DRAFT BASIC ASSESSMENT REPORT

COUNTRY VIEW EXTENSION 16 ON A PART OF THE REMAINDER OF PORTION 1037 OF THE FARM RANDJESFONTEIN 405 JR

GAUT 002/15-16/E0202

February 2016

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Bryanston
2021

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CENTURY PROPERTY DEVELOPMENTS

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# TABLE OF CONTENTS

## SECTION A: ACTIVITY INFORMATION 6
1. PROPOSAL OE DEVELOPMENT DESCRIPTION 6
2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES 6
3. ALTERNATIVES 11
4. PHYSICAL SIZE OF THE ACTIVITY 12
5. SITE ACCESS 12
6. LAYOUT OR ROUTE PLAN 14
7. SITE PHOTOGRAPHS 15
8. FACILITY ILLUSTRATION 15

## SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT 16
1. PROPERTY DESCRIPTION 16
2. ACTIVITY POSITION 16
3. GRADIENT OF THE SITE 17
4. LOCATION IN LANDSCAPE 17
5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE 17
6. AGRICULTURE 18
7. GROUNDCOVER 18
8. LAND USE CHARACTER OF SURROUNDING AREA 21
9. SOCIO-ECONOMIC CONTEXT 21
10. CULTURAL/HISTORICAL FEATURES 22

## SECTION C: PUBLIC PARTICIPATION 23
1. ADVERTISEMENT 23
2. LOCAL AUTHORITY PARTICIPATION 23
3. CONSULTATION WITH OTHER STAKEHOLDERS 23
4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS 23
5. APPENDICES FOR PUBLIC PARTICIPATION 23

## SECTION D: RESOURCE USE AND PROCESS DETAILS 24
1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT 24
2. WATER USE 26
3. POWER SUPPLY 26
4. ENERGY EFFICIENCY 26

## SECTION E: IMPACT ASSESSMENT 27
1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES 27
2. IMPACTS RESULTING FROM THE CONSTRUCTION AND OPERATIONAL PHASE 27
3. IMPACTS RESULTING FROM THE DECOMISSIONING AND CLOSURE PHASE 40
4. CUMULATIVE IMPACTS 40
5. ENVIRONMENTAL IMPACT STATEMENT 41
6. IMPACT SUMMARY OF THE PREFERRED PROPOSAL 43
7. SPATIAL DEVELOPMENT TOOLS 47
8. RECOMMENDATION OF PRACTITIONER 47
9. THE NEED AND DESIRABILITY OF THE PROPOSED DEVELOPMENT 48
10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED 48
11. ENVIRONMENTAL MANAGEMENT PLAN (EMP) 48

SECTION F: APPENDICES 49

Appendix A: Site Plan
Appendix B: Site Photographs
Appendix C: Facility illustration
Appendix D: Route position information
Appendix E: Public participation information
   E1: Proof Site Notices
   E2: Written Notices Issued
   E3: Newspaper Advert
   E4: Communication with I&APs
   E5: Minutes of Meetings
   E6: Comments and Issues Report
   E7: Comments from I&APs on BAR
   E8: Comments from I&APs on amended BAR
   E9: Copy of Register of I&APs

Appendix F: Authorities comments/approvals
   F1: City ofJoburg Approval of the Township
   F2: Conditions of Establishment
   F3: Joburg Approval of the Outline Scheme
   F4: Gautrans Approval of Access
   F5: GDARD Decision on Land Use Query

Appendix G: Specialist reports
   G1: Ecological Assessment
   G2: Verification of Status Quo of Wetland and Grassland
   G3: Wetland and Riparian Delineation
   G4: Geotechnical Report
   G5: Town Planning Memo

Appendix H: Draft Environmental Management Programme (EMP)

Appendix I: Other information
   I1: Abridged Company Profile and CV

Kindly note that:

• This Basic Assessment Report is the standard report required by GDARD in terms of the EIA Regulations, 2014.

• This application form is current as of 8 December 2014. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.

• A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.

• A draft Basic Assessment Report (1 hard copy and two CD’s) must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application.

• Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.

• The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.

• Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.

• An incomplete report may lead to an application for environmental authorisation being refused.

• Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation being refused.

• The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the application for environmental authorisation being refused.

• No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.

• Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.

• Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.

DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development
Attention: Administrative Unit of the of the Environmental Affairs Branch
P.O. Box 8769
Johannesburg
2000

Administrative Unit of the of the Environmental Affairs Branch
Ground floor Diamond Building
11 Diagonal Street, Johannesburg

Administrative Unit telephone number: (011) 240 3377
Department central telephone number: (011) 240 2500
If this BAR has not been submitted within 90 days of receipt of the application by the competent authority and permission was not requested to submit within 140 days, please indicate the reasons for not submitting within time frame.

| N/A |

Is a closure plan applicable for this application and has it been included in this report? No

if not, state reasons for not including the closure plan.

| The application is for a mixed use township development and no ‘closure’ is envisaged |

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity? Yes

Is a list of the State Departments referred to above attached to this report including their full contact details and contact person? Yes

If no, state reasons for not attaching the list.

| N/A |

Have State Departments including the competent authority commented? Yes

If no, why?

| |
SECTION A: ACTIVITY INFORMATION

1. PROPOSED DEVELOPMENT OR DESCRIPTION

Project title (must be the same name as per application form):

Proposed mixed use township development to be known as Country View Extension 16

Select the appropriate box

<table>
<thead>
<tr>
<th>The application is for an upgrade of an existing development</th>
<th>The application is for a new development</th>
<th>Other, specify</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Does the activity also require any authorisation other than NEMA EIA authorisation?  

Yes  No

If yes, describe the legislation and the Competent Authority administering such legislation

National Water Act, 19 administered by the national Department of Water and Sanitation

If yes, have you applied for the authorisation(s)?

Yes  No

If yes, have you received approval(s)? (attach in appropriate appendix)

Yes  No

2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations:

<table>
<thead>
<tr>
<th>Title of legislation, policy or guideline:</th>
<th>Administering authority:</th>
<th>Promulgation Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Heritage Resources Act, 1999 (Act No. 45 of 1965 (NHRA)</td>
<td>National &amp; Provincial</td>
<td>April 1999</td>
</tr>
<tr>
<td>EIA Regulations GN 983 (Listing Notice 1)</td>
<td>National and Provincial</td>
<td>4 December 2014</td>
</tr>
<tr>
<td>EIA Regulations GN 985 (Listing Notice 3)</td>
<td>National and Provincial</td>
<td>4 December 2014</td>
</tr>
<tr>
<td>Gauteng Provincial Environmental Management Framework</td>
<td>Provincial</td>
<td>May 2015</td>
</tr>
<tr>
<td>Red List Plant Species Guidelines</td>
<td>Provincial</td>
<td>26 June 2006</td>
</tr>
<tr>
<td>GDARD Draft Ridges Policy</td>
<td>Provincial</td>
<td>2001</td>
</tr>
<tr>
<td>Gauteng Noise Control Regulations, 1999</td>
<td>Provincial</td>
<td>1999</td>
</tr>
<tr>
<td>Johannesburg Open Space Management System (JMOS)</td>
<td>City of Johannesburg</td>
<td>2002</td>
</tr>
<tr>
<td>City of Joburg Biodiversity Strategy and Action Plan 2015</td>
<td>City of Johannesburg</td>
<td>2009</td>
</tr>
</tbody>
</table>
**Description of compliance with the relevant legislation, policy or guideline:**

