

APPENDIX 15

VISUAL IMPACT ASSESSMENT REPORT

CAPE WINELANDS AIRPORT DEVELOPMENT

Visual Impact Assessment

Fisantekraal Airfield, Joostenberg
Vlakte

October 2024

Revision 2

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VISUAL IMPACT ASSESSMENT
For the
PROPOSED CAPE WINELANDS AIRPORT DEVELOPMENT
FISANTEKRAAL AIRFIELD, JOOSTENBERG VLAKTE

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1. EIA Regulations Appendix 6 Checklist

The following specialist report has been prepared in terms of Item 1 of the Environmental Impact Assessment Regulations, 2014 (Appendix 6: Specialist Reports) under the National Environmental Management Act, 1998 (Act No. 107 of 1998).

Item	Description	Checklist & location in report
(a) (i) (ii)	details of— (i) the specialist who prepared the report; and (ii) the expertise of that specialist to compile a specialist report including a curriculum vitae;	(Chapter 11) Annexure A: Curriculum Vitae and Experience of the visual specialist.
(b)	a declaration that the specialist is independent in a form as may be specified by the competent authority;	Declaration and Statement of Independence (Page 8).
(c)	an indication of the scope of, and the purpose for which, the report was prepared;	(Chapter 2) Introduction (2.1. Need for Visual Impact Assessment; 2.2. Background, Purpose and Classification of this report; 2.3. Scope of Work, Approach and Methodology).
(cA)	an indication of the quality and age of base data used for the specialist report;	(Chapter 2) Introduction (2.7. Information available and referenced in this report). <ul style="list-style-type: none"> • All plans, plan excerpts and documents are referenced in image captions, and in-text where appropriate.
(cA)	a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	(Chapter 3) Site and Receiving Environment Study (3.1. The Subject site; 3.2. The project within the local planning context; 3.3.2 Current and future development in the Receiving Environment; 3.3.1 Description of the Receiving Environment; 3.4.2 Landscape Quality & Integrity; 3.4.4 Visual Absorption Capacity). (Chapter 5) Visual Analysis (5.5. Visual Analysis: 5.5.2 Landscape Character & Visual Resource Sensitivity). (Chapter 6) Visual Impact Assessment (6.2. Cumulative Impacts).
(d)	the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	(Chapter 3) Site and Receiving Environment study (including Footnote 10, page 18). (Chapter 5) Visual Analysis (5.3. Line of sight testing and visibility)
(e)	a description of the methodology adopted in preparing the report or carrying out the specialized process inclusive of equipment and modelling used;	(Chapter 2) Introduction (2.3. Scope of Work, Approach and Methodology) and (2.8. Assumptions and Limitations) (Chapter 5) Visual analysis (5.1. Preliminary visibility modelling, views affected and LoS testing, description of equipment on page 78) (Chapter 6) Visual Impact Assessment (6.1. Impact Assessment Methodology, 6.3. Significance of the Visual Impact)
(f)	details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	(Chapter 2) Introduction (2.5.1 Categories of issues; 2.5.2 Key issues). (Chapter 4) Proposed Development (4.2. Alternatives; 4.4. Proposed development

		<i>description: the New Preferred Alternative). (Chapter 6) Visual Impact Assessment (6.3. Significance of the Visual Impact). (Chapter 12) Annexure B: Impact Assessment Tables.</i>
(g)	an identification of any areas to be avoided, including buffers;	<i>(Chapter 7) Mitigation Measures</i>
(h)	a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	<i>(Chapter 7) Mitigation Measures (see 7.1. – 7.3.)</i>
(i)	a description of any assumptions made and any uncertainties or gaps in knowledge;	<i>(Chapter 2) Introduction (2.8. Assumptions and Limitations)</i>
(j)	a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	<i>(Chapter 6) Visual Impact Assessment (6.2. Cumulative Impacts; 6.3. Significance of the Visual Impact). (Chapter 8) Conclusion (8.1. Findings and Discussion; 8.2. Results of the Impact Assessment and mitigation measures; 8.3. Visual Impact statement and recommendation).</i>
(k)	any mitigation measures for inclusion in the EMPr;	<i>(Chapter 7) Mitigation Measures (see 7.1. – 7.3.)</i>
(l)	any conditions for inclusion in the environmental authorisation;	<i>(Chapter 7) Mitigation Measures (see 7.1. – 7.3.; but particularly 7.3.1 Conditions of approval)</i>
(m)	Any monitoring requirements for inclusion in the EMPr or environmental authorisation;	<i>(Chapter 7) Mitigation Measures (see 7.1. – 7.3.)</i>
(n)	a reasoned opinion—	<i>(Chapter 7) Mitigation Measures (see 7.1. – 7.3.)</i>
(i)	<i>(i) whether the proposed activity, activities or portions thereof should be authorised;</i>	<i>(Chapter 8) Conclusion (8.1. Findings and Discussion; 8.2. Results of the Impact Assessment and mitigation measures; 8.3. Visual Impact statement and recommendation).</i>
(iA)	<i>(iA) regarding the acceptability of the proposed activity or activities; and</i>	
(iii)	<i>(ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;</i>	
(o)	a description of any consultation process that was undertaken during the course of preparing the specialist report;	<i>n/a</i>
(p)	a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	<i>(Chapter 13) Annexure C: Response to Comments</i>
(q)	any other information requested by the competent authority.	<i>n/a</i>

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Declaration and Statement of Independence

Statement of Independence and Disclaimer

The author hereby declares that they act as an independent specialist in this matter and will perform the work relating to the matter in an objective manner, even if this results in views and findings that are not favourable to interested parties. Neither Filia Visual, nor any of the authors of this report have any material present or contingent interest in the outcome of this Project, nor do they have any pecuniary or other interest that could be reasonably regarded as affecting their independence or that of Filia Visual. Filia Visual has no beneficial interest in the outcome of the assessment which is capable of affecting its independence, and it should be noted that Filia Visual does not have any interests in secondary or downstream applications that may arise from the granting of the application and proposed development.

The opinions, views and findings contained in this report are based on the information supplied to Filia Visual by the Client and project professional team. The author has exercised all due care and diligence in reviewing the project information supplied at the time of the writing of this report, however conclusions from the review remain reliant on the accuracy and completeness of the data and project information supplied. Filia Visual cannot accept responsibility for errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting therefrom. Filia Visual accepts no liability or responsibility whatsoever in respect of any use of or reliance upon this report by any third party. The findings of this report are based on the site conditions, proposal and Receiving Environment features as they existed at the time of investigation and writing, and those that are reasonably foreseeable, to the exclusion of conditions and features that present after the date of such site investigations and this report.

Experience and Compliance

Fioné Smit, the report author, has been appointed to prepare this VIA Report, and has expertise in conducting the specialist report relevant to this matter, including knowledge of regulations and guidelines that have relevance to the proposed activities. She is a SACLAP registered Landscape Architect, a member of ILASA and IAIAA, and an Independent Visual studies practitioner. Filia Visual and its representatives will comply with the appropriate Acts, regulations and all other applicable legislation, undertaking to disclose to interested parties and the competent authority (CA) all material information in her possession that reasonably has or may have the potential of influencing any decision to be taken with respect to these matters by the CA; and the objectivity of any report, plan or document to be prepared.

Declaration

This specialist report has been prepared for PHS Consulting and is subject to and issued in accordance with the agreement between these parties. The author herewith confirms the correctness of the information provided in this report, including supporting documents and reports.



Fioné Smit
Director, Rain Bull (Pty) Ltd. t/a Filia Visual

2. INTRODUCTION

Filia Visual was appointed to prepare an independent Visual Impact Assessment (VIA) for the proposed Cape Winelands Airport development at Joostenberg Vlakte near Durbanville, in the Western Cape. The proposal is for a commercial airport development. It will include the development of a new runway system and the development of adjacent plots of land into a commercial and aviation hub.

2.1. Need for Visual Impact Assessment

This specialist study is conducted to inform the Environmental Impact Assessment (EIA) process that is being undertaken by PHS Consulting in terms of the National Environmental Management Act, 1998, Act 107 of 1998 (NEMA) and will be submitted to the Department of Environmental Affairs and Planning (DEA&DP).

The VIA also informs the HIA that will be submitted to Heritage Western Cape (HWC) for decision in terms of Section 38(4) of the National Heritage Resources Act (NHRA). The VIA will also inform the pre-application design and planning phase ahead of the project team's Land Use Management application to the City of Cape Town, as necessary.

2.2. Background, Purpose and Classification of this report

According to the DEA&DP Guideline for involving visual & aesthetic specialists in EIA processes, this VIA requires specialist involvement at **Pre-application planning stage**¹, at the **Scoping**² stage and the **Impact assessment stage**³. Impact assessment is the focus of this report.

The chief purpose of any visual impact specialist study is to ensure that the visual & aesthetic consequences of the proposed project are understood and adequately considered in the [environmental] planning process (Young, 2014). The DEA&DP Guidelines for involving visual & aesthetic specialists in EIA processes (Oberholzer, 2005) recommends an initial classification of projects to determine the level of assessment required, according to the type of development that is proposed and the type of environment where the development is proposed.

Based on the project information that was at hand at the outset of the study, the proposed development could be described as a **Category 5 development**⁴ within an **Area (or route) of Medium scenic, cultural, historical significance**.

¹ **Pre-application planning stage:** To identify scenic resources, and visually sensitive areas or receptors, which may determine site selection, and layout of the project, and to determine potential fatal flaws, significant negative impacts and possible alternatives.

² **Scoping stage:** To identify key concerns or issues relating to potential visual impacts arising from the project, and to determine boundaries and parameters for visual input.

³ **Impact assessment stage:** To determine the character and visual absorption capacity of the landscape, the visibility of the proposed project, the potential visual impact on visual / scenic resources, and the nature, extent, duration, magnitude, probability and significance of impacts, as well as measures to mitigate negative impacts.

⁴ **Category 5 Development:** e.g., e.g., high density township / residential development*, retail and office complexes, industrial facilities, refineries, treatment plants, power stations, wind energy farms, power lines, freeways, toll roads, largescale infrastructure generally. Large-scale development of agricultural land and commercial tree plantations. Quarrying and mining activities with related processing plants. (as per Box 2, page 7 of the DEA+DP Guidelines, 2015). (*High density developments are generally multi-storey structures, usually with less than 25% of the area retained as green open space.)

Before the initiation of the study, based only on the nature of the proposed development and a high-level assessment of the nature of the Receiving Environment (RE), **High Visual Impact** was expected, and a **Level 4 Assessment** recommended (Oberholzer, 2005, pp. 13, Table 2).

This report must be read in the context of the previous and current Land Use and other Planning, or Environmental approvals associated with this development proposal. Whereas this report focuses primarily on visual and aesthetic criteria, cognizance of other factors (social, heritage, cultural, environmental, ecological, etc.) are acknowledged and will be addressed in the report with the information at hand, and in consultation with the Heritage and other relevant Practitioners.

2.3. Scope of Work, Approach and Methodology

Filia Visual has been appointed to conduct a VIA to determine the potential **Visual Impact**⁵ of this proposed development on the visual and scenic environment. This includes the potential impacts on scenic routes, protected (*de jure* or *de facto*) scenic resources, and visual receptors. The VIA makes specific reference to Visual Impact on the Cultural Landscape.

The existing project information, reports and studies comprising the project history were consulted during the Initiation stage, and on an ad-hoc basis as project information was updated. A desktop survey using digital topographical survey maps and available GIS databases was undertaken to describe the site setting, identify landform, landscape, and built form patterns of the Receiving Environment, and to situate the proposed development in the spatial planning policy context of the Receiving Environment. Aerial photography from a variety of sources as well as freely available digital elevation models (Google Earth and the QGIS⁶) were used to assist in this part of the study. 3D models and fieldwork supported Line of sight (LoS) testing and visibility analysis. Following the desktop study, a site visit was undertaken to confirm land use, assess the landscape character, identify sensitive receptors and conduct fieldwork. This included the capture of site photographs from and toward key views and viewers.

Impact assessment is aided by 3D modeling and graphic simulations of the proposed development, as necessary. The VIA report has been drafted to communicate the findings of the desktop study, the site visits and the visual analysis; impact assessment is undertaken using PHS's proprietary impact assessment methodology, as well as Filia Visual's standard VIA methodology.

The basic components comprising an accepted methodology for visual studies includes:

- Identification of landscape types, landscape character and sense of place, generally based on geology, landforms, vegetation cover and land use patterns;
- Identification of viewsheds, and view catchment areas, generally based on topography;

⁵ Please note the following key principles and concepts associated with Visual Impact assessment that should be considered and described in the EIA process:

- 'Visual' implies the full range of visual, aesthetic, cultural & spiritual aspects of the environment that contribute to sense of place;
- Both the natural and the Cultural Landscape and their inter-relatedness including all scenic resources, protected areas, and sites of special interest, together with their relative importance in the region must be considered;
- Visual studies are underpinned by an understanding of the landscape processes, including geological, vegetation and settlement patterns, which give the landscape its character or scenic attributes;
- Both quantitative and qualitative criteria are necessary to describe visual aspects.

⁶ ASTER GDEM v2 Worldwide Elevation Data (1 arc-second Resolution) data set.

- Identification of important viewpoints and view corridors within the affected environment, including sensitive receptors;
- Indication of distance radii from the proposed project to the various viewpoints and receptors;
- Determination of the visual absorption capacity (VAC) of the landscape, usually based on vegetation cover or urban fabric in the area;
- Determination of the relative visibility, or visual intrusion, of the proposed project.
- Determination of the relative compatibility or conflict of the project with the surroundings;
- A comparison of the existing situation with the probable effect of the proposed project, through visual simulation, generally using photomontages, as necessary.

The suggested Methodology (Oberholzer, 2005) for a **Level 4 Assessment** is listed below:

- *Identification of issues raised in scoping phase, and site visit;*
- *Description of the Receiving Environment and the proposed project;*
- *Establishment of view catchment area, view corridors, viewpoints and receptors;*
- *Indication of potential visual impacts using established criteria;*
- *Inclusion of potential lighting impacts at night;*
- *Description of alternatives, mitigation measures and monitoring programmes;*
- *3D modeling and simulations, with and without mitigation (to be undertaken during the Impact Assessment stage in Phase 2).*

2.4. Project introduction

The subject site is located in the Durbanville area within the City of Cape Town Municipality, and currently houses the Fisantekraal Airport (Airfield). It is located approximately 8 km north of Kraaifontein and 6 km north of the N1, taking direct access off Lichtenburg Road (R312), which links up with the R304 to the east and with the R302 (Klipheuwel Road) to the west. The proposed CWA development is situated partially outside of the urban edge (Urban Development Edge (UDE)), in the Northern District of the City of Cape Town (Sub-district 4 Agricultural/Rural Hinterland) in terms of the Metropolitan Spatial Development Framework (MSDF, 2023).

The details of the subject site:

<i>Physical address</i>	<i>Lichtenburg Road, R312, Durbanville, Western Cape</i>
<i>Portion and Farm name</i>	<i>Portion 7 of Farm 942 Kliprug Portions 10, 23 and RE of Farm 724 Joostenbergs Vlake Portion 4, a portion of Portion 3, and RE of Farm 474 Joostenbergs Kloof</i>
<i>Municipality</i>	<i>City of Cape Town</i>
<i>Coordinates</i>	<i>S33°46.28' / E18°44.40'</i>
<i>Size of Subject site</i>	<i>885Ha</i>
<i>Current use</i>	<i>Airfield</i>
<i>Current zoning</i>	<i>Agriculture 1</i>

The subject site is surrounded by agricultural and peri-urban areas with mixed land uses, including agricultural, semi- and agri-industrial, residential and infrastructural land uses (including power and transport infrastructure). The subject site is surrounded by four different Cultural Landscapes.

- The Durbanville Hills Cultural Landscape is located approximately 1km to the west;

- the Koeberg/Swartland Farms Cultural Landscape is located approximately 3km to the north west;
- the Joostenberg Vlakte Cultural Landscape abuts the site across the R312;
- and a portion of the subject site falls within the Agter-Paarl Paardeberg Cultural Landscape to the north.

Three **Scenic routes** are located within the study area.

- The R302 Klipheuwel road (west of the site, between the Durbanville urban edge and Klipheuwel);
- the R312 Lichtenburg Road (directly south of the subject site);
- and the R304, that passes through Joostenberg Vlakte.

See Figure 1 below for the site locality and context.

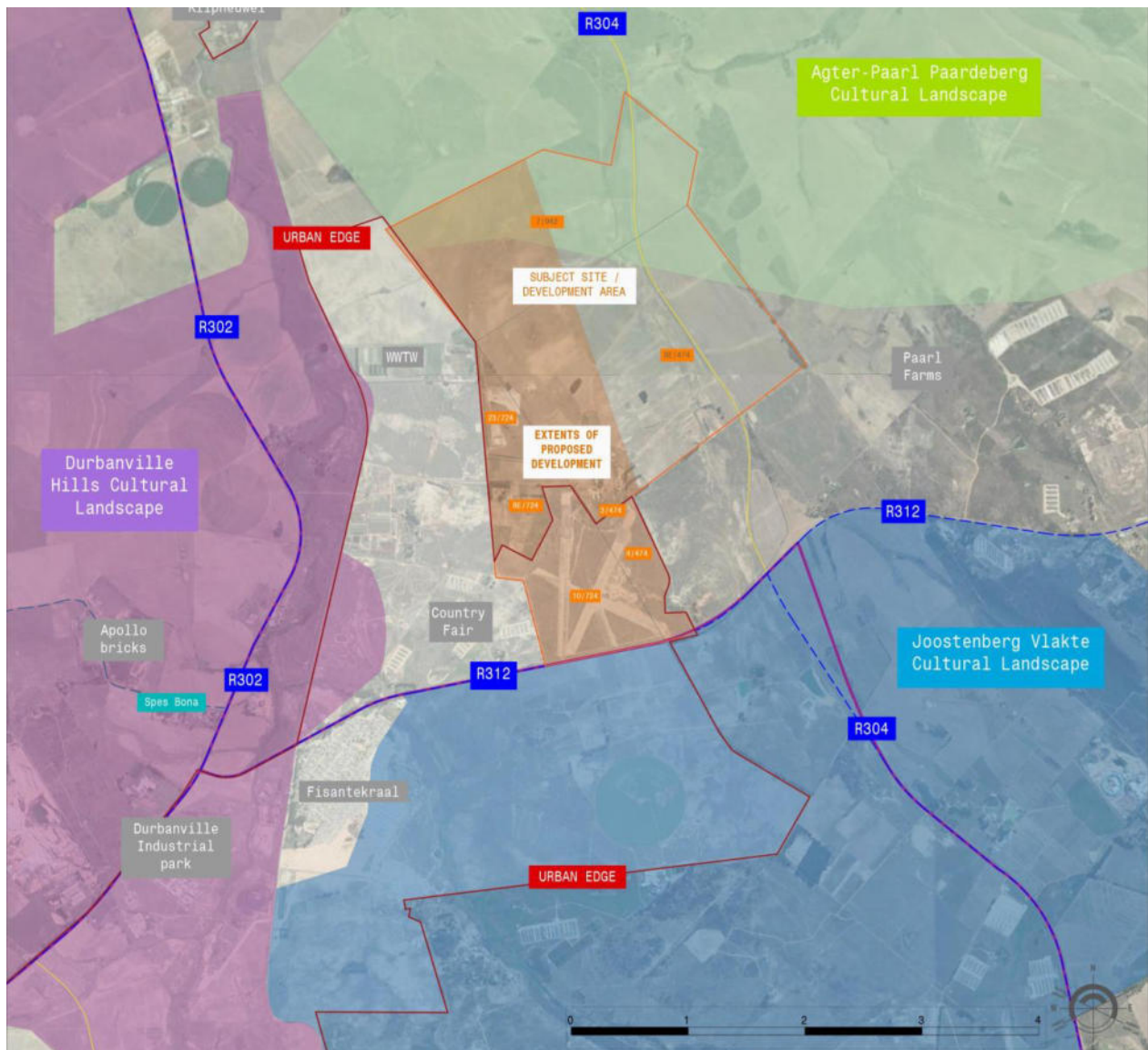


Figure 1: Subject site boundary shown over Aerial location imagery, indicating the extents of the proposed development and key potential visual sensitivities in the RE (Cultural Landscapes and Scenic Routes). (Smit, 2022)

The effect of the proposed development on the visual amenity of the Scenic Routes and potential effects on the Cultural Landscapes surrounding the proposed development will be the focus of the visual specialist’s input. This will be informed by potential effects on sensitive receptors from within these areas as well as from other key viewpoints, which will be identified during the course of the study.

The development proposal is the expansion and upgrade of the existing facility into a regional airport (see Figure 2 below for the Phase 2 Precinct Plan). The VIA will assess visual impact for three alternatives:

- The No-Go Alternative (Runway Alternative 1: “Do Nothing”)
- The “Initial Preferred Alternative” (Runway Alternative 2)
- And the “New Preferred Alternative” (Runway Alternative 3)

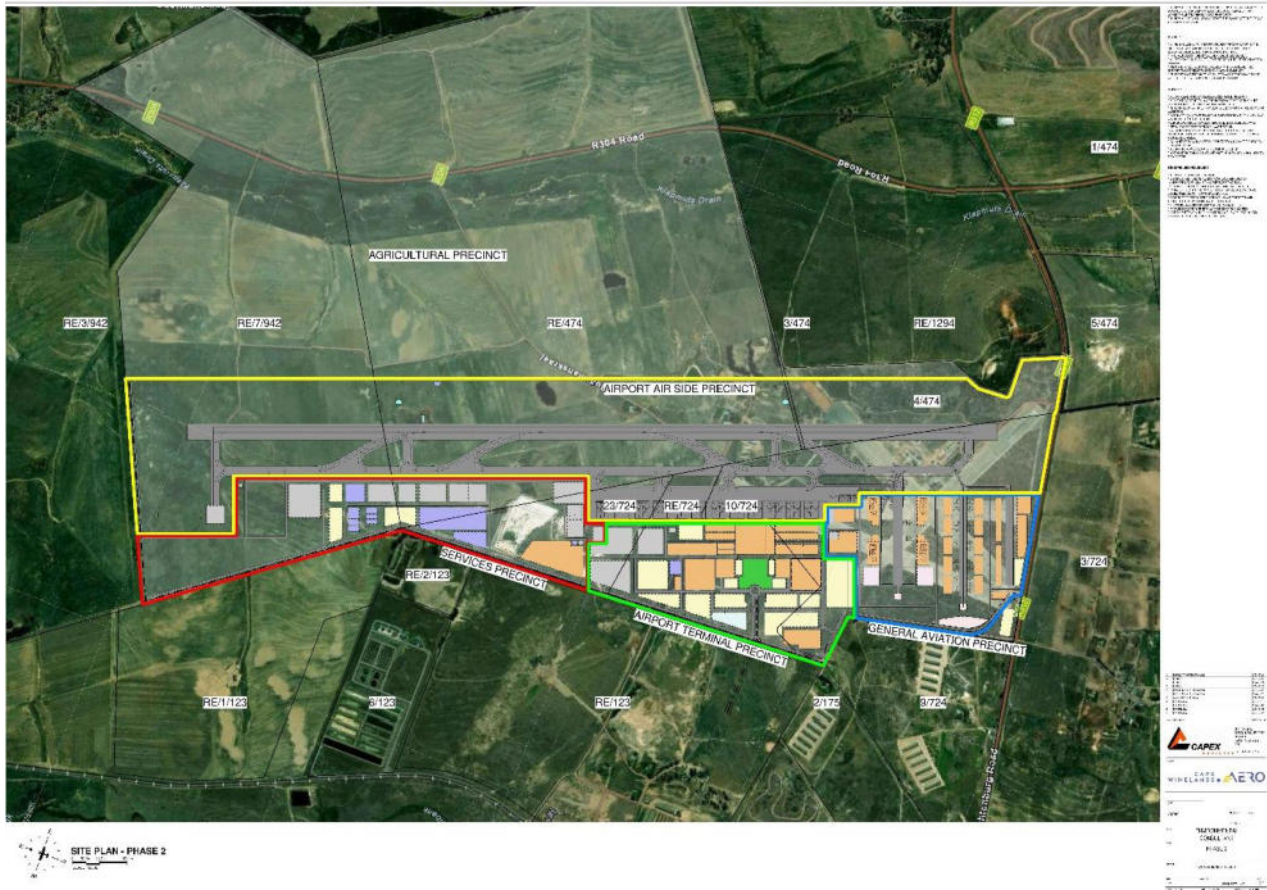


Figure 2: CWA Phase 2 Precinct Plans (2024-3297-400-Rev 11) (Capex Projects, 2024)

2.5. Key issues at the outset

2.5.1 Categories of Issues

For **High** visual impact expected, the following are listed as expected issues according to the DEA&DP Guidelines involving visual & aesthetic specialists in EIA processes (Oberholzer, 2005, pp. 7, Box 3):

- Potential intrusion⁷ on protected landscapes or scenic resources;
- Noticeable change⁸ in visual character of the area;
- Establishes a new precedent for development in the area.

2.5.2 Key Issues

Key issues are those raised during the desktop study, scoping process or included as part of the visual specialist's brief which require further investigation (Oberholzer, 2005, p. 28). The key issues relating to visual concerns arising from the initial assessment of the site and Receiving Environment, and the initial assessment of the proposed development according to the brief, include:

- Effect on Protected landscapes and scenic resources, with specific reference to:
 - Effect on the visual amenity of Scenic routes;
 - Effect on the landscape character and sense of place of the surrounding Cultural Landscapes⁹.
- Effect on **sensitive receptors** with specific reference to:
 - Sensitive receptors viewing the proposed development from within the surrounding Cultural Landscapes;
 - Sensitive receptors travelling on Scenic routes;
 - Sensitive receptors viewing the proposed development from within areas around the subject site that are expected to experience a measure of Visual Exposure (up to 3km).

2.6. Information available and referenced in this report

The following documents made available by the client and project team were used as source reference material.

- *Spatial Planning & Land Use Status of the Cape Winelands Airport and Surrounds; H&A Planning (May 2023)*
 - *Report 2.3: CWA in the context of spatial policies and land use rights (August 2024)*
- *Baseline Study: Notification of Intent to Develop Report (for the Proposed Expansion of Cape Winelands Airport); Henry Aikman (Aikman Associates Heritage Management) (January 2024)*
- *Alternatives Report Version 4; Cape Winelands Aero (August 2024)*
- *Consulting Electrical Engineers Bulk Services Design Report (August 2024) and Electrical supply layout information (Eskom Fisantekraal MV and Bulk Electricity Connection) (June 2022); Selkirk and Selkirk Engineering Solutions*
- *PV Arrangement Drawings (Selkirk and Selkirk Engineering Solutions, August 2024)*
- *A Closer Look at the Cape Winelands Airport: EIA briefing session (December 2021)*
- *Zoning Scheme Extract; City of Cape Town Development Management (August 2021)*
- *Project and zoning information related to the proposed Greenville development (GIBB, 2022)*

⁷ Visual intrusion describes the level of compatibility or congruence of the project with the particular qualities of the area, landscape and surrounding land uses, or its 'sense of place', measured against the degree to which it is in discord, or contrasts with these.

⁸ Noticeable change is defined as: "Clearly visible within the view frame & experience of the receptor".

⁹ Three nearby/surrounding Cultural Landscapes: Agter Paarl/Paardeberg; Joostenberg Vlakte, Durbanville Hills (also Koeberg/Swartland Farms).

- *Various iterations of the CWA Masterplan by Vivid Architects (2021 – 2024)*
- *Cape Winelands Airport Development Project description; CWA Limited (May 2023)*
- *Architectural Design Guidelines for the CWA Development; Vivid Architects (August 2024, Rev 2)*
 - *Architectural renderings by Vivid Architects (August 2024)*
 - *3D massing Model and .kmz information provided by Vivid Architects (August 2023)*
- *In Process Draft Scoping Report for the Proposed Expansion of the Cape Winelands Airport provided by PHS Consulting (July 2024)*
 - *(Appendix 32) Outdoor Advertising Guideline for the CWA (Cape Winelands Aero, 2024)*
- *Conceptual Stormwater management plan (Document A89083-0000-REP-CC-0001 Revision 5) (Zutari, August 2024)*
 - *A89083-0000-DRG-CC-302 [D] Concept Layout Stormwater*
 - *Water Balance Calculations Revision 5 (Zutari, 2024)*
- *Overall Landscape Concept Plan by Planning Partners (Drawing CWA-PLP-ZZ-00-DR-LA-0001 Rev.9, September 2024)*
- *Engineering Services report Revision I; Zutari Engineers (August 2024)*
 - *A89083-0000-DRG-CC-101 [A] Concept Grading Layout*
 - *A89083-0000-DRG-CC-200 [E] Concept Layout Roads*
- *Cape Winelands Airport Transport Scoping Report; ITS (June 2023)*
- *Masterplan for Aircraft Refueling Facilities: Cape Winelands Airport; Kantey & Templar (May 2023)*
 - *Typical details and manufacturer’s product information: Approach lighting masts (ADB Airfield Solutions) and associated lighting information*

2.7. Legal Framework: Applicable Legislation, Policies and/or Guidelines

It is essential to consider the policy and legislative context within which the development is proposed. This includes all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to the property, the activity, and the proposal. The following relevant policies, guidelines and legislation have been considered in the assessment process:

National

- National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) EIA Regulations
- The NEMA Protected Areas Act (57 of 2003)
- National Heritage Resources Act (Act 25 of 1999) (NHRA)
- Spatial Planning and Land Use Management Act, 2013 (SPLUMA)

Provincial

- Western Cape Department of Environmental Affairs & Development Planning: Guideline for Involving Visual and Aesthetic Specialists in EIA Processes Edition 1 (CSIR, 2005)
- Western Cape Provincial Spatial Development Framework, 2014 (PSDF)
- Western Cape Land Use Planning Act (Act 3 of 2014) (LUPA)
- Land Use Planning Ordinance (Ordinance 15 of 1985) (LUPO)
- Western Cape Heritage and Scenic Resources: Inventory and Policy Framework (2013)
- Western Cape Biodiversity Spatial Plan (2017)

Municipal

- The City of Cape Town Municipal Spatial Development Framework (CTMSDF), 2023
- The Northern District Plan: Integrated District Spatial Development Framework & Environmental Management Framework, 2023
- The City of Cape Town Scenic Drive Network Management Plan, 2003
- The City of Cape Town Draft Scenic Drive Network Management Plan, review Phase 1, 2013
- Policy Framework for Outdoor Advertising and Signage in Cape Town (Policy No.12513), 2013
- City of Cape Town Outdoor Advertising By Law, 2023
- Boundary walls and Fences Policy of the City of Cape Town, 2009

2.8. Assumptions and Limitations

The following assumptions and limitations apply to this report:

- The author assumes that where information is supplied by others, this information is correct and up to date unless otherwise stated by the client, project team or source. No responsibility is accepted by Filia Visual for incomplete or inaccurate data supplied by others;
- Filia Visual's assessment of the significance of impacts of the proposed project on the Receiving Environment has assumed that the activities will be confined to the areas for which impacts have been anticipated;
- Where detailed information is not available, the precautionary principle, i.e., a conservative approach that overstates negative impacts and understates benefits, has been adopted;
- It is assumed that any Public Participation or formal commenting and objections processes undertaken by others has identified and incorporated all relevant concerns and comments of stakeholders;
- Filia Visual assumes that the applicant will in good faith implement the mitigation measures identified in this report and elsewhere. In this regard, it is assumed that the applicant will commit sufficient resources and employ suitably qualified personnel to undertake such mitigation;
- It is assumed that the 3D model is an accurate enough approximation of the proposal's built envelope.
- Viewshed analysis is based on the available Digital Elevation/Surface Model datasets available (SRTMGL1 V003 from NASA Shuttle Radar Topography Mission Global 1 arc second – 30m). It should be noted that viewshed analyses are not absolute indicators of either visibility of the level of significance (magnitude) of the impact in the view, but a statement of the fact of potential visibility. Visual analysis using the available Digital Elevation/Surface Models as a dataset only establish the lines of sight (LoS) between the observer and the proposed development and does not consider trees, buildings and other visual barriers that constitute solid protrusions. Empirical testing to consider the visibility of view-limiting structures within urban space (be it a city or Cultural Landscape), requires either a precise Digital Surface Model (DSM, with raster resolution at most 2 x 2 m (Hlavatá and Ořahel' 2010))), or on-site LoS testing supported by 3D modeling. LiDAR (Light Detection and Ranging) improves the accuracy of viewsheds and visibility analyses by including these elements, especially for visual studies conducted in urban areas. South Africa does not have LiDAR data available and analysis using LiDAR data could not inform this report. However, the assumption is that the GIS Viewshed and LoS methods of analysis employed in this report will satisfy the requirements of the brief.
- The Coordinate system used is the Pseudo Mercator (EPSG: 3857).
- Additionally, readers should note that the aim of photography and photomontage in visual studies is to represent the Receiving Environment under consideration and the proposed development, both as accurately as is practical. However, two-dimensional photographic images and photomontages alone cannot capture or reflect the complexity underlying the visual experience and should therefore be

considered an approximation of the three-dimensional visual experiences that an observer would receive in the field (The Landscape Institute, 2011).

- Please note that simulations and 3D models overlaid on to the site model do not indicate site clearance or removal of vegetation. The impression of visual absorption capacity will therefore be higher than that of the actual development.
- This study assumes that the development proposal will not be amended significantly after the issue of this report, and that any guidelines or recommendations will be interpreted in a way not significantly deviating from the interpretation of this study.
- Finally, when determining the significance of the visual impact of the Proposed development (with mitigation), the assumption is that the mitigation measures proposed will be correctly and effectively implemented and managed throughout the life of the project.
- It is noted that the EIA must address the potential impacts of the runway at maximum operational capacity, i.e., operations and impact beyond the 2050 traffic levels. The author assumes that the same standard will be applied to the development of the Commercial component, to have the maximum development rights approved during the current approvals process.
- The project information notes that Construction will be undertaken as and when capacity is needed/market demands dictate within the 2027 – 2050 time period. While Phase 1 (Planning Activity Level 1, which includes the Civils work and the establishment of the majority of the service infrastructure) is estimated to last approximately 3 years (2029 – 2032), it can only be assumed that the remainder of the Planning Activity Level (PAL) will be interspersed between 2032 and 2050. For the purposes of Impact Assessment, it is therefore assumed that there will be periods of more and less intensive construction activities on site on an ad-hoc basis for a total period of 18 years.

Notwithstanding the above, the authors are confident that these assumptions and limitations will not compromise the overall findings of this report.

3. SITE AND RECEIVING ENVIRONMENT STUDY

This section contains descriptions of the subject site and its Receiving Environment (RE). The information presented herein is based on the desktop study, aerial photographs, an overview of local policy and project information at hand; as well as the observations of the specialist during the site visit and fieldwork conducted in February 2022¹⁰, and subsequent site visits.

3.1. The Subject site

The subject site consists of a number of farm portions and properties, all of which have been transformed from the natural state¹¹ to varying degrees. **Land uses** within the combined properties that comprise the subject site include the fully functioning Cape Winelands Airport (previously the Fisantekraal Airfield) with various associated structures and land uses (e.g.; hangars, runways, office buildings etc.); two separate farm werfs with associated residential, agricultural and agri-industrial structures and land uses (e.g.; employee housing, barns and sheds etc., one of which is the Peta's Place Equestrian Centre); the Uitsig Clay Mine; various private and public farm roads, and a number of areas under cultivation and grazing (e.g.; perennial planted pastures, canola, lucerne and wheat, according to the 2017/18 Crop Census (Western Cape Department of Agriculture, 2020).



Figure 3: Site visit photograph showing existing structures on site associated with the Cape Winelands Airport (Smit, 2022)

¹⁰ The season of the site visit has limited bearing on the visual study. Local vegetation is either predominantly evergreen or part of the cultivated landscape. Seasonal climatic variations should also not affect the visibility of the proposed development in terms of visual and aesthetic considerations.

¹¹ Portions of the Fisantekraal Airfield (areas around the landings strips) are noted as Core 1 areas in terms of the District Plan (these are consistent with the bio-regional planning framework and broad provincial Spatial Planning Categories (SPCs) adopted by the Provincial SDF (2009), and utilised by the City of Cape Town's SDF.



Figure 4: Site visit photograph showing active use of the runway at the CWA (Smit, 2022)



Figure 5: Site visit photograph showing the secondary operational north west/south east oriented runway from the south easternmost end, looking north west towards Rondeheuvel (top), referenced in plan (below) (Smit, 2022)



Figure 6: Site visit photograph showing one of the working farm werfs within the subject site, just north of the current airfield (Smit, 2022)



Figure 7: Site visit photograph of the entrance to the Uitsig Clay Mine in the northern parts of the subject site (Smit, 2022)



Figure 8: Site visit photograph showing the view from a local farm road looking north across one of the cultivated fields towards a line of low trees that screens the Uitsig mine from view from this vantage point (Smit, 2022)

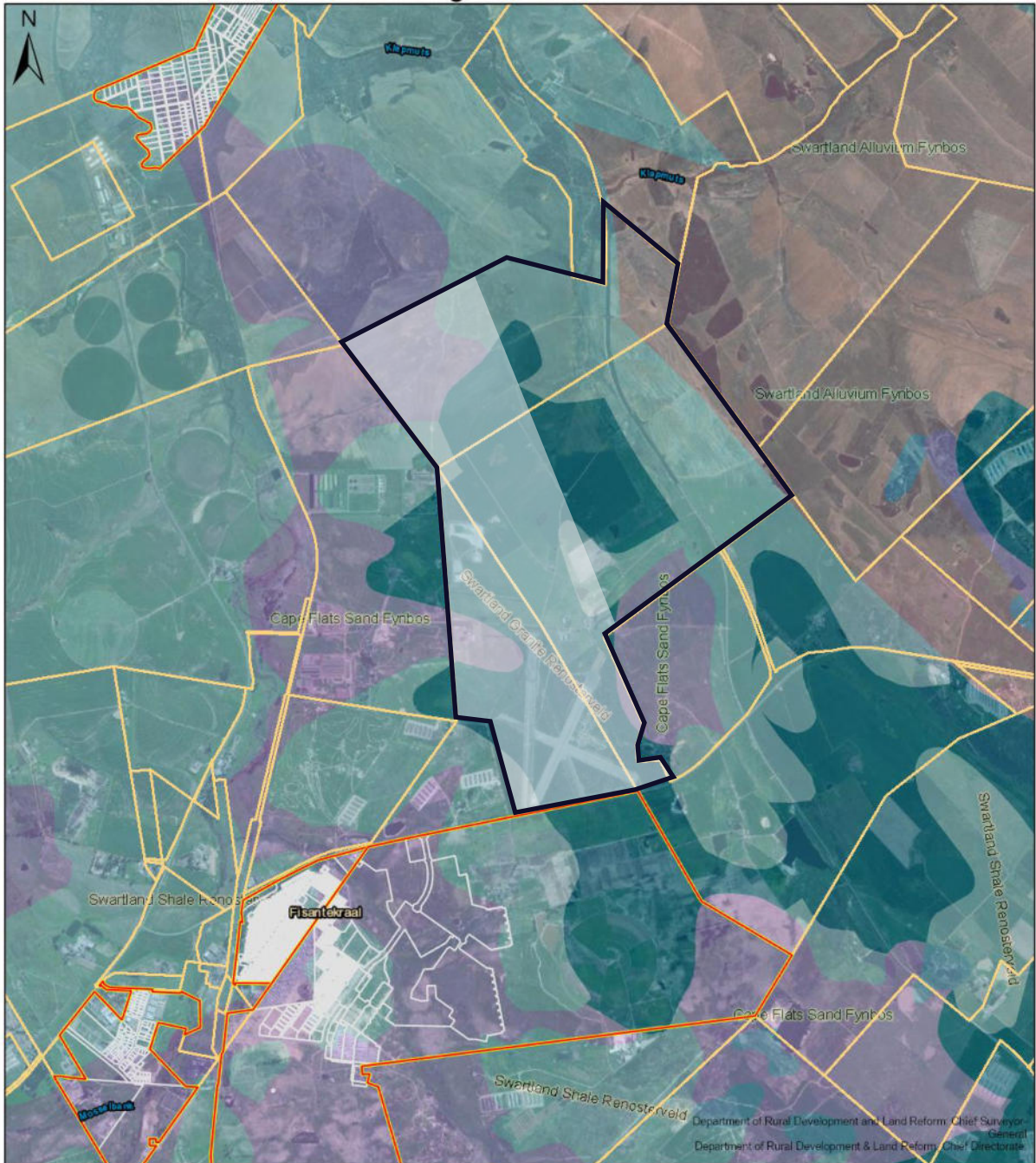
According to Cape Farm Mapper, the site would originally have been characterised by three critically endangered **vegetation types**: Swartland Shale Renosterveld, the Cape Flays Sand Fynbos and the Swartland Granite Renosterveld. However, the subject site appears to have little, or no remnant indigenous vegetation left, this having either been cleared for the runway (and other land uses associated with the existing airport); transformed by agriculture or mining activities; and outcompeted by alien and invasive species (especially in areas of soil disturbance). A number of individual trees, as well as clusters and avenues of trees are found within the subject site, and these can be seen as landscape features that contribute to the character and sense of place of the site within the greater rural agricultural landscape.



Figure 9: Site visit photograph showing the extent of disturbance to the natural vegetation on site, as well as the encroachment and ongoing management by the CWA of alien invasive species (Smit, 2022)



Figure 10: Avenue of *Eucalyptus* trees on Remainder Farm 724 within the subject site (Smit, 2022)



Legend			0 0.5 1 2 km
Allotment Township	VEGMAP 2018	FRg 2 Swartland Granite Renosterveld	Map Center: Lon: 18°44'11.6"E Lat: 33°45'34.5"S Scale: 1:50 000 Date created: June 10, 2022
Parent Farms	FFa 3 Swartland Alluvium Fynbos	FRs 9 Swartland Shale Renosterveld	
Erf	FFd 5 Cape Flats Sand Fynbos		Western Cape Government FOR YOU <small>Agriculture</small>
	FRc 1 Swartland Silcrete Renosterveld		

Figure 11: Mapped Vegetation of the subject site (outlined in black) and the extents of the proposed development (shown in transparent white). (Cape Farm Mapper,2022)

The subject site is situated between the R302 Klipheuwel road in the west (which runs parallel to the Mosselbank river), the R312 in the south and the R304 in the east. The R304 bisects the subject site in the east, where it runs parallel to an unnamed tributary of the Klapmuts river. The R312 (a scenic route) delineates the southern boundary, across from which lies a large cattle farm and Groenvlei Gras beyond. Bordering the subject site to the west are the offices and three chicken batteries of Country Fair; the Dirt & Dust off-road race track; Braams Voerkrale (which includes large feedlot structures as well as residential buildings); and finally, the Fisantekraal Waste Water Treatment Works. All of the farm portions of the subject site are bordered by open agricultural lands to the north and east.

Topographically, the subject site is situated predominantly on a plateau (see Figures 13 - 15 below). Figure 13 illustrates the topographical relief that slopes downward to the east and west on either side of a low ridgeline that loses elevation gradually northward from approx. 125m ASL in the south of the site (around the R312) to 105m ASL in the north (just east of Klipheuwel and the Klapmuts river). Figure 15 illustrates the slope aspect of the site and the immediate area, and shows how the low ridgeline separates the areas that are predominantly north east facing (to the west of the ridgeline) from the areas that are predominantly north west and west facing (to the east of the ridgeline). Figure 16 shows the local **water resources**, further illustrating the topographical character of the subject site by highlighting the drainage lines that drain off of the central “plateau”, towards the Mosselbank river to the west and the Klapmuts river to the east.

