impacted by the mast.

Landscape elements also screen the various houses and homesteads to such and extent that they do not have a view of the site.

The visual impact is thus low to insignificant.

Table 6: Assessment from opposite valley slope

Criteria	High	Moderate	Low
Exposure	dominant, clearly visible	recognizable to the viewer	not particularly noticeable to the viewer
Sensitivity	residential, nature reserves, scenic routes	sporting, recreational, places of work, national road	industrial, mining, degraded areas
Intrusion/Obstructive	noticeable change, discordant with surroundings	Partially fits but clearly visible	minimal change or blends with surroundings
Duration	Constant		short

6.2.5 Site and Spookfontein Entrance

At the turn off the R320 the Ertjiessvlei hall is directly in front of the observer. The Spookfontein entrance fork off to the left and the visitor is directed away from the hall and the cell site. The mast would thus be in the observer's peripheral view when entering towards Spookfontein.

Photo 5: Entrance view

7 CUMULATIVE IMPACT

The Department of Environment and Tourism issued a guideline document in terms of which cumulative impacts should be assessed.[1] This guideline document identifies types and characteristics of different cumulative effects as summarized in the table below.

Table 7: Types and characteristics of cumulative effects

TYPE	CHARACTERISTIC	IDENTIFY POTENTIAL IMPACT
Time Crowding	Frequent and repetitive effects.	Activity remains at same pace, frequency and intensity over time. No time crowding impacts.
Time Lags	Delayed effects.	No time lag impacts.
Space Crowding	High spatial density of effects.	No other masts observed within close proximity.
Cross-boundary	Effects occur away from the source.	No impact
Fragmentation	Change in landscape pattern.	No impact.
Compounding Effects	Effects arising from multiple sources or pathways.	No compounding impacts.
Indirect Effects	Secondary effects.	No impact
Triggers and Thresholds	Fundamental changes in system functioning and structure.	No fundamental changes to urban or ecological systems or structures

The cumulative impact of this cell mast within the existing landscape, is low.

8 CONSTRUCTION

During construction, various types of vehicles and equipment will be transported to the site and work on the site. This will impact on the general experience of viewers. This impact is however temporary and not uncommon during construction of infrastructure. Communities have fairly high tolerance levels for such activities if it contributes to the infrastructure of the area.

Rating: Low

[1] DEAT (2004) Cumulative Effects Assessment, Integrated Environmental Management, Information Series 7, Department of Environmental Affairs and Tourism (DEAT), Pretoria

9 FINDINGS

The proposed cellular mast appears to have an overall moderate to low visual impact, due to the topography and landscape elements as well as the fact that the tree design is in context with the landscape elements. The development is thus within acceptable levels of change and will not detract from the visual value of the area.

10 MITIGATION MEASURES

The tree design is within the landscape context and no further mitigation measures are required.