<table>
<thead>
<tr>
<th>Legislation, policy of guideline</th>
<th>Description of compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Environmental Management Act No. 107 of 1998 (NEMA)</td>
<td>The National Environmental Management Act (Act No. 107 of 1998) (NEMA) is the overarching framework for environmental legislation as well as the Regulations for Environmental Impact Assessment. It sets out the principles that serve as a general framework for environmental planning, as guidelines by reference to which organs of state must exercise their functions and guide other laws concerned with the protection or management of the environment. The application takes into account the environmental and socio-economic conditions in compliance with the NEMA principles.</td>
</tr>
<tr>
<td><strong>The National Environmental Management: Biodiversity Act (Act 10 of 2004)</strong></td>
<td>The Act provides for the management and conservation of South Africa’s biodiversity within the framework of the NEMA. Areas of high biodiversity need to be protected. Should any protected plants be found on site, these will be managed in consultation with GDARD.</td>
</tr>
<tr>
<td><strong>The National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)</strong></td>
<td>No waste management license would be required for the construction or operational phases of the proposed activity. Only a limited amount of solid construction waste will be stored and handled on the site, before being hauled away and dumped at the nearest registered landfill site.</td>
</tr>
<tr>
<td><strong>The National Water Act, 1998 (Act No. 36 of 1998)</strong></td>
<td>The Act provides for the management of South Africa’s water resources. It aims to ensure that the Republic’s water resources are protected, used, developed, conserved and controlled. According to the Act, any proposed water uses must be specified and registered and/or licensed. Similarly, any modifications to drainage lines on site must be investigated in terms of water use requirements. Consequently a water use licence will be submitted if required.</td>
</tr>
<tr>
<td><strong>National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) (NEM:AQA)</strong></td>
<td>During the construction phase, dust and the generation of noise can become a significant factor, especially to the surrounding landowners. However if the development is well planned and the mitigating measures proposed in the EMPr are successfully implemented the proposed development’s contribution to air pollution and the generation of air pollution can become less significant.</td>
</tr>
<tr>
<td><strong>National Heritage Resources Act, 1999 (Act No. 45 of 1999 (NHRA)</strong></td>
<td>The Act aims to promote the good management of the national heritage resources. According to the Act the South African Heritage Resources Agency (SAHRA) must be notified during the early planning phases of a project for any development that meet certain criteria. The Agency has been notified as required. Any artefacts uncovered during the construction phase will be reported to SAHRA as provided for in the EMPr.</td>
</tr>
<tr>
<td><strong>Occupational Health and Safety Act (No 85 of 1993)</strong></td>
<td>The Act provides for the health and safety of persons at work and for the health and safety of persons in connection with the use of machinery; the protection of persons other than persons at work, against hazards to health and safety arising out of or in connection with the activities of persons at work. The EMPr provides for measures to ensure that objectives of the Act are met on this site.</td>
</tr>
<tr>
<td><strong>EIA Regulations, 2014 GN R 983 and GN R985</strong></td>
<td>The proposed development constitutes an activity listed under GN R. 983 and GN R 985 for which a Basic Assessment Report process is being followed to obtain authorisation from the GDARD.</td>
</tr>
<tr>
<td><strong>Gauteng Provincial Environmental Management Framework</strong></td>
<td>The aim of the EMF is to guide protection and enhancement of environmental assets and natural resources along with development patterns to ensure sustainable environmental management and development patterns within and around the Gauteng Province. The development site is located in Zone 1 which aims to promote development infill, densification and concentration of urban development within the urban development zones as defined in the Gauteng Spatial Development Framework (GSDF), in order to establish a more effective and efficient city region that will minimise urban sprawl into rural areas. The proposed development is fully supportive of the objectives of the EMF.</td>
</tr>
<tr>
<td><strong>Red List Plant Species Guidelines</strong></td>
<td>The purpose of these guidelines is to promote the conservation of Red List Plant Species in Gauteng, which are species of flora that face risk of extinction in the wild. By protecting Red List Plant Species, conservation of diverse landscapes is promoted which forms part of the overall environmental preservation of diverse ecosystems, habitats, communities, populations, species and genes in Gauteng.</td>
</tr>
<tr>
<td><strong>GDARD Draft Ridges Policy</strong></td>
<td>As no ridges are located within the site, the policy does not apply.</td>
</tr>
<tr>
<td><strong>Gauteng Noise Control Regulations, 1999</strong></td>
<td>During the construction phase the impact of noise could be problematic, but such impacts are generally short term. One should note that practical mitigation measures for noise pollution are low, but certain measures can be implemented to mitigate the severity. These measures have been provided for in the EMPr.</td>
</tr>
<tr>
<td><strong>Gauteng Urban Edge 2008 / 2009</strong></td>
<td>In terms of the RSDF policy document, as adopted by the City of Johannesburg Metropolitan Municipality, the property is situated well within the latest Urban Development Boundary and all essential services and suitable road access can be made readily available for the proposed township.</td>
</tr>
<tr>
<td><strong>Regional Spatial Development Framework (RSDF) 2007/2008-Administrative Region A</strong></td>
<td>The application site falls within Sub Area 12 of Region A according to the local RSDF; and the area is predominantly a low-density rural residential area with pressure to provide through routes from Ivory Park to Sub Area 9. There are major infrastructure constraints that exist in the area. This Sub Area is within the Urban Development Boundary, therefore infill development and densification can be</td>
</tr>
</tbody>
</table>
encouraged. According to the Growth Management Strategy (GMS) the area is a consolidation area and for this reason adequate bulk services must be confirmed by the relevant MOEs and core departments prior to any developments.

**Johannesburg Open Space Management System (JMOSS)**

The JMOSS seeks to ensure inter-connected and managed network of open spaces supporting interactions between social, economic and ecological activities, sustaining and enhancing both ecological processes and human settlements within the city. The open space linked to the watercourse traversing the site will be maintained.

**City of Joburg Biodiversity Strategy and Action Plan 2015, 2009**

Biodiversity Strategy and Action Plan for the City of Joburg, articulates actions through which to implement the vision, strategic objectives and actions necessary for the conservation, protection, use and development of biodiversity. The Biodiversity Strategy and Action Plan is a tool by which the city, it’s departments, municipal owned entities, partners and the local community can work together to deliver continuing action for biodiversity stewardship.

Should biodiversity features be encountered on site, they will be managed appropriately as provided for in the EMPr.

### Activities applied for in terms of the EIA Regulations

<table>
<thead>
<tr>
<th>No. of Government Notice:</th>
<th>Activity No (s)</th>
<th>Description of each listed activity as per listing notices:</th>
</tr>
</thead>
<tbody>
<tr>
<td>R. 983 of 4 December 2014</td>
<td>12</td>
<td>The development of –</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(i) ...</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ii) ...</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(iii) ...</td>
</tr>
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<td></td>
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<td>(iv)</td>
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<tr>
<td></td>
<td></td>
<td>(v)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vi) Bulk stormwater outlet structures exceeding 100 square metres in size;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vii)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(viii)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ix)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(x) Buildings exceeding 100 square metres in size;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(xi)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(xii) Infrastructure or structures with a physical footprint of 100 square metres or more;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>where such development occurs –</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) within a watercourse;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) ...</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) If no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>excluding –</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(aa) ...;</td>
</tr>
</tbody>
</table>
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 of more than 5 cubic metres from –

(i) a water course;
(ii) ...
(iii) ...
but excluding where such infilling, depositing, dredging, excavation, removal or moving -
(a) will occur behind a development setback;
(b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or
(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.

The clearance of an area of 1 hectares or more, but less than 20 ha of indigenous vegetation, except where such clearance of indigenous vegetation is required for –

(i) the undertaking of a linear activity; or
(ii) Maintenance purposes undertaken in accordance with a maintenance management plan.

The development of –

(i). ...
(ii). ...
(iii). ...
(iv). ...
(v). ...
(vi). bulk storm water outlet structures exceeding 10 square metres in size;
(vii). ...
(viii). ...
(ix). ...
(x). buildings exceeding 10 square metres in size;
(xi). ...
(xii). infrastructure or structures with a physical footprint of 10 square metres or more;
where such development occurs –

(a) within a water course;
(b) ...
(c) if no development setback has been adopted, within 32 metres of a water course, measured from the edge of a watercourse;
excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.
(b) In Gauteng -
   (i). ...
   (ii). ...
   (iii). ...
   (iv). sites identified as Critical Biodiversity Areas (CBAs)
        and Ecological Support Areas (ESAs) in the Gauteng
        Conservation Plan or in bioregional plans.
   (v). sites identified within threatened ecosystems listed
        in terms of the National Environmental
        Management: Biodiversity Act (Act No. 10 of 2004);
   (vi). ...
   (vii). ...
   (viii). ...

