Visual Impact Report
FINAL

KGASWANE COUNTRY LODGE EXPANSION PROJECT
Rustenburg, North West Province

Graham A Young
Landscape Architect
08 January 2019

PROPOSED KGASWANE COUNTRY LODGE,

RUSTENBURG, NORTH WEST PROVINCE

Specialist Report

VISUAL ASPECTS

Submitted to:

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Prepared by:

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Report Revision No:	**FINAL – Rev 01**
Date Issued:	08 January 2019
Prepared By:	Graham Young PrLArch, FILASA
Reviewed By:	Graham Young PrLArch, FILASA
Reference:	033_Kgaswane Country Lodge Expansion Project VIA

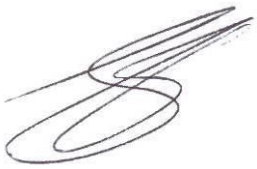
EXPERTISE OF SPECIALIST

Name:	Graham A Young
Qualification:	BL (Toronto ’78)
Professional Registration:	South African Council for the Landscape Architectural Profession (SACLAP) Fellow Institute of Landscape Architects of South Africa (ILASA)
Experience in Years:	40 years
Experience	Graham is a landscape architect with forty years’ experience. He has worked in Southern Africa and Canada and has valuable expertise in the practice of landscape architecture, urban design and environmental planning. He is also a senior lecturer, teaching urban design and landscape architecture at post and under graduate levels at the University of Pretoria. A specialty of his is Visual Impact Assessment for which he was cited with an ILASA Merit Award in 1999. He has completed over 275 specialist reports for projects in South Africa, Canada and other African countries. He was on the panel that developed the *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes* (2005) and produced a research document for Eskom, *The Visual Impacts of Power Lines* (2009). In 2011, he produced ‘*Guidelines for involving visual and aesthetic specialists’* for the Aapravasi Ghat Trust Fund Technical Committee (they manage a World Heritage Site) along with the *Visual Impact Assessment Training Module Guideline Document.*

DECLARATION OF INDEPENDENCE

I, Graham Young, declare that –

- I am contracted as the Visual Impact Assessment Specialist for the *Kgaswane Country Lodge Expansion Project*;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the National Environmental Management Act (Act 107 of 1998), 2014 Environmental Impact Assessment Regulations (as amended on 7 April 2017), and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will consider, to the extent possible, the matters listed in Regulation 13;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing – any decision to be taken with respect to the application by the competent authority; and – the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 16 (1)(b)(iii).



Graham A. Young PrLArch Reg. No. 87001 FILASA

18 December 2018

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SPECIALIST REPORTING REQUIREMENTS

Specialist Reporting Requirements According to Appendix 6 of the National Environmental Management Act (Act 107 of 1998), Environmental Impact Assessment Regulation 2014 (as amended on 7 April 2017)	
Requirement	**Relevant section in report**
Details of the specialist who prepared the report	Page iii, Appendix B
The expertise of that person to compile a specialist report including a curriculum vitae	Page iii, Appendix B
A declaration that the person is independent in a form as may be specified by the competent authority	Page iv
An indication of the scope of, and the purpose for which, the report was prepared;	Section 1.3 – 1.4
An indication of the quality and age of base data used for the specialist report;	N/A
A description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	N/A
The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 1.4
A description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 3
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	Section 9
An identification of any areas to be avoided, including buffers	N/A
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;	Figures 3 and 10
A description of any assumptions made and any uncertainties or gaps in knowledge;	Section 1.5
A description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	Section 11
Any mitigation measures for inclusion in the EMPr;	Section 10
Any conditions for inclusion in the environmental authorisation	Section 10
Any monitoring requirements for inclusion in the EMPr or environmental authorisation	N/A
A reasoned opinion whether the proposed activity, activities or	Section 11

portions thereof should be authorised regarding the acceptability of the proposed activity or activities; and	
If the opinion is that the proposed activity, or 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	Section 10
A description of any consultation process that was undertaken during the course of carrying out the study	N/A
A summary and copies if any comments that were received during any consultation process	N/A
Any other information requested by the competent authority.	N/A

ACRONYMS, ABBREVIATIONS & GLOSSARY

Acronyms & Abbreviations	
BAR	Basic Assessment Report
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
GYLA	Graham A Young Landscape Architect
SACLAP	South African Council for the Landscape Architectural Profession
VIA	Visual Impact Assessment

Glossary	
Aesthetic Value	Aesthetic value is the emotional response derived from the experience of the environment with its 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).
Aesthetically significant place	A formally designated place visited by recreationists and others for the express purpose of enjoying its beauty. For example, tens of thousands of people visit Table Mountain on an annual basis. They come from around the country and even from around the world. By these measurements, one can make the case that Table Mountain (a designated National Park) is an aesthetic resource of national significance. Similarly, a resource that is visited by large numbers who come from across the region probably has regional significance. A place visited primarily by people whose place of origin is local is generally of local significance. Unvisited places either have no significance or are "no trespass" places. (after New York, Department of Environment 2000).
Aesthetic impact	Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility, even startling visibility of a project proposal, should not be a threshold for decision making. Instead a project, by its visibility, must clearly interfere with or reduce (i.e. visual impact) the public's enjoyment and/or appreciation of the appearance of a valued resource e.g. cooling tower blocks a view from a National Park overlook (after New York, Department of Environment 2000).

Cumulative Effects	The summation of effects that result from changes caused by a development in conjunction with the other past, present or reasonably foreseeable actions.
Landscape Character	The individual elements that make up the landscape, including prominent or eye-catching features such as hills, valleys, woods, trees, water bodies, buildings and roads. They are generally quantifiable and can be easily described.
Landscape Impact	Landscape effects derive from changes in the physical landscape, which may give rise to changes in its character and how this is experienced (Institute of Environmental Assessment & The Landscape Institute, 1996).
Study area	For the purposes of this report the Project Study area refers to the proposed project footprint / project site as well as the 'zone of potential influence' (the area defined as the radius about the centre point of the project beyond which the visual impact of the most visible features will be insignificant to views). The study area is defined as 7,5km radius around the proposed project footprint / site, beyond this distance most sensitive views would be blocked to the site due to the nature of the terrain and the screening effect of mature trees.
Project Footprint / Site	For the purposes of this report the *site* / *footprint* refers to the actual layout of the project.
Sense of Place (genius loci)	Sense of place is the unique value that is allocated to a specific place or area through the cognitive experience of the user or viewer. *A genius locus literally means* 'spirit of the place'.
Sensitive Receptors	Sensitivity of visual receptors (viewers) to a proposed development.
Viewshed analysis	The two-dimensional spatial pattern created by an analysis that defines areas, which contain all possible observation sites from which an object would be visible. The basic assumption for preparing a viewshed analysis is that the observer eye height is 1,8m above ground level.
Visibility	The area from which project components would potentially be visible. Visibility depends upon general topography, aspect, tree cover or other visual obstruction, elevation and distance.
Visual Exposure	Visibility and visual intrusion qualified with a distance rating to indicate the degree of intrusion and visual acuity, which is also influenced by weather and light conditions.
Visual Impact	Visual effects relate to the changes that arise in the composition of available views as a result of changes to the landscape, to people's responses to the changes, and to the overall effects with respect to visual amenity.
Visual Intrusion	The nature of intrusion of an object on the visual quality of the

	environment resulting in its compatibility (absorbed into the landscape elements) or discord (contrasts with the landscape elements) with the landscape and surrounding land uses.
Worst-case Scenario	Principle applied where the environmental effects may vary, for example, seasonally to ensure the most severe potential effect is assessed.
Zone of Potential Visual Influence	By determining the zone of potential visual influence, it is possible to identify the extent of potential visibility and views which could be affected by the proposed development. Its maximum extent is the radius around an object beyond which the visual impact of its most visible features will be insignificant primarily due to distance.

EXECUTIVE SUMMARY

Graham A Young Landscape Architect (GYLA) has been commissioned by Kgaswane Country Lodge (Pty) Ltd, Rustenburg to carry out a basic visual impact assessment on the proposed Kgaswane Country Lodge Expansion Project. A full visual impact assessment has not been commissioned. The study forms part of the current BAR process for the project being carried out by Hydro Science Water, Waste and Environmental Management Consultants.

Site and Study area

The project site is located south of Rustenburg to the west of the R24, immediately north of the Olifantsnek Dam on Portions 21 and 85 of the Farm Boschfontein no. 330JQ. Refer to Figure 1 for its location and physical context.

Objective of the Specialist Study

The main aim of the study is to ensure that the visual / aesthetic consequences of the proposed project are understood and adequately considered in the Assessment Report process. Mitigation measures will be proposed, where appropriate.

Terms and Reference

A specialist study is required to assess the potential visual impacts arising from the Project based on the general requirements for a *basic* VIA and the *professional opinion* of the author. The following terms of reference was established:

- Conduct a field and photographic survey of the proposed study area from sensitive viewing points (site visit was undertaken on the 11 December 2018) inclusive of the Kgaswane Nature Reserve;
- Comment on the potential visual impact of the proposed Project and its cumulative effects on people visiting the study area and the Magaliesberg Biosphere core and buffer zones;
- Make a reasoned opinion whether the proposed activity, activities or portions thereof should be authorised regarding the acceptability of the proposed activities or whether a comprehensive visual impact assessment would be required.

Assumption, Uncertainties and Limitations

The following assumptions limitations have been made in the study:

- The extent of the study area is determined by the zone of potential influence, which in this study relates to a radius about the Project site of 3,0km. At this distance project activities would recede into background views (or be blocked) due to the nature of the terrain and mature tree cover in the study area; although from elevated views within the Magaliesberg Bioshphere core and the Kgaswane Nature Reserve, project activities would be visible – however very few people visit these areas and Project activities would be perceived within the same visual envelope as existing development on and immediately adjacent to the site.

- The description of project components is limited to what has been supplied to the author in the BAR (location of expansion areas) and from the Client (architectural drawings of the residential units) prior to the date of completion of this report;
- the indicative layout illustrated in this report is the author's understanding of how the plans supplied by the Client would fit onto the two expansion areas as per the BAR. In this case the expansion project areas can accommodate 60 units (20 units x 3 two storey buildings), although 150 additional on-suite rooms have been applied for;
- The study will focus on viewing areas within public and tourist areas located within the zone of potential influence (I.e. fore and middle-ground views). It is these views that would potentially be impacted by the proposed expansion activities.

Findings

The existing visual condition of the landscape that may be affected by the proposed Project has been described. The study area's scenic quality has been rated *moderate to high* within the context of the sub-region and sensitive viewing areas have been mapped indicating potential sensitivity to the proposed development within a 3 km radius of the project site.

Impacts to views are the highest when viewers are identified as being sensitive to change in the landscape, and their views are focused on and dominated by the change. Visual impacts occur when changes in the landscape are noticeable to sensitive viewers looking at the landscape from their homes or from tourism / conservation areas, travel routes, and important cultural features and historic sites, especially in foreground views.

The intrusive nature of expansion project is also rated *low* as the project will be mostly screened and absorbed into the landscape scene by existing vegetation and topography from lower vantage points. The buildings (mostly the roofs) would be seen from sensitive viewpoints on the upper slopes of the Magaliesberg and the Kgaswane Nature Reserve, including the designated viewing deck with the reserve. However, the development would always appear in the same visual envelope as other developments and existing buildings on the site and would therefore not appear out of place or intrusive. Also, not many people would be visiting these areas.

It is predicted that *low* (i.e. a minor loss of or alteration to key elements / features / characteristics of the baseline) visual resource impacts would result from the construction, operation and maintenance of the proposed Project.

It is the opinion of the author that all aspects of the expansion project, from a potential visual impact perspective, should be approved provided that the mitigation / management measures described in this report are effectively implemented, managed and monitored in the long term and that engagement with the community during this process is continued.

*** GYLA ***

TABLE OF CONTENT

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

1.1 Project Overview and Background

Graham A Young Landscape Architect (GYLA) has been commissioned by Kgaswane Country Lodge (Pty) Ltd, Rustenburg to carry out a basic visual impact assessment on the proposed Kgaswane Country Lodge Expansion Project. A full visual impact assessment has not been commissioned. The study forms part of the current BAR process for the project being carried out by Hydro Science Water, Waste and Environmental Management Consultants.

1.2 Proposed Site and Study area

The project site is located south of Rustenburg to the west of the R24, immediately north of the Olifantsnek Dam on Portions 21 and 85 of the Farm Boschfontein no. 330JQ. Refer to Figure 1 for its location and physical context.

1.3 Objective of the Specialist Study

The main aim of the study is to ensure that the visual / aesthetic consequences of the proposed project are understood and adequately considered in the Assessment Report process. Mitigation measures will be proposed, where appropriate.

