

Proposed Eskom Ingula Bridge Project



Visual Assessment

**Proposed Eskom Ingula Bridge Project,
Ladysmith
Kwazulu-Natal Province**

**Specialist Study Report
Visual Assessment,
Professional Opinion**

Submitted to:
Zitholele Consulting (Pty) Ltd
Thandanani Park,
Matuka Close
Halfway Gardens
Midrand
Tel (011) 254 4855
aodendaal@zitholele.co.za



Prepared by:
Newtown Landscape Architects
PO Box 36
Fourways
2055

NLA Project No: 947/E08P
Report Revision No: Draft 1
Date Issued: 6 August 2008
Prepared By: Yonanda Martin
Reviewed By: Liana Muller
Reference: Ingula Bridge VIA

TABLE OF CONTENT

1. INTRODUCTION	1
1.1 Project Overview	1
1.2 Project Location	1
1.3 Terms of Reference	1
2 AIM OF THE SCOPING STUDY	1
3 APPROACH AND METHODOLOGY	2
3.1 Approach	2
3.2 Methodology	2
4 DESCRIPTION OF THE PROJECT	3
4.1 Proposed Project	3
5 THE ENVIRONMENTAL SETTING	4
5.1 Land use	4
5.2 Landscape character	4
5.3 Visual resource	5
5.4 Views	6
5.4.1 Sensitive visual receptors	6
5.4.2 Non sensitive visual receptors	6
6 VISUAL ISSUES	8
7 REFERENCES	9
8 APPENDIX A	10
9 APPENDIX B	12

LIST OF FIGURES

Figure 1	Locality
Figure 2	Land Types
Figure 3	Bridge Layout
Figure 4	Bridge Layout
Figure 5	Landscape Character – Views A & B
Figure 6	Landscape Character – Views C & D
Figure 7	Landscape Character – Views E
Figure 8	Landscape Character – Views 1 & 2
Figure 9	Landscape Character – Views 3 & 4
Figure 10	Landscape Character – Views 5

LIST OF TABLES

TABLE 1	Visual Resource Rating
TABLE 2	Sensitivity of Visual Receptors

GLOSSARY OF TERMS

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.

Sense of Place

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.

Aesthetic value

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

Visibility

The area/points from which project components will be visible.

Sensitive receptors

Sensitivity of visual receptors (viewers) to the proposed development.

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 (Institute of Environmental Assessment & The landscape Institute 1996).

1. INTRODUCTION

1.1 Project Overview

Eskom is currently in the process of constructing the Ingula Pumped-Storage Scheme (PSS). The Ingula PSS comprises of two reservoirs (upper and lower reservoirs), underground powerhouse complex, and waterway tunnels linking the reservoirs with the powerhouse complex, access roads and transmission lines.

Approximately 2 km downstream of the lower reservoir is a low water bridge, which cross the Braamhoekspruit. The low water bridge gets flooded when there are heavy rains due to its technical design and specification. To mitigate a possible extended period of overtopping, Eskom is planning to construct a normal bridge with adequate openings to accommodate large flows without overtopping.

As part of the Basic Assessment Process for the Eskom Ingula Bridge Project, Newtown Landscape Architects (NLA) was commissioned by Zitholele (Pty) Ltd to give a professional opinion on the visual impact of the proposed Eskom Ingula Bridge Project.

1.2 Project Location

The proposed site for the Ingula Bridge is approximately 2 km downstream of the Ingula PPS lower reservoir. The site is located approximately 13km northwest of Bester, 25km east of Van Reenen and 35km southeast of Ladysmith, Emnambithi/ Ladysmith Municipality, KwaZulu -Natal Province. Refer to Figure 1: Locality.

1.3 Terms of Reference

- Conduct a field survey to study the area to the extent that a professional opinion can be given of the potential impact on the visual environment and the sense of place of the proposed mine;
- Describe the visual resource (i.e. receiving environment);
- Describe and map the landscape character of the study area. The description of the landscape will focus on the nature and character of the landscape rather than the response of a viewer.
- Based on the baseline survey as described above, visual issues should be identified to be addressed in the impact assessment phase.

2 AIM OF THE SCOPING STUDY

The aims of the scoping study are to determine the aesthetic value of the visual resource (receiving environment) and to identify issues that need to be addressed in the impact assessment phase.