3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. Do not include the no go option into the alternative table below.

Note: After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Please describe the process followed to reach (decide on) the list of alternatives below

Provide a description of the alternatives considered

<table>
<thead>
<tr>
<th>No.</th>
<th>Alternative type, description</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1   | Proposal                    | The applicant proposes to develop a new mixed use township with associated infrastructure on a Part of the Remainder of Portion 1037 of the farm Randjesfontein 405 JR which will include the following: offices, showrooms, restaurants, shops (builders hardware), gymnasium, institutional, hotel, conference center, commercial purposes.
The township comprises of two erven, Erf 646 measuring 3.2142ha and Erf 647 measuring 0.9548ha in extent. Access will be gained from Oliefantsfontein Road and will bisect the property into the erven mentioned above. |
| 2   | Activity and layout alternative | The establishment of a township with associated infrastructure on a Part of the Remainder of Portion 1037 of the farm Randjesfontein 405 JR which will include the following: offices, showrooms, restaurants, shops (builders hardware), gymnasium, hotel, conference center, commercial purposes (i.e. exclude institutional/hospital)
The township will comprise of two erven, Erf 646 measuring 3.2142ha and Erf 647 measuring 0.9548ha in extent. Access will be gained from Oliefantsfontein Road and will bisect the |
property into the erven mentioned above.

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

N/A

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

<table>
<thead>
<tr>
<th>Size of the activity:</th>
<th>4.1541ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed activity</td>
<td></td>
</tr>
<tr>
<td>Alternatives:</td>
<td></td>
</tr>
<tr>
<td>Alternative 1 (if any)</td>
<td></td>
</tr>
<tr>
<td>Alternative 2 (if any)</td>
<td></td>
</tr>
</tbody>
</table>

or, for linear activities:

| Length of the activity: | |
|-------------------------| |
| Proposed activity       |   |
| Alternatives:           |   |
| Alternative 1 (if any)  |   |
| Alternative 2 (if any)  |   |

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

| Size of the site/servitude: | |
|----------------------------| |
| Proposed activity          | 4.1541ha |
| Alternatives:              |   |
| Alternative 1 (if any)     | 4.1541ha |
| Alternative 2 (if any)     |   |

5. Site Access

Proposal
Does ready access to the site exist, or is access directly from an existing road?  
YES [ ]  NO [ ]
If NO, what is the distance over which a new access road will be built m
Describe the type of access road planned:
Ingress/egress to/from the site will be constructed from the existing Oliefantsfontein Road. The access road has already been approved. A link road will be constructed at the back to link up with a proposed filling station to the east of the development.
Include the position of the access road on the site plan (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 1
Does ready access to the site exist, or is access directly from an existing road?  
YES [ ]  NO [ ]
If NO, what is the distance over which a new access road will be built m
Describe the type of access road planned:
The site abuts the Oliefantsfontein Road. Ingress/egress to the township will be constructed directly from this road. A link road will be constructed at the back to link up with a proposed filling station to the east of the development.
Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).
Figure 1: Locality Map

Figure 2: Access point approved by Gautrans
PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

<table>
<thead>
<tr>
<th>Section A 6-8 has been duplicated</th>
<th>1</th>
<th>Number of times</th>
</tr>
</thead>
</table>

6. LAYOUT OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached to this document. The site or route plans must indicate the following:

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
  - A4 size for activities with development footprint of 10sqm to 5 hectares;
  - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
  - A2 size for activities with development footprint of >20 hectares to 50 hectares);
  - A1 size for activities with development footprint of >50 hectares);
- The following should serve as a guide for scale issues on the layout plan:
  - A0 = 1: 500
  - A1 = 1: 1000
  - A2 = 1: 2000
  - A3 = 1: 4000
  - A4 = 1: 8000 (±10 000)
- shapefiles of the activity must be included in the electronic submission on the CD’s;
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):
  - Rivers and wetlands;
  - the 1:100 and 1:50 year flood line;
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

FOR LOCALITY MAP (NOTE THIS IS ALSO INCLUDED IN THE APPLICATION FORM REQUIREMENTS)

- the scale of locality map must be at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map;
- the locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.
7. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under the appropriate Appendix. It should be supplemented with additional photographs of relevant features on the site, where applicable.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity to be attached in the appropriate Appendix.
SECTION B: DESCRIPTION OF THE RECEIVING ENVIRONMENT

Note: Complete Section B for the proposal and alternative(s) (if necessary)

Instructions for completion of Section B for linear activities
1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
2) Indicate on a plan(s) the different environments identified
3) Complete Section B for each of the above areas identified
4) Attach to this form in a chronological order
5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route 1 times

Instructions for completion of Section B for location/route alternatives
1) For each location/route alternative identified the entire Section B needs to be completed
2) Each alternative location/route needs to be clearly indicated at the top of the next page
3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives times

Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application
Section B is to be completed and attachments order in the following way
- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B – Section of Route (complete only when appropriate for above)

Section B – Location/route Alternative No. (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description: (Including Physical Address and Farm name, portion etc.)

Remainder of Portion 1037 of the Farm Randjiesfontein 405 JR, along the northern side of the Olifantsfontein Road in Midrand

2. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The coordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative: 1 and 2

In the case of linear activities:

<table>
<thead>
<tr>
<th>Alternative:</th>
<th>Latitude (S):</th>
<th>Longitude (E):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-25.951090°</td>
<td>28.127205°</td>
</tr>
</tbody>
</table>

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached

The 21 digit Surveyor General code of each cadastral land parcel

| PROPOSAL | T | 0 | J | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALT. 1   | T | 0 | J | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALT. 2   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| etc.     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

16
3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

|------|-------------|-------------|-------------|--------------|-------------|-----------------|

![Image of slope gradient]

**Figure 4: Slope**

4. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site.

<table>
<thead>
<tr>
<th>Ridgeline</th>
<th>Plateau</th>
<th>Side slope of hill/ridge</th>
<th>Valley</th>
<th>Plain</th>
<th>Undulating plain/low hills</th>
<th>River front</th>
</tr>
</thead>
</table>

5. GROUNDWATER, SOIL, GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?
- Shallow water table (less than 1.5m deep)
- Dolomite, sinkhole or doline areas
- Seasonally wet soils (often close to water bodies)
- Unstable rocky slopes or steep slopes with loose soil
- Dispersive soils (soils that dissolve in water)
- Soils with high clay content (clay fraction more than 40%)
- Any other unstable soil or geological feature
- An area sensitive to erosion

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>
(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

Figure 5: Location in landscape

| b) are any caves located on the site(s) | YES | NO |
| c) are any caves located within a 300m radius of the site(s) | YES | NO |
| d) are any sinkholes located within a 300m radius of the site(s) | YES | NO |

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

| Latitude (S): |  |
| Longitude (E): |  |

If any of the answers to the above are “YES” or “unsure”, specialist input may be requested by the Department

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)?

| YES | NO |

Please note: The Department may request specialist input/studies in respect of the above.

7. GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

| Natural veld - good condition = 80 % | Natural veld with scattered aliens % | Natural veld with heavy alien infestation 15 % | Veld dominated by alien species 40% | Landscaped (vegetation) 30% = |
| Sport field % = | Cultivated land % = | Paved surface (hard landscaping) 0.5% = | Building or other structure 25% = | Bare soil % = |

Please note: The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.
Figure 6: Vegetation cover

Figure 7: C-Plan areas
Are there any rare or endangered flora or fauna species (including red list species) present on the site?  
If YES, specify and explain:  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.  
If YES, specify and explain:  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

Are there any special or sensitive habitats or other natural features present on the site?  
If YES, specify and explain:  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

A watercourse runs along the northern edge towards east of the site.