1.4 Terms and Reference

A specialist study is required to assess the potential visual impacts arising from the Project based on the general requirements for a *basic* VIA and the *professional opinion* of the author. The following terms of reference was established:

- Conduct a field and photographic survey of the proposed study area from sensitive viewing points (site visit was undertaken on the 11 December 2018);
- Describe the landscape character of the study area and determine sensitive viewing points
- Comment on the potential visual impact of the proposed Project and its cumulative effects on people visiting the study area;
- Make a reasoned opinion whether the proposed expansion activity, or portions thereof should be authorised regarding the acceptability of the proposed activities or whether a comprehensive visual impact assessment would be required.

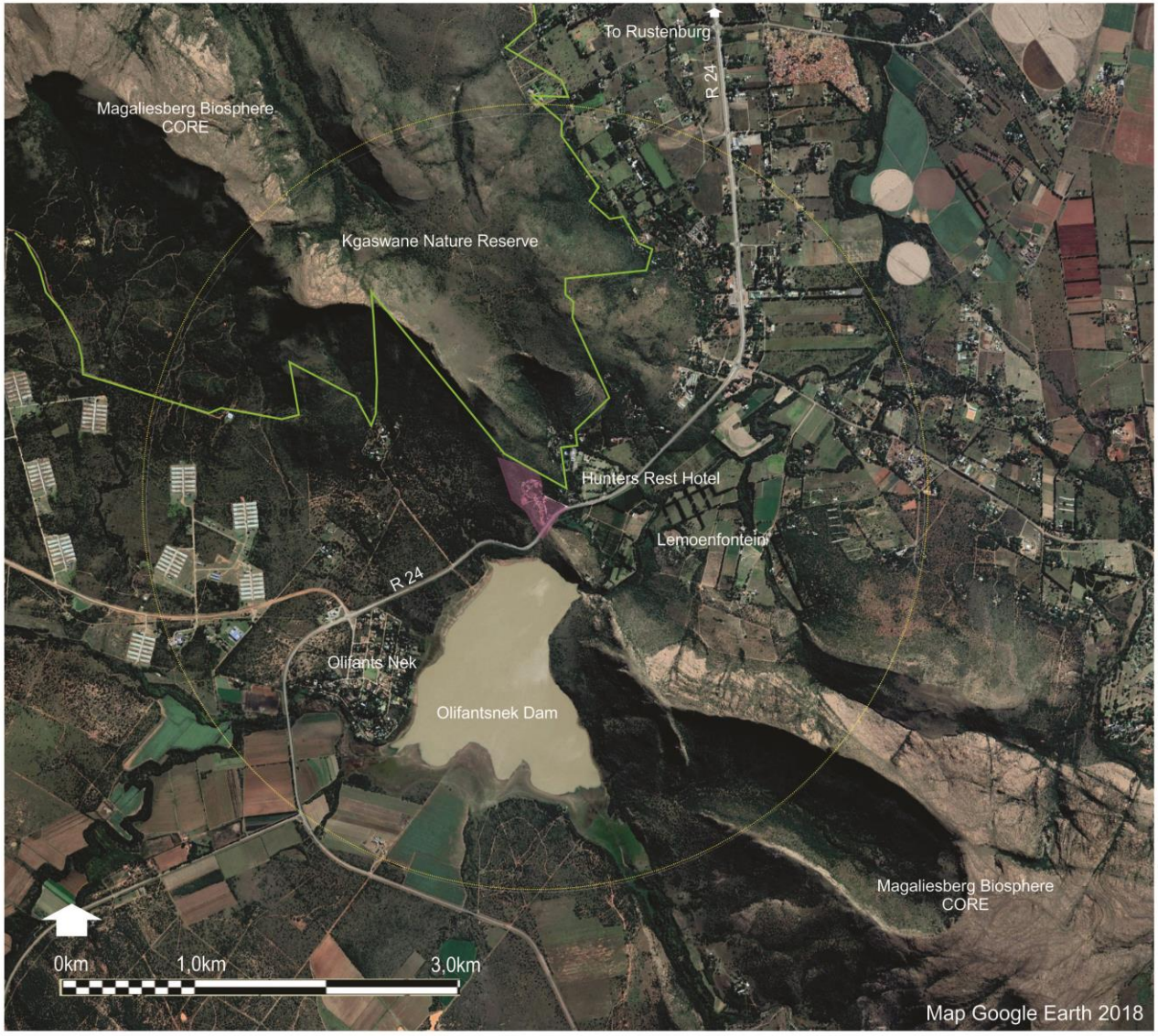
1.5 Assumption, Uncertainties and Limitations

The following assumptions limitations have been made in the study:

- The extent of the study area is determined by the zone of potential influence, which in this study relates to a radius about the Project site of 3,0km. At this distance project activities would recede into background views (or be blocked) due to the nature of the terrain and mature tree cover in the study area; although from elevated views within the Magaliesberg Bioshphere core and the Kgaswane Nature Reserve, project activities would be visible – however very few people visit these areas and Project activities would be perceived within the same visual envelope as existing development on and immediately adjacent to the site.
- The description of project components is limited to what has been supplied to the author in the BAR

(location of expansion areas) and from the Client (architectural drawings of the residential units) prior to the date of completion of this report;

- The indicative layout illustrated in this report is the author's understanding of how the plans supplied by the Client would fit onto the two expansion areas as per the BAR. In this case the expansion project areas can potentially accommodate 60 units (20 units x 3 two storey buildings), although 150 additional on-suite rooms have been applied for;
- The study will focus on viewing areas within public and tourist areas located within the zone of potential influence (I.e. fore and middle-ground views). It is these views that would potentially be impacted by the proposed expansion activities.



LEGEND

Zone of Potential Influence / Fore and Middle-ground views around project site (3,0km about the centre of the expansion site)

Figure 1: LOCALITY AND STUDY AREA

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2. LEGAL REQUIREMENTS AND GUIDELINES

This report adheres to the following legal requirements and guideline documents.

2.1 National Guidelines

National Environmental Management Act (Act 107 of 1998) EIA Regulations

The specialist report is in accordance to the specification on conducting specialist studies as per Government Gazette (GNR 982 as amended in GNR 326 of 2017) of the National Environmental Management Act (NEMA) Act 107 of 1998. The mitigation measures as stipulated in the specialist report can be used as part of the Environmental Management Plan (EMP) and will be in support of the Environmental Impact Assessment (EIA).

The NEMA Protected Areas Act (57 of 2003)

The main aim of the Act is to identify and protect natural landscapes. According to the 2014 as amended in 2017 regulations there are specific regulations for compilation of specialist report. This VIA report adheres to these specifications.

The National Heritage Resources Act (25 of 1999)

The Act is applicable to the protection of heritage resources and includes the visual resources such as cultural landscapes, nature reserves, proclaimed scenic routes and urban conservation areas. The NHRA states that it aims to promote “good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed for future generations”. An holistic landscape whose character is a result of the action and interaction and/or human factors has strong cultural associations as societies and the landscape in which they live are affected by one another in many ways;

Section 17 of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) (NEM: PAA) sets out the purposes of the declaration of areas as protected areas which includes the protection of natural landscapes. Landscapes are defined by the natural, visual and subjectively perceived landscape; these aspects of a landscape are intertwined to form a holistic landscape context.

Western Cape Department of Environmental Affairs & Development Planning: Guideline for Involving Visual and Aesthetic Specialists in EIA Processes Edition 1 (CSIR, 2005)

Although the guidelines were specifically compiled for the Province of the Western Cape they provide guidance that is appropriate for any EIA process. The Guideline document also seeks to clarify instances when a visual specialist should get involved in the EIA process.

3. APPROACH AND METHODOLOGY

3.1 Approach

The assessment of likely effects on a landscape resource and on visual amenity is complex, since it is determined through a combination of quantitative and qualitative evaluations. (The Landscape Institute with the Institute of Environmental Management and Assessment, 2002). When assessing visual impact, the worst-case scenario is considered. Landscape and visual assessments are separate, although linked, procedures.

The landscape, its analysis and the assessment of impacts on the landscape all contribute to the baseline for visual impact assessment studies. The assessment of the potential impact on the landscape is carried out as an impact on an environmental resource, i.e. the physical landscape. Visual impacts, on the other hand, are assessed as one of the interrelated effects on people (i.e. the viewers and the impact of an introduced object into a view or scene).

3.1.1 The Visual Resource

Landscape character, landscape quality (Warnock, S. & Brown, N., 1998) and “sense of place” (Lynch, K., 1992) are used to evaluate the visual resource i.e. the receiving environment. A qualitative evaluation of the landscape is essentially a subjective matter. In this study the aesthetic evaluation of the study area is determined by the professional opinion of the author based on site observations and the results of contemporary research in perceptual psychology.

Aesthetic value is the emotional response derived from the experience of the environment with its natural and cultural attributes. The response is usually to both visual and 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 is more than the combined factors of the seen view, visual quality or scenery. It includes atmosphere, landscape character and sense of place (Schapper, 1993). Refer also to Appendix B for further elaboration.

Studies for perceptual psychology have shown human preference for landscapes with higher visual complexity, for instance scenes with water or topographic interest. Based on contemporary research, landscape quality increases where:

- Topographic ruggedness and relative relief increase;
- Water forms are present;
- Diverse patterns of grassland and trees occur;
- Natural landscape increases and man-made landscape decreases;
- Where land use compatibility increases (Crawford, 1994).

Aesthetic appeal (value) is therefore considered high when the following are present (Ramsay, 1993):

- Abstract qualities: such as the presence of vivid, distinguished, uncommon or rare features or abstract attributes;
- Evocative responses: the ability of the landscape to evoke particularly strong responses in community members or visitors;
- Meanings: the existence of a long-standing special meaning to a particular group of people or the ability of the landscape to convey special meanings to viewers in general;
- Landmark quality: a feature that stands out and is recognized by the broader community.

And conversely, it would be low where:

- Limited patterns of grasslands and trees occur;
- Natural landscape decreases and man-made landscape increases;
- And where land use compatibility decreases (after Crawford, 1994).

In determining the quality of the study area's 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 scenically beautiful but where landscape quality, aesthetic value and a strong sense of place coincide - the visual resource or perceived value of the landscape is very high. The criteria given in Appendix B are used to assess landscape quality, sense of place and ultimately to determine the aesthetic value of the study area.

3.1.2 Sensitivity of Visual Resource

The sensitivity of a landscape or visual resource is the degree to which a landscape type or area can accommodate change arising from a development, without detrimental effects on its character. Its determination is based upon an evaluation of each key element or characteristic of the landscape likely to be affected. The evaluation will reflect such factors such as its quality, value, contribution to landscape character, and the degree to which the element or characteristic can be replaced or substituted (Institute of Environmental Assessment & The Landscape Institute, 1996:87).

3.1.3 Sense of Place

Central to the concept of sense of place is that the landscape requires uniqueness and distinctiveness. The primary informant 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. 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". Sense of place is the unique value that is allocated to a specific place or area through the cognitive experience of the user or viewer. In some cases, the values allocated to the place are similar for a wide spectrum of users or viewers, giving the place a universally recognized and therefore, strong sense of place.

Because the sense of place of the study area is derived from the emotional, aesthetic and visual response to the environment, it cannot be experienced in isolation. The landscape context must be considered. The combination of the natural landscape (mountains and the vegetation) together with the manmade structures (residential areas, roads, and utilities) contribute to the sense of place for the study area. It is these land-

uses, which define the study area and which establish its identity.

3.1.4 Sensitive Viewer Locations

The sensitivity of visual receptors and views are dependent on the location and context of the viewpoint, the expectations and occupation or activity of the receptor or the importance of the view. This 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.

The most sensitive receptors may include:

- Users of all outdoor recreational facilities including public rights of way, whose intention or interest may be focused on the landscape;
- Communities where development results in changes in the landscape setting or valued views enjoyed by the community;
- Occupiers of residential properties with views affected by the development.

Other receptors include:

- People engaged in outdoor sport or recreation (other than appreciation of the landscape, as in landscapes of acknowledged importance or value);
- People traveling through or past the affected landscape in cars or other transport modes;
- People at their place of work.

Views from residences and tourist facilities / routes are typically more sensitive, since views from these are frequent and of long duration.

