DRAFT ENVIRONMENTAL SCOPING REPORT

APPLICATION FOR THE PROPOSED CONSTRUCTION
OF A NEW-GENERATION CORRECTIONAL CENTRE ON
PORTIONS 32 AND 35 OF FARM 527, PAARL, WESTERN CAPE

DEA REFERENCE NO: 12/12/20/2190

JUNE 2011
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Appendix G – 2005 Geotechnical Report
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**ABBREVIATIONS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>AADD</td>
<td>Annual Average Daily Demand</td>
</tr>
<tr>
<td>CWDM</td>
<td>Cape Winelands District Municipality</td>
</tr>
<tr>
<td>DCS</td>
<td>Department of Correctional Services</td>
</tr>
<tr>
<td>DEA</td>
<td>Department of Environmental Affairs</td>
</tr>
<tr>
<td>DEIR</td>
<td>Draft Environmental Impact Assessment Report</td>
</tr>
<tr>
<td>DLM</td>
<td>Drakenstein Local Municipality</td>
</tr>
<tr>
<td>DPW</td>
<td>Department of Public Works</td>
</tr>
<tr>
<td>DSDF</td>
<td>Draft Spatial Development Framework</td>
</tr>
<tr>
<td>DSR</td>
<td>Draft Scoping Report</td>
</tr>
<tr>
<td>DWA</td>
<td>Department of Water Affairs</td>
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<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>EIR</td>
<td>Environmental Impact Report</td>
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<tr>
<td>EMP</td>
<td>Environmental Management Program</td>
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<tr>
<td>FSR</td>
<td>Final Scoping Report</td>
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<tr>
<td>HIA</td>
<td>Heritage Impact Assessment</td>
</tr>
<tr>
<td>HWC</td>
<td>Heritage Western Cape</td>
</tr>
<tr>
<td>I&amp;APs</td>
<td>Interested and Affected Parties</td>
</tr>
<tr>
<td>IDP</td>
<td>Integrated Development Plan</td>
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<tr>
<td>LUPO</td>
<td>Land Use Planning Ordinance (No. 15 of 1985)</td>
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<tr>
<td>NEMA</td>
<td>National Environmental Management Act (No. 107 of 1998)</td>
</tr>
<tr>
<td>NEMAQA</td>
<td>National Environmental Management: Air Quality Act (No. 39 of 2004)</td>
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<td>NEMBA</td>
<td>National Environmental Management: Biodiversity Act (No. 10 of 2004)</td>
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<td>NEMWA</td>
<td>National Environmental Management: Waste Act (No. 59 of 2008)</td>
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<td>NHRA</td>
<td>National Heritage Resources Act (No. 25 of 1999)</td>
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<td>NWA</td>
<td>National Water Act (No. 39 of 1988)</td>
</tr>
<tr>
<td>OHSA</td>
<td>Occupational Health and Safety Act (No. 85 of 1993)</td>
</tr>
<tr>
<td>PDNA</td>
<td>PD Naidoo and Associates Consulting Engineers</td>
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<tr>
<td>PoS</td>
<td>Plan of Study</td>
</tr>
<tr>
<td>PPP</td>
<td>Public Participation Process</td>
</tr>
<tr>
<td>PRV</td>
<td>Pressure Reducing Valve</td>
</tr>
<tr>
<td>SAHRA</td>
<td>South African Heritage Resources Agency</td>
</tr>
<tr>
<td>SANS</td>
<td>South African National Standards</td>
</tr>
<tr>
<td>SDF</td>
<td>Spatial Development Framework</td>
</tr>
<tr>
<td>SEMA</td>
<td>Specific Environmental Management Act</td>
</tr>
<tr>
<td>StanSA</td>
<td>Standards South Africa</td>
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1. INTRODUCTION

1.1 PROJECT BACKGROUND

The National Department of Public Works on behalf of the Department of Correctional Services (DCS) has proposed to construct a New-Generation Correctional Centre on Portions 32 and 35 of Farm 527 in Paarl, Western Cape (Figure 1.1). The proposed project is part of a national programme implemented to address, amongst others, the issue of overcrowding in South African prisons, which is a primary challenge currently facing the DCS.

An Environmental Impact Assessment (EIA) was previously conducted in 2005 by Strategic Environmental Focus (Pty) Ltd for the proposed development of a New-Generation Correctional Centre in Paarl. Authorisation was granted by the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) to proceed with the proposed development, but the authorisation lapsed as the activity did not commence within two years of the date of the authorisation. A copy of the previous Record of Decision is attached in Appendix I.

Boland Environmental Consultants CC (BolandEnviro) was appointed by the Department of Public Works (DPW) to re-apply for environmental authorisation under the new 2010 EIA Regulations, promulgated in terms of the National Environmental Management Act (No. 107 of 1998) (NEMA), to construct the proposed Correctional Centre in Paarl (Letter of Appointment and Power of Attorney attached in Appendix A).

Figure 1.1: Locality map of the area surrounding Portions 32 and 35 of Farm 527, Paarl (originally sourced from 1: 250 000 Government topo- cadastral survey maps 3318 and 3319).
1.2 SCOPE OF THE WORK TO BE UNDERTAKEN AND PROCESS OVERVIEW

This Environmental Scoping Study is undertaken in accordance with the NEMA (Act 107 of 1998) EIA Regulations. The terms of reference for this Scoping Report are outlined in Section 29 of the 2010 EIA Regulations and further described in Section 7 of this report.

The purpose of this environmental study is to determine the impact of the proposed development of a New-Generation Correctional Centre on Portions 32 and 35 of Farm 527 in Paarl on its receiving environment, including biophysical, social-economic and cultural aspects.

DPW requires authorisation for the undertaking of the proposed project from the National Department of Environmental Affairs (DEA) in terms of the 2010 EIA Regulations published in Government Notice R543 of the NEMA (No. 107 of 1998). Comprehensive, independent environmental studies are therefore required in accordance with the Regulations.

The Applicant subsequently appointed BolandEnviro as their independent Environmental Assessment Practitioner (EAP) to manage the application and to undertake environmental studies together with a team of specialists. Through this process BolandEnviro will identify and assess all potential environmental, socio-economic and cultural impacts associated with the proposed project. The scope of the study is determined with reference to the requirements of the relevant legislation and undertaken in terms of the Integrated Environmental Management Information Series (2002) and Guideline Series on Requirements with respect to the EIA Process (2010), issued by the DEA and the DEA&DP, respectively. A summary of the Environmental Impact Assessment Process is provided below.

1.3 SUMMARY OF THE EIA PROCESS

1.3.1 ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The EIA process is controlled through Regulations published under Government Notices R543, R544, R545 and R546 promulgated in terms of Chapter 5 of the NEMA (Act 107 of 1998). A diagrammatic representation of the EIA process is shown in Figures 1.2 and 1.3.

The environmental study is following a three-phased approach in accordance with the EIA Regulations:

- Phase 1: Application (completed)
- Phase 2: Environmental Scoping Study and Plan of Study (current)
- Phase 3: Environmental Impact Assessment (after acceptance of Scoping Report)

1.3.2 APPLICATION PHASE

During the Application Phase the EAP completes the relevant application form with details regarding the applicant, environmental consultant, the proposed project and activities applied for. The proposed
project is acknowledged and registered following the submission of the application to the competent authority. The DEA is the competent authority, while the following are commenting authorities:

- Western Cape Department of Environmental Affairs and Development Planning (WC: DEA&DP)
- Heritage Western Cape (HWC)
- CapeNature (CN)
- Western Cape Department of Agriculture (DA)
- Department of Water Affairs (DWA)
- Drakenstein Local Municipality (DLM)
- Cape Winelands District Municipality (CWDM)

The Application form was submitted to DEA on 8 February 2011. The reference number allocated to this application is 12/12/20/2190. This reference number must appear on all official correspondence with the authorities and during public participation regarding this project.

A copy of the Application Form and the Acknowledgement of Receipt of the Application are included in Appendix B and Appendix C, respectively.

1.3.3 SCOPING PHASE

The scope of an environmental assessment is defined by the range of issues and alternatives to be considered, and the description of the approach towards the assessment that will follow.

A Draft Scoping Report (DSR) and Plan of Study (PoS) for EIA is compiled during the Scoping Phase, which provides the public with an opportunity to comment prior to the submission of the Final Scoping Report (FSR) to relevant authorities. A detailed Public Participation Process (PPP) starts in the Scoping Phase that is conducted to involve all Interested and Affected Parties (I&APs) in the EIA process and to identify any additional issues for consideration.

Once the DSR and PoS have been reviewed by I&APs for a period of 40 days, a Comment and Response Report is compiled in which all comments received are handled and responded to accordingly. The report is amended, if necessary, finalized and submitted for a final 21 day commenting period to commenting authorities and registered I&APs, after which it is submitted to the competent authority for approval. The content of a Draft Scoping Report is elaborated on in Section 7 of this report.

1.3.4 ENVIRONMENTAL IMPACT ASSESSMENT PHASE

Once the FSR and PoS for EIA have been submitted to and accepted by DEA the project will proceed into the detailed EIA Phase which involves specialist investigation of identified biophysical, socio-economic and cultural and/or heritage impacts.

A draft Environmental Impact Assessment Report (EIR) will be produced by BolandEnviro after the completion of the specialist studies. This report will contain: descriptions of each feasible alternative to the process under consideration; an assessment of the environmental impacts of these
alternatives; determination of the significance of the impacts; mitigation measures proposed to reduce the impacts; a section addressing the issues raised during scoping; and a comparative assessment of the feasible alternatives. A draft Environmental Management Program (EMP) will also be compiled.

Once the draft EIR has been reviewed by commenting authorities and I&APs, comments are again collected and responded to and the report will be amended accordingly and circulated for a final 21 day commenting period to commenting authorities and registered I&APs, after which it will be submitted to the competent authority. Public participation will continue throughout the EIA Phase. A schematic representation of the EIA process is provided below:

Figure 1.2: Application and Scoping Process

Figure 1.3: The EIA Process to be followed
2. DETAILS OF ROLEPLAYERS

2.1 INTRODUCTION

The following section of the Scoping Report provides the particulars, including contact details, of the Applicant, the EAP as well as the relevant authorities.

2.2 DETAILS OF APPLICANT

The details of the applicant are shown below in Table 2.1.

Table 2.1: Details of the Applicant

<table>
<thead>
<tr>
<th>Name of Applicant:</th>
<th>Department of Public Works</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact person:</td>
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<td>Tel:</td>
<td>012 337 3276</td>
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<td>Facsimile:</td>
<td>086 665 9471</td>
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<tr>
<td>Email:</td>
<td><a href="mailto:Bongane.Ntiwane@dpw.gov.za">Bongane.Ntiwane@dpw.gov.za</a></td>
</tr>
</tbody>
</table>

2.3 DETAILS OF INDEPENDENT ENVIRONMENTAL ASSESSMENT PRACTITIONER

Boland Environmental Consultants CC (BolandEnviro CC) provide services to private and public sector clients through providing project management, public participation, specialist and environmental impact assessment solutions. BolandEnviro CC was established in 2005, and operates from Worcester in the Western Cape, with a focus on the rural Boland, Cape Winelands and West Coast areas. Our multidisciplinary team focuses their expertise toward achieving best practice and cost-effective solutions.

BolandEnviro has successfully facilitated a wide range of environmental applications, including housing developments, fruit packing sheds, wine cellar expansion, cultivation of virgin land / clearing of natural vegetation, construction of roads, solar power generation plants, industrial development, abattoir construction, chicken broiler houses etc.

BolandEnviro places a strong emphasis on ethical environmental management. As independent environmental practitioners, we are passionate about the environment and the communities we live in. In order to safeguard the environment for future generations, we approach our work through open, honest and ethical assessments of the risks and impacts of proposed development activities. We strive to advise and guide the Applicant to ensure that the outcome of any application is not only beneficial to them, but also to the environment and society.
Staff and personnel
BolandEnviro was founded in 2005 by Nik Wullschleger (B.Sc. Climate and B.Sc Hons. Geology, Pr. Sci. Nat), and expanded in 2007 with the addition of Gisela Wullschleger (B.Soc.Sci & B.Com).
Johlene Krige (B. Sc. Biodiversity and Ecology, M. Sc. Botany) joined in January 2010 and Marizanne Vos (BTech Nature Conservation) in January 2011. Other associates include Schalk van der Merwe (M. Phil Env. Man.), Tony Barbour (M. Sc. Env.Sci.) and Charl de Villiers (Cert EAP, M.Phil. (UCT), BA.Hons (Stell)). BolandEnviro also maintains good relationships with the University of Cape Town, the University of Stellenbosch and a number of professionally qualified specialists, and can provide services for all aspects of Integrated Environmental Management.

The CVs of the environmental team is attached in Appendix D. CVs of specialists will be included in the Final Scoping Report.

Table 2.2: Details of the Independent EAP

<table>
<thead>
<tr>
<th>Name of Consultant:</th>
<th>Boland Environmental Consultants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact person:</td>
<td>Mr Nik Wullschleger / Miss Marizanne Vos</td>
</tr>
<tr>
<td>Physical Address:</td>
<td>74 Stockenstroom Street, Worcester, 6850</td>
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<tr>
<td>Postal Address:</td>
<td>PO Box 250, Worcester, 6849</td>
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<tr>
<td>Tel:</td>
<td>023 347 0336</td>
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<td>023 347 5336</td>
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<td><a href="http://www.BolandEnviro.co.za">www.BolandEnviro.co.za</a></td>
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2.4 DETAILS OF RELEVANT COMPETENT AUTHORITY

The Department of Environmental Affairs will act as the competent authority for this application.

Table 2.3: Details of the relevant competent authority

<table>
<thead>
<tr>
<th>Name:</th>
<th>Department of Environmental Affairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact person:</td>
<td>Ms Babalwa Xalipi</td>
</tr>
<tr>
<td>Physical Address:</td>
<td>Fedsure Building, 315 Pretorius Street, Pretoria</td>
</tr>
<tr>
<td>Postal Address:</td>
<td>Private Bag X 447, Pretoria, 0001</td>
</tr>
<tr>
<td>Tel:</td>
<td>012 395 1771</td>
</tr>
<tr>
<td>Facsimile:</td>
<td>012 320 7539</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:bxalipi@environment.gov.za">bxalipi@environment.gov.za</a></td>
</tr>
<tr>
<td>Website:</td>
<td><a href="http://www.environment.gov.za">www.environment.gov.za</a></td>
</tr>
</tbody>
</table>

2.5 DETAILS OF COMMENTING AUTHORITIES

The following authorities will act as commenting authorities on the proposed project:

Table 2.4: Details of the relevant commenting authorities

<table>
<thead>
<tr>
<th>Name:</th>
<th>WC Department of Environmental Affairs and Development Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact person:</td>
<td>Directorate: Integrated Environmental Management</td>
</tr>
<tr>
<td>Physical Address:</td>
<td>1 Dorp Street, Cape Town, 8000</td>
</tr>
<tr>
<td><strong>Postal Address</strong></td>
<td>Private Bag X9086, Cape Town, 8001</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td><strong>Tel:</strong></td>
<td>021 483 5113</td>
</tr>
<tr>
<td><strong>Facsimile:</strong></td>
<td>021 483 3633</td>
</tr>
<tr>
<td><strong>Email:</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

| **Name:**         | Heritage Western Cape            |
| **Contact person:** | Jenna Lavin                     |
| **Physical Address:** | Protea Assurance Building, Greenmarket Square, 3rd Floor, Cape Town 8001 |
| **Postal Address:** | Private Bag X9067, Cape Town, 8000 |
| **Tel:**          | 021 483 9685                     |
| **Facsimile:**    | -                                |
| **Email:**        | jlavin@pgwc.gov.za               |

| **Name:**         | CapeNature – Scientific Services |
| **Contact person:** | Alana Duffel-Canham             |
| **Physical Address:** | Assegaaibosch Nature Reserve Jonkershoek, Stellenbosch, 7600 |
| **Postal Address:** | Private Bag X5014, Stellenbosch, 7599 |
| **Tel:**          | 021 866 8000                     |
| **Facsimile:**    | 021 866 1523                     |
| **Email:**        | aduffell-canham@capenature.co.za |

| **Name:**         | Cape Winelands District Municipality (Stellenbosch office) |
| **Contact person:** | Municipal Manager             |
| **Physical Address:** | Du Toit Street 29, Stellenbosch, 7600 |
| **Postal Address:** | P.O. Box 100, Stellenbosch, 7599 |
| **Tel:**          | 086 126 5263                   |
| **Facsimile:**    | 023 347 4647                   |
| **Email:**        | dries@capewinelands.gov.za     |

| **Name:**         | Drakenstein Local Municipality |
| **Contact person:** | Municipal Manager / Mr du Plessis |
| **Physical Address:** | Bergrivier Boulevard, Paarl, 7646 |
| **Postal Address:** | P.O. Box 1, Paarl, 7622 |
| **Tel:**          | 021 807 4703                   |
| **Facsimile:**    | 021 870 1523                   |
| **Email:**        | deon@drakenstein.gov.za        |

<p>| <strong>Name:</strong>         | Western Cape Department of Water Affairs – Berg River WMA |
| <strong>Contact person:</strong> | Daryl Danniels             |
| <strong>Physical Address:</strong> | Sanlamhof, Bellville, Cape Town |
| <strong>Postal Address:</strong> | Private Bag X16, Sanlamhof, Bellville, 7532 |
| <strong>Tel:</strong>          | 021 941 6000                   |
| <strong>Facsimile:</strong>    | 021 941 6100                   |
| <strong>Email:</strong>        | -                              |</p>
<table>
<thead>
<tr>
<th><strong>Name:</strong></th>
<th>Western Cape Department of Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact person:</strong></td>
<td>Cor van der Walt</td>
</tr>
<tr>
<td><strong>Physical Address:</strong></td>
<td>Muldersvlei Road, Elenburg 7607</td>
</tr>
<tr>
<td><strong>Postal Address:</strong></td>
<td>Private Bag X1, Elenburg 7607</td>
</tr>
<tr>
<td><strong>Tel:</strong></td>
<td>021 808 5099</td>
</tr>
<tr>
<td><strong>Facsimile:</strong></td>
<td>021 808 5092</td>
</tr>
<tr>
<td><strong>Email:</strong></td>
<td><a href="mailto:LandUse-Elenburg@elsenburg.com">LandUse-Elenburg@elsenburg.com</a></td>
</tr>
</tbody>
</table>
3. PROJECT DESCRIPTION

3.1 STUDY AREA IN REGIONAL CONTEXT

The proposed site lies inside the Paarl urban edge and is situated in the municipal jurisdiction area of Drakenstein Municipality and Cape Winelands District Municipality (Figure 3.1). Drakenstein Municipality covers an area of approximately 1 538 km$^2$. Paarl, Wellington and Franschoek are the main urban centres in the municipality located in close proximity to the N1 National Road.