Was a specialist consulted to assist with completing this section?  
If yes complete specialist details:  

<table>
<thead>
<tr>
<th>Name of the specialist:</th>
<th>Alan Short and Samuel Laurence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualification(s) of the specialist:</td>
<td>MSc. (Grassland Science) 2011</td>
</tr>
</tbody>
</table>
| Postal address: | Enviro-Insights  
132 Winterberg, Vlottenburg Street,  
Equestria Estate, Pretoria, South Africa |
| Postal code: | 0184, |
| Telephone: | +27 83 784 1997  
Cell: +27847132244 |
| E-mail: | Alan@thermedaEco.co.za |

Are any further specialist studies recommended by the specialist?  
If YES, specify:  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

If YES, is such a report(s) attached?  
If YES list the specialist reports attached below:  

<table>
<thead>
<tr>
<th>Signature of specialist:</th>
<th>See attached reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
</tr>
</tbody>
</table>
8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Dam or reservoir</td>
<td>Agriculture</td>
<td>Low density residential</td>
<td>Medium to high density residential</td>
<td>Informal residential</td>
</tr>
<tr>
<td>11</td>
<td>Old age home</td>
<td>Retail</td>
<td>Offices</td>
<td>Commercial &amp; warehousing</td>
<td>Light industrial</td>
</tr>
<tr>
<td>16</td>
<td>Heavy industrial</td>
<td>Hospitality facility</td>
<td>Church</td>
<td>Education facilities</td>
<td>Sport facilities</td>
</tr>
<tr>
<td>21</td>
<td>Golf course/polo fields</td>
<td>Airport</td>
<td>Train station or shunting yard</td>
<td>Railway line</td>
<td>Major road (4 lanes or more)</td>
</tr>
<tr>
<td>26</td>
<td>Sewage treatment plant</td>
<td>Landfill or waste treatment site</td>
<td>Historical building</td>
<td>Graveyard</td>
<td>Archaeological site</td>
</tr>
<tr>
<td>31</td>
<td>Open cast mine</td>
<td>Underground mine</td>
<td>Spoil heap or slimes dam</td>
<td>Small Holdings</td>
<td>Freeway</td>
</tr>
</tbody>
</table>

NORTH

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>19</th>
<th>33</th>
<th>35</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9</td>
<td>2, 1</td>
<td>35</td>
<td>15, 14</td>
<td></td>
</tr>
</tbody>
</table>

EAST

WEST

<table>
<thead>
<tr>
<th></th>
<th>18</th>
<th>12</th>
<th>2, 35</th>
<th>15, 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9, 1, 9</td>
<td>12</td>
<td>35</td>
<td>15, 14</td>
</tr>
</tbody>
</table>

SOUTH

|   | 9 | 34 | 12 | 35 | 13 |

Have specialist reports been attached
- Ecological Assessment
- Verification of Status Quo of Wetland and Grassland Conditions, Country View Ext 16
- Wetland/Riparian delineation
- Geotechnical Assessment
- Town planning approval

9. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

According to the Regional Spatial Development Framework the application site falls within Sub Area 12 of Region A within the Midrand Metropolitan Node. The area is characterised by a wide range of land uses such as residential, industrial, retail and commercial developments that are supported by civic and service amenities. The node is located along two major arterials connecting the City of Johannesburg and the City of Tshwane. It has, in the last decade, seen significant growth in the information and telecommunications industries, high-tech and light industries, the corporate office market, and a relatively smaller retail component. The residential component has been increasing on an annual basis.

According to the RSDF; the area is predominantly a low-density rural residential area with pressure to provide through routes from Ivory Park to Sub Area 9. There are major infrastructure constraints that exist in the area. This Sub Area is within the Urban Development Boundary, therefore infill development and densification can be encouraged. According to the Growth Management Strategy (GMS) the area is a consolidation area and for this reason adequate bulk services must be confirmed by the relevant MOEs and core departments prior to any developments.
Development Objective 1 of the area is to enhance accessibility and mobility within this area. The plan is to support the development of the Sub Area in terms of the guidelines as set out in terms of the Glen Austin Development Plan with specific reference to the controlled development along edges:

- Concentration of commercial development within the 65dB noise contour.
- Limiting large-scale office development to erven immediately abutting the existing and proposed K routes. Internal development along through routes:
- Concentration of non-residential limited to low density, low-rise office development along certain identified internal through routes.
- Downsizing of development:
- A concentration of low-density development inward from non-residential edge development.

The proposed development will be sustainable. The respect afforded to the sensitive environment ensures inter-generational equity. In addition the development is aligned with the spatial plans for the area as the site is part of an area identified for urban development which will result in compact development within the urban edge. The development is compatible with surrounding land uses and serves as infill development whilst also contributing to the curtailment of urban sprawl. Furthermore, it will optimise the use of land and infrastructure services while utilising land which though characterised by a wetland and a watercourse, is at a prime location for this type of development and with proper mitigation measures the sensitive features on site will be protected. There will be no historic or cultural resources affected.

The municipality has already considered and approved the development of the site, including the provision of engineering services subject to identified upgrades.

### 10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure.

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
(b) the construction of a bridge or similar structure exceeding 50m in length;
(c) any development or other activity which will change the character of a site
   (i) exceeding 5 000 m² in extent; or
   (ii) involving three or more existing erven or subdivisions thereof; or
   (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
   (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
(d) the rezoning of a site exceeding 10 000 m² in extent; or
(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?

**YES**  **NO**

If YES, explain:

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

The site is very small and vacant within a rapidly developing area along the M1. The major part of the site has been disturbed through previous activities. No specialist was appointed. However, the BAR will be submitted to the Heritage Authority for comments.

Will any building or structure older than 60 years be affected in any way?

**YES**  **NO**

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

**YES**  **NO**

If yes, please attached the comments from SAHRA in the appropriate Appendix.
SECTION C: PUBLIC PARTICIPATION (SECTION 41)

1. ADVERTISEMENT

Advertising has been undertaken in accordance with the requirement of the EIA Regulations, 2014.

2. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority.

Was the draft report submitted to the local authority for comment?  

| YES | NO |

If yes, has any comments been received from the local authority?

| YES | NO |

If “YES”, briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

The Draft Report has been submitted to the local authority. Once the PPP has concluded, the issues and comments raised by I&AP will be collated and responded to. These responses will be incorporated into the Final BAR.

If “NO” briefly explain why no comments have been received or why the report was not submitted if that is the case.

3. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, will be informed of the application and provided with the opportunity to comment.

Has any comment been received from stakeholders?  

| YES | NO |

If “YES”, briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

If “NO” briefly explain why no comments have been received.

The public participation process is currently being conducted. Once the PPP has concluded, the issues and comments raised by I&AP will be collated and responded to. These responses will be incorporated into the Final BAR.

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

It has been ensured that the public participation process is adequate and no public meeting or any other additional measure are deemed necessary at this stage. Site Notices have been placed, newspaper advert placed and notification to adjacent land owners, councillor and state departments undertaken to ensure an inclusive process.

All comments received will be recorded, responded to and addressed in the final BAR. The comments and responses will be captured in a Comments and Responses Report as prescribed in the regulations and be attached to the BAR.

5. APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is attached in Appendix E and is ordered as detailed below:

Appendix E1 – Proof of site notice
Appendix E2 – Written notices issued as required in terms of the regulations
Appendix E3 – Proof of newspaper advertisements
Appendix E4 – Communications to and from interested and affected parties
Appendix E5 – Minutes of any public and/or stakeholder meetings
Appendix E6 – Comments and Responses Report
Appendix E7 – Comments from I&APs on Basic Assessment (BA) Report
Appendix E8 – Comments from I&APs on amendments to the BA Report
Appendix E9 – Copy of the register of I&APs.
SECTION D: RESOURCE USE AND PROCESS DETAILS

Note: Section D is to be completed for the proposal and alternative(s) (if necessary)

Instructions for completion of Section D for alternatives
1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
4) Each alternative needs to be clearly indicated in the box below
5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives | 0 | times
(complete only when appropriate)

The resource use for both alternatives will be similar. The only difference is the configuration of the development layout. Therefore, this section has not been duplicated

Section D Alternative No. | (complete only when appropriate for above)

1. Waste, effluent, and emission management

Solid waste management
Will the activity produce solid construction waste during the construction/initiation phase? [YES] [NO]
If yes, what estimated quantity will be produced per month? 60 m³
How will the construction solid waste be disposed of (describe)?