For a detailed description of the methodology used in this study, refer to Appendix A. Image 1 below, graphically illustrates the visual impact process:

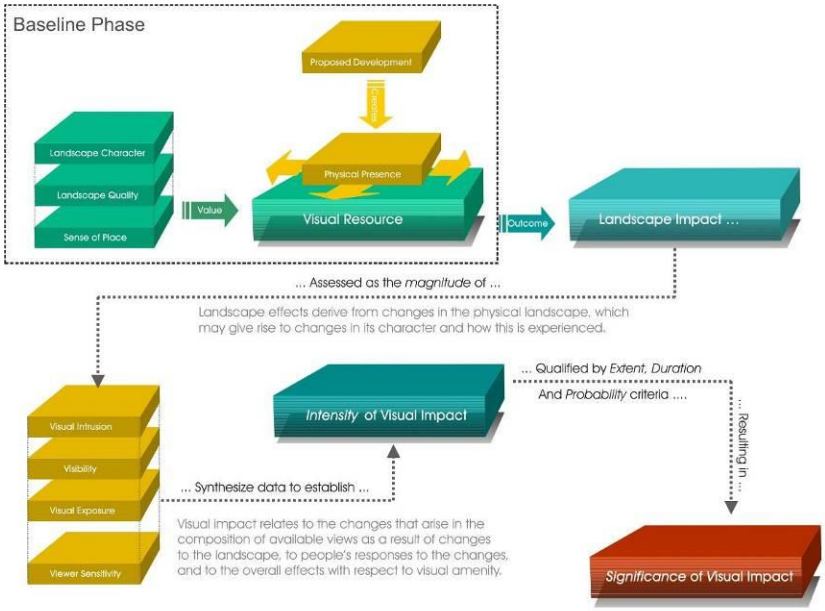

Image 1: Visual Impact Process

3.2 Methodology

The following method was used:

- Site visit: A field survey was undertaken on the 11 December 2018 when the study area was scrutinized to the extent that the receiving environment could be documented and adequately described.
- Project components: The physical characteristics of the project components were described and illustrated;
- The landscape character of the study area was described. The description of the landscape focused on the nature and character of the landscape rather than the response of a viewer;
- The quality of the landscape was described using recognized contemporary research in perceptual psychology as the basis;
- The sense of place of the study area was described as to the uniqueness and distinctiveness of the landscape.
- Determine the potential visual impact on sensitive viewing areas through a viewshed analysis of the two storey units proposed on expansion area A and expansion area B;
- Propose management measures to reduce potential impacts.

4. DESCRIPTION OF THE PROJECT

The existing Kgaswane Country Lodge comprises three lodges, a spa/restaurant building and reception area and conference building. The proposed new residential buildings are proposed on two defined expansion areas, area A and area B[1] as illustrated in Figure 2. The proposed architecture, plan and elevations is illustrated in Figure 2a. It should be noted that the indicative layout (Figure 2) is based on the architectural drawings and the proposed expansion areas as set out in the BAR (2018). Using these criteria 60 on suite units can be accommodated although 150 units have been applied for (BAR 2018).

[1] Information derived from BAR prepared by HydroScience Environmental Management Consultants (Sept 2018)

NOTES:

Information derived from BAR for proposed Kgaswane Country Lodge for Altman Investments (Pty) Ltd on Portions 21 and 85 of the farm Boschfontein 330JQ, Rustenburg Local Municipality, North West Property: Hydro Science 2018

Layout of the proposed expansion accommodation units is determined by the location and extent of the expansion areas as set out in the Hydro Science BAR (Sept 2018) and architectural drawings (plans and elevations) supplied by the Client.

It should be noted that these units are restricted to a two storey configuration (Hydro Science Draft BAR Sept 2018) and must be contained to the identified expansion areas. The application applies for 150 en-suite units.

Figure 2: INDICATIVE LAYOUT

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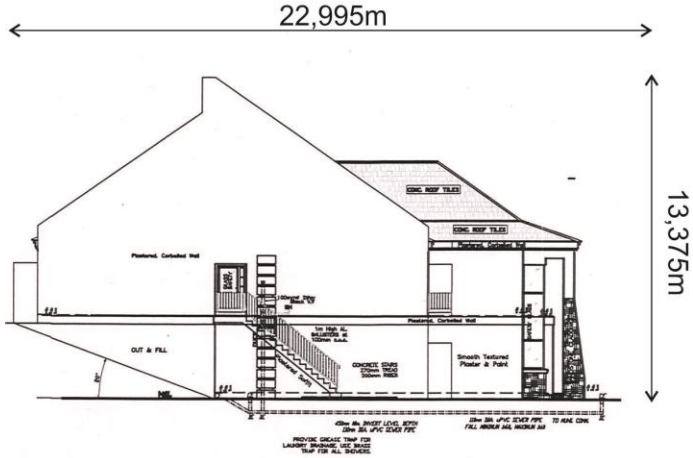
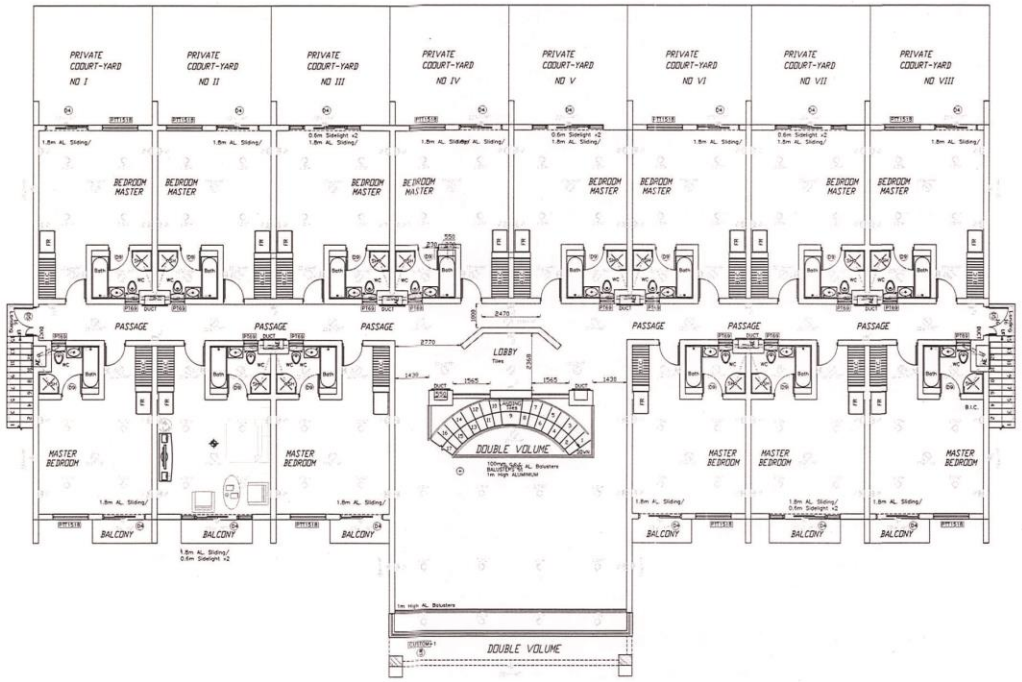
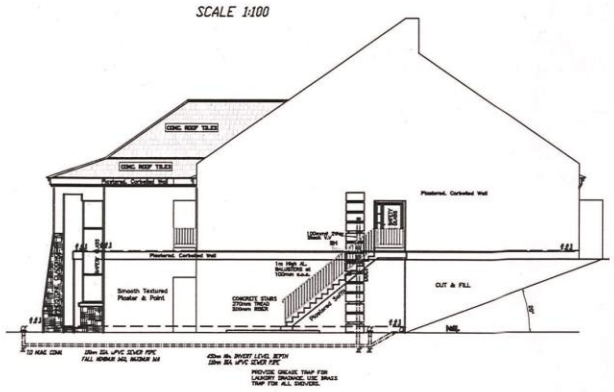
NORTH ELEVATION



EAST ELEVATION





WEST ELEVATION

Figure 2a: PROPOSED ARCHITECTURAL UNITS

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5. PROJECT ALTERNATIVES

The alternative to the layout is to place the expansion blocks on areas currently covered with vegetation as was stipulated in the draft BAR. From an environmental perspective, it is preferred to locate the buildings for the expansion within an already disturbed and cleared areas, thereby minimising the disturbance to other areas. The expansion areas will be located within the larger already disturbed footprint area of the existing lodge. The already cleared areas form part of the conference facility, which was confirmed legal under the previous authorisations by NW READ[2].

[2] Hydro Science letter to Magaliesberg Biosphere NPC dated 15 November 2018

6. VISUAL ISSUES

Typical issues associated with development projects of this nature are:

- Who will be able to see the new development?
- What will it look like (Refer to Figure 2a) and will it contrast with the receiving environment?
- Will the development affect sensitive views (refer to Figure 3) in the area and if so how?
- What will be the impact of the development during the day and at night?
- What will the cumulative impact be?

The public participation process was conducted by HydroScience and during the process, visual concerns were raised, specifically by the Protea Hotel Huntersrest. The concern was for the 'density and visibility' of the proposed expansion project[3].

The Magaliesberg Biosphere Management Board (MBMB) also raised their concerns in a letter to HydroScience (date 11 November 2018). These issues where addressed by HydroScience on 14 November 2018 in a reply to the MBMB letter. The primary visual concern raised by the MBMB deals with scale and the ability of the proposed project to 'blend into the landscape' and is captured in the following paragraph from their letter.

"Does the land use/activity blend into the landscape? The size and number of story's for the proposed accommodation blocks has not been addressed, nor the visual impacts relating to this. The visual impact study from 2008, addresses a 46 room establishment only". (MBMB: p4)

Refer also to Section 1.5 regarding the scale and size of the proposed development as assessed in this report.

[3] HydroScience Public Participation Report for Proposed Expansion of Kgaswane Country Lodge on Portions 21 and 85 of the Farm Baschfontein 330JQ (September 2018)

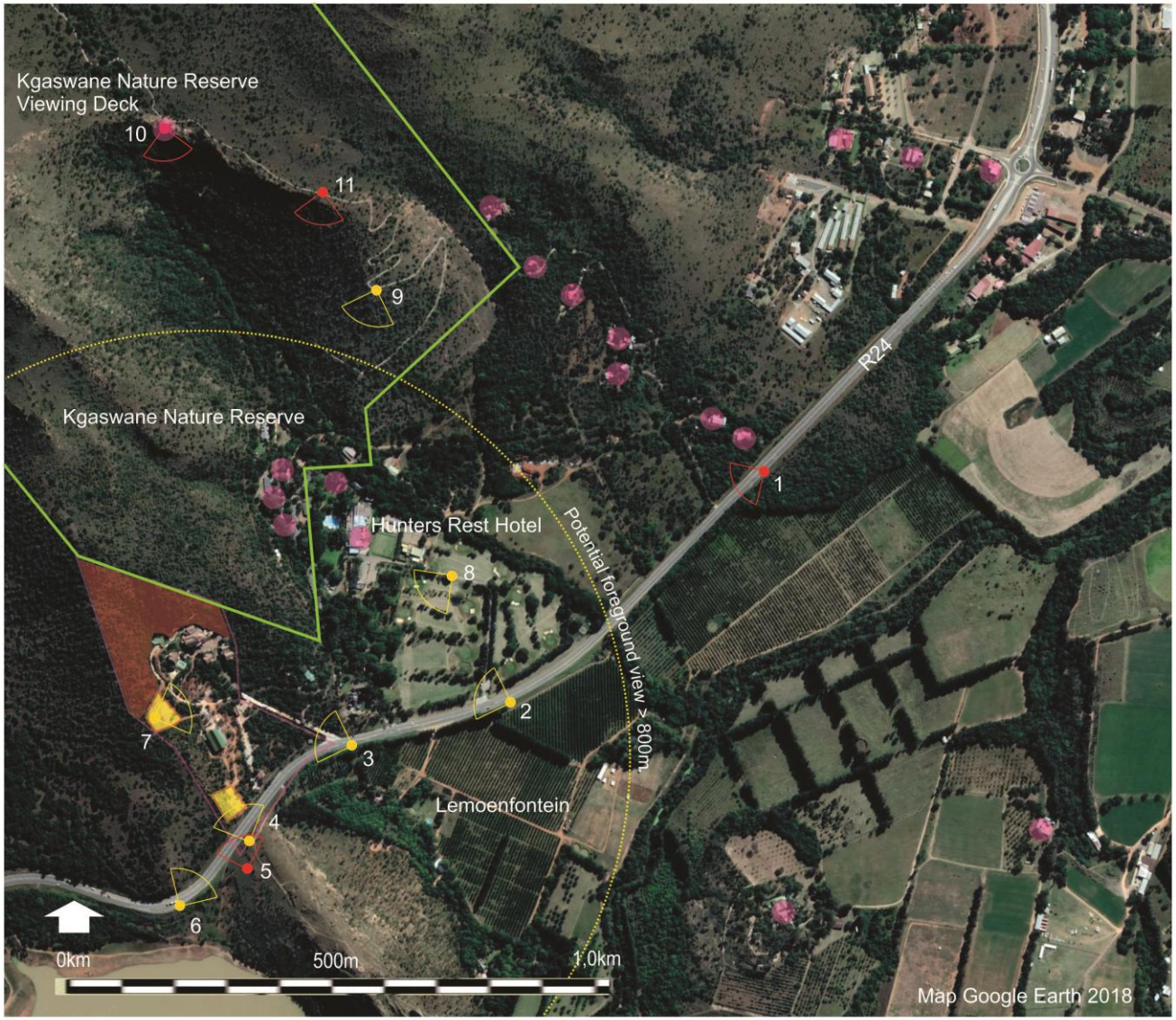
7. THE ENVIRONMENTAL SETTING

7.1 The Study Area – General Landscape Character

The site lies within the Mageliesberg Biosphere Core (Figures 1, 2 and 3), in a natural 'bowl' on the northern-western slopes of Olifantsnek. Immediate south of the site is the Olifantsnek Dam and to its east and north are some residences and the Hunters Rest hotel – Refer to Figures 3 and 4 – 7, which are panoramas in the general vicinity of the site. Immediately east of the site and east of the R24 is Lemoenfotein Farm.