There is one notable view corridor associated with the subject site (See Figure 12 below). It is situated along the R312 scenic route, near the current entrance to the CWA. Travelling in a westerly direction from the intersection of the R312 and the R304, there is a low hill on the right and an avenue of trees on the left. Upon reaching the crest of the incline, a scenic view opens up towards the south and south west, over the agricultural landscape and towards Table Mountain in the distance. This open and uninterrupted view will however be interrupted by the proposed future development planned of the area (refer to Figure 49).

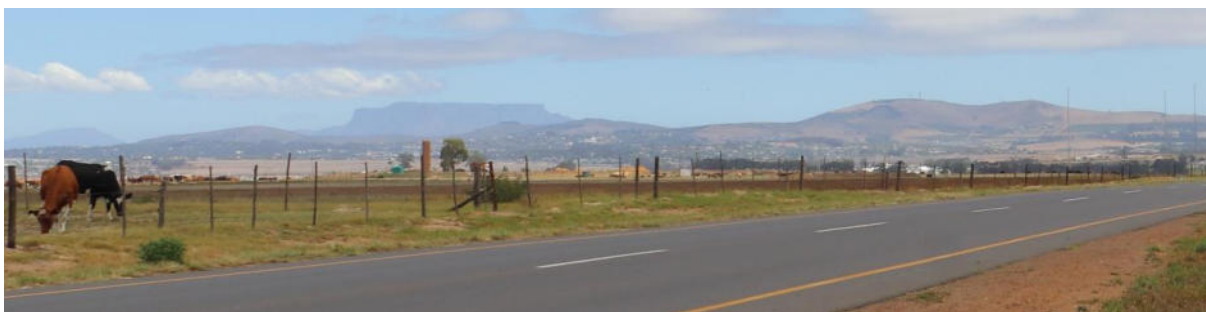


Figure 12: Notable scenic view over agricultural landscape towards Table Mountain and Durbanville (Smit, 2022)

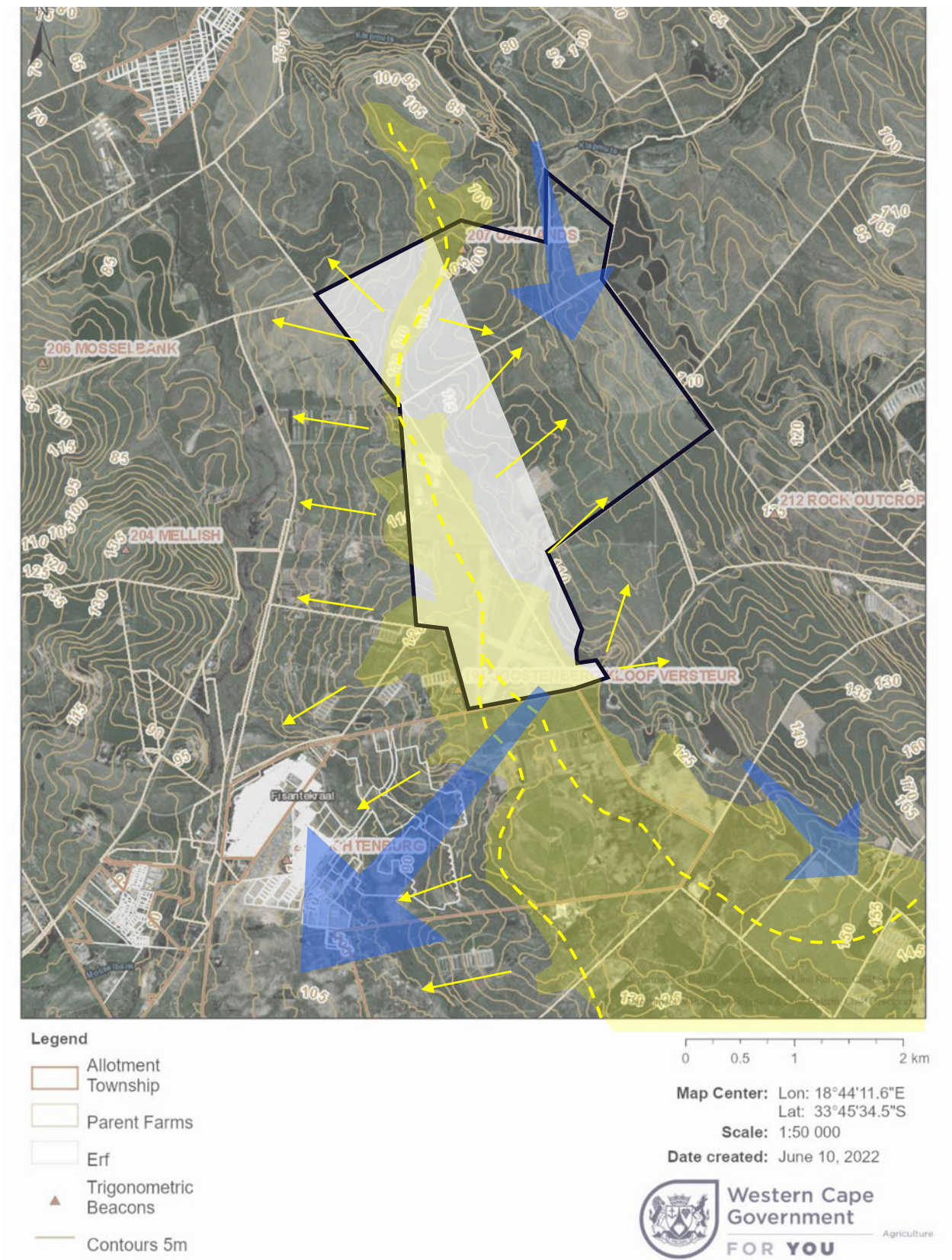
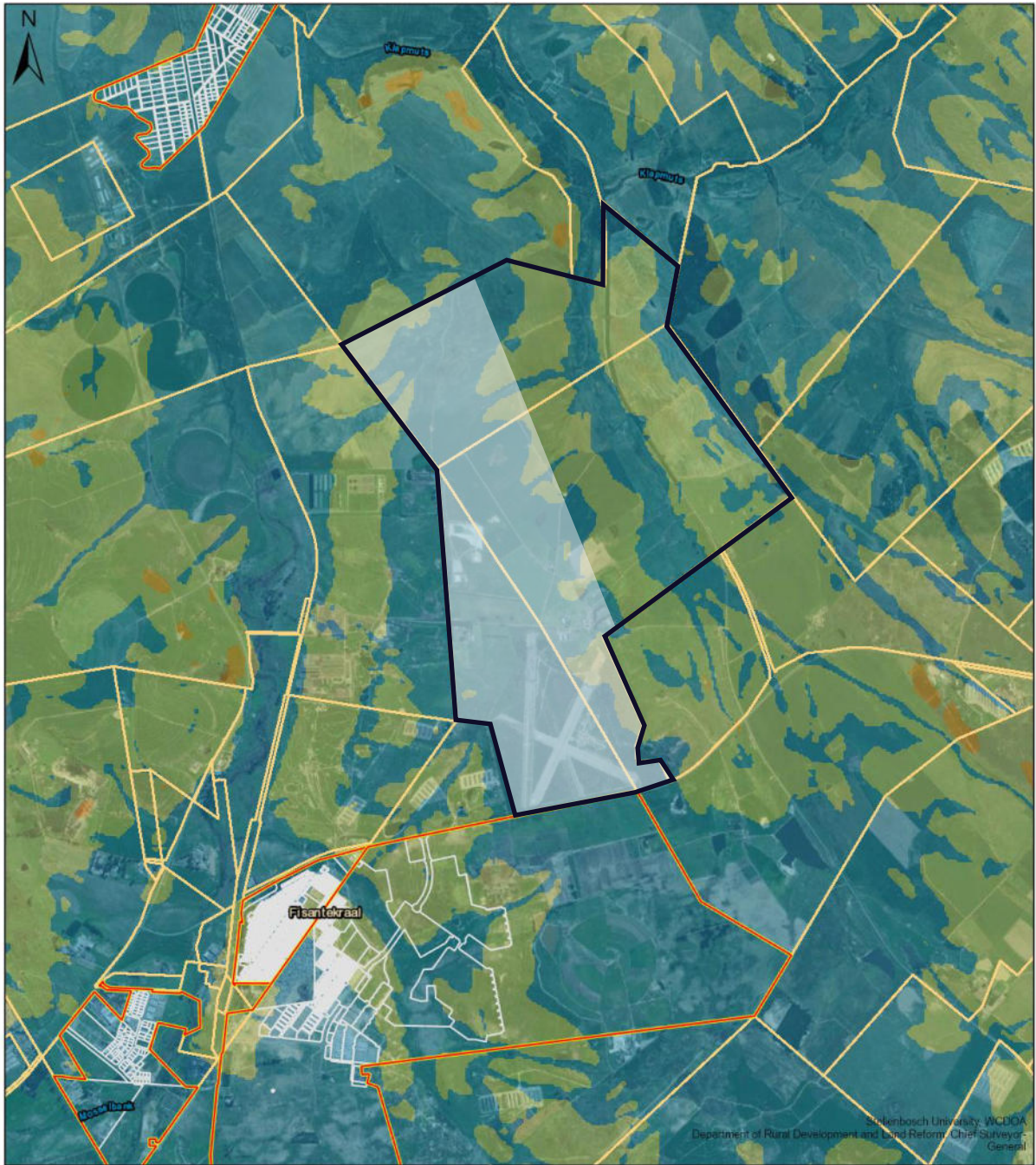






Figure 13: Topography of the subject site and the immediate surroundings, showing also scenic views from local roads in the area (with blue arrows) (Cape Farm Mapper,2022)

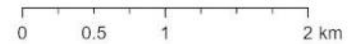


Legend

-  Allotment Township
-  Parent Farms
-  Erf

Slope Percentage Class

-  0 - 3
-  3 - 10
-  10 - 30
-  > 30



Map Center: Lon: 18°44'11.6"E
Lat: 33°45'34.5"S

Scale: 1:50 000

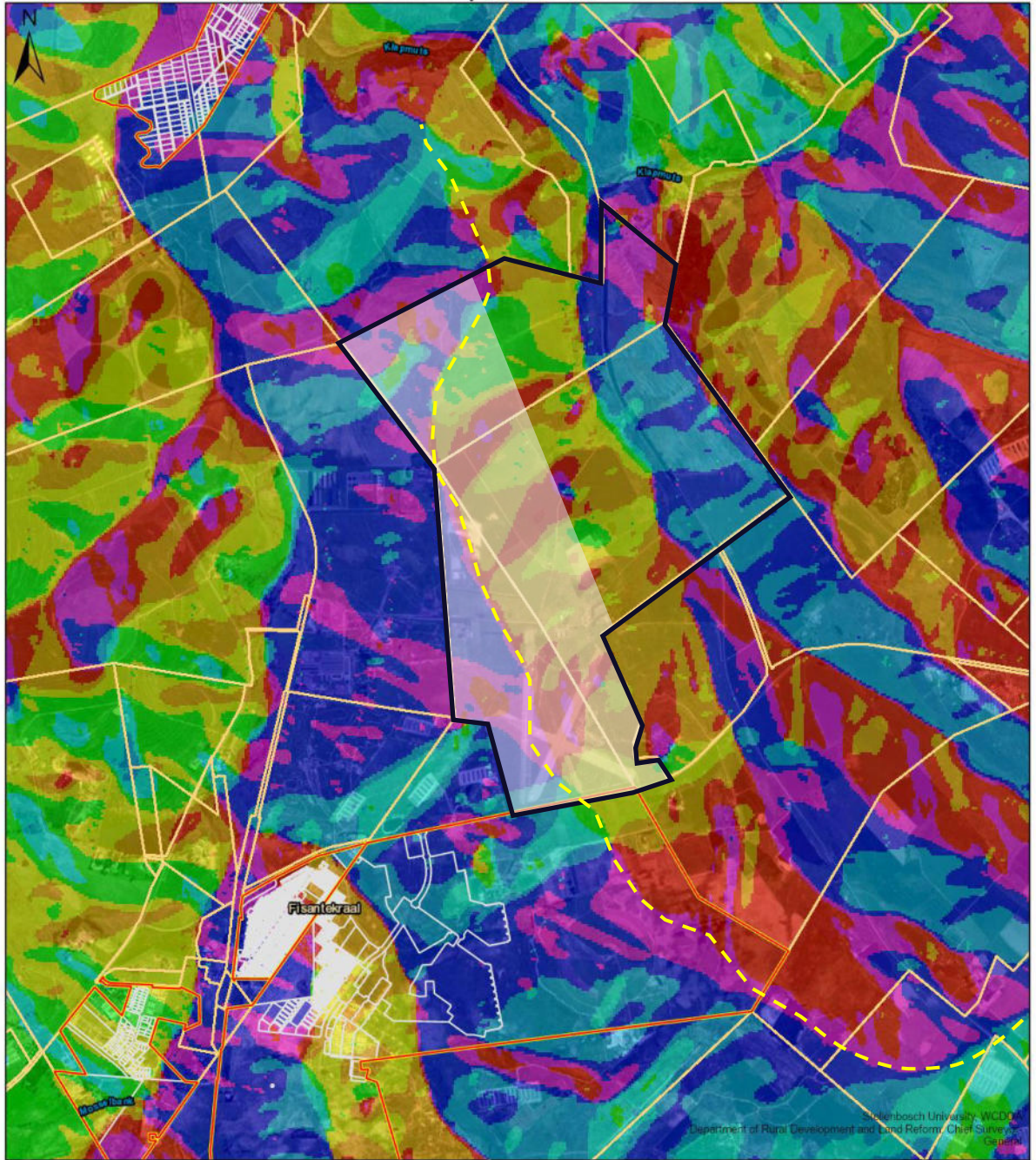
Date created: June 10, 2022



Western Cape Government
FOR YOU

Agriculture

Figure 14: Slope Percentages of the subject site and the immediate surroundings (Cape Farm Mapper,2022)



Legend

- | | | |
|--------------------|-------------------------|-------------------------|
| Allotment Township | North (0-22.5) | Southwest (202.5-247.5) |
| Parent Farms | Northeast (22.5-67.5) | West (247.5-292.5) |
| Erf | East (67.5-112.5) | Northwest (292.5-337.5) |
| Aspect | Southeast (112.5-157.5) | North (337.5-360) |
| Flat (-1) | South (157.5-202.5) | |

0 0.5 1 2 km

Map Center: Lon: 18°44'11.6"E
Lat: 33°45'34.5"S

Scale: 1:50 000

Date created: June 10, 2022



Figure 15: Slope Aspect of the subject site and the immediate surroundings, showing the low ridgeline with a dashed yellow arrow (Cape Farm Mapper,2022)

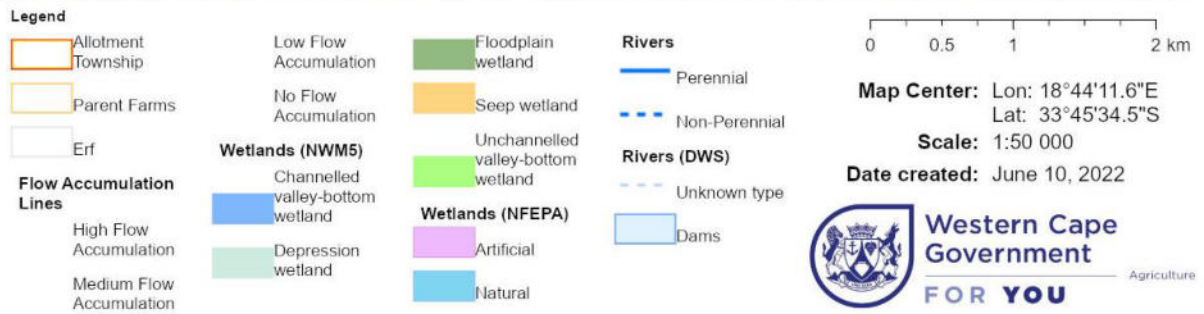
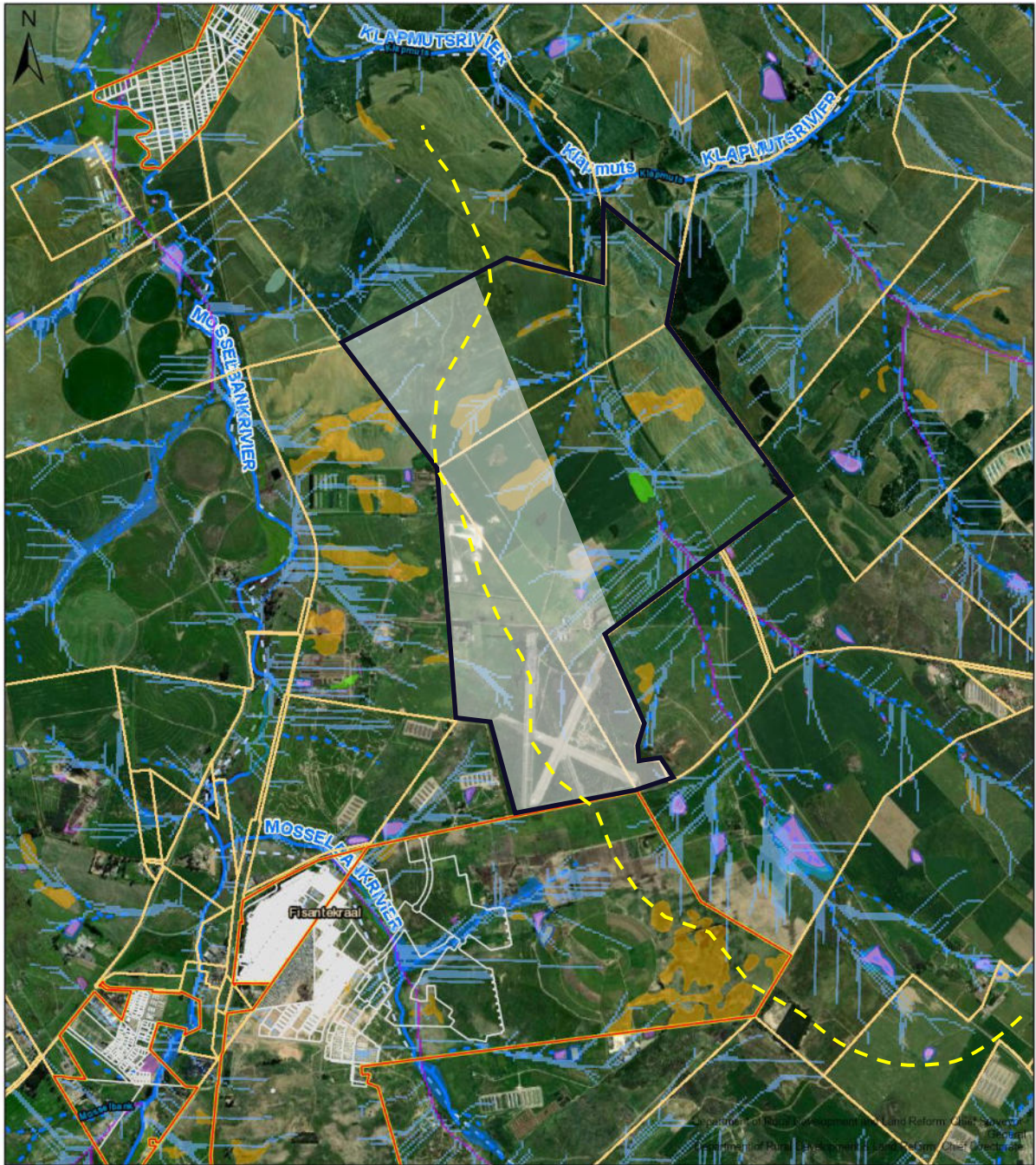


Figure 16: Water resources of the subject site and the immediate surroundings (Cape Farm Mapper,2022)

As well as having an influence on visibility (i.e.; the areas from which different parts of the subject site are visible from the surrounding areas), the topography of the subject site also affects which views are available from *within* the subject site. Generally, the viewer enjoys long and uninterrupted views of the surrounding landscapes from within the property boundaries, provided that the views are taken from the periphery of the subject site. The size and flatness of the central plateau area tends to create an “artificial horizon” for interior views, from which only distant mountains are visible. The surrounding mountains and hills visible from the subject site serve to orientate the viewer, and are illustrated in the series of site photographs that follow below. These are taken from locations within the plateau area, and are ordered in a clockwise direction (from north through east, then south and ending at west-facing views).



Figure 17: View of Paardenberg when looking north (approximately 20km away) from the northernmost end of the main existing runway (Smit, 2022)



Figure 18: View from along the R312 at the southern property boundary, looking east towards the Joostenberg (Kanon) hill (approximately 4km away) and Paarl Mountain (approximately 18km away). On a clear day, the Wemmershoek/Limietberge range would also be visible in the far distance (Smit, 2022)

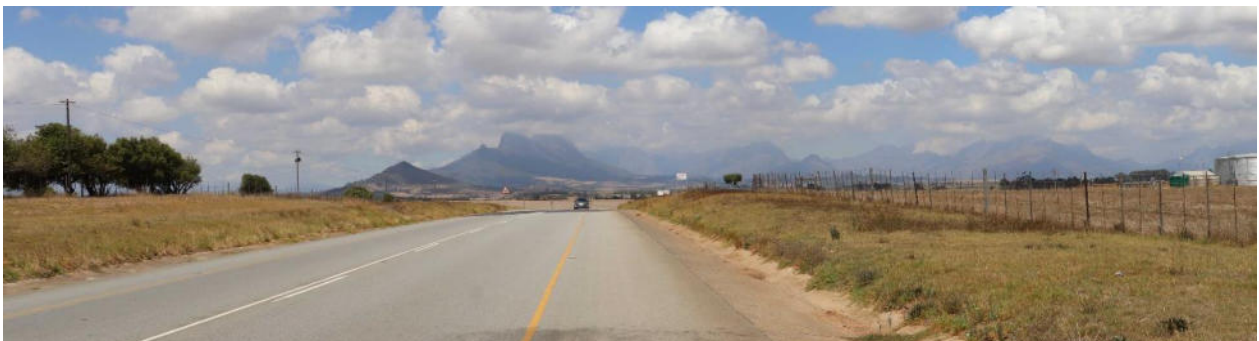


Figure 19: The photograph above is not taken from within the subject site (cloud cover prevented clear views to the south east during the site visit), but represents typical views of the Simonsberg and Hottentots-Holland Mountain ranges from elevated vantage points within the study area (Smit, 2022)



Figure 20: View from the western boundary of the subject site, looking south towards the hills east of Kuilsrivier (approximately 17km away) (Smit, 2022)

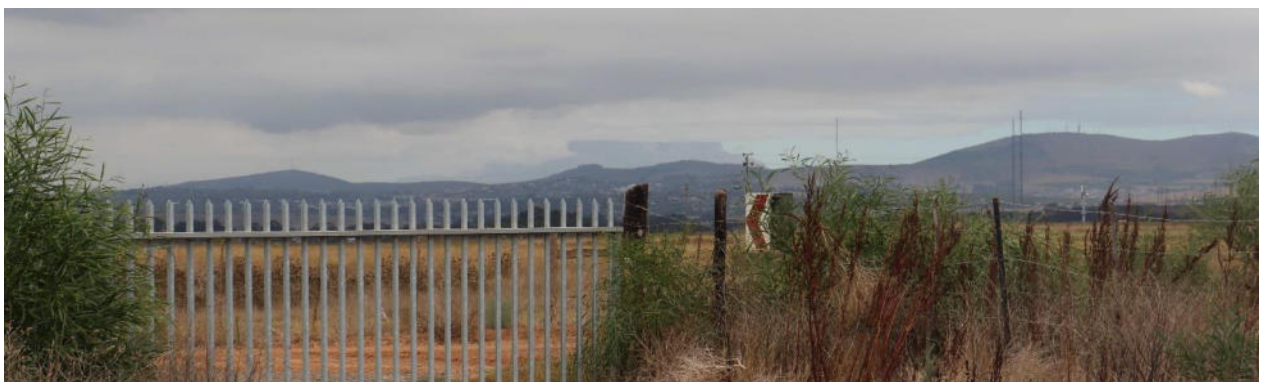


Figure 21: View from within the subject site, looking south west towards Table mountain, which is just visible below the clouds (approximately 35 km away). Note the low-lying Durbanville hills in the middle ground (approximately between 13 and 17km away) (Smit, 2022)



Figure 22: View to the west, taken from within the subject site overlooking Rondeheuwel (far right) and Meerendal hill (right of centre), approximately 7 and 11km away, respectively. (Smit, 2022)

3.2. The project within the local planning context

The property is located within the City of Cape Town Municipality, in the Western Cape province. The following section describes the site within the local planning context and identifies key informants, limitations, principles and guidelines that must be taken into consideration during the visual impact assessment.

Western Cape Provincial Spatial Development Framework, 2020

The Western Cape's Provincial Spatial Development Framework (PSDF) includes the protection of spatial assets (such as cultural and scenic landscapes) as one of its three main PSDF Spatial goals (Western Cape Government, 2020). To this end, the objective to "Conserve and strengthen the sense of place of important natural, cultural and productive landscapes, artefacts and buildings" provides guidance on how to approach impact assessment within the context of the proposed project.

City of Cape Town Municipal Spatial Development Framework, 2023 (MSDF)

The MSDF defines Cultural Landscapes as "Sites, areas, places, settlements and urban and rural landscapes of historical significance, vistas and scenic beauty and places of spiritual, cultural and historic significance" (City of Cape Town, 2018, p. 112). According to the outline of Cape Town's spatial context, Cultural Landscapes are included in the count of natural assets and destination places that are notable structuring elements for the City of Cape Town, and which make the city a desirable place to live, work, study and do business (City of Cape Town: Spatial Planning & Environment, 2023).

The city has identified and created a framework within which to conserve and manage Cultural Landscapes as heritage resources through a variety of mechanisms (City of Cape Town: Spatial Planning & Environment, 2023, p. 147) (See Policies 11 – 13). The MDSF also considers the careful management of land uses and interventions along identified scenic routes (City of Cape Town: Spatial Planning & Environment, 2023, p. 65).

The sub-strategy supporting this policy statement is to "Enhance the city's unique assets, value of heritage resources, scenic routes and destination places", which is achieved through Land use management decisions that are guided by the Scenic Drive Network Management Policy, Urban Design Policy, Outdoor Advertising Bylaw (2023) and relevant considerations within applicable District SDF Development Guidelines.

The MSDF identifies the areas surrounding the subject site to the south, south east, east, north east, north, north west and north (across the R302) as areas of Agricultural significance (refer to Figure 23). The subject site falls on the boundary of the Urban Development Edge. According to Consolidated spatial plan concept

(see Figure 24), the subject site falls within two Special Transformation areas, namely an Incremental Growth Area (within the urban edge) and Discouraged Growth Area (outside of the urban edge). Within the Discouraged Growth Area is mapped an Area of Agricultural significance, which will be affected by the proposed development. A Gateway is indicated along the R312 Scenic route.

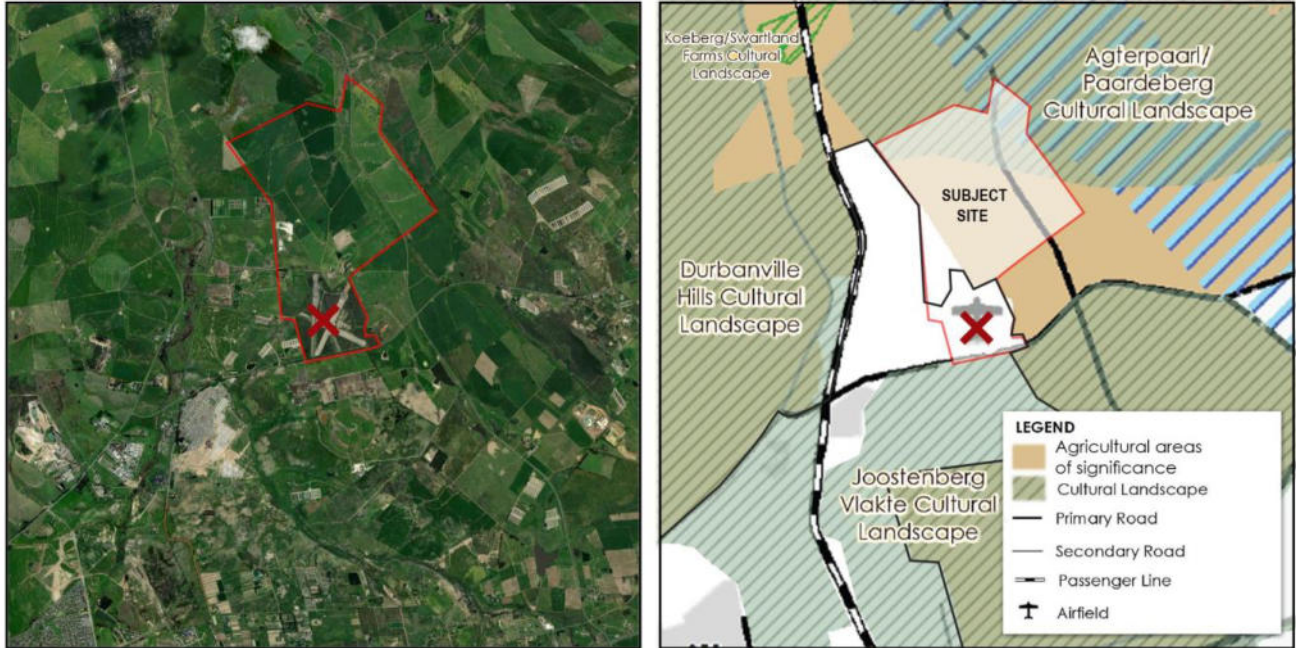


Figure 23: Aerial photograph indicating the position of the subject site (left). MSDF Thematic Map: Heritage Resources (City of Cape Town, 2018) (right).

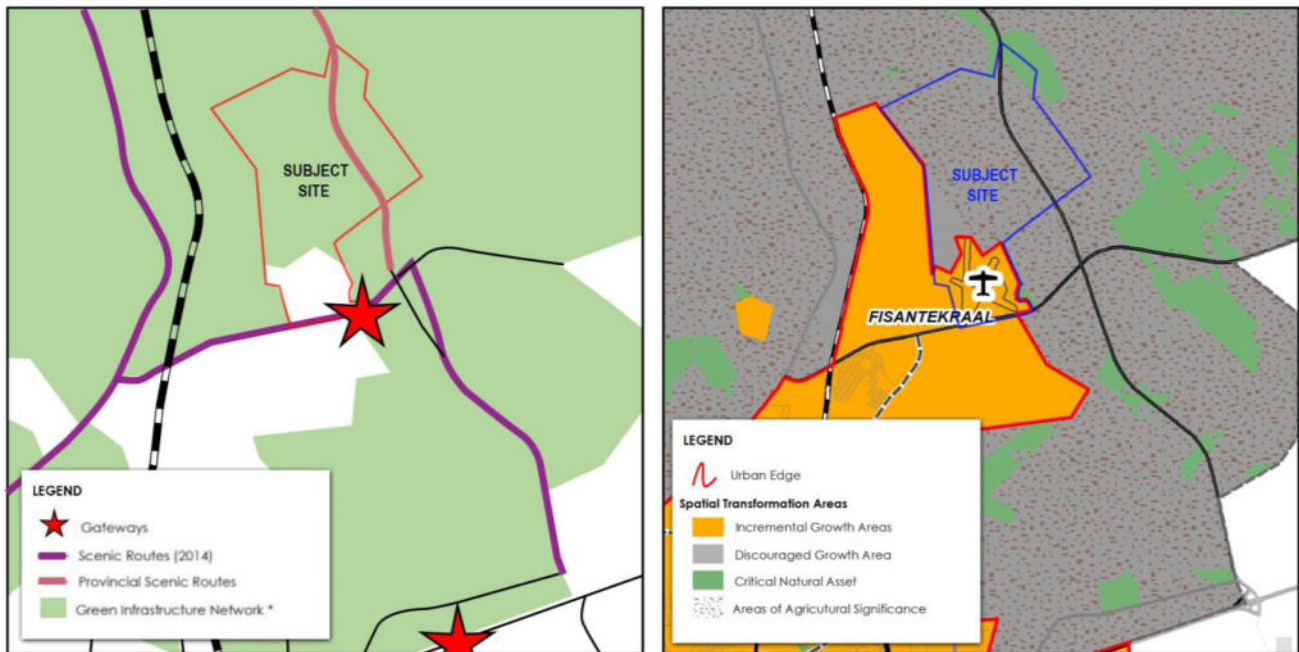


Figure 24: Thematic Maps – Tourism Assets & Green Infrastructure Network (left), and Consolidated Spatial Plan Concept map (SDF) (right) (City of Cape Town: Spatial Planning & Environment, 2023)

The subject site is mapped as containing areas of Terrestrial Critical Biodiversity (CBA) and Degraded Terrestrial Critical Biodiversity (CBA2). These areas are typically part of a network of areas that contribute to reaching national conservation targets, but it is uncertain if these mapped areas have conservation value at the time of the writing of this report. Refer to Figure 25 below for illustrative map.

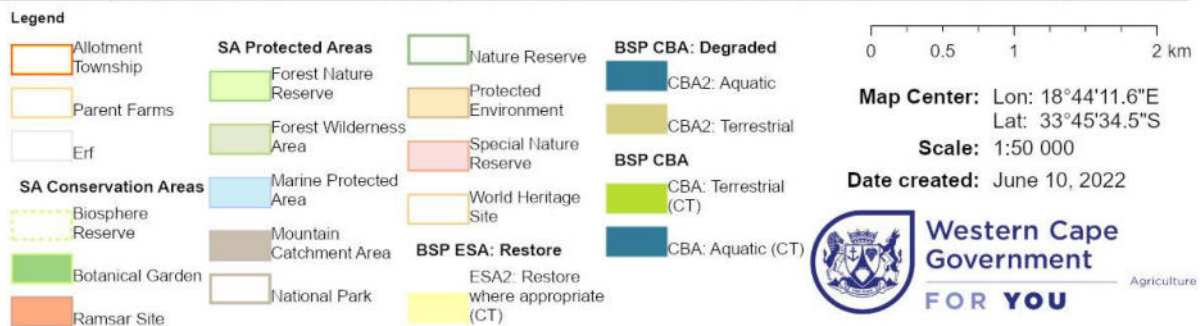
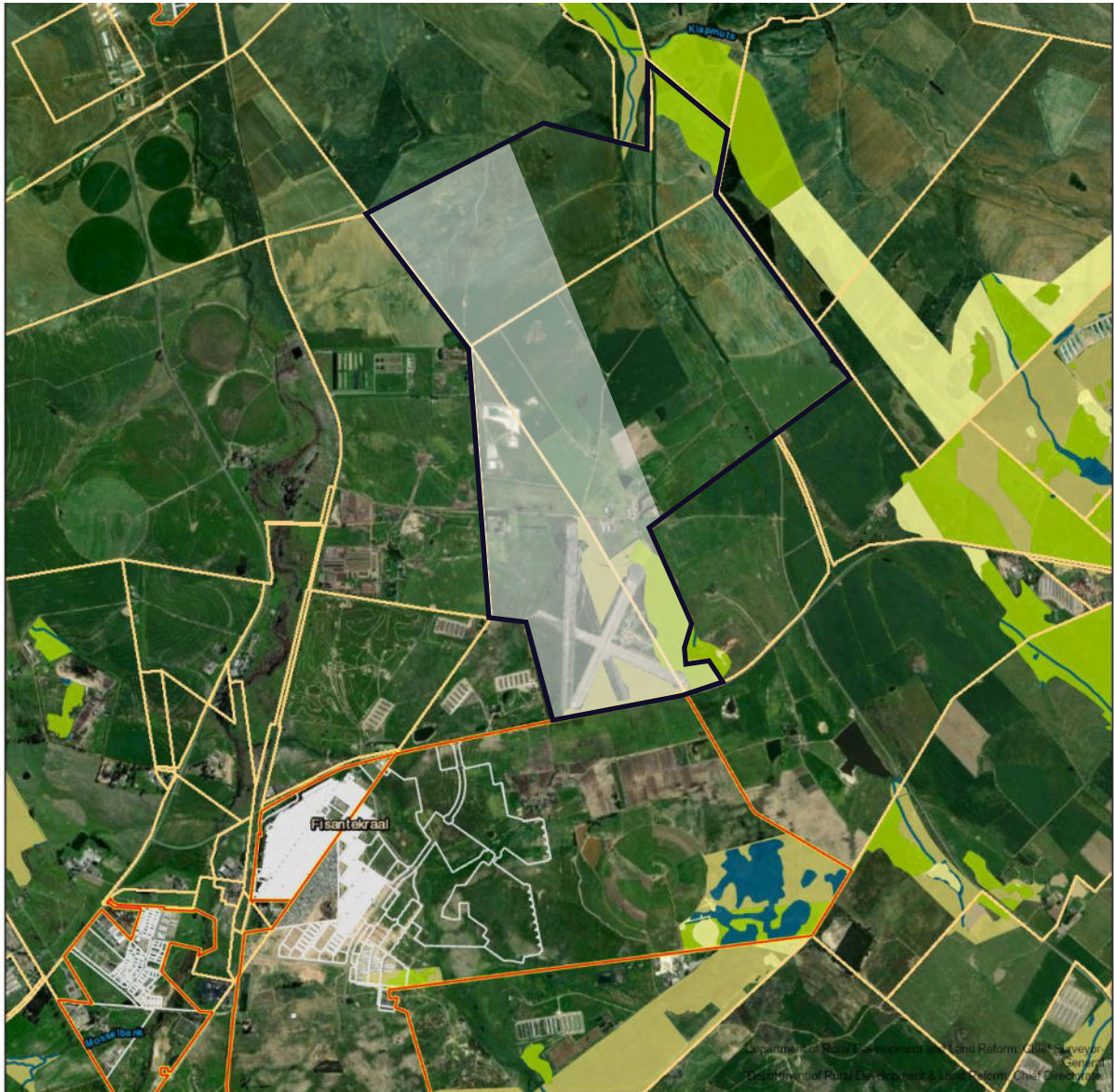


Figure 25: Conservation and protected areas: subject site and surrounds (Cape Farm Mapper,2022)

Northern District Plan, 2023

The Northern District plan is the lower-order spatial plan used to interpret the MSDP on a local, cadastral scale (City of Cape Town, 2018, p. 189), approved as a Structure Plan in terms of Section 4(10) of the Land Use Planning Ordinance, Ordinance 15 of 1985 (Northern District Plan: Technical Report, 2012).

“The Northern District falls within the urban periphery where extensive low density residential development has taken place without the required investment in employment creation opportunities being made. The district has been identified as one of the growth areas of the City and the identification of suitable land for industrial/ employment location to serve an ever-increasing expanding residential hinterland is of strategic importance if the inefficiencies of the current urban structure are to be counterbalanced.” (*Northern District Plan: Technical Report, 2012, p. 15*)

“The Northern District is a strategic part of the City as it accommodates an already identified long term growth corridor, i.e., the Kraaifontein North East growth corridor, where adequate land (with limited agricultural- and biodiversity potential) is available for integrated housing development.

The District is also home to a vast hinterland, which comprise of inter alia the Durbanville Winelands, large tracks of land being utilised for wheat farming, as well as smaller settlements... the hinterland is ... under immense pressure for development outside of the urban edge, which needs to be managed in a responsible manner.” (*Northern District Plan: Technical Report, 2012, p. 22*)

The District plan identifies development pressure on environmentally sensitive areas and areas with valuable agricultural land as a challenge in the Northern District. A spatial objective identified in the document is the need to protect the Durbanville Hills from any large-scale urban development, but consider developments which may enhance the tourist potential of the area (City of Cape Town, 2012, p. 23).

The Northern District’s conceptual Framework identifies the Kraaifontein North East Development Corridor as a Future urban growth area (Northern District Plan: Technical Report, 2012, p. 33). This is considered the main growth area of the district, which is expected to provide significant opportunity for new residential, commercial and industrial development. The area is which is primarily focused on the existing rail line (City of Cape Town, 2012, p. 102), with the backbone of transport being the envisaged northern passenger line, the extension of Lucullus Road, and the envisioned East West Connector Road between Okavango Road and the R304.

The Northern District Plan is divided into **Sub-districts**, which aim to provide land use decision-making on a more localised scale. The property is situated in **Sub-district 4: The Agricultural/ Rural Hinterland**, but it abuts and shares the entirety of its western boundary (as well as portions of the subject site) with **Sub-district 3: The Northern Growth Corridor**.

According to the NDP, the strength of the Durbanville Rural Hinterland lies in its diversity and rich history. The challenge lies in protecting these strong points in an accommodating manner that still allows development whether it be related to tourism or other employment generating activities. Land use themes in the study area include the wine valleys, productive grain farming areas, and the north-south Agri-industrial/Industrial band along Wellington/Klipheuwel Road.

The following aspects of the rural hinterland that are significant in terms of visual impact assessment are summarised as follows:

- i. It is an area of employment generation through the agricultural and mining employment, as well as being a resource base in terms of food production, export products and construction materials;
- ii. It offers leisure, recreation and tourist attractions;
- iii. It houses bulk infrastructure like the new Wastewater Treatment Works at Fisantekraal and the Fisantekraal Airfield;
- iv. The smallholdings at Westerdale and Klipheuwel offer rural living in close proximity to the City;
- v. Its natural and Cultural Landscapes are a gateway to both the City of Cape Town and Durbanville;
- vi. Natural resources i.e., wetlands, ecological corridors fulfil a vital ecological role in terms of biodiversity conservation.

The following principles are deemed important to protect the character within the rural context:

- i. Scenic-drives and landscapes should be protected. These rural landscapes are the result of a combination of topographic elements, land uses (viticulture, grain farming, mixed farming), cultural heritage (historic farms/towns) and built form (wineries, farmsteads) as well as environmental features such as indigenous vegetation and tree-lined avenues.
- ii. Links of sensitive environmental landscapes i.e., Renosterveld; river systems should be reestablished;
- iii. Where development takes place, the 'werf' concept i.e., clustering of buildings around a central area, should be promoted. This would include acknowledging the site/region specific architecture with sensitivity towards scenic landscapes/drives/views;

There are some **natural assets** within the study area, but limited to the ecological corridors associated with rivers; undisturbed features within the rural areas (such as hilltops) and other ecological support areas. The Joostenbergkloof core flora site is the only conservation area recorded within the study area. Agricultural landscapes are however also considered to be protected natural assets because of their unique production, cultural and heritage attributes. The District plan outlines an imperative to enhance and protect natural assets, especially in terms of their role in bringing economic development in the district in terms of tourism opportunities. The Municipality is therefore tasked with the protection of these valuable Cultural Landscapes and environments.

The Northern District Plan also identifies **destination places and scenic routes** (Northern District Plan: Technical Report, 2012, p. 29) that occur within the study area such as the Durbanville Hills Winelands (which comprises of a number of wine estates, scenic routes and Cultural Landscapes) and rural villages such as Klipheuwel. According to the District plan, the hinterland contributes significantly to the economy of the region, and also provides a certain quality to the adjacent urban environment, and should therefore be protected from urban sprawl (City of Cape Town, 2012, p. 32).