![Figure 3.1: Map indicating the location of Paarl within the boundaries of the Drakenstein Local Municipality.](image)

3.2 LOCATION OF THE PROPOSED STUDY SITE

The proposed development will be located at the existing Allandale Correctional Centre, which is situated on the eastern fringe of Paarl and is wedged in between the residential neighbourhoods of Groenheuwel and Fairyland to the north and New Orleans to the south. On its northern, western and southern perimeters the site is aligned by Bo Dal Josafat, Van der Stel and Sonstraal Roads,
respectively. On its eastern perimeter the site borders onto the Klein Drakenstein farming area. The coordinates for the centre of the site are 33º42’19.6” South and 19º00’04.03” East. Figures 3.2 and 3.3 respectively indicate the locality of the proposed site.

![Figure 3.2: Locality map of the area surrounding the Subject Land, Paarl. Sourced from 1:50 000 Government topo-cadastral maps 3318DB and 3319DA.](image)

![Figure 3.3: Annotated Google Earth image (2010) indicating the location of the proposed Paarl Correctional Centre within the landscape, viewed westwards (yellow border – proposed site; red border – border of property zoned for government purposes).](image)
3.3 PROPERTY DESCRIPTION

3.3.1 REGIONAL PLANNING CONTEXT

The Drakenstein Municipality is aware of the proposed project and is working closely together with all role-players to finalise the Service Level Agreement for bulk infrastructure and services required by the proposed development.

According to the Drakenstein Municipal Spatial Development Framework (DSDF, 2006) under-utilized and vacant land within urban areas must be prioritized for development rather than agricultural or conservation land outside the urban edge, thus creating more compact towns and curb urban sprawl.

According to the DSDF a main focus for conservation in Paarl are the core sites, including the green spine along the eastern boundary of town. To counter recent trends of an increase in low-income housing development to the east of Jan van Riebeeck Drive, the DSDF proposes that established farms be used as a buffer between urban areas and core conservation areas. According to the DSDF, areas with development potential include the area east of Jan van Riebeeck Road which includes the site for the proposed Correctional Centre.

Location factors favour the proposed land use and considering that the proposed site is vacant, undeveloped and is situated on the existing Allandale Correctional Centre property. The land earmarked for development is zoned for Authority usage, making it appropriate for the proposed new Correctional Centre. The development will thus not result in unnecessary or unacceptable opportunity costs, which refers to the net benefit yielded by the next best alternative. It is not expected to impact significantly on people’s health and wellbeing and it is not foreseen that it will impact on the sense of place given the current Allandale Correctional Centre operations.

The principles of environmental management and the general objectives of Integrated Environmental Management, as set out in Sections 2 and 23, respectively, of the NEMA (No. 107 of 1998) will be considered throughout this environmental process. Applicable principles emphasize consideration of the following:

- “Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably” – The main objective of the proposed development is to construct a New-Generation Correctional Centre who’s overall objective is to enhance humane living conditions and rehabilitation programs for offenders in a cost-effective manner.

- “Development must be socially, environmentally and economically sustainable” – No significant negative environmental impacts are foreseen at this stage. Very little to no natural vegetation exists on the Subject Land or the surrounding area. An Archaeological specialist study conducted on site in 2005 indicated that no important archaeological remains occur on the proposed site. The proposed project will, however, have a number of positive impacts regarding socio-economic aspects, e.g. providing a solution to overcrowding in prisons.

- “Pollution and degradation of the environment” – The site is currently vacant and undeveloped. Mitigation measures will be proposed to prevent pollution. Waste will be disposed of appropriately and at
licensed facilities. With the implementation of the mitigation measures proposed in this report, it is not anticipated that significant environmental degradation will occur.

- “Responsible use of non-renewable natural resources” – Energy and water efficient measures will be proposed and implemented wherever possible, in accordance to the Drakenstein Municipal Green Building Manual.

- “Interests, needs and values of all interested and affected parties (I&APs)” – This process provides potential I&APs and other key stakeholders with adequate opportunity for comment, review and input on the process and available documentation. Details of the Public Participation Process undertaken are described in Section 7 of this report.

### 3.3.2 CURRENT ZONING OF THE PROPOSED SITE

The existing Allandale Correctional Centre is accommodated on 4 erven including a public street, which includes Erf 8417, 8418, 8419 and 17289, respectively. With the exception of the public street all the properties are state owned and registered in the name of the National Government (see Table 3.1).

The erven are situated in the area of the Paarl Zoning Scheme while the farms are situated in the area of the General Zoning Scheme promulgated in terms of Section 8 of the Land Use Planning Ordinance (15 of 1985).

The rest of the property includes Portions 5, 6, 7, 8, 31, 32 and 35 of Farm 527, of which Portion 32 and Portion 35 are the Portions on which the proposed development will be located.

All Portions, except Portion 32, are zoned Authority Zone, of which the primary usage is Authority usage. According to the Land Use Planning Ordinance (15 of 1985) this refers to “a use which is practiced by a public authority and of which the locality factors are such that it cannot be classified or defined under other uses in these regulations”. “It includes uses, amongst others, practiced by the State, such as military training centres and installations, telecommunication facilities, police stations and prisons”.

Portion 32 only (0.531 ha in size) was expropriated as an Agricultural Zoned property in 1990. No rezoning was done and hence the property is still zoned as Agricultural Zone 1.

No application for rezoning is required for Portion 32. At the most, an access road will be constructed over Portion 32 for which consent is not needed.

The above erven and farms are therefore appropriately zoned for the proposed Correctional Centre. There are no restrictions applicable for the construction of the new Correctional Centre on this land. See zoning certificate attached in Appendix E.

Table 3.1 and Figure 3.4 provide a summary of the property detail and a zoning map of the Allandale Correctional Centre property, respectively.
Table 3.1: Summary of the respective properties and their associated zoning status

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>EXTENT</th>
<th>DEED NUMBER</th>
<th>ZONING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erf 8417, Paarl</td>
<td>1,7624 Ha</td>
<td>T 26035/70</td>
<td>Government Purposes</td>
</tr>
<tr>
<td>Erf 8418, Paarl</td>
<td>1,6753 Ha</td>
<td>T 26033/70</td>
<td>Government Purposes</td>
</tr>
<tr>
<td>Erf 8419, Paarl 1</td>
<td>1,5245 Ha</td>
<td>T 36034/70</td>
<td>Government Purposes</td>
</tr>
<tr>
<td>Erf 17289, Paarl</td>
<td>1,1490 Ha</td>
<td>T 56265/95</td>
<td>Public Street</td>
</tr>
<tr>
<td>Farm 527/5, Paarl</td>
<td>14,9849 Ha</td>
<td>T 950/65</td>
<td>Authority Zone</td>
</tr>
<tr>
<td>Farm 527/6, Paarl</td>
<td>10,7619 Ha</td>
<td>T 7030/43</td>
<td>Authority Zone</td>
</tr>
<tr>
<td>Farm 527/7, Paarl</td>
<td>18,9450 Ha</td>
<td>T 7030/43</td>
<td>Authority Zone</td>
</tr>
<tr>
<td>Farm 527/8, Paarl 2</td>
<td>22,4311 Ha</td>
<td>T 6534/43</td>
<td>Authority Zone</td>
</tr>
<tr>
<td>Farm 527/31, Paarl</td>
<td>1,9785 Ha</td>
<td>T 7030/43</td>
<td>Authority Zone</td>
</tr>
<tr>
<td>Farm 527/32, Paarl</td>
<td>0,5310 Ha</td>
<td>T 68063/90</td>
<td>Agricultural Zone 1</td>
</tr>
<tr>
<td>Farm 527/35, Paarl</td>
<td>38,6348 Ha</td>
<td>T 8192/78</td>
<td>Authority Zone</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>114,3784 Ha</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 A police station for Paarl East is built on Erf 8419
2 The existing Allandale Correctional Centre is located on Portion 8 of Farm 527

Figure 3.4: Zoning and compilation map indicating the Authority Zoned State owned property, including Portions 32 (Agricultural Zone 1) and 35 of Farm 527 on which the proposed development will be established.
3.4 PROJECT DESCRIPTION

3.4.1 DEVELOPMENT OF THE PROTO-TYPE CORRECTIONAL CENTRE

The proposed project is part of a national programme implemented by the Department of Correctional Centre (DCS) to address an issue of national concern related to the challenges of overcrowding that is currently facing the Department. The increase in numbers of inmates in prisons creates a demand for cost-effective solutions. The “New-Generation” Correctional Centre Proto-type was proposed to help solve this problem. The Proto-type draws on international best practice, whilst taking cognisance of South Africa’s need as a developing country.

Criminal justice experts are of the opinion that the current design of South African prison systems is not sufficient for the proper rehabilitation of criminals. Overly punitive (disciplinary) approaches used on violent, angry criminals only provide a breeding ground for more anger and violence. Prisons are too punitive and often fail to rehabilitate. Targeting prisoners’ behaviour, reducing prison populations and offering job skills are believed to reduce prisoner aggression and the potential to re-offend.

The development of the Proto-type Correctional Centre was thus guided by the need to enhance the facility’s potential for sufficient rehabilitation programs, while maintaining a high level of security by design. The overall intention is to enhance humane living conditions in a cost-effective way, which is easy to maintain and ensures a long life or continuity. The implementation of a standard design would also reflect uniformity throughout the country.

The proposed Paarl Correctional Centre is one of a number of “New-Generation” Correctional Centres that are under construction within South Africa.

3.4.2 LAYOUT AND DESIGN

The proposed site (Portions 32 and 35) has a combined area comprising of approximately 38 ha. The total compliment of the proposed building structures, access roadways, parking facilities and sportfields will occupy approximately 30 ha of this area. A generic layout plan of the proposed development on the Allandale Correctional Centre property is included in Figure 3.5.
Figure 3.5: Generic site layout map of the proposed New-Generation Correctional Centre on the existing Allandale Correctional Centre property.
A 3000 inmate Proto-type design was initially proposed on which all New-Generation Correctional Centres are based (Figure 3.6). Of the approximate 3000 available offender places, 250 are designed to accommodate female offenders. The needs of female offenders with babies and young children are taken into account in the design of the facility. Line-of-sight separation of males and females are also ensured.

The new design moves away from the private and dormitory cell type arrangements and embraces principles of unit management, community cells and direct supervision. The arrangement of cells in a communal fashion is a new concept and comprises of large rooms with multiple beds arranged in such a way as to minimise the potential of overcrowding (Figure 3.6). The design reduces movement of prisoners, which in turn reduces the need for staff control and associated operational costs. Sufficient social and recreational spaces are provided for by means of multi-purpose buildings and sportfields.

**3000 Bed Facility**

**Site Plan**

![Site Plan of 3000 Bed Facility](http://www.pmg.org.za/node/2056)

**Legend:**
1. Fence Enclosed Recreation Fields
2. The “Zone”
3. The Functional “Core”
4. Administration & Entry
5. Housing & Functional Service Areas Suitable for:
   A. Juveniles
   B. Women or
   C. Cadre
6. Service Yard
7. Visitor & Staff Parking

**Figure 3.6:** Schematic representation of the site plan of a typical 3000 bed Proto-type facility
(Source: [http://www.pmg.org.za/node/2056](http://www.pmg.org.za/node/2056)).
The new design also transformed from the previous once-off structures by allowing for incremental additions of a unit management module into a unit management cluster. Phased development is thus permitted without operational disruptions. A schematic representation of the potential for phased development is provided in Figure 3.7.

**Figure 3.7:** The new Proto-type concept allows phased development without operational disruptions (Source: [http://www.pmg.org.za/node/2056](http://www.pmg.org.za/node/2056)).
The exterior perspective of a direct supervision housing unit management module will typically resemble the examples below.

![Figure 3.8: Architect schematic representation of a typical housing unit management module](http://www.pmg.org.za/node/2056)

*Figure 3.8: Architect schematic representation of a typical housing unit management module* 
(Source: [http://www.pmg.org.za/node/2056](http://www.pmg.org.za/node/2056)).

![Figure 3.9: Exterior design of the New-Generation Correctional Centre in the Northern Cape](Photo taken on 17 April 2011)

*Figure 3.9: Exterior design of the New-Generation Correctional Centre in the Northern Cape* 
(Photo taken on 17 April 2011).

Notable features of the Proto-type design can be summarised:

- The ability to achieve low life-cycle costing by reducing capital, operating and maintenance costs;
- Enhancement of rehabilitation programs;
- Reduction of overcrowding;
- It maintains a high level of security by design;
- The use of appropriate technology through the new underlying security philosophy that staff driven security should advance to technology driven security;
- It promotes rapid and expeditious construction;
- It has the potential for phased development with minimum operational disturbances;
- It permits a variety of procurement methods and saves on fee and construction costs through repetition of the same model in varying locations.

Mandatory requirements established through legislation and DCS technical requirements include aspects such as suitable natural ventilation and light as well as appropriate in-cell sanitation are incorporated into the design of the proposed facility.

Final design and site layout plans are in the process of being completed according to the preferred bidder’s proposal and the unique character of each site. The final detailed design and layout plans will be assessed as part of the environmental study, but might, however, not be included in the environmental reports for public scrutiny due to security constraints.

### 3.4.3 ACCESS TO THE SITE

The main entrance to the Allandale Correctional Centre is currently from Meaker Street on the southern boundary. The main entrance to the new facility will move to the northern boundary after completion of the new centre, with access from Bo Dal Josafat Road.

A Traffic Impact Assessment (TIA) was conducted by PDNA in August 2005. The study aimed to identify and assess possible traffic impacts such as congestion and safety problems. The study considered two time horizons, namely the 2005 conditions, as well as future (2011) conditions with site traffic. According to the TIA Report, no upgrading to the road network is required to cater for the new Paarl Correctional Centre.

### 3.4.4 SERVICES AND INFRASTRUCTURE

Information regarding the project description was extracted from the 2005 Environmental Impact Report compiled by Strategic Environmental Focus (Pty) Ltd for the establishment of the proposed Correctional Centre. The information was updated with the latest details obtained from PDNA Consulting Engineers. See GLS Report attached in Appendix F.

#### 3.4.4.1 EXISTING SERVICES

**a) Water Reticulation**

The site is currently served by a 110mm diameter potable water supply connection from the existing township reticulation located in Meaker Street. See Figure 3.10 and Appendix F for the alignment of
the existing and proposed bulk water supply systems.

The bulk water supply facility should be upgraded in order to provide the flow requirements for the proposed Correctional Centre complex.

The two earthen dams on the existing Correctional Centre site are used for irrigation purposes only and will not be integrated into the proposed potable water reticulation system.

It is proposed that the water reticulation system will be upgraded to accommodate the proposed development (see Section 3.4.4.2.a for more detail).

b) Sewer Reticulation

The existing sewer reticulation in the area comprises a 150mm diameter pipe network. A connection to the existing site is located in Bo Dal Josafat Road with a second connection serving the residential accommodation further along the pipeline towards the east on Farm 527 Portion 31 (See Figure 3.11 and Appendix F).