To the immediate east of the site is the R24 and further east are agricultural smallholdings associated with the Hex River. The Magaliesberg, a protected conservation area, extends further to the south-east and north west, where it is the Kwaswane Nature Reserve (Figures 5,6 and 8). The Magaliesberg vegetation is mostly mixed bushveld tree species with a moderate to dense cover. The Magaliesberg is the dominant natural feature in the area and can been seen from miles away due to the surrounding flat plains. The hills scenic beauty contributes greatly to the sense of place of the study area, which is regarded as a tourist destination.

To the north of the site, urbanization is rapidly taking place as Rustenburg experiences major growth. Currently this area is mostly made up of agricultural small holdings, some commercial interests and retail outlets relating to the agricultural lands found to the east of the R24. These areas are mostly flat and under cultivation.



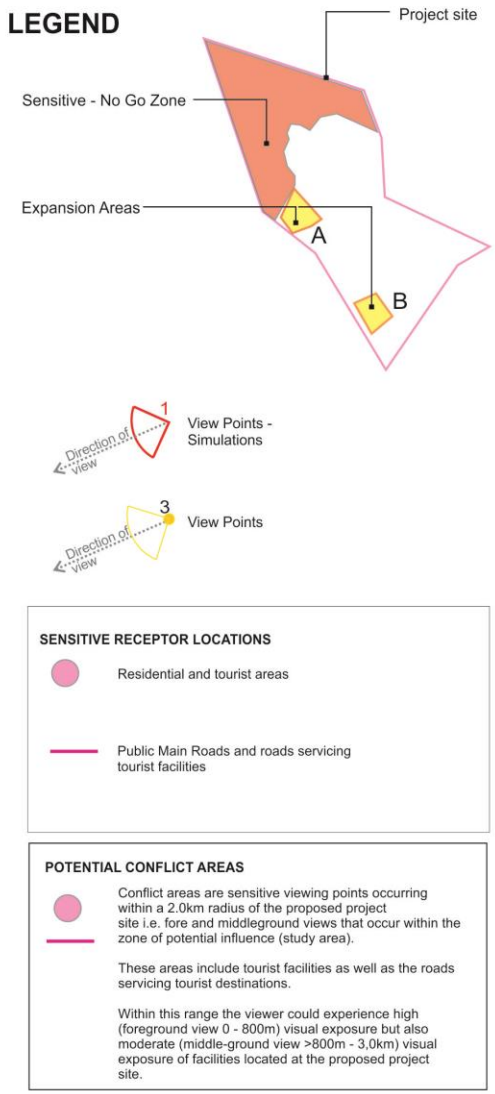


Figure 3: VIEW SITES AND SENSITIVE RECEPTOR LOCATIONS

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Figure 4: LANDSCAPE CHARACTER_ Views 1 and 2

Refer to Figure 3 for location of views: Photos taken 11 November 2018

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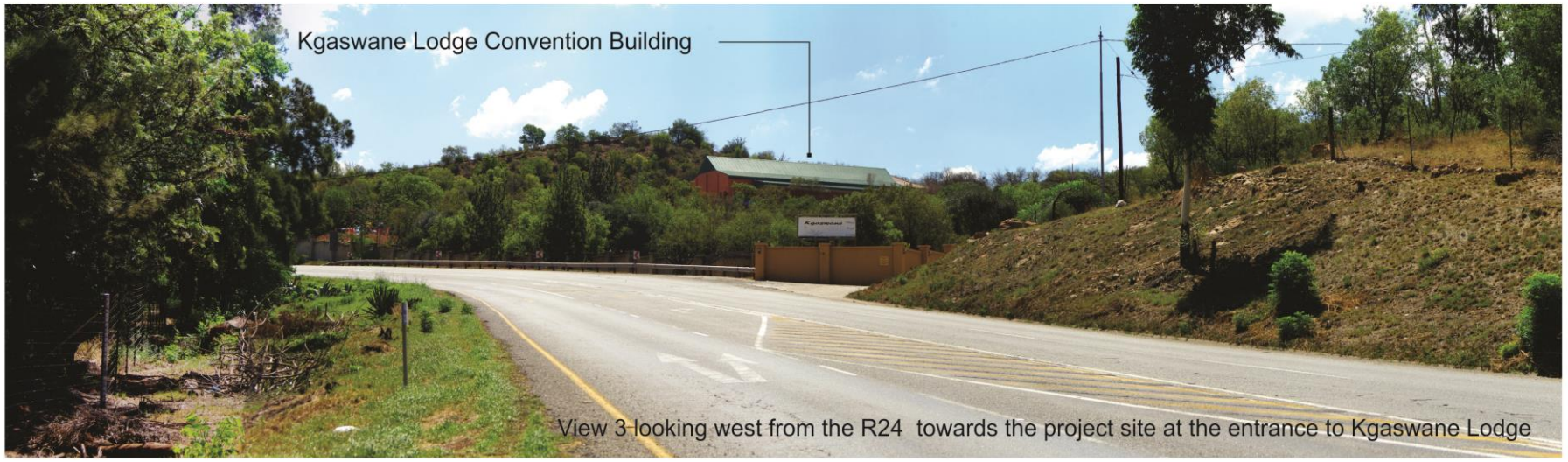

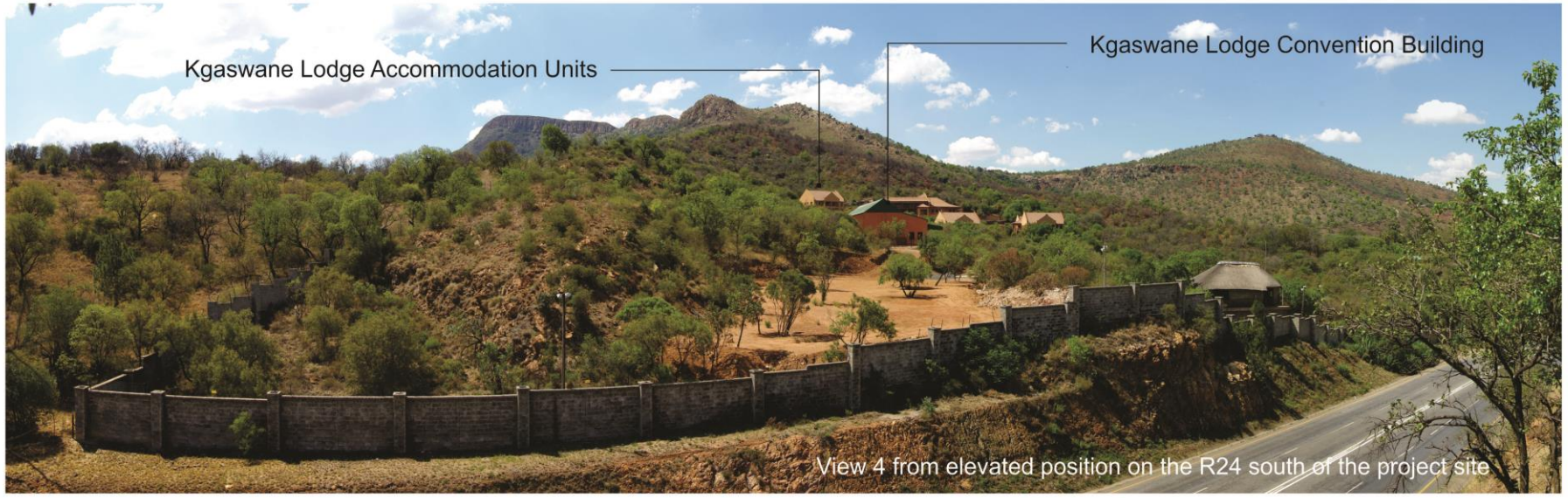

Figure 5: LANDSCAPE CHARACTER_ Views 3 and 4

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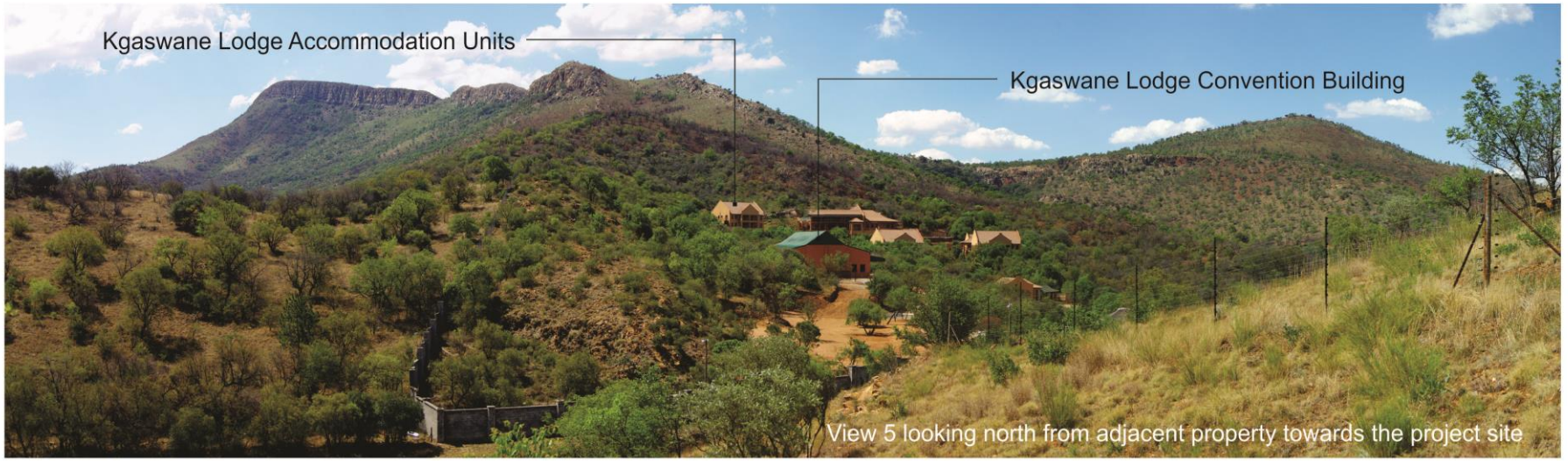