The scenic routes mentioned in the NDP are categorized as Scenic (S1) and Scenic (S2) routes. The S1 routes are limited access routes which traverse areas of high scenic quality, whilst S2 routes traverse areas of high scenic value but are frequently accessed. The following development guidelines apply:

“Development along scenic routes should not obscure views from the route or negatively affect the character of the landscape through which it passes. Guidelines for development along the said routes are contained in the Scenic Drive Network Management Plan (Phase B), July 2001,

which should be consulted when development proposals are formulated for areas adjacent to the scenic routes.” (Northern District Plan: Technical Report, 2012, p. 55)

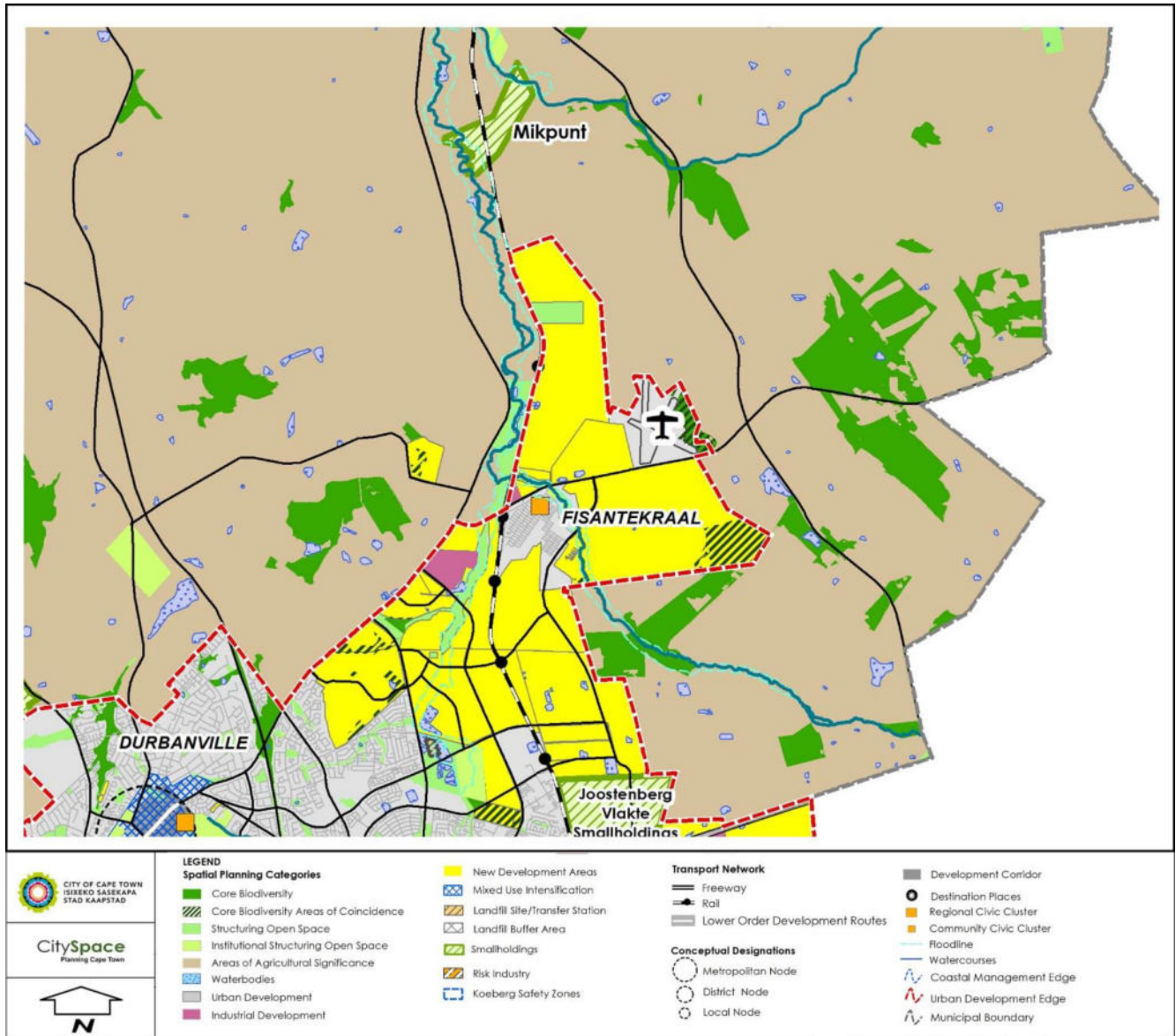


Figure 26: Northern District SDP (City of Cape Town, 2023)

The Northern District identifies certain Cultural and Recreational Resources Zones (refer to the map Figure 6 on page 86 of the NDP). The scenic routes mentioned above, and the Cultural Landscapes illustrated in Figures 23 and 50 of this report are part of these zones. The subject site does not fall entirely within any of these zones, but is entirely surrounded by them, and abuts the R312 Lichtenburg Road scenic route.

“The district represents a number of important Cultural Landscapes, which have their origins in the early outposts, associated with the Dutch East India Company station at Table Bay. Many of the current farmsteads and the associated vineyards and agricultural land are of historic and cultural importance. The Cultural Landscapes of the district are under pressure from urban and industrial development...” (City of Cape Town, 2012, p. 81)

The management priority within these Cultural and Recreational Resources Zones is to:

- Retain and protect: Retain urban rural context of the Joostenberg Vlakte, Agterpaarl/Paardeberg and Koeberg/Swartland Cultural Landscape, as well as retaining agricultural viability and protecting scenic routes.

The EIA requirements within Cultural and Recreational Resources Zones relevant to the proposed development are as follows:

- Avoid development and urban sprawl outside of the urban edge;
- Limit subdivision and manage density around the urban edge;
- Notification of Heritage Western Cape and undertaking of a Heritage Assessment of appropriate scale is recommended for proposed development in any of the above areas. NIDS must be in terms of Section 38 of the NHRA (no. 25 of 1999);
- Illegal dumping and pollution should be strictly monitored within these areas.
- Authorisation of the activities in these zones must be in compliance with the City of Cape Town Outdoor Advertising By-Law, 2023.

The Management Priority to Monitor and manage impacts within Cultural and Recreational Resources Zones relevant to the proposed development are as follows (City of Cape Town, 2012, p. 73):

- Prevent illegal demolition and alteration of identified and unidentified heritage structures and places.
- Consultation with the City's Heritage Department is required where applications may have an impact on heritage.

For Scenic routes, the kinds of developments, land uses or activities that would be undesirable within the Cultural Landscape are:

- Activities which compromise or restrict views.
- Activities inconsistent with the landscape / townscape
- Outdoor advertising.

For kinds of developments, land uses or activities that may have a significant impact on scenic routes, the NDP states that appropriateness is dependent on the section of road in question. Suitable activities should be congruent and sympathetic to the landscape / townscape (City of Cape Town, 2012, p. 84).

The Spatial Development Plan for the Northern District maps **Core 1¹² Spatial Planning Category areas** over the subject site. It is unclear at the time of the writing of this report whether or not these areas warrant conservation and should be protected. Nevertheless, the District Development Guidelines for Core 1 areas are as follows:

- Action:** *Conserve remnants of sensitive and threatened vegetation types.*
- District Development Guidelines:**

¹² Core 1: Statutory conservation areas (biodiversity areas that are formally protected and managed); critical biodiversity areas; conservation priority zones; critical, irreplaceable and restorable biodiversity sites; public conservation areas and private conservation areas.

- a. Activities in these areas should focus on conservation use with conservation management activities (e.g., alien clearing, research) encouraged.
- b. In general, low impact activities such as passive recreation (e.g., walkways and trails), environmental education and tourism may be appropriate, but should be subject to stringent controls. (e.g., limits to development footprint, management plans).
- c. Where possible, all new utility infrastructure, services and structures should be located outside of these areas.
- d. Further subdivision of these areas should generally be discouraged, and consolidation encouraged.

Heritage and Scenic Resource: Inventory and Policy Framework for the Western Cape

The first level of landscape classification identified in this document places the site in the Cape Metropolitan area on a regional scale. The next sub-regional level of landscape classification is based on a geomorphological approach (geology and landform are an overriding trait in the classification of landscape types at the broad regional scale) (Western Cape Government, 2013, p. 8), illustrated in the below cross-section of the Landscape Types typical of the Western Cape.



Figure 27: Typical Section through the Cape Metro illustrating the pronounced topography of the quartzitic sandstones (blue), granite foot slopes and intrusions (pink) and shales incised by alluvial valleys (brown) (Heritage and Scenic Resources Inventory and Policy Framework for the Western Cape , 2013)

The subject site is located within the Cape Metro, and under the landscape type of Foothills and gently undulating plains: a landscape incised by rivers and characterized by the cultivation of vineyards, orchards and wheatlands amongst farming settlements (Western Cape Government, 2013). The study area includes two¹³ of the resource types identified by the Inventory as worthy of formal protection: Cultural Landscapes and Scenic routes. The threats and effects to heritage and scenic resources within the Western Cape and well as the key issues and challenges are noted in this study, and listed on pages 27 – 30 of the Heritage and Scenic Resource Inventory and Policy Framework.

Possible negative effects on rural landscapes include:

- Incremental erosion and fragmentation of rural landscapes;
- Agriculture reduced to “islands”;
- Visual cluttering of the landscape by non-agricultural development;

¹³ The Natural landscapes and historic settlements that might have been considered in the greater receiving environment are not considered here because they are not affected due to distance from the subject site.

- Loss of rural authenticity, character and scenic value.

Possible negative effects on scenic routes include:

- Loss of scenic value, wilderness experience and rural character.

The inventory document also identifies “rural landscapes of scenic and cultural significance situated on the major urban edges and under increasing development pressure, e.g., Cape Winelands” as having high heritage significance (which are potentially threatened / vulnerable and require strategies to ensure their long-term protection) (Western Cape Government, 2013, p. 57). Given that the subject site is located in such an environment, the following imperatives apply:

- **A pre-cautionary approach** to development applications within these landscapes should be adopted. The emphasis should be on enhancement of significance, and the avoidance of negative impacts rather than the mitigation thereof.
- **Conservation of special qualities** which make these landscapes particularly unique.
- **Avoidance of large-scale developments** which negatively impact the intrinsic value and character of these landscapes.
- **Avoidance of incremental erosion** by developments of these values, (e.g., piecemeal subdivision of productive agricultural land into smaller farming units within rural landscapes of high heritage and scenic significance or commercial development along scenic routes through rural landscapes).
- **Careful placement of large-scale infrastructure** within or adjacent to landscapes of high heritage and scenic significance (such as windfarms, power stations, transmission lines, solar energy plants).
- **Conservation emphasis** should be on the public realm, public view cones and corridors, public access and public space.

The principles that provide an overarching framework for the heritage and scenic guidelines relevant to Scenic routes and Cultural Landscapes are noted in this study, and can be found on pages 30 – 32 of the Heritage Inventory and Framework document. The following principles are noteworthy in the context of this proposed development:

Principles	
Landscape significance	Acknowledging the overall natural and Cultural Landscape, and the layered pattern of settlements in response to the natural landscape over time.
Landscape integrity	Retaining the essential character and intactness of ... rural and urban areas in the face of fragmentation through unstructured urbanization and commercial agriculture.
Landscape connectivity	Retaining the continuity and interconnectedness of wilderness and agricultural landscape, including ecological corridors and green linkages.
Landscape setting	Maintaining the role of the natural landscape as a “container” within which settlements are embedded, the landscape providing the dominant setting or backdrop.
Cultural significance	Acknowledging all aspects of cultural significance and cultural diversity as well as transforming interpretations of history and heritage values.
Context and scale	Recognizing that the value of heritage sites is often determined by their spatial and social context at a range of scales requiring a holistic approach to heritage management.
Authenticity	Ensuring that interventions in heritage contexts are sympathetic to distinctive regional building and landscaping typologies, and appropriate in terms of scale, massing, form and architectural idiom.
Sense of place	Responding to the unique topographical, geological and cultural features inherent in remote, cultivated and urban landscapes, each with their own sense of place.

Sense of fit	Maintaining a sympathetic relationship between settlement and topography - treading lightly on the landscape.
Sense of timelessness	New development remaining sensitive to the context, and expressing a sense of rootedness in the local landscape.
Access to resources	Ensuring access to cultural resources as a key conservation management principle, especially where the public has traditionally enjoyed rights of access.
Interpretation of heritage	Using appropriate forms of interpretation to enhance the understanding of the significance of heritage resources, recognizing that there are different understandings and interpretations of cultural sites from diverse cultural perspectives.
Integration with development planning	Landscape and heritage management regarded as an essential and integral aspect of development and planning, which guides responsible and sustainable management of change, and is thus not separate from the planning system.
Heritage tourism	Recognizing that heritage and scenic resources are economically valuable in terms of tourism development and job creation if developed in a responsible and sustainable way.
Urban and rural regeneration	Utilizing heritage resources, such as the adaptive use of historic buildings, to enhance the character of an area, and thus encourage public and private investment and create tourism opportunities.

Specific Policies and Guidelines for Rural Landscapes of Significance include:

Rural Landscapes	Policy	Guidelines
Natural visual setting	R.1 Conserve the green or topographical “containers” of rural landscapes and settlements.	<ul style="list-style-type: none"> Prevent encroachment of development where these erode distinctive visual settings.
Dominance of rural landscapes	R.2 Create compact rural settlements with well-defined urban edges.	<ul style="list-style-type: none"> Prevent urban sprawl in rural landscapes by clustering new development into distinct, compact footprints related to existing movement routes, embedded within zones of agricultural dominance as opposed to creating continuous swathes of development. Give preference to the densification/reinforcement of existing settlements and settlement patterns rather than extending development outside the urban edge in an unstructured random manner. Ensure that new subdivisions respond appropriately to the historical context and pattern of settlement. Avoid the decentralisation of retail and office centres which contribute to urban sprawl. Avoid large-scale infrastructure such as wind farms, solar energy facilities and transmission lines in natural and Cultural Landscapes of high significance.
Planting patterns	R.6 Conserve traditional patterns of planting in Cultural Landscapes of significance.	<ul style="list-style-type: none"> Ensure that windbreaks, avenues, copses and place-defining or gateway planting are not needlessly destroyed by new development. Reinforce or replace traditional patterns of planting where appropriate with suitable species.

Specific Policies and Guidelines for Scenic Routes include:

Scenic Routes	Policy	Guidelines
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Major scenic routes	S.1 Protect and promote scenic routes and passes of regional, heritage and tourism significance, because of their cultural value and importance to the economy of the Western Cape.	<ul style="list-style-type: none"> Use by-laws to establish visual buffer zones with setbacks and height restrictions along scenic routes. (E.g., 100m setbacks for major national / provincial routes, and 30m for secondary routes, but these are dependent on view corridors and other local conditions).
Linking routes, networks and gateways	S.2 Recognise the importance of linking routes that together with the scenic routes, provide valuable networks and gateways within the region.	<ul style="list-style-type: none"> See the routes as important gateways to towns and other settlements, and to places of scenic or heritage significance, by means of appropriate signage and route markers for tourism purposes.
Landscape setting and design	S.3 Respect the landscape setting and gateway qualities of important scenic routes and mountain passes, particularly those with a wilderness or rural setting.	<ul style="list-style-type: none"> Ensure appropriate design of road verges, stormwater structures, fences, farmstalls and picnic sites, which should be in character with the natural or rural surroundings.

Scenic Drive Network Management Plan, 2003 (SDMP)

The purpose of the Scenic Drive Network Study and Management Plan is to identify routes which traverse areas of outstanding scenic quality in the City of Cape Town and to establish a sustainable balance between the conservation of its associated natural and built amenities and the development of its tourism and recreational potential (City of Cape Town, 2003, p. 8). According to the MSDF, the principle that applies when considering allocation of development rights for properties associated with Scenic routes (with reference to the provisions of the NHRA), is that “Valuable view corridors, undeveloped ridge lines, heritage assets and existing vistas should be enhanced and celebrated by any development proposal (or cumulative impact of development proposals)” (City of Cape Town, 2018, p. 83).

The following terms are used when describing Scenic routes:

- Scenic Drive/route Envelope: The carriageway (of the Scenic route), the road reserve, immediately adjacent public land and the first erven abutting any of these (City of Cape Town, 2003, p. 3).
- Scenic Route S1: These are routes which fulfil the definition of both “scenic” and “drive”, and are limited access routes which traverse areas of high scenic quality.
- Scenic Route S2: Refers to routes which fulfil the definition of “scenic” but not of “drive”, and are roads which traverse areas of high scenic quality, but which are frequently accessed.

Scenic routes within the study area are:

1. Route 30b: R302 Klipheuwel road (S1/2)
2. R304 (between N1 and R312) (S1)
3. Route 31: R312 Lichtenburg Road (S1)

The R302 Klipheuwel Road and the R304 are located approximately 2,5km and 1km away from the western and eastern boundaries of the subject site, respectively. The subject site is therefore outside of the Scenic Drive/route Envelope of both these roads, and visual impacts are expected to be limited and low in significance. Fieldwork indicated that the Spes Bona Road should be considered in this VIA as a de facto scenic route. The R312 Lichtenburg Road is however located on the southern boundary of the subject site,

and therefore within the Scenic Drive/route Envelope. The following is a brief description of the R312 scenic route in terms of current policy.

- According to the SDMP, Lichtenburg Road links Durbanville with Paarl and Wellington, and (as with other rural routes in this area) provides representative scenic views of the surrounding mountains and of Paarl Mountains in particular when travelling eastwards (Scenic Drive Network Management Plan, 2003, p. 78). The SDMP describes this as an intrinsic quality of the route.
- In terms of visual quality, the route provides views of the surrounding mountains and countryside. The middleground farmland views and distant mountain vistas (with electricity pylons and other discordant elements closer to the Durbanville urban edge in evidence) are given an overall Moderate visual quality.
- In terms of the image of the route, the SDMP notes that the existing Fisantekraal Airfield does not have a negative visual impact on the scenic value of the route, and that future development should not compromise the scenic value of the route.
- The SDMP suggests the establishment of viewpoints & interpretative opportunities is not warranted by visual quality.

In conclusion, the SDMP found that this route functions generally well as a rural scenic route, but that it should be ensured that development at Fisantekraal Airfield does not detract from its scenic role.



Figure 28: Site photograph from the R312 Lichtenburg Road Scenic route looking south toward the Boland mountains (Simonsberg and Stellenbosch mountains) (Smit, 2022)



Figure 29: Site photograph of the R312 Scenic route's Scenic Drive/route Envelope looking east towards the CWA from just outside of the Fisantekraal settlement. Note that while distant views are not available from this vantage point (while travelling up the hill towards the plateau) as in Figure 28, the Receiving Environment is still distinctly rural and agricultural in character (Smit, 2021)



Figure 30: Site photograph from the Lichtenburg Scenic route looking south west towards Durbanville. Note distant views of Table mountain across farmland, where the majority of the low-lying areas of mixed character and recent urban sprawl are screened by topography from this vantage point (Smit, 2021)



Figure 31: Site photograph of the R312 Scenic route's Scenic Drive/route Envelope taken from the south westernmost point of the subject site, looking south west. (Smit, 2021)

3.3. The Receiving Environment

The initial study area is delineated by a 5-10km radius¹⁴ around the project site. The following section describes this area as the Receiving Environment (RE). Subsequent fieldwork confirmed that a +8 km radius is an appropriate range for the description of the study area, as the Receiving Environment further than 8km will be negligibly affected by the proposed development in terms of visual and aesthetic considerations. The study area will later be reduced to focus on the Zone of Potential Visual Influence (ZoVI) after viewshed analysis and line of sight testing.



Figure 32: Site photograph taken from the Spes Bona Road (a de facto scenic route) overlooking the Receiving Environment at a distance of approximately 5km from the subject site (Smit, 2022)

¹⁴ The upper limit of potential visibility for a development of this scale within this kind of receiving environment is between 5 and 10km. Views near to, at or at distances of more than 10km are considered negligible. After Visibility testing, this distance may decrease.

3.3.1 Description of the Receiving Environment

The topography of the study area is characterized by shallow river valleys and gently rolling hills, most of which are under cultivation, giving way to agri-industrial land uses further south and ultimately predominantly suburban (and industrial) areas within the urban edge of Durbanville.

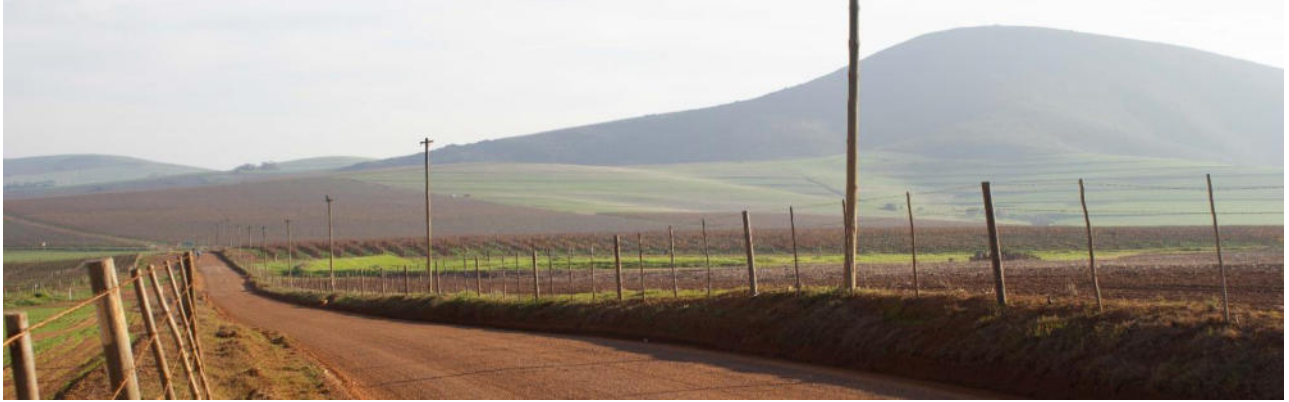


Figure 33: Site photograph illustrating the gently rolling hills found in the north west of the study area, within the Durbanville hills Cultural Landscape (Smit, photo taken in winter 2021)



Figure 34: Site photograph illustrating the undulating landscape of wheat fields around the R304 east of the subject site (Smit, 2022)

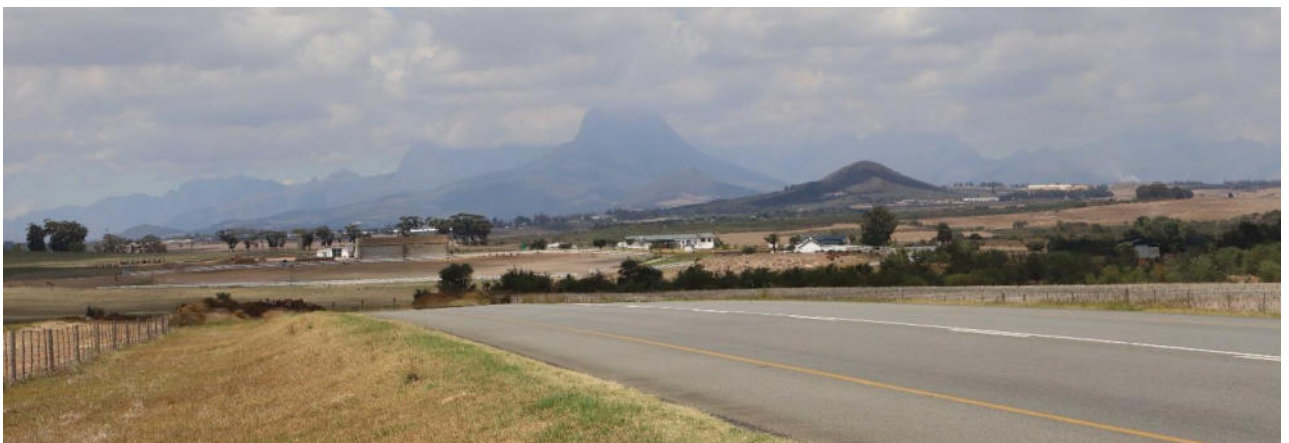


Figure 35: Site photograph illustrating the character of the landscape in the north east of the study area in the Agterpaarl/Paardeberg Cultural Landscape, looking south towards Simonsberg and Joostenbergkloof (Smit, 2022)



Figure 36: Site photograph illustrating the character of the landscape of found in the north west of the study area near Klipheuwel within the Koeberg/Swartland Farms Cultural Landscape (Smit, 2022)



Figure 37: Site photograph illustrating the character of the landscape of found in the south east of the study area within the Joostenberg vlakte Cultural Landscape (Smit, 2022)

Topographic relief generally increases westward towards the Durbanville hills, and decreases eastward towards the sloping flats of the greater Mosselbank river valley and the Agterpaarl/Paardeberg Cultural Landscape. The Receiving Environment generally enjoys long views towards Paardenberg (north east), Paarl Mountain (east), Simonsberg (south east) and the Boland Cape Fold range running from Somerset West northward in the distance (refer to Figures 28, 32 and 35). The southern portions of the Receiving Environment also enjoy distant views towards Table mountain (see Figures 31 & 37).

The study area contains a number of bulk infrastructure features, including a number of ESCOM servitudes containing overhead powerlines, distribution lines, sub-stations and telecommunication infrastructure. These and other infrastructural, industrial and semi-industrial features contribute to visual clutter and discordant elements visible in the landscape surrounding the subject site. This includes the masts of the Goedverwacht Radio Station, the Fisantekraal Waste Water Treatment Works (WWTW), various poultry batteries in the area (concentrated around Joostenbergkloof), the Durbanville Industrial park, some mining-related land uses (e.g.; Apollo Bricks), industries such as Namchar and the local feedlots. These man-made discordant visual elements are generally concentrated along the parallel railway line and Klipheuwel road (within the Kraaifontein North East growth corridor), with Fisantekraal's expanding residential areas being the nearest in proximity to the subject site.



Figure 38: Site photograph of the Railway line and surrounds, located approximately 1,8km west of the subject site (Smit, 2022)



Figure 39: Site photograph of recent extensions to Fisantekraal, south west of the subject site (Smit, 2022)



Figure 40: Site photograph demonstrating the intensity of visual clutter as a result of the Eskom power lines where these cross Canary Street near Fisantekraal (Smit, 2021)



Figure 41: Goedverwacht Radio Station antennae, with agri-processing infrastructure on a neighbouring property in the foreground, viewed from R302 (Smit, 2022)

Land use in the study area is predominantly agricultural, with areas of agri-industrial, peri-urban/industrial (concentrated along the Klipheuwel corridor) and urban/residential in the south (within the Fisantekraal settlement and the Durbanville urban edge) interspersed. This land use mix is typical of areas at the outskirts of the Cape Town Metro, and their concurrent development pressures are often in conflict with the Cape Winelands Cultural Landscapes.

Land uses within 5km of the project site includes the following:

- Agricultural activities surrounding the site, with areas that are more exclusively under cultivation located in the hinterland and within Cultural Landscape areas. Vineyards and wine estates are located on the slopes of the Durbanville Hills and foothills; while grazing and grain dominate the open fields to the west, east and north.
- Schools and community facilities are located within Fisantekraal.
- To the south and east of the subject site is the Joostenberg Vlakte, a semi-agricultural area that is characterized by large plots and smallholdings, equestrian farms, various guest houses and strong landscape and settlement patterns created by tree avenues.
- Along the Klipheuwel corridor, there are industrial, agri-industrial and mining activities.



Figure 42: Site photograph showing the Namchar grounds along the railway line just south of Fisantekraal (Smit, 2021)



Figure 43: Site photograph showing typical local road conditions and vegetation patterns within the agricultural areas surrounding the site (Smit, 2022)



Figure 44: Site photograph taken from within the Joostenberg Vlakte Cultural Landscape (Smit, 2021)



Figure 45: Site photograph taken from the R302 overlooking the landscape between the Klipheuwel road and the subject site containing the Dirt&Dust off-road track and the Country fair chicken batteries, with long views towards the distant mountains (Smit, 2021)

Generally, **land use** intensifies and densifies southward and southwestward towards the urban areas, with pockets of isolated development within the agricultural landscape (such as the Durbanville industrial park and the Fisantekraal and Greenville Garden City residential areas). The landscape to the north and east of the subject site is notably more agricultural and rural (with the exception of a concentration of agri-industry in the Joostenbergkloof area), while areas to the west tend to be more mixed in land use and character.

The subject site's Receiving Environment can be described as a rural agricultural, containing isolated areas with land uses of mixed density and nature; with a band of peri-urban agricultural and industrial activity in the south western portions of the study area that have been earmarked for extensive future development.

Natural vegetation in the area has generally been modified and/or completely transformed through cultivation of the land for agriculture, industry and urban development. Remnant natural vegetation, if any, would be associated with the river valley bottoms in the study area. Local **vegetation patterns** are not uniform throughout the study area, given the wide range of land uses. However, within the agricultural areas, vineyards and paddocks are sometimes framed by avenues of mature trees (typically beefwood, pines and Eucalyptus species) used as windbreaks. These avenues are often isolated and associated with farmsteads and yards/werf areas, entrance roads and the edges of agricultural fields.

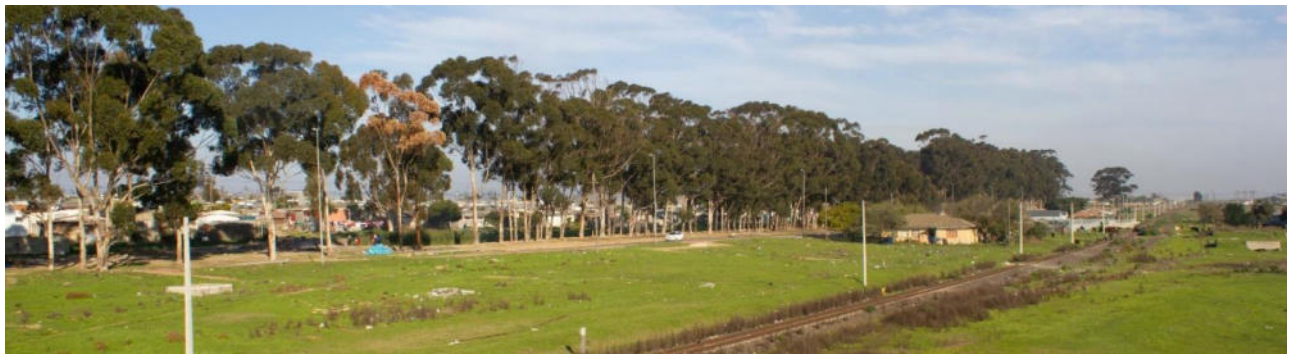


Figure 46: Site photograph showing established mature avenue of *Eucalyptus* trees on the south western edge of Fisantekraal (Smit, 2021)



Figure 47: Site photograph showing typical clustering of mature *Eucalyptus* trees around agricultural werfs (Smit, 2022)



Figure 48: Site photograph showing an avenue of Beefwoods at the western boundary of the subject site (Smit, 2022)

3.3.2 Current and future development in the Receiving Environment

The proposed development must be seen within the context of an area which is currently and will in future undergo significant urban development, which is most likely to intensify in the short, medium *and* long term. These developments are generally supported and/or championed by the provincial, municipal and district policy frameworks. According to the District Plan, the study area is described as part of the urban periphery of the Cape Town Metro, where extensive low-density development is expanding the residential “hinterland”. This trend has been an increasing feature in the study area for a number of years, with the most rapid development happening over the past 10 years.

The Northern District plan identifies the extension of the emerging industrial area at Fisantekraal as a major opportunity in the district to reinforce service-oriented industrial areas that are located in close proximity to activity- and development routes, and in response to the urgent need for centers of employment (City of Cape Town, 2012, p. 48). Future development plans also include extensive urban infill within the North Eastern Growth Corridor of Sub- district 3, to the south west and south of the subject site (see Figure 26). The vision of this area is to establish a growth corridor along the Malmesbury rail line which is primarily focused on higher density integrated and inclusionary housing development, where adequate employment opportunities are identified, and the required public infrastructure is being developed simultaneously.

Figure 49 shows the proposed CWA subject site in the context of (already) approved future developments within the study area and immediate vicinity. The proposed Bella Riva development, the Fisantekraal industrial node, the high density residential development within the urban edge near Fisantekraal, and the Greenville Garden City development across the R312 from the subject site will significantly erode and transform the rural agricultural landscape character within these parts of the Receiving Environment, and impact significantly on visual quality and coherence of the scenic routes (and peripheral areas of the surrounding Cultural Landscapes). Refer also to Figure 39 for precedent within the study area.

It is clear that the proposed CWA development must be seen within the context of these approved developments that will collectively bring about significant changes to the landscape character of the Receiving Environment under consideration at the time of the writing of this VIA.

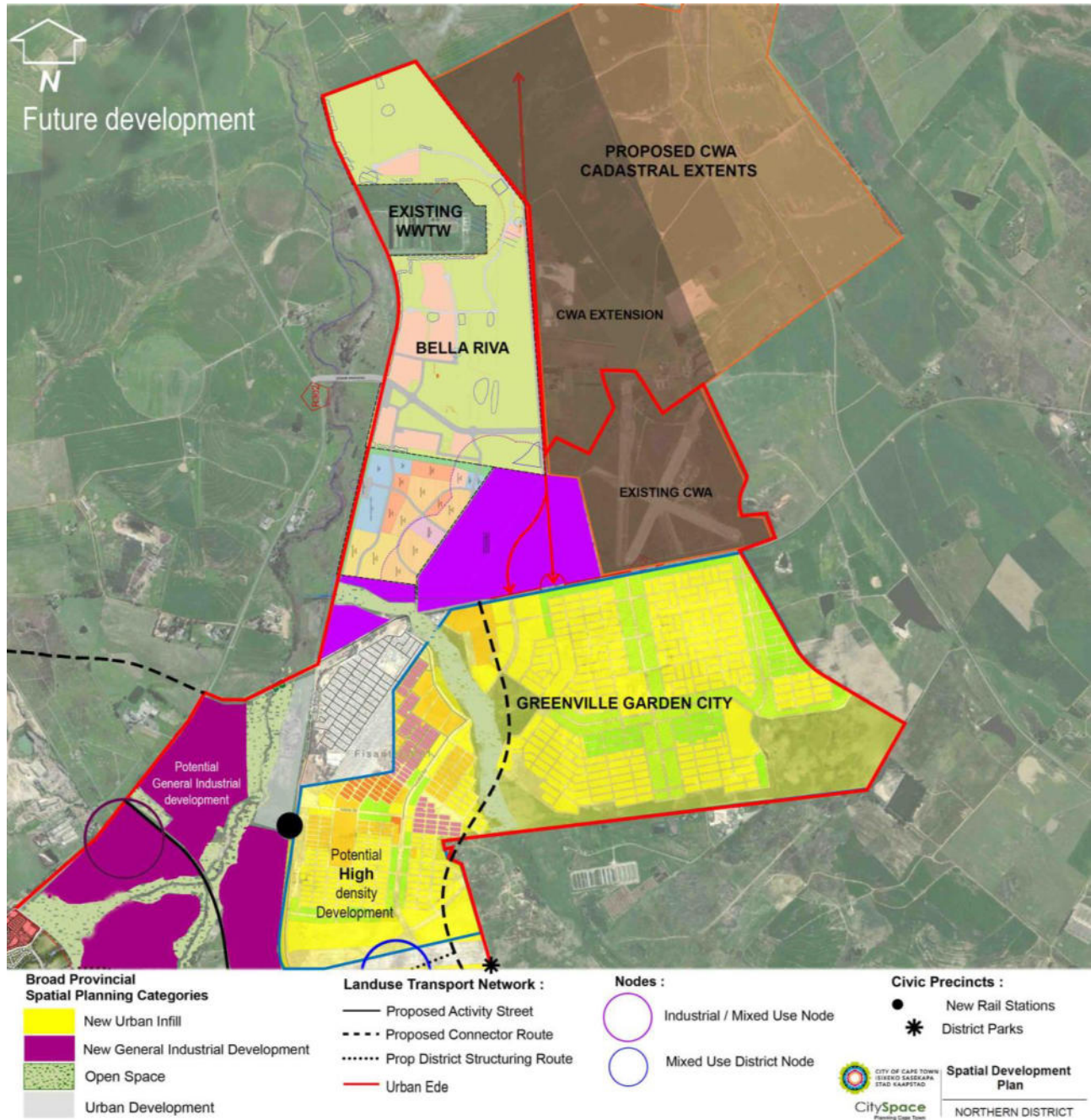


Figure 49: Map showing future development in the study area (Northern District Plan: Technical Report, 2012, p. 158) (Smit, 2022)

Figure 50 below is therefore included in this report to show the subsequent possible changes to the extents and boundaries of the Cultural Landscapes under consideration in this report. The cumulative development impacts of conurbation around the subject site will result in the transformation of the Receiving Environment and the associated Cultural Landscapes. The delineation of the Cultural Landscapes could therefore follow along the new (2013) urban edge to more accurately portray the reality on the ground. These observations do not exempt the CWA from being responsive to the Cultural Landscapes that encircle it. Rather, it places additional emphasis on the imperative for the CWA development to demonstrate a

sensitive response to the visual resources and sensitive viewers outside of the urban edge within these (reduced) Cultural Landscape areas so that their character is strengthened and preserved in some form, especially along these new UDE interfaces.

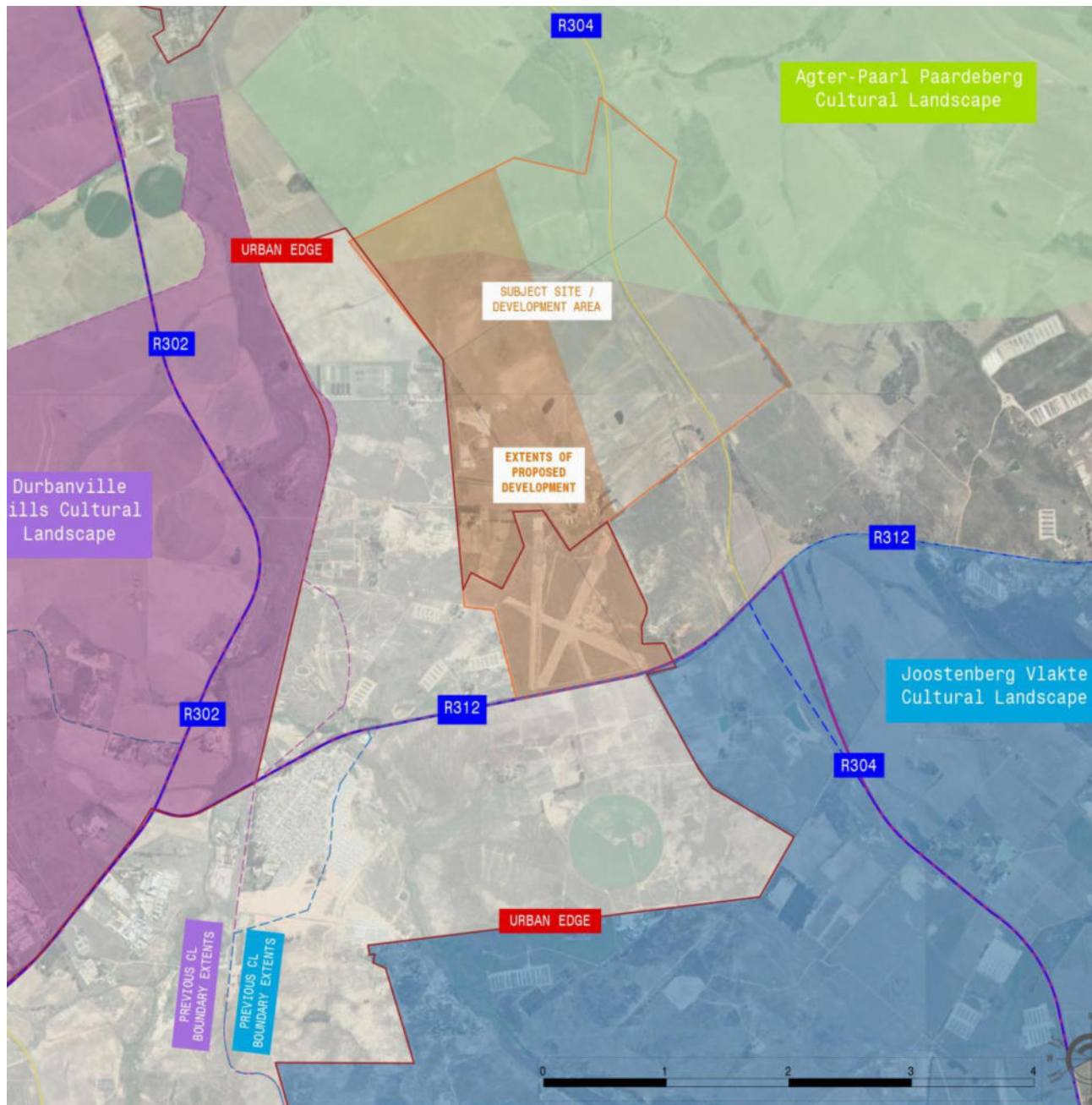


Figure 50: Map showing possible effect of future developments on the extents of the Cultural Landscapes in the study area. Please note that the Agter-Paarl Paardeberg Cultural Landscape’s extents remain unchanged. (Smit, 2022)

3.4. Evaluation of the Visual resource in terms of Aesthetic value

According to the Western Cape’s Provincial Spatial Development Framework (PSDF), the Western Cape economy is founded on the Province’s unique asset base, which includes its varied scenic and cultural

resources - attractions that make the Western Cape South Africa's premier tourism destination (Western Cape Government, 2020, p. 38).

The following section defines and describes the Landscape Character, the Sense of Place, the Quality and Integrity of the landscape, and concludes by providing a rating for the Aesthetic Value of the Visual Resource.

3.4.1 Landscape Character and Sense of Place

Four areas within the study area can be described together as **Landscape Character** areas (LCA). Topography, vegetation pattern (agriculture) and land use are primary informants, along with fieldwork observations and the existing classifications of relevant policy and planning documents.