3 APPROACH AND METHODOLOGY

3.1 Approach

To evaluate the impact of the Ingula Bridge on the landscape the scenic quality (visual resource) first needs to be determined. Data collected during a site visit allowed for a comprehensive description and valuation of the receiving environment and also for issues to be identified that must be addressed in the impact assessment phase. Please see Appendix A for a detailed description of the approach and methodology.

3.2 Methodology

The following method was used for the scoping phase of the project.

- **Site visit** - a field survey was undertaken and the study area scrutinized to the extent that the receiving environment could be documented and adequately described;
- **General landscape characterization** - landscape character types were mapped using field survey and physiographic data (from 1:50 000 maps). The description of the landscape focused on the nature of the land rather than the response of a viewer;
- **Scenic quality** - using the landscape character types, sense of place and studies for perceptual psychology, the aesthetic value of study area (scenic quality) was determined.
- **Project components** - the physical characteristics of the project components were described and illustrated.
- **Visual issues** - based on the work as described above visual issues were identified that should be addressed in the impact assessment phase.

4 DESCRIPTION OF THE PROJECT

4.1 Proposed Project

Eskom is in the process of constructing the Ingula Pumped-Storage Scheme (PSS). The Ingula PSS comprises of two reservoirs (upper and lower reservoirs), underground powerhouse complex, and waterway tunnels linking the reservoirs with the powerhouse complex, access roads and transmission lines. The lower reservoir is located on the Braamhoekspruit.

A gravel road crosses the Braamhoekspruit via a low water bridge, located approximately 2 km downstream of the lower reservoir. The gravel road is used frequently by the local communities, farmers and other road users. The low water bridge gets flooded when there are heavy rains due to its technical design and specification. Although the magnitude of flood peaks downstream of the lower reservoir will be reduced, the duration of these reduced peaks will be over a longer period due to the attenuation effect and release system of the reservoir. This could result in longer duration of overtopping of the low water bridge than is experienced without the lower reservoir. To mitigate this extended period of overtopping, Eskom is planning to construct a normal bridge with adequate opening to accommodate large flows without overtopping. Refer to Figure 3 & 4: Bridge Layout.

The project entails construction of a normal bridge structure across the Braamhoekspruit, to replace the current low water bridge, on a gravel road, at a distance of approximately 2 km downstream of the proposed lower reservoir. The road level will be raised at the point of crossing as the bridge will be higher than the current low water bridge.

5 THE ENVIRONMENTAL SETTING

5.1 Land use

The proposed site is located in an undeveloped area, which is characterised by outstretched grasslands, rivers/ streams, local farm roads and small rural homesteads scattered throughout the grasslands (refer to Figure 6 View C and Figure 7 View E). The area is mainly used for grazing; there are a few pieces of land that is used for planting of maize, but seems to be unsuccessful in the area.

The Ingula Pumped-Storage Scheme (PSS) of Eskom is located approximately 2km upstream of the proposed site for the Ingula Bridge.

Access to the proposed site is provided by local (mine & village) roads (D474), which in return is connected to the R103/ N3.

5.2 Landscape character

Landscape character types are landscape units derived from the regional physiographic and cultural data on 1:50 000 maps and information gathered on the site visit. Dominant landform/land use features (e.g., hills, rolling plains, valleys and urban areas) of similar physiographic and visual characteristics typically define landscape character types.

The general area in the vicinity of the proposed bridge is characterized by a hilly and rolling topography with expansive grassland and surrounding hills. The bridge passes over the Braamhoekspruit, which joins the Klip River to the south of the proposed site. Figure 1 illustrates the general lay of the land and the locations of the photographs within the report. The panoramas in Figure 5-10 illustrate the nature of the landscape.

According to Mucina & Rutherford (2006) the vegetation of the area can be classified as Northern KwaZulu Natal Moist Grassland, which is characterised by a rolling landscape supporting tall tussock grassland usually dominated by *Themeda triandra* and *Hyparrhenia hirta*. Open *Acacia sieberiana* var. *woodii sananoid* encroach up the valleys on disturbed sites.

5.3 Visual resource

Landscapes with greater diversity or containing "distinctive" features are classified as having a higher scenic value than landscapes with low diversity, few distinctive features, or more "common" elements. Generally, the greater the diversity of form, line, texture, and colour in a landscape unit or area, the greater the potential for high scenic value. Scenic quality classifications are:

- High - distinctive landscape and strong sense of place
- Moderate - common landscape
- Low - minimal landscape and weak sense of place

The landscape as described in Section 5.2 can be divided into four basic landscape character types each with its own set of physical, visual and aesthetic characteristics.