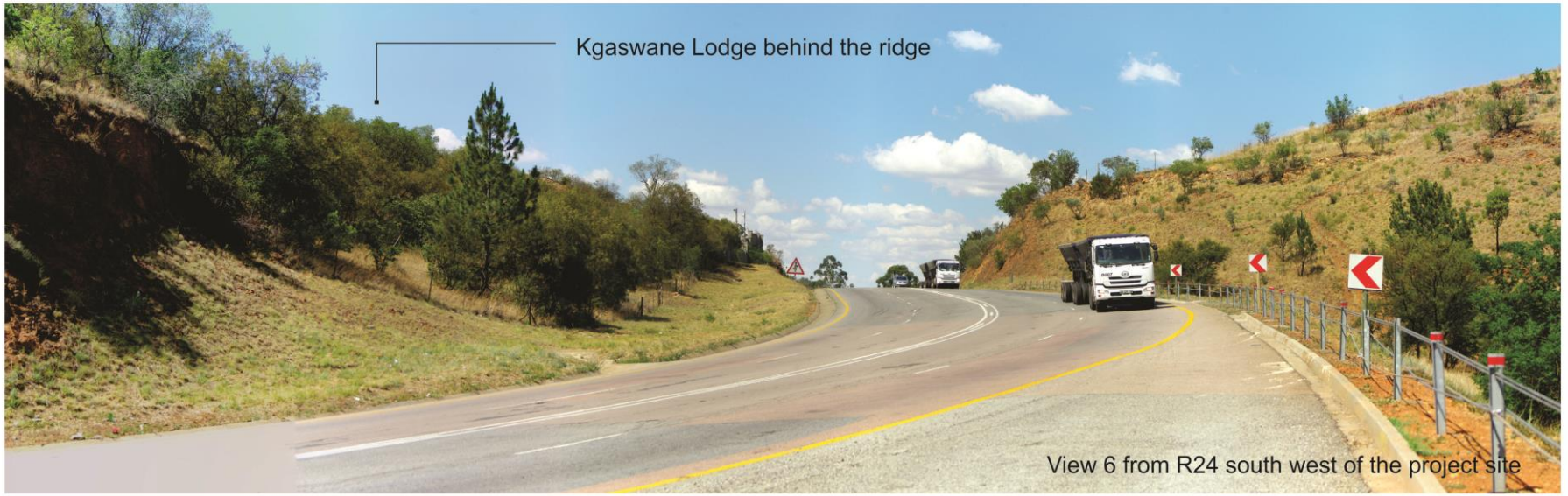

Figure 6: LANDSCAPE CHARACTER_ Views 5 and 6

Refer to Figure 3 for location of views: Photos taken 11 November 2018

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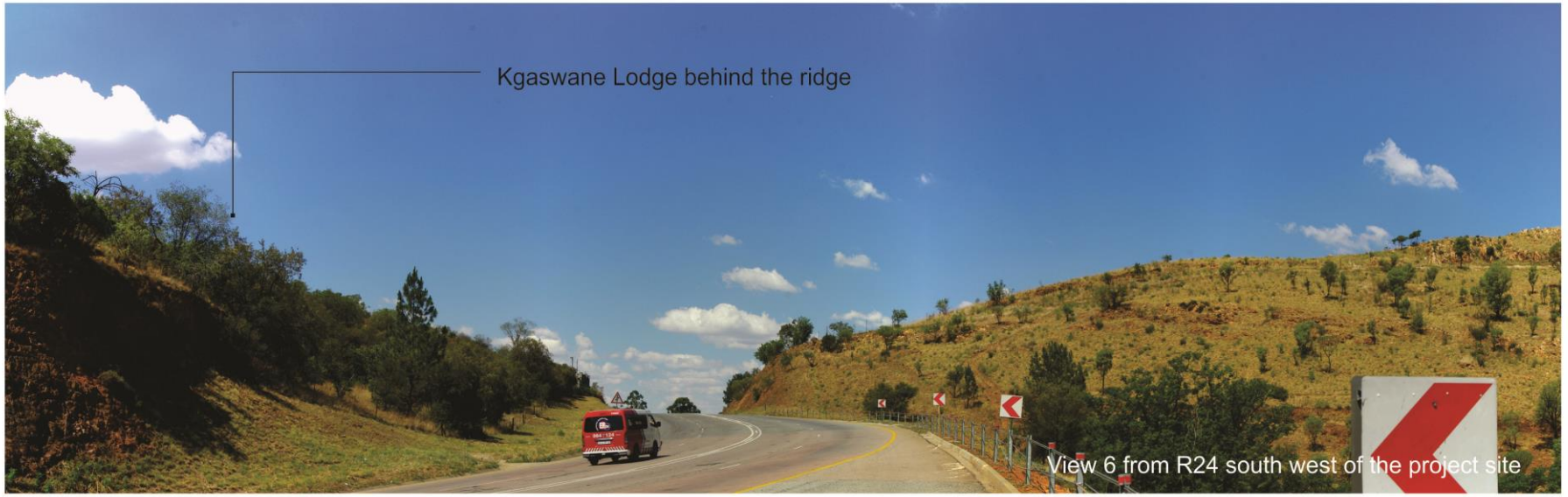

Figure 7: LANDSCAPE CHARACTER_ Views 8 and 9

Refer to Figure 3 for location of views: Photos taken 11 November 2018

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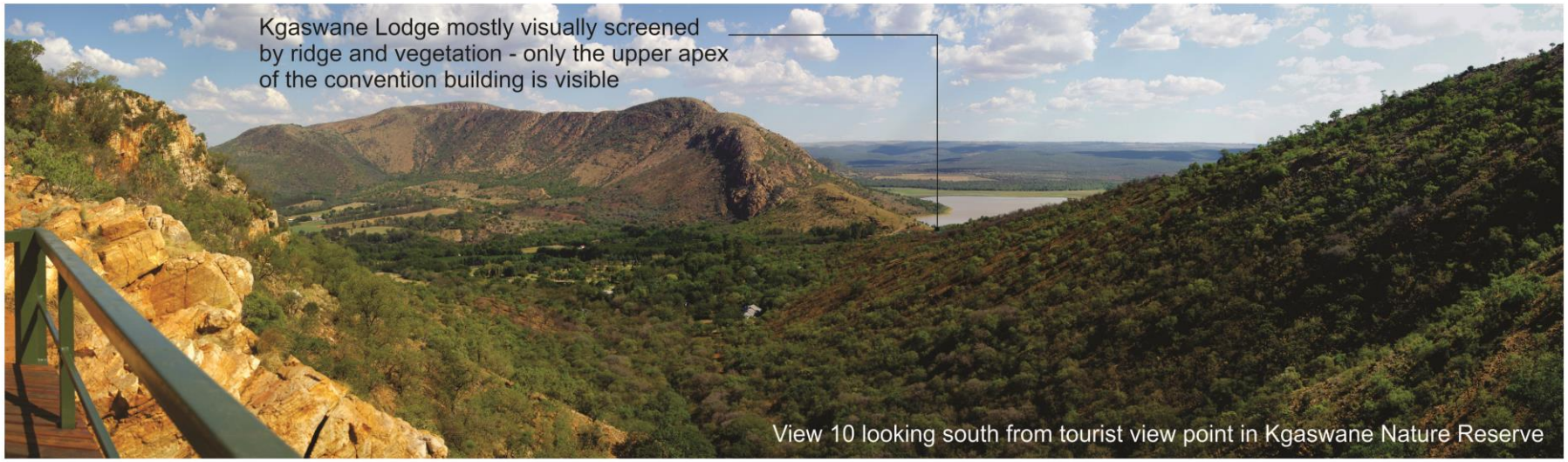

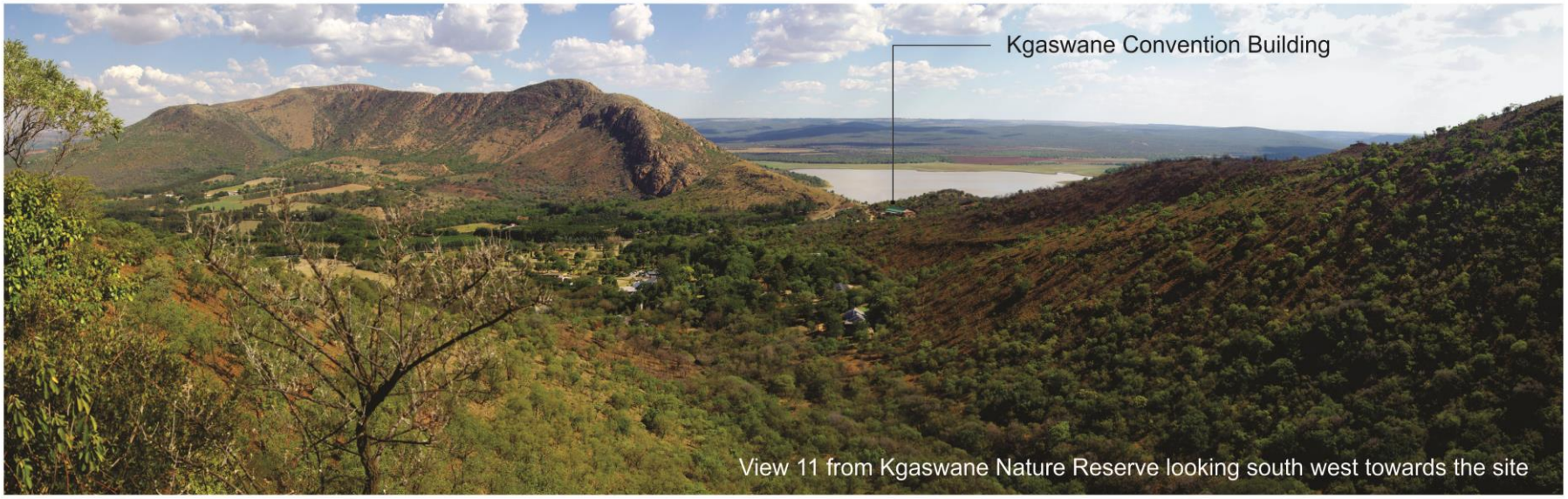

Figure 8: LANDSCAPE CHARACTER_ Views 10 and 11

Refer to Figure 3 for location of views: Photos taken 11 November 2018

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8. VISUAL RESOURCE

8.1 Aesthetic value of the study area

The study area's landscape as described above has many redeeming aesthetic features (Figures 4 to 8), primarily to its physical setting, which is dominated by the savannah cover hills of the Magaliesberg and the Olifantsnek dam.

It is difficult to separate out the aesthetic value of a landscape into its component parts as the landscape is usually viewed as a composite of various 'visual envelopes'. However, whilst the natural hills and their side slopes of the Magaliesberg, have a *high* visual quality (the site falls within this landscape type), the agricultural plains to the south and east of the site tend to have a *moderate* rating (refer also to Appendix A which describes the various attributes of scenic quality ratings). The small holdings and commercial enterprises clustered along the R24 north of Hunters Rest Hotel, have a *low* rating within the context of the study area. The lower rating is because of the 'intrusive' nature of these man-introduced elements and the 'clutter' they bring to the scene. Using the criteria and values defined in Appendix A along with the discussion in the previous sections, the overall visual quality of the study area is summarized in Table 1 below. The project site is rated *moderate* (although it is contained within a landscape type rated high) due the existing development which has disturbed the original natural quality and character of the place. To the north of the site there is a slow 'urban creep' of 'disjoint' man-made elements that tend to distract from this overall beauty.

Table 1: Value of Visual Resource

High For the Magaliesberg and Olifantsnek dam	**Moderate** For the general areas to the east and south of the project site	**Low** For the areas to the north of the project site north of Hunters Rest Hotel
These landscape types are considered to have a *high* value because they are: Landscapes that exhibits a very positive character with valued features that combine to give the experience of unity, richness and harmony. It is a landscape that may be of importance to conserve and which may be sensitive change in general and which may be detrimental if change is inappropriately dealt with.	These landscape types area considered to have a *moderate* value because they are: Landscapes that exhibits some positive character (wooded hills) but which has evidence of alteration/degradation/'erosion' of features resulting in areas of more mixed character. Potentially sensitive to change in general; change may be detrimental if inappropriately dealt with but it may not require special or particular attention to detail.	These areas are considered to have a *low* value because they are: Landscapes generally negative in character with few, if any, valued features. Alteration/degradation and 'erosion' of features is prevalent. Scope for positive enhancement would occur.

8.2 Sense of Place

The sense of place for the study area derives from the combination of all landscape types and their impact on the senses. The Magaliesberg is the focus of the visual senses, making the study area unique within the sub-region, and consequently evokes a strong and dramatic sense of place to the study area.

9. VISUAL ISSUES - IMPACT

9.1 Visual Receptors

Visual receptors include people living in, visiting or travelling through the study area primarily along the R24 main road. The area is considered a local tourist destination for visitors from Gauteng and North West Provinces.

9.2 Sensitive Viewers

The Magaliesberg is a protected environment and the visual resource responsible for a thriving tourism industry making any interventions to the existing situation potentially sensitive. The project site is located within the Magaliesberg Biosphere Reserve 'core zone' (Figure 1). Potentially sensitive viewing areas are residences, public rights of way (R24 in this case), and tourist attractions/destinations.

9.3 Views and visibility

The 'zone of potential influence' was established at 3,0km. Over 3,0km the impact of the Project's activities would have diminished as the project will recede into the background and/or views to the site (other than views from the Magaliesberg) would be screened by topographic relief, existing vegetation and structures.

The Kgaswane Country Lodge is nestled into a 'bowl' created by natural ridges to the west and east of the site, which form an apex in the north. The western ridge line blocks most sensitive views from south of the expansion areas (refer to Figures 9 and 10) although the roofs of the proposed new architectural units (specifically expansion area A) would potentially be visible from parts of Olifantsnek and Brauhaus am damm[4]. The eastern ridgeline blocks views to the site from the north and west. Virtually all views from public rights of way or areas are blocked from lower evaluations about the site i.e. it would only be the roofs of the proposed new buildings that would be visible. View 1 in Figure 11 illustrates this point. Views from Hunters Rest Hotel (orientated to the east away from the project site), will not be affected by the development due to the ridge line and tall trees between the site and the hotel. The two residences to the south of the hotel will also not be affected because of the screening effect of tall trees located between them and the project site. These residences are also orientated to the east away from the site.

Views from east of the site, associated with the smallholdings, could be affected by the development as indicated in the viewsheds in Figures 9 and 10, however these properties are surrounded with tall trees and other vegetation which would screen most views. People living in these residences would have middle-ground views (over 1,0km from the site) of the upper levels and roofs of the proposed new buildings at expansion areas A and B.