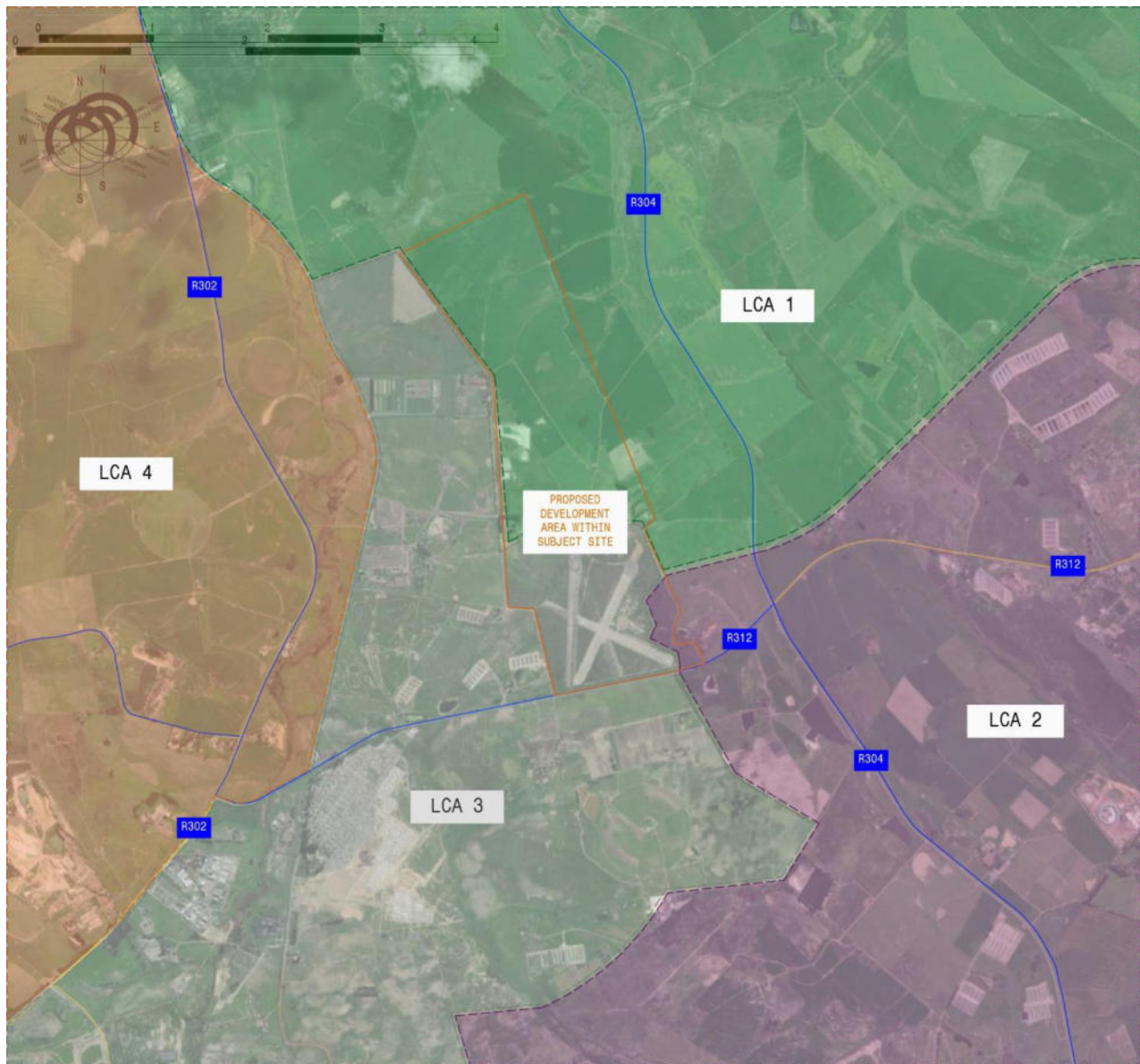


Figure 51: Graphic illustrating the Landscape Character areas within the Receiving Environment (Smit, 2022)

LCA 1: Landscape Character area 1 is situated to the north of the subject site, and consists of a predominantly rural agricultural landscape of grazing and grain fields containing very few built elements and sparsely interspersed landscape elements. Tree avenues are associated with farm werf areas, property boundaries and limited copses of natural vegetation occur along river courses. Topographically, the LCA is comprised of low rolling hills and gently undulating fields, with long views towards the encircling mountains to the east. This LCA has a strong sense of place, being identified as the Agter-Paarl/Paardeberg Cultural Landscape according to the Northern District plan.



Figure 52: Site photograph representing the scenic agricultural areas of LCA 1 (Smit, 2022)

LCA 2: The Joostenberg Vlakte Landscape character area is a semi-agricultural area characterized by large plots and smallholdings, equestrian farms, various guest houses and strong landscape and settlement patterns created by tree avenues. Topographically the landscape is generally flat, with some intensification of topographical variance in the north eastern parts. Although not densely developed, views within the smallholding areas are typically near and generally limited to the foreground because of the amount of existing vegetation, buildings and other visual obstructions. In the more actively farmed agricultural areas, topography becomes more variable, views lengthen, and elevated areas along the R304 (towards the east of the LCA) open to long, dramatic vistas of the Simonsberg and Stellenbosch mountains in the south and the Peninsula mountain range in the south west. This LCA has a strong sense of place, being identified as a Cultural Landscape according to the Northern District plan.



Figure 53: Site photograph representing the Joostenberg Vlakte Landscape Character area LCA 2 (Smit, 2021)

LCA 3: This LCA consists of urban and suburban residential areas, peri-urban industrial areas (e.g.; the Durbanville Industrial Park and local brick manufacturing plants), future high and medium density formal and informal residential areas, and large tracts of undeveloped land. The visual quality of landscapes within LCA 3 is generally low, due to large portions being either environmentally degraded or because of the presence of discordant elements in the field of vision (including the local WWTW, Eskom transmission power line and substation infrastructure, developments under construction and industrial/semi-industrial activities along the Klipheuwel corridor and railway line).



Figure 54: Site photograph representing the mixed land uses of LCA 3 (Smit, 2022)

LCA 4: Landscape Character area 4 contains the rural agricultural areas outside of the urban edge from the Groot Phesantekraal wine estate and upwards towards Spes Bona and extending to the areas west of Klipheuwel. This landscape comprises mostly of the Durbanville Hills Cultural Landscape, but the small southern portion of the Koeberg/Swartland Farms Cultural Landscape is also included in this LCA. This area enjoys peripheral views onto the residential and industrial areas alongside in its southern parts, but maintains long views over vineyards and the patchwork of crops towards the Boland mountain range as a rule throughout. Dominated by agricultural land uses, the scenic quality of this area is notable, with pastoral agricultural scenes and an ever-changing seasonal colour palette, moving

from an agricultural landscape dominated by viticulture in the south, to one of predominantly wheat and pasture in the north. The topography in this area consists of gently rolling hills and small shallow river valleys.



Figure 55: Site photograph representing the scenic agricultural areas of LCA 4 (Smit, 2022)

It should be noted that the Landscape Character within the study area is undergoing rapid change, and the Landscape Character Areas delineated in Figure 51 anticipate these inevitable changes to the boundaries of the Cultural landscapes (as illustrated by the author in Figure 50).

The **Sense of Place** is the unique quality or character of a place, whether natural, rural or urban (Oberholzer, 2005, p. 28). According to Lynch (1992), sense of place “is the extent to which a person can recognize or recall a place as being distinct from other places – as having a vivid, unique, or at least particular, character of its own”. It follows that an important aspect of Sense of Place is the uniqueness and distinctiveness of a landscape. According to Graham Young, the primary informants of these qualities is the spatial form and character of the natural landscape taken together with the cultural transformations and traditions associated with the historic use and habitation of the area (Young, 2014).

The sense of place of the study area follows that of the Landscape character areas (not uniform, but generally identifiable along the lines illustrated in Figure 51), and tends to increase in value with proximity to natural features (topography or water resources) and the Cultural Landscape areas (where long, scenic views of the mountains in the distance are available over rolling farmlands and pastoral scenes in the foreground). The sense of place tends to decrease in value and distinctiveness as views become increasingly interrupted, urbanized and cluttered, and as the field of vision fills with discordant structures.

*The study area and Receiving Environment can be described as having a **mixed landscape character and sense of place**, which are generally identifiable as consistent with the boundaries of the LCA’s.*

- *LCA 1, 2 and 4 retain a predominantly rural and agricultural Sense of Place that aligns with the characteristics of their concomitant Cultural Landscapes;*
- *LCA 3 is dominated by the mixed suburban and industrial Sense of Place of Durbanville, which can be described as being typical of the Cape Winelands region’s peri-urban areas (but remains somewhat recognizable as Durbanville nonetheless).*

3.4.2 Landscape Quality and integrity

Landscape Integrity refers to “The relative intactness of the existing landscape or townscape, whether natural, rural or urban, and with an absence of intrusions or discordant structures” (Oberholzer, 2005, p. 28). The subject site is a large tract of land, and is situated on the edge of a rapidly developing area on the

edge of the City of Cape Town's metropolitan urban edge. Southern portions of the study area are situated within a landscape containing numerous **intrusions, discordant structures and activities**.

- i) *LCA 3 can be described as having low to medium overall intactness,*
- ii) *LCA 1 and 4 exhibit high overall intactness (containing very few intrusions, discordant structures and activities)*
- iii) *and LCA 2 can be described as having medium overall intactness.*

The Receiving Environment is characterized by a **mix of landscape features** (mature tree avenues, agricultural land uses, riverine environments and farm dams, views of vineyards, fields and paddocks and the encircling hills and mountains) **and urban/industrial area features** (residential areas, industrial and commercial buildings, signage, pylons, street lights, vehicular traffic and construction activities).

In summary, the Landscape Quality and Integrity for the four LCA are:

- **High Landscape Quality and Integrity for LCA 1 and 4;**
- **Low to Medium Landscape Quality and Integrity for LCA 3;**
- **and Medium Landscape Quality and Integrity for LCA 2.**

3.4.3 Quality and aesthetic value of the Visual Resource

Aesthetic value can be defined as an emotional response that is derived from the experience of the environment and its particular natural and cultural attributes.

"The response can be either to visual or non-visual elements and can embrace sound, smell and any other factor having a strong impact on human thoughts, feelings and attitudes (Ramsay, 1993). Thus, aesthetic value encompasses more than the seen view, visual quality, or scenery, and includes atmosphere, landscape character and sense of place (Schapper, 1993)." (Young, 2014, p. iv)

Assigning values to visual resources is a subjective process, but based on industry-wide findings, there are consistent levels of agreement among individuals asked to evaluate visual quality. Humans have a preference for landscapes with a higher visual complexity (particularly in scenes with water or high relief), over homogeneous areas. On the basis of contemporary research, landscape quality increases when:

- Topographic ruggedness and relative relief increase;
- Where water forms are present;
- Where diverse patterns of grasslands and trees occur;
- Where natural landscape increases and man-made landscape decreases;
- And where land use compatibility increases and land use edge diversity decreases (Crawford 1994).

In determining the quality of the visual resource both the objective and the subjective or aesthetic factors associated with the landscape are considered. Many landscapes can be said to have a strong sense of place, regardless of whether they are considered to be scenically beautiful. However, where recognized landscape quality, aesthetic value and a strong sense of place coincide - the visual resource or perceived value of the landscape is considered to be very high.

The rating criteria used to determine the Mixed-Use sensitivity of the Landscape Character and aesthetic value of the Visual Resource is derived from the Landscape Institute with the Institute of Environmental

Management and Assessment (2002). When considering both objective and subjective factors associated with the landscape there is a balance between landscape character and individual landscape features and elements, which would result in the values as follows:

Table 1: Rating the quality of the Visual Resource

High	Moderate	Low
<i>(Modified from: The Landscape Institute with the Institute of Environmental Management and Assessment (2002)</i>		
The Value of a visual resource is High under the following circumstances:	The Value of a visual resource is Moderate under the following circumstances:	The Value of a visual resource is Low under the following circumstances:
<p>Areas that exhibit a very positive character with valued features that combine to give the experience of unity, richness and harmony.</p> <p>These are landscapes that may be considered to be of particular importance to conserve and which may be sensitive to change in general and which may be detrimental if change is inappropriately dealt with.</p> <p>Where the landscape has a special quality of uniqueness that is identifiable.</p> <p>Multiple scales where there is a hierarchy or range of scales to the landscape pattern in relation to the human size.</p>	<p>Areas that exhibit some positive character (as in highly valued landscapes).</p> <p>But which may have evidence of alteration to /degradation/erosion of features or discordant elements which tend to distract from the overall scenic and experiential quality of the landscape resulting in areas of mixed character.</p> <p>Potentially sensitive to change in general; again, change may be detrimental if inappropriately dealt with, but it may not require special or particular attention to detail.</p>	<p>Areas are generally negative in character with evidence of major alteration to/degradation/erosion of elements resulting in few, if any, valued features.</p> <p>Lack of diversity/complexity.</p> <p>No special quality or distinctness to the landscape.</p> <p>Scope for positive enhancement frequently occurs.</p>
High for LCA 4 and 1	Moderate for LCA 2 and some portions of LCA 3	(Low for some portions of LCA 3)

A set of Rating Criteria for determining the value of a visual resource and scenic quality developed by the Department of the Interior of the USA Government, Bureau of Land Management is modified here for use in the South African context.

Table 2: Visual Resource Value Rating table

Key factors	Rating Criteria and Score		
<i>(Modified from The Visual Resource Management System, Department of the Interior of the USA Government, Bureau of Land Management)</i>			
Landform	High vertical relief as expressed in prominent cliffs, or massive rock outcrops, or severe surface variation or highly eroded formations including dune systems; or detail features dominant and exceptionally striking and intriguing.	Steep canyons and 'kloofs'; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional.	Low rolling hills, foothills, or flat valley bottoms; or few or no interesting landscape features.
Score:	5	3	1

Vegetation and landcover	A variety of vegetative types as expressed in interesting forms, textures, and patterns.	Some variety of vegetation, but only one or two major types.	Little or no variety or contrast in vegetation.
Score:	5	3	1
Water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape.	Flowing, or still, but not dominant in the landscape.	Absent, or present, but not noticeable.
Score:	5	3	0
Colour	Rich colour combinations, variety or vivid colour; or pleasing contrasts in the soil, rock, vegetation, or water.	Some intensity or variety in colours and contrast of the soil, rock and vegetation, but not a dominant scenic element.	Subtle colour variations, contrast, or interest; generally mute tones.
Score:	5	3	1
Influence of adjacent scenery	Adjacent scenery greatly enhances visual quality.	Adjacent scenery moderately enhances overall visual quality.	Adjacent scenery has little or no influence on overall visual quality
Score:	5	3	0
Scarcity	One of a kind; or unusually memorable, or very rare within the region. Consistent chance for exceptional wildlife or wildflower viewing, etc. National and provincial parks and conservation areas.	Distinctive, though somewhat similar to others within the region.	Interesting within its setting, but fairly common within the region.
Score:	5+	3	1
Cultural modifications	Modifications add favourably to visual variety while promoting visual harmony.	Modifications add little or no visual variety to the area, and introduce no discordant elements.	Modifications add variety but are very discordant and promote strong disharmony.
Score:	2	0	-4

The table below summarises the Value of Visual Resource expressed as Scenic Quality, per Landscape Character Area, according to the rating chart above.

Table 3: Scenic Quality Evaluation Chart

Landscape Character Area:	Landscape Character Area 1	Landscape Character Area 2	Landscape Character Area 3	Landscape Character Area 4
Landform	1	1	1	1
Vegetation and landcover	3	2	1	3
Water	3	0	0	3
Colour	3	2	1	4
Influence of adjacent scenery	5	3	3	3
Scarcity	3	2	0	3
Cultural modifications	1	-1	-2	-1
Visual Resource Quality	High	Moderate	Moderate and Low	High
Sense of Place	High	Moderate	Moderate to Low	High

Table 4: Value of the Visual Resource (Scenic Quality)

Landscape Character Area	Rating	Value of Visual Resource
Landscape Character Area 1	A (19)	High
Landscape Character Area 2	C (9)	Low
Landscape Character Area 3	C (4)	Low
Landscape Character Area 4	B (16)	Moderate

3.4.4 Visual Absorption Capacity

Visual Absorption Capacity (VAC) refers to the ability of the RE to accommodate physical and visual changes without a concurrent transformation in its visual character and quality, or the loss of visual amenity. This is a function of existing settlement / development patterns; the similarity or difference between existing features and proposed features; the amount of visual clutter, contrast and variability of visible features present in the landscape and finally how dramatic the local topography is. The sensitivity of landscape character and visual receptors is also considered.

To determine the VAC of each Landscape Character area, it is tested against the extent and nature of the proposal. For instance, while grassland, undulating topography and agricultural or rural areas generally have a low VAC, the capacity of these areas to absorb a new coal mine vs. its capacity to absorb a new single sense of place.

- A high VAC rating implies a high ability to absorb visual impact.
- A low VAC implies a low ability to absorb or conceal visual impacts.
- High VAC is a positive and low VAC is a negative.

Table 5: Visual Absorption Capacity

High	Moderate	Low
<p>The Receiving Environment absorbs all or most of the proposed development successfully.</p> <ul style="list-style-type: none"> • Limited views with low visual intrusion; • High compatibility with existing landscape character & built form etc. • Existing vegetation cover and/or structures such as buildings screens or conceals the majority of the proposed development. • Topography and terrain variability plays a role in absorbing visible elements. • The proposed development is a common sight within the LCA. 	<p>The Receiving Environment absorbs parts of the development successfully.</p> <ul style="list-style-type: none"> • Views demonstrate moderate visual intrusion by the proposed development; • Proposed development is generally similar in nature (or presents an acceptable degree of change) to existing landscape character & built form. • A degree of visual screening is provided vegetation cover and/or structures such as buildings. • Topography and terrain variability may play a role in absorbing visible elements. • The proposed development is not unprecedented within the LCA. 	<p>The Receiving Environment cannot visually absorb the proposed development.</p> <ul style="list-style-type: none"> • Proposal introduces a contrasting built form or dramatic change in landscape character. • Many key views demonstrate high visual intrusion. • Little or no visual screening is provided by vegetation cover and/or structures such as buildings. • Topography and terrain variability do not play a significant role in absorbing visible elements. • The proposed development is unprecedented within the LCA.

Landscape Character Area	LCA	Visual Absorption Capacity
Landscape Character Area 1	<i>LCA 1</i>	<i>VAC is High to Moderate with aspects of Low</i>
Landscape Character Area 2	<i>LCA 2</i>	<i>VAC is Moderate to Low</i>
Landscape Character Area 3	<i>LCA 3</i>	<i>VAC is Moderate to Low</i>
Landscape Character Area 4	<i>LCA 4</i>	<i>VAC is Moderate to Low</i>

4. PROPOSED DEVELOPMENT

“The vision for Cape Winelands Airport is fresh, unique, “first of its kind” and blends strong commercial property development principles with technical aviation requirements.” (Cape Winelands Aero, 2023, p. 8)

The proposed development is for an Airport that will include the development of a mixed office and retail component, aircraft hangers of varying sizes, parking areas, heliports, commercial buildings, hotels, terminal buildings and administrative buildings with a total estimated building area of 395,000 m². The proposed development contains a wide variety of associated infrastructure and facilities that are relevant to visual impact assessment considerations. They are further described in this Chapter.

4.1. Extents of the focus of the VIA

The VIA makes a distinction between the property boundaries of the subject site (the total 885Ha “Development Area”) and the portion of the CWA that is earmarked for development, on the western side of the subject site. See Figure 1, which illustrates the areas associated with the extents of the proposed development with an orange overlay. Figure 2 shows the footprint of the proposed development within this smaller area – which will be the focus of this VIA. According to the Cape Winelands Airport Project Description, the remaining 471 Ha of the 885Ha of the subject site will remain zoned as Agriculture 1, and will therefore not be developed to contain visible elements that have bearing on visual impact.

4.2. Alternatives

The following Alternatives¹⁵ have been provided. All of the following information is drawn from the Alternatives Report (Version 4) (Cape Winelands Aero, 2024).

i) **Alternative 1: The No-Go Alternative**

“Do nothing”, and development within current rights. In this alternative, the current rights of the airport will be considered to determine what development can occur within those rights. The current runway system consists of four crossing non-instrument runways of lengths between 1 050m and 1 454m, which can only accommodate Code A & B aircraft.

Current development rights restrict the Gross Leasable Area (GLA) to 6,000m², which is already utilised in full. Should the current runways be resurfaced to allow for increased operations, the CWA will not be able to balance the terminal and landside capacities with the anticipated growth on airside, being restricted by the GLA. Alternative 1 was not considered to be viable, according to the outcome of the 5-step approach that Cape Winelands Aero used to assess the runway alternatives.

ii) **Alternative 2: The Initial Preferred Alternative**

¹⁵ Runway orientation has been a primary driver of the layout of both the Alternatives, and the rest of the airport infrastructure, for obvious reasons, as well as those explained at length in the Alternatives report. The topography of the subject site is a key informant of runway orientation, given that such a large area must be levelled for the safe take-off, landing and landside movement of aircraft. These informants have also had a marked influence on the arrangement of all other buildings and infrastructure (e.g. the passenger terminal area, General Aviation hangars, support facilities and commercial development) within the proposed development.

In this Alternative, the Airport development would occur in two phases. Phase 1 would involve the construction of a new 3,620m Primary runway at orientation 01-19 (with a 280m runway strip¹⁶ width), and would initially retain cross runway 14-32 as a Secondary Runway.

As the airport developed, Alternative 2 proposed that the Secondary cross runway will be closed and absorbed into the greater development as part of Phase 2. Refer to Figures 56 & 57 below.

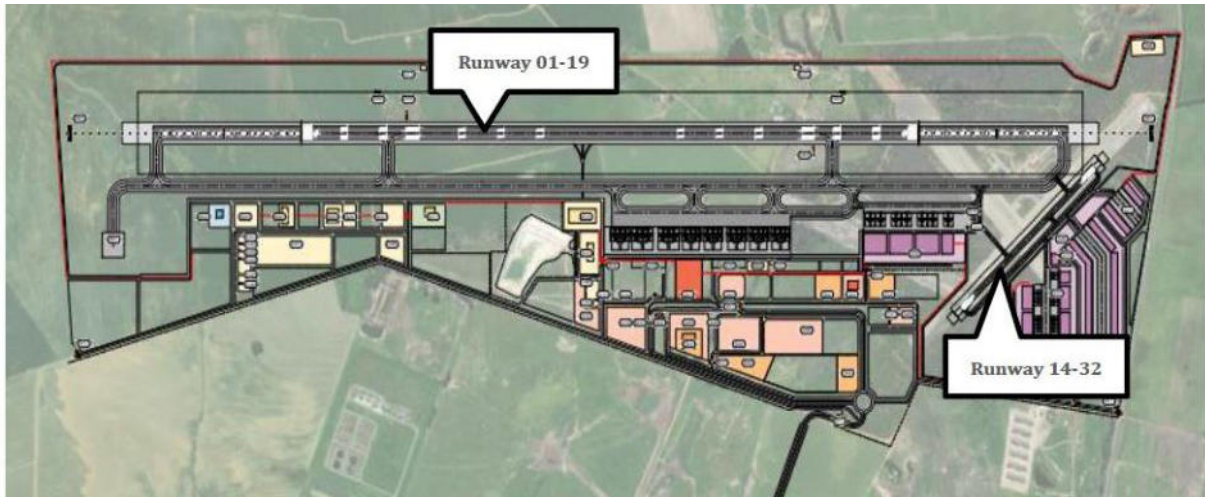


Figure 56: Alternative 2: Phase 1 of runway development showing the main runway 01-19 and the cross runway 14-32 (Cape Winelands Aero, 2023) (Cape Winelands Aero, 2024)

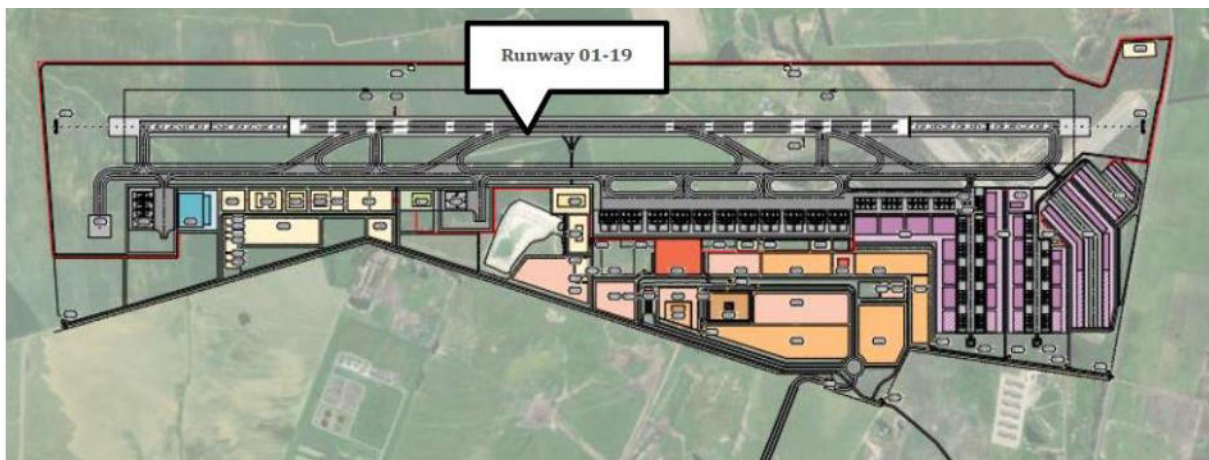


Figure 57: Alternative 2: Phase 2 of runway development showing the main runway 01-19 after the secondary cross runway 01-19 has been absorbed by airport expansion (Cape Winelands Aero, 2024)

iii) **Alternative 3: The New Preferred Alternative**

Based on further studies and development of the Site Development Plan (SDP) after the Scoping phase, the retention of the existing cross runway 14-32 as a Secondary Runway was excluded from the Initial Preferred Alternative 2. This has resulted in the New Preferred Alternative 3 (see Figures 58 & 59 below).

¹⁶ A runway strip provides an area clear of objects that may endanger aircraft. The width of the graded portion of the strip is 150m.

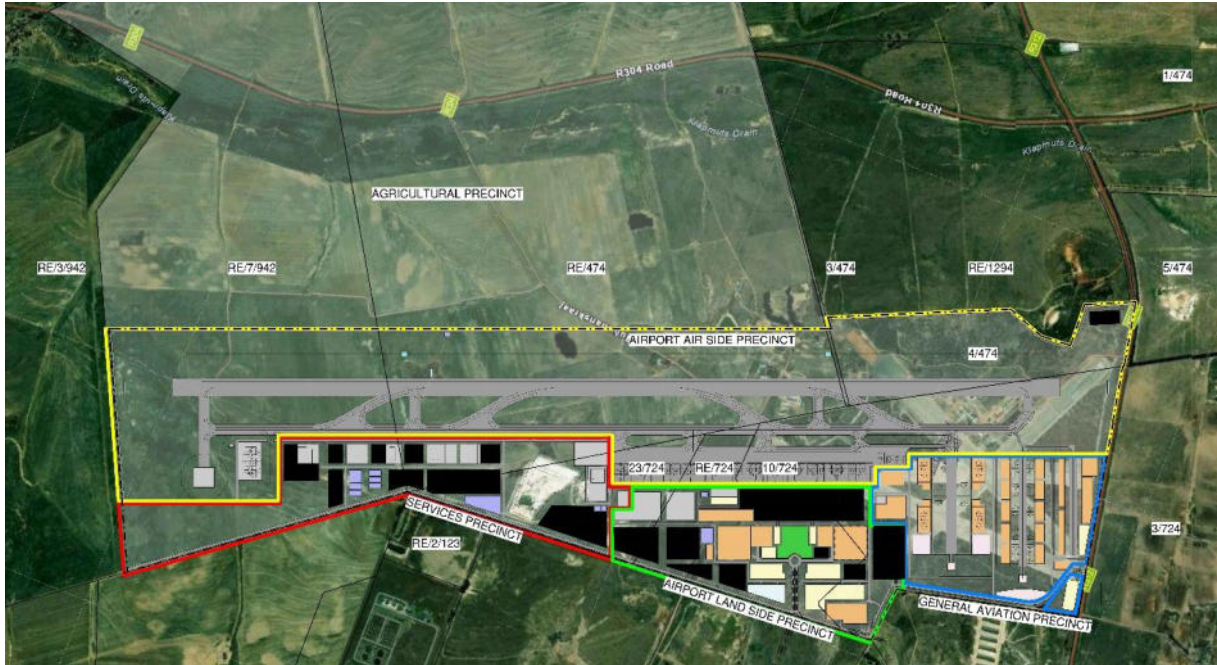


Figure 58: Alternative 3: Phase 1. Note: this plan (Cape Winelands Airport Alternatives Report, 2024) has been modified to show the future Phase 2 component footprints as black shapes, for ease of visual comparison with the Phase 2 plan below. (modified by Smit, 2024)

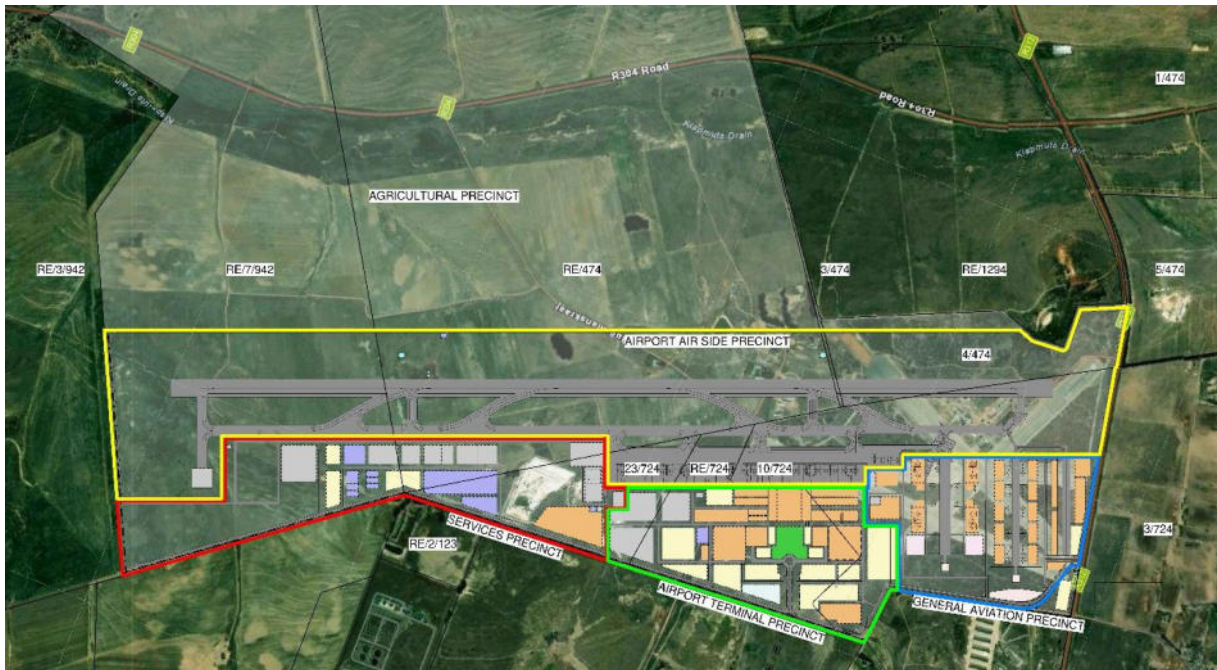


Figure 59: Alternative 3: Phase 2 (Cape Winelands Aero, 2024)

Airport development will still be undertaken in two phases, but the Phase 2 development will be focused on increasing the capacity and functionality of the Services Precinct, the Airport Terminal Precinct and the General Aviation Precinct. Refer to Figures 58 & 59, and Section 4.3 onwards for further details.

4.3. Phasing of the [New] Preferred Alternative

According to the EIA briefing (Cape winelands Airport, 2021), the CWA development will be rolled out between 2027 and 2050, and phased in five proposed planning phases (Zutari (Pty) Ltd , 2024). These planning phases are referred to using the acronym PAL, Planning Activity Levels¹⁷.

Phase 1 (2029 – 2032) corresponds with PAL 1, during which the fundamental infrastructure of the airport will be developed, as well as the infrastructure and facilities required for diversion operations¹⁸. Phase 1 will be the "Anchor" forecast scenario, and will include significant infrastructure development (such as site clearing, bulk earthworks and the installation of stormwater management infrastructure), terminals, aircraft stands, and essential airport operational facilities (Cape Winelands Airport Engineering Services Report, 2024, p. 10). A Conceptual stormwater layout has been provided by the project engineers (see Drawing A89083-000-DRG-CC-302 Rev D). The project engineers have also provided a Concept Grading Plan (see Figure 60 below) that includes a Cut and Fill Schematic.



Critically, this drawing indicates that the *entirety of the portion of the subject site that has been earmarked for development* will either be cut or filled, and therefore subject to some kind of disturbance (clearing and earthworks) during Phase 1.

Phase 2 (as per the CWA Precinct Plans provided) corresponds with PAL 4. For the purposes of this report, PAL 4 will be used to illustrate the final phase of the development, in which all proposed buildings and facilities have been developed to their full size and footprint in accordance with the master plan.

In terms of Air traffic predictions, Cape Winelands Aero estimates approximately 40 air traffic movements per hour during Phase 2 (2050) in terms of peak anticipated aircraft movements. The EIA is tasked with addressing the operations and potential impacts of the runway at maximum capacity, i.e., operations and impact beyond the 2050 traffic levels. It should be noted that development of the Commercial components will not follow the proposed phasing of the airport, but will be implemented in line with demand as and when it arises. The author assumes that the same standard will be applied to the proposed development of the commercial component¹⁹, and impact assessment will take the proposed maximum development rights into account when assessing visual impact.

4.4. Proposed development description: the New Preferred Alternative

The following section attempts to describe the aspects of the proposed development that are notable from a visual impact management point of view, and includes all relevant visible elements described in the supporting documentation provided.

4.4.1 Architectural approach and design principles

According to the Architect's report²⁰ the architectural approach is one of holistic planning.

"The airport complex is not only set to serve as a functional hub for travelers but also to establish a vibrant community centre. ... the complex will boast a large public plaza and well-landscaped areas, fostering an environment where aesthetics and functionality intertwine seamlessly. ... An integrated approach extends to logistics and commerce, as warehousing and logistics facilities coexist alongside commercial office buildings. The holistic vision of this airport development aligns modernity with sustainability, embraces the local identity, and strives to be a pinnacle of architectural and functional achievement." (Vivid Architects, 2024, p. 1)

The airport has been divided into four Zones:

- i) **Zone 1** – Services Precinct (1-5 storeys, max 20m: hangers, ATCT and service buildings);
- ii) **Zone 2** – Airport Terminal Precinct (1-5 storeys, max 20m: warehouse, terminal, hotel and commercial);
- iii) **Zone 3** – General Aviation Precinct (1-2 storeys, max 15m: hangers, clubhouse, private hangers and heliport);

¹⁹ I.e.; the VIA must anticipate operations and impacts at and beyond the 2050 Phase 2/PAL 4 scenario (when the airport is at maximum capacity) when assessing Impacts for the VIA.

²⁰ The Architect's report provided can be considered a proto-Architectural Guideline in a somewhat nascent form.

- iv) And finally, the **Airport Airside Precinct** (which consists of the runway, apron and associated infrastructure – including a substation and PV array)

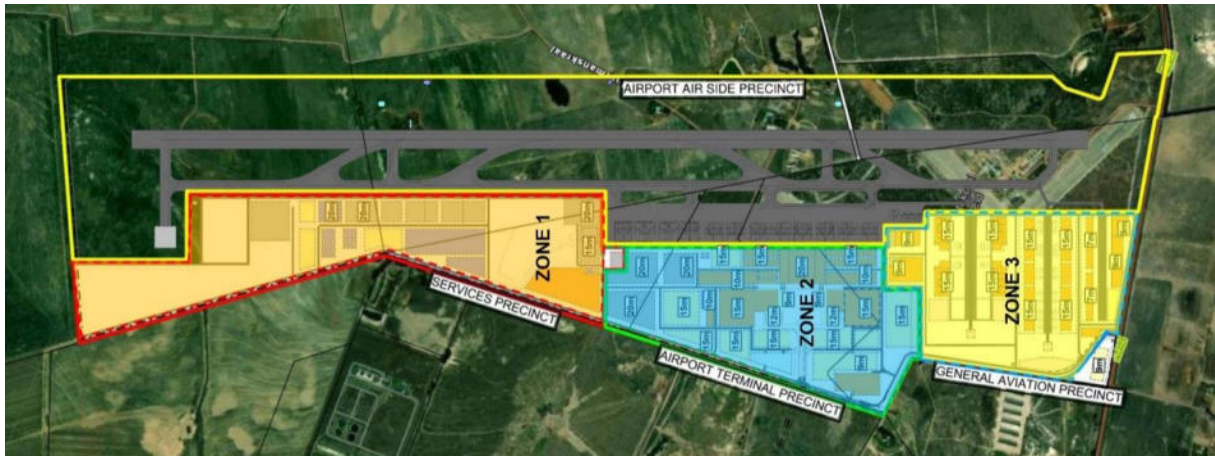


Figure 61: Phase 2 (PAL 4) Masterplan Layout showing Zones 1-3 and the Airport Airside Precinct (Vivid Architects, 2024)

Vivid’s vision is for an airport with a “united and captivating setting that caters to travelers, visitors, and the local community while exalting the very essence of the region's identity.” (Vivid Architects, 2024, p. 2). See Figure 62 for Artist impressions.



Figure 62: Artist Impressions of the terminal building reflecting its 3 storey height and transparent glass facades, as well as the landscaping of interior spaces within the Airport Terminal Precinct (Vivid Architects, 2024)

The Architects report also provides guidelines and precedent images to “operate as a navigational chart for shaping a contemporary airport complex that reconciles inventive design, pragmatic functionality, sustainable practices, and local integration.” (Vivid Architects, 2024, p. 2).



Figure 63: Precedent images - Examples of commercial and hotel low rise buildings and public space (Vivid Architects, 2024)

Design principles are listed as follows:

- i) **Modern Aesthetics:** All structures within the complex should embody a contemporary design language that harmonizes innovation with timeless allure.
- ii) **Engaging Public Areas:** Spaces that interface with the public, like walkways and plazas, should embrace "active boundaries," cultivating interactive and inviting environments.
- iii) **Innovative Roofscape:** Recognize rooftops as an integral fifth facet, offering a canvas to infuse creativity into the design, generating an extraordinary visual impact.
- iv) **Functional Colonnades:** For structures facing the public, incorporate colonnades to provide shelter from the elements. Extending roof eaves can further heighten weather protection, drawing inspiration from successful past examples.
- v) **Abundant Landscaping:** Seamlessly intertwine landscaping with the areas encircling buildings, weaving in greenery, pathways, and water features to enhance both visual charm and user experience.
- vi) **Local Material Palette:** Incorporate finishes and materials that pay homage to the local context. Integrate elements like timber and stone cladding to establish a robust link with the region's distinctive identity.
- vii) **Elevating Traditional Elements:** Employ inventive design solutions to elevate the visual and utilitarian facets of buildings that employ conventional industrial construction methods.



Figure 64: Precedent images - Examples of industrial type buildings that "use clever design to elevate the facades to more than a utilitarian solution. They have visual appeal and interest." (Vivid Architects, 2024)

- viii) **Harmonious Signage:** Adhere to the complex's signage guidelines for any building signs, including tenant logos, ensuring uniformity and visual cohesion throughout the compound.

- ix) **Enhanced Road Infrastructure and Landscaping for a People-Centric Environment:** Pedestrian Walkways and Pathways: Craft pedestrian pathways that are secure, well-illuminated, and seamlessly interconnected throughout the complex. Bicycle Facilities: Integrate designated bicycle lanes and parking zones to encourage sustainable transportation alternatives for travelers and staff. Landscape-Enhanced Corridors: Ensure roadways are meticulously landscaped with verdant elements and visual motifs that heighten aesthetics, fostering a delightful ambiance.
- x) **Sustainable Inclusions:** Eco-Friendly Design: Incorporate sustainable design practices, including energy-efficient systems, renewable materials, and optimal use of natural light and ventilation. Water Management: Implement water-saving technologies, such as rainwater harvesting and efficient irrigation systems, to minimize water consumption and promote responsible water use.
- xi) **Architectural Precedents:** Vivid has selected architectural precedents will serve as sources of inspiration and guidance throughout the design process, with the aim of “creating a unique and forward-looking airport complex that integrates seamlessly with the surrounding environment”.
- xii) **Height Guidelines:** Graphics have been provided indicating permissible building heights within the airport complex. Height guidelines support an end goal of visual harmony and effective space utilization.



Figure 65: Precedent images - Examples of buildings with “interesting roof profiles and clever use of industrial type materials”. (Vivid Architects, 2024)

The Architects report also provides a number of Artist impressions of the proposed CWA development for aerial views. These bird’s eye images assist the reader and the specialist to understand the scale of buildings proposed in relation to one another and the context of the receiving environment.



Figure 66: Artist Impressions of a bird’s eye aerial view of the proposed development (Vivid Architects, 2024)



Figure 67: Artist Impressions of a bird’s eye aerial view of the proposed CWA development showing the Airport Terminal Precinct, with its generous landscaping, public spaces and Solar PV installations interspersed throughout the development on rooftops and shade ports. (Vivid Architects, 2024)



Figure 68: Artist Impressions of a bird’s eye aerial view of the proposed development (Vivid Architects, 2024)



Figure 69: Artist Impressions provided by Vivid architects (Architectural Design Guidelines for the Cape Winelands Airport Development, 2024) superimposed over Google Earth Imagery to illustrate the scale of the proposed development within the context of the Receiving Environment (modified by Smit, 2024)

4.4.2 Description of the aerodrome and specific features

The aerodrome will include a runway system (which includes runway end safety areas (RESAs), aprons, taxiways, taxilanes as well as approach lights and navigational aids). According to the Project description and the Runway Alternatives Report, the development will be inclusive of drainage structures, earthworks & hydroseeded areas, pavement structures and paint markings. All existing runways will be decommissioned (their surfacing will be harvested and re-used as material for the main runways). According to the Runway Alternatives Report, the elevation of the runway will be at approximately 122m above sea-level (ASL) (Cape Winelands Aero, 2023, p. 7). The area that will be cleared for the primary runway (i.e.; the runway strip) is 3 620m x 280m. Of that 280m in width, 150m in width will be graded at 122m ASL and surfaced.

Air Traffic control facilities will include a manned air traffic control tower (ATCT) that enables line of sight (LoS) of the runways and taxiways. The ATCT structure has not yet been designed, but a description and precedent photographs have been provided. The ATCT will be 40m above ground level and support a cabin with an enclosed glass walled platform at its highest point. An array of lightning masts, antennas, antenna masts and obstruction lights will be installed on top of the roof. The proposal includes an illuminated sign depicting the logo of Cape Winelands Airport to be installed on the sides of the structure, which will either be concrete or steel (treated aesthetically to ensure that it

fits into the architectural theme of the development.



Figure 70: Precedent images of the ATCT provided for reference purposes (Cape Winelands Airport, 2024)

Other key “airside” infrastructure and facilities include equipment roads, aircraft rescue and firefighting facilities, fuel storage facilities; a Heliport, Droneport and Vertiport. The categories of operators that will make use of the airport all form part of the General Aviation market. This includes Business Aviation, Recreational aircraft, Aerial Work, Emergency Operations and Training Aircraft. (Cape Winelands Aero, 2023)



Figure 71: Artist Impressions of the hangarage (Vivid Architects, 2021)

The proposed development includes various Terminal Infrastructure and facilities (domestic, international and cargo). These facilities will include buildings and areas to house user check-in and bag-drop, security screening, and, in the case of international traffic, customs and emigration/immigration.



Figure 72: Artist Impressions of the hangarage and terminal building (Vivid Architects, 2021)

The proposed development also includes several “landside” infrastructure and facilities associated with the aerodrome and airport facilities, such as access roads, vehicle parking, public transport facilities, car rental facilities, drop & go facilities and a plaza associated with the internal road network. A Conceptual internal road layout proposal has been provided by the project engineers (see Drawing A89083-000-DRG-CC-200 Rev E).

The project team have indicated that buildings associated with the airport should not exceed 20m in height (18m is the height restriction for the TR2 zone according to the Development Management Scheme), with the exception of structures like the MRO hangar that must be tall enough to accommodate code E aircraft. The proposal includes an application for departures to exceed the height restriction. See Figure 73 below for an indicative graphic showing building heights.