The local authority has confirmed that this system is currently at a maximum capacity and it is inadequate to accept the anticipated peak flow that may be generated from the proposed new Correctional Centre development.

The nearest bulk sewer pipeline with sufficient capacity to accommodate the discharge from the proposed development is located approximately 1400 m from the site in Van Riebeeck Road.

It is proposed that the sewage reticulation system will be upgraded to accommodate the proposed development (see Section 3.4.4.2 b for more detail).

c) Waste Disposal

At present all general (domestic) waste generated within the Allandale Correctional Centre is disposed of at the Drakenstein Municipality Waste disposal facility. Waste generated during the construction and operational phases will be managed according to a Waste Management Plan.

d) Stormwater

An existing stormwater channel is located on the western side of Van der Stel Road (west of the existing Allandale Correctional Centre) flowing in a north-westerly direction and forms the main drainage for this area.

The drainage system from the existing Correctional Centre site collects stormwater from the road areas and hardened road surfaces within the complex and is discharged overland and collected in a system of open channels. These channels are directed towards the Bo Dal Josafat Road stormwater system which thereafter flows westwards towards the Van der Stel Road intersection where it passes under Van der Stel Road to discharge into the local authority main stormwater channel system.
e) Roadworks

The main entrance to the existing Allandale Correctional Centre is currently from Meaker Street on the southern boundary.

The TIA conducted by PDNA in August 2005 identified and assessed possible traffic congestion and movement problems. According to the TIA Report no upgradings were required to cater for the new Paarl Correctional Centre.

i) External Road System

Both Meaker Street and Bo Dal Josafat Road provide good access in an easterly to westerly direction, with both streets lining up with Jan van Riebeeck Road. Van der Stel Road on the western boundary provides access towards the south.

The existing access to the Allandale Correctional Centre site is from Meaker Street. An alternative entrance currently kept locked, is located along the northern boundary in Bo Dal Josafat Road. Access to the new development is proposed from Bo Dal Josafat Road.

ii) Internal Road System

Except for the main entrance roadway up to the existing administration block and along the southern perimeter, existing internal roads are gravel roads.

f) Electrical Supply

Current electricity supply to the existing Correctional Centre is insufficient to cater for the proposed development. The Drakenstein Municipal engineering services calculated that a 3.5 MVA connection is needed to cater for the overall power usage of the proposed development.

3.4.4.2 SERVICES REQUIRED BY THE PROPOSED DEVELOPMENT

a) Water Reticulation and Supply

As mentioned above, the water reticulation and supply system will require upgrading in order to accommodate the pressure and fire flow criteria as set out in the Drakenstein Municipal Master Plan. The water main is proposed to be constructed simultaneously with the proposed extension of Van der Stel Road, and within this road reserve.

It is estimated that the water main will be a 1.68 km x 450 mm diameter pipeline, subject to adequate residual pressure at the proposed connection point. This pipeline, together with a new Pressure Release Valve (PRV) and controller are master plan items required to accommodate the proposed development and other future development areas. See Figure 3.10 for the proposed alignment and connection points of the proposed water main, labelled as DPW4.4 450 mm Ø. See Appendix F.
i) Distribution Zone

The Drakenstein Municipal Water Master Plan indicates that the proposed development area should be accommodated in the existing Leliefontein zone. The connection to the existing system should be done on the proposed 450 mm diameter pipe in Bo Dal Road. See Figure 3.10.

ii) Water Demand

The water demand is estimated to accommodate a 3000 inmate generic Correctional Centre, including a 600 staff compliment.

The total annual average daily demand (AADD) and fire flows for the proposed development were calculated in January 2010 as part of a re-analysis for the Drakenstein Municipal Water and Sewage Master Plan.

In order for the local authority to deliver the required peak flow from the local reticulation system the following total peak flow would be required:

- Total Water Demand = 1316.6 kl/day
- Peak Flow Rate = 88.3 l/second (excluding fire flow)
- Fire Flow (moderate risk rate - 1440.0 kl x (4 hours)) = 100 l/second @ 10 m
- Total Peak Flow = 188.3 l/second

iii) Fire Demand

The design requirements adopted in determining the water demand for fire fighting purposes fall within the Moderate Risk category (approximately 1440 kl x 4 hours).

Water demand figures for fire fighting will be included in the Final Scoping Report.

iv) Domestic Potable Demand

The total site, which includes for the provision of sports fields, comprises an area of approximately 30 ha. A peak demand flow of 88.3 l/second is anticipated for the Correctional Centre.

v) Reservoir Storage on Site

It is proposed that a reservoir (to ensure storage for fire water capacity) will be constructed on site. It will not exceed the 50 000 m$^3$ threshold stipulated in NEMA R.543 Listing Notice No. 12. The exact size and capacity is still to be determined and will be elaborated on in the Final Scoping Report.
Figure 3.10: Schematic layout of the alignment of the existing (blue) and proposed (labelled DPW4.4 450 Ø) (red) water supply systems, respectively.
b) Sewer Reticulation

The development falls within the existing Paarl Gravity drainage area and according to the 2010 GLS Report there is currently insufficient capacity in the sewer network reticulation system to accommodate the proposed development.

It is therefore required that a bulk sewer pipeline be installed from the existing outfall sewer in Jan van Riebeeck Road up to the intersection of Van der Stel and Bo Dal Josafat Roads, at which point the pipeline will be extended a further 600 m eastwards along Bo Dal Josafat Road up to the corner of Portion 35 of Farm 527. It is envisaged at this point that a 315 mm diameter sewer will be required (Figure 3.11).

Upgrade requirements to accommodate the proposed development in the existing sewer system include the construction of the following:

- A new link service, namely a 565 m (0.565 km) x 355 mm diameter outfall sewer pipeline is proposed to connect the proposed development to the existing sewer system. See link service item DPS3.50 in Figure 3.11.

- A new master plan item, namely a 695 m (0.695 km) x 400 mm diameter outfall sewer pipeline is proposed to reinforce the existing system in order to accommodate the proposed development together with other future development areas. See master plan item DPS3.51 in Figure 3.11.

The sewer system, along with the proposed water main, is proposed to be constructed simultaneously with the proposed extension of Van der Stel Road, and within its road reserve. Note that the routes have to be finalised subsequent to a detailed pipeline route investigation.

i) Sewer Discharge from Correctional Centre

The peak day dry weather flow (PDDWF) for the proposed development was calculated in January 2010 as part of a re-analysis for the Water and Sewage Master Plan. The PDDWF was calculated as 1 233.3 kl/day with a peak flow of 80.3 l/second.

The capacity at the Paarl Waste Water Treatment Works will be confirmed by the municipality and submitted together with the Final Scoping Report.
Figure 3.11: Schematic layout of the alignment of the existing (red) and proposed (labelled DPS3.50 355 ø) (green) sewer systems, respectively.
c) Waste Disposal

At present all general waste generated within the Allandale Correctional Centre is disposed of at the Drakenstein Municipality Waste disposal facility. During the construction phase, waste should be managed in the following manner:

- Rubble material to be frequently removed from the construction site and disposed of at an approved landfill site;
- Sufficient waste containers will be placed at the construction site to hold general waste and builders rubble;
- Containers to be emptied frequently at licensed waste disposal facility.

During the operational phase, the local authority will be responsible for waste removal from the proposed Correctional Centre on a regular basis in accordance with the by-laws.

d) Stormwater

An existing stormwater channel is located on the western side of Van der Stel Road (West of the existing Allandale Correctional Centre) flowing in a north-westerly direction and forms the main drainage facility for this area.

The informal drainage system from the existing Correctional Centre site, which is collected from the road areas and hardened road surfaces within the complex, is discharged overland and collected in a system of open channels. These channels are directed towards the Bo Dal Josafat Road stormwater system which thereafter flows westwards towards the Van der Stel Road intersection where it passes under the road to discharge into the local authority main stormwater channel system.

i) Internal Drainage

The proposed site has a general slope in a north to north westerly direction of between 4.5% and 5.0%. A watershed runs through the Subject Land from east to west approximately 80 m to the north of the southern boundary. The site slopes, including site works required to accommodate terracing for the building platforms, will not be influenced by the ingress of any stormwater flows onto the site from the adjoining properties.

Surface drainage will be largely controlled by means of open channels over a limited distance from where the drainage will be taken into an underground piped system towards the north western corner of the site in Bo Dal Josafat Road.

The internal stormwater design in and around the buildings will consider the hardened areas of roadways and parking areas and roofs.

A stormwater drainage system will be designed to generally accommodate a 1 in 10 year flood recurrence interval for the entire development, with additional protection up to 1 in 50 year flood recurrence interval for roofs and courtyards.
ii) External Drainage

Liaison with the local authority and in conjunction with the EIA study will determine the extent and type of attenuation that is required before the stormwater is discharged from the site into the main drainage stream system.

It is proposed that the stormwater from the site be channelled by means of an open channel similar to that depicted in Figure 3.12, located along the western boundary of Bo Dal Josafat Road, for a distance of approximately 550 meters up to the intersection with Van der Stel Road. It is further proposed that a major stormwater duct be installed under Van der Stel Road in order to discharge the total run-off from the Allandale complex into the main local drainage system (stormwater system) on the western side of the road.

![Figure 3.12: Proposed open channels will resemble this stormwater channel running along the boundary of a New-Generation Correctional Centre in the Northern Cape (Photo taken 17 April 2011).](image)

e) Roadworks

As mentioned in Section 3.4.3 the previous TIA conducted by PDNA in 2005, which considered future (2011) traffic conditions in the surrounding area as well, concluded that no road upgrades were necessary.

The only road improvements planned for the area close to the proposed development include plans to widen Van der Stel Road that runs along the western boundary of the Allandale Correctional Centre. It
is currently a single lane in each direction and the intention is to widen it to two lanes in each direction to improve access to the surrounding areas.

The internal road network of the proposed development consists of the following:

i. Entrance Road;
ii. Service Road and Yards;
iii. Delivery Road;
iv. Internal Patrol Road;
v. External Patrol Road; and

i) Entrance Road

It is proposed that the main entrance to the new facility will move from Meaker Street to a new entrance from Bo Dal Josafat Road on the northern boundary. The entrance road will be 7.5 m wide with an asphalt surface.

ii) Service Road and Yards

The proposed service road commences at the main entrance road and provides access to the stores, kitchen and maintenance facilities. The major portion of the deliveries will take place here and with delivery vehicles, as well as the turning movements expected, it is proposed to construct a pavement in this area of a thick un-reinforced concrete base.

iii) Delivery Road / Internal Patrol Road

This road will serve two functions namely a perimeter security road and an access road to minor delivery areas at the main administration block. It is proposed that this road would be 6m wide with an asphalt surface.

iv) External Patrol Road

This road will be located along the external perimeter of the security fence. The roadway will be 3m wide with interlocking concrete paving blocks to be trafficked by light patrol and maintenance vehicles.

v) Passenger Vehicle Parking Facilities

This proposed area will generally carry light passenger vehicles. The proposed design is an interlocking concrete paving.

f) Electrical Supply

Current electricity supply to the existing Allandale Correctional Centre is insufficient to cater for the proposed Correctional Centre. A 3.5 MVA connection is required to meet the overall power
consumption of the proposed development.

The Drakenstein Municipality has confirmed that an extension can be provided from an existing substation in Bartolomeu Street.

i) Energy Use

A number of variables create a level of uncertainty when determining the actual power usage. These include the possible use of coal fired or electric boilers, the required amount of site lighting, the extent of water and sewage pumping, the nature of workshop utilization, and the management of power. In the absence of specific information at this stage, higher diversity factors are applied to estimate connected load.

The categories of power usage by the proposed facility include:

1. **General Lighting**: in areas such as administration buildings, workshops, passageways, medical facilities and kitchens. The amount of light required in these areas is determined by the provisions of the Occupational Health and Safety Act (Act 83 of 1993).

2. **Slow Amperage (Small) Power**: is required in all areas of the facility except inside cells.

3. **Security Lighting**: consists of area and perimeter lighting. Area lighting is provided via Metal Halide or similar energy efficient options. Perimeter lighting, for the continuous monitoring of the perimeter fence, is provided by street type lighting, i.e. low energy high efficiency fluorescent lamps. Power consumption will vary according to the topography of the site.

Figure 3.13: Area lighting as part of security measures will be similar to that of the New-Generation Correctional Centre in the Northern Cape (Photo taken 17 April 2011).
4. **Heating, Cooling and Cooking**: a hot water boiler facility will be required. It is still to be determined whether solar, coal fired or electrical boilers will be installed. Coal fired boilers are typically used in the Correctional Centres, but this is dependent on whether the municipal regulations permit this within the urban edge. The Drakenstein Municipal Air Quality Management Plan must be adhered to. Where the use of coal fired boilers is prohibited, a significant increase in the bulk electrical connection may be required.

5. **Industrial Applications**:
   
i. **Factories and Workshops**: the exact nature of the activities is still to be established, will determine the amount of power required for the workshops.
   
ii. **Laundries**: typically require significant electrical power.
   
iii. **Agricultural Activities**: may be a significant factor in determining final power requirements.

6. **Water and Sewage Pumping**: this energy requirement still needs to be established by the project engineers.

7. **Security and Electronic Services**: include items such as access control systems, metal detectors, movement detectors and alarm systems.

8. **Common Core Power Usage**: building patterns, populations and the utilisation of facilities remain a relatively constant, which forms a well-defined core requirement for electrical power, regardless of the variables influencing power usage.

**g) Fences**

An electrified security fence will be constructed along the perimeter of the site, along with several other boundary fences for maximum security. The precise height and length, including the different types of fences to be constructed will be similar to the security fences surrounding the New-Generation Correctional Centre in the Northern Cape, as presented in **Figures 3.15 – 3.17**.
Figures 3.15 – 3.17: Security fence lines surrounding the New-Generation Correctional Centre in the Northern Cape. An additional boundary security fence encloses the broader site.
4. NEED AND DESIRABILITY FOR THE PROJECT

‘Need’ is understood to mean requiring something because it is essential or very important, and not just desirable. ‘Desirability’, in turn, refers to wanting or wishing for something owing to its attractiveness, utility or necessity (cf. The New Oxford Dictionary of English, 1998). The draft DEADP guideline on need and desirability (2009) suggests that ‘need’ refers to the ‘timing’ of a proposed development, and ‘desirability’ to place. Jointly, the concepts raise questions about “wise use of land”.

In South Africa prisons are typically overcrowded to the extent that government is forced to release thousands of prisoners prior to serving their full prison term. A New-Generation Correctional Centre Proto-type was proposed as part of a national programme implemented by the DCS to address such issues, in particular that of overcrowding and prematurely terminated programmes.

The DCS identified the need for a New-Generation Correctional Centre in Paarl in the Western Cape.

The location for the proposed facility is ideally positioned, situated on the existing Allandale Correctional Centre property. The site provides security systems already in place, and the land is already owned by the State and is currently used as a correctional facility. The new police station adjacent to the site can be regarded as a complimentary use which could enhance the functioning and security of the facility. The sharing of land and infrastructure services between the existing and proposed Correctional Centres could also result in additional cost-saving, which would be advantageous to both DCS and Drakenstein Municipality.

The site is located within the border of the demarcated Urban Edge, regarded as the boundary of the urban area where densification is promoted and encouraged. It is therefore not anticipated that this development would lead to land-use conflict or jeopardise the sense of place. The existing Allandale Correctional Centre and the surrounding areas (and land uses) have co-existed for many years. The proposed development should therefore not have a significant effect on the surrounding land uses as it can be viewed as merely being an extension of an existing facility.

In general, additional development requires more infrastructure and other supporting facilities. The proposed Correctional Centre will provide work opportunities for an estimated 600 people on a permanent basis, as well as temporary work for construction workers. These employment opportunities will facilitate economic growth in the greater Paarl area.

The proposed development will be located on vacant land that is already disturbed. Biodiversity is considered to be low due to the high level of transformation. From a heritage perspective no obvious features, sites or artefacts of cultural significance were found during the previous Heritage Impact Assessment (2005). The establishment of the proposed facility is thus considered reasonable in terms of environmental, socio-economic as well as heritage and cultural aspects.

From the above it is clear that the proposed prison development is ideally located. Bounded by existing infrastructure, neighbourhoods with high unemployment levels and located on an existing Correctional Centre complex reflects development feasibility and desirability. The proposed development is envisaged to have an overall positive impact on the development of the area.
5. PROJECT ALTERNATIVES

5.1 INTRODUCTION

In terms of the EIA Regulations feasible and reasonable alternatives are required to be considered as part of the environmental process.

“Alternatives”, in relation to a proposed activity, means different ways of meeting the general purposes and requirements of the activity, which may include alternatives to –

(a) the property on which, or location where, it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity (No-Go).