The only location with public open views to the project site is from the ridge lines with in the Kgaswane Nature Reserve, north and north east of the sites. These are illustrated in Figures 8, 13 and 14. However, very few people will be walking in these areas and therefore the impact is not considered to be major. People in the Kgaswane Nature Reserve, a generally greater frequented area than the other areas of the Magaliesberg Protected Natural Environment, will not be able to see the lodge development. However, people visiting the designated viewing site (open to people visiting Hunters Rest Hotel and the Kgaswane

[4] It must be noted that the viewshed analysis assumes the worst-case scenario i.e. visibility based on topography alone and does not consider vegetation and structures. Therefore, where trees exist the extent of the viewshed would be reduced substantially, as is the case for this project.

Nature Reserve), would see the top of the proposed building located at expansion area B. The buildings at expansion area A would not be visible from this vantage point (refer to the simulation in Figure 13).

Having established that the visual resource for the study area is *moderate* to *high,* the lodge and expansion project is located in a landscape type with *high* visual quality, and that the location of potential public views has been established; the impact of the proposed expansion project can be assessed in terms of its intrusion on views and its impact on the sense of place of the study area.

9.4 Visual Intrusion

Visual intrusion deals with visibility and the notion of contextualism i.e. how well does a project component fit with or disrupt/enhance the ecological and cultural aesthetic of the landscape as a whole? Referring to previous discussions in the report and using the criteria listed in Appendix B, the visual intrusion of the project and its magnitude of the impact can be rated.

The main structures of the lodge exist and therefore act as referencing points when considering the impact of additional buildings. The simulations in Figures 11 to 14 indicate that the proposed buildings will for the most part be screened from low elevations, which are also the vantage points from which most people living in, visiting or passing through the area would experience. Exposed views to the site are available to the public when the vantage point is along one of the adjacent ridge lines or the viewing deck in the Kgaswane Nature Reserve. Only the top section of the building at expansion area B would however be visible (refer to Figure 13). Also, these areas will only be frequented by people hiking in the Magaliesberg, and relative to the number of people visiting, living in or passing through the study area, the numbers would most likely be low.

The simulation in Figure 12 (View 5) illustrates that due to the 'open' arrangement of the lodge buildings and the proposed three new buildings, the fact that they are 'nestled' into the landscape and that most vegetation between the structures has been retained, would result in the proposed new buildings being 'absorbed' and screened by the surrounding vegetation. Using the criteria in Appendix B, Table 2 summarizes the potential visual intrusion and magnitude of impact the project.

Table 2: Visual Intrusion

High	Moderate	Low **The expansion project**	Positive
If the project - Has a substantial negative effect on the visual quality (sense of place) of the landscape; - Contrasts with the patterns or elements that define the structure of the landscape; - Contrasts with land use, settlement or enclosure patterns when viewed from the east;	If the project - Has a moderate negative effect on the visual quality (sense of place) of the landscape; - Contrasts moderately with the (natural) patterns or elements that define the structure of the landscape; - Is partially compatible with land use, settlement or enclosure patterns of the	If the project - Has a minimal effect on the visual quality (sense of place) of the landscape; - Contrasts minimally with the patterns or cultural elements that define the structure of the landscape; - Is mostly compatible with land use, settlement or enclosure patterns;	If the project - Has a beneficial effect on the visual quality (sense of place) of the landscape; - Enhances the patterns or elements that define the structure of the landscape; - Is compatible with land use, settlement or enclosure patterns.

Magnitude of impact Notable change in landscape characteristics over an extensive area and/or intensive change over a localized area resulting in major changes in key views.	general area); Magnitude of impact Moderate change in landscape characteristics over localized area resulting in a moderate change to key views.	**Magnitude of impact** **Small change resulting in a minor change to key views.**	Magnitude of impact Positive change in key views.

Using these criteria, the impact of the Kgaswane Country Lodge is predicted to be *negative low*[5] for the following reasons. The proposed project:

- Has a minor negative effect on the visual quality of the site's landscape and its immediate surrounds - *the study area visual resource is rated moderate. The surrounding hills and ridges that form a backdrop to the project site will mostly 'absorb' them into the landscape if the mitigating measures described in the section below are successfully implemented.*
- Is mostly compatible with land use, settlement or enclosure patterns – *Tourist activities exist in the study area. The proposed expansion project is not to be considered 'out of place' or would not dramatically affect the existing sense of place of the study area, which is currently characterized by tourist, residential and agricultural activities.*
- The negative change in key views is low – *Most foreground public views of the expansion project will be blocked by vegetation and ridge lines. Middle distant to distant views from residences to the east do not necessarily focus on the lodge site and if seen, it would be viewed within the context of a broader landscape panorama. The lodge is located against a natural backdrop and its features will therefore not break the horizon line. The result is that the new buildings will tend to be absorbed into the landscape setting.*

In summary, the lodge development will have a *low* impact on the sense of place of the site and its immediate environment and its impact on sensitive viewing areas within the study area will also be *low.*

[5] i.e. Minor (Slight) change, disturbance or nuisance. Associated with minor consequences or deterioration. Targets, limits and thresholds of concern rarely exceeded. Requires only minor interventions or clean-up actions. Sporadic complaints could be expected (SLR).

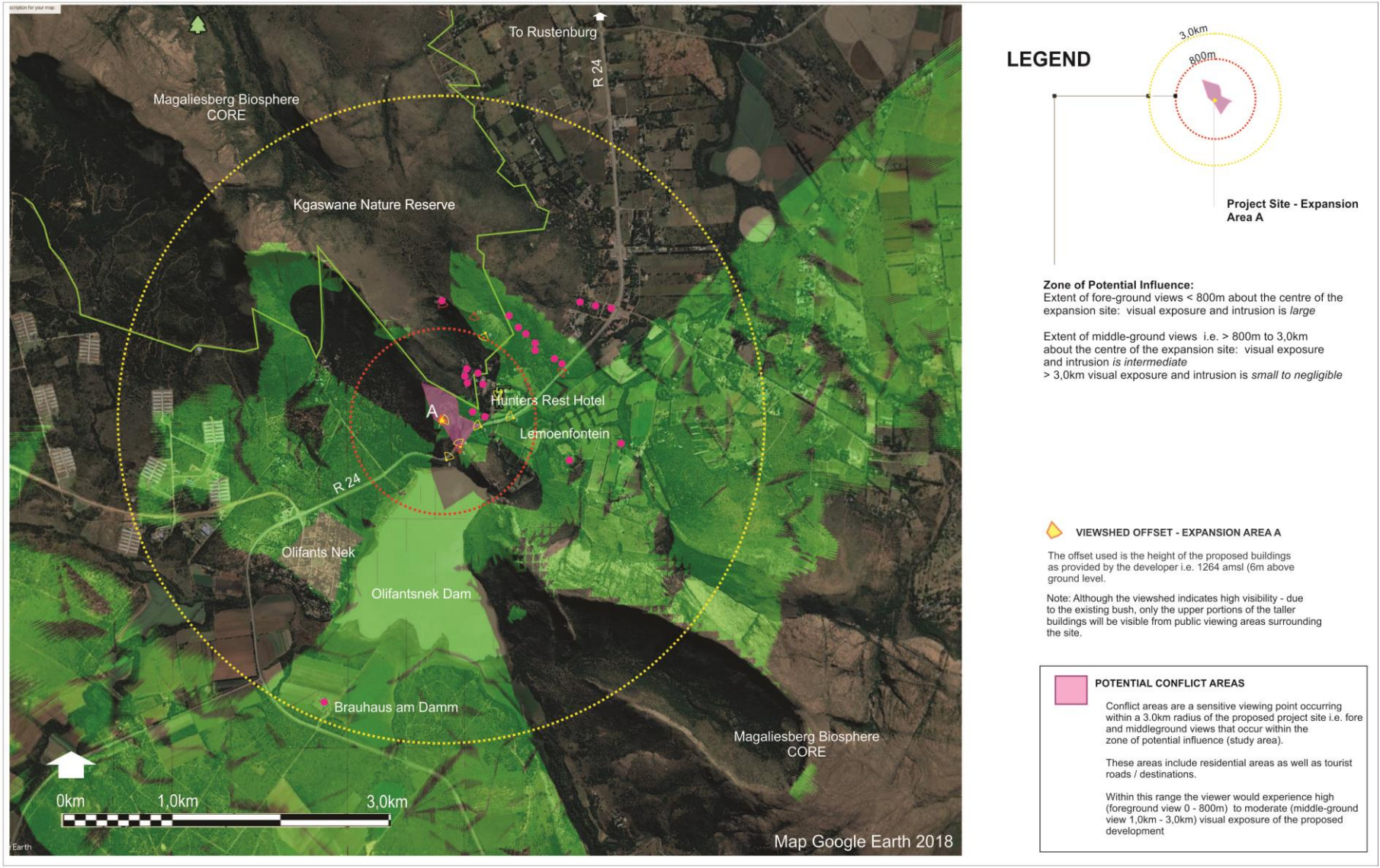

Figure 9: VIEWSHED **EXPANSION AREA A**

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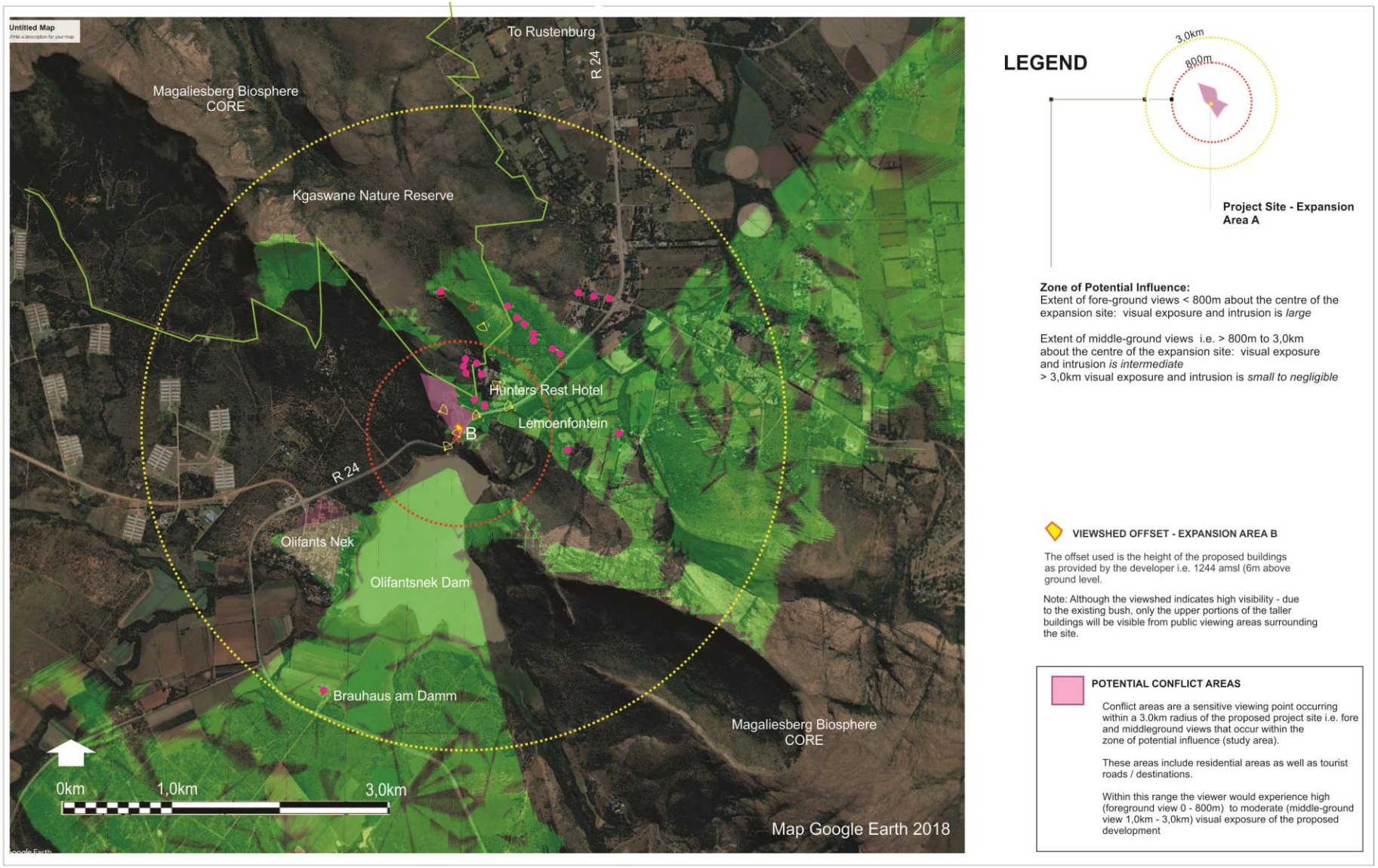