Scenic quality ratings (using the scenic quality rating criteria described in Appendix A) were assigned to each of the landscape units defined in Figures 2. The highest value is assigned to the mountains and hills, followed by rivers and streams and then the expansive grassland. The fourth landscape unit are the manmade structures which include the local farm roads, the small rural homesteads and the cultivated lands. The scenic quality of the area remains *high* even though there are homesteads scattered throughout the area. The homesteads are characteristic of the landscape and blends into the surrounding natural environment.

Based on the discussion in this section, the specialist experience of the author and the criteria in Appendix A, scenic quality values for the various landscape types are rated in Table 1 below.

Table 1: Value of the Visual Resource - Scenic Quality

High Mountains and Hills, Rivers and Streams Grassland	Moderate	Low
<p>This landscape type is considered to have a <i>high</i> value because it is a:</p> <p>Distinct landscape 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 considered to be of particular importance to conserve and which has a strong sense of place. It may be sensitive to change in general and may be detrimentally affected if change is inappropriately dealt with.</p>	<p>This landscape type is considered to have a <i>moderate</i> value because it is a:</p> <p>Common landscape that exhibits some positive character but which has evidence of alteration /degradation/erosion of features resulting in areas of more mixed character. It is potentially sensitive to change in general and change may be detrimental if inappropriately dealt with but change may not require special or particular attention to detail.</p>	<p>This landscape type is considered to have a <i>low</i> value because it is a:</p> <p>Minimal landscape generally negative in character with few, if any, valued features. Scope for positive enhancement could occur.</p>

5.4 Views

The rolling topography and the long grasses aid in the visual absorption of the existing bridge. The future bridge will basically consist of culverts, refer to Figure 3 & 4: Bridge Layout, and will have minimal above ground structures. The new bridge will therefore also be easily absorbed by the surrounding environment.

5.4.1 Sensitive visual receptors

When visual intrusion, visibility and visual exposure are incorporated, and qualified by sensitivity criteria (visual receptors) the magnitude of the impact of the development can be determined.

The sensitivity of visual receptors and views will be depended on:

- The location and context of the viewpoint;
- The expectations and occupation or activity of the receptor;
- 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).

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 the 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 travelling through or past the affected landscape in cars, on trains or other transport routes;
- People at their place of work.

The only sensitive viewing locations will include rural homesteads which is located directly next to the proposed Ingula Bridge and to the northeast of the proposed bridge. Refer to Figure 5, View A & B.

5.4.2 Non sensitive visual receptors

The local roads are considered to be non sensitive viewer areas, as people driving along these roads are exposed to the bridge for a short period of time. Refer to Figure 8, 9 & 10.

Table 2: Sensitivity of Visual Receptors

High	Moderate	Low
<p>Users of all outdoor recreational facilities including public rights of way (tourist routes), whose intention or interest may be focused on the landscape;</p> <p>Communities where the development results in changes in the landscape setting or valued views enjoyed by the community;</p> <p>Occupiers of residential properties with views affected by the development.</p>	<p>People engaged in outdoor sport or recreation (other than appreciation of the landscape, as in landscapes of acknowledged importance or value);</p> <p>People travelling through or past the affected landscape in cars, on trains or other transport routes;</p>	<p>The least sensitive receptors are likely to be people at their place of work, or engaged in similar activities, whose attention may be focused on their work or activity and who therefore may be potentially less susceptible to changes in the view (i.e. office and industrial areas).</p> <p>Roads going through urban and industrial areas</p>

6 VISUAL ISSUES

To evaluate the impacts of the proposed Ingula Bridge, it is assumed that the landscape has inherent scenic value. The existing visual condition of the landscape that would be affected by the proposed Ingula Bridge was described. Its scenic quality has been rated and highly sensitive viewing areas identified. The next phase is to assess the impacts on the visual resource.

Visual resource impacts would result from the construction of the proposed bridge, due to the removal of vegetation and dust creation. Specifically, impacts would usually result from the proposed bridge being seen from sensitive viewpoints and from effects to the scenic values of the landscape. In the case of the proposed Ingula Bridge it is the opinion of the author that the new bridge will have a minimal visual impact. The new Ingula Bridge will basically consist of culverts and will have minimal structures that will be visible above the road. It should also be kept in mind that the site falls within a rolling topography and the bridge will only be visible when you are approaching the proposed site. The only sensitive viewers will be the adjacent homesteads.

NLA

7 REFERENCES

Australian Heritage Commission (1999), *Protecting Local Heritage Places*, Australian Heritage Commission, Canberra.