The following alternatives are relevant to the proposed development:

5.2 LOCATION (SITE) ALTERNATIVES

Only one site alternative is currently considered for this application. A feasibility study was conducted by the Department of Correctional Services (DCS) after which the proposed site was selected. Various ideal location and land use factors favour the selection of this site for the construction of the proposed Correctional Centre on Portion 32 and 35 of Farm 527, Paarl.

The proposed site is located on the existing Allandale Correctional Centre property, which is zoned for Government usage. The proposed land use is therefore not in conflict with the surrounding land uses as the site is already utilised as a Correctional Centre.

5.3 LAYOUT ALTERNATIVES

The proposed development is based on a generic proto-type design, as described in Section 3 of this report, no major changes in the layout design is expected. This will however be further investigated once the final layout designs are completed and provided by the project consulting engineers.

5.4 INFRASTRUCTURE ALTERNATIVES

5.4.1 ENTRANCE ROAD

Two alternative entrance options to the proposed facility are proposed. Both entrances are located along the Bo Dal Josafat Road on the northern boundary of the site. The entrances are located at Out of Africa (A) and Bartolomeu (B) intersections, respectively. The preferred entrance will depend on the final layout design of the parking area and associated infrastructure. This will be investigated during the EIA Phase. See Figures 5.1 - 5.3 below.
Figure 5.1: View to the north from the proposed site towards Out of Africa Street, alternative entrance option A.

Figure 5.2: View to the north from the proposed site towards Bartolomeu Street, alternative entrance option B.
5.4.1 LINEAR ACTIVITIES

Existing water and sewage pipelines, stormwater channels and power lines will be expanded to accommodate the proposed development.

Preliminary layout designs of water and sewage pipelines are included in Section 3 of this report. All linear structures are proposed to be constructed inside existing road reserves.

It is expected that a watercourse (stormwater / drainage channel) occurs closer than 32 m from a section of the proposed water and sewage pipeline routes, based on the existing layout designs (Figures 3.10 and 3.11). The final route options of these proposed infrastructure components will, however, be further investigated during the EIA Phase and the necessary mitigation action will be made to minimise impact on the environment.

5.5 TECHNOLOGY ALTERNATIVES

The new underlying security philosophy proposed for the New-Generation Correctional Centres promotes the reduction of staff driven security by means of the implementation of appropriate advanced technology driven security. The Correctional Centre will rely heavily on the use of technology for security, alarm, movement control, operations and information management.

Various technological alternatives will be proposed and investigated during the Final Scoping and EIA Phases. The assessment will be done against the backdrop of clean-tech initiatives such as the Drakenstein Municipality Green Building Manual and legislation such as the Western Cape Provincial...
Spatial Development Framework (2009) guidelines which encourage the reduction in the consumption of scarce resources through measures such as water conservation, renewable energy and recycling.

Alternative measures that will be investigated include the following:

- Coal fired, electrical boiler and solar thermal heated water systems;
- Transmission of electricity from substation versus local renewable electricity generation, e.g. solar power;
- Energy efficient electrical installations, e.g. lighting, geysers and gas stoves;
- Water effluent installations, e.g. low flow toilets and taps;
- Mechanical versus natural ventilation and air conditioning;
- Rainwater harvesting systems (e.g. rainwater tanks) to reduce use;
- Recycling and appropriate use of grey water.

Energy saving- and scarce resource consumption guidelines developed for the Drakenstein Municipal Area will be considered and, where possible, implemented into the design, construction and operation of the proposed facility in order to contribute to conservation.

5.6 THE “NO-GO” ALTERNATIVE

The No-Go alternative is the option of not establishing the proposed facility on the site. The environment will thus remain in its current undeveloped state.

The NEMA regulations require that the No-Go option be considered in cases where the proposed development will have significant impacts that cannot be effectively or satisfactorily mitigated against.

In this particular case, the No-Go option will entail that the site remains vacant in the short to medium term. The land would be used for the cultivation of vegetables for consumption by the Allandale Correctional Centre. The management of overcrowding in prisons will however not be alleviated.

Motivation for the development of the proposed Correctional Centre at this site is due to its location as mentioned in Section 4. The information considered reveals that the site is suitable for the proposed development. The consideration of the No-Go option is therefore not recommended as a viable alternative option.
6. LEGISLATIVE CONTEXT

6.1 INTRODUCTION

The current Environmental Impact Assessment (EIA) is being undertaken in terms of the National Environmental Management Act (NEMA) (Act 107 of 1998), together with the EIA Regulations (June 2010). Provisions of various other Acts are also considered within this EIA. Compliance with the provincial planning ordinance, the Land Use Planning Ordinance 15 of 1985 (LUPO) is being undertaken as a separate, but parallel process to the EIA.

Legislation relevant to this study is briefly outlined below. These environmental requirements are not intended to be definitive or exhaustive, but serve to highlight key environmental legislation and responsibilities.

6.2 LEGAL REVIEW


The Constitution of South Africa (Act 108 of 1996) is the supreme law in the country. Section 24 of Chapter 2 of the Act makes provision for environmental rights, stating that everyone has a right to a non-threatening environment and that reasonable measure are applied to protect the environment. This includes preventing pollution and promoting conservation and environmentally sustainable development, while promoting justifiable social and economic development.

6.2.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (Act 107 of 1998)

The National Environmental Management Act (NEMA) (Act 107 of 1998), as amended, introduced a new and comprehensive underlying legal framework to give effect to the environmental rights contained in Section 24 of the Constitution. Section 2 of NEMA contains environmental principles that form the legal foundation for sustainable environmental management in South Africa. These principles aim to improve the quality of environmental decision-making and apply to all government departments and organisations that may affect the environment.

Chapter 9 of NEMA introduced provisions for specific environmental management acts (SEMAs) that in turn regulate specific aspects of the environment such as waste and air quality.

NEMA is enforced by the Department of Environmental Affairs (DEA). The Act makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorization from the relevant authorities based on the findings of an environmental assessment. NEMA also creates a framework for facilitating the role of civil society in environmental governance through public participation.

According to the regulations of Section 24(5) of NEMA, authorisation is required for the following activities triggered by the proposed development:
6.2.2.1 Government Notice R.544 of June 2010 listed activities (requires a Basic Assessment):

**Definite Activities:**

**Activity 9:** The construction of facilities or infrastructure exceeding 1000 m in length for the bulk transportation of water, sewage or storm water –

(i) With an internal diameter of 0.36 m or more;

(ii) With a peak throughput of 120 litres per second or more;

Excluding where:

(a) Such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or

(b) Where such construction will occur within urban areas but further than 32 m from a watercourse, measured from the edge of the watercourse.

**Possible Activities:**

**Activity 2:** The construction of facilities or infrastructure for the storage of ore or coal that requires an atmospheric emissions license in terms of the National Environmental Management: Air Quality Act (No. 39 of 2004).

**Activity 10:** The construction of facilities or infrastructure for the transmission and distribution of electricity –

(ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more.

**Activity 11:** The construction of:

(i) canals

(ii) channels

(vi) bulk storm water outlet structures

where such construction occurs within a watercourse or within 32 m of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.

**Activity 13:** The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.

**Activity 18:** The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from

(i) a watercourse;
Activity 37: The expansion of facilities or infrastructure for the bulk transportation of water, sewage or storm water where:
   a) the facility or infrastructure is expanded by more than 1000 m in length; or
   b) where the throughput capacity of the facility or infrastructure will be increased by 10 % or more –

Excluding where such expansion:
   (i) relates to transportation of water, sewage or storm water within a road reserve; or
   (ii) where such expansion will occur within urban areas but further than 32 m from a watercourse, measured from the edge of the watercourse.

Activity 38: The expansion of facilities for the transmission and distribution of electricity where the expanded capacity will exceed 275 kilovolts and the development footprint will increase.

Activity 56: Phased activities for all activities listed in this Schedule, which commenced on or after the effective date of this Schedule, where any one phase of the activity may be below a threshold but where a combination of the phases, including expansions or extensions, will exceed a specified threshold.

6.2.2.2 Government Notice R.545 of June 2010 listed activities (requires Scoping and EIA):

Definite Activities:

Activity 15: Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more.

6.2.2.3 Government Notice R.546 of June 2010 listed activities (requires a Basic Assessment):

Possible Activities:

Activity 3: The construction of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast:

   (a) is to be placed on a site not previously used for this purpose, and
   (b) will exceed 15 metres in height, but excluding attachments to existing buildings and masts on rooftops.

In the Western Cape:

   (i) Areas inside urban areas but outside commercial and industrial areas.
6.2.3 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT (Act 10 of 2004)

The National Environmental Management: Biodiversity Act (NEMBA) (Act 10 of 2004) (NEMBA) falls within the framework of the NEMA (107 of 1998) and must be read in conjunction with NEMA. The main objectives of the NEMBA is to provide for the management and conservation of biological diversity in South Africa, the sustainable utilization of indigenous biological resources, the fair and equitable sharing of benefits arising from bio-prospecting of indigenous resources as well as the provision for co-operative governance in biodiversity management and conservation. Chapter 4 of NEMBA deals with threatened and protected ecosystems and species and related threatened processes and restricted activities. The need to protect listed ecosystems is addressed (Section 54). Section 73 deals with Duty of Care relating to invasive species, while Section 76(2) calls for development of invasive species monitoring, control and eradication plans by all organs of state in all heres of government, as part of Environmental Management Plans required in terms of Section 11 of NEMA.

6.2.4 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT (Act 59 of 2008)

The National Environmental Management: Waste Act (Act 59 of 2008) (NEMWA) acknowledges the internationally recognised hierarchy of waste management, stating that sustainable development requires that waste generation should be avoided, or if it cannot be avoided, that it is reduced, re-used, recycled or recovered, and as a last resort treated and/or safely disposed of in an environmentally sound manner.

The object of the NEMWA is to secure ecologically sustainable development while promoting justifiable economic and social development. The Act strives to protect the health and well-being of society and accordingly provides, amongst others, national norms and standards, specific waste management measures and licensing and control of waste management activities. These measures include the storage, collection and transportation of waste.

Central to the Act is the requirement of a Waste Management Licence to undertake certain specific Waste Management Activities as listed in the Waste Regulations. If the Applicant intends to undertake such an activity, it must be in accordance with the Waste Management Licence for that activity (see Section 20 of the Act). A Waste Management Activity includes the generation, accumulation, storage, re-use, recycling and disposal of waste. Requirements for the application of a waste management licence are stipulated in Section 45 of the Act. General requirements for the storage of waste, as stipulated in Section 21 of the Act, must be adhered to if the Applicant intends to store waste of certain types and quantities.

According to Section 24 no person may collect waste for removal from the premises unless such person is a municipality or a municipal service provider authorised by law to collect waste (where authorisation is required). The Applicant must therefore ensure that the necessary arrangements are made for the collection and transportation of waste and that the necessary documentation is in order.
6.2.5 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT (Act 39 of 2004)

The object of the Air Quality Act (No. 39 of 2004) is to protect the environment by providing reasonable measures for the protection and enhancement of the quality of air, while preventing air pollution and ecological degradation. This Act gives effect to Section 24 of the Constitution in order to enhance the quality of ambient air for the sake of securing an environment that is not harmful to the health and well-being of people.

If it is expected that operational activities will trigger listed activities and exceed associated minimum emission standards according to the National Ambient Air Quality Standards, the Applicant will have to apply for an atmospheric emission licence according to Sections 37 and 38 of the Act.

Potential impacts relating to air quality control and management must form part the EIA Report and Environmental Management Programme.

6.2.6 NATIONAL HERITAGE RESOURCES ACT (Act 25 of 1999)

The protection and management of South Africa’s heritage resources are controlled by the National Heritage Resources Act (NHRA) (Act 25 of 1999). South African National Heritage Resources Agency (SAHRA) is the enforcing authority and in the Western Cape, SAHRA have, in most cases, delegated this function to Heritage Western Cape (HWC).

In terms of Section 38 of the Act, HWC will require a Heritage Impact Assessment (HIA) where certain categories of development are proposed. The following activities are expected to be undertaken as part of the proposed project:

Section 38(1)(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

Section 38 (1)(c) any development or other activity which will change the character of a site (i) exceeding 5 000 m² in extent

Furthermore, in terms of Section 34(1), no person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the SAHRA or the provincial heritage authority, in this case HWC.

In terms of Section 35 (4), no person may destroy, damage, excavate, alter, deface, disturb, collect or remove from its original position, any archaeological material or object, without a permit issued by HWC. Nor may anyone destroy, damage, alter, exhume or remove from its original position, or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority, without a permit issued by HWC, in terms of Section 36 (3).
6.2.7 NATIONAL WATER ACT (Act 39 of 1988)

Water use is controlled by the National Water Act (No. 39 of 1988). The enforcing authority is the Department of Water Affairs. The provision of water is generally controlled by the local municipal authority. The National Water Act recognises that water is a scarce resource in South Africa and its provisions are aimed at achieving sustainable use of water to the benefit of all users. The provisions of the Act discourage pollution and waste of water resources.

Chapter 3 of the National Water Act focuses on protection of water resources. Pollution prevention is covered in Part 4 (Section 19) which states that any person, who owns, controls, occupies or uses land, is deemed responsible for taking measures to prevent pollution of water resources. If these measures are not taken the responsible authority may do whatever is necessary to prevent the pollution or remedy its effects and recover all reasonable costs from the responsible person. Non-compliance with this provision is a criminal offence.

Measures must therefore be taken by the Applicant for any future activities which may cause the waste or pollution of water resources.

6.2.8 CONSERVATION OF AGRICULTURAL RESOURCES ACT (Act 43 of 1983)

The purpose of the Conservation of Agricultural Resources Act (Act 43 of 1983) is to provide for control over the utilization of the natural agricultural resources in order to promote the conservation of the soil, water sources and the vegetation and the combating of weeds and invader plants.

6.2.9 OCCUPATIONAL HEALTH AND SAFETY ACT (Act 85 of 1993)

The Occupational Health and Safety Act (Act 85 of 1993) (OHSA) regulates the management of health and safety in the work environment. It makes provisions in Regulations Section 8 for the general duties of employers to their employees. Section 9 of the Regulations makes provisions for general duties of employers to persons other than their employees.

Regulations under this Act also contain provisions regarding the handling of hazardous substances and it is mainly aimed at the occupational hygiene thereof. These regulations need to be taken cognisance of in terms of the transport, storage, handling and disposal of hazardous substances.

Fire precautions and protection is governed by the General Safety Regulations contained in the OSHA, as amended by the Department of Labour.

The OHSA provides for minimum light levels to ensure safe occupation and use of a facility, whereas the SANS specifications determine the optimum lighting levels.

6.2.10 HAZARDOUS SUBSTANCES ACT (Act 15 of 1973)

If hazardous substances are to be used during the life-cycle of the proposed project the Applicant must identify the various groups of hazardous substances in compliance with the Hazardous
Substances Act (Act 15 of 1973). These substances should be classed in terms of SANS 10228 (Standard Specification for the Identification and Classification of Dangerous Substances and Goods) and SABS 0265\(^1\) (Handling of Hazardous Substances) to ensure that they are stored and handled properly.

6.2.11 NATIONAL BUILDING REGULATIONS AND BUILDING STANDARDS ACT (Act 103 of 1977)

The Applicant is to comply with all relevant legislation pertaining to the National Building Regulations and Building Standards Act (Act 103 of 1977) during the design, construction and operations of the Correctional Centre.

6.2.12 WESTERN CAPE LAND USE PLANNING ORDINANCE (Ordinance 15 of 1985)

The proposed project will be constructed adjacent to the existing Allandale Correctional Centre, on Portions 32 and 35 of Farm 527 in Paarl. Both properties are owned by the Department of Public Works. Portion 35 is correctly zoned as Authority / Institutional Zone, which is suitable for the proposed development of a correctional centre. Portion 32 (0.5310ha in size) was, however, expropriated as an agricultural-zoned property in 1990. No rezoning has been done and hence the property is still zoned as Agricultural Zone 1.

Discussions between the Applicant and the Drakenstein Municipality as to whether Portion 32 would need to be rezoned to facilitate the legitimacy of constructing a proposed access road on Portion 32 concluded that no rezoning would be required.

6.2.13 DRAKENSTEIN MUNICIPAL BY-LAWS

A by-law refers to a city or municipal law or ordinance, passed under the authority of a provincial law specifying aspects regulated by the municipality. The Drakenstein Municipality has a number of by-laws of which some may be applicable to the proposed project.

The most relevant by-laws and applicable subsections are listed below, but do by no means constitute the full scope that should be adhered to. Compliance to all relevant sections must be insured during the life-cycle of the project.

6.2.13.1 BY-LAW NO. 6/2007: CHILD CARE FACILITIES

The proposed New-Generation Correctional Centre includes mother and childcare facilities for women with babies up to two years old.