Construction waste will comprise mainly of excess spoil material from ground excavations and trenching activities, vegetation, construction material, general waste from site personnel, paints and solvents and wastewater and sewage.

- **Spoil material** will be reused where possible (as backfill or erosion mitigation works) while excess spoil will be disposed of off-site. Spoil material will be hauled with tipper trucks to a pre-determined spoil area. On closing the spoil site, the area will be covered with a layer of topsoil and re-vegetated.
- **General waste** will be kept in bins and will be collected and disposed of on a weekly basis or failing this will be disposed of into a skip and transported to the nearest landfill site.
- **Spent canisters** for paints and solvents will be the responsibility of the respective contractor and disposed of at a suitably licensed landfill site or recycled.
- **Medical waste** will be handled in terms of the applicable provisions of the Waste Act and necessary norms and standards.

Where will the construction solid waste be disposed of (describe)?

- **Spoil material** will be re-used as backfill material and excess will be disposed of at the nearest registered Municipal Dumping Site.
- **General waste** that is not recyclable will be disposed of at the nearest landfill site;
- **Hazardous waste** will be disposed of at a hazardous waste site.

Will the activity produce solid waste during its operational phase? [YES] [NO]
If yes, what estimated quantity will be produced per month? 130 m³
How will the solid waste be disposed of (describe)?

The quantities of solid waste to be generated during the operation phase are not considered to be significant and would be within those expected to be generated from a site with the current site zoning. Therefore, it is expected that the municipality planning has already taken the waste generation from this site into consideration.
Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity?

| YES | NO |

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

| Solid waste will feed into the municipal stream |

Note: If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

| YES | NO |

If yes, inform the competent authority and request a change to an application for scoping and EIA.

This will be in small quantities produced by the hospital and disposed of at existing hazardous waste land fill sites

Is the activity that is being applied for a solid waste handling or treatment facility?

| YES | NO |

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

- Spoil material will be reused where possible (as backfill or erosion mitigation works).
- General waste from site must be separated and sorted to remove the recyclable content.

Liquid effluent (other than domestic sewage)

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

| YES | NO |

If yes, what estimated quantity will be produced per month?

| YES | NO |

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?

| YES | NO |

Will the activity produce any effluent that will be treated and/or disposed of on site?

| YES | NO |

If yes, what estimated quantity will be produced per month?

| YES | NO |

If yes describe the nature of the effluent and how it will be disposed.

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

| YES | NO |

If yes, provide the particulars of the facility:

Facility name:  
Contact person:  
Postal address:  
Postal code:  
Telephone:  
E-mail:  
Fax:  
Cell:  

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?

| YES | NO |

If yes, what estimated quantity will be produced per month?

| YES | NO |

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)? The draft Report has been submitted to the municipality for comment. However, the Engineering Services Report was accepted by the municipality.

Will the activity produce any effluent that will be treated and/or disposed of on site?

| YES | NO |

If yes describe how it will be treated and disposed off.

During construction, the township establishment activity will not produce domestic effluent which will require disposal into a municipal sewage system as use of chemical portable toilets will be made. During the operational phase there will be additional sewage flow into the municipal sewage system generated by employees and customers of the business.
Emissions into the atmosphere
Will the activity release emissions into the atmosphere?
If yes, is it controlled by any legislation of any sphere of government?
If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
If no, describe the emissions in terms of type and concentration:

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

During the construction phase, there will be localised liberation of dust due to excavations and the hauling and trucking of materials around the site. Localised exhaust emissions will also be generated during construction; however a significant increase in concentrations of hydrocarbons, nitrogen oxides and carbon monoxide is not anticipated. Increased emissions may occur due to increased traffic in the vicinity of the business development.

2. WATER USE
Indicate the source(s) of water that will be used for the activity

<table>
<thead>
<tr>
<th>municipal</th>
<th>Directly from water board</th>
<th>groundwater</th>
<th>river, stream, dam or lake</th>
<th>other</th>
<th>the activity will not use water</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month: liters

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix
Does the activity require a water use permit from the Department of Water Affairs?
If yes, list the permits required
Permit will be required if infrastructure is located within the 1:100 year flood line
If yes, have you applied for the water use permit(s)?
If yes, have you received approval(s)? (attached in appropriate appendix)

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

3. POWER SUPPLY
Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source
The proposed township will be supplied with electricity by the municipality/Eskom.

If power supply is not available, where will power be sourced from?
N/A

4. ENERGY EFFICIENCY
Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:
Energy saving measures such as energy saving lighting choices will be implemented during the operation of the activities.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:
The offices and other establishments will utilise energy efficient lighting and utilities.
SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts as well as the impacts of not implementing the activity (Section 24(4)(b)(i)).

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

Once the PPP has concluded, the issues and comments raised by I&AP will be collated and responded to. These responses will be incorporated into the Final BAR.

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included) (A full response must be provided in the Comments and Response Report that must be attached to this report):

This will be finalised after the Public participation process.

2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

The potential environmental impacts associated with the project were evaluated according to the nature, extent, duration, intensity, probability and their significance. In order to establish a coherent framework within which all impacts could be objectively assessed, a rating system was applied consistently to all the criteria. For such purposes each aspect was assigned a value ranging from one (1) to four (4) depending on its definition. The tables below provide a summary of the criteria and the rating scales, which will be used in the assessment of potential impacts. The table below provides a brief description of the terms used to assess the impact of the proposed activity on the environment.

- **Nature**: classification of whether the impact is positive or negative, direct or indirect.

- **Extent**: spatial scale of impact and classified as:
  - **Site**: the impacted area is the whole or significant portion of the site (1).
  - **Local**: Within a radius of 2 km of the construction site (2).
  - **Regional**: the impacted area extends to the immediate, surrounding and neighbouring properties.
  - **National**: the impact can be considered to be of national significance.

- **Duration**: Indicates what the lifetime of the impact will be and is classified as:
  - **Short term**: The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase.
  - **Medium term**: The impact will last for the period of the construction phase, where after it will be entirely negated.
  - **Long term**: The impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory.
  - **Permanent**: Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

- **Intensity**: Describes whether an impact is destructive or benign;
  - **Low**: Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected.
  - **Moderate**: Affected environment is altered, but natural, cultural and social functions and processes continue albeit in a modified way.
  - **High**: Natural, cultural and social functions and processes are altered to the extent that they...
- **Extent**: Describes the extent of the impact.
  - **Very High**: Natural, cultural and social functions and processes are altered to extent that they permanently cease.
  - **High**: Natural, cultural and social functions and processes are altered to extent that they temporarily cease.
  - **Moderate**: Affected environment is altered, but natural, cultural and social functions and processes continue.
  - **Low**: Impact affects the environment in such a way that natural, cultural and social functions and processes are altered to extent that they temporarily cease.

- **Duration**: Describes the duration of the impact.
  - **Permanently**: Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.
  - **Long-term**: The impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory.
  - **Medium-term**: The impact will last for the period of the construction phase, where after it will be entirely negated.
  - **Short-term**: The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase.

- **Intensity**: Describes the intensity of the impact.
  - **Very High**: Natural, cultural and social functions and processes are altered to extent that they permanently cease.
  - **High**: Natural, cultural and social functions and processes are altered to extent that they temporarily cease.
  - **Moderate**: Affected environment is altered, but natural, cultural and social functions and processes continue.
  - **Low**: Impact affects the environment in such a way that natural, cultural and social functions and processes are altered to extent that they temporarily cease.

- **Probability**: Describes the likelihood of an impact actually occurring.
  - **Definite**: Impact will certainly occur.
  - **Highly Probable**: Most likely that the impact will occur.
  - **Possible**: The impact may occur.
  - **Improbable**: Likelihood of the impact materialising is very low.

- **Significance**: Based on the above criteria the significance of issues the total number of points scored for each impact indicates the level of significance of the impact, and is rated as:
  - **Low**: the impacts are less important.
  - **Medium**: the impacts are important and require attention; mitigation is required to reduce the negative impacts.
  - **High**: the impacts are of great importance. Mitigation is therefore crucial.