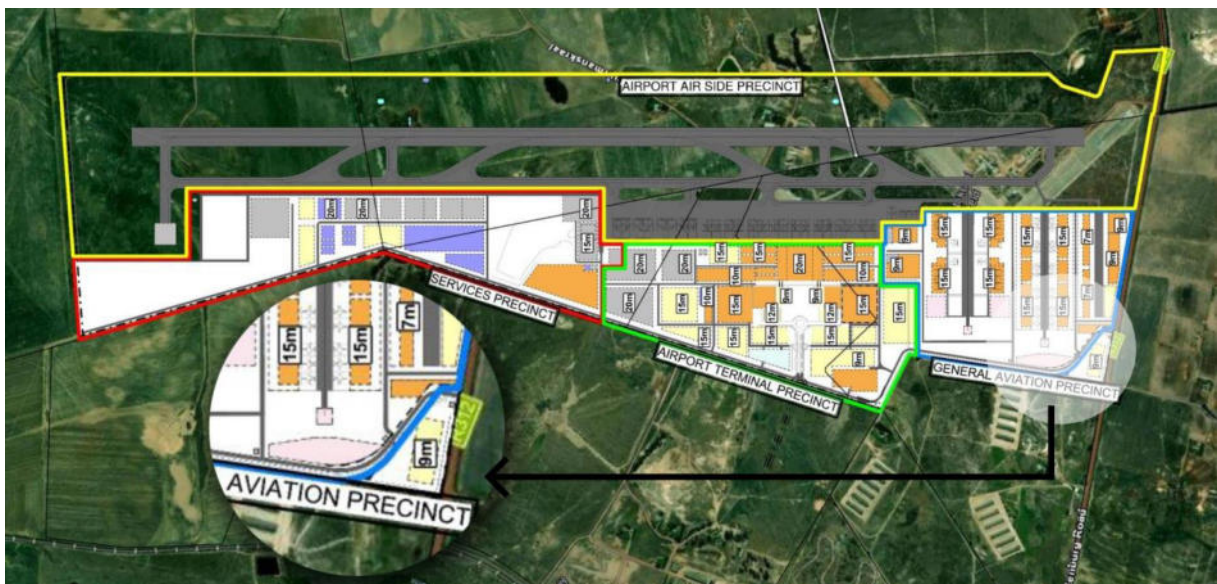


Figure 73: Phase 2 (PAL 4) Masterplan Layout (Cape Winelands Aero, 2024) showing Building heights (modified by Smit, 2024)

The airside runway development in Phase 1 will also include, but not be limited to, airside systems such as CAT III Instrument Landing System (ILS), Precision Approach Path Indicator, Glidepath Antennas, Meteorological Systems and Airfield Ground Lighting (AGL). The development proposal also includes the placement of two camera towers (DCT, or Remote Digital Control Tower Systems) of 25m and 20m high to service the main runway and the heliport, respectively. These will be stand-alone steel lattice masts mounted with cameras and lights.

The Services Precinct will also include key airport support facilities such as aircraft rescue and firefighting (ARFF) services, airport maintenance, ground support equipment (GSE) maintenance and staging, cargo, aircraft maintenance, repair and overhaul (MRO), aircraft fuel facilities and an airport operations centre. Also included is provision for solar PV and a biodigester. Most of these facilities are located on the western side of the airport within Zone 1.

The Services Precinct also contains fuel facilities (to be established in Phase 1) that consist of a bulk fuel depot, a general aviation kerbside refueling station and a commercial/retail service station. The cargo facility is planned for Phase 1, and will handle general and specialized cargo in a dedicated facility on airside. The airport maintenance facilities (also Phase 1) are planned in the services precinct, with access on both airside and landside. GSE staging areas (Phase 1) are included close to the main apron.

The location of the proposed Maintenance Repair and Overhaul (MRO) facility (Phase 1), including apron and taxiway, is in the North of the airport site. This includes one widebody aircraft parking position and an associated hangar. A catering Building (Phase 2) is also located in the northern area of the airport, with direct airside access and landside access via the northern service entrance to the airport. Solar PV, Biodigester and wind energy (Phase 1 & Phase 2) are included as renewable energy sources. Wind energy (roof based and land based) is also being considered as an alternative.

A dedicated Airport Operations Centre (Phase 1) will provide space for several key airport support services such as airport offices, remote/digital air traffic control facilities, police services, clinic, airport staff facilities and emergency facilities, among other functions. The upper levels of the Airport Operations Centre will also contain an entire floor dedicated to the remote air traffic control centre.

Additional developments proposed as part of Phase 1 & Phase 2 of the Services Precinct development include:

- Potable Water Reservoir;
- Groundwater Treatment Infrastructure;
- Potable Water Pump Station;
- Non- potable Water Storage;
- Solid Waste Storage;
- WWTW;
- Substation;
- Cargo Apron (Phase 2).

Included in the **Airport Terminal Precinct**, development for Phases 1 & 2 includes commercial developments with provision for approximately 350 000 m² of lettable area. Passenger Terminal Building (Phase 1): The PTB (Passenger Terminal Building) serves as the nexus of the airport's operations, connecting airside and landside areas, and facilitating passenger and baggage movements.

In addition to the PTB, provision has been made for a separate anchor airline terminal, which will be situated next to the main PTB.

The terminal precinct encompasses a terminal plaza with a landmark hotel building, aviation museum, Amphitheatre, offices, and MICE developments along the landside access road to the terminal. Included in the aeronautical hub functions are hangars, aviation clubs, an aviation training centre, workshops, light manufacturing, logistics, warehousing, and food processing.

Additional developments proposed as part of Phase 1 & Phase 2 of the Land Side Precinct development:

- Petrol Service Station;
- Hotel;
- Access, egress and an internal vehicular road system;
- Drop and go facilities;
- Car rental facilities;
- Vehicular parking (multi-storey parking, at-grade parking);
- Pedestrian walkways;
- Substations;
- Droneport and vertiports;
- Gardens;
- Public transport facilities (Phase 2);
- Carpark/VTOL (Phase 2).

The proposed service station is located on the Western side of the proposed development, at a distance of approx. 1,2km away from the R312. It will be sufficiently screened from the R312, from other sensitive viewers and from the Cultural Landscapes.

4.4.3 Billboards and outdoor advertising signage

The proposed project includes the development of billboards and outdoor advertising signage. Outdoor signs at The Cape Winelands Airport will consist of both 1st Party and 3rd Party Outdoor Advertising Signage. The Scoping report indicates that the CWA has developed an Outdoor Advertising Guideline with focus on the types of outdoor advertising signage proposed for implementation.

“Airports offer a distinct and captivating platform for advertising, featuring a wide range of opportunities both indoors and outdoors, from static billboards to dynamic digital screens. Advertising plays a pivotal role in an airport’s revenue stream, and its incorporation within airport environments holds strategic advantages for both advertisers and the airports themselves.” (PHS Consulting, 2024)

The following describes the proposed restrictions and compliance requirements that the CWA have put forward for 1st and 3rd party signage:

- The Scoping report notes that 1st Party Signage should be clear and legible from a distance, should comply with the CoCT Outdoor Advertising By-law of 2023 and “tailor made” in terms of style and size. It should also cause minimum visual impact, be aesthetically pleasing in terms

of design and colour coordination, and strategically placed in high visibility areas to achieve maximum effect, as well as being well maintained.

- 3rd Party Outdoor Advertising Signage should comply with the CoCT Outdoor Advertising By-law of 2023 and the Policy Framework for Outdoor Advertising and Signage in Cape Town, 2013.
- It should maintain or enhance the aesthetic quality of the environment, be “tailor made” in terms of style and integrate with the background environment to provide excellent visibility and readability. Signs should be strategically located to achieve maximum impact and visibility without causing any obstruction to transportation networks around the CWA. Further to this, this signage should not cause any safety hazards, be consistent with the airport's aesthetic theme, be well maintained and freestanding structures should be internally illuminated.
- The CoCT bylaw on 3rd party advertising signage has restrictions on size, height and clearance, illumination, style and profile for freestanding billboards, iconic signage, flat wall-mounted signs, digital format screens and sky signage.

4.4.4 Landscape Proposal

An overall Landscape Concept Plan (LCP) for the PAL 4 (Phase2) development has been prepared by Planning Partners. The proposal includes generous provision for tree planting throughout the development, focusing on the interior landscapes of the Airport Terminal Precinct and the General Aviation Precinct. The LCP also makes provision for extensive tree avenue planting along the entire western property boundary and within the Services precinct, where tree avenues line vehicular roadways and the edges of rehabilitated renosterveld areas.

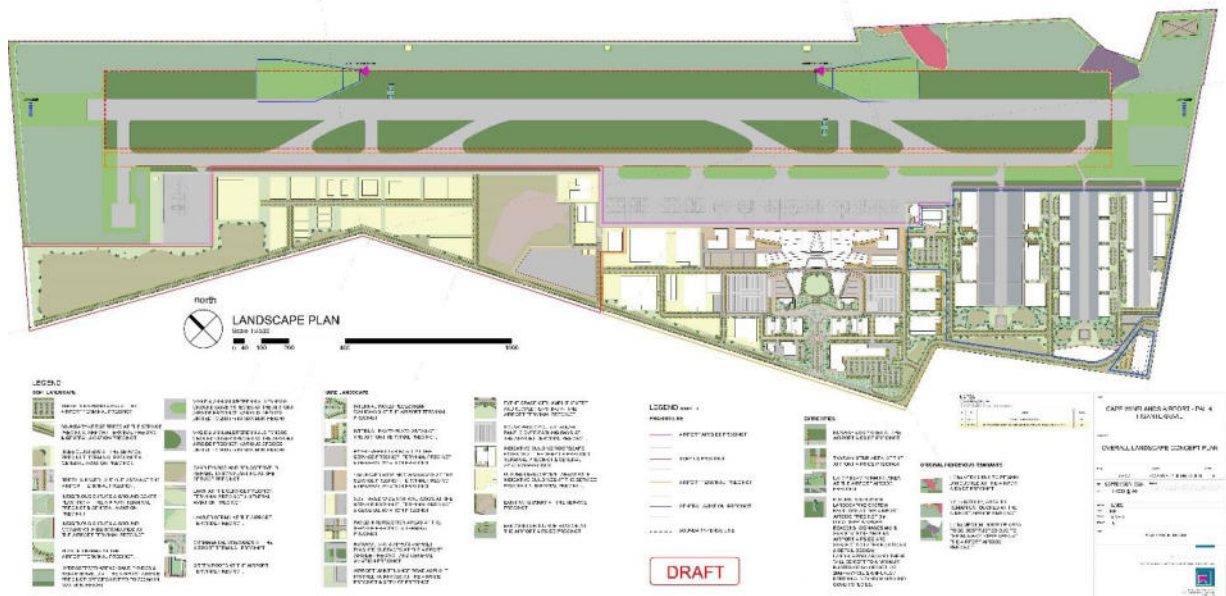


Figure 74: Landscape Concept Plan (Planning Partners, 2024)

The LCP shows areas to be planted under ornamental vineyards, as well as areas to be revegetated with renosterveld rehabilitation planting. The areas surrounding the runway will either be hydroseeded with fynbos species (limited to 700mm in height), or planted with vygie species (limited to 200mm in height - alongside the surfaced runway). These design decisions are responsive to

contextual informants, drawing on existing landscape patterns and typologies within the Receiving Environment to embed the proposed CWA within its Cape Winelands and rural agricultural hinterland context. Tree species have not yet been specified.



Figure 75: Precedent images for the Landscape proposal (Vivid Architects, 2024)

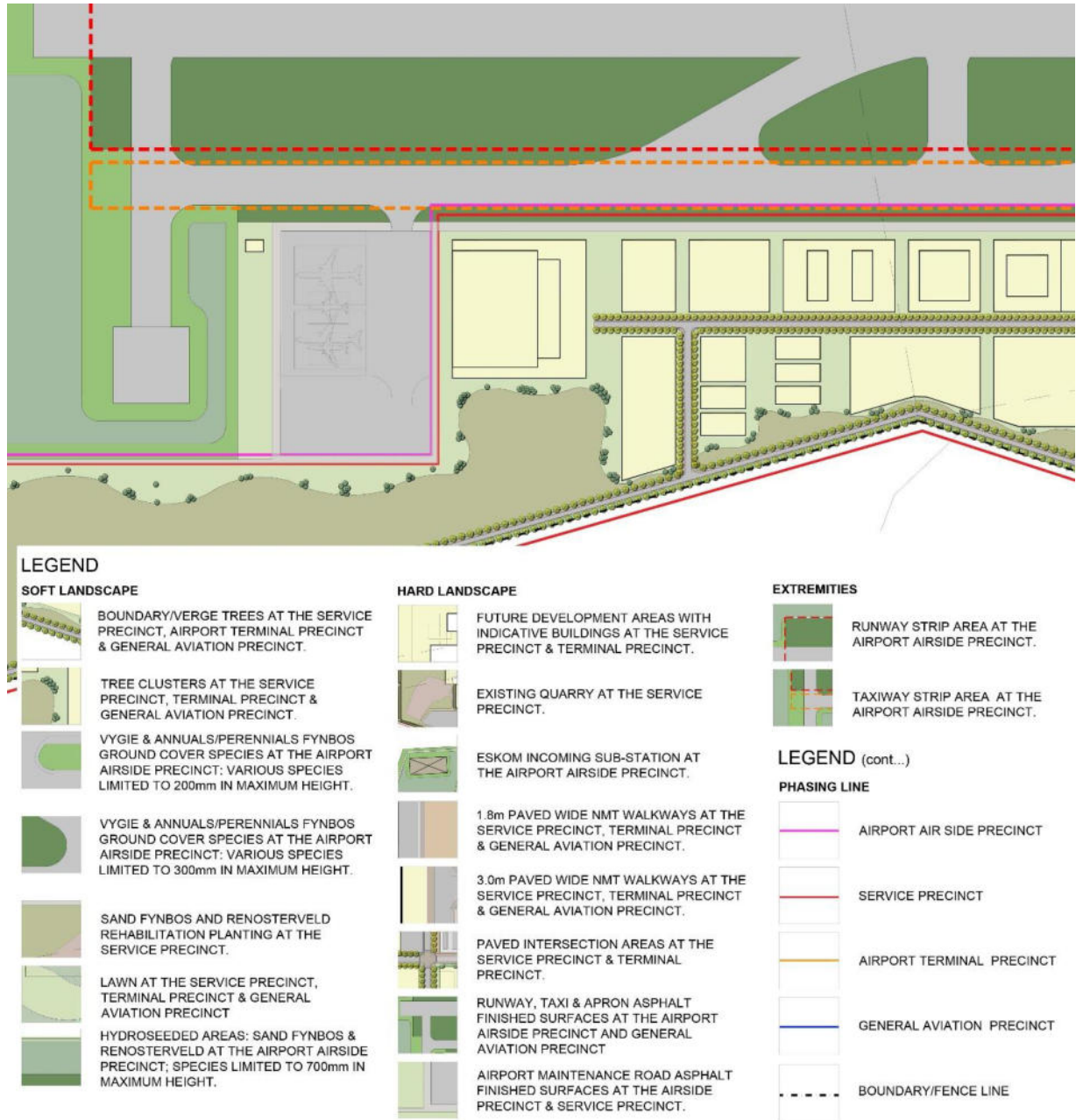


Figure 76: Landscape Concept Plan enlarged – showing the landscape proposal within the Services Precinct and the around the runway in the northern parts of the site. (Planning Partners, 2024)

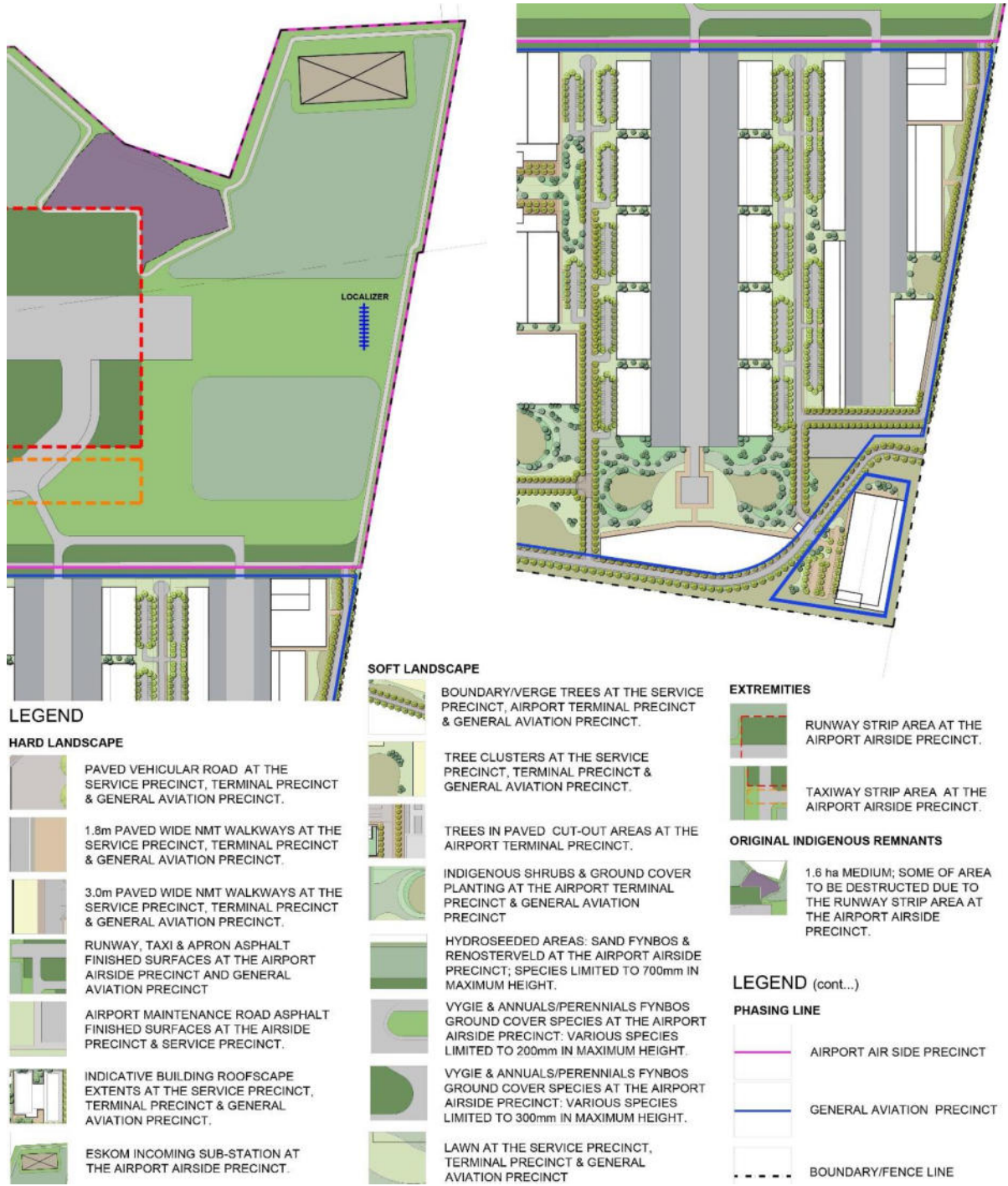


Figure 77: Landscape Concept Plan enlarged – showing the proposed southern R312 road interface landscaping proposal. (Planning Partners, 2024)

5. VISUAL ANALYSIS

The following section analyses various aspects regarding the visibility of the proposal within the Receiving Environment.

5.1. Preliminary visibility modelling, views affected and LoS testing

Fieldwork conducted in February 2022 tested views within the Receiving Environment from which the development would potentially be visible. The basic assumption for this mode of visibility testing is that the observer eye height is 1.8m above natural ground level, and testing positions preference publicly and/or reasonably accessible places.

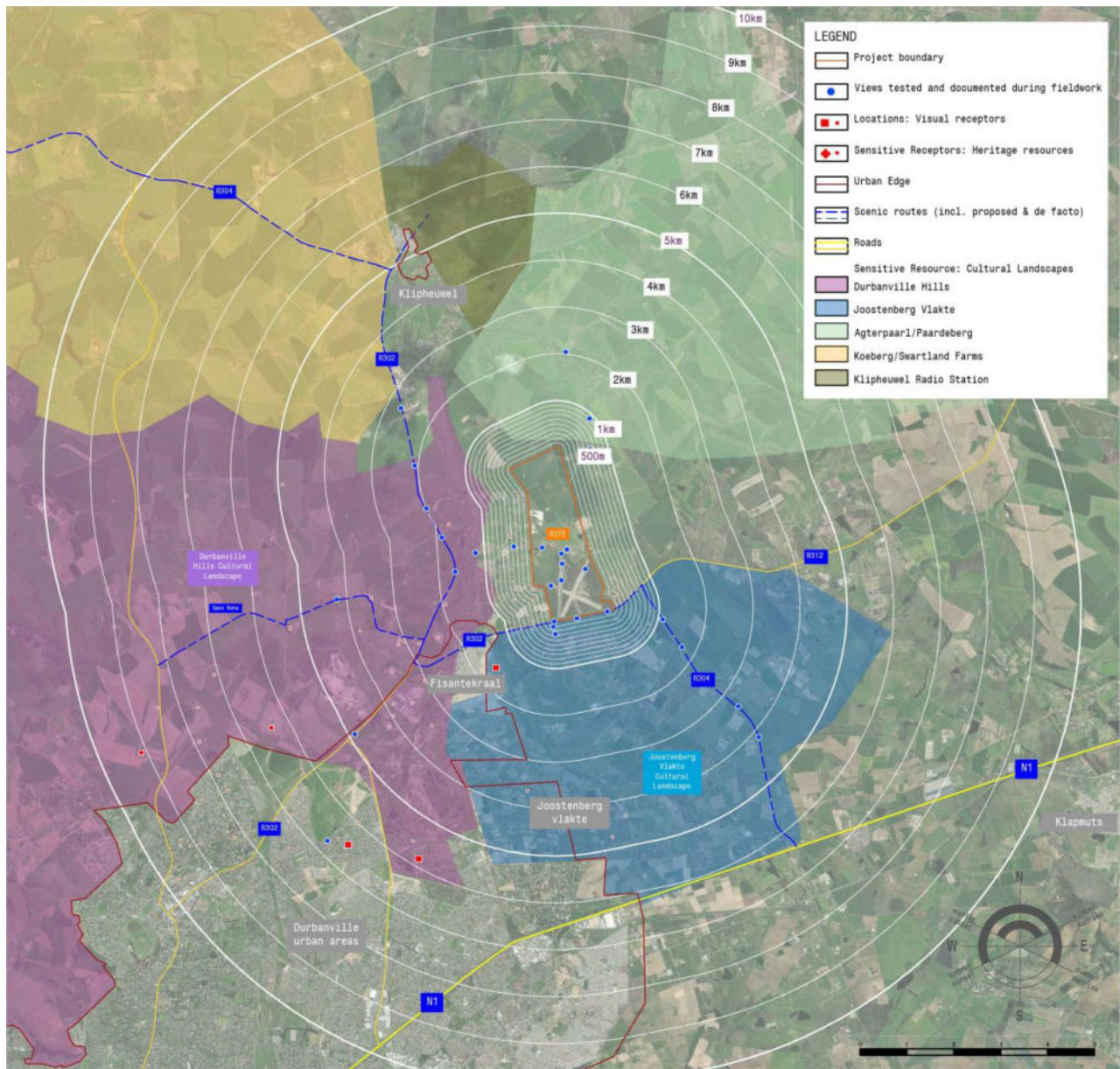


Figure 78: Graphic illustrating location of site photographs taken during fieldwork in the study area, as well as visual receptors, Cultural Landscapes and other key spatial aspects (Smit, 2023)

5.2. Viewshed Analysis

Viewshed analysis is a critical component of visual impact assessment (VIA). The process of viewshed analysis contributes to a more comprehensive understanding of how a proposed project may affect the visual landscape. One of the primary functions of viewshed analysis is to provide a measurable, objective evaluation of visibility from general or specific locations within a study area. Viewshed analysis also enables the visual specialist to identify sensitive areas and visual receptors that may be affected by the proposed development, and the proportion of these sensitive areas or portions of the population from and for which visibility is a factor.

Preliminary Viewsheds were generated in 2022 to inform the Scoping report, and these preliminary findings informed the specialist's decision-making in the assessment of the proposed development's design and placement (of buildings and the proposed runway) prior to Impact Assessment. 18m buildings (within the current Zone 3) were modelled on existing site terrain, based on the 2022 layout - the runway and other visible elements such as boundary walls, ancillary structures, masts and approach lights were not included in the data set at the time.

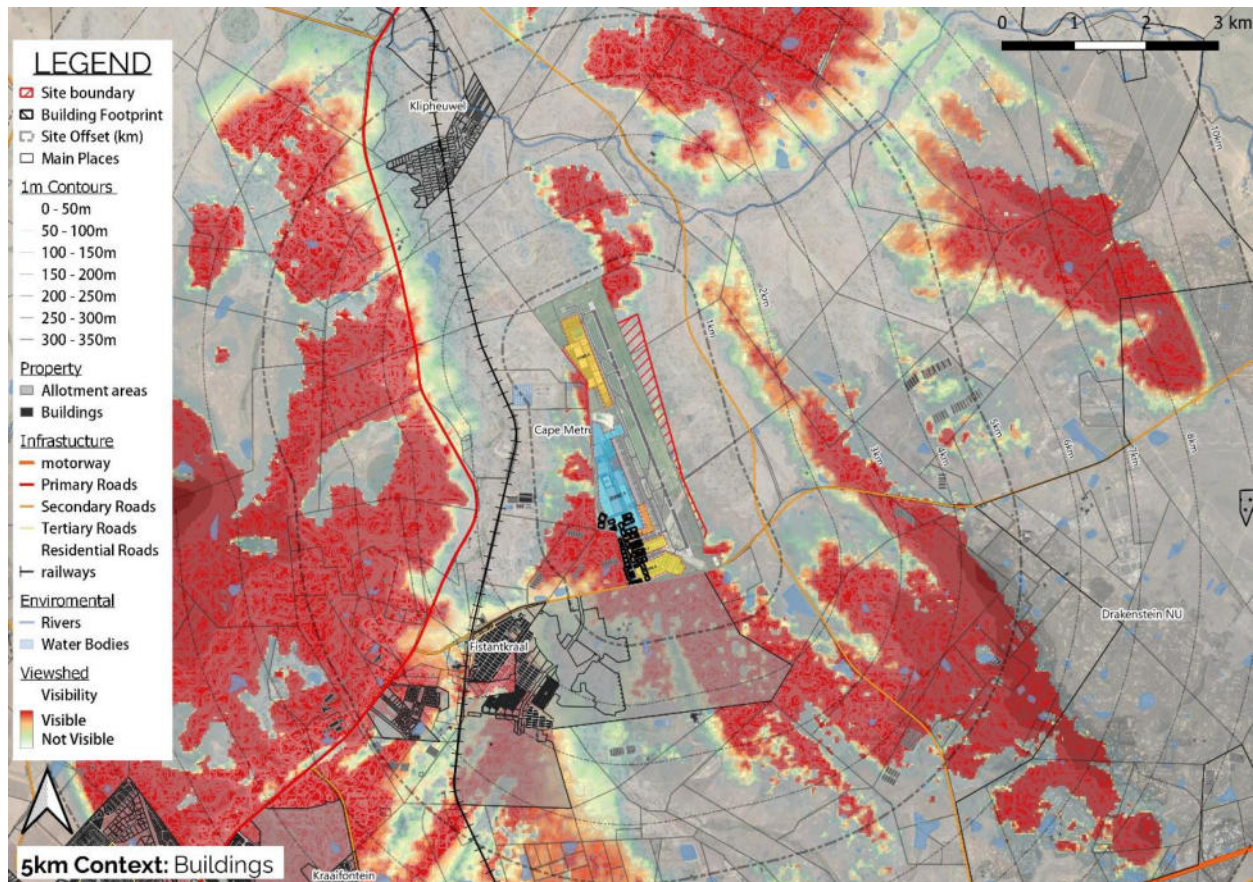


Figure 80: 5km radius Viewshed (now superseded) illustrating the visibility of the proposed buildings of the 2022 development (extents indicated by black boxes). This graphic shows the 2023 proposal overlaid, illustrating the extent to which the proposed development's footprint has expanded throughout the planning process. (van der Merwe, 2022)

Please refer to Figures 81 - 84 for the updated Viewsheds.

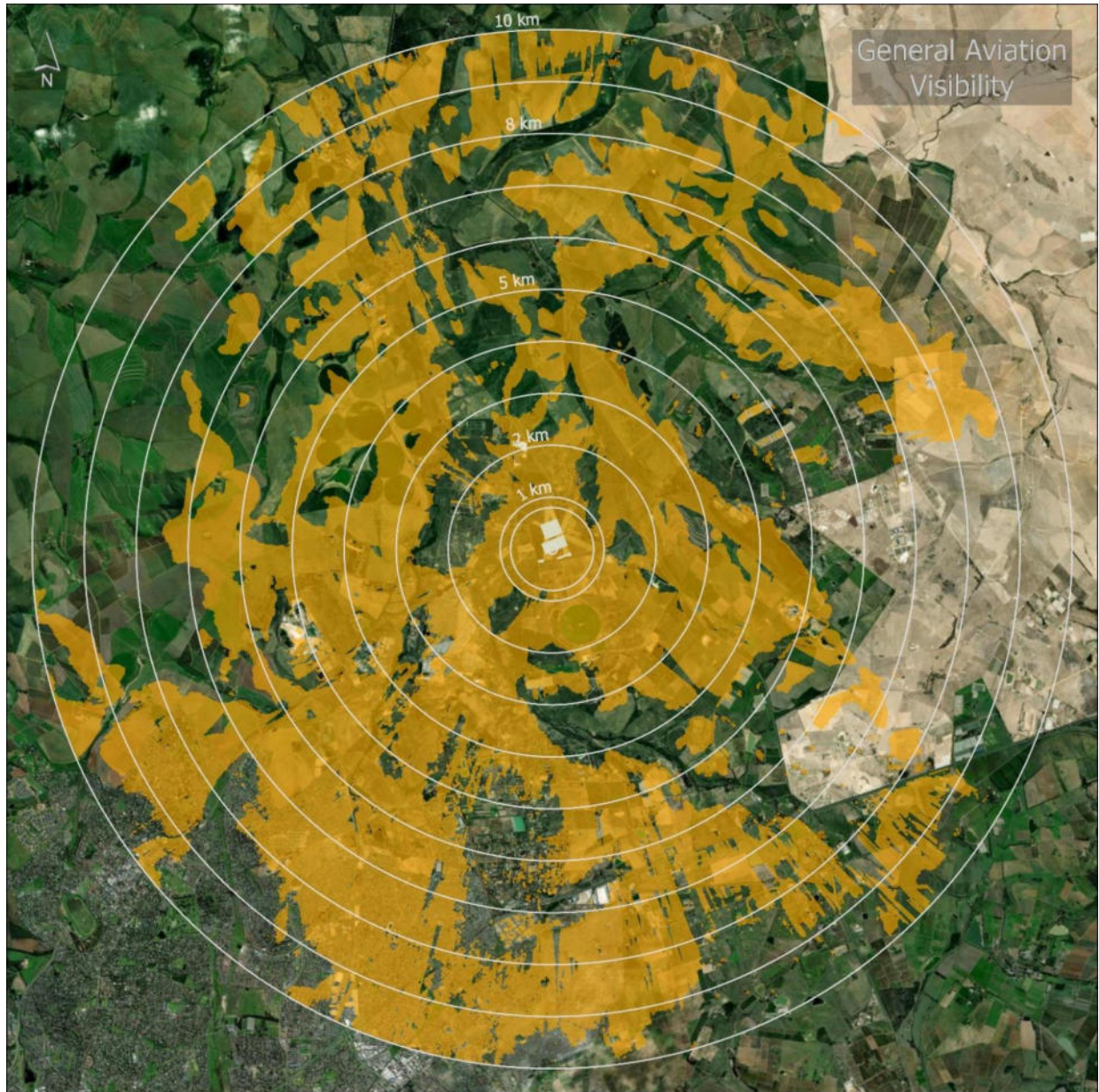


Figure 81: 10km radius Viewshed illustrating visibility of proposed buildings within Zone 3 (GeoSmart Space, 2024)

The Viewsheds indicate that the visible elements of the proposed CWA development will be measurably visible from a significant portion of the Receiving Environment within a 10km radius. It should be noted that while the viewshed analysis gives a general idea of visibility, viewsheds are only as accurate as the quality and fineness of the data available to generate the maps. Line of sight testing during fieldwork (refer to Section 00) is therefore critical to ground truth the actual visibility and Zone of Visual Influence. Due to the fact that hyper-local topographical features, built features and vegetation data (LIDAR) are not fed into the viewshed model, the ZoVI typically has a smaller footprint than indicated graphically.

The Viewshed maps indicate that the proposed CWA buildings will be visible from portions of all four of the surrounding Cultural Landscapes. The east-facing slopes of the Durbanville hills and Spes Bona Road

will have direct line of sight – an observation which is verified by Simulation 4. The views from the east are generally at higher elevation, giving the viewer a more complete view of the proposed development.

Although the Services Precinct contains less buildings, this norther portion of the site has lower VAC, and the viewshed indicates that the buildings in Zone 1 will generally be more visible from the surroundings than the other two zones which are located on the “plateau”. This is likely due to their location on top of the ridgeline of the [gently undulating topography of the] subject site, and the local topographical variations that result in more visual exposure for views from the north. The buildings in Zone 1 (including the ATCT) will be the most visible to sensitive receptors within the Agter-Paarl Paardeberg Cultural Landscape. See Simulation 3 for reference.

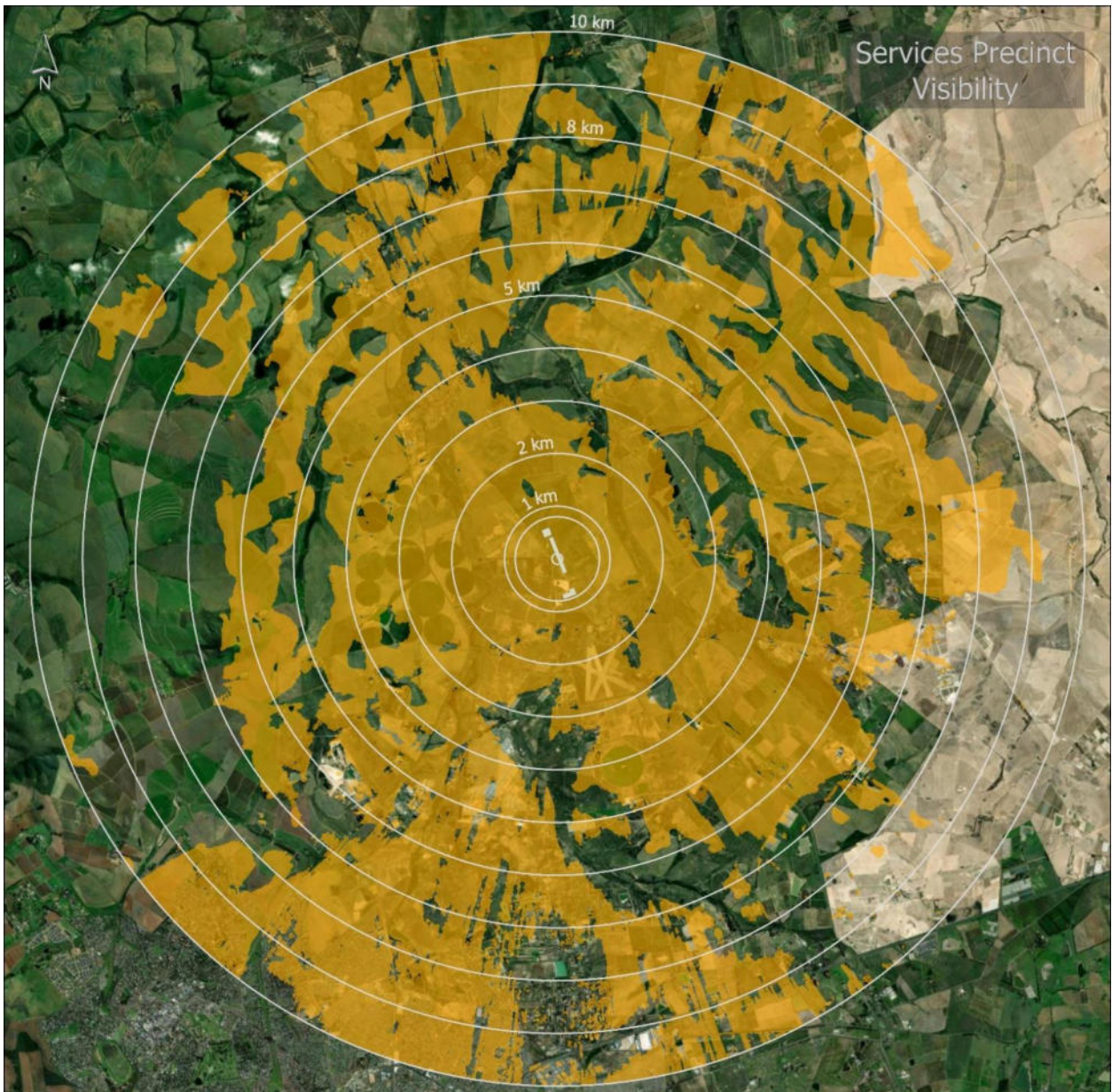


Figure 82: 10km radius Viewshed illustrating the visibility of the proposed buildings within Zone 1 (GeoSmart Space, 2024)

Receptors travelling on the R304 southward through the Cultural landscape will have views onto the runway (as well as all of the masts, towers, lights and the bulk earthworks associated), the ATCT and the easternmost edges of the buildings in both Zone 1 and Zone 2. Zone 3 buildings may become visible within 1km of the visible elements, but the local topography is expected to screen the majority of the General Aviation precinct from these views. For commuters travelling northward through the Joostenberg Vlakte Cultural landscape on the R304, the viewshed indicates that the proposed development will be visible up to 6,5km away. Lines of trees within the receiving environment do however contribute to screening the CWA, and these views are generally not at higher elevation (reducing the portion of the development that would be visible).

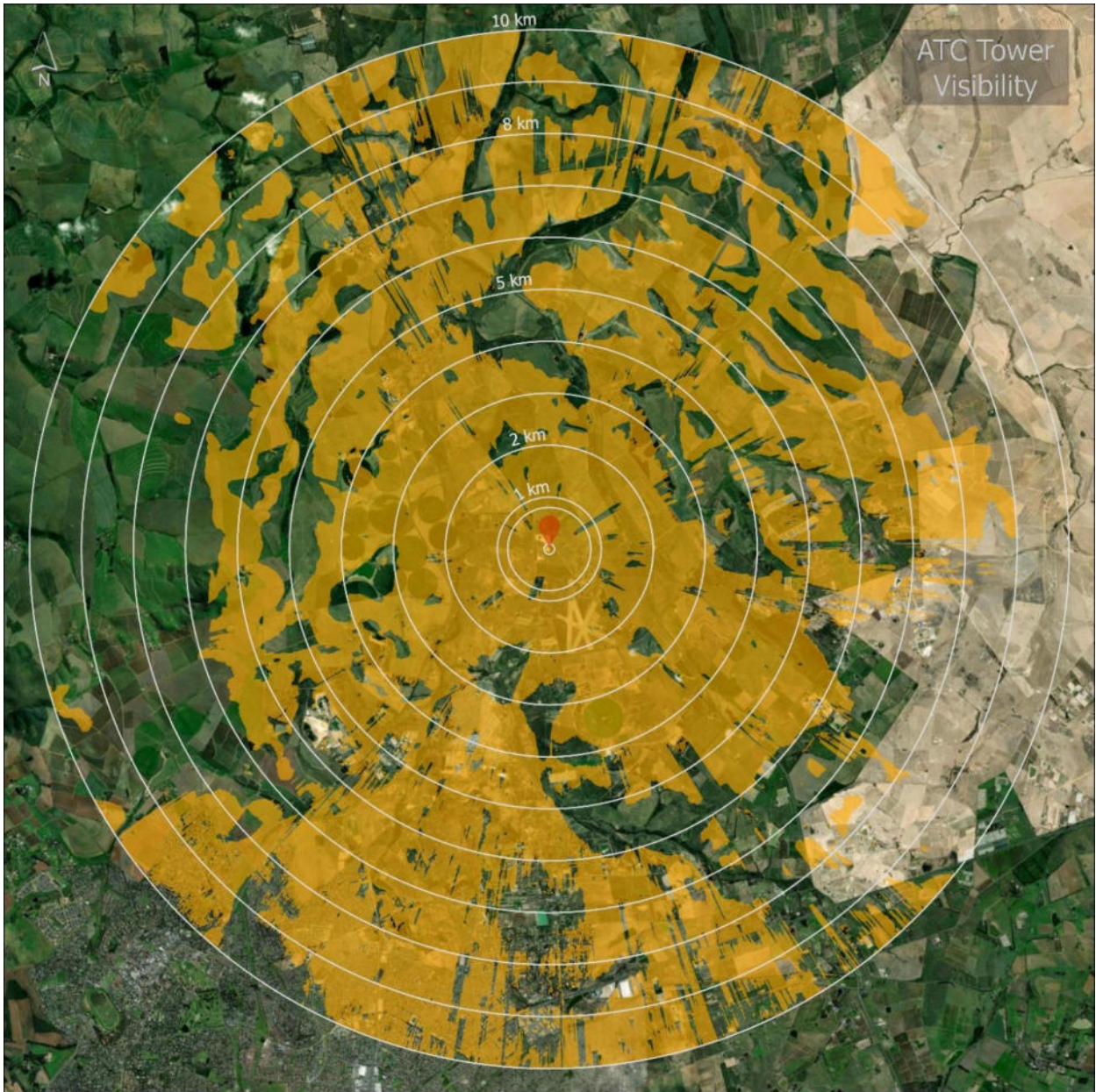


Figure 83: 10km radius Viewshed illustrating the visibility of the proposed Air Traffic Control Tower (GeoSmart Space, 2024)

The General aviation Precinct, the Airport Terminal Precinct (at close quarters), the ATCT, the southern parts of the runway and parts of the Services Precinct will be visible from the R312 (see Simulation 2 for reference). Views from the R 312 Lichtenburg Road will be taken within the Immediate foreground for a short but important section of the scenic route, and will affect the gateway point illustrated in the SDF's Thematic maps. Areas within the urban edge (and especially areas within Durbanville) will have direct views of the proposed development, however these will be taken over a landscape that is itself rapidly urbanizing. The viewsheds also suggest that the proposed development will be visible from Klipheuwel, as well as portions of the r304 Klipheuwel road (for commuters travelling southward). See Simulation 1 for reference.



Figure 84: 10km radius Viewshed illustrating the visibility of the proposed runway (GeoSmart Space, 2024)

The proposed development will be visible from Koeberg/Swartland Cultural Landscape, but at distances of between 3km and 5km, and at lower elevation. The ATCT will be visible to almost all viewers within a +/- 3km radius of its location.

Where buildings are placed within the “plateau” area, there are pockets of no visibility within 3km of the proposed buildings. This is accounted for by the drop in topography that screens views in the Foreground which are later exposed to views in the Middleground Distance zone, especially when a viewer is at higher elevation. Buildings within Zones 2 and 3 are less visible from the northern parts of the study area (i.e.; the Agter Paarl Paardeberg Cultural Landscape) for this reason.