FIGURE 10: VIEWSHED **EXPANSION AREA B**

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Figure 11: SIMULATION_ View 1 from R24

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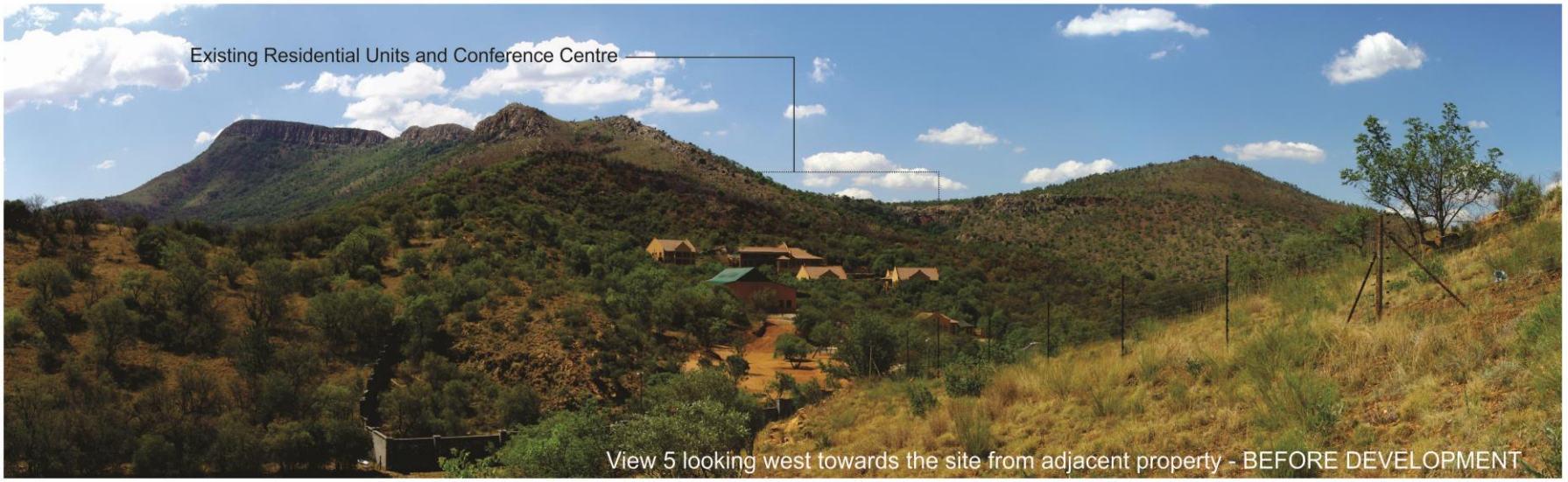

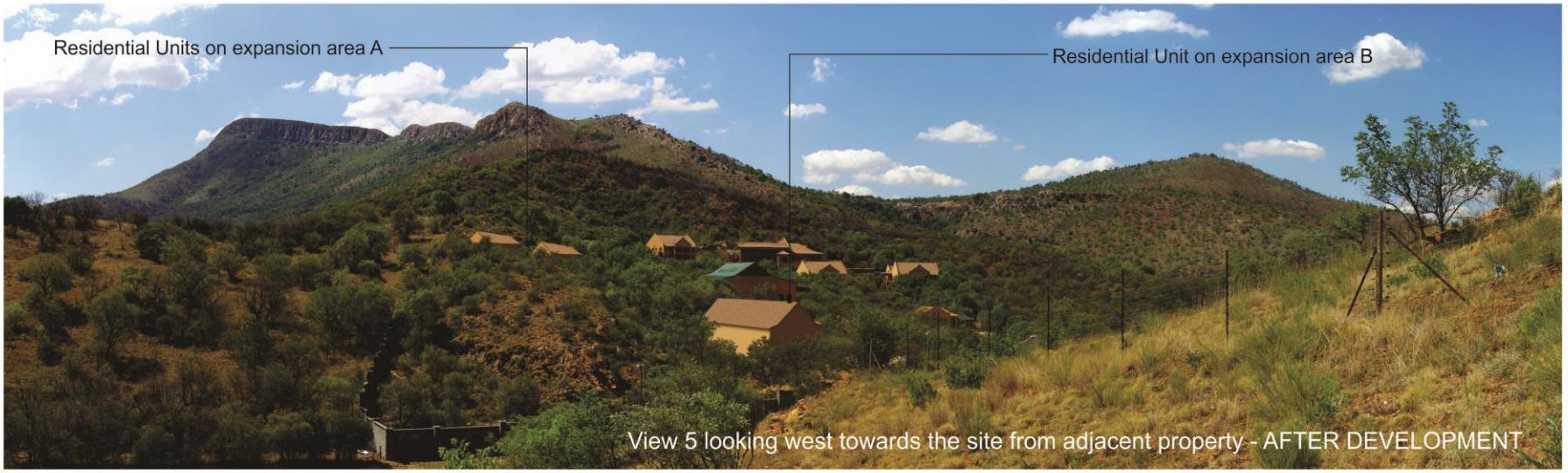

Figure 12: SIMULATION_ View 5 from adjacent property

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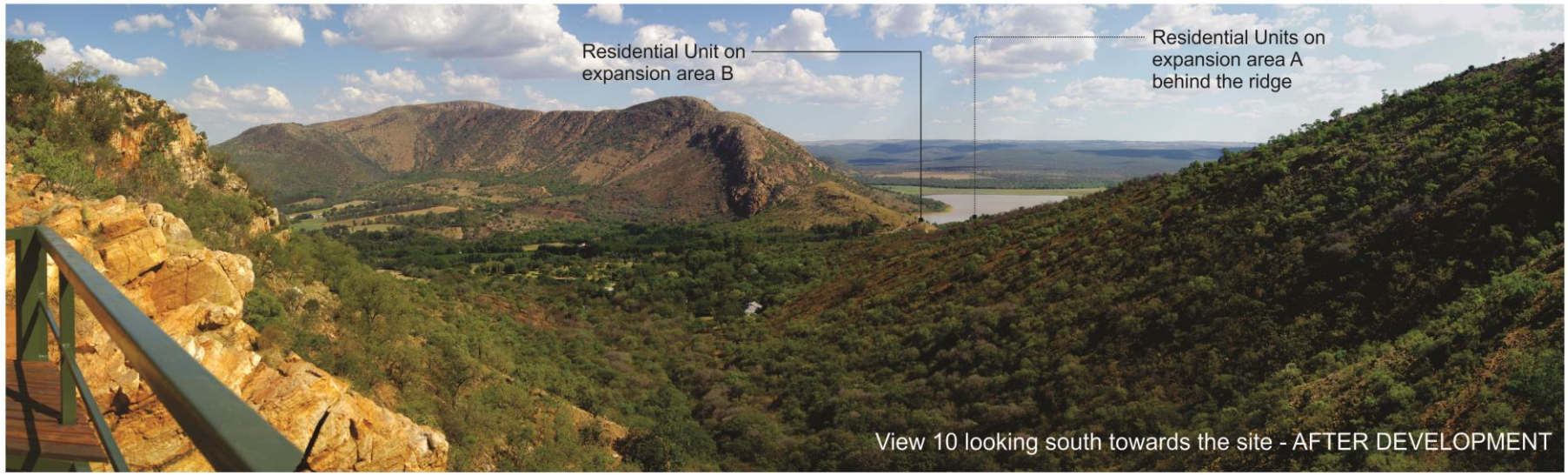

Figure 13: SIMULATION_ View 10 from Kgaswane Tourist View Site

Refer to Figure 3 for location of views: Photos taken 11 November 2018

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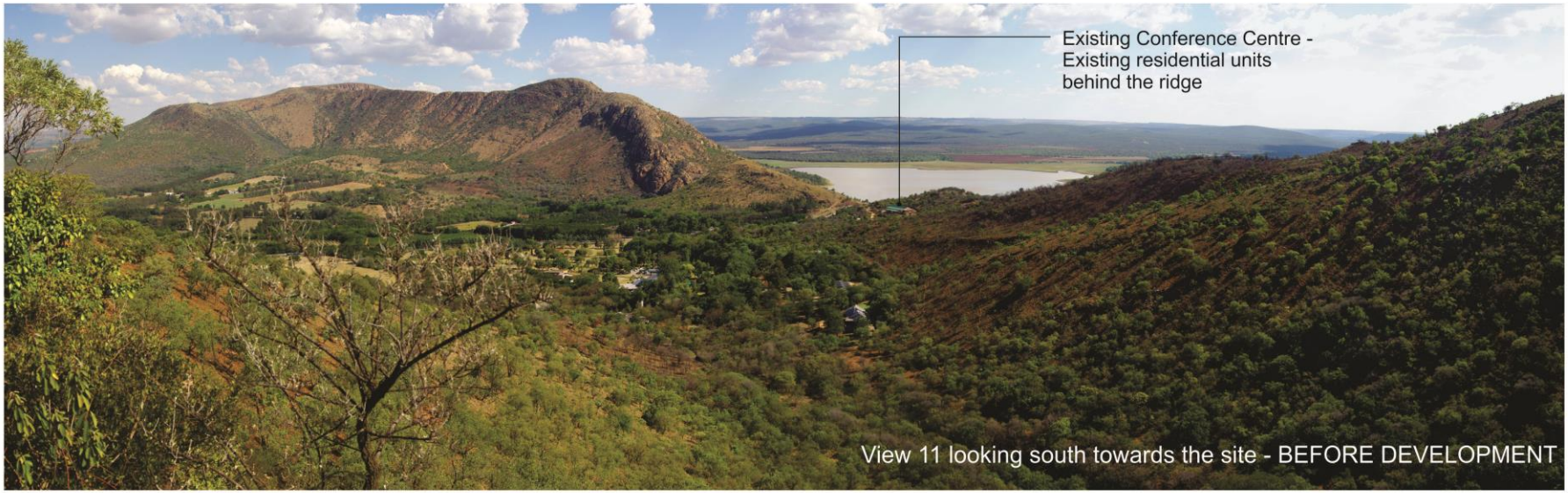

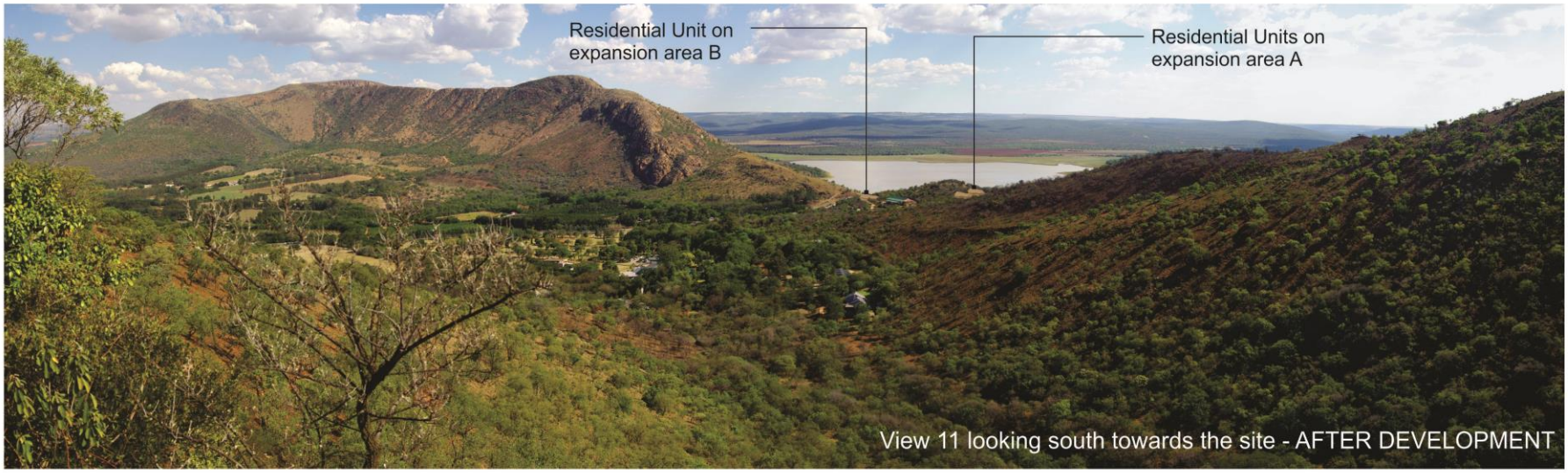

Figure 14: SIMULATION_ View 11 from Kgaswane Nature Reserve

Refer to Figure 3 for location of views: Photos taken 11 November 2018

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10. MANAGEMENT MEASURES

In considering mitigating measures three rules are considered: the measures should be feasible (economically); effective (how long will it take to implement and what provision is made for management / maintenance); and acceptable (within the framework of the existing landscape and land use policies for the area). To address these, the following principles have been established:

- Mitigation measures should be designed to suit the existing landscape character and needs of the locality. They should respect and build upon landscape distinctiveness.
- It should be recognized that many mitigation measures, especially the establishment of planted screens and rehabilitation, are not immediately effective.