Crawford, D., (1994), Using remotely sensed data in landscape visual quality assessment, *Landscape and Urban Planning*. 30: 71-81.

Hull, R.B. and Bishop, I.E. (1988), Scenic Impacts of Electricity Transmission Line: The Influence of Landscape Type and Observer Distance. *Journal of Environmental Management*. 1988 (27) 99-108.

The Landscape Institute with the Institute of Environmental Management and Assessment (2002), *Guidelines for Landscape and Visual Impact Assessment Second Edition*, Spon Press, London

Institute of Environmental Assessment & The landscape Institute (1996), *Guidelines for Landscape and Visual Impact Assessment*, E & FN Spon, London

Ittelson, W.H., Proshansky, H.M., Rivlin, L.g. and Winkel, G.H. (1974). *An Introduction to Environmental Psychology*. Holt, Rinehart and Winston, New York.

Lange, E. (1994), Integration of computerized visual simulation and visual assessment in environmental planning. *Landscape and Environmental Planning*. 30: p 99-112.

Low, A.B. and Rebelo, A.G. (1996). Vegetation of South Africa, Lesotho and Swaziland. Department of Environmental Affairs and Tourism, Pretoria. p85.

Lynch, K. (1992). *Good City Form*, The MIT Press, London. p131

Ramsay, J. (October 1993). Identification and assessment of aesthetic values in two Victorian forest regions. *More than meets the eye: identifying and assessing aesthetic value*. Report of the Aesthetic Value Workshop held at the University of Melbourne.

Schapper, J. (October 1993). The importance of aesthetic value in the assessment of landscape heritage. *More than meets the eye: identifying and assessing aesthetic value*. Report of the Aesthetic Value Workshop held at the University of Melbourne.

The Bureau Of Land Management (BLM), *The Visual Resource Management System*, Department Of The Interior of the USA Government.

Warnock, S. & Brown, N., Putting Landscape First. *Landscape Design*. No. 268 March 1998. p 44-46.

8 Appendix A:

Determining the Value of a Visual Resource

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, woods, trees, water bodies, buildings and roads. They are generally quantifiable and can be easily described.

Landscape character is the description of pattern, resulting from particular combinations of natural (physical and biological) and cultural (land use) factors and how people perceive these. The visual dimension of the landscape is a reflection of 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 Quality and Aesthetic Value

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

Aesthetic value is the emotional response derived from the experience of the environment with 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). Refer also to Appendix A for further elaboration.

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 particular group of people or the ability of the landscape to convey special meanings to viewers in general;
- *Landmark quality*: a particular 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 of Visual Resource

In determining the scenic 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 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

After The Landscape Institute with the Institute of Environmental Management and Assessment (2002)

High (Distinct)	Moderate (Common)	Low (Minimal)
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.

9 Appendix B:
Curriculum Vitae of Authors



Since 1994

Graham Young PrLArch

PO Box 36, Fourways, 2055

Tel: 27 11 462 6967

Fax: 27 11 462-9284

www.newla.co.za graham@newla.co.za

Graham is a landscape architect with twenty-nine years experience. He has worked in South 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. He also specializes in Visual Impact Assessments.

- EXPERIENCE:** **NEWTOWN LANDSCAPE ARCHITECTS cc. *Member***
Current Responsible for project management, landscape design, urban design, and visual impact assessment.
Senior Lecturer. Department of Architecture, University of Pretoria.
- 1991 - 1994 **GRAHAM A YOUNG LANDSCAPE ARCHITECT - *Sole proprietor***
1988 - 1989 Designed major transit and CBD based urban design schemes; designed commercial and recreational landscapes and a regional urban park; participated in inter-disciplinary consulting teams that produced master plans for various beachfront areas in KwaZulu Natal and a mountain resort in the Drakensberg.
- 1989 - 1991 **CANADA - *Free Lance***
Designed golf courses and carried out golf course feasibility studies (Robert Heaslip and Associates); developed landscape site plans and an end-use plan for an abandoned mine (du Toit, Allsopp and Hillier); conducted a visual analysis of a proposed landfill site. .
- 1980 - 1988 **KDM (FORMERLY DAMES AND MOORE) - *Started as a Senior Landscape Architect and was appointed Partner in charge of Landscape Architecture and Environmental Planning in 1984.*** Designed commercial, corporate and urban landscapes; completed landscape site plans; developed end-use master plans for urban parks, college and technikon sites; carried out ecological planning studies for factories, motorways and a railway line.
- 1978 - 1980 **DAYSON & DE VILLIERS - *Staff Landscape Architect***
Designed various caravan parks; designed a recreation complex for a public resort; conducted a visual analysis for the recreation planning of Pilgrims Rest; and designed and supervised the installation of various private gardens.