Local topography will play a role in reducing the overall potential visibility (i.e.; absorbing and screening) of the buildings of the proposed development from viewers, and the buildings within Zones 2 and 3 especially are relatively well placed to make use of the VAC of the Receiving Environment. However, the viewshed analysis has indicated that the size of the individual buildings (as well as the overall scale and complexity of the CWA development) means that it is far above the capacity of the Receiving Environment to absorb visible elements in any meaningful way.

5.3. Line of sight testing and visibility

The following section contains a series of site photographs that illustrate the location of the site and visible elements of the proposed development within photographic views captured from a variety of distances during the site visit.

The intention of this section is to assist the reader to understand the visual context by illustrating the observations listed during fieldwork. These observations record the actual potential visibility of the proposed development, noting features and objects that have an influence on visibility. These observations determine the Zone of Visual Influence, and enable the visual specialist to correct any oversights or exclusions to the Viewshed.

The location of site photographs is indicated in Figures 78 and 79 (and available via the link provided in Google Maps).

Each site photograph will include a caption that provides the location of the view, the direction of the view, the distance of the viewer from the subject site and any other relevant notes (including notable features in the photograph and notes on the enlargement or modification of the photograph, if any). Please note that line of sight photographs generally attempts to place the subject site centrally in the field of view, and a selection of views will be included to demonstrate whether the proposed development will be visible or not.

Please note that visibility during the site visit was affected by cloudy conditions, limiting far views towards the mountains in the distance.



Figure 85: Visibility testing – view from the R302 near Klipheuwel at a distance of approximately 3km, looking south east. (Smit, 2022)



Figure 86: Visibility testing – view from the R302 south of Klipheuwel at approximately 1,8km, looking east. (Smit, 2022)



Figure 87: Visibility testing – view from the R312 near the R312 intersection with Klipheuwel road, approximately 3km away from the westernmost property boundary, looking east. (Smit, 2022)



Figure 88: Visibility testing – view from 100m away from the site, looking north east along the R312. (Smit, 2022)



Figure 89: Visibility testing – view from 900m away from the site, looking north east along the R312. (Smit, 2022)



Figure 90: Visibility testing – view from across Lichtenburg Road (the R312), looking north towards the property boundary from within the proposed Greenville Garden City development, at +-350m from the property boundary. (Smit, 2022)



Figure 91: Visibility testing – view from the south eastern corner of the subject site, looking north west towards the existing airport buildings (R312 visible to the right) (Smit, 2022)



Figure 92: Visibility testing – view from the south western corner of the subject site, looking east along the R312. (Smit, 2022)



Figure 93: Visibility testing – view from within the subject site along the R304, looking west (Smit, 2022)

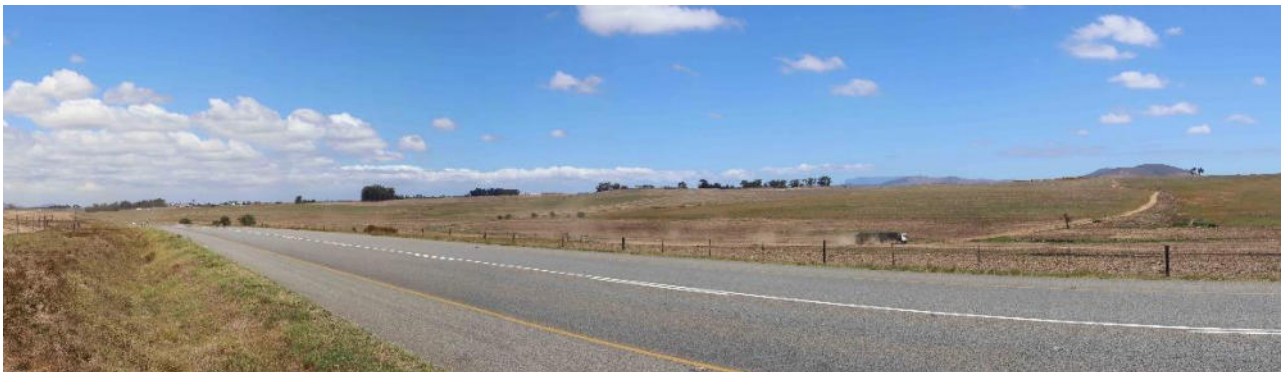


Figure 94: Visibility testing – view from within the subject site along the R304, looking south. (Smit, 2022)



Figure 95: Visibility testing – view from the R304 at approximately 2,5km away from the property boundary, looking south. (Smit, 2022)



Figure 96: Visibility testing – view from the vicinity of the Olienhoutsloof farm, along the R304, looking south. The property boundary would be approximately 1km away, but the developed area would be approximately 1,5km away. (Smit, 2022)

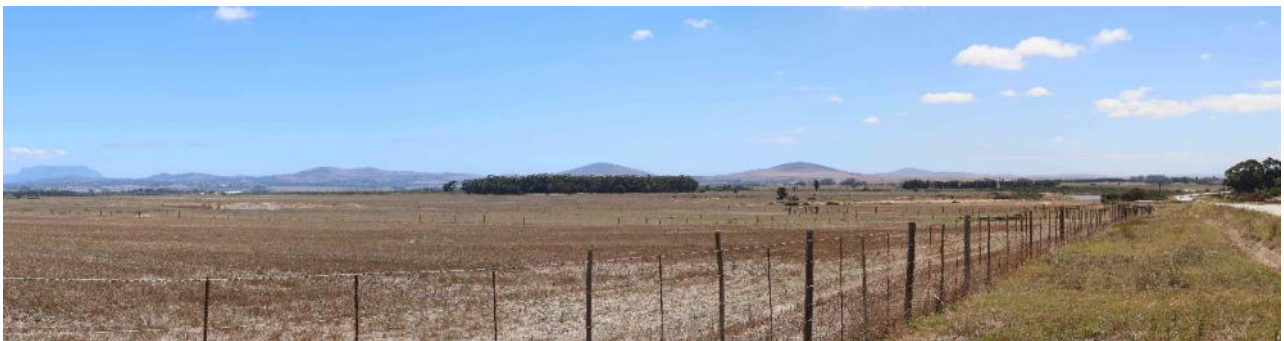


Figure 97: Visibility testing – view from the R304 at 3,5km, looking north west. (Smit, 2022)



Figure 98: Visibility testing – view from the R304 at 2,5km, looking north west. (Smit, 2022)



Figure 99: Visibility testing – view from the Spes Bona road at 6,5km away, looking east. (Smit, 2022)



Figure 100: Visibility testing – view from Wildebees Street in Durbanville at 7km, looking north east. (Smit, 2022)



Figure 101: Visibility testing - 12km south west of the subject site alongside the Clara Anna Fontein Residential development. (Smit, 2022)

5.4. Simulations

Simulated photomontages use photographs of an actual scene modified by the insertion of an accurate representation of the visible changes brought about by the proposed development (The Landscape Institute, 2011). The visual simulations thus enable 'before' and 'after' comparisons of the proposed development within the Receiving Environment (Oberholzer, 2005, p. 18).

3D modelling allows the specialist to navigate through the 3D environment with a visual representation of the height, massing and building configuration of the proposed development in its three-dimensional context. This enables more accurate identification of sensitive views, viewers and view corridors before fieldwork, to be tested and verified during and after the site visit is undertaken. Understanding the scale and potential visibility of the proposed development in relation to its context enables more accurate simulation and impact assessment.

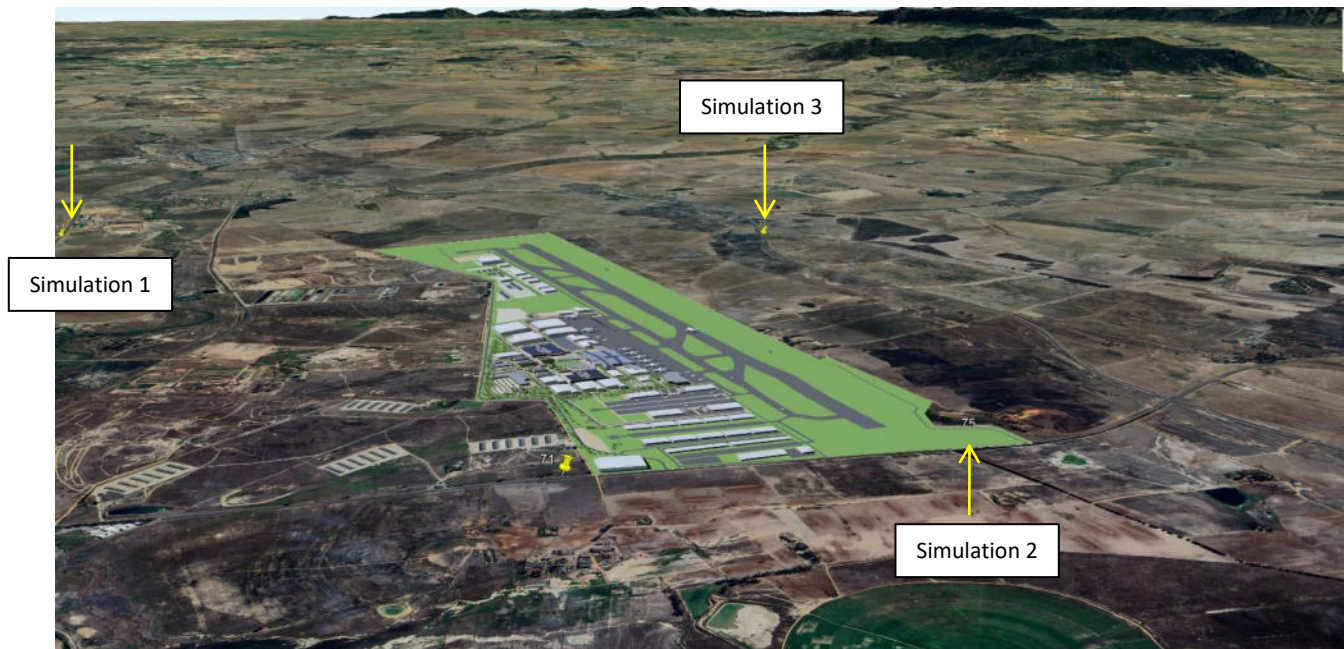


Figure 102: Artist Impressions of the proposed development (Vivid Architects, 2024) superimposed over Google Earth Imagery. The positions of three of the Simulations are indicated in this image with arrows. (Smit, 2024)

A selection of site photographs has been overlaid with 3D models of the proposed development to support the findings of the Visibility analysis section and assist the specialist to conduct the final visual impact assessment. These simulations represent views from the vantage point of sensitive receptors and aim to illustrate typical views from key distances or areas, and aim to reinforce the findings of the viewshed analysis.

Simulation 1 models a view from the R302 Klipheuwel road looking south east, just south of Klipheuwel. This view is approximately 1,8km away from the northernmost property boundary. The nearest building (visible in the left of the image above) is 2,8km away, the ATCT is 3,6km away. Notice that the western edge of the CWA screens the rest of the proposed development, but is itself entirely visible from this and similar vantage points along the R302 and within the Durbanville Hills Cultural landscape. Lights will be clearly visible on the horizon from these vantage points at night.

Future development within the agricultural landscape (which in this view will be located between the viewer and the subject site) will however change the character of these views significantly, especially when taken from the R302.



Figure 103: Simulation 1 (Smit & Smith, 2024)

Simulation 2 models the view from the R312, looking westward, and just east of the gateway point²² where the views over the agricultural landscape towards Table Mountain open up. This Simulation does not model the detailed road interface conditions and does not include mitigation measures (to be

²² While Simulation 2 does not illustrate the Gateway point itself (as per the Tourism Assets & Green Infrastructure Network Thematic Map of the MSDF (see Fig 24)), it was deemed sufficient to show the character of the view corridor, with longer views to the north to illustrate the visibility of the proposed development from the R312 when travelling west more generally. Note the Beefwood avenue on the left, which is the “concealing” element that enables the Gateway point’s moment of “reveal”.

confirmed at a later date). It shows the massing of the proposed buildings that will be visible from this vantage point.



Figure 104: Simulation 2 (Smit & Smith, 2024)

Simulation 3 is located within the subject site, approx. 1,1km east of the Services Precinct, and the view is looking south west towards the low ridgeline and plateau where the existing airport is located. The existing quarry is more or less in the centre of this view, and it was chosen to demonstrate the visibility of the proposed development from the R304 (and as a counterpoint to Simulation 1).

From this view, commuters travelling southward on the r304 will have the proposed development on their right, with the nearest building approximately 1,6km away, the ATCT approximately 2,2km away and the main Airport terminal building in Zone 2 approximately 3km away.

Air traffic (incoming, departing and parked) will be most visible from this vantage point, as will the apron lights and the lights associated with the runway and air traffic control infrastructure. The buildings within the Services Precinct and the service infrastructure assigned to this area (some of which could not be modelled at this time) will be most visible from the R304, and the viewshed indicates that the same will hold true for areas within the Agter-Paarl Paardeberg Cultural Landscape to the north. The northernmost building in the services Precinct (Zone 1) is located less than 1km from the mapped edge of this Cultural Landscape.



Figure 105: Simulation 3 (Smit & Smith, 2024)

From this and similar views, the embankments created by the bulk earthworks to establish the runway will be visible, but these will be revegetated as part of the project proposal and vegetation will reestablish over time. The ATCT and the proposed buildings do break the ridgeline from this and similar vantage points, bringing the urban edge outward into the as yet undeveloped rural hinterland. The General aviation precinct will not be prominently visible from the R304, although the tops of buildings may be visible on the horizon. Existing tree avenues will provide a measure of screening, but will be removed.

Finally, **Simulation 4** models a view from within the Durbanville hills Cultural Landscape, at higher elevation and at a distance of approximately 4,5km from the nearest building, looking east over the Mosselbank river valley. The entire development will be visible from this and similar vantage points.



Figure 106: Simulation 4 (Smit & Smith, 2024)

This simulation illustrates the scale of the proposed development within the visual context. It is undoubtedly a large development that will become a prominent feature within this environment. Note that while the proposed tree avenues will contribute to screening (especially for nearer views), it is only mature avenues of (generally) non-indigenous trees that are part of the Cultural landscape (such as eucalyptus species etc.) that provide meaningful vegetative screening. It is colour, material and building form that will contribute the most to visual impact mitigation at distances and views with higher elevation.

5.5. Visual Analysis

Based on investigation thus far, the following conclusions can be drawn in terms of Visual Analysis for the proposed CWA Airport development.

5.5.1 The Zone of Potential Visual Influence

The Zone of Potential Visual Influence (ZoVI) is the radius around an object beyond which the visual impact of its most visible features will be insignificant primarily due to distance. Determining the ZoVI enables the specialist to confirm the extent of visibility and views which could be affected by the proposed development before screening elements are taken into consideration.

For this scale of development within the visual and topographical context of the RE, the ZoVI of the proposed development is between 3km and 5km (this may increase to 10km at night).

- i. Views of the proposed development's most visible features (e.g. large buildings, the ATCT tower etc.) viewed from further than 1,2km away begin to lose significance in the visual field (see 5.6.3. Visual Exposure), and at 3km away or further, they begin to become more insignificant in the landscape.*
- ii. The visibility of point sources of light will increase the Zone of Potential Visual Influence to approx. 5km during the day, and up to 10km at night (at minimum).*
- iii. The proposed development will demonstrate dominance in the visual field from the perspective of visual receptors who view the visible elements from within 100m – 500m, such as commuters on the R312.*

5.5.2 Landscape Character & Visual Resource Sensitivity

Sensitive landscapes are natural or Cultural Landscapes that are recognized for their beauty and value to viewers (which is expressed as the quality of the visual resource). The quality of the landscape (visual resource) is correlated with its sensitivity. The sensitivity of a landscape or visual resource is the degree to which a particular landscape type or area can respond to and where appropriate, *accommodate* change²³ arising from a particular development *without detrimental effects on its character*.

Key elements of the Landscape Character can usually not be replaced or substituted (Young, 2014, p. 7) once negatively affected by inappropriate development. However, aspects such as disturbance to vegetation or the visibility of buildings can be mitigated over time, to replace or substitute the effect of the original vegetation on visual continuity, scenic value and the landscape as a setting and container.

²³ According to the DEA&DP Guideline for involving visual & aesthetic specialists in EIA processes (Oberholzer, 2005), the following terms are used to describe the effects of visual impact:

- Fundamental change: dominates the view frame & experience of the receptor;
- Noticeable change: clearly visible within the view frame & experience of the receptor;
- Some change: recognizable feature within the view frame & experience of the receptor;
- Limited change: not particularly noticeable within the view frame & experience of the receptor;
- Generally compatible: practically not visible or blends in with the surroundings.

Table 6: Landscape Character Sensitivity

Landscape Character Area	Sensitivity
Landscape Character Area 1	High
Landscape Character Area 2	Moderate to High
Landscape Character Area 3	Low to Moderate
Landscape Character Area 4	High

5.6. Factors determining Magnitude of visual impact

The magnitude of visual impact is assessed through a synthesis of four main factors, namely: visual intrusion, visibility, visual exposure and viewer sensitivity. These factors are considered alongside the relative compatibility of the proposal. As per the NEMA Regulations (The Department of Environmental Affairs , 2010) the nature, extent, duration, intensity and probability criteria are then applied in order to determine the significance of the visual impact.

5.6.1 Visual Intrusion

Visual intrusion describes the level of compatibility or congruence of the project with the particular qualities of the area, landscape and surrounding land uses, or its 'sense of place', measured against the degree to which it is in discord, or contrasts with these. Because these qualities vary throughout the Receiving Environment, the Landscape Character areas are evaluated in order to fully understand the potential visual intrusion for the proposed project. If the visual analysis is conducted in an “overview” manner in a Receiving Environment that is not uniform in sense of place and landscape character, key aspects of visual impact assessment are balanced out by the overall development instead of brought to light as individual impacts.

Visual Intrusion is related to maintaining the integrity of the landscape or townscape in context. Visual intrusion diminishes within landscapes of higher complexity and as distance increases (i.e., the object becomes less of a focal point and more of a visual distraction). The following criteria are used to assess the extent to which the proposed project component fits or contrasts with the landscape setting:

- a) Does the proposed physical development have a negative, positive or neutral effect on the quality of the landscape?
- b) Does the proposed development enhance or contrast with the patterns or elements that define the structure of the landscape?
- c) Does the design of the proposed project enhance and promote cultural and scenic continuity, or does it disrupt it?

Table 7: Visual Intrusion

High	Moderate	Low	Positive
<i>If the project:</i>	<i>If the project:</i>	<i>If the project:</i>	<i>If the project:</i>
Has a substantial negative effect on the visual quality of the landscape; Contrasts dramatically with the patterns or elements that define the structure of the	Has a moderate negative effect on the visual quality of the landscape; Contrasts moderately with the patterns or elements that define the structure of the	Has a neutral and minimal effect on the visual quality of the landscape; Contrasts minimally with the patterns or elements that define the structure of the landscape;	Has a beneficial effect on the visual quality of the landscape; Enhances the patterns or elements that define the structure of the landscape;

landscape; Contrasts dramatically with land use, settlement or enclosure patterns; Is unable to be ‘absorbed’ into the landscape.	landscape; Is partially compatible with land use, settlement or enclosure patterns. Is partially ‘absorbed’ into the landscape.	Is mostly compatible with land use, settlement or enclosure patterns. Is ‘absorbed’ into the landscape.	Is compatible with land use, settlement or enclosure patterns.
<i>Result:</i>	<i>Result:</i>	<i>Result:</i>	<i>Result:</i>
Notable change in landscape characteristics over an extensive area and/or intensive change over a localized area resulting in major changes in key views.	Moderate change in landscape characteristics over localized area resulting in a moderate change to key views.	Imperceptible change resulting in a minor change to key views.	Positive change in key views.

The overall project will result in **Moderate** visual intrusion (with aspects of Low Visual Intrusion and High Visual Intrusion):

- i. Depending on which aspect of the proposed development is being considered, and which LCA is being affected, the proposed development can be expected to have either:
 - a. a neutral and minimal (i.e.; low negative) effect on the visual quality of the landscape (indicating low visual intrusion);
 - b. or a moderate negative effect on the visual quality of the landscape (indicating moderate visual intrusion);
- ii. The proposed development contrasts moderately with the patterns and elements that define the structure of the landscape (indicating moderate visual intrusion);
- iii. The proposed development is partially compatible with land use, settlement and enclosure patterns (indicating moderate visual intrusion);
- iv. And finally, the proposed development is unable to be ‘absorbed’ into the landscape (indicating high visual intrusion).

The result is expected to be moderate levels of change in landscape characteristics over a localized area, resulting in moderate to notable changes to some key views, and minor change to other key views.

5.6.2 Visibility

Visibility is the area from which proposed project components would potentially be visible. Visibility depends on the topography, tree cover or the presence of other visual obstructions in the natural or built environment; as well as elevation and distance. Weather and seasonal conditions also affect visibility, but do not have a significant influence in this context and are not central to the analysis.

Table 8: Visibility

High	Moderate	Low
If the development is visible from over half the ZoVI, and/or views are mostly unobstructed and/or the majority of viewers are affected.	If the development is visible from less than half the ZoVI, and/or views are partially obstructed and/or many viewers are affected.	If the development is visible from less than a quarter of the ZoVI, and/or views are mostly obstructed and/or few viewers are affected.

Visibility can be defined simply as the measure of the area from which proposed project components would potentially be visible within the ZoVI. Once the proposed building or infrastructure envelope has been determined, visibility depends on the topography of the RE, slope aspect, tree cover or other visual obstructions in the natural or built environment; as well as elevation and distance. Please note that a high visibility rating does not necessarily signify a high visual impact.

*The proposed development will result in **Moderate to High** visibility overall.*

- i. The proposed development is visible from over half the ZoVI (indicating High visibility);*
- ii. Views are generally partially obstructed (indicating Moderate visibility);*
- iii. Overall, many viewers are affected (indicating Moderate visibility).*

5.6.3 Visual Exposure

It is well established that distance is a key variable that determines the magnitude of potential visual impacts from a proposed development (Sullivan, Abplanalp, Lahti, & Beckman, 2014). Distance from a viewer to a viewed object or area of the landscape influences how visual changes are perceived in the landscape. Generally speaking, the assumption is that colour, form, texture and detail become less perceptible with increased distance from the viewed object (Young, 2014, p. 46). Additionally, the impact of an object diminishes at an exponential rate as the distance between the observer and the object increases. To illustrate, the visual impact at 1km would be 25% of the impact as viewed from 0,5km. At 2km it would be 10% of the impact at 0,5km (Hull & Bishop, 1988).

Distance zones are based on three categories of distance: fore-, mid- and background (Landscape Aesthetics: A Handbook for Scenery Management, 1995). The Background category can be considered the threshold after which distance measurement becomes impossible to the viewer in the absence of known landmarks (Felleman 1979, 8). These zones can reasonably be understood as ideas that are responsive to context – their approximate parameters are shown below:

Table 9: Distance Zones for Visual Exposure

Distance Zone	Distance	Description
<u>Immediate Foreground</u>	0 to 100m	Most detailed aspects of objects are discernible, including materials and textures. Considered to be the most sensitive due to the proximity to the viewer and the ability to perceive detail.
<u>Foreground</u>	Up to 800m	The foliage of trees and finer textural details of vegetation are normally perceptible within this zone. After 500m, perception of detail and textures decreases, but overall form, shape colour and edges of objects are still discernable. Considered to be sensitive due to the proximity to the viewer and the ability to perceive detail.
<u>Middle ground</u>	800m to 6km	After 800m, vegetation appears as outlines or patterns. Only large or bright/contrasting objects with simple outlines are easily identified and differentiated from the general view. Depending on topography, vegetation and built form, the middle ground zone is sometimes considered to be up to 8km. In the middle ground, one can perceive individual landscape features under clear conditions but not in great detail. In urban and suburban areas, middle ground views are mostly obscured by built form and vegetation, except at a higher elevation than the surroundings, or within large open or public spaces. Not considered to be sensitive except in areas with exceptionally low VAC.
<u>Background</u>	Beyond 6km (up to 10km)	From 6km onward, individual landscape elements blend into the view and are generally absorbed partly or fully by the Receiving Environment. Only broad

		landforms are discernible and atmospheric conditions alter the perception and clarity of objects. Landforms and local or regional landscape patterns become discernable and dominate the views at these distances. Typically, not sensitive .
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Visual Exposure accounts for the limiting effect that increased distance has on visual impact, as well as factors that are influenced by weather, screening factors and diurnal light conditions. It is rated using four increments of severity, each with their respective qualification and contribution to visual impact.

Table 10: Visual Exposure ratings

High Exposure	Moderate Exposure	Low Exposure	Insignificant Exposure
<i>(Significant contribution to visual impact)</i>	<i>(Moderate contribution to visual impact)</i>	<i>(Minimal contribution to visual impact)</i>	<i>(Negligible contribution to visual impact)</i>
<i>0 – 500m</i>	<i>500m – 1,2km</i>	<i>1,2m – 3km</i>	<i>3km +</i>

5.6.4 Sensitivity of Visual Receptors

Visual Receptors are those people who would see the proposed development²⁴. The sensitivity of visual receptors is dependent upon:

- i. The location and context of the viewpoint (viewers location relative to the proposed development);
- ii. The expectations, occupation or activity of the receptor;
- iii. The importance of the view (which may be determined with respect to its popularity or numbers of people affected, its appearance in guidebooks, on tourist maps, and in the facilities provided for its enjoyment and references to it in literature or art).

Please note that visual receptors in the Receiving Environment are not always static or concentrated. The study area is located within a developed area, and the mobility of potential viewers in the area distribute the locations of sensitive views widely throughout the study area, some of which are utilized throughout the day and/or night, and some of which will experience views only at particular viewing times. Viewer sensitivity is different for different kinds of developments and may change depending on the kind of landscape within which the viewer is located, as well as varying according to their personal associations with a landscape.

The sensitivity of Visual receptors in the study area varies, but is generally higher for views from within LCA 1 and for sensitive receptors travelling on the Scenic Routes. It is expected to be lower for views from within LCA 2 and 4. LCA 3 is generally expected to have the lowest sensitivity, but this LCA does also contain the portion of the R312 Scenic Route that will be most affected by the proposed development.

²⁴ According to international Visual Impact Methodology the visibility of anything becomes insignificant beyond 10km, and so no receptors have been identified outside of a 10km radius of the project site.

Table 11: Sensitivity of Visual Receptors

Sensitivity of Visual Receptors	Visual Receptors
High	<ul style="list-style-type: none"> Views from local residences and farmsteads with views affected by the proposed development; Commuters on the R312 along the southern property boundary, and at the gateway point and/or view corridor towards Table mountain. Commuters on the R304 with views of the proposed development (within the ZoVI).
Moderate	<ul style="list-style-type: none"> Tourists visiting the area for the purposes of appreciating the landscape and/or the natural and/or historical sense of place (specifically within Cultural Landscape Areas). Cyclists (and other outdoor recreation hobbyists) fall into this category, considering that their intention or interest may be focused partly on the landscape as a view or a setting for their recreational activity. Viewers travelling on the surrounding public roads (including the R302 Scenic route) with views of the proposed development (within the ZoVI).
Low	<ul style="list-style-type: none"> People at their place of work; People travelling on local roads to and from their place of work. Viewers travelling on the surrounding public roads with views of the proposed development (outside of the ZoVI).

5.6.5 Relative compatibility

The relative compatibility or congruence of the proposed project is measured against the qualities of the existing landscape (or the 'sense of place'), as well as the extent to which the proposed land usage is in line with the surrounding development and land usage (present and future).

Table 12: Relative Compatibility

Compatibility	Description
High:	Appropriate development will harmonize with the surrounding landscape either by strengthening or protecting the sense of place, or as a minimum not deviating from the existing land uses and overall character of the RE. In line with existing policy and future development plans.
Medium:	<i>Moderately appropriate development partially fits into the surroundings in terms of land use, sense of place and overall landscape character, but to a lesser degree and only with care. Generally, the development will be noticeable. Some elements respond to context while others introduce new or different aspects. Substantively in line with exiting policy and future development plans, but may include departures, alternative rezoning or “pushing the envelope” development.</i>
Low:	Inappropriate development is visually intrusive and/or discordant with the surrounding landscape, land use, sense of place etc. <u>The development introduces entirely new or unprecedented elements into the landscape that do not fit in and have limited possibility for mitigation.</u> Proposed development is at odds with exiting policy and future development plans.

The proposed development demonstrates **Medium compatibility** relative to the Receiving Environment overall.

- i. One notable aspect of Low compatibility that bears mention is that the development introduces entirely new or unprecedented elements into the landscape that will have limited possibility for mitigation. Examples of this are elements such as the necessary scale of the proposed buildings, the visibility of airplanes landing and taking off, and other aspects such as the height and strength of the floodlights on the apron.

5.7. Magnitude of potential Visual Impact

According to the Institute of Environmental Assessment & The Landscape Institute (1996), attempting to attach a precise numerical value to qualitative resources is rarely successful, and should not be used as a substitute for reasoned professional judgement. For this reason, a portion of the impact assessment is undertaken qualitatively, and a numerical or weighting system is avoided (Young, 2014).

The magnitude of impact is assessed through a synthesis of visual intrusion, visibility, visual exposure and viewer sensitivity criteria. The assessment of the magnitude of visual impact is undertaken on the Landscape Character areas. The table below shows the four categories of Magnitude accompanied by descriptions of the criteria and results.

Table 13: Magnitude of Visual Impact

High	Moderate	Low	Negligible
<u>Total</u> loss of or major alteration to key elements /features/characteristics of baseline.	<u>Partial</u> loss of or alteration to key elements/features/characteristics of the baseline.	<u>Minor</u> loss of or alteration to key elements/features/characteristics of the baseline.	<u>Very minor</u> loss or alteration to key elements/features/characteristics of the baseline.
Introduction of elements considered to be totally uncharacteristic when set within the attributes of the receiving landscape.	Introduction of elements that may be prominent but may not necessarily be considered to be substantially uncharacteristic when set within the attributes of the receiving landscape.	Introduction of elements that may not be uncharacteristic when set within the attributes of the receiving landscape.	Introduction of elements that are not uncharacteristic with the surrounding landscape – approximating the ‘no change’ situation.
<i>Result:</i>	<i>Result:</i>	<i>Result:</i>	<i>Result:</i>
High scenic quality impacts would result.	Moderate scenic quality impacts would result	Low scenic quality impacts would result.	Negligible scenic quality impacts would result.

The proposed development is expected to result in an overall **Moderate** magnitude of visual impact, where moderate scenic quality impacts would result.

- i. The proposed development will result in the partial loss of or alteration to key elements/features/characteristics of the baseline;
- ii. It involves the introduction of elements that may be prominent but may not necessarily be considered to be substantially uncharacteristic when set within the attributes of the receiving landscape.

6. VISUAL IMPACT ASSESSMENT

The following section assesses the significance of anticipated visual impacts of the proposed development on the Receiving Environment and visual receptors²⁵, to adjust or confirm the *prediction* of High visual impact anticipated at the outset of the study.

6.1. Impact Assessment Methodology

Visual Impact is described and assessed for significance according to the criteria outlined by the DEA&DP Guideline (Guideline for involving visual & aesthetic specialists in EIA processes, 2005, p. 28). The following list indicates the numerical scoring system that is used to determine impact, modified from Filia Visual's standard methodology to include the content and structure of the Impact Assessment Methodology provided by PHS Consulting:

Nature	This is an appraisal of the type of effect the construction, operation, and maintenance of a development would have on the affected environment. This description includes what is to be affected and how (activity).
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Extent	Description	Score
Site-specific (SS)	Extending only as far as the development site area (or activity); or within 100m of the site boundary.	1
Local (L)	Limited to the site and its surroundings i.e.: extending only as far as the local community or urban area within 5 km of the proposed development.	2
Regional (R)	Beyond 5km of the proposed development. Affecting a larger metropolitan, Municipality or regional area.	3
National	Affecting large parts of the country (South Africa)	4
International	Affecting areas across international boundaries	5

Duration	Description (the lifespan of the impact)	Score
Immediate	Less than 1 year (e.g., duration of the construction phase)	1
Short-term (S)	0 – 5 years (after construction)	2
Medium term (M)	5 – 15 years (after construction, e.g., time period for screening vegetation to mature)	3
Long term (L)	More than 15 years (after construction, e.g., the impact will cease after the operational life span of the project, or where time will mitigate the impact partially)	4
Permanent	No mitigation measures or natural process will reduce the impact after construction (i.e., where time will not mitigate the visual impact)	5

²⁵ The VIA does not consider internal visual impacts (i.e.: interface between different areas within the subject site).

Intensity	Description	Score
Destructive	<i>Negative, unhelpful, causing great or irreparable damage.</i>	<i>(Selection)</i>
Benign	<i>Referring to impacts that are not harmful in effect.</i>	<i>(Selection)</i>
Zero (Z)	<u>No loss or alteration</u> to key elements / features / characteristics of the baseline. Bio-physical and/ or social functions and/ or processes remain unaltered.	0
Negligible / Very Low (VL)	<u>Very minor</u> loss or alteration to key elements / features / characteristics of the baseline. Bio-physical and/ or social functions and/ or processes are negligibly altered (or <i>enhanced</i> , in the case of positive impact).	2
Low (L)	<u>Minor</u> loss of or alteration to key elements / features / characteristics of the baseline. Bio-physical and/ or social functions and/ or processes are slightly altered (or <i>enhanced</i> , in the case of positive impact).	3
Moderate (M)	<u>Partial</u> loss of or alteration to key elements / features / characteristics of the baseline. Bio-physical and/ or social functions and/ or processes are notably altered (or <i>enhanced</i> , in the case of positive impact).	4
High (H)	<u>Total</u> loss of or major alteration to key elements /features/characteristics of baseline. Bio-physical and/ or social functions and/ or processes are severely altered (or vastly <i>enhanced</i> , in the case of positive impact).	5

Probability	Description (the likelihood of the impact actually occurring)	Score
None	Impact will not occur.	0
Improbable (Im)	<5% chance of the potential impact occurring. The possibility of the impact materializing is very low (as a result of design, historic experience or implementation of adequate mitigation measures). I.e. <u>Low likelihood</u> .	1
Probable/Possible (Po)	5% - 20% chance of the potential impact occurring. There is a <u>distinct possibility</u> that the impact will occur.	2
Highly probable (Pr)	20% - 95% chance of the potential impact occurring. It is <u>most likely</u> that the impact will occur.	3
Unknown (U)	The specialist does not know what the probability will be, based on too little information available.	4
Definite (D)	>95% chance of the potential impact occurring. <u>The impact will occur regardless of any prevention measures</u> or the implementation of corrective actions.	5

Status of the impact ²⁶	Description
Negative effect	Net negative effect at the cost of the environment, receptors or the visual amenity.
Positive effect	Results in a net positive effect that benefits the environment, receptors or the visual amenity.
Neutral effect on the environment	Neither positive nor negative.

²⁶ The Status of the Impact provides a “cost –benefit” analysis, where the impacts are assessed in terms of their effect on the project and the environment. For example, an impact that is positive for the proposed development may be negative for the environment. This important distinction is made in the analysis.

To determine the significance of the Impact, the extent (*E*), duration (*D*) and intensity (*I*) scores are added up and multiplied by the probability of the impact to produce a significance weighting (*x*).

$$x = (E + D + I)P$$

Significance	Description (significance weighting)	Score
No significance / Neutral (N)	The impact does not influence the proposed development and/or environment in any way. (Zero magnitude with any combination of extent and duration).	0
Very Low (VL)	The impact does/should not have a direct influence on the decision to develop the area. (Very low magnitude with any combination of extent and duration except regional and long term.)	0-15
Low (L)	The impact will have a minor influence on the proposed development and/or environment. These impacts require some attention to modification of the project design where possible, or alternative mitigation. (i.e. The impact has an influence, but the impact can be mitigated).	16-30
Moderate / Medium (M)	The impact will have a moderate influence on the proposed development and/or environment. The impact can be ameliorated by a modification in the project design or implementation of effective mitigation measures.	31-60
High (H)	These impacts will have the “no-go” implication on the development or portions of the development regardless of any mitigation measures that could be implemented. Findings that return this level of significance will be well motivated.	60+

The impacts will also be assessed in terms of the following aspects:

Legal requirements: The relevant South African legislation (and permit requirements) pertaining to the development proposals have been identified where applicable. See Section 3.2: *The project within the local planning context* for further detail.

Degree of confidence in predictions: An indication will be given as to what degree of confidence (low, medium, or high) exists in the predictions based on the available information and level of knowledge and expertise.

Confidence	Description
Certain (C)	More than adequate amount of information and understanding of the bio-physical and/ or social functions and/ or processes that may potentially influence the impact.
Sure (S)	Reasonable amount of information and understanding of the biophysical and/ or social functions and/ or processes that may potentially influence the impact.
Unsure (U)	Limited amount of information and understanding of the bio-physical and/ or social function

Level of certainty: The EIA process is based on assessment of future impacts and consequences, therefore there is still possibility of uncertainties and unknown areas even though the scientific basis of the specialist studies is sound. Where unknowns and uncertainties exist, these will be indicated, and a conservative approach will be followed when assessing and determining the level of significance.

6.2. Cumulative Impacts

Cumulative visual impacts are the result of compounded visual effects and changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments. These other developments can be associated with or separate from the proposed development under assessment and can also refer to actions that occurred in the past or are likely to occur in the foreseeable future. Cumulative effects may be positive or negative, and they may influence the way that a landscape is experienced.

Where they result in *benefits* or a series of positive impacts, they may be considered to form part of the mitigation measures.

Cumulative effects can also arise from the intervisibility (visibility) of a range of developments and /or the combined effects of individual components of the proposed development occurring in different locations or over a period of time (Young, 2014, p. 50). While the individual effects of these actions or proposed project components may not be significant, they have the potential to collectively bring about either successful mitigation or an unacceptable degree of negative effects on visual receptors or environmental resources.

Cumulative impacts identified for the proposed Cape Winelands Airport development are as follows:

- i. The proposed development will result in an overall increase in developed land and conditions of urbanity within the Northern District of the City of Cape Town (Sub-district 4 Agricultural/Rural Hinterland). These impacts are considered Cumulative in the context of the 2023 Urban Development Edge (UDE) revision in the MSDF, as well as the future development earmarked for neighbouring and nearby properties (see Figure 49).
 - a. It will result in a starker transition between the developed and rural agricultural landscape, as the UDE fills in to the west and south of the subject site.
 - b. From elevated views especially, the proposed development will add to the compounded visual effect of densification and infill development in the area (inside the urban edge).
 - i. It should be noted that this trend is supported by local and regional planning policy.
 - c. The proposed CWA will also result in the de-facto incremental movement of the UDE outward to the north and the east (outside of the designated Urban Development Edge).
 - i. The proposed runway, visible infrastructure and airport buildings will be visible from within the Areas of agricultural Significance, the Cultural Landscapes and Scenic routes that encircle the site from the south west, all the way through the west, the north west, the north, the north east, the east and the south east.
 - ii. Portions of the proposed development will result in the loss of uninterrupted scenic views of the rural agricultural hinterland within the Agter-Paarl Paardeberg Cultural Landscape; mapped areas of Critical Biodiversity; elements that define the structure of the landscape of the Receiving environment (farm werfs and mature existing tree avenues) and the baseline condition of very low light conditions at night.
- ii. The primary direction of the scenic view of the Gateway point along the R312 is directed south west, meaning that it will be the future Greenville Garden City development that must find a way

to maintain long views towards Table Mountain, not the proposed CWA which is on the right-hand side of the road.

- a. The proposed CWA development will however make a significant contribution to the cumulative visual impact on the visual character of the Scenic Route within the Scenic Route envelope. The height, distance and massing of buildings as well as the treatment of the boundary interface and the verge landscaping will determine what kind of character the landscape adopts in the future, whether scenic quality is maintained, and whether or not the characteristic long views towards the encircling landscapes (and landmark topographical features) remain important in the view frame.
 - b. There is the possibility of positive cumulative visual impacts, if the undeveloped areas of the subject site are not degraded, and are managed actively to maintain scenic quality. To achieve this, the proposed CWA development must consistently find ways to protect and enhance the capacity of the urban hinterland to continue to “provide a certain quality” to the adjacent urban environment (Northern District Plan, 2023, p. 32). See Chapter 7: Mitigation measures for further guidance.
- iii. Visual impacts associated with the construction phase(s) will have an overall negative effect on the way that the receiving environment is perceived and valued.
- a. The sensitivity or visual receptors will be reduced over time as scenic conditions within the site and the Receiving Environment are eroded, especially along the R312 Scenic route within the Immediate Foreground Distance zone, where High visual Exposure is predicted.
 - b. While the affected in terms of the scenic route, the Cultural landscape character and the experience of visual receptors. This is because of the level of unmitigated change that construction phase activities will bring about, which are most often noticeable and intense considering the scale of the proposed development. The potential visual impacts of construction plant and machinery (such as cranes and large trucks) as well as construction phase activities (bulk earthworks, excavations and concrete frame constructions before façade finishes) are generally high.
- iv. The visual impacts of lights at night will be a notable Cumulative visual impact of the proposed CWA development.
- a. This is due to the amount, brightness, complexity and overall ubiquity of a range of different kinds of light sources that will be visible at night (static, dynamic (moving) and intermittent (flashing)).
 - b. For viewers within the urban areas, the effects of skyglow and light trespass will be cumulative upon the existing high levels of light pollution that the Durbanville and Fisantekraal area experiences at night.
 - c. For the R312 scenic route, the night-time character of the RE from the point of view of the viewer will be lost / transform entirely from the baseline if the proposed perimeter lighting and outdoor advertising and signage proposals are implemented.
 - d. For viewers located within the surrounding Cultural Landscapes (i.e.; viewing the night sky and surrounding night-time landscapes from the surrounding rural areas), the visual impacts of light at night will be the most obvious.
 - i. Point sources of light (such as the lights atop the ATCT, the apron lights, the lights of airplanes etc.) will be visible especially from the Agter-Paarl Paardenberg CL;
 - ii. Point sources of light and skyglow/light trespass will also be visible from the Koeberg/Swartland farms CL and the Durbanville Hills CL (although these lights will

- be visible across urban and urbanizing areas in the foreground – truly a cumulative effect upon existing light pollution).
- iii. The Joostenberg Vlakte CL contains the highest density of residents (highly sensitive visual receptors), who will experience less visibility of point sources of light (due to the high level of existing vegetation patterns that screen line of sight), but will experience increased levels of light pollution in the form of sky-glow and light trespass at night as a result of the proposed development.
 - v. There is also a distinct possibility that effect of the proposed CWA development on the R312 Scenic route can result in a positive cumulative visual impact (after the construction phase and establishment phase), when the landscapes are established (e.g. upgrades to the public realm, well-maintained development interface, continuity of legibility in terms of the features that define the structure of the landscape such as tree avenues, wide verges and long views).
 - vi. The increase in air traffic and the upgrade of the existing airport to accommodate larger types of aircraft will result in a concomitant increase in the regularity and visibility of aircraft in the sky within the Receiving environment, which can be seen as a Cumulative visual impact.
 - vii. The ad-hoc/market responsive nature of the development strategy and the resultant proposed length of time of the Construction phase(s) will result in Construction Phase impacts overlapping significantly with Operational phase impacts, to the extent that it may be difficult to distinguish between them. These can be considered Cumulative upon one another.
 - viii. The proposed CWA development may contribute cumulatively to the removal of the mapped Gateway point for the R312 Lichtenburg road outward towards the east. A new threshold point may emerge, one that has a greater focus “outward” towards the rural Hinterland than “inward” towards the built-up areas within the new UDE.
 - a. At this interface (and along all of its proposed development edges) the Cape Winelands airport has the potential to contribute positively to how the public values the remaining Cultural Landscape areas.