General mitigation measures are proposed for the expansion project as well as mitigating the night-time impact of lights. The following general actions are recommended:

10.1 Planning and site development

- During construction activities, the minimum amount of existing vegetation and topsoil should be removed. Ensure, wherever possible, natural vegetation is retained and incorporated into the site rehabilitation. All top-soil that occurs within the proposed footprint of an activity must be removed and stockpiled for later use.
- Development is to be limited to the expansion areas set out in the BAR (HydroScience 2018).
- The residential units are to be limited to the authorised restriction of two storeys (HydroScience 2018).
- Buildings ground floor (entrance portal to building) to be at grade and note elevated above natural ground level i.e. cut into the slope.

10.2 Earthworks

- Earthworks should be executed in such a way that only the footprint and a small 'construction buffer zone' around the proposed activities is exposed. Building and parking platforms should be designed to follow the contours and not be perpendicular to them. In all other areas, the natural occurring vegetation, more importantly the indigenous vegetation should be retained, especially along the periphery of the site. Dust suppression techniques should always be in place during all phases of the project, where required.

10.3 Landscaping and ecological approach

- When new vegetation is introduced to the site, an ecological approach to rehabilitation and vegetative screening measures, as opposed to a horticultural approach to landscaping should be adopted. For example, communities of indigenous plants enhance biodiversity and blend well with existing Magaliesberg vegetation. This approach can significantly reduce long term costs as less maintenance would be required over conventional landscaping methods as well as the introduced landscape being more sustainable.

10.4 Structures and associated infrastructure

Paint structures with colours that reflect and compliment the natural colours of the surrounding landscape and mimic the colours of the existing residential units. To further reduce the potential of glare, the external surfaces of structures should be articulated or textured to create interplay of light and shade.

10.5 Lighting

Light pollution is largely the result of bad lighting design, which allows artificial light to shine outward and upward into the sky, where it's not wanted, instead of focusing the light downward, where it is needed. Ill designed lighting washes out the darkness of the night sky and radically alters the light levels in rural areas where light sources shine as 'beacons' against the dark sky and are generally not wanted.

Of all the pollutions faced, light pollution is perhaps the most easily remedied. Simple changes in lighting design and installation yield immediate changes in the amount of light spilled into the atmosphere. The following are measures that must be considered in the lighting design of the Project:

- Install light fixtures that provide precisely directed illumination to reduce light "spillage" beyond the immediate surrounds of the site.
- Avoid high pole top security lighting along the periphery of the site and use only lights that are activated on illegal entry to the site.
- Minimise the number of light fixtures to the bare minimum, including security lighting.
- Wherever possible, lights should always be directed downwards to avoid illuminating the sky.

These mitigation measures are particularly important as the site occurs within the Magaliesberg Biosphere Core.

10.6 Visual Impact Management Plan

To facilitate the implementation of mitigation measures a Visual Impact Management Plan should be developed. The plan would include a Landscape Development Plan, which identifies the location and nature of landscaping and tree planting schemes. These efforts should be concentrated in areas that would maximize the screening of the development from sensitive viewing areas during the operational phase. It is recommended that the plan be developed by a landscape architect registered with the South African Council for the Landscape Architectural Profession (SACLAP) and that this plan is implemented under the supervision of a registered landscape architect.

11. CONCLUSION

The existing visual condition of the landscape that may be affected by the proposed Project has been described. The study area's scenic quality has been rated *moderate to high* within the context of the sub-region and sensitive viewing areas have been mapped indicating potential sensitivity to the proposed development within a 3 km radius of the project site.

Impacts to views are the highest when viewers are identified as being sensitive to change in the landscape, and their views are focused on and dominated by the change. Visual impacts occur when changes in the landscape are noticeable to sensitive viewers looking at the landscape from their homes or from tourism / conservation areas, travel routes, and important cultural features and historic sites, especially in foreground views.

The intrusive nature of expansion project is also rated *low* as the project will be mostly screened and absorbed into the landscape scene by existing vegetation and topography from lower vantage points. The buildings (mostly the roofs) would be seen from sensitive viewpoints on the upper slopes of the Magaliesberg and the Kgaswane Nature Reserve, including the designated viewing deck with the reserve. However, the development would always appear in the same visual envelope as other developments and existing buildings on the site and would therefore not appear out of place or intrusive. Also, not many people would be visiting these areas.

It is predicted that *low* (i.e. a minor loss of or alteration to key elements / features / characteristics of the baseline) visual resource impacts would result from the construction, operation and maintenance of the proposed Project.

It is the opinion of the author that all aspects of the expansion project, from a potential visual impact perspective, should be approved provided that the mitigation / management measures described in this report are effectively implemented, managed and monitored in the long term and that engagement with the community during this process is continued.

****GYLA****

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In order to reach an understanding of the effect of development on a landscape resource, it is necessary to consider the different aspects of the landscape as follows:

Landscape Elements and Character

The individual elements that make up the landscape, including prominent or eye-catching features such as hills, valleys, savannah, trees, water bodies, buildings and roads are generally quantifiable and can be easily described.

Landscape character is therefore the description of pattern, resulting from combinations of natural (physical and biological) and cultural (land use) factors and how people perceive these. The visual dimension of the landscape reflects the way in which these factors create repetitive groupings and interact to create areas that have a specific visual identity. The process of landscape character assessment can increase appreciation of what makes the landscape distinctive and what is important about an area. The description of landscape character thus focuses on the *nature of the land*, rather than the response of a viewer.

Landscape Value – all encompassing (Aesthetic Value)

Aesthetic value is the emotional response derived from the experience of the environment with its 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).

Aesthetic appeal (value) is considered high when the following are present (Ramsay 1993):

- *Abstract qualities*: such as the presence of vivid, distinguished, uncommon or rare features or abstract attributes;
- *Evocative responses*: the ability of the landscape to evoke particularly strong responses in community members or visitors;
- *Meanings*: the existence of a long-standing special meaning to a group of people or the ability of the landscape to convey special meanings to viewers in general;
- *Landmark quality*: a feature that stands out and is recognised by the broader community.

Sense of Place

Central to the concept of a sense of place is that the place requires uniqueness and distinctiveness. The primary informant of these qualities is the spatial form and character of the natural landscape together with the cultural transformations and traditions associated with historic use and habitation. 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, or unique, or at least particular, character of its own". Sense of place is the unique value that is allocated to a specific place or area through the cognitive experience of the user or

viewer. In some cases these values allocated to the place are similar for a wide spectrum of users or viewers, giving the place a universally recognized and therefore, strong sense of place.

Scenic Quality

Assigning values to visual resources is a subjective process. The phrase, “beauty is in the eye of the beholder,” is often quoted to emphasize the subjectivity in determining scenic values. Yet, researchers have found consistent levels of agreement among individuals asked to evaluate visual quality.

Studies for perceptual psychology have shown human preference for landscapes with a higher visual complexity particularly in scenes with water, over homogeneous areas. Since 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).

Scenic Quality - Explanation of Rating Criteria:

(After The Visual Resource Management System, Department of the Interior of the USA Government, Bureau of Land Management)

Landform: Topography becomes more interesting as it gets steeper or more massive, or more severely or universally sculptured. Outstanding landforms may be monumental, as the Fish River or Blyde River Canyon, the Drakensberg or other mountain ranges, or they may be exceedingly artistic and subtle as certain pinnacles, arches, and other extraordinary formations.

Vegetation: (Plant communities) Give primary consideration to the variety of patterns, forms, and textures created by plant life. Consider short-lived displays when they are known to be recurring or spectacular (wildflower displays in the Karoo regions). Consider also smaller scale vegetational features, which add striking and intriguing detail elements to the landscape (e.g., gnarled or wind beaten trees, and baobab trees).

Water: That ingredient which adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration in selecting the rating score.

Colour: Consider the overall colour(s) of the basic components of the landscape (e.g., soil, rock, vegetation, etc.) as they appear during seasons or periods of high use. Key factors to use when rating "colour" are variety, contrast, and harmony.

Adjacent Scenery: Degree to which scenery outside the scenery unit being rated enhances the overall impression of the scenery within the rating unit. The distance which adjacent scenery will influence scenery

within the rating unit will normally range from 0-8 kilometres, depending upon the characteristics of the topography, the vegetative cover, and other such factors. This factor is generally applied to units which would normally rate very low in score, but the influence of the adjacent unit would enhance the visual quality and raise the score.

Scarcity: This factor provides an opportunity to give added importance to one or all of the scenic features that appear to be relatively unique or rare within one physiographic region. There may also be cases where a separate evaluation of each of the key factors does not give a true picture of the overall scenic quality of an area. Often it is several not so spectacular elements in the proper combination that produces the most pleasing and memorable scenery - the scarcity factor can be used to recognize this type of area and give it the added emphasis it needs.

Cultural Modifications: Cultural modifications in the landform / water, vegetation, and addition of structures should be considered and may detract from the scenery in the form of a negative intrusion or complement or improve the scenic quality of a unit.

Scenic Quality Inventory and Evaluation Chart

(After The Visual Resource Management System, Department of the Interior of the USA Government, Bureau of Land Management)

Key factors	Rating Criteria and Score		
Landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops, or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. **5**	Steep canyons, mesas, buttes, cinder cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. **3**	Low rolling hills, foothills, or flat valley bottoms; or few or no interesting landscape features. **1**
Vegetation and landcover	A variety of vegetative types as expressed in interesting forms, textures, and patterns. **5**	Some variety of vegetation, but only one or two major types. **3**	Little or no variety or contrast in vegetation. **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.

	5	**3**	**0**
Colour	Rich colour combinations, variety or vivid colour; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. **5**	Some intensity or variety in colours and contrast of the soil, rock and vegetation, but not a dominant scenic element. **3**	Subtle colour variations, contrast, or interest; generally mute tones. **1**
Influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. **5**	Adjacent scenery moderately enhances overall visual quality. **3**	Adjacent scenery has little or no influence on overall visual quality. **0**
Scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. National and provincial parks and conservation areas *** 5+**	Distinctive, though somewhat similar to others within the region. **3**	Interesting within its setting, but fairly common within the region. **1**
Cultural modifications	Modifications add favourably to visual variety while promoting visual harmony. **2**	Modifications add little or no visual variety to the area, and introduce no discordant elements. **0**	Modifications add variety but are very discordant and promote strong disharmony. **4**

Scenic Quality (i.e. value of the visual resource)

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 scenically beautiful but where 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.

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:

Value of Visual Resource – expressed as Scenic Quality
(After The Landscape Institute with the Institute of Environmental Management and Assessment (2002))

High	Moderate	Low
Areas that exhibit a very positive character with valued features that combine to give the experience of unity, richness and harmony. These are landscapes that may be considered to be of particular importance to conserve and which may be sensitive change in general and which may be detrimental if change is inappropriately dealt with.	Areas that exhibit positive character but which may have evidence of alteration to /degradation/erosion of features resulting in areas of more mixed character. 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.	Areas generally negative in character with few, if any, valued features. Scope for positive enhancement frequently occurs.

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Visual Impact Assessments

Graham is a registered landscape architect with interest and experience in landscape architecture, urban design and environmental planning. He holds a degree in landscape architecture from the University of Toronto and has practiced in Canada and Africa, where he has spent most of his working life. He has served as President of the Institute of Landscape Architects of South Africa (ILASA) and as Vice President of the Board of Control for Landscape Architects.

During his 35 years plus career he has received numerous ILASA and other industry awards. He has published widely on landscape architectural issues and has had projects published both locally and internationally in, scientific and design journals and books. He was a being a founding member of Newtown Landscape Architects and is also a senior lecturer, teaching landscape architecture and urban design at post and under graduate levels, at the University of Pretoria. He has been a visiting studio critic at the University of Witwatersrand and University of Cape Town and in 2011 was invited to the University of Rhode Island, USA as their Distinguished International Scholar for that year. Recently, Graham resigned from NLA and now practices as a Sole Proprietor.

A niche specialty of his is Visual Impact Assessment for which he was cited with an ILASA Merit Award in 1999. He has completed over 250 specialist reports for projects in South Africa, Canada and other African countries. He was on the panel that developed the *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes* (2005) and produced a research document for Eskom, *The Visual Impacts of Power Lines* (2009). In 2011, he produced '*Guidelines for involving visual and aesthetic specialists'* for the Aapravasi Ghat Trust Fund Technical Committee (they manage a World Heritage Site) along with the *Visual Impact Assessment Training Module Guideline Document.*

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