AWARDS:

Proposed Eskom Ingula Bridge Project

13

Visual Impact Assessment – Professional Opinion Draft 0

Newtown Landscape Architects cc

July 2008

Institute of Landscape Architects Merit Awards:

Isivivane, Freedom Park: Presidential Award of Excellence Design (2005)
Information Kiosk, Freedom Park: Merit Award for Design (2005)
Moroka Park Precinct, Soweto: Merit Award for Design (2005)
Moroka – Mofola Open Space Framework, Soweto: Merit Award for Planning (2005)
Mpumalanga Provincial Government Complex: Presidential Award of Excellence (with KWP Landscape Architects for Design (2003)
Specialist Impact Report: Visual Environment, Sibaya Resort and Entertainment World: Merit Award for Environmental Planning (1999);
Gillooly's Farm, Bedfordview (with Dayson and DeVilliers): Merit Award for Design;

COMPETITIONS:

Landscape Architecture Consultant on Project Phoenix Architectural Competition, Pretoria (1999): Winner;
Mpumalanga Legislature Buildings (1998): Commissioned;
Toyota Fountain (1985): First Prize - commissioned;
Bedfordview Bike/Walkway System - Van Buuren Road (1982): First Prize - commissioned;
Portland Cement Institute Display Park (1982): Second Prize

PROFESSIONAL:

Registered Landscape Architect – South African Council for Landscape Architectural Profession (2001);
Board of Control for Landscape Architects of South Africa (1987) – Vice Chairman 1988 to 1989;
Professional Member - Institute of Landscape Architects Southern Africa (1982) – President 1986 - 1988;
Member Planning Professions Board 1987 to 1989;
Member International Association of Impact Assessment;

EDUCATION:

Bachelor of Landscape Architecture, 1978, (BLArch), University of Toronto, Canada;
Completing a master's degree in Landscape Architecture, University of Pretoria;
Thesis: Visual Impact Assessment;
Senior Lecturer - Department of Architecture, University of Pretoria.



Since 1994

Liana Müller PrLArch

PO Box 36, Fourways, 2055
Tel: 27 11 462 6967
Cell: 082 776 4645
Fax: 27 11 462-9284
www.newla.co.za mulliana@gmail.com

Liana is a landscape architect with seven years experience. She has mainly worked in South Africa and has valuable expertise in the practice of landscape architecture, cultural and historic landscapes and environmental planning. She currently specializes in Visual Impact Assessments.

She is also a lecture at the University of Pretoria, teaching Design and History of the Environment at first and second year level.

EXPERIENCE:

Present:

2004 – 2008

Consultant: NEWTOWN LANDSCAPE ARCHITECTS cc.

Visual Impact Assessments for a number of developments, including:

- § Power Infrastructure - Power lines, Power Stations and Sub stations within the North West, Limpopo and Free State Provinces.
- § Mining - Platinum, Coal, Chrome & Gold Mines with related Infrastructure within Gauteng, Mpumalanga and North West Provinces.
- § Housing Developments - Township, Cluster and apartments in Gauteng and Kwa-Zulu Natal
- § Infrastructural developments - Sport stadiums, Department of Foreign Affairs Headquarters

Developed a Conservation Management Plan for the Union Buildings Estate. Responsible for Heritage Audit of the Estate, including research into history and layout of the gardens. Included a Heritage Management Plan for the Estate.

2008

Lecturer: UNIVERSITY OF PRETORIA

First Year Design
History of the Environment 224 & 120
Fourth Year Landscape Elective Design

2005 – 2007

Part-Time Lecturer: UNIVERSITY OF PRETORIA

First Year Design
History of the Environment 120, 224 & 210
Act as external examiner during final year design examinations
Act as external examiner for History of the Environment 120

2004 – 2007

Consultant: CULTMATRIX cc.

Responsible for the archival research and database development of all buildings, design and movables contained within significant historical governmental residences and estates.