6.3. Significance of the Visual Impact

Visual Impact is described and assessed for significance according to the criteria outlined by the DEA&DP Guideline (Guideline for involving visual & aesthetic specialists in EIA processes, 2005, p. 28) and the impact assessment methodology provided by PHS Consulting. The construction and operation phases are included, as no decommissioning phase is anticipated for this project. Assessment of the Significance of potential Visual Impacts will be undertaken for the No-Go Alternative, the Initial Preferred Alternative (Phase 1 & 2 together) and the Preferred Alternative (Phase 1 & 2 together).

It should be noted that some mitigation measures (such as rehabilitation and screen planting) are not immediately effective and take time to result in consequential mitigation of predicted visual impacts. It should however be kept in mind that even if the proposed development includes visual screening & offsets designed to reduce visual impact, the structures will always remain at least partly visible from some views.

Visual impact management is complex, influencing aspects of the environment both tangible and intangible. The significance ratings in the tables below only deal with the very broad categories of extent, duration, intensity and probability.

- i. In terms of this methodology, the predicted impact significance after mitigation may not always have the effect of reducing the anticipated impact enough to warrant classification within a lower

tier of significance. This may happen despite the visual impact having in fact been addressed and reduced.

- ii. For this reason, the recommendations and mitigation measures contained in this report must be consulted and applied whether they are shown to reduce the significance scores into a lower category calculated during visual impact assessment or not.

6.3.1 Visual Impact findings for Alternative 1: The No-Go Alternative

Alternative 1 describes the “Do Nothing” Alternative, in which the current rights of the existing airport would remain in place and no additional development would occur. The current development rights of the CWA restrict the Gross Leasable Area (GLA) to 6,000m², which is already utilised in full. The existing runway system (consisting of four crossing runways) will not be resurfaced to allow for increased operations for Code A & B aircraft. This is because the restrictions in GLA would not allow the upgrade of terminal and landside capacities to accommodate the anticipated growth on airside.

The overall visual impact significance score for the No-Go Alternative is **0 (No Significance / neutral)**. The impact does not influence the proposed development or the Receiving Environment.

See Chapter 12 (**Annexure B**) for Impact assessment Tables.

6.3.2 Visual Impact findings for the Initial Preferred Alternative

The impact assessment findings for the Initial Preferred alternative were similar enough to those of the New Preferred Alternative so as not to warrant their inclusion in this report as a separate set of Impact Assessment Tables.

The Impact Assessment tables can be found in Chapter 12 (**Annexure B**).

6.3.3 Visual Impact findings for the New Preferred Alternative

The Impact Assessment tables show Impact Significance prior to the application of mitigation measures as well as the predicted Impact Significance after the implementation of mitigation measures.

The Impact Assessment tables can be found in Chapter 12 (**Annexure B**).

7. MITIGATION MEASURES

7.1. Parameters and Principles for Mitigation

In the recommendation of mitigation measure, Filia Visual applies three²⁷ key parameters:

- **Feasibility:** Mitigation measures should be economically feasible within the scope and nature of the proposed project;
- **Effectiveness:** How long will it take to implement and what provision is made for ongoing management and maintenance;
- **Acceptability:** Is the recommendation an appropriate fit within the framework of the existing landscape and land use policies.

In response to the parameters above, mitigation measures should – in principle – take a site-specific approach and be designed to suit the existing landscape character and needs of the locality and/or proposed project. They should respect and build upon landscape/townscape distinctiveness.

7.2. Applicant and Project Team Responsibilities in terms of Mitigation

All necessary mitigation measures and management actions must be included in the Final Environmental Management Plan, Programme and any further planning and design documentation that follows this phase of approvals (e.g.: SDP and Building Plan approvals).

The recommendations and mitigation measures below also serve as ongoing guidelines for the applicant and their project team to refer to should ad-hoc changes be necessary during future revisions of the SDP and development proposal.

- i. The applicant and their project team are therefore responsible for pro-actively incorporating mitigation measures into the technical documentation for construction and/or further planning approval purposes and processes.
- ii. The applicant and their project team are also therefore required to demonstrate that all mitigation measures and management actions have been considered meaningfully for incorporation into the development proposal, as necessary.
- iii. All mitigation measures must either be included or omitted (accompanied by a motivation as to why the omission is acceptable) in the further design, construction phase and operational documentation.

7.3. Management actions and Mitigation Measures

The following section outline the recommendations of the visual specialist with regards to management actions and mitigation measures. The findings of the Impact assessment (with mitigation) is dependent recommendations below being carried out successfully and fully. The first sub-section highlights the mitigation measures that are recommended for inclusion in the conditions of approval of the Environmental authorisation and the Land use planning approval. The CA is advised to include any additional mitigation measures that follow as they deem fit into the conditions of approval.

²⁷ Adapted from Young (Draft Visual Impact Assessment Report, 2014, p. 33)

7.3.1 Conditions of approval

Selected Mitigation measures have been recommended to be carried forward as conditions of approval (COA).

a. Master Plans and Guidelines required for the overall development

It is recommended that the first Site Development Plan (SDP) to be submitted to the City of Cape Town Municipality for approval must trigger the requirement for the following to be submitted for approval at the same time:

- i. A detailed **Master Architectural Guidelines** document to govern all architectural development within the CWA throughout all future phases²⁸.*
 - a. This document may also be titled a Master “Development Guidelines” document.*
 - b. It must include all standard chapters appropriate to the scale and complexity of the CWA development, including the applicable legal frameworks relating to compliance, and the internal hierarchy of communication between stakeholders, including property owners, architects, developers, and local authorities.*
 - c. It must include Urban Design Guidelines and the Landscape Architectural Guidelines as sub-sections.*
 - d. It must establish (or designate) an HOA (or equivalent) body to oversee the enforcement and maintenance of the Architectural or Development guidelines.*
 - e. The CWA must establish an Architectural Review Committee (that includes a suitably Qualified Landscape Architect) to internally review, adjudicate and approve future development applications within the CWA development (which will include Landscape Plans).*
 - f. It should include the following aspects (which should provide detailed textual and image-based precedent or examples of both inclusions and exclusions to clarify design intent):*
 - i. Signage guidelines (refer to 7.3.2 (a) for guidance);*
 - ii. Guidelines for Fencing, Walls, Entrances and Boundary interfaces (refer to 7.3.2 (b) for guidance);*
 - iii. Lighting guidelines (refer to 7.3.2 (c) for guidance);*
 - iv. Materials and finishes guidelines (refer to 7.3.2 (d) for guidance).*
- ii. A detailed **Master Landscape Plan** (that supersedes the current Draft Overall Landscape Concept Plan (PAL 4)) to show all landscape architectural development within the CWA throughout all future phases. This plan must include:*
 - a. A Tree Survey (quantitative and qualitative) of all existing trees on site showing trees to be retained or removed.*

²⁸ The existing Architect’s report is not sufficient for the scale and complexity of the CWA development, and must be developed into bona fide Architectural Guideline document.

feasible given the high irrigation demands of establishing a landscape at the scale proposed by the Concept Plan/future Master Landscape Plan.

1. See 7.3.2 (e) v. b. (i – ii) for further detail.

- e. Detailed Irrigation guidelines must be included (refer to 7.3.2 (e) vi – xvii for guidance).*
- f. Tree planting guidelines and specifications must be included (refer to 7.3.2 (e) for guidance).*
- g. Visual & aesthetic sensitivities vary depending on the development edge, as do design informants such as access control, security and lighting needs, distance of buildings from property boundary and the like.*
 - i. The Master Landscape Guidelines document must include a set of typical section details for the various development edges illustrating architectural responses to the various different site and interface conditions, as well as contextual (visual) informants.*
 - 1. Particular attention is required for areas abutting natural, agricultural, and rural areas or Cultural Landscapes, as well as those that have a public interface (such as the southern and western property boundaries. Valuable view corridors and existing vistas should be enhanced and celebrated by any development proposal.*
 - ii. The section details should provide further detail regarding fencing/boundary treatment, pedestrian and other NMT routes, proposed planting, lighting and signage where relevant and NGL interaction with SUDS structures etc.*
 - iii. The section details should also demonstrate the feasibility of the proposed tree lines along fences and roads in terms of the location of irrigation, fencing and underground services.*
- h. A Tree Management Strategy for the management of existing trees to be retained.*
 - i. Existing landscape patterns are important to conserving landscape character, sense of place and maintaining the inherent VAC of the subject site. The project team is therefore strongly advised to avoid removing any additional vegetation (especially tree avenues and mature copses).*
- i. A Landscape management and maintenance strategy and guidelines for implemented landscapes and for areas not earmarked for development (i.e. areas within the Agricultural Precinct, and undeveloped areas within the Airport Airside Precinct). This should include (but are not limited to):*
 - i. An Alien & invasive species management plan.*
 - ii. Rehabilitation and Revegetation Guidelines*
 - iii. Hydroseeding Guidelines and protocols for the planting of embankments to stabilize soil.*

b. Plans and Guidelines required to accompany all future Site Development Plans

All future Site Development Plans within the CWA development that are to be submitted to the Municipality for approval²⁹ must contain / be accompanied by the following.

- i. A Detailed Landscape Plan and (SDP-level appropriate) Landscape Architectural Guidelines document prepared by a suitably qualified Landscape Architect.
 - a. The Landscape Plan and its accompanying Guidelines document must be prepared in alignment with the Master Landscape Plan, the Master Landscape Architectural Guidelines, and the recommendations of this report.*
 - b. Additionally, it must demonstrate adherence to the Tree planting specifications and Irrigation guidelines, as well as the Master documents' guidelines and strategies relating to interface conditions and boundary treatment and any other relevant guidelines and strategies.
 - a. These mitigation measures are particularly important given the crucial role that provision of water plays in the successful establishment and ongoing maintenance of trees and screening planting.**
 - c. The Landscape Plan must Indicate trees that function as screening and softening, especially from views within cultural landscapes (e.g. Agter-Paarl Paardeberg CL).**
- ii. A detailed Fencing proposal
 - a. To ensure appropriate design of road verges, stormwater structures, fences etc. which should be in character with the natural or rural surroundings (as per the Heritage and Scenic Resource: Inventory and Policy Framework, 2003)*
 - b. This requirement is for boundary fencing and public interfaces specifically – internal fencing is not a concern from a visual impact management point of view.**
- iii. A detailed Signage proposal, where signage is proposed. The signage proposal must demonstrate that signage has been designed in such a way that the sensitivities of the adjacent Cultural Landscape and the relevant Scenic Routes have been (a) taken into consideration, and (b) that design responses have been included in the design proposal in a positive way. The signage proposal should include:
 - a. Graphic renderings or 3D models showing the location in context, height, mounting details and proposed content of all proposed signage.*
 - b. Please note that signage in this case includes branding, logos and lettering on building facades.*
 - c. SDP applications should not be approved without input from the appropriate CA that the signage proposal is acceptable in terms of the relevant Outdoor Advertising and Signage Policy and By-law.**

²⁹ Whether this is for each Phase, or each Development parcel, or each subdivided Erf will depend on the future Land Use Planning approval strategy and process, which is not clear to the specialist at this time.

- iv. *A detailed Lighting proposal (for all outdoor lighting, façade lighting (if any), street lighting and security lighting – i.e.; all light sources that would be visible from within the Receiving Environment). The lighting proposal must demonstrate that lighting design has been undertaken in such a way that the sensitivities of the adjacent Cultural Landscape and the relevant Scenic Routes have been (a) taken into consideration, and (b) that design responses have been included in the design proposal in a positive way. The lighting proposal should include:*
- a. *A consolidated lighting layout showing the location of all sources of light.*
 - b. *The lighting proposal should include basic technical/specification details for all sources of light.*
 - c. *The information provided should enable:*
 - i. *the visual specialist to properly scope and model/simulate visible light sources (if necessary);*
 - ii. *and the CA and/or the visual specialist to make an informed decision regarding the acceptability of light impacts at night.*
- c. *Plans and Guidelines required to accompany particular Site Development Plans*

Certain areas within the CWA development require particular attention in response to contextual informants, or must be accompanied by additional information or further visual specialist input at a later stage of design development.

- i. *Any SDP that includes development in areas within the Scenic Drive/route Envelope³⁰ of the R312 (i.e.; any areas adjacent to the R312 scenic Route or within the 100m signage buffer area) must be accompanied³¹ by:*
 - a. *Further detail regarding the articulation and design of buildings proposed on the southern property boundary³².*
 - i. *This should include sections and plans that illustrate building massing, form, fenestration / glazing / curtain walls, roof design and materials / finishes.*
 - ii. *Any associated visible elements such as masts, solar panels, wind turbines, chimneys, antennae etc.*
 - iii. *This should include a reasoned motivation from an architectural, landscape architectural and urban design perspective, explaining the ways in which the proposal is responsive to the visual / scenic informants along this interface and the visual sensitivities of this part of the receiving Environment.*

³⁰ Scenic Drive/route Envelope is defined as: The carriageway (of the Scenic route), the road reserve, immediately adjacent public land and the first erven abutting any of these (Scenic Drive Network Management Plan, 2003, p. 3).

³¹ This is in addition to the conditions of approval outlined in 7.3.1.

³² Visual impact associated with the Proposed development's interface with the R312 Lichtenburg Road Scenic Route is currently anticipated to be of Medium (negative) significance. There is scope for enhancement of the local visual character which may result in an overall positive visual impact along this development edge, but this will only be achieved with care. An integrated proposal that is developed between the Architectural / Urban design team and Landscape Architect is therefore necessary here.

- b. *Detailed Landscape Plans at SDP level (as called for in 7.3.1 (b) i) must include the entire scenic route envelope of the R312 Lichtenburg road verge, as well as the 30m buffer zone.*
 - i. *The guidelines and policies of the City of Cape Town's MSDF must be consulted, as well as the Scenic Drive Network Management Policy, the Heritage and Scenic Resource: Inventory and Policy Framework for the Western Cape, Urban Design Policy, Outdoor Advertising By law and all relevant considerations within the Northern District SDF Development Guidelines for further guidance.*
- c. *A Visual Statement prepared by a suitably qualified specialist consultant:*
 - a. *This is called for to ensure that visual impact management mitigation measures are applied, visual impacts are managed as priority in the detailed design development in future planning & approval phases; and to determine if the impact assessment findings of this report are affected.*
 - b. *The Visual statement should focus on: fencing, boundary treatment and public road interface, lighting, signage and compliance with material recommendations of this VIA. Also to address appearance of development edges visible from the roadway³³).*
 - c. *The Visual statement should include detailed simulations from key views.*
 - d. *The SDP must be accompanied by detailed renderings by the project architects from the relevant viewpoints identified in this report, and/or viewpoints identified by the visual specialist undertaking the visual statement.*
 - i. *These renderings must inform the visual simulations prepared by the specialist in the Visual statement.*
- ii. *Any SDP that includes development in areas within the Airport Airside Precinct must be accompanied³⁴ by:*
 - a. *A Visual Statement prepared by a suitably qualified specialist (see 7.3.1 (c) i. c. for further detail).*
 - b. *The SDP must be accompanied by detailed renderings by the project architects (see 7.3.1 (c) i. d. for further detail).*
- iii. *Any SDP that includes development in areas within Zone 1 (the Services Precinct) must be accompanied³⁵ by:*
 - a. *A Visual Statement prepared by a suitably qualified specialist (see 7.3.1 (c) i. c. for further detail).*
 - i. *This VS must provide comment on the acceptability of building and infrastructure visibility from the R304 Scenic route and the Agter-Paarl*

³³ The current Concept landscape plan for instance, currently does not include tree planting proposals to screen and soften the eastern edge of the General Aviation Precinct.

³⁴ This is in addition to the conditions of approval outlined in 7.3.1.

³⁵ This is in addition to the conditions of approval outlined in 7.3.1.

Paardeberg Cultural Landscape, and provide additional mitigation measures if necessary.

- b. The SDP must be accompanied by detailed renderings by the project architects (see 7.3.1 (c) i. d. for further detail).*

d. Miscellaneous Conditions of Approval

- i. The Visual Impact Assessment must accompany the Land Use Planning application as an Annexure (and informing document).*
- a. All relevant recommendations and mitigation measures established therein must be incorporated into the project documentation in measurable, enforceable form.*
- b. The Land Use Planning approvals process must allow sufficient time for the final Land Use Planning application set to be reviewed by the author (or another suitably qualified visual specialist) before submission.*
- i. The purpose of this requirement is to confirm that the findings of the VIA remain unchanged.*
- ii. A covering letter or brief Visual statement will suffice to screen and/or Scope possible issues as necessary.*
- ii. The ECO must conduct a lighting audit at the end of each Construction phase, to ensure that the mitigation measures set out in this report (as well as future Visual Statements or CA inputs) are adhered to and successfully implemented.*
- iii. The Final Completion of the landscape installation should be made a condition for final occupancy certificates to be issued during the Construction phase. This is to ensure that the landscape installation accompanies (and is completed during) the construction phase of its associated building/s, precinct, erven etc. See 7.3.2 (e) v. for further detail.*
- iv. The SDP architectural plans must show the substation and the Solar Panel arrays in the layout.*
- iv. Local policy dictates that visual cluttering of the landscape by non-agricultural development must be managed. The following applies to buildings (and associated structures such as the ATCT) facing and/or visible from the R304 and the Aqter-Paarl Paardeberg Cultural Landscape:*
- a. Building facades and the surfaces of structures may not be illuminated; may not have any signage, lettering, logos or advertising (illuminated or otherwise) mounted upon them.*
- b. Buildings and structures must be designed to be visually recessive in materials/finishes, colour, form and massing.*
- c. Buildings and structures must be designed to be sympathetic to the rural Agricultural landscape character in their design and architectural expression.*
- v. Visual impacts along Scenic routes are generally managed using visual buffer zones with setbacks and height restrictions. The following development parameters are recommended at Conditions of Approval:*

- a. Apply a 30m visual buffer zone offset from the R312 Lichtenburg Road scenic Route within which no buildings may be placed.
 - b. Enforce a 100m Signage “buffer zone” along the R312 Scenic Route.
 - i. No 1st Party signage, 3rd Party signage, billboards, outdoor advertising and (specifically) no illuminated or digital signage should be permitted within 100m of the property boundary adjacent to the R312.
 1. Standard Provincial road signage within the road verge indicating the location of the entrance to the Cape Winelands Airport is acceptable.
 2. One 1st Party Sign may be permitted at the entrance to the Cape winelands Airport.
 - c. Apply a 9m Height control restriction along the R312 Scenic Route.
 - i. This height restriction must extend 100m into the subject site to include a large enough part of the Scenic Route Envelope to have the desired effect of maintaining long views through this newly urbanizing area.
- vi. The scoping report makes mention of wind turbines as possible alternative sources of energy. While these elements are not necessarily problematic, this VIA is unable to provide any further comment on their visual impact at this time and must rely on future statutory processes to manage visual impact of possible future wind energy infrastructure.
- a. Therefore, if Wind turbines (either mounted on roofs or land-based) are proposed during the SDP phase for any building, precinct, erven etc., this should trigger the input of a visual specialist to provide a Visual Statement that includes simulations to determine the extent and significance of direct and cumulative visual impacts of the proposed wind power generating infrastructure.
 - c. The provisions in 7.3.1 (c) i. c. are also called for here.
 - b. The provisions in 7.3.1 (c) i. d. are also called for here.
- vii. The Agricultural Precinct must be considered a “No-Go” area.
- a. No further development should be allowed within the Agricultural Precinct.
- viii. Existing landscape patterns are important to conserving landscape character, sense of place and maintaining the inherent VAC of the subject site.
- a. No further removal of existing vegetation (with the exception of alien invasive species) should be permitted within the Agricultural Precinct.
 - b. The Tree Survey and Tree Plan must motivate for the removal of existing trees within Zones 1-3, and existing trees should be retained wherever possible (especially those that contribute to the characteristic landscape patterns of the surrounding Cultural landscapes). This is to ensure that windbreaks, avenues, copses and place-defining or gateway planting is not needlessly destroyed by new development.

7.3.2 Mitigation measures for design phase(s)

The following recommendations, management actions and mitigation measures are included here to provide guidance regarding specific aspects of the development proposal that have bearing on visual impact within this Receiving Environment.

a. Outdoor Signage

- i. The subject site is located within and alongside areas of maximum control in terms of the Policy Framework for Outdoor Advertising and Signage in Cape Town, 2013; and the Outdoor Advertising By Law, 2023. Enforcement of the By Law and Policy guidelines are especially important to reduce the impact of possibly inappropriate signage along the Scenic Drive. According to the Policy, the City will discourage large intrusive billboards in rural or natural landscapes, and encourage creative locality bound signs which are sensitive to natural and Cultural Landscapes in non-urban settings (City of Cape Town, 2013, p. 15). In general, the development proposal (including all future SDP plans to be submitted) must comply with the Outdoor Advertising and Signage Policy and By-law in all respects.*
- ii. Specifically, the development proposal (including all future SDP plans to be submitted) must demonstrate that all outdoor advertising signs and other signage (external advertising, direction signs and/or outdoor display) do not impact negatively on visual corridors, Cultural Landscapes and Scenic Routes.*
- iii. No signage, lettering or outdoor advertising (within the proposed development or on the perimeter) may be installed higher than the average building height, or the overall height restriction for the development, whichever is the lesser.*
 - a. The illuminated 1st party logo sign proposed to be mounted on the ATC tower is not supported.*
- iv. Outdoor signage and (especially) outdoor advertising must be kept to a minimum throughout the development. This is especially important to protect the R312 Scenic Route's view corridor, the remnant Landscape Character of the Receiving Environment, and the views of sensitive viewers within the Cultural Landscapes and travelling on the scenic Routes surrounding the subject site.*
 - a. The 1st Party Sign at the entrance to the Cape Winelands Airport must adhere to the Principles and Placement contained in the CWA Outdoor Advertising Guidelines for 1st Party Signage (which are generally supported from a Visual Impact management point of view).*
 - b. 3rd Party Outdoor Advertising Signage should be restricted along the perimeter of the property boundaries, and should not be permitted if visible from within the surrounding Cultural Landscapes or from Scenic Routes.*
 - c. No outdoor signage or 3rd Party Outdoor Advertising Signage should be allowed to be erected along any of the edges of the Airport Airside Precinct, or anywhere within the Agricultural Precinct (i.e.; within view of the R304 or the R312).*

- d. *No outdoor signage or 3rd Party Outdoor Advertising Signage (including freestanding outdoor billboards and digital screens) should be allowed within the 30m Visual buffer zone or within the 100m Signage buffer zone.*
- e. *No 3rd Party advertising signage should be visible from the R312 Gateway point.*
- v. *Signage on building facades must be sensitively placed and sized to cater for views within the proposed development.*
 - a. *No 3rd Party Outdoor Advertising Signage should be allowed on building facades visible from the R312 or R304.*
 - b. *No signage or lettering on building facades should be legible to viewers located outside of the Foreground Distance zone of the sign (i.e.; signage should not be particularly noticeable for viewers located more than +800m away.).*

b. Fencing, Walls and Boundary interfaces

The proposed development must comply with the Boundary Walls and Fences Policy of the City of Cape Town, 2009 in all respects. Other policy relating to fencing and boundary treatment are the Heritage and Scenic Resource: Inventory and Policy Framework for the Western Cape (Respect the landscape setting and gateway qualities of scenic routes by ensuring appropriate design of road verges and fences); and the Western Cape Land Use Planning Guidelines for Rural Areas, 2019.

- i. *The plan, typical details and sections called for in 7.3.1.(a)iii.g. should show height of wall/fencing, material & construction method, any accessories (such as lights, security apparatus, wildlife bridges, signage etc.) and distances from roads and road verges.*
- ii. *Boundary walls, fencing and gateways should be in keeping generally with a visually neutral architectural character, designed simply, and remain visually permeable as far as possible.*
- iii. *High, solid or palisade-type walling, and any form of precast panel type fencing is inappropriate and should be avoided.*
- iv. *Low walling where used should be plastered /painted with earth tones, in line with the approved general materials and finishes recommendations contained in the Architectural Guidelines (see 7.3.1.(a)i).*
- v. *Where security fencing is required, it should be screened with trees or hedging.*

c. Lighting

The following recommendations deal with all general and outdoor lighting and sources of light. Light pollution should be kept to an absolute minimum throughout the development, and exterior lighting must be limited to areas where this is necessary for utility, safety and security.

The goal should be to keep the ambient light levels within the immediate Receiving Environment low, given the proposed development's proximity to a rural landscape that is a protected area, and the surrounding Cultural Landscapes. Exterior lighting (and therefore any visible light sources) must be carefully directed away from sensitive receptors identified in this VIA (Scenic routes, and viewers within the Cultural Landscape and nearby residential areas/homesteads).

In principle, lighting in the development should:

- ✓ Only be on when needed for active use;
- ✓ Only light the area that needs it;
- ✓ Be no brighter than necessary;
- ✓ Minimize blue light emissions;
- ✓ Be fully shielded (pointing downward) as far as possible.

The negative impacts of night lighting should be mitigated in the following ways:

- i. *Install light fixtures that provide precisely directed illumination to reduce light “spillage” beyond the immediate surrounds of the light source, including interior or undercover lighting sources;*
- ii. *Façade lighting to be limited to accents and features, avoiding large parts of the exterior of buildings to be lit from any side, but especially not the facades facing the R312 scenic route, nearby homes and any of the Cultural Landscapes surrounding.*
- iii. *Pedestrian pathways, parking areas and vehicular roads should be lit with low level ‘bollard’ type lights or post lights (maximum 3m tall) that are fully shielded (pointing downward). Fully shielded fixtures minimize skyglow, glare and light trespass.*
- iv. *No “always-on” security flood lights, naked or exposed peripheral/boundary lighting or uncovered luminaires of any kind should be visible from public roads, the Scenic route, surrounding residential areas or the Cultural Landscapes that surround the site.*
- v. *Security lighting should be activated on movement as far as possible.*
- vi. *The 6m perimeter lighting proposed to encircle the development periphery is not supported. Future SDP plans must include a lighting proposal as called for in 7.3.1 (b) iv.).*
- vii. *Light emitting diodes (“LEDs”) are appropriate for outdoor lighting. If it is necessary to use white light, low-color-temperature LED lighting should be used on the condition that the brightness can be dimmed when they aren’t needed for active use (for example: to light empty parking lots etc.)*
- viii. *Because blue light brightens the night sky more than any other color of light (International Dark Sky Association, 2021), it’s important to minimize the amount emitted. The proposed development should use warm light sources (lower color temperatures) for outdoor lighting: a maximum of 3000 Kelvins is recommended.*

It may not be possible for parts of the proposed development to adhere to the above mitigation measures in every part of the development, given the specialized lighting that would be necessary at an airport.

- ix. *This risk can be managed through the submission of the detailed Lighting proposal at SDP stage (see 7.3.1 (b) iv). This will allow the CA and/or the visual specialist to be provided with sufficient information during the future approvals process so that visual impacts associated with the direct and indirect visibility of lighting can be avoided, reduced or mitigated wherever possible when this detailed information is available.*
- x. *In the absence of specific South African or municipal guidelines, compliance with the International Dark Sky Association (IDA) Criteria for Community-Friendly Outdoor Lighting is called for. It may therefore be necessary for an Overall Lighting Report to be called for at*

the Land Use Planning Approval stage, to be prepared by a suitably qualified electrical engineer.

- a. The purpose of this report would be to provide a demonstration sketch of the illumination conditions generated by the various light sources within the CWA development.*
- b. The proposed CWA development does not exist in a vacuum, but within a complex "transitional" receiving environment that has a lot of variability in terms of light sources and overall lighting conditions at night along its different edges. The CA may therefore require some kind of simulation overlaying contextual graphics (site photographs, 3D model or aerial imagery³⁶), which is not within the visual specialist's expertise to generate.*

d. Materials and finishes

The following recommendations deal with the choices of materials and finishes specified for the construction of visible elements within the proposed CWA development; and include considerations regarding aspects such as colour, texture, brightness, reflectivity.

- i. Roof and facade materials must be neither bright nor light. The appropriate colour range is achieved by increasing the shade (black) and tone (grey) of the desired colour palette. This darkens the original hue while making the chosen color appear more subtle and less intense.
 - a. All roof material finishes should be located on the cool colour spectrum (e.g. the hues of blue, charcoal, grey, green etc.) and should be visually recessive.*
 - b. All façade material finishes should be visually recessive, and contrast minimally with roof material finishes.*
 - c. White, cream, beige and similarly light colours are not appropriate for roofs and facades.**
- ii. The use of a range of colours within an approved palette (to be determined as part of the Architectural Guidelines called for in 7.3.1.(a)i.) is recommended for roof and facade materials and finishes. This prevents the development from appearing as a solid and/or overly uniform roofscape typical of newly established developments, especially from views at a higher elevation.*
- iii. Where tenants or future potential developers within the various precincts of the CWA require the specification of bright colours in line with their branding (which are often on the warm colour spectrum) on exterior portions of buildings, the following:
 - a. These areas must not cover more than 25% of the building façade.*
 - b. The placement of these portions of allowable colour must be located sensitively so as not to negatively affect views from the surrounding cultural Landscapes and scenic routes.**

³⁶ For instance this may be in the form of a 3D "mountain plot" of illuminance overlaid approximately onto 3D aerial imagery.

- c. *Roof colour should always conform to the overall material palette of the rest of the development, to ensure that views from higher elevations experience a measure of uniformity in the roofscape, within a range of appropriate colours.*

e. Landscape

It is unreasonable to expect views of proposed buildings and other visible elements to be screened from the public view entirely. A certain amount of visual exposure is inevitable, and arguably appropriate (depending on the nature of the proposed development). Additionally, trees are simply not capable of completely screening views to buildings (which in the case of the CWA, are often as tall as 20m), nor does a fully screened building equal successfully mitigated (or positive) visual impact. In some environments, a proliferation of trees within a landscape may not increase contextual fit.

However, the visibility of buildings and other discordant visible elements must not come at the expense of visual resources (e.g.; the visual amenity of the Cultural Landscape and Scenic routes), or be to the detriment of the Receiving Environment. The installation of trees and other landscape elements such as planted berms and areas of soft landscaping serve to screen, soften and increase the contextual fit of new developments within their receiving environments.

The following recommendations deal with design decisions associated with the specification and installation of landscape-related aspects within the proposed CWA development that have an influence on visual impact management. The following mitigation measures should be used to assess the compliance of the future Master Landscape Plan and SDP Landscape Plans and Guidelines called for in Section 7.3.1.

- i. *If 10% or more of the total number of trees proposed in the Landscape Concept Plan are removed from the proposal, this should be considered a substantial change, and the input of a suitably qualified visual specialist must be sought out (in the form of a Visual statement).*
- ii. *Tree avenues are an appropriate screening and scaling tool to be used within the proposed development, and the Landscape Architect/s must select a variety of species carefully to ensure that there is a measure of continuity within the soft landscaping of the proposed development with the planting patterns of the receiving environment.*
- iii. *Establish new tree avenues with suitable species to enhance cultural landscape features lost through the development to reinforce or replace traditional patterns of planting where appropriate with suitable species.*
- iv. *Screening with trees and soft landscaping (especially on public road verges) should include areas of higher density (where it is necessary to break up the bulk and mass or horizontality of the buildings, limit the visual impact of signage, or screen views into parking lots and back of house areas), as well as areas where tree planting may be less dense (to allow view corridors and glimpses into the proposed development).*
- v. *The timing of landscape installation:*
 - a. *The soft landscaping along all public road verges (and especially trees that play a role in screening the development from the R312) must be specified in the phase 1*

SDP, and implemented along with the first phase of the development, and as early in the construction process as possible or feasible.

- b. All other trees must be planted along with their associated phases, and as early in the construction process as possible. This phased tree planting strategy is the substance of the Tree planting plan called for in 7.3.1.(a) ii.b.*
 - i. The implication of the above recommendation is that the irrigation system design, supply, powering and storage of irrigation water must be developed and functional to the point that it will be able to supply sufficient irrigation water to the newly installed trees at the time of their installation (during Phase 1 and/or whenever a new phase of the proposed development is implemented along with its landscape and trees).*
 - ii. The design team (Landscape Architect and/or Engineer) must therefore provide the CA with sufficient detail to demonstrate that the irrigation requirements for proposed trees will be met through rainwater harvesting, borehole supply or similar; and storage capacity must be indicated on the appropriate Landscape Plans. Ideally, the stormwater attenuation ponds should be integrated into the system of rainwater storage and re-use for irrigation purposes.*

Correct management and specification are key to ensuring successful mitigation that depends on screening visible elements of a development with trees. The key to the successfully establishment of trees for screening (at least in the Western Cape) is not their size or maturity at installation, rather it is the provision of ideal growing conditions from the point of installation onward – with specific reference to soil conditioning and irrigation supply. The following Tree specification and irrigation design guidelines must be adopted and displayed on all future Landscape Plans:

- vi. The landscape establishment phase (i.e.; the time period after which a Landscape Contractor is employed to maintain and monitor a newly installed landscape after practical completion) must not be less than 24 months in duration.*
- vii. The irrigation supply of trees should be maintained consistently throughout the year (i.e.; during the establishment period, as well as on a permanent basis after establishment, and during the operational phase of the development).*
- viii. Soil moisture content in the root ball must be consistent, i.e.; trees may not be allowed to dry out during the Western Cape summer months or become waterlogged during the wet winter months. This requires rainfall responsive irrigation source and supply design, as well as adjustable irrigation supply management technologies.*
- ix. Irrigation design must provide dedicated lines for the irrigation of trees, and these dedicated lines must be programmed to supply water to trees on their own regime.*
- x. Slower, more frequent soaking watering regimes should be preferred for trees over large quantities infrequently over short periods of time.*
- xi. The recommended guideline for watering trees is a minimum of 40 – 50L per week.*
- xii. A very important aspect of the watering regime is consistency. Once planted, the irrigation cycle should not be allowed to cease (in the summer months especially), and the irrigation regime must maintain a +-7-day cycle at the least.*
- xiii. Soil samples must be taken prior to the specification and design of the irrigation system and the tree holes to ensure that soil conditioning is responsive to site-specific conditions.*

- xiv. *If the soil is at all sandy, it is strongly recommended that Zeoplant moisture retention granules or a similar product is specified to reduce fluctuations in the soil moisture content of the root balls of trees.*
- xv. *The root balls of trees must also receive adequate aeration, and compaction of root zones must be avoided.*
- xvi. *Trees in the parking lots will experience far more extreme growing conditions than those on the road verges, and cannot be expected to offer significant screening functionality. Nevertheless, they must receive the same treatment as that of the trees on road verges or within the open landscape.*
- xvii. *The Landscape Architect must therefore ensure that trees in parking lots are given adequate space, irrigation, aeration and soil conditioning to ensure their survival and successful establishment.*

The CA should not allow any further development to encroach on the Agricultural Areas of Significance or the Agter-Paarl Paardeberg Cultural Landscape east or north of the subject site. The preservation and enhancement of the remainder of the subject site as untransformed farmland will serve to offset the visual intrusion along this eastern edge somewhat by maintaining the landscape as a container for the proposed development.

- xviii. *It is recommended that the remainder of the Agricultural Precinct retains its agricultural land uses, and should be actively farmed if possible, to maintain its Agricultural character.*

7.3.3 Mitigation Measures to be included in the EMP/EMPr

The following must be included in the Environmental Management Plan (EMP) and/or the Environmental Management Program (EMPr).

a. General

- i. *A suitably qualified Environmental Control Officer (ECO) must be appointed in order to ensure that all visual related aspects are adequately mitigated and monitored for the duration of the construction phase³⁷. The ECO officer must be qualified to monitor and enforce visual impact related management and mitigation measures.*
- ii. *The ECO must monitor use of light and levels of light pollution by means of regular spot-checks, to be included in monthly compliance reporting.*
- iii. *At the end of a construction phase, a lighting audit must be undertaken by the ECO to ensure that conditions regarding the management of lighting impacts at night have been met.*
- iv. *In order to minimise the probability of negative community responses, a competent staff member should be appointed at the beginning of the operational phase, to be responsible for handling any complaints or concerns received by any I&AP's (and any other affected neighbours).*

³⁷ The term "construction phase" applies to both the singular and the plural, where a construction phase is that of any building, precinct, erven etc. with a set contract time; and refers to all individual construction phases of any building, precinct, erven etc. within the proposed CWA development.

b. Soil disturbance and revegetation

The Civils construction phase that includes bulk earthworks, road building and stormwater infrastructure installation will see the vast majority of this disturbance to the existing soil and vegetation cover of the site. This implies that the entire area will either be developed, or need to be revegetated/planted as per the approved Landscape Master Plan and/or approved Landscape plan (whichever is relevant at the time of disturbance).

- i. Areas disturbed (for any reason) must be revegetated (or planted as per the approved Landscape Master Plan) within a maximum of 1 year after the disturbance occurs.
 - a. The only circumstances under which delay may be tolerated are:
 - i. If the area to be revegetated/planted is still an active construction site;*
 - ii. If the revegetation/planting must happen during a particular season to await optimal planting conditions. In these cases, revegetation/planting must occur in the first of such season after the delay.**
 - b. The ECO must report on disturbed areas and revegetation.**
- ii. All embankments must be appropriately stabilized and revegetated to match the existing/surrounding natural vegetation.*
- iii. Rehabilitation/revegetation must be handled in accordance with the recommendations of the botanist or other suitably qualified specialist, and under the supervision of the ECO.*
- iv. During excavation activities, topsoil must be stockpiled separately from other material. The mixture of the lower and upper layers of the excavated soil must be kept to a minimum, so as for later use as backfill or rehabilitation material after construction has commenced.*
- v. Exposed soils must be protected from wind and water erosion (using tarpaulins or a suitable geotextile) for the duration of the construction phase.*
- vi. Ongoing monitoring for the establishment of alien and invasive vegetation species must be undertaken periodically (during construction, and at least once a year thereafter) within and around the subject site.
 - a. Should alien and invasive plant species be identified, they must be removed and disposed of as per the development's alien and invasive species control plan (and/or the relevant legislation and guidance from a suitably qualified specialist).**

7.3.4 Construction Phase mitigation Measures

Limited information detailing the specifics of the construction phase(s) of the proposed development is available at this time. The applicant and the project team must put formal and enforceable measures in place to ensure that the visual impact of construction activities is limited and reduced wherever possible. Ideally, this would form part of the Environmental Management Plan/Programme (EMP), but should also be integrated into the architectural and landscape architectural scope of works to ensure that emphasis is placed on these preventative and avoidance measures. All Construction phase impacts must be managed in accordance with an approved Environmental Management Plan.

a. General Construction Phase mitigation measures

The following mitigation measures should guide the drafting of the EMP and other relevant project documentation to manage visual impact during the construction phase:

- i. All construction site offices, lay down areas, storage areas and active construction activities must be screened from public view by appropriate hoarding and/or screening.*

- ii. *Construction fencing/hoarding and signage must adhere to local policy relating to signage and ensure that no views to scenic routes are impacted by large or numerous construction signage.*
- iii. *All contractors and sub-contractors on site must submit a Temporary fencing, hoarding and screening protocol for active construction sites to the ECO for monitoring.*
- iv. *All contractors and sub-contractors on site must submit a dust and mud control protocol for active construction sites to the ECO for monitoring.*
- v. *Site offices, storage and lay down areas, loading areas and similar temporary infrastructure should be situated centrally on the subject site and avoid any areas visible from the Scenic route.*
 - a. *Construction site offices, lay down areas and storage areas must be placed at least 500m away from the R312, and at least 100m away from all other property edges.*
 - b. *Appropriate fencing must be erected along the Scenic route to screen the construction site from commuters on the R312.*
 - c. *These visual screens must be maintained so that they do not become the source of the visual impact.*
- vi. *It is inevitable that waste will be generated during construction. The following is recommended:*
 - a. *The applicant must ensure that sufficient on-site waste management measures are in place to prevent any escape of waste, litter and packaging materials etc. into the surrounding landscape.*
 - b. *A weekly litter patrol must be included in the Construction activities on site, and monitored for compliance by the ECO.*
- vii. *No construction phase activities may be undertaken within the Agricultural Precinct.*
- viii. *Construction activities must be limited to daylight hours to prevent visual impact of lights at night. Construction activities should not be undertaken at night unless unavoidable.*
- ix. *Dust management, waste management, the placement of screens and hoarding, as well as the location and management of access points to the site must be proactively managed to reduce visual clutter and limit visual impacts associated with construction activity before, during and after each phase of the construction process (demolition, excavation, project execution, close-out etc., establishment, etc.)*
- x. *All site operatives must receive training in awareness of the issues of fires, litter, and contaminants. No fires are to be allowed on site; no litter and no contaminants to be allowed to enter the surrounding environment by any means. These substances may include amongst other things, diesel, curing compounds, shutter oil and cement. Utilization of such substances should be controlled on site, especially in close proximity to the riverine environment, and guidelines should be included in the Environmental Management Plan.*
- xi. *For the duration of the civils contract, the contract time should be kept to a minimum.*
- xii. *No construction activities should be allowed to be undertaken at night, so as to manage the duration and visual impact of construction lights' visibility at night.*
 - a. *If construction during the night-time hours are unavoidable, the following should apply:*
 - i. *No floodlights should be permitted.*

- ii. *Only the construction activity should be lit- not the entire construction area.*
 - iii. *Construction lighting should not be “always-on” – and should be turned off when active construction activity is not being undertaken.*
 - iv. *The management of construction light impacts at night must be monitored by the ECO and included in compliance reporting.*
- xiii. *Public road junctions should have good sightlines, traffic control measures, wayfinding signage, and dust control measures in place.*
- xiv. *The construction project management team must enforce dust and mud control measures and protocols at construction site entrances. This is especially important for construction entrances that deliver construction vehicle traffic onto the R312 Scenic Route, where poor management of dust and mud will have a negative impact on the visual amenity of the scenic route.*
- xv. *Ensure that no views from R312 or R304 are negatively impacted by large or numerous construction signage, fencing or hoarding.*
- xvi. *Dust and debris control must also be implemented to minimize the impacts on the local roads, residents and neighbouring properties. Where necessary, access routes and the site itself should have an effective dust suppression management programme applied, such as the use of non-polluting chemicals that will retain moisture in the exposed site surfaces.*

8. CONCLUSION

This VIA is drafted to ensure that the visual & aesthetic consequences of the proposed project are understood and adequately considered in the environmental and land use planning process. The proposed Cape Winelands Airport project is expected to result in visual impacts.

8.1. Visual Impact Assessment findings

At the outset of this study, the DEA&DP Guidelines were used to predict High visual impact based on the classification of a Category 5 development within an area (or route) of Medium Scenic, cultural or historical significance. Issues associated with High Visual Impact were expected.