Section (2)(2) No child care facility may be operated without the written approval of the municipality, which approval may be subject to conditions.

\(^1\) Developed by Standards South Africa (StaSA), a division of the South African Bureau of Standards (SABS)
Section (4)(1) Any duly authorised employee of the municipality shall be authorised to inspect any premises within the municipality in order to determine whether there is compliance with provisions of this by-law.


Section (3) No person shall install or cause or permit to be installed or alter or extend or cause or permit to be altered or extended any fuel burning appliance designed to burn solid or liquid fuel in or on any premises, unless the plans and specifications in respect of such installation, alterations or extension have been approved by the municipality. The municipality may require the owner or occupier of the premises to remove the appliance from the premises.

Section (7)(1) No person shall allow any waste material, rubbish, garden refuse, grass prunings or any similar material are allowed to be burnt in or on the premises, except in an incinerator which has been duly approved for this purpose.

6.2.13.3. BY-LAW 13/2007: THE CONTROL OF WASTE DISPOSAL SITES

Section (5) The municipality may require that any waste to be dumped or deposited at a disposal site shall be dumped or deposited at a particular place or in a specified manner only or that it be treated, wrapped or packaged in a specific manner before being dumped or deposited.

6.2.13.4 BY-LAW NO. 17/2007: REFUSE REMOVAL

Section (8) Where any object is unsightly or is likely to create an obstruction, a hazard or a nuisance is accumulated, dumped, stored or deposited on or in any land, place, premises or in refuse bin(s), the municipality may serve a written notice in which the responsible person or owner shall be required to do away with, destroy or remove such refuse, hazardous waste, materials, waste or other type of object to the satisfaction of the municipality.

6.2.13.5 BY-LAW NO. 18/2007: WATER SUPPLY, SANITATION SERVICES AND INDUSTRIAL EFFLUENT

The Applicant is responsible for ensuring compliance with this by-law in respect of all or any matters relating to it. Aspects relating to the proposed project in terms of this by-law include the following:

Section (46) No person shall for the purpose of conveying water derived from a water source, lay or construct a pipe or associated component on, in or under a street, public place or other land owned by, or under the control of any municipality, except with prior written permission of the municipality.

Section (47) No person shall use grey water or permit such water to be used without the prior written permission of the municipality. The said permission may be subject to the conditions determined by the municipality.
### 6.2.14 GUIDELINES AND CONSERVATION PLANS

There are a number of guideline documents and conservation plans that inform the environmental practitioner and various specialists. The principles contained in these documents will be incorporated into the various aspects of the study. Policies and Guidelines considered during this environmental assessment process include:

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<thead>
<tr>
<th>POLICY/ GUIDELINES</th>
<th>ADMINISTERING AUTHORITY</th>
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<td>Guidelines on Public Participation (2010)</td>
<td>WC Department of Environmental Affairs and Development Planning</td>
</tr>
<tr>
<td>Guidelines on Alternatives (2010)</td>
<td>WC Department of Environmental Affairs and Development Planning</td>
</tr>
<tr>
<td>Guidelines on Need and Desirability (2010)</td>
<td>WC Department of Environmental Affairs and Development Planning</td>
</tr>
<tr>
<td>Information Document on Generic Terms of Reference for EAPs and Project Schedules (2010)</td>
<td>WC Department of Environmental Affairs and Development Planning</td>
</tr>
<tr>
<td>Guidelines for involving Heritage Specialists in EIA Processes (2005)</td>
<td>WC Department of Environmental Affairs and Development Planning</td>
</tr>
<tr>
<td>Guidelines for involving Biodiversity Specialists in EIA Processes (2005)</td>
<td>WC Department of Environmental Affairs and Development Planning</td>
</tr>
<tr>
<td>Cape Winelands District Municipal Area Integrated Development Plan 2008/09</td>
<td>Cape Winelands District Municipality</td>
</tr>
<tr>
<td>Drakenstein Green Building Manual (Draft 2010)</td>
<td>Drakenstein Municipality</td>
</tr>
<tr>
<td>Western Cape Provincial Spatial Development Framework (2005)</td>
<td>WC Department of Environmental Affairs and Development Planning</td>
</tr>
</tbody>
</table>
7. EIA PROCESS AND METHODOLOGY

7.1 INTRODUCTION

The Department of Correctional Services (DCS) requires environmental authorisation for the undertaking of the proposed project from the DEA in terms of the EIA Regulations published in Government Notice R543 (June 2010) of the National Environmental Management Act (No. 107 of 1998). Comprehensive, independent environmental studies are therefore required in accordance with the Regulations.

The Applicant subsequently appointed Boland Environmental Consultants (BolandEnviro) as their independent Environmental Assessment Practitioner (EAP) to manage the application and to undertake environmental studies together with a team of specialists. Through this process BolandEnviro will identify and assess all potential environmental, socio-economic and cultural impacts associated with the proposed Project. The scope of the study is determined with reference to the requirements of the relevant.

As noted in Chapter 1, the EIA process consists of three phases, namely the Application, Scoping and EIA Phases, of which the Application Phase has successfully been completed. This report documents the tasks which are undertaken as part of the Scoping Phase of this EIA.

The Scoping Phase serves to define the scope of the detailed assessment of the potential impacts associated with the proposed development. The main objectives of scoping are to ensure that:

- The process is open and transparent and involves the applicant, relevant authorities, stakeholders and other I&APs (see Chapter 2 and 7);
- The full scope of the project is defined and understood (see Chapter 3);
- The need and desirability of the proposed project is explained (see Chapter 4);
- Feasible and reasonable alternatives are identified and selected for further assessment (see Chapter 5);
- The proposed project complies to relevant legislation and standards (see Chapter 6);
- The receiving environment is defined and important characteristics identified (see Chapter 8);
- Significant issues are identified that needs to be examined during the EIA Phase (Chapter 9);
- A Plan of Study is compiled for the EIA Phase (see Chapter 10).

This chapter elaborates on the methodology that was followed as part of the scoping phase. The main component includes the Public Participation Process. The methodology that will be used for the assessment of impacts is elaborated on in more detail in Chapter 9 of this report.

7.2 AUTHORITY CONSULTATION

The DEA is the competent authority for this project, while the following authorities will serve as commenting authorities during this process:
Authority consultation to date includes the following activities:

- Submission of an Application for Authorisation to DEA on 8 February 2011 (see Appendix B);
- Receive Acknowledgement of Receipt and EIA reference number 12/12/20/2190 from DEA dated 3 March 2011 (see Appendix C);
- Ms. Babalwa Xalipi from DEA has been appointed as the designated case officer for this project;
- Public and stakeholder consultation will be ongoing throughout the process.

Copies of the draft and final Scoping Report and Environmental Impact Report will be circulated to all relevant commenting authorities during two commenting periods.

7.3 ENVIRONMENTAL SCOPING STUDY

7.3.1 CONTENTS OF A SCOPING REPORT

According to Section 28 of Regulation 543 of the NEMA 2010 EIA Regulations the contents of a scoping report consist of the following information:

28 (1) A scoping report must contain all the information that is necessary for a proper understanding of the nature of issues identified during scoping, and must include –

(a) Details of –
   i. the EAP who prepared the report; and
   ii. the expertise of the EAP to carry out scoping procedures;

(b) a description of the proposed activity;

(c) a description of any feasible and reasonable alternatives that have been identified;

(d) a description of the property on which the activity is to be undertaken and the location of the activity on the property, or if it is –
   i. a linear activity, a description of the route of the activity; or
   ii. an ocean-based activity, the coordinates where the activity is to be undertaken;

(e) a description of the environment that may be affected by the activity and the manner in which activity may be affected by the environment;

(f) an identification of all legislation and guidelines that have been considered in the preparation of the scoping report;

(g) a description of environmental issues and potential impacts, including cumulative impacts, that have been identified;

(h) details of the public participation process conducted in terms of regulation 27(a), including –
i. the steps that were taken to notify potentially interested and affected parties of the application;

ii. proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the application have been displayed, placed or given;

iii. a list of all persons or organisations that were identified and registered in terms of regulation 55 as interested and affected parties in relation to the application; and

iv. a summary of the issues raised by interested and affected parties, the date of receipt of and the response of the EAP to those issues;

(i) a description of the need and desirability of the proposed activity;

(j) a description of identified potential alternatives to the proposed activity, including advantages and disadvantages that the proposed activity or alternatives may have on the environment and the community that may be affected by the activity;

(k) copies of any representations, and comments received in connection with the application or the scoping report from interested and affected parties;

(l) copies of the minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants; and

(m) any responses by the EAP to those representations and comments and views;

(n) a plan of study for environmental impact assessment which sets out the proposed approach to the environmental impact assessment of the application, which must include –

   i. a description of the tasks that will be undertaken as part of the environmental impact assessment process, including any specialist reports or specialised processes, and the manner in which such tasks will be undertaken;

   ii. an indication of the stages at which the competent authority will be consulted;

   iii. a description of the proposed method of assessing the environmental issues and alternatives, including the option of not proceeding with the activity; and

   iv. particulars of the public participation process that will be conducted during the environmental impact assessment process;

(o) any specific information required by the competent authority; and

(p) any other matters required in terms of sections 24(4)(a) and (b) of the Act.

(2) In addition, a scoping report must take into account any guidelines applicable to the kind of activity which is the subject of the application.

(3) The EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation (1)(c), exist.

7.3.2 THE PUBLIC PARTICIPATION PROCESS

Consultation with Interested and Affected Parties (I&APs) forms an integral component of an EIA process and enables inter alia directly affected and neighbouring landowners and occupiers, civic groups and stakeholders to raise and/or identify issues and concerns, which they feel should be addressed in the EIA. The approach to the public participation process (PPP) for this project has taken cognisance of the Department of Environmental Affairs and Tourism (DEAT) Guideline on

A comprehensive PPP was implemented as part of the Scoping Phase of the EIA.

7.3.3 OBJECTIVE OF PUBLIC PARTICIPATION

➢ To raise awareness, educate and increase understanding of the general public about the environment, the proposed project, as well as the environmental process being undertaken in a transparent manner;
➢ To ensure that all relevant stakeholders are identified and invited to participate in the process;
➢ To inform I&APs of the proposed project in a transparent manner, and to identify issues, comments and concerns as raised by them;
➢ To create an opportunity for registered I&APs to assist in the identification of potential significant impacts and in so doing increase the identification of possible mitigation measures;
➢ To reduce or eliminate any gaps in knowledge regarding the proposed project.

7.3.4 PUBLIC PARTICIPATION TO DATE

Public Participation Process to date includes:

(a) Identification of Interested and Affected Parties (I&APs)

The identification and registration of I&APs will be ongoing throughout the course of this environmental process. Registered I&APs are allowed to comment, in writing, on all written submissions made by the EAP to the relevant authorities, to bring to the attention of the competent authority any issues which that party believes may be of significance to the consideration of the application. Comments must, however, be submitted within the timeframes that have been approved or set by the competent authority or any extension of a timeframe agreed to by the applicant or EAP.

An I&AP register has therefore been opened by BolandEnviro which contains the names, contact details and comments of all I&APs who have submitted written comment or attended meetings regarding the proposed project. The register will be updated and maintained throughout the process.

All landowners and neighbours situated adjacent to the proposed site (which is the only site alternative), have automatically been included in the registered I&AP database. The addresses of all adjacent neighbours and landowner were obtained from the Drakenstein Local Municipality. All comments and concerns received during the process will be recorded in a Comments and Response Report, to be included in the Final Scoping Report.

The I&APs for this project are identified using the following:

➢ Placement of a notice board on the boundary fence of the proposed site as well as other public locations in the area;
➢ Placement of advertisements in the Paarl Post during various stages of the process;
 ➢ Completed Comment and Registration Forms;
 ➢ Attendance registers at meetings;
 ➢ Discussions with community leaders and relevant municipal ward councilors, if necessary.

(b) Meetings

➢ A Public Open Day will be held during the public review periods of the draft SR and draft EIR at the Groenheuwel or Drakenstein Library in Paarl, depending on the availability of a venue.

(c) Notification and Advertisements

The following tasks have been completed in accordance with section 54 of R543 of the NEMA EIA Regulations.

➢ An initial advert was placed in English and Afrikaans in the local newspaper, Paarl Post, on 7 April 2011 giving notice to all potential stakeholders and I&APs to register as I&APs, and invite preliminary comment on the proposed development.
➢ A second advert describing the proposed development, expected activities to be triggered, the public participation process, the availability of the DSR for public review, as well as an invitation to register and comment on the proposed project will be placed in English and Afrikaans in the Paarl Post.
➢ An A1 sized site notice, in English and Afrikaans, describing the proposed development, expected activities to be triggered, public participation process, and invitation to comment, will be erected at the proposed site.
➢ Notices describing the proposed development, expected activities to be triggered, the public participation process, including an invitation to comment, will be posted by registered and normal mail to adjacent neighbours and landowners, surrounding Portions 32 and 35 of Farm 527 prior to the public review period.
➢ A Background Information Document will be posted along with the above notice to each neighbouring landowner.
➢ Pamphlets will be distributed to neighbouring communities;
➢ All notices will advertise the Public Open Day of which the date, time and venue is still to be determined prior to the release of the DSR for the 40 day public commenting period.
➢ The Background Information Document and I&AP Registration Form are available on the website www.BolandEnviro.co.za / project documents for download.
➢ All registered I&APs will be notified of the availability of the DSR in writing, by fax, email or post.
➢ Registered letters and copies (digital or hard copy) of the DSR will be sent to the following commenting authorities:

  • Western Cape Provincial Department of Environmental Affairs and Development Planning
  • Heritage Western Cape
  • CapeNature
  • Western Cape Department of Agriculture
• Department of Water Affairs
• Drakenstein Local Municipality
• Cape Winelands District Municipality

(d) Public Review of the Scoping Report

The DSR will be made available for review for a period of 40 days at the following locations which are readily available to the public:

➢ Groenheuwel/Drakenstein Library (Bo Dal Josafat Road, Groenheuwel, Paarl)
➢ BolandEnviro office in Worcester (74 Stockenstroom Street, Worcester)
➢ BolandEnviro website (www.BolandEnviro.co.za / project documents)

All comments and responses received from commenting authorities and registered I&APs during the review of the DSR will be considered and included into the FSR and PoS which will be submitted to the DEA after the final 21 day commenting period.

Once the FSR and PoS for EIA have been approved, the EIA Phase will proceed. All project documents in relation with the EIA Phase (Draft and Final EIA Reports and Specialists Reports) will be submitted for review to commenting authorities and I&APs.
8. DESCRIPTION OF THE BASELINE ENVIRONMENT

8.1 INTRODUCTION

As required by section 28 (1)(e) of the NEMA Regulations, this section provides a description of the environment that may be affected by the activity and the manner in which the biophysical, social, economic and cultural aspects of the environment may be affected by the proposed activity.

8.2 DESCRIPTION OF THE ENVIRONMENT

8.2.1 LANDSCAPE AND TOPOGRAPHY

The general topography of the surrounding area can be classified as gentle rolling terrain, consisting of moderately undulating plains and hills that vary from extensive deep soils, to localised deep soils between large granite rock formations (domes) and sheets. The area towards the east and north-east of the site gradually transforms into a mountainous region which forms part of the Klein Drakenstein mountain range (height of approximately 1000 m above sea level) and the Hawekwa mountains (height of approximately 1350 m above mean sea level) respectively.

There are no significant landscape features on the proposed property (Portions 32 and 35 of Farm 527). Slope conditions are moderate and the general drainage direction is in a northern direction. The highest part of the proposed site is on the eastern boundary and the lowest is the north-western corner.

Figure 8.1: Annotated Google Image (acquired in 2010) indicating the locality of the proposed New-Generation Correctional Centre in relation to the surrounding landscape and topography. The image also indicates the location of the existing Allandale Correctional Centre on various portions of Farm 527.
527 (red outline) and the proposed new site on Portions 32 and 35 of Farm 527 (yellow outline) on which the facility will be constructed.

8.2.2 CLIMATE

8.2.2.1 TEMPERATURE

The climate is typical of the Western Cape Province with mild to hot summers and mild winters. Winter months are generally from April to October. The monthly distribution of average daily maximum temperatures indicates that the average midday temperatures for Paarl range from 16°C in July to 28°C in February (Figure 8.2). The monthly distribution of average daily minimum temperatures in turn indicates that the average night-time temperatures range from 6°C in July to 15°C in February (Figure 8.3).

![Average midday temperature (°C)](image)

**Figure 8.2**: Average maximum (midday) temperatures recorded at Paarl.

![Average night-time temperature (°C)](image)

**Figure 8.3**: Average minimum (night-time) temperatures recorded at Paarl.
8.2.2.2 RAINFALL

Paarl has a typical Mediterranean climate and receives approximately 660mm of rain per year. Rainfall occurs mainly during the winter months between May and August, and is lowest during the period between December and March. Paarl receives the highest rainfall during June and the lowest during February (Figure 8.4).