- 2004 – 2006 *Consultant: ECOCONSULT cc.*
 Assist in developing Rehabilitation and Management Plans for granite quarries north of Pretoria and Sekukuneland. Extensive archaeological sites were found on sites and had to be incorporated in end use plans.
 Visual Impact Assessments for Townships and Tourist Developments.
- 2002 – 2005 *Consultant: STRATEGIC ENVIRONMENTAL FOCUS cc.*
 Responsible for Phase 3b of the North West Biodiversity Site Inventory and Database Development. This included the research and assessment of all socially important Floral and Faunal Species in the North West Province.
 Various heritage studies and assessments, including sites in Soweto, Groot Marico and around Tshwane.
 Visual Impact Assessments for Residential Estates, Outdoor Signage, Road Network upgrade around Menlyn Shopping Centre & N1 Highway upgrade.
 Production of landscape designs for various projects, most notably Blue IQ developments such as the Automotive Supplier Park. This also included all construction documentation and site supervision.
- 2000 – 2002 *Consultant: ENVIRONMENTAL POTENTIAL ATLAS OF SOUTH AFRICA*
 Responsible for researching Cultural and Historical Heritage Sites in Pondoland in the Eastern Cape. This comprised of desktop surveys of existing information and intensive fieldwork for capturing sites according to Section 3 of the National Heritage Resources Act No. 25 of 1999. The information was then captured in the ENPAT GIS Database.
 Produced promotional posters promoting the Cultural Heritage Databases of Enpat.
- 1999 – 2002 *Landscape Assistant: ATLAND LANDSCAPE ARCHITECTS*
 Responsible for cultural and historical research on a number of projects, the most prominent the development of the Gongola Conservancy in the Natal Midlands.
 Master plan and Sketch plan designs for the Gongola Conservancy. Tasks included the conceptual and detail development of different themed camps within the conservancy, drawing from the heritage research completed.
 Assisted with the compilation of Environmental Impact Assessments and Environmental Management Plans.
- 1999 – 2002 *Landscape Assistant: NEWTOWN LANDSCAPE ARCHITECTS cc.*
 Hardscape design, including the development of the National Union of Mineworkers Memorial Garden at their head office in Johannesburg.
 General Project administration and documentation including Bill of Quantities and Plant Lists.
 Responsible for all rendering and presentation drawings for Promotional purposes

PROFESSIONAL:

Registered Landscape Architect – South African Council for Landscape Architectural Profession (2006);
 Board Member – Tshwane Building Heritage Association (2005 – 2007)
 Member - Van Riebeeek Society
 Member - South African Archaeological Society
 Member - Wildlife and Environment Society of South Africa

EDUCATION:

Bachelor of Landscape Architecture, 2000, (BLArch), University of Pretoria.
 Currently completing Masters Degree in Anthropology: Cultural Landscape Thesis: *Tangible and Intangible Landscapes: An Anthropological Perspective based on two South African Landscapes.* University of South Africa.



Since 1994

Yonanda Martin M.Env.Sci.

Tel: 27 11
462 6967

Fax: 27 11 462-9284
yonanda@newla.co.za

www.newla.co.za

B.Sc Degree in Environmental Science from the University of North West, Potchefstroom Campus (2003). M.Sc Degree in Ecological Remediation and Sustainable Utilization from the University of North West, Potchefstroom Campus (2007). She is currently employed by Newtown Landscape Architects working on the following projects.

EXPERIENCE:

Environmentalist: Newtown Landscape Architects

Responsible for the environmental work, which includes Basic Assessments, Environmental Impact Assessments (Scoping & EIA), Environmental Management Plans (EMP), Environmental Auditing as well as Visual Impact Assessments.

Current Projects:

- **Orchards Extension 49-53**, Pretoria - Environmental Impact Assessment and Environmental Management Plan
- **Crane Valley Estates**, Johannesburg - Environmental Impact Assessment and Environmental Management Plan
- **Tanganani**, Diepsloot - Environmental Impact Assessment and Environmental Management Plan
- **Blue Hills**, Johannesburg - Environmental Management Plan and additional information reports for GDACE
- **Glen Marais Ext 102 & 103**, Kempton Park - Basic Assessment and Environmental Management Plan
- **Lady Selbourne**, Pretoria - Environmental Impact Assessment
- **Road P71-1**, Johannesburg - Scoping Report, Environmental Management Plan and Environmental Auditing.
- **Dynamix House Billboard** - VIA

EDUCATION:

- Oct 2007 Short course in Geographic Information Systems (GIS), Planet GIS
- Jan 2004 – April 2007 M.Sc Degree in Ecological Remediation and Sustainable Utilization, University of North West, Potchefstroom Campus.
- Jan 2001 – Dec 2003 B.Sc Degree in Environmental Science, University of Potchefstroom