- i. The subsequent findings of this study have shown that the visual impact anticipated should be Moderate overall (impact assessment results indicated Medium significance generally, with one or two instances of Low significance) for the proposed Cape Winelands Airport development PAL 4 (Phase 2) scenario for the Operational Phase.
- ii. Construction Phase visual impacts were generally Lower in comparison (mainly due to the distance from viewers and the staggered duration of the various construction phases). However, it should be noted that the *cumulative* visual impact of the construction phases should be considered Medium in significance, given the total duration of the time within which construction activities are anticipated to be undertaken within the subject site between 2027 and 2050³⁸.

The table below provides a comparison between the categories listed as expected issues at the *outset* of the study and the subsequent findings of this VIA.

Table 14: Comparison between expected visual impact and VIA outcome

Categories of Issues		
High Visual impact	Moderate Visual impact	Minimal (Low) Visual impact
This is the visual impact that was expected at the <i>outset</i> of the study.	<u>This is the visual impact that the findings of this VIA indicate should be expected.</u>	(n/a)
<ul style="list-style-type: none"> • <i>Potential intrusion on protected landscapes or scenic resources;</i> • <i>Noticeable change in visual character of the area;</i> • <i>Establishes a new precedent for development in the area.</i> 	<ul style="list-style-type: none"> • <u>Potentially some effect on protected landscapes or scenic resources;</u> • <u>Some change in the visual character of the area;</u> • <u>Introduces new development or adds to existing development in the area.</u> 	<ul style="list-style-type: none"> • <i>Potentially low level of intrusion on landscapes or scenic resources;</i> • <i>Limited change in the visual character of the area;</i> • <i>Low-key development, similar in nature to existing development.</i>

The key issues relating to visual concerns were identified and required further investigation at the outset of the study included (1) the potential effects on **Protected landscapes and scenic resources**, and (2) the potential effects on **Sensitive receptors** with regards to:

³⁸ See final note on page 17 under 2.8. Assumptions and Limitations for further detail regarding this assumption.

- i. The visual amenity of **Scenic routes** (specifically the R312 Lichtenburg Road and R304 that bisects the subject site);
- ii. The effect on viewers travelling on **Scenic routes** (for the R312, the R304; and including the R302 Klipheuwel Road and the Spes Bona road);
- iii. Effects on the landscape character and sense of place of the surrounding **Cultural Landscapes** (with a focus on the Agter Paarl/Paardeberg CL, which is directly affected);
- iv. The effect on viewers located within the surrounding **Cultural Landscapes** (i.e. viewers within the Agter Paarl/Paardeberg CL, the Joostenberg Vlakte CL, the Durbanville Hills CL and the Koeberg / Swartland Farms CL);
- v. And finally, the impact assessment addressed potential visual impacts on **Sensitive receptors** viewing the proposed development from within areas around the subject site that are expected to experience a measure of Visual Exposure (up to 3km – see 5.6.3, Table 10 for the distances experiencing Low, Medium and High Visual Exposure).

The detailed findings of the visual impact assessment are summarised below.

8.1.1 Visual Impact Assessment: Light

The Visual Impact of the proposed CWA development was assessed in relation to the effects of light. Impact assessment was conducted separately for the various Landscape Character Areas; each LCA including Scenic Route portions, associated Cultural Landscapes and a set of Sensitive Receptors for which specific mitigation measures would be necessary.

Please consult the IA tables in Chapter 12 (**Annexure B**) for detailed descriptions of the Nature of the Impact, which give an appraisal of the type of effect that the Construction, Operation, and Maintenance of the proposed CWA development would have on the affected environment. This description includes what is predicted to be affected and how (i.e. the activity).

Table 15: Impact Assessment results - Lights 1: LCA 2&3

“Lights 1” : Visibility of sources of light from within Landscape Character Areas 2 & 3 (i.e.; within the <u>Urban Development Edge</u> , and within the <u>Joostenberg Vlakte Cultural landscape</u>).			
Construction phase/s		Operational phase	
Before Mitigation	After Mitigation	Before Mitigation	After Mitigation
Low (18) negative	Very Low (10) negative	Medium (36) negative	Medium (33) negative
<ul style="list-style-type: none"> • The impact will have a minor influence on the proposed development and/or environment. • These impacts require some attention to modification of the project design where possible, or alternative mitigation. • I.e.; The impact has an influence, but the impact can be mitigated. 	<ul style="list-style-type: none"> • The impact does/should not have a direct influence on the decision to develop the area. • Very low magnitude with any combination of extent and duration except regional and long term. 	<ul style="list-style-type: none"> • The impact will have a moderate influence on the proposed development and/or environment. • The impact can be ameliorated by a modification in the project design or implementation of effective mitigation measures. 	

Table 16: Impact Assessment results - Lights 2: LCA 4

“Lights 2”: Visibility of sources of light from within Landscape Character Area 4 (i.e.; within the <u>Joostenberg Vlakte Cultural landscape</u> and the <u>Koeberg/Swartland Farms Cultural landscape</u>).			
Construction phase/s		Operational phase	
Before Mitigation	After Mitigation	Before Mitigation	After Mitigation
Low (18) negative	Very Low (10) negative	Medium (33) negative	Low (30) negative
<i>(As in Table 15 above)</i>	<i>(As in Table 15 above)</i>	<ul style="list-style-type: none"> The impact will have a moderate influence on the proposed development and/or environment. The impact can be ameliorated by a modification in the project design or implementation of effective mitigation measures. 	<ul style="list-style-type: none"> The impact will have a minor influence on the proposed development and/or environment. These impacts require some attention to modification of the project design where possible, or alternative mitigation. i.e.; The impact has an influence, but the impact can be mitigated.

Table 17: Impact Assessment results - Lights 3: LCA 1

“Lights 3”: Visibility of sources of light from within Landscape Character Area 1 (i.e.; within the <u>Agter-Paarl Paardeberg Cultural landscape</u>).			
Construction phase/s		Operational phase	
Before Mitigation	After Mitigation	Before Mitigation	After Mitigation
Low (18) negative	Very Low (10) negative	Medium (36) negative	Medium (33) negative
<i>(As in Table 15 & 16 above)</i>	<i>(As in Table 15 & 16 above)</i>	<ul style="list-style-type: none"> The impact will have a moderate influence on the proposed development and/or environment. The impact can be ameliorated by a modification in the project design or implementation of effective mitigation measures. 	

8.1.2 Visual Impact Assessment: Site-specific visual impacts

The Visual Impact of the proposed CWA development was assessed in relation to the effects of the transformation of the subject site itself. This included the transformation of land use and site character from predominantly undeveloped into developed. It considered the effects of new buildings, structures and service infrastructure that would be visible within a previously predominantly rural agricultural landscape, and the effect of this on the scenic amenity of the site itself. During the Phase 1 construction period, bulk earthworks and leveling will take place in accordance with the cut and fill schematic (see Figure 60), and this is anticipated to involve the total clearance of the developable areas of the subject site, including the mapped extents of the Terrestrial CBA, indigenous vegetation and areas of Agricultural Significance outside of the UDE (located within Discouraged Growth Areas).

Table 18: Impact Assessment results – Site-specific impacts

“Site-Specific 1”: Transformation of land use and site character. New buildings, structures and service infrastructure visible within a previously predominantly rural agricultural landscape. Total clearance of the developable areas of the subject site during construction Phase 1 (PAL 1).			
Construction phase/s		Operational phase	
Before Mitigation	After Mitigation	Before Mitigation	After Mitigation
Medium (55) negative	Medium (55) negative	Low (30) negative	Low (27) negative <i>(with scope for Positive Enhancement)</i>
<ul style="list-style-type: none"> The impact will have a moderate influence on the proposed development and/or environment. The impact can be ameliorated by a modification in the project design or implementation of effective mitigation measures. 		<ul style="list-style-type: none"> The impact will have a minor influence on the proposed development and/or environment. These impacts require some attention to modification of the project design where possible, or alternative mitigation. I.e.; The impact has an influence, but the impact can be mitigated. 	

8.1.3 Visual Impact Assessment: Scenic Routes and Cultural Landscapes

The Visual Impact of the proposed CWA development was assessed in relation to the effects on Scenic Routes and Cultural Landscapes³⁹. Impact assessment was conducted separately for the various Landscape Character Areas; and the R312 Scenic Route was isolated to enable the identification of specific impacts and mitigation measures associated with it.

Table 19: Impact Assessment results – R312 Scenic Route

“Scenic Route 1”: The R312 Lichtenburg Road Scenic Route (Route 31; SR1: Scenic drive envelope, Gateway Point and view corridors as scenic resources).			
Construction phase/s		Operational phase	
Before Mitigation	After Mitigation	Before Mitigation	After Mitigation
Low (21) negative	Very Low (12) negative	Medium (33) negative	Low (20) negative <i>(with scope for Positive Enhancement)</i>
<ul style="list-style-type: none"> The impact will have a minor influence on the proposed development and/or environment. These impacts require some attention to modification of the project design where possible, or alternative mitigation. I.e.; The impact has an influence, but the impact can be mitigated. 	<ul style="list-style-type: none"> The impact does/should not have a direct influence on the decision to develop the area. Very low magnitude with any combination of extent and duration except regional and long term. 	<ul style="list-style-type: none"> The impact will have a moderate influence on the proposed development and/or environment. The impact can be ameliorated by a modification in the project design or implementation of effective mitigation measures. 	<ul style="list-style-type: none"> The impact will have a minor influence on the proposed development and/or environment. These impacts require some attention to modification of the project design where possible, or alternative mitigation. I.e.; The impact has an influence, but the impact can be mitigated.

³⁹ These visual impacts are assessed excluding the consideration of light impacts at night – see Tables 15-17.

Table 20: Impact Assessment results – Agter-Paarl Paardeberg Cultural Landscape and R304

“Cultural landscape (incl. Scenic Routes) 1”:			
Potential effect on the landscape character and sense of place of: the Agter-Paarl Paardeberg Cultural Landscape (LCA 1 - areas not within the property boundary).			
Potential effect on the scenic amenity of: the portion of the R304 Provincial Scenic Route (between the R312 Lichtenburg Road crossing and its intersection with Slent Road near Klipheuwel) that bisects the subject site, but lies eastward and outside of the portion of the CWA that is earmarked for development.			
Construction phase/s		Operational phase	
Before Mitigation	After Mitigation	Before Mitigation	After Mitigation
Low (27) negative	Low (24) negative	Medium (33) negative	Low (30) negative <i>(with scope for Positive Enhancement)</i>
<ul style="list-style-type: none"> The impact will have a minor influence on the proposed development and/or environment. These impacts require some attention to modification of the project design where possible, or alternative mitigation. I.e.; The impact has an influence, but the impact can be mitigated. 		<ul style="list-style-type: none"> <i>(As in Table 19 above)</i> 	<ul style="list-style-type: none"> <i>(As in Table 19 above)</i>

Table 21: Impact Assessment results – Durbanville Hills & Koeberg / Swartland Farms CL; R302 and Spes Bona

“Cultural landscape (incl. Scenic Routes) 2”:			
Potential effect on the landscape character and sense of place of: the Durbanville Hills CL (extents of the Cultural Landscape as modified in Fig.50) and the Koeberg/Swartland Farms CL (both within LCA4).			
Potential effect on the scenic amenity of: R302 Klipheuwel road Scenic Route (Route 30b; SR1) and the Spes Bona Road.			
Construction phase/s		Operational phase	
Before Mitigation	After Mitigation	Before Mitigation	After Mitigation
Low (27) negative	Low (24) negative	Low (27) negative	Low (16) negative
<ul style="list-style-type: none"> <i>(As in Table 19 above – see also alongside)</i> 		<ul style="list-style-type: none"> The impact will have a minor influence on the proposed development and/or environment. These impacts require some attention to modification of the project design where possible, or alternative mitigation. I.e.; The impact has an influence, but the impact can be mitigated. 	

Table 22: Impact Assessment results – Joostenberg Vlakke Cultural Landscape and the R304

“Cultural landscape (incl. Scenic Routes) 3”: Potential effect on the landscape character and sense of place of: the Joostenberg Vlakke Cultural Landscape (extents of the Cultural Landscape as modified in Fig.50) also referred to as LCA 2). Potential effect on the scenic amenity of: the R304 (S1: between the N1 and the crossing with the R312 Lichtenburg Road).			
Construction phase/s		Operational phase	
Before Mitigation	After Mitigation	Before Mitigation	After Mitigation
Low (16) negative	Low (14) negative	Low (16) negative	Low (14) negative
• (As in Table 19 & 20 above)		• (As in Table 20 above)	

8.2. Visual Impact Statement

Based on the findings of the Visual Impact Assessment (summarised in 8.1.) above, and subject to the successful application of the mitigation measures detailed in Chapter 7, the proposed Cape Winelands Airport development can be supported at the level of Environmental Impact Assessment for the purposes of the NEMA authorisation application.

As outlined in 7.3.1, further visual specialist input will be needed at the level of the Land Use Planning application and the future SDP planning phases to ensure that visual impacts associated with this complex and multi-dimensional project are scoped and managed, and that compliance with the recommendations and mitigation measures can be enabled within the future statutory processes.

The acceptability of the proposed activities associated with the proposed CWA development are discussed throughout the report. Please see Chapter 7 for further detail regarding the avoidance, management and mitigation measures that should be included in the EMP and various other project documentation, as specified.

With mitigation, the visual impact anticipated can generally be reduced, as demonstrated in the impact assessment tables and the summary tables (15 – 22). However, some aspects such as certain construction phase activities (see Table 18), and visual impacts associated with certain proposed lighting installations (see Tables 15 and 17) present very little opportunity for mitigation, and impacts will remain Moderate in significance.

The significance ratings only deal with extent, duration, intensity and probability, and therefore the impact after mitigation may not always be significantly less than before mitigation according to the $x=(E+D+I) P$ calculation, despite the visual impact having been in fact addressed and reduced. For this reason, the recommendations and mitigation measures must be consulted and applied whether or not they are shown to reduce the significance scores.

The mitigation measures generally have the effect of reducing the Duration and intensity of anticipated impacts, while the extents and probability are generally resistant to mitigation measures. The probability of visual impacts on the R312 could be reduced due to the avoidance measures recommended within

Scenic Route Envelope (using buffers and height restrictions, as well as the call for Visual statements to be submitted at the SDP planning phase). Site Specific visual impacts could not be reduced meaningfully.

Management actions and mitigation measures that are listed in chapter 7 must be implemented successfully to ensure that the findings of this VIA remain accurate. Please note that should the proposal undergo significant change during further design processes, or key mitigation measures be rejected by the project team, a revision of the VIA (or a Visual Impact Statement) must be issued by a suitably qualified specialist to re-assess the potential visual impact of the affected aspect, and determine if the findings of this VIA remain unchanged.

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11. Annexure A: Curriculum Vitae and Experience of the visual specialist

To Whom it May Concern

September 2024

Fioné (Fi) Smit is a Western Cape based Landscape Architect specializing in Visual Impact Assessment. Her 10 years of experience in the industry has seen her take up a variety of roles as a Landscape Architectural Technologist, Professional Landscape Architect, Postgraduate Lecturer, and finally as Director of Filia Visual, under whose name she practices as an independent Visual Impact Assessment consultant.

1.1 Education and Employment History

After obtaining her Bachelor of Science degree in Landscape Architecture from the University of Pretoria in 2011, Fi began her career at Newtown Landscape Architects (NLA) in 2012 under the mentorship of Graham Young and Johan Barnard. She obtained professional registration from the South African Council for the Landscape Architectural Profession (SACLAP) in 2014 while under the mentorship of Francois van Rooyen of Red Landscape Architects.

Fi then graduated from the University of Cape Town (UCT) Master of Landscape Architecture (MLA) program in 2017, and was immediately employed by Viridian Consulting Landscape Architects under the mentorship of Rene Maria Brett, until 2020. In 2019, she began consulting independently in addition to her work in partnership with Viridian (which included Visual Studies) as well as co-convening the Landscape Architectural Professional Practice course and the History & Theory of Landscape Architecture course at UCT (for Honours and Masters Students, respectively). In 2020, Filia Visual (Pty) Ltd⁴⁰ was registered, and has established a reputation amongst colleagues and clients for thorough, fair and defensible Visual studies and Impact Assessments.

Qualifications	Bachelor of Science in Landscape Architecture (BSc.LArch, University of Pretoria, 2011) Master of Landscape Architecture (MLA, University of Cape Town, 2017)
Professional registration	Professional Landscape Architect - registered with the South African Council for the Landscape Architectural Profession (SACLAP #20245)

1.2 Experience and Track record

Fi has experience in authoring and co-authoring a wide range of Visual studies and reports as a specialist consultant. These include Site Sensitivity Verification reports, Pre-application Visual Studies, Visual Statements, Screening reports, Baseline & Scoping reports and Visual Impact Assessments.

⁴⁰ Filia Visual (Pty) Ltd is now named Rain Bull (Pty) Ltd, but Fi still trades under the name Filia Visual.

2011 – 2012: Newtown Landscape Architects

VIA work under NLA included site visits, EIA specialist meeting inputs, documentation of landscape quality, character, value and visual resource value⁴¹; draft and final Baseline and Visual Impact Assessment report writing as co-author; and the preparation of Simulations.

These VIA's were predominantly for mines, solar farms and other large-scale infrastructure in the northern provinces of South Africa, including:

- Congo saltwater purification plant
- KiPower Independent Power Plant
- Paardeplaats Coal mine
- Mafikeng Cement factory
- Grootvlei mine
- Vlakplaats Solar park
- Vosloorus residential development
- Skukuza solar Park
- Sintokoula Coal mine
- Kinsenda Coal mine
- Zandkopsdrift minerals mine
- Gamsberg Mine

2018 – 2020: Viridian Consulting Landscape Architects & Independent consulting

While consulting independently for Viridian Consulting Landscape Architects, she again undertook Visual Studies and related specialist work in this field. These projects were predominantly located in urban areas, and involved 3D modelling, Sensitivity mapping and Line of Sight testing.

- Railway Mews (Visual Statement for proposed Social Housing development, Stellenbosch, 2019)
- Helderberg Integrated Waste Management Facility (Visual statement, development of mitigation measures and Simulations, City of Cape Town Solid Waste Management, 2019)
- Tannery Park Visual Study (pre-application Visual study (detailed, including simulations), Rawson Property Group, 2018 – 2020)
- Ronsyn Visual Study (pre-application Visual study (detailed, including simulations), FPG Property Group, 2018 – 2020)
- Stellenbosch Municipality Heritage Inventory and Conservation Management Plan (Mapping and Viewshed analysis of Scenic routes commissioned by the Cape Winelands Professional Practices in Association, 2018)
- UCT North Stop (3D modeling and graphic renderings/simulations of proposed new North Bus stop and Landscape Proposal, UCT, 2020)

⁴¹ This work was undertaken according to that company's procedures and the proprietary visual study theory developed by Graham Young for NLA.

2020 – 2024: Filia Visual

In the almost five years that Filia Visual has existed, the scope of the company's work in Visual Impact Assessment has been broad. It has encompassed Residential and Mixed-use projects embedded in the policy-rich Cultural Landscapes of the Western Cape; small Tourism-led developments within Protected areas, and large-scale power and mining infrastructure in the rural hinterland of South Africa.

Please note that some of the projects listed below are ongoing and should be treated with confidentiality (ongoing projects indicated in *italics*).

- Rhinos High Performance Sport Centre, Strand (VIA, Rhinos Sports Academy, 2020)
- Sudor Coal Mine Ext. and proposed Overlooked Colliery, Mpumalanga (VIA, NTC Group, 2020 – 2023)
- Schrywershoek residential development, West Coast National Park (VIA, Wiehahn International Holdings (Pty) Ltd., 2021)
- Proposed Diamant Development, Paarl (VIA, Lazercor Developments, 2020)
- Fijnbosch/Botmaskop Estate, Stellenbosch (Scoping Report and Visual specialist consultation, Reset Properties, 2020 - 2023)
- 115 Victoria Road, Camps Bay (VIA, The I-Group, 2020)
- Proposed development at Keurboomstrand, Keurboomstrand (VIA, Rust van der Merwe, 2020)
- Eskom Kimberley Strengthening Phase 3: Transmission Corridors, Northern Cape and Northwest Province (GIS Sensitivity Mapping and Feasibility Report, Margen Industrial Services, 2021)
- Proposed development at De Hoop Farm, Tulbagh (Visual Statement, Guillaume Nel Environmental Consultants, 2021)
- Groot Phesantekraal Phase 5, Durbanville (VIA, Abland Property, 2021)
- Proposed Ronsyn Building, Rondebosch (Visual specialist consultation, Simulations and graphics supporting appeal, FPG Property Group, 2021)
- Sonlia Fruit Packhouse (Visual Statement, FRAME Engineers, 2021)
- Stanhope BMW (Visual Study, Rawson Property Group, 2021 – 2022)
- Hermanus Cliff Path Connection (Visual Statement, Cliff Path Action Group, 2021)
- Ptn 43 of Farm 159 Meerendal, Canto Wine Estate, Durbanville (Visual Statement and VIA, Canto wines, 2021 – 2022)
- Strawberry Lane, Schumacher development (Visual Statement, Schumacher Real Estate (Pty) Ltd, 2021-2023)
- Proposed development, Farm 845 Sir Lowry's Pass (VIA, DaxCon, 2021)
- Proposed McMillan Bricks development, Paarl (VIA, Guillaume Nel Environmental Consultants, 2021 – 2022)
- Proposed development Erf 2111, Riebeek Kasteel (VIA, Guillaume Nel Environmental Consultants, 2021 -2022)
- Proposed development at Philippi (Visual Statement, Headland Town Planners, 2021)
- 236 Main Road, Kalk Bay (Visual Statement, Shalev Trust, 2021)
- Proposed Libertas development, Stellenbosch (Visual Statement, Reset Properties, 2021 - 2022)
- Alto Wine Estate, Stellenbosch (Visual Statement and VIA, Alto Wine Estate, 2022)

- Heuningberg Estate, Bredasdorp (VIA, Clearlake Capital, 2022)
- Avec La Terre Residential Development, Paarl (VIA, Future Megawatt, 2022 – 2023)
- Willets Hotel, Simon’s Town (Visual specialist input and Simulations, Watercolours Holdings, 2023)
- Norval Foundation, Constantia (Visual Statement, Village Trust, 2023)
- Proposed Development of Sugarbush Eco-cabins, Cederberg (VIA, Sean Moolman, 2023)
- Stellenbosch R310 Billboard, Stellenbosch (VS, Punch Media (Pty) Ltd, 2022)
- Paul Roos Billboard, Stellenbosch (VS, Punch Media (Pty) Ltd, 2022)

- *Proposed Libertas Development (Visual Statement and ongoing Visual specialist consultation, Fleurbaai (Pty) Ltd, 2021)*
- *Proposed development at 35 & 37 Victoria Road (VIA, The Castle Group, 2021)*
- *Farm 1252 Bo Helderberg (Screening and site sensitivity report and VIA, Arch Town Planners, 2021)*
- *Cape Winelands Airport (Scoping report and VIA, PHS Consulting, 2021)*
- *Graanendal Filling Station, Durbanville (VS, GNEC, 2022)*
- *Proposed Development at Meerlust, Farm 1006, Simondium (VIA, R45 Trust, 2022)*
- *Proposed Development at Farm 815, Paarl (VIA, Engen Petroleum Ltd, 2023)*
- *Avatar Aviation Estate, Erf 898, Still Bay (GNEC, 2023)*
- *Proposed Development of Portions 1,2,20 and 73 of Farm Gansvallei 444, Plettenberg Bay (Sky Development) (VIA, RE1444 (Pty) Ltd, 2024)*
- *Tourist Accommodation on Farm 146, Omklaar, Riviersonderend (FOOTPrint Environmental services, 2024)*
- *Proposed Lactalis PV Plant, Bonnievale (InCLOver Environmental Consulting, 2024)*
- *Proposed Laingsburg PV Plant, Laingsburg (Energy Partners Power (Pty) Ltd, 2024)*

Please do not hesitate to contact me should you have any questions or require any further information regarding my qualifications, experience or expertise.

With Kindest Regards



Fi Smit

Professional Landscape Architect SACLAP # 20245
 Director, Rain Bull (Pty) Ltd trading as Filia Visual

12. Annexure B: Impact Assessment Tables

Visual Impact Assessment for:	<i>The "Do Nothing" Alternative, in which the current rights of the existing airport would remain in place and no additional development would occur. No visual impacts anticipated as a result of activities.</i>			
Metric	Code	Score	Code	Score
Nature of the impact	No change to the status quo within the subject site.			
Degree of Confidence	Sure (S)			
Stage	n/a			
Extent	SS			1
Duration	Permanent			5
Intensity (Magnitude)	Z			0
Benign/destructive	Benign			
Probability	None			0
Status of the impact	Neutral			
Significance (No mitigation)	0			
Summary:	No Significance / neutral visual impact			
Significance (With mitigation)	n/a			
Summary:	n/a			

Visual Impact Assessment for:	<u>Potential effect and/or intrusion on protected landscapes or scenic resources; and potential effect of change to the visual character of the area: Visibility of sources of light at night (for sensitive receptors) within LCA 2 & 3 (inside Urban edge, and within Joostenburg Vlakte CL.</u>			
Metric	Code	Score	Code	Score
Nature of the impact	Effects of the visibility of point sources of lights at night from the vantage point of sensitive receptors within the surrounding Cultural Landscape: Joostenburg Vlakte (up to 10km) Effects of brightening of the R312 road envelope/corridor (and gateway point) along the southern site edge. Effects of increased ambient light conditions, skyglow, glare and light trespass for sensitive receptors (especially residents) within +-500m - 1,2km of the property boundary (i.e. areas of Moderate and High Visual Exposure). Effect of the visibility of lights at night (incl. point sources, as well as skyglow, glare and light trespass) on the visual character and sense of place of the RE at night (within LCA 2 & 3) within +-3km.			
Gegree of Confidence	Unsure (U)		Sure (S) or Certain (C)	
Stage	Construction		Operational	
Extent	L	2	R	3
Duration	L	4	Permanent	5
Intensity (Magnitude)	L	3	M	4
Benign/destructive	Destructive		Destructive	
Probability	Po	2	Pr	3
Status of the impact	Negative		Negative	
Significance (No mitigation)	18		36	
Summary:	Low negative visual impact		Moderate / Medium negative visual impact	
Significance (With mitigation)	10		33	
Summary:	Very Low negative visual impact		Moderate / Medium negative visual impact	

Visual Impact Assessment for:	<u>Potential effect and/or intrusion on protected landscapes or scenic resources; and potential effect of change to the visual character of the area: Visibility of sources of light at night (for sensitive receptors) within LCA 4 (within the Durbanville Hills CL and the Koeberg/Swartland Farms CL).</u>			
Metric	Code	Score	Code	Score
Nature of the impact	Effects of the visibility of point sources of lights at night from the vantage point of sensitive receptors within the surrounding Cultural Landscape: Durbanville Hills & Koeberg/Swartland Farms (up to 10km); the R302 Scenic Route and the Spes Bona Road. Effect of the visibility of lights at night (incl. point sources, as well as skyglow, glare and light trespass) on the visual character and sense of place of the RE at night (within LCA 4) within +-3km (incl. affected portions of the R302 Scenic Route and Spes Bona Road).			
Degree of Confidence	Unsure (U)		Sure (S) or Certain (C)	
Stage	Construction		Operational	
Extent	L	2	R	3
Duration	L	4	Permanent	5
Intensity (Magnitude)	L	3	L	3
Benign/destructive	Destructive		Destructive	
Probability	Po	2	Pr	3
Status of the impact	Negative		Negative	
Significance (No mitigation)	18		33	
Summary:	Low negative visual impact		Moderate / Medium negative visual impact	
Significance (With mitigation)	<i>10</i>		<i>30</i>	
Summary:	Very Low negative visual impact		Low negative visual impact	

Visual Impact Assessment for:	<u>Potential effect and/or intrusion on protected landscapes or scenic resources; and potential effect of change to the visual character of the area: Visibility of sources of light at night (for sensitive receptors) within LCA 1 (within the Agter-Paarl Paardeberg CL).</u>			
Metric	Code	Score	Code	Score
Nature of the impact	Effects of the visibility of point sources of lights at night from the vantage point of sensitive receptors within the surrounding Cultural Landscape: Agter-Paarl Paardeberg (up to 10km) Effects of brightening of the R304 scenic route envelope/corridor that runs through the eastern parts of the site. Effect of the visibility of lights at night (incl. point sources, as well as skyglow, glare and light trespass) on the visual character and sense of place of the RE at night (within LCA 2 & 3) within +-3km of the eastern boundary of the portion of the CWA that is earmarked for development.			
Gegree of Confidence	Unsure (U)		Sure (S) or Certain (C)	
Stage	Construction		Operational	
Extent	L	2	R	3
Duration	L	4	Permanent	5
Intensity (Magnitude)	L	3	M	4
Benign/destructive	Destructive		Destructive	
Probability	Po	2	Pr	3
Status of the impact	Negative		Negative	
Significance (No mitigation)	18		36	
Summary:	Low negative visual impact		Moderate / Medium negative visual impact	
Significance (With mitigation)	<i>10</i>		<i>33</i>	
Summary:	Very Low negative visual impact		Moderate / Medium negative visual impact	

Visual Impact Assessment for:	<i>Potential effect and/or intrusion on protected landscapes or scenic resources; and potential effect of change to the visual character of the area:</i>			
	<i>Transformation of land use and site character: New buildings, structures and service infrastructure visible within a previously predominantly rural agricultural landscape.</i>			
	<i>Transformation of land uses within the site boundaries from an existing airfield and farmland (mostly undeveloped) into a regional airport including a commercial component (mostly developed).</i>			
	<i>Total clearance of the developable areas of the subject site during construction phase (bulk earthworks).</i>			
Metric	Code	Score	Code	Score
Nature of the impact	<p>Loss of rural characteristics of the portion of the Agter-Paarl Paardeberg Cultural Landscape affected by the proposed development within the subject site (e.g. farmland, landscape patterns, farm werfs etc.)</p> <p>Loss of visual amenity of the transformed (but undeveloped) areas of Agricultural Significance affected by the proposed development within the site.</p> <p>Transformation/evolution of the visual & landscape character of subject site areas that are outside of the designated Urban Development Edge and that are located within Discouraged Growth Areas.</p> <p>Transformation/loss of vegetation within the Green Infrastructure Network incl. the Terrestrial CBA area in the south eastern corner.</p> <p>Change of land use and character of the site itself: Effects of increase of visible elements of urbanity (fences, walls, buildings, lights, signage etc.) within the subject site.</p> <p>Clearance of vegetation and loss of characteristic vegetation patterns (such as mature, established tree avenues).</p>			
Degree of Confidence	Unsure (U)		Certain (C)	
Stage	Construction		Operational	
Extent	SS	1	SS	1
Duration	Permanent	5	L	4
Intensity (Magnitude)	H	5	H	5
Benign/destructive	Destructive		Destructive	
Probability	D	5	Pr	3
Status of the impact	Negative		Negative (with scope for Positive enhancement)	
Significance (No mitigation)	55		30	
Summary:	Moderate / Medium negative visual impact		Low negative visual impact	
Significance (With mitigation)	55		27	
Summary:	Moderate / Medium negative visual impact		Low negative visual impact (with scope for Positive Enhancement)	

Visual Impact Assessment for:	<i>Potential effect on the visual amenity of Scenic routes: The R312 Lichtenburg Road Scenic Route (Route 31; SR1: Scenic drive envelope, Gateway Point and view corridors as scenic resources).</i>			
Metric	Code	Score	Code	Score
Nature of the impact	Loss of visual & landscape characteristics of the R312 Scenic Route and Gateway point. Transformation of parts of the Scenic Route envelope towards greater urbanity/industrial area aesthetic (primarily due to edge conditions and visibility/proximity/visual intrusion of buildings). Obstruction or restriction of key views. Possible negative effects on the visual and landscape character of the scenic drive envelope (e.g Outdoor advertising, Billboards, inappropriate fencing, road verge and/or edge conditions etc.) Construction Phase Activities*.			
Degree of Confidence	Unsure (U)		Certain (C)	
Stage	Construction		Operational	
Extent	SS	1	L	2
Duration	S	2	L	4
Intensity (Magnitude)	M	4	H	5
Benign/destructive	Destructive		Destructive	
Probability	Pr	3	Pr	3
Status of the impact	Negative		Negative (with scope for Positive enhancement)	
Significance (No mitigation)	21		33	
Summary:	Low negative visual impact		Moderate / Medium negative visual impact	
Significance (With mitigation)	12		20	
Summary:	Very Low negative visual impact		Low negative visual impact (with scope for Positive Enhancement)	

Visual Impact Assessment for:	<i>Potential effect on the landscape character and sense of place of: the Agter-Paarl Paardeberg Cultural Landscape (LCA 1 - areas not within the property boundary).</i>			
	<i>Potential effect on the scenic amenity of: the portion of the R304 Provincial Scenic Route (between the R312 Lichtenburg Road crossing and its intersection with Slent Road near Klipheuwel) that bisects the subject site, but lies eastward and outside of the portion of the CWA that is earmarked for development.</i>			
Metric	Code	Score	Code	Score
Nature of the impact	Potential effect on sensitive receptors located within the Cultural Landscape and/or travelling on the Scenic route such as: <ul style="list-style-type: none"> - Interruption of key views, vistas or view corridors; - Visibility of large or numerous buildings and/or infrastructure within the landscape; - Increase of discordant elements and visual clutter visible in the landscape (decrease in Landscape Quality and Integrity); - Transformation of visible parts of the rural agricultural hinterland into more urbanised/developed areas; - Desensitisation of sensitive viewers. Subsequent evolution/erosion/loss of visual and landscape characteristics that maintain the particular landscape character and sense of place experiences valued by viewers within Cultural Landscapes and travelling on Scenic routes. Construction Phase Activities*.			
Gegree of Confidence	Unsure (U)		Certain (C)	
Stage	Construction		Operational	
Extent	L	2	L	2
Duration	M	3	L	4
Intensity (Magnitude)	M	4	H	5
Benign/destructive	Destructive		Destructive	
Probability	Pr	3	Pr	3
Status of the impact	Negative		Negative	
Significance (No mitigation)	27		33	
Summary:	Low negative visual impact		Moderate / Medium negative visual impact	
Significance (With mitigation)	24		30	
Summary:	Low negative visual impact		Low negative visual impact	

Visual Impact Assessment for:	<i>Potential effect on the landscape character and sense of place of: the Durbanville Hills CL (extents of the Cultural Landscape as modified in Fig.50) and the Koeberg/Swartland Farms CL (both within LCA4).</i> <i>Potential effect on the scenic amenity of: R302 Klipheuwel road Scenic Route (Route 30b; SR1) and the Spes Bona Road.</i>			
Metric	Code	Score	Code	Score
Nature of the impact	<p>Potential effect on sensitive receptors located within the Cultural Landscape and/or travelling on the Scenic route such as:</p> <ul style="list-style-type: none"> - Interruption of key views, vistas or view corridors; - Visibility of large or numerous buildings and/or infrastructure within the landscape; - Increase of discordant elements and visual clutter visible in the landscape (decrease in Landscape Quality and integrity); - Transformation of visible parts of the rural agricultural hinterland into more urbanised/developed areas; - Desensitisation of sensitive viewers. <p>Subsequent evolution/erosion/loss of visual and landscape characteristics that maintain the particular landscape character and sense of place experiences valued by viewers within Cultural Landscapes and travelling on Scenic routes. Construction Phase Activities*.</p>			
Degree of Confidence	Unsure (U)		Certain (C)	
Stage	Construction		Operational	
Extent	L	2	L	2
Duration	L	4	L	4
Intensity (Magnitude)	L	3	L	3
Benign/destructive	Destructive		Destructive	
Probability	Pr	3	Pr	3
Status of the impact	Negative		Negative	
Significance (No mitigation)	27		27	
Summary:	Low negative visual impact		Low negative visual impact	
Significance (With mitigation)	24		16	
Summary:	Low negative visual impact		Low negative visual impact	

Visual Impact Assessment for:	<i>Potential effect on the landscape character and sense of place of: the Joostenberg Vlakte Cultural Landscape (extents of the Cultural Landscape as modified in Fig.50) also referred to as LCA 2).</i>			
	<i>Potential effect on the scenic amenity of: the R304 (S1: between the N1 and the crossing with the R312 Lichtenburg Road).</i>			
Metric	Code	Score	Code	Score
Nature of the impact	<p>Potential effect on sensitive receptors located within the Cultural Landscape and/or travelling on the Scenic route such as:</p> <ul style="list-style-type: none"> - Interruption of key views, vistas or view corridors; - Visibility of large or numerous buildings and/or infrastructure within the landscape; - Increase of discordant elements and visual clutter visible in the landscape (decrease in Landscape Quality and integrity); - Transformation of visible parts of the rural agricultural hinterland into more urbanised/developed areas; - Desensitisation of sensitive viewers. <p>Subsequent evolution/erosion/loss of visual and landscape characteristics that maintain the particular landscape character and sense of place experiences valued by viewers within Cultural Landscapes and travelling on Scenic routes.</p> <p>Construction Phase Activities*.</p>			
Degree of Confidence	Unsure (U)		Certain (C)	
Stage	Construction		Operational	
Extent	L	2	L	2
Duration	L	4	L	4
Intensity (Magnitude)	VL	2	VL	2
Benign/destructive	Destructive		Destructive	
Probability	Po	2	Po	2
Status of the impact	Negative		Negative	
Significance (No mitigation)	16		16	
Summary:	Low negative visual impact		Low negative visual impact	
Significance (With mitigation)	14		14	
Summary:	Low negative visual impact		Low negative visual impact	

13. Annexure C: Response to Comments

Comments Feb 2024 on the draft Pre-Application Scoping Report

Filia Visual Responses

13/02/2022

Comment received from:	Comment	Response to comment
<p>Durbanville Heritage Society (08 December 2023)</p>	<p>The HIA does not recognize that the proposed development falls within a cultural landscape.</p>	<p><i>The proposed is not itself located within a Cultural Landscape (as defined by the City of Cape Town’s Municipal Spatial Development Framework, 2023), but there is a portion of the subject site on the northernmost edge which overlaps with a portion of the Agter-Paarl Paardeberg CL.</i></p> <p><i>The HIA should refer to Section 3.2, 3.3.1, 3.3.2 (Figure 50 specifically), 3.4.1, and Figure 64 which make specific reference to the Cultural Landscapes.</i></p>
	<p>Of great concern is the resultant development pressure on the surrounding landscape, and specifically areas which are of greater heritage significance.</p>	<p><i>The HIA should make reference to the Section 3.3.2 Current and future development in the Receiving Environment, which places the proposed development within the context of an area which is currently undergoing (and will in future undergo) significant development, which is most likely to intensify in the short, medium and long term.</i></p> <p><i>These developments are generally supported and/or championed by the provincial, municipal and district policy frameworks.</i></p> <p><i>Figure 49 (of the Scoping Report) shows the proposed CWA subject site in the context of approved future development within the study area and immediate vicinity.</i></p>
	<p>HWC response to NID 24 November 2023</p>	<p>There is reason to believe that the proposed development will impact on heritage resources. A S38(3) HIA must be submitted. This HIA must in addition have specific reference to Visual impact Assessment on the Cultural landscape.</p>
<p>CoCT comment</p>	<p>VIA findings noted and recommendations are deemed acceptable.</p>	<p><i>Noted.</i></p>

<p>CoCT comment (contd.)</p>	<p>Medium to High visual impact on the cultural landscape is of concern (impact on scenic routes, mature tree avenues, views from historic farms and placement of new and larger airport within the Cape Winelands Cultural Landscape).</p>	<p><i>The city has identified and created a framework within which to conserve and manage Cultural Landscapes as heritage resources through a variety of mechanisms. These documents and plans focus on finer-grained classifications than that of the more widely applicable “Cape Winelands” landscape context, which is protected by the Protected Areas Act as the Cape Winelands Biosphere Reserve.</i></p>
		<p><i>The proposed is not itself located within a Cultural Landscape (as defined by the City of Cape Town’s Municipal Spatial Development Framework, 2023), but there is a portion of the subject site on the northernmost edge which overlaps with a portion of the Agter-Paarl Paardeberg CL.</i></p> <p><i>There are three nearby/surrounding Cultural Landscapes that the VIA will take into consideration during impact assessment: the Agter Paarl/Paardeberg; Joostenberg Vlakte and Durbanville Hills (also Koeberg/Swartland Farms) Cultural Landscapes.</i></p>
		<p><i>Management actions and Mitigation measures will address a range of aspects of the proposed development that may have bearing on the surrounding Cultural Landscapes – refer to items i) – ix) on page 89 of the Scoping report.</i></p>
		<p><i>The Scoping report identifies “change in visual character of the area” as a key concern/issue, including the clearance of vegetation, stark change from current land uses; Construction phase impacts; and the visibility of large structures and service infrastructure within a previously predominantly rural agricultural landscape as potential visual impacts (page 90 of the Scoping report).</i></p>
		<p><i>The Scoping report identifies “intrusion on protected landscapes or scenic resources” as a key concern/issue, including negative effect of views from the R304 (especially from within the Agter-Paarl Paardeberg Cultural Landscape) and effect on sense of place (visibility of lights and masts from within the Cultural Landscapes and from the vantage point of sensitive viewers) as potential visual impacts (page 91 of the Scoping report).</i></p>

CoCT comment (contd.)	Medium to High visual impact on the cultural landscape is of concern... (contd.)	The Scoping report also notes that visual impacts will be associated with the contribution of the proposed development to the amount and density of urbanization in the area (a predicted additive and synergistic Cumulative effect) (page 91 of the Scoping report).
		<p>Key visual concerns to be addressed in the VIA include:</p> <ul style="list-style-type: none"> - The effect on the visual amenity of Scenic routes; - The effect on the landscape character and sense of place of the surrounding Cultural Landscapes. - The effect on Sensitive receptors who will be viewing the proposed development from within the surrounding Cultural Landscapes; - The effect on Sensitive receptors who will be travelling on Scenic routes;
	Mitigation strategies have to be identified and proposed in any future HIA, SDP's and EMPr.	Noted – the VIA will identify and propose appropriate mitigation strategies, in line with the mitigation hierarchy, which begins with avoidance of impacts.
		Please note that the development of mitigation measures may be undertaken in collaboration with the project team where the resolution of medium, high or very high visual impacts require integrated design resolution that may be outside the scope of the visual specialist to resolve.
General Comment	General comments re: the impact of lights at night.	The future VIA will address potential visual impacts of general and outdoor lighting at night.
		<p>The Scoping report makes mention of this aspect in a number of places:</p> <ul style="list-style-type: none"> - In the Methodology (Section 2.4, page 10 of the Scoping report); - As part of the Project Description (Section 4.4 – specifically page 4.4.4 Lighting systems); - Lighting was not included in the data set for preliminary Viewshed analysis, but additional information will be called for in order for impact assessment to proceed; - As one of the categories that will receive specific attention in terms of Management actions and Mitigation measures (page 89 of

		<p><i>the Scoping report);</i></p> <ul style="list-style-type: none"><i>- The visibility of lights at night is identified as a possible visual impact associated with the key concern/issue of the severity of change in visual character of the area (page 90 of the Scoping report);</i><i>- The visibility of lights at night (specifically from within the Cultural Landscapes and from the vantage point of sensitive viewers) is identified as a possible visual impact associated with the key concern/issue of potential effect and/or intrusion on protected landscapes or scenic resources (page 91 of the Scoping report).</i>
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