- **Cumulative**: In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

- **Mitigation**: Where negative impacts are identified, mitigation measures (ways of reducing impacts) have been identified. An indication of the degree of success of the potential mitigation measures is given per impact.

### Criteria for the rating of impacts

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extent</strong></td>
<td></td>
</tr>
<tr>
<td>National:</td>
<td>The whole of South Africa</td>
</tr>
<tr>
<td>Regional:</td>
<td>Provincial and parts of neighbouring provinces</td>
</tr>
<tr>
<td>Local:</td>
<td>Within a radius of 2km of the site</td>
</tr>
<tr>
<td>Site</td>
<td>Confined to the construction site</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td></td>
</tr>
<tr>
<td>Permanent:</td>
<td>Mitigation either by man or natural process will not occur in such a way or</td>
</tr>
<tr>
<td></td>
<td>in such a time span that the impact can be considered transient</td>
</tr>
<tr>
<td>Long-term:</td>
<td>The impact will continue or last for the entire operational life of the</td>
</tr>
<tr>
<td></td>
<td>development, but will be mitigated by direct human action or by natural</td>
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<td></td>
<td>processes thereafter. The only class of impact which will be non-transitory</td>
</tr>
<tr>
<td>Medium-term:</td>
<td>The impact will last for the period of the construction phase, where after</td>
</tr>
<tr>
<td></td>
<td>it will be entirely negated</td>
</tr>
<tr>
<td>Short-term:</td>
<td>The impact will either disappear with mitigation or will be mitigated</td>
</tr>
<tr>
<td></td>
<td>through natural process in a span shorter than the construction phase</td>
</tr>
<tr>
<td><strong>Intensity</strong></td>
<td></td>
</tr>
<tr>
<td>Very High:</td>
<td>Natural, cultural and social functions and processes are altered to extent</td>
</tr>
<tr>
<td></td>
<td>that they permanently cease</td>
</tr>
<tr>
<td>High:</td>
<td>Natural, cultural and social functions and processes are altered to extent</td>
</tr>
<tr>
<td></td>
<td>that they temporarily cease</td>
</tr>
<tr>
<td>Moderate:</td>
<td>Affected environment is altered, but natural, cultural and social functions</td>
</tr>
<tr>
<td></td>
<td>and processes continue</td>
</tr>
<tr>
<td>Low:</td>
<td>Impact affects the environment in such a way that natural, cultural and</td>
</tr>
<tr>
<td></td>
<td>social functions and processes are altered to extent that they temporarily</td>
</tr>
<tr>
<td></td>
<td>cease</td>
</tr>
<tr>
<td><strong>Probability</strong></td>
<td></td>
</tr>
<tr>
<td>Definite:</td>
<td>Impact will certainly occur</td>
</tr>
<tr>
<td>Highly Probable:</td>
<td>Most likely that the impact will occur</td>
</tr>
<tr>
<td>Possible:</td>
<td>The impact may occur</td>
</tr>
<tr>
<td>Improbable:</td>
<td>Likelihood of the impact materialising is very low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rating</th>
<th></th>
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<tbody>
<tr>
<td>4</td>
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<tr>
<td>3</td>
<td></td>
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<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
### Significance Rating of classified impacts

<table>
<thead>
<tr>
<th>Impact</th>
<th>Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>4-6</td>
<td>An acceptable impact for which mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent the development being approved. These impacts will result in either positive or negative medium to short term effects on the social and/or natural environment.</td>
</tr>
<tr>
<td>Medium</td>
<td>7-9</td>
<td>An important impact which requires mitigation. The impact is insufficient by itself to prevent the implementation of the project but which in conjunction with other impacts may prevent its implementation. These impacts will usually result in either a positive or negative medium to long term effect on the social and/or natural environment.</td>
</tr>
<tr>
<td>High</td>
<td>10-12</td>
<td>A serious impact, if not mitigated, may prevent the implementation of the project (if it is a negative impact). These impacts would be considered by society as constituting a major and usually a long-term change to the (natural &amp;/or social) environment and result in severe effects or beneficial effects.</td>
</tr>
<tr>
<td>Very high</td>
<td>13-16</td>
<td>A very serious impact which, if negative, may be sufficient by itself to prevent implementation of the project. The impact may result in permanent change. Very often these impacts are unmitigatable and usually result in very severe effects, or very beneficial effects.</td>
</tr>
</tbody>
</table>

### Status
- Denotes the perceived effect of the impact on the affected area
- Positive (+): Beneficial impact
- Negative (-): Adverse impact

Negative impacts are shown with a (-) while positive ones are indicated as (+)

### Description and assessment of the potential impacts, their significance, proposed mitigation and significance for the preferred alternative (Alternative 1)

<table>
<thead>
<tr>
<th>Potential impacts</th>
<th>Significance rating before mitigation</th>
<th>Proposed mitigation</th>
<th>Significance rating after mitigation</th>
<th>Risk of impact and mitigation not being implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DESIGN AND PLANNING PHASE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access Roads</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New access roads could impact on areas of sensitivity.</td>
<td>Low</td>
<td>• Utilise the designated access road to the site</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Construction camp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Placement of camp could impact on fauna and flora as well as wetland area</td>
<td>Low</td>
<td>• Construction camp to be placed in an area which is already disturbed and away from the wetland</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td><strong>CONSTRUCTION PHASE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job opportunities</td>
<td>+ve</td>
<td>No mitigation required</td>
<td>+ve</td>
<td>Nil</td>
</tr>
<tr>
<td>Creation of job opportunities during the construction phase</td>
<td></td>
<td>• The development will result in job creation and provision of employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Job creation during the construction phase could result in</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Geology and soils:**
- Destabilisation of surface geology as a result of excavations.
- Potential erosion, degradation and loss of topsoil due to construction activities as well as stormwater runoff

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>All site disturbances must be limited to the areas where structures will be constructed.</td>
<td></td>
</tr>
<tr>
<td>Excess rocks and boulders that are excavated from the construction site will be used for erosion protection work required on site.</td>
<td></td>
</tr>
<tr>
<td>Excess material from excavations together with construction rubble must be appropriately disposed of.</td>
<td></td>
</tr>
<tr>
<td>Suitable excavated material is to be stockpiled next to excavations for use as backfill. Areas to be backfilled must be cleared of all unsuitable material and debris.</td>
<td></td>
</tr>
<tr>
<td>Topsoil should only be exposed for minimal periods of time and adequately stockpiled to prevent loss and runoff. This to be used during rehabilitation or within the site.</td>
<td></td>
</tr>
<tr>
<td>All stockpiles must be restricted to designated areas. Land disturbance must be minimised in order to prevent erosion and run-off.</td>
<td></td>
</tr>
<tr>
<td>Areas susceptible to erosion must be protected by installing the necessary temporary and/or permanent drainage works as possible to prevent surface water from being concentrated in streams.</td>
<td></td>
</tr>
<tr>
<td>Any tunnels or erosion channels developing during the construction period shall be backfilled and compacted, and affected areas restored.</td>
<td></td>
</tr>
<tr>
<td>Appropriate topsoil and stormwater runoff control management measures to be implemented.</td>
<td></td>
</tr>
<tr>
<td>The Contractor to ensure that cleared areas are effectively stabilised to prevent and control erosion.</td>
<td></td>
</tr>
</tbody>
</table>

**Wetland and water resources**
- Impact on important floral species
- Loss of wetland habitat and ecological structure
- Changes to wetland