![Average rainfall (mm)](image)

**Figure 8.4:** Average monthly rainfall (mm) for Paarl.

8.2.2.3 WIND

The prevailing wind field is from the south (summer) and north (winter) due to topographic influences. There is a day-time increase in southerly flow and at night-time there is an increase in a northerly flow and decrease in wind speed.

8.2.3 GEOLOGY AND SOILS

A geotechnical investigation was undertaken by Kantey & Templer Consulting Engineers (Pty) Ltd in July 2005 as part of the feasibility study for the proposed correctional centre.

The site geology, geohydrology, foundation conditions, excavation conditions and material utilisation potential were investigated. The geology, soils and geohydrology of the site is briefly discussed below. Additional information on aspects related to the foundation and excavation conditions are included in the geotechnical report attached as **Appendix G**.

According to the geotechnical report the site is underlain at depth by deeply weathered meta-sedimentary strata of the Moorreesburg Formation, Malmesbury Group, with a variable cover of naturally transported (colluvial) and/or residual soils. The proposed site is located on the brown and buff coloured Porterville shales that forms part of the Porterville formation of the Boland terrane in the Malmesbury Supergroup. Trial holes dug as part of the geology and soils profile investigation revealed fairly uniform subsoil conditions across the area investigated.
Mucina and Rutherford (2006)² describe the geology of Paarl as consisting of Cape Granite Suite rocks (Figure 8.5). According to them soils in the area include Glenrosa, Mispah forms, or red-yellow apedal. Freely draining soils are dominant, with exposed dome rock and large boulders.

Preliminary indications according to the geotechnical study are that “the soil on the site is suitable for use as a founding horizon subject to precautions being taken to suitably dimension conventional footings based on the founding depth”. The sub grade conditions for roadwork and parking areas are generally considered to be “favourable with reworking and compaction necessary to improve the conditions prior to construction”. Close attention is also to be given to the installation of subsoil drainage on the site to “combat any risk associated with the seasonal development of the shallow perched groundwater encountered on the site”.

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Figure 8.5: Extract from the 1:250 000 Geological Series maps 3318 and 3319 showing the geological formations of the proposed site (black circle) and the surrounding Paarl area.
8.2.3 HYDROLOGY

8.2.4.1 SURFACE WATER

The study area falls within the upper catchment of the Berg River which covers an area of approximately 13,000km². The main natural water resource closest to the study area is the Berg River that runs approximately 2km to the west of the proposed site. The Berg River flows south to north. Major dams closest to Paarl, on a regional scale, include the Brandvlei and Berg River Dams situated approximately 35km east and 25km south-east of Paarl, respectively (Figure 8.6).

![Figure 8.6: Annotated Google Earth Image (acquired in 2010) indicating the location of large surface water bodies in the area surrounding Paarl, Western Cape.](image)

Several small dams are located around the proposed site, which are mainly used for agricultural purposes such as the adjacent vineyards of Nederburg Wines (Pty) Ltd.

An earthen catchment dam (upper) is located in the eastern corner of Portion 35. A lower catchment dam is located on the Allandale Correctional Centre property on adjacent Portions 6 and 7 of Farm 527 (refer to Figure 8.10).

No major rivers or streams are found on or near the site. There is one drainage line passing the site approximately 500m to the east. A second drainage trench bisects the western section of the site. This trench canalises the overflow from a neighbouring catchment dam across the site via the southern catchment dam to the municipal storm water network on the northern site boundary.

An existing stormwater channel is located on the western side of Van der Stel Street (West of the existing Allandale Correctional Centre) flowing in a north-westerly direction and forms the main...
drainage facility for this area. No stream diversion will take place during the proposed development.

8.2.4.1 GEOHYDROLOGY

Groundwater was not intersected during the geotechnical field investigations conducted during 2005. Soil moisture conditions ranged from slightly moist to very moist, but shallow perched groundwater conditions are likely to develop during the latter part of rainy seasons or after periods of heavy rainfall.

According to the study, previous investigations in the Paarl area have indicated strong groundwater flows at depths of as little as 0.5m below ground level. Shallow groundwater flows might thus be intersected if construction is undertaken during the latter part of the rainy season, and should be kept in mind when planning excavation of foundation and services trenches.

8.2.5 LAND CAPABILITY

The land can be used for agricultural purposes such as the current vegetable production by the Allandale Correctional Centre. Portion 32 of Farm 527 is zoned for Agricultural Zone 1, but is only approximately 0.53 ha in size, and this is not an economic unit. Portion 35 (38.63 ha) is zoned for Institutional Use (government purposes) and considering that the site is situated directly adjacent the existing Allandale Correctional Centre, the establishment of the proposed new facility would be considered as the most suitable land use option.

The botanical diversity of the area can be considered to be very low. No rare or endangered species occur on site, which is completely transformed to vacant derelict land. The site therefore has no conservation value.

8.2.6 CURRENT LAND USE OF THE PROPOSED SITE

The current land uses on Portions 32 and 35 consist of the following:

- Agricultural fields utilised for the cultivation of vegetables for consumption by the existing Allandale Correctional Centre (Figure 8.7);
- Stormwater catchment dam situated in the eastern corner of proposed Portion 35. Although situated on the same land parcel, it falls outside the proposed building footprint (Figure 8.8).
- An old farmhouse situated in the centre of the proposed site, which will be demolished during the construction phase (Figure 8.9).
Figure 8.7: Sections of the proposed site are currently used for the cultivation of vegetables for consumption by the Allandale Correctional Centre.

Figure 8.8: Stormwater catchment dam on eastern section of Farm 527/35.

Figure 8.9: An old farmhouse on site to be demolished during construction.
8.2.7 LAND USE OF THE SURROUNDING AREA

Various land uses occur in the surrounding area (see Figure 8.10). These include the following:

- The Groenheuwel residential area situated approximately 300m north-west of the site;
- A graveyard situated along the northern boundary of the proposed site.
- Fairyland low-cost residential development as well as Milkytown and Smartie Town informal settlements situated along the northern boundary of the proposed site, directly opposite the Bo Dal Josafat Road.
- The Klein Drakenstein farming area located on the eastern border of the proposed site. An old farm shed is located on the eastern border adjacent to the proposed site, but falls outside the proposed building footprint and will not be demolished.
- An upper stormwater catchment dam is situated in the far eastern section of proposed Portion 35 of Farm 527, as mentioned above.
- A lower stormwater catchment dam is situated next to the Allandale Correctional Centre, on Portions 6 and 7 of Farm 527.
- Nederburg wine estate borders the south-eastern perimeter of the proposed site.
- Staff quarters of the Allandale Correctional Centre are located on the adjacent erven along the south- and western boundaries of the site on Portions 5 and 31 of Farm 527, respectively.
- The Paarl East Police Station is located approximately 500m south-west of the site on Erf 8419.
- The four erven located next to the western border, on which the existing Allandale Correctional Centre is situated, are zoned for Government Purposes and are used as such.
- The Dal Josafat Sports Grounds are located approximately 650m west of the proposed site.
Figure 8.10: Annotated Google Earth image (2010) indicating the various surrounding land uses around proposed Portions 32 and 35 of Farm 527. The yellow border indicates the proposed site and the red border the Allandale Correctional Centre property.
8.2.8 ANIMALS / FAUNA

Due to the current level of human interference on site as well as surrounding neighbourhoods the presence of wildlife is unlikely during construction and operational phases. No wildlife was seen during site visits on 26 January 2011 and 10 April 2011.

Mammals

Of the 59 mammal species that could potentially occur on the proposed site under natural conditions, only 10 could potentially occur within the study site (Refer to Table 8.1).

No threatened and/or red data mammal species are expected to occur on the site or footprint for the proposed development.

Table 8.1: Mammal species that may occur on the site (after the 2005 Environmental Impact Assessment Report compiled by Strategic Environmental Focus)

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Crocidura cyanea</em></td>
<td>Reddish-grey Musk Shrew</td>
<td>May be found in the cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td><em>Rousettus aegyptiacus</em></td>
<td>Egyptian Fruit-bat</td>
<td>May occur on the farmland area to the East of the existing Allandale Correctional Centre</td>
</tr>
<tr>
<td><em>Eptesicus capensis</em></td>
<td>Cape Serotine Bat</td>
<td>May occur over the total area of the proposed development</td>
</tr>
<tr>
<td><em>Lepus saxatilis</em></td>
<td>Scrub Hare</td>
<td>May be found in the cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td><em>Steatomys krebsii</em></td>
<td>Krebs’s Fat Mouse</td>
<td>Cultivated and grassy areas on the proposed development site</td>
</tr>
<tr>
<td><em>Acomys subspinosus</em></td>
<td>Cape Spiny Mouse</td>
<td>May occur in the grassy area over the extent of the existing Allandale Correctional Centre</td>
</tr>
<tr>
<td><em>Rhabdomys pumilio</em></td>
<td>Striped mouse</td>
<td>May occur in the grassy area over the extent of the existing Allandale Correctional Centre</td>
</tr>
<tr>
<td><em>Mus minutoides</em></td>
<td>Pygmy mouse</td>
<td>In the whole area</td>
</tr>
<tr>
<td><em>Rattus rattus</em></td>
<td>House Rat</td>
<td>Area surrounding the existing Allandale prison complex</td>
</tr>
<tr>
<td><em>Herpestes ichneumon</em></td>
<td>Large grey mongoose</td>
<td>May occur around the existing gravel dams to the East of the Allandale Correctional Centre grounds, but may wander in the area of the proposed development</td>
</tr>
</tbody>
</table>

Avifauna

Of the 205 species likely to occur in the region surrounding the study area, approximately 20 species may be found on the existing Allandale Prison facility footprint area. (Please refer to Table 8.2).
Table 8.2: Avifauna species that may occur on the site (after the 2005 Environmental Impact Assessment Report compiled by Strategic Environmental Focus)

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burhinus capensis</td>
<td>Spotted Dikkop</td>
<td>Area covered with grass on the proposed site</td>
</tr>
<tr>
<td>Coturnix coturnix</td>
<td>Common Quail</td>
<td>Cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td>Numida meleagris</td>
<td>Helmeted Guineafowl</td>
<td>Cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td>Streptopelia capicola</td>
<td>Cape turtle dove</td>
<td>Cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td>Streptopelia senegalensis</td>
<td>Laughing dove</td>
<td>Cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td>Columba guinea</td>
<td>Rock Pigeon</td>
<td>The Existing Allandale Correctional Centre buildings</td>
</tr>
<tr>
<td>Tyto alba</td>
<td>Barn Owl</td>
<td>May occur in the large Pinus Pinaster (Pine) trees next to the nursery in the North Eastern Corner of the existing Allandale Correctional Centre</td>
</tr>
<tr>
<td>Hirundo albigularis</td>
<td>Whitethroated Awallow</td>
<td>May occur at the existing Allandale Correctional Centre buildings</td>
</tr>
<tr>
<td>Apus caffer</td>
<td>Whiterumped Swift</td>
<td>May occur at the existing Allandale Correctional Centre buildings</td>
</tr>
<tr>
<td>Calandrella cinerea</td>
<td>Redcapped Lark</td>
<td>Grassy areas on the proposed site</td>
</tr>
<tr>
<td>Eremoptrix verticalis</td>
<td>Greybacked Finchlark</td>
<td>Cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td>Motacilla capensis</td>
<td>Cape Wagtail</td>
<td>Cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td>Corvus albus</td>
<td>Pied Crow</td>
<td>May feed in the cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td>Corvis capensis</td>
<td>Black Crow</td>
<td>May feed in the cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td>Corvis albicollis</td>
<td>Whitenecked Raven</td>
<td>May feed in the cultivated land and grassy areas on the proposed site</td>
</tr>
<tr>
<td>Ceromela sinuata</td>
<td>Sicklewinged Chat</td>
<td>Grassy areas on the proposed site</td>
</tr>
<tr>
<td>Lanius collaris</td>
<td>Fiscal Shrike</td>
<td>Total area of the proposed development especially the area next to the prison fence</td>
</tr>
<tr>
<td>Onychognathus morio</td>
<td>Redwinged Starling</td>
<td>May roost and breed near the existing Allandale Correctional Centre buildings</td>
</tr>
<tr>
<td>Passer domesticus</td>
<td>House sparrow</td>
<td>Total area of the existing Allandale Correctional Centre</td>
</tr>
<tr>
<td>Passer melanurus</td>
<td>Cape Sparrow</td>
<td>Total area of Allandale Correctional Centre</td>
</tr>
</tbody>
</table>
**Amphibians**

Although no amphibians were seen during the site visits, five species may occupy the gravel dam area to the east of the proposed site (Refer to Table 8.3). The majority of these species are widespread throughout the Western Cape and therefore relatively common within their respective areas of occupancy.

**Table 8.3: Possible Amphibian species that may occur on the site (after the 2005 Environmental Impact Assessment Report compiled by Strategic Environmental Focus)**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Xenopus laevis</em></td>
<td>Common Platanna</td>
<td>May occur at the water body (dam) to the East of the proposed development</td>
</tr>
<tr>
<td><em>Bufo rangeri</em></td>
<td>Raucous Toad</td>
<td>May occur at the water body (dam) to the East of the proposed development</td>
</tr>
<tr>
<td><em>Afrana fuscigula</em></td>
<td>Cape River Frog</td>
<td>May occur at the water body (dam) to the East of the proposed development</td>
</tr>
<tr>
<td><em>Bufo pantherinus</em></td>
<td>Western Leopard Toad</td>
<td>May occur in deep water of the dam to the East of the proposed development</td>
</tr>
<tr>
<td><em>Bufo angusticeps</em></td>
<td>Sand Toad</td>
<td>May occur at the dam to the East of the proposed development</td>
</tr>
</tbody>
</table>

**8.2.9 VEGETATION**

Natural vegetation historically (prior to any previous development or disturbance in the area) consisted of *Boland Granite Fynbos* (Vegetation Unit FFg 2), as classified by Mucina and Rutherford (2006). This vegetation type is considered endangered and approximately 48% is statutorily conserved in mountain catchment areas and nature reserves, including the Paarl Mountain Nature Reserve.

Very little to no natural vegetation exists in the area surrounding the proposed site. The area is transformed to low-cost housing developments, informal settlements, agriculture (vineyards) as well as the Allandale Correctional Centre and associated activities.

A relatively small area above the main inlet of the upper catchment dam on Portion 35 is marshy and consists of indigenous (woody and herbaceous species) and alien vegetation (Figure 8.11). The majority of indigenous vegetation on site is found in the vicinity of the catchment dam which is excluded from the proposed development footprint where the facility will be built. The latter is disturbed and is completely transformed through agricultural and other activities by the Allandale Correctional Centre (Figures 8.12). Alien species that occur on site mainly include Port Jackson (*Acacia saligna*), Black Wattle (*Acacia mearnsii*), Common reed (*Phragmites australis*) and *Eucalyptus* species.
Figure 8.11: A small area above the main inlet of the upper catchment dam is marshy and contains the only indigenous vegetation on site.

Figures 8.12: The proposed site is completely transformed and no natural veld exists on the building footprint where the proposed facility will be constructed.
8.2.10 NOISE

It is not expected that the local community will be affected. Current ambient noise levels are very low and existing noise consist of the following:

- Local community domestic noise;
- Vehicles passing to the north of the proposed site on the Bo Dal Josafat Road;
- Allandale Correctional Centre activities.

8.2.11 AIR QUALITY

The Drakenstein Local Municipality (DLM) aims to develop clear air quality objectives and strategies to ensure improvement in ambient air quality within DLM. The DLM Air Quality Management Plan was developed and is intended as a management and performance-monitoring tool for air quality control within the municipality. This must be adhered to where necessary.

The informal settlement north and north-east of the proposed site currently emits large volumes of smoke due to the use of firewood and coal for cooking and heating, especially during the winter months. Ambient dust levels are also affected by dust generated by reinstating farming activities during dry summer months and the use of gravel roads on the Allandale property.

At this stage it is uncertain whether there will be activities associated with the proposed project that will directly impact on air quality. Possible air pollution emissions e.g. coal burners associated with this development are included in the preliminary scope to be evaluated, and are removed by elimination as investigation reveal otherwise. The air quality aspect will thus be evaluated and reported on in more detail in the Final Scoping Report if it is found that the development poses potential impacts on air quality. The necessary air emission licence applications will then be undertaken as part of the EIA Phase, if required.

8.2.12 ARCHAEOLOGICAL, HISTORICAL AND CULTURAL INTEREST

A Heritage Impact Assessment (HIA) was conducted in 2005 by the Northern Flagship Institution as part of the previous EIA. At the time of compiling this report, only a short statement could be located and is included in Appendix H.

The farmhouse buildings in Figure 8.9 were viewed as having no significance and the HIA statement suggests that their demolition would not present a problem. No features, sites or artefacts of cultural significance that could be impacted on by the proposed development were found or referred to. The statement thus recommended that the proposed development could continue.