<table>
<thead>
<tr>
<th>Impact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demarcate areas prior to commencement of the construction in order to minimize construction footprints and control the edge effects from construction activities; and ensure</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>ecological and socio cultural service provision</td>
<td>that vegetation clearing is kept at a minimum.</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Impacts on wetland/riparian hydrological function</td>
<td>As far as possible, all construction activities should occur in the low flow season, during the drier winter months; and</td>
</tr>
<tr>
<td>Site clearing and the removal of vegetation leading to increased runoff, soil erosion and altered wetland habitat</td>
<td>Any area where active erosion is observed must be immediately rehabilitated in such a way as to ensure that the hydrology of the area is re-instated to conditions which are as natural as possible.</td>
</tr>
<tr>
<td>Earthworks in the vicinity of the features leading to increased runoff and erosion and altered runoff patterns</td>
<td>Drift fences constructed from hessian sheets should be installed at erodible areas to minimise erosion. Silt traps should also be provided to remove sand/silt particles from runoff;</td>
</tr>
<tr>
<td>Changes to wetland community due to alien invasion resulting in altered wetland conditions</td>
<td>Any construction-related waste must not be placed in the vicinity of any wetland areas;</td>
</tr>
<tr>
<td>Contamination of surface and groundwater due to spillage, leakage, incorrect storage and handling of chemicals, oils, lubricants, cement, fuels and other hazardous materials</td>
<td>Adequate stormwater drainage should be constructed. Stormwater culverts and drains are to be located and covered with metal grids to prevent blockages;</td>
</tr>
<tr>
<td>Loss of ability to assimilate phosphate and toxicants due to vegetation clearing</td>
<td>All hazardous substances must be stored on an impervious surface in a designated bunded area able to contain 110% of the total volume of materials stored at any given time.</td>
</tr>
<tr>
<td>Inability to support biodiversity due to vegetation clearing and contamination of the soil within the wetland areas</td>
<td>No contaminated water from the site to enter the watercourse. Preventative measures such as sumps from where contaminated water can be either treated in situ or removed to an appropriate waste site to be implemented.</td>
</tr>
<tr>
<td>Unmanaged oil leaks from construction vehicles leading to water quality deterioration</td>
<td>The integrity of the impervious surface and bunded areas must be inspected regularly and any maintenance work conducted must be recorded in a maintenance report.</td>
</tr>
<tr>
<td>Pollution and contamination of wetland soils as a result of waste dumping within wetland areas</td>
<td>Excess or spilled concrete should be confined within the works area and then either removed to a waste site or reused as fill material.</td>
</tr>
<tr>
<td>Disturbance of soils resulting in sediment deposition into the wetland areas during runoff.</td>
<td>Monitor the wetland areas for erosion and incision; and</td>
</tr>
<tr>
<td></td>
<td>Implement an alien vegetation control program.</td>
</tr>
<tr>
<td></td>
<td>Wetland areas that may have</td>
</tr>
</tbody>
</table>
**Topography and slopes**
- Alteration of topography due to stockpiling of soil, building material, debris and waste material on site.
- Stability of slopes

- Avoid placing of stockpiles and other services on areas likely to pose obtrusive visual impact
- Precautionary measures and design from the engineer must be implemented.
- Re-vegetation of re-profiled slopes;
- Temporary stabilisation of slopes using geotextiles; and installation of gabions and reno mattresses.

**Biodiversity (fauna and flora)**
- Habitat destruction and alteration will take place within the footprint of the construction site and the development
- Existing fauna could be harmed through construction activities.

- The Contractor must ensure that no faunal species are disturbed, trapped, hunted or killed during the construction phase. Fines must be imposed and immediate dismissal of any employee who is found attempting to snare or otherwise harms faunal species. All animals captured must be released in appropriate habitat away from the development.
- Should any sensitive flora be found on site, this must be relocated to the wetland buffer area under the supervision of an ecologist.
- Workers must be limited to areas under construction within the site and access to the undeveloped areas must be strictly regulated (“no-go” areas during construction as well as operational activities).
- Mobile toilets must be provided in order to minimize unauthorized traffic of construction workers outside of the designated areas.
- All temporary stockpile areas including litter and dumped material and rubble must be removed on completion of construction.
- Building of temporary access roads should be kept to a minimum and must follow the approved access route to prevent unnecessary impact on the surrounding vegetation.

**Air Quality:**
Generation of fugitive dust,
- Dust suppression measures through regular application of water must be implemented on
odours and fumes from vehicle emissions may pollute the air during construction operations from:

- Access roads.
- Bare area cleared for construction.
- Debris handling.
- Emissions from construction machinery and equipment.
- Trucks transporting spoil and fill material.

temporary dirt roads and during the transportation of material during dry periods. Water used for this purpose must be used in quantities that will not result in the generation of run-off.

- Adherence to speed limits on site roads to prevent the liberation of dust into the atmosphere must be enforced.
- Loads should be covered to avoid loss of material in transport, especially if loose material is transported off site.
- Facilities for the washing of vehicles should be provided at the entry and exit points.
- All site workers must wear the appropriate PPE to avoid any exposure to contaminated dust particles.
- All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability in order to prevent smoke emissions.
- Chemical toilets must be provided and cleaned on a regular (weekly) basis.

### Noise:

- Increase in noise pollution due to, among others, the excavations and site clearing, construction vehicles and construction staff, operation of cement mixer machine at the site, blasting and or drilling.

- All equipment and activities to comply with noise regulations.
- Silencer units in vehicles and equipment to be maintained in good working order.
- Workers working in area where the 8-hour ambient noise levels exceed 85dBA must have the appropriate Personal Protective Equipment (PPE).
- Work should be carried out between 7am and 5pm weekdays and 7:30am to 13:00hours on Saturdays. No work should be carried out during Sundays and public holidays.
- All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability.
- All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No. 85 of 1993).

### Visual Intrusion & Light pollution

Pollution may occur due to the

- The site must be managed properly and all rubbish and rubble removed to a registered waste disposal facility.

<table>
<thead>
<tr>
<th>Odours and Fumes</th>
<th>Noise</th>
<th>Visual Intrusion &amp; Light pollution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low</td>
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<tr>
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<td>Low</td>
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<tr>
<td></td>
<td></td>
<td>Low</td>
</tr>
</tbody>
</table>
following:
- Littering and illegal dumping on the site and surrounding areas which can affect the visual character of the site.
- Removal of vegetation which may cause visual intrusion.
- Unsightly construction waste pile may be visually intrusive.
- Lights from the contractor’s camp and the construction site could be visually intrusive.

- Excess soil and bedrock should be disposed of at an appropriate facility.
- A certificate of disposal must be obtained for any waste that is disposed of.
- Refuse bins must be provided on site and these must be emptied regularly. Waste must not remain on site for more than 2 weeks.
- The construction camp must be located as far from other properties as possible.
- Indigenous plants or trees must be retained to provide screens to make the construction site less visually intrusive.
- Advertising signs should blend in with the environment.
- Light pollutions should be minimised. Lighting on site is to be sufficient for safety and security purposes, but shall not be intrusive to neighbouring residents, disturb wildlife.
- Should overtime/night work be authorised, the Contractor shall be responsible to ensure that lighting does not cause undue disturbance to neighbouring residents. In this situation low flux and frequency lighting shall be utilised.
- Construction activities must be limited to the daylight hours.

Waste:
- Waste generation during the construction phase will have a negative impact on the environment, if not controlled adequately. Waste streams likely to include domestic waste, spent grinding material, mixed concrete, paint cans and brushes, construction rubble and other construction waste.

- General waste disposal bins must be made available for use on site. General waste should be placed in a water tight container and disposed of on a regular basis. Records of all waste taken off site and disposed of must be kept as evidence.
- Building rubble must be re-used, where possible, where this is not possible, the rubble will be disposed of at an appropriate site.
- The area for temporarily storage of waste must be kept tidy with no visible litter.
- Burning of waste material will not be permitted.
- Hazardous materials generated through spillages during construction and maintenance periods must be cleaned up using absorbent material provided in spill kits on site, and must be
<table>
<thead>
<tr>
<th>Traffic</th>
<th>Safety and security</th>
</tr>
</thead>
<tbody>
<tr>
<td>The construction phase is likely to generate additional traffic in terms of construction vehicles and heavy vehicles delivering materials to the site.</td>
<td>A construction site can be a dangerous place and thus could result in harm to people and property and by their nature act as a magnet to the unemployed, resulting in large numbers of people gathering around the site.</td>
</tr>
</tbody>
</table>

- Caution to be taken to ensure construction vehicles are not parked close to the road and do not block the way to the neighbouring properties.  
- Proper and adequate lanes to allow for ingress/egress to be provided.  
- Clear signs should be displayed along the D795 (Olivantsfontein Road) and entrance to the site indicating a construction site and turning construction vehicles.  
- The site is to be fenced off to prohibit unauthorised entry.  
- Health and Safety Officer to be appointed to continuously monitor the safety conditions.  
- All construction staff must have the appropriate PPE.  
- Staff handling chemicals or hazardous materials must be trained in the use of the substances and the environmental, health and safety consequences of incidents.  
- Record and report any environmental, health and safety incidents to the project Manager.  
- Signs should be erected to warn of construction activities.  
- The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) and the National Building Regulations.  
- All structures that are vulnerable to high winds must be secured.  
- All manhole openings are to be covered and clearly demarcated with danger tape.  