BolandEnviro is in the process of determining whether the previous Record of Decision (ROD) is still valid and a request was sent to Heritage Western Cape. An Archaeological Impact Assessment and / or a Heritage Impact Assessment will be conducted during the EIA phase, if necessary.
8.2.13 VISUAL ASPECTS

According to the Western Cape Department of Environmental Affairs and Development Planning’s Guideline for Involving Visual and Aesthetic Specialists in EIA Processes (2005) the terms visual and aesthetic refer to “a broad range of visual, scenic, cultural, and spiritual aspects that contributes to an area’s sense of place”.

Based on the nature of the project in its specific receiving environment, it is not expected that the proposed development will pose a significant visual impact or change the area’s sense of place. The proposed site does not have any significant conservation or cultural value, based on the preliminary findings of the previous approved EIA and current site visits.

The facility will be located inside Paarl’s urban edge and is proposed to be constructed adjacent to and on the property of the existing Allandale Correctional Centre and Paarl East Police Station, already zoned for Government purposes, i.e. Institutional Zone. No rezoning is thus necessary and the development is in line with the area’s developmental and Spatial Development Framework.

8.2.14 SOCIO-ECONOMIC ENVIRONMENT

Drakenstein Municipal area has one of the highest average incomes in the country with most households (57.6%) in the middle-income category. Despite this relative wealth, the socio-economic statistics show extreme deprivation and poverty (Census 2001). According to the Drakenstein Local Municipal Integrated Development Plan (DLM IDP) (2007 – 2012) the unemployment rate is 22.8%. A high level of unemployment and poverty are found, especially in the historically disadvantage communities. This results in the need to create economic opportunities with corresponding job creation. A broad overview of the social and economic sectors is provided below.

8.2.14.1 SOCIAL ENVIRONMENT

There is an increase in social problems in the area due to moral decay, poverty and poor social infrastructure and services. Issues on race, gender, people with disabilities, the elderly and youth are challenges facing the community, affect the economic sustainability of the area and the social integrity of communities.

Drakenstein has the largest population of all the municipalities in the Cape Winelands District Municipal area, with a total population of 194 419 (Census 2001). The total population is projected to decline at a rate of -0.2% per annum. The rural population constitutes 18.28% and the urban population 81.72%. The dependency rate is declining and 2006 was 46.4%. It was expected to decline further to 43.3% in 2010.

According to Census 2001 data the municipality has an illiteracy rate of 23%, with a total of 6.4% of citizens having no formal schooling. It is estimated that a total of 44% of the labour force is employed in the low skilled categories, with only 19% in highly skilled occupancies.
The DLM IDP (2007 – 2012) indicates that a general reduction in the levels of safety and security is being experienced. The increase in levels of crime impacts on the quality of life and threatens the economic base through a loss in investor’s confidence.

The IDP further states that Drakenstein experiences a high incidence of road traffic accidents with often life threatening consequences. Traffic calming and law enforcement should be adhered by the local municipality.

8.2.14.2 ECONOMIC ENVIRONMENT

Drakenstein is the second largest economic centre in the Western Cape and the largest contributor towards the Cape Winelands District Municipality GDPR (40%). The economy is fairly diversified with the manufacturing sector as the biggest contributor to the GGP (26.6%) and the second largest employer (22.9%). Manufacturing however is declining since 1998, with resulting job losses in especially the clothing and textile industry. Retail and trade is the second largest growth sector, with agriculture as third (14.9%) place. Agriculture is the largest employer (29%), but much of the employment is seasonal.

Drakenstein Municipality has one of the highest average incomes in the country, with approximately 57.6% falling within the middle-income category. Several communities however are classified as extremely poor. It is estimated that 42% of households earn below the household subsistence level. The region has an unemployment rate of 22.8%, with approximately 10.5% of households not receiving any income. The high levels of unemployment and poverty are found primarily in the historically disadvantaged communities.

The municipality therefore aims to facilitate job creation and training to the unemployed and unskilled. The municipality encourages the use of local unemployed labour to upgrade infrastructure through Public Works Programmes.

8.2.15 SENSITIVE AND VULNERABLE LANDSCAPES

A main focus for conservation in Paarl is identified core sites, which includes a green spine along the eastern boundary of town. To counter recent increases in low-income housing development to the east of Jan van Riebeeck Drive, the Spatial Development Framework proposes that established farms be used as a barrier between urban areas and core conservation areas to the east of Paarl.

The proposed development will not impact on sensitive natural and cultural areas. It is located inside of the Paarl urban edge, adjacent to the Klein Drakenstein farming area. The development may assist in preventing urban sprawl.

8.2.16 CONCLUSION

It is concluded that the integrity of the social, economic, natural environmental and cultural/historic heritage of the area is under pressure. The quality of the natural environment is under threat due to the ongoing loss of biodiversity and decay of essential ecological systems due to poor land use.
management practices, unsustainable resource utilisation and general environmental decay. The area has some unique and healthy natural environmental habitats that are at risk if not properly managed. There is also a need to address the integrity of the cultural/historic heritage.

The proposed development is, however, not expected to have a significant impact on its receiving environment as it will be constructed on a vacant piece of land that has been completely transformed and used for agricultural purposes and is already zoned for Government (Institutional Use). Energy and water saving- and scarce resource consumption guidelines developed for the Drakenstein Municipal Area will be considered and, where possible, implemented into the design, construction and operation of the proposed facility in order to contribute to the conservation of the ecological integrity of the greater area.
9. IDENTIFICATION OF POTENTIAL ENVIRONMENTAL IMPACTS

9.1 EIAs AND BIODIVERSITY

Biodiversity encompasses the diversity of all living things (plants and animals), their habitats, and the processes and interactions by which they are sustained. Biodiversity is maintained by ecological processes such as pollination, nutrient cycling, fire, floods and the migration of species. The systems in which these living components and the non-living environment (water, soil) relate to and interact with each other are termed ecosystems.

Ecosystems deliver a number of services, on which ALL social and economic sectors are dependent. Every aspect of our livelihoods depends on these services. And because of our total dependence on natural systems for oxygen, water, food and shelter, it is essential that land-use decisions are guided by biodiversity considerations and the maintenance of healthy functioning ecosystems. This is the very essence of sustainable development.

The loss of biodiversity through disturbance or development thus impacts on ecosystem functioning, thereby reducing the delivery of ecosystem services. It is therefore vital that an EIA considers the full spectrum of the environment during its scoping and impact assessment phases.

9.2 SCOPING PROCESS AND METHODOLOGY

Scoping is widely recognised as a critical step in the EIA process. It is the first step in the preparation of an EIA. Scoping identifies significant issues from a broad range of potential problems that require further investigation, whilst simultaneously eliminating those that are of little or no concern. This ensures that the EIA studies remain focused on the significant effects, and that time and money are not wasted on unnecessary issues. The participation by public, authorities and non-governmental organisations form an integral part of the scoping process. This ensures that integral issues are not overlooked in the EIA phase. Significant issues are then carried forward into the EIA phase and subsequently the Environmental Management phase.

Key issues are typically determined and scoped by means of a site visit, a legal review and desktop literature study based on similar developments and other EIAs, through public participation process and ongoing consultation with the developer (Applicant) and relevant authorities.

The scoping and subsequent assessment of anticipated environmental, socio-economic, cultural and archaeological issues during the life cycle of the proposed project is assessed according to the following attributes:

- The nature of the proposed project and receiving environment;
- The likelihood or probability of an impact occurring during the life-cycle of the proposed project;
- Extent and duration of a potential impact;
- Severity of a potential impact as measured by its magnitude;
The consequence of the occurrence of a potential impact;
Subsequent significance of impacts before mitigation;
The cumulative impacts of the proposed project;
The legal, policy and planning context of the proposed project; and
The socio-economic and environmental priorities of Interested and Affected Parties (I&APs).

At this stage of the assessment, significance is identified on a broad level in order to identify aspects and impacts that may require additional input or study. Note that at this stage significance is only rated in terms of the significance without mitigation measures. The mitigation measures will be identified and proposed in the EIA phase of the project and is intended to either eliminate or reduce the significance of potential impacts.

A more in-depth impact assessment is undertaken during the EIA phase by means of either specialist input or further more detailed discussion in the EIA Report. Impacts identified with high, high-medium, medium or medium-low significance ratings are considered and focused on. The methodology to be used for the assessment of impacts is described in the PoS for EIA (Chapter 10).

9.3 ENVIRONMENTAL ISSUES

9.3.1 VEGETATION

The proposed site is disturbed and consists of vacant derelict land that is currently used for the cultivation of vegetables for consumption by the Allandale Correctional Centre. The only natural vegetation on site is located above the main inlet of the upper catchment dam on Portion 35. This piece of land, however, falls outside the proposed building footprint. No additional natural vegetation will therefore be cleared for the proposed development.

The surrounding area has mostly been transformed by housing developments, agricultural activities and associated activities by the adjacent Allandale Correctional Centre. The proposed development is unlikely to have an impact on the loss of the vegetation type or connectivity.

9.3.2 ANIMALS

The large Eucalyptus and Pinus trees in the north-eastern corner of the proposed site currently provides habitat for bird species. Although an alien species, their removal will result in a loss of habitat for certain species.

9.3.3 WATER RESOURCES

The storage and use of fuel and lubricants (and other hydrocarbons) on site can cause surface and groundwater contamination through spillage and leakage.
If the sanitary and ablution facilities during the construction phase are inadequate, it may result in surface and groundwater contamination.
Leaking sewage pipelines could lead to spills and contamination, especially if the pipelines are within 100 m of a watercourse.
The transformation and hardening of land surfaces can increase the runoff siltation and negatively impact on water quality.

Water provision needs to be made for approximately 3600 people (inmates and staff), which may place significant pressure on the water resources of the area.

9.3.4 STORM WATER

The hardening of open land increases the quantity of surface run-off water, as infiltration is reduced. Storm water management will be addressed as 50% - 60% coverage of the built footprint is expected.

An increase in storm water runoff will influence rainwater infiltration and retention, facilities may be required.

9.3.5 SOILS AND EROSION

Soil compaction is expected during construction and operational activities.

Increased storm water runoff could induce a higher risk of soil erosion.

The increase of dust levels may occur during the construction phase.

9.3.6 ATMOSPHERIC POLLUTION

Dust will be generated during the construction phase, and may have a negative impact on neighbouring communities and vineyards.

The burning of any waste, if permitted during the construction phase may add to the air pollution.

The operational activities associated with emissions from activities for water heating and cooking. All air pollution generating facilities (e.g. coal burners) associated with the project are included in the scope of elements to be evaluated, and are removed by elimination as investigations reveal otherwise.

Air quality aspects will be evaluated and reported on in more detail in the Final Scoping Report and/or Draft Environmental Impact Assessment Report.

The necessary applications may be made should the scoping phase reveal that there are activities that require licences.

9.3.7 WASTE AND POLLUTION CONTROL

Different types of waste will be generated during the construction and operational phases of the proposed project, including building rubble, hazardous, industrial, domestic, sewage and medical waste.

The scoping phase is in the process of identifying and classifying waste.

Appropriate mitigation measures will be proposed during the EIA Phase and form part of the Environmental Management Programme.

9.3.8 RISK OF FIRES AND EXPLOSIONS

The storage of fuel or liquid petroleum gas (LPG) carry risks associated with fires and explosions.
9.3.9 VISUAL IMPACT

- The facility will be based inside the Paarl urban edge, next to the existing Allandale Correctional Centre and Paarl East Police Station, on a property that is zoned for this purpose.
- The proposed site is currently fenced. The new perimeter fence lines should therefore not create a significant visual impact to neighbouring communities.
- The buildings and associated infrastructure of the proposed development can be customised to meet architectural guidelines in order to fit into the surroundings to decrease potential visual intrusion in the landscape.
- Increased light pollution from the operation phase is expected due to the security requirements associated with the Correctional Centre.
- Visual impacts will be investigated during the EIA Phase.

9.3.10 IMPACT ON EXISTING INFRASTRUCTURE

- Traffic Impact: The residential areas to the north of the proposed site have expanded since the previous Traffic Impact Assessment (TIA) was conducted in 2005. The previous TIA did however make provision for the expansion. It is recommended to update the TIA.
- Electricity: An extension is proposed for a 3.5 MVA connection to augment the existing infrastructure. The facility will increase the use of energy resources.
- Sewage reticulation: A bulk sewer pipeline is proposed to be installed to augment the existing infrastructure and secure capacity to accommodate the development.
- Water Provision: A bulk water supply system is proposed to augment the existing infrastructure and secure capacity to accommodate the development.
- According to the GLS reports and updated Master Plans the water and sewage augmentation will be constructed inside existing road reserves. The alternative routes and associated impacts will be investigated during the EIA Phase.

9.3.11 HERITAGE RESOURCES

- A Heritage Impact Assessment (HIA) was conducted in 2005 by the Northern Flagship Institution as part of the previous EIA. According to a statement no historical buildings or archaeological features will be impacted on by the development.
- BolandEnviro is in the process of determining whether the 2005 Record of Decision can be located and whether it is still valid. Heritage Western Cape will confirm this or whether a new study should be undertaken.

9.3.12 SAFETY AND SECURITY

- Construction activities may lead to injuries to workers or the public.
- Measures must be taken to ensure that security measures are in place at all times to prevent loitering during the construction phase and the escape of inmates during the operational phase.
9.3.13 HYGIENE AND HEALTH IMPACT

- The workshops, ablution, medical and kitchen facilities could pose a risk to the health of staff and inmates if not properly managed.

9.3.14 SOCIO-ECONOMIC IMPACTS

- Correctional Centres (prisons) are controversial and there are many aspects such as safety and security and post-release of inmates which will be evaluated during the public participation process and subsequent EIA Phase.
- The proposed facility will contribute to the objectives of the New-Generation Correctional Centres, combating overcrowding, improving living conditions and rehabilitation of offenders.
- Local contractors and service industries will benefit from the proposed development during construction and operational phases.
- The exact number of employment opportunities during the construction phase is uncertain. It is estimated that approximately 600 employment opportunities would be created during the operational phase of the proposed development.
- BolandEnviro is in the process of sourcing the previous Socio-Economic Impact Assessment to determine whether the information and recommendations are still relevant. A specialist may be appointed to conduct a new investigation during the EIA Phase.
10. PLAN OF STUDY

10.1 PURPOSE OF THE PLAN OF STUDY FOR EIA

The Plan of Study (PoS) is intended to provide a summary of the key findings of the Scoping Phase of the EIA and to describe the activities to be undertaken in the Impact Assessment Phase of the EIA. The document should provide the following information:

- A description of the tasks that will be undertaken as part of the environmental impact assessment process, including any specialist reports or specialized processes, and the manner in which such tasks will be undertaken;
- An indication of the stages at which the component authority will be consulted;
- A description of the proposed method of assessing the environmental issues and alternatives, including the option of not proceeding with the activity; and
- Particulars of the public participation process that will be conducted during the environmental impact assessment process.

10.2 TASKS TO BE UNDERTAKEN

The following is a list of tasks (with estimated timeframes) to be performed as part of the EIA Process.

<table>
<thead>
<tr>
<th>Table 10.1: Tasks to be undertaken during the EIA Phase of the proposed project</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EIA PROCESS</strong></td>
</tr>
<tr>
<td>Receive acknowledgement of receipt of Final Scoping Report</td>
</tr>
<tr>
<td>Receive approval of the Plan of Study for EIA.</td>
</tr>
<tr>
<td>Undertake specialist studies.</td>
</tr>
<tr>
<td>Compile draft Environmental Impact Report (EIR) and draft Environmental Management Program (EMP)</td>
</tr>
<tr>
<td>Advertise and release draft EIR and EMP for public comment (40 days)</td>
</tr>
<tr>
<td>Receive comments on the draft EIR and EMP</td>
</tr>
<tr>
<td>Preparation and release of the FINAL EIR and draft EMP for comment to registered I&amp;APs and commenting authorities (21 days)</td>
</tr>
<tr>
<td>Receive comments on the Final EIR and draft EMP</td>
</tr>
<tr>
<td>Submit Final EIR and draft EMP to DEA</td>
</tr>
<tr>
<td>Await acknowledgement of receipt and subsequent decision on the granting or refusal of environmental authorisation.</td>
</tr>
</tbody>
</table>
The EIA process is iterative by nature and it should therefore be appreciated that the above dates are provided as guidance only and are subject to change. Should the process be modified significantly DEA will be informed of changes to the timeframe.

10.3 METHODOLOGY TO BE FOLLOWED DURING THE EIA PHASE

10.3.1 IMPACT ASSESSMENT METHODOLOGY

The objective of the assessment of impacts is to identify and assess all the significant impacts that may arise as a result of the development of the proposed New-Generation Correctional Centre in Paarl. A description of the assessment criteria and methodology is provided below.

Risk is typically determined by three factors:

1. How often it occurs (likelihood, frequency, probability)
2. Severity of the event (consequence, severity, magnitude, impact)
3. How long it will occur (exposure)

Risk is calculated using the following formula:

\[ \text{Risk (Significance)} = \text{likelihood} \times \text{consequence} \]

These attributes were further refined to the following:

\[ \text{LIKELIHOOD} = \text{frequency} + \text{probability} \]
\[ \text{EXPOSURE} = \text{extent} / \text{scale} (\text{geographical or spatial}) + \text{duration} \]
\[ \text{SEVERITY} \text{ is determined by the MAGNITUDE of the action - MAGNITUDE considers different fields including:} \]
\[ \begin{align*}
& \bullet \text{ Health, Safety, Community & Cultural Heritage} \\
& \bullet \text{ Natural Environment;} \\
& \bullet \text{ Economics}
\end{align*} \]
\[ \text{CONSEQUENCE} = \text{exposure} + \text{severity} \]
\[ \text{SIGNIFICANCE} = \text{LIKELIHOOD} \times \text{CONSEQUENCE} \]

The method uses an Excel spreadsheet with a list of identified aspects (biological, social, economic, cultural/heritage) and uses the attributes to calculate the significance of potential impacts, before and after mitigation, on each aspect. Each criterion is assigned a numerical value and with the resulting calculation giving a significance risk rating ranging from Low; Low – Medium; Medium; Medium – High; High.

The following criteria (including an allocated point system) will be used for the assessment of potential impacts (Table 10.2):
Table 10.2: BolandEnviro Environmental Impact Assessment Rating System Used to Classify Impacts.

**Parameter Weighting:**

<table>
<thead>
<tr>
<th>Attribute &amp; Definition</th>
<th>Value</th>
<th>Exposure / Probability</th>
<th>Frequency</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nature of the impact:</strong> A description of positive or negative effect of the project on the affected environment, or vice versa.</td>
<td>Positive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Direct</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indirect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cumulative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Synergistic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Frequency of action happening:</strong> The number of times that an event occurs within a given period; rate of recurrence.</td>
<td>7</td>
<td>Continuous</td>
<td>&gt; 1/day; once per shift</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Very frequent</td>
<td>1/day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Frequent</td>
<td>1/month</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Occasional</td>
<td>&gt; 1/year</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Unusual/rare</td>
<td>&gt; 1/5 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Very rare</td>
<td>&gt; 1/10 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Remote</td>
<td>&gt; 1/100 years</td>
<td></td>
</tr>
<tr>
<td><strong>Probability / Risk potential:</strong> Describes the likelihood of the impact actually occurring.</td>
<td>7</td>
<td>Certain / Definite</td>
<td>&gt; 1/week</td>
<td>Happens frequently; the impact will occur regardless of the implementation of any preventative or corrective actions.</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Almost certain / High probability</td>
<td>&gt; 1/month</td>
<td>Happens often; It is most likely that the impact will occur.</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Likely</td>
<td>&gt; 1/year</td>
<td>Could easily happen / The impact may occur.</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Probable</td>
<td>1/5 years</td>
<td>Could happen / Has occurred here or elsewhere.</td>
</tr>
<tr>
<td>Likelihood</td>
<td>Unlikely / Low probability</td>
<td>Rare / Improbable</td>
<td>Highly unlikely / None</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------</td>
<td>-------------------</td>
<td>-----------------------</td>
<td></td>
</tr>
<tr>
<td>Probability</td>
<td>1/30 years</td>
<td>1/100 years</td>
<td>1/1000 years</td>
<td></td>
</tr>
<tr>
<td>Possible Impact</td>
<td>Has not happened yet, but could happen once in the lifetime of the project. There is a possibility that the impact will occur.</td>
<td>Conceivable, but only in extreme circumstances. Has not happened during lifetime of the project, but has happened elsewhere. The possibility of the impact materialising is very low as a result of design, historic experience or implementation of adequate mitigation measures.</td>
<td>Expected never to happen. Impact will not occur.</td>
<td></td>
</tr>
</tbody>
</table>

**Likelihood (Frequency + Probability):** The possibility of an uncertain future event occurring. It is determined by the frequency of the action that can lead to an event, together with the probability of the event happening.

**Geographical Extent / Scale:** A measure of how widely the impact would occur.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>International</td>
</tr>
<tr>
<td>6</td>
<td>National</td>
</tr>
<tr>
<td>5</td>
<td>Province / Region</td>
</tr>
<tr>
<td>4</td>
<td>Municipal area</td>
</tr>
<tr>
<td>3</td>
<td>Local</td>
</tr>
<tr>
<td>2</td>
<td>Limited</td>
</tr>
<tr>
<td>1</td>
<td>Very limited</td>
</tr>
</tbody>
</table>

**Duration:** A measure of the lifespan of the impact(s) associated with the proposed activity.

<table>
<thead>
<tr>
<th>Duration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Permanent - no mitigation</td>
</tr>
<tr>
<td>6</td>
<td>Permanent - mitigated</td>
</tr>
<tr>
<td>5</td>
<td>Project life</td>
</tr>
<tr>
<td>4</td>
<td>Long term</td>
</tr>
</tbody>
</table>

**Duration Options:**
- **Permanent - no mitigation:** No mitigation measures of natural process will reduce the impact after implementation.
- **Permanent - mitigated:** Mitigation measures of natural process will reduce the impact.
- **Project life:** The impact will cease after the operational life span of the project.
- **Long term:** 6-15 years; during the operational phase, but not permanently.
### EXPOSURE (Geographical Extent + Duration):
Determined by the duration of the action together with the geographical extent/scale of the event.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Medium term</td>
<td>1-5 years; during part of the operational phase</td>
</tr>
<tr>
<td>2</td>
<td>Short term</td>
<td>Less than one year; during the construction phase</td>
</tr>
<tr>
<td>1</td>
<td>Immediate</td>
<td>Less than one month</td>
</tr>
</tbody>
</table>

#### Social: Health & Safety:
Issues relating to impact on health and safety risks ranging from minor to fatal risks.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>&gt; 500 fatalities or very serious irreversible injury to 5000 persons</td>
</tr>
<tr>
<td>6</td>
<td>&gt;50 fatalities, or very serious irreversible injury to &gt;500 persons</td>
</tr>
<tr>
<td>5</td>
<td>Multiple fatalities, or significant irreversible effects to &gt;50 persons</td>
</tr>
<tr>
<td>4</td>
<td>Single fatality or hospitalisation and/or severe irreversible disability (&gt;30%) to one or more persons</td>
</tr>
<tr>
<td>3</td>
<td>Moderate irreversible disability or impairment (&gt;30%) to one or more persons. One or more lost-time injuries.</td>
</tr>
<tr>
<td>2</td>
<td>Objective but reversible disability requiring first aid visit to medical station or doctor.</td>
</tr>
<tr>
<td>1</td>
<td>Near misses or minor injury that does not require medical treatment.</td>
</tr>
</tbody>
</table>

#### Social: Heritage / Cultural:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Irreparable damage to highly valued items of great cultural significance or complete breakdown of social order.</td>
</tr>
<tr>
<td>6</td>
<td>Irreparable damage to highly valued items of cultural significance or breakdown of social order.</td>
</tr>
<tr>
<td>5</td>
<td>Very serious widespread social impacts. Irreparable damage to highly valued items.</td>
</tr>
<tr>
<td>4</td>
<td>Ongoing serious social issues. Significant damage to structures/items of cultural significance.</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3</td>
<td>Ongoing social issues. Damage to items of cultural significance.</td>
</tr>
<tr>
<td>2</td>
<td>Minor medium-term social impacts on local population. Mostly repairable. Cultural functions and processes not affected.</td>
</tr>
<tr>
<td>1</td>
<td>Low-level repairable damage to common-place structures.</td>
</tr>
</tbody>
</table>

**Natural Environment:**

<table>
<thead>
<tr>
<th>7</th>
<th>Very significant impact on the environment. Irreparable damage to highly valued species, habitat or ecosystem. Persistent severe damage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Significant impact on highly valued species, habitat or ecosystem.</td>
</tr>
<tr>
<td>5</td>
<td>Very serious long-term environmental impairment of ecosystem function that may take several years to rehabilitate.</td>
</tr>
<tr>
<td>4</td>
<td>Serious medium-term environmental effects. Environmental damage can be reversed in less than a year.</td>
</tr>
<tr>
<td>3</td>
<td>Moderate, short-term effects but not affecting ecosystem functioning. Rehabilitation requires intervention of external specialists and can be done in less than a month.</td>
</tr>
<tr>
<td>2</td>
<td>Minor effects on biological or physical environment. Environmental damage can be rehabilitated internally with/without help of external consultants.</td>
</tr>
</tbody>
</table>
### Economics:

Issues relating to economic impact of the proposed development on the receiving environment.

<table>
<thead>
<tr>
<th>Severity</th>
<th>Description</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Very significant impact at a National scale (10 000's jobs created / lost, R 10 million income earned / lost, major foreign exchange impact)</td>
<td>Very significant impact at a National scale (10 000's jobs created / lost, R 10 million income earned / lost, major foreign exchange impact)</td>
</tr>
<tr>
<td>6</td>
<td>Significant impact at a Regional scale (1000's jobs created / lost, R millions income earned / lost)</td>
<td>Significant impact at a Regional scale (1000's jobs created / lost, R millions income earned / lost)</td>
</tr>
<tr>
<td>5</td>
<td>Significant impact at a Local scale (100's jobs created / lost, R 100 thousands income earned / lost)</td>
<td>Significant impact at a Local scale (100's jobs created / lost, R 100 thousands income earned / lost)</td>
</tr>
<tr>
<td>4</td>
<td>Moderate economic impact at local scale (10's jobs created / lost, R 10 thousands income earned / lost)</td>
<td>Moderate economic impact at local scale (10's jobs created / lost, R 10 thousands income earned / lost)</td>
</tr>
<tr>
<td>3</td>
<td>Moderate economic impact at local scale, few jobs created / lost, low levels of income / loss expected.</td>
<td>Moderate economic impact at local scale, few jobs created / lost, low levels of income / loss expected.</td>
</tr>
<tr>
<td>2</td>
<td>Low economic impact at site scale, few jobs created / lost, low levels of income expected.</td>
<td>Low economic impact at site scale, few jobs created / lost, low levels of income expected.</td>
</tr>
<tr>
<td>1</td>
<td>Insignificant economic impact, hardly measurable.</td>
<td>Insignificant economic impact, hardly measurable.</td>
</tr>
</tbody>
</table>

#### SEVERITY (Magnitude / Intensity):

Determined by the magnitude or intensity of the action (H&S, Environment, Social/Cultural, Community/Government, Legal)

#### CONSEQUENCE (Severity + Scale + Duration):

A result, effect or outcome of a previous occurrence.

#### SIGNIFICANCE (Likelihood x Consequence):

Reversibility: This describes the degree to which an impact on an environmental parameter can be successfully reversed upon completion of the proposed activity.

<table>
<thead>
<tr>
<th>Reversibility</th>
<th>Description</th>
<th>Implication</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Irreversible</td>
<td>The impact is irreversible and no mitigation measures exist</td>
</tr>
<tr>
<td>3</td>
<td>Barely reversible</td>
<td>The impact is unlikely to be reversed even with intense mitigation measures</td>
</tr>
</tbody>
</table>

New-Generation Correctional Centre on Portions 32 and 35 of Farm 527, Paarl
<table>
<thead>
<tr>
<th>Degree of Mitigation</th>
<th>Partly reversible</th>
<th>Completely reversible</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>The impact is partly reversible but more intense mitigation measures</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>The impact is reversible with implementation of minor mitigation measures</td>
<td></td>
</tr>
</tbody>
</table>

**Irreplaceable Loss of Resources**: This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.

<table>
<thead>
<tr>
<th>Degree of Loss of Resources</th>
<th>Complete loss of resources</th>
<th>Significant loss of resources</th>
<th>Marginal loss of resource</th>
<th>No loss of resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>The impact will result in a complete loss of all resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>The impact will result in significant loss of resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>The impact will result in marginal loss of resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>The impact will not result in the loss of any resources</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cumulative Impact**: This describes the cumulative effect of the impacts on the environmental parameter. A cumulative effect/impact is an effect which in itself may not be significant, but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.

<table>
<thead>
<tr>
<th>Degree of Cumulative Impact</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
<th>Negligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>The impact would result in significant cumulative effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>The impact would result in minor cumulative effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>The impact would result in insignificant cumulative effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>The impact would result in negligible to no cumulative effects</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sources:**
- SIVEST Environmental Rating System Used to Classify Impacts.
10.3.2 PUBLIC PARTICIPATION PROCESS

Full copies of the Draft EIR and EMP will be available at the Groenheuwel Library in Paarl, the BolandEnviro office in Worcester and on our website www.BolandEnviro.co.za. Interested and affected parties will be notified of the Draft EIR by means of an advertisement in the local newspaper, the Paarl Post. In addition, registered I&APs and commenting authorities will be notified and copies (hardcopy and digital) of the Draft EIR and EMP will be posted to them via registered mail. The document will be made available for an initial 40-day public commenting period.

At the end of the comment period, the EIR and EMP will be revised with responses to comment received from I&APs. All comments received and responses to the comments will be incorporated into the Final EIR, after which it will be circulated to relevant authorities and registered I&APs for a final 21 day commenting period. The Final EIR and EMP will then be submitted to DEA for a decision.

Correspondence with I&APs and authorities will be via their preferred method i.e. by a combination of registered/normal post, fax, telephone, email and newspaper advertisements. All reports will be in English, with advertisements, notification letters, site notices and executive summaries in English and Afrikaans.

10.3.3 SPECIALIST STUDIES TO BE UNDERTAKEN DURING THE EIA PHASE

Based on the issues raised by I&APs and the project team, specialist studies will be undertaken to provide information to address concerns and assess the impacts of the proposed development on the environment. The following specialist studies is requested to be undertaken:

10.3.3.1 HERITAGE IMPACT ASSESSMENT (ARCHAEOLOGICAL & VISUAL)

In terms of the National Heritage Resources Act (No. 25 of 1999), a Heritage Impact Assessment (HIA) is required for this proposal.

An HIA was conducted in 2005 by the Northern Flagship Institution as part of the previous EIA. The buildings on site were viewed as having no significance and the HIA statement suggests that their demolition would not present a significant impact on cultural resources. No obvious features, sites or artefacts of cultural significance were found on site. It was thus recommended, from a heritage point of view, that the proposed development continue (Refer to Appendix H).

BolandEnviro is in the process of determining whether the previous (2005) Record of Decision has lapsed or is still valid. A HIA specialist study may be required.

A specialist Visual Impact Assessment (VIA) will also be undertaken to assess the extent of the visual impact on the receiving environment.
Mitigation measures will be separated into construction and operational phases. Specific management and monitoring requirements/guidelines will be included in the Construction and Operational Environmental Management Plans.

10.3.3.2 TRAFFIC IMPACT ASSESSMENT (TIA)

A TIA was conducted by PDNA Consultants in August 2005 to identify and assess possible traffic congestion and movement problems. The study considered two time horizons, namely the 2005 conditions, as well as future (2011) conditions with site traffic. The TIA Report concluded that no upgrades were required to cater for the new Paarl Correctional Centre.

It has been recommended that PDNA update the TIA during the EIA Phase.

According to a Planning Impact Report compiled by NM & Associates in 2005 the widening of Van der Stel Road was envisaged as part of a road improvement project. At the time it was a single lane in each direction and the intention was to widen it to two lanes in each direction as and when the need arises.

10.3.3.3 SOCIO-ECONOMIC IMPACT ASSESSMENT (SIA)

According to Department of Correctional Services a Socio-Economic Impact Assessment (SIA) was undertaken for the previous EIA (2005). BolandEnviro is locating the report and will include these findings.

It may be necessary to update or redo the SIA as part of the EIA Phase.

10.3.4 AUTHORITY CONSULTATION

It is envisaged that consultation with DPW, DCS and DEA conclude with the compilation of the following documents:

- Plan of Study for EIA;
- Draft EIR and EMP;
- Final EIR and EMP;
- Issuing of the Environmental Authorisation;
- Notification of the Appeal Process.

Additional consultation will be undertaken as necessary and when to ensure that the competent authority is aware of the project status.
10.4 CONCLUSION

The significance of the expected impacts associated with the proposed development and alternatives will be assessed as part of the EIA Phase. Once the specialist studies are complete, they will be summarised in the EIR and included in full or as Appendices.

Based on the significance of the issues raised during the ongoing Public Participation Process and Scoping Phase, it is evident that an Environmental Impact Assessment (EIA) is required. It is therefore recommended that authorisation for the commencement of an EIA for the proposed development be granted. Should the EIA process be authorised, the significant issues raised in the process to date will be addressed and the specialist studies as required, will be undertaken.
11. REFERENCES