- disposed of accordingly at a hazardous waste landfill. Absorbent materials used to clean up spillages should be disposed of in a separate hazardous waste bin. All hazardous waste to be disposed of in a registered hazardous waste disposal facility.  
- The storage area for hazardous material must be concreted, bunded, covered, labeled and well ventilated.  
- Employees to be provided with appropriate PPE for handling hazardous materials.
- Potentially hazardous areas such as trenches are to be cordoned off and clearly marked at all times.
- The Contractor is to ensure traffic safety at all times, and shall implement road safety precautions for this purpose.
- All vehicles and equipment used on site must be operated by appropriately trained and/or licensed individuals in compliance with all safety measures as laid out in the Occupational Health and Safety Act (Act No. 85 of 1993) (OHSA).
- An environmental awareness training programme for all workers shall be put in place by the Contractor. Before commencing with any work, all workers shall be appropriately briefed about the EMPt and relevant occupational health and safety issues.
- Access to fuel and other equipment stores is to be strictly controlled.
- No unauthorized firearms are permitted on site.
- Emergency procedures must be available on site and communicated to all.
- Adequate emergency facilities must be provided for the treatment of any emergency on the site.
- The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to handle. Emergency contact numbers are to be displayed conspicuously at prominent
- The basic spill control kit must be available at each construction camp within the site.

## OPERATIONAL PHASE

**Job opportunities**

- Creation of job opportunities during the operation phase
- The principles of gender equality, maximising local employment should be implemented in the provision and establishment of jobs.
- Jobs for the maintenance of infrastructure and services will be created following the completion of the development. These jobs might
<table>
<thead>
<tr>
<th>Fauna and flora</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Reduced/limited connectivity in the ecological system</td>
<td>• Maintenance activities to ensure there is no invasion by alien vegetation</td>
</tr>
<tr>
<td>- Lighting and its negative impact on fauna;</td>
<td>• Prevent contamination of natural wetland from any source of pollution, effluent, etc.</td>
</tr>
<tr>
<td>- Destruction of habitat</td>
<td>• Run-off water from gardens typically contains seeds of exotic and garden variety plants that pose a threat to wetland vegetation and ecology.</td>
</tr>
<tr>
<td></td>
<td>• Run-off water should be diverted to storm water management services infrastructures;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Groundwater and surface water</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Impact on important floral species</td>
<td>Ensure that maintenance related activities are kept strictly within the development footprint; Prevent littering by residents to surrounding areas outside the development footprint.</td>
</tr>
<tr>
<td>- Loss of wetland habitat and ecological structure</td>
<td>- Any area where active erosion is observed must be immediately rehabilitated in such a way as to ensure that the hydrology of the area is re-instated to conditions which are as natural as possible.</td>
</tr>
<tr>
<td>- Changes to wetland ecological and socio cultural service provision</td>
<td>- Monitor the wetland areas for erosion and incision; and</td>
</tr>
<tr>
<td>- Impacts on wetland/riparian hydrological function</td>
<td>- Implement an alien vegetation control program.</td>
</tr>
<tr>
<td></td>
<td>- Sheet runoff from access roads needs to be curtailed and slowed down by the strategic placement of energy dissipation structures.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Waste management:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Generation and disposal of waste from the proposed development</td>
<td>• To lower the potential for leachate formation, domestic waste should be placed in a water tight container and disposed of on a regular basis.</td>
</tr>
<tr>
<td></td>
<td>• Waste recycling must be integral to the implementation and occupation of the housing scheme</td>
</tr>
<tr>
<td></td>
<td>• All waste including hazardous waste must be disposed of at licensed landfill sites.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Traffic</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>There will be increased traffic on local roads-Spionskop Road and Felstead Avenue</td>
<td>• All signage and road markings for the proposed sites should be in accordance with the South African Road Traffic Signs Manual”.</td>
</tr>
<tr>
<td></td>
<td>• Appropriate upgrades of the roads and traffic signals, intersections to</td>
</tr>
<tr>
<td><strong>Air Quality</strong> – Vehicle exhausts emissions trucks that will remain idling for the duration of the time at the truck stop and Vapours produced by fuel odour.</td>
<td><strong>Ensure and instruct all drivers to switch of the trucks once correctly parked, and avoid idling as much as possible.</strong></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Safety:</strong> Safety of staff, customers, property and neighbouring properties maybe compromised as a result of the fire risk associated with a filling station as well by crime.</td>
<td><strong>Appropriate measures to be in place for the correct storage and handling of fuel as well as the procedures for dealing with dangerous situations.</strong>&lt;br&gt;<strong>Staff should be adequately trained with respect to dealing with crime.</strong>&lt;br&gt;<strong>Staff must be regularly updated about the safety procedures.</strong>&lt;br&gt;<strong>Emergency facilities must be available and adequately supplied for use on site.</strong>&lt;br&gt;<strong>Emergency contact details for the police, Security Company and fire department must be readily available.</strong></td>
</tr>
<tr>
<td><strong>Visual Intrusion &amp; Light Pollution:</strong> Might occur due to the following&lt;br&gt;• Littering and illegal dumping on the site and surrounding areas which can affect the visual character of the site.&lt;br&gt;• Lights from the contractor’s camp and the estate could be visually intrusive.&lt;br&gt;• The buildings and advertising signs maybe visually intrusive.</td>
<td><strong>The construction camp must be located as far from other properties as possible.</strong>&lt;br&gt;<strong>Light pollutions should be minimised. Lighting on site is to be sufficient for safety and security purposes, but shall not be intrusive to neighbouring residents, disturb wildlife.</strong>&lt;br&gt;<strong>Outside lights will have to be downward shining (eyelid type), low wattage and should not be positioned higher than 1m above the ground surface.</strong></td>
</tr>
<tr>
<td><strong>Noise:</strong></td>
<td><strong>A noise control policy must be compiled and enforced to control the level of noise at the facility, paying particular reference to the immediate neighbours.</strong></td>
</tr>
<tr>
<td><strong>Increase in tax base</strong></td>
<td><strong>No mitigation- Development will contribute to increased municipal tax base</strong></td>
</tr>
<tr>
<td><strong>Energy consumption</strong></td>
<td><strong>Renewable energy options and/or alternative energy sources be listed as the preferred options under the conditions of establishment.</strong></td>
</tr>
<tr>
<td><strong>Compliance with municipal spatial plans</strong></td>
<td><strong>No mitigation- The development is aligned with municipal and provincial spatial plans</strong></td>
</tr>
<tr>
<td><strong>Provision of social infrastructure</strong></td>
<td><strong>Provision of a hospital will bring state of the art facility in the area</strong></td>
</tr>
</tbody>
</table>
### Alternative 2: The impacts will be similar to those of the preferred alternative except for the following

<table>
<thead>
<tr>
<th>Potential impacts:</th>
<th>Significance rating before mitigation</th>
<th>Proposed mitigation:</th>
<th>Significance rating after mitigation:</th>
<th>Risk of the impact and mitigation not being implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONSTRUCTION PHASE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job opportunities</td>
<td>+ve</td>
<td>No mitigation required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creation of job opportunities during the construction phase</td>
<td></td>
<td>• The development will result in fewer job opportunities unless the density is increased and the hospital forms part of the development.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OPERATIONAL PHASE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job opportunities</td>
<td></td>
<td>• With only the show rooms and restaurants, fewer opportunities will be created compared to when the hospital is part of the development.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creation of job opportunities during the operation phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste management</td>
<td></td>
<td>• If hospital is not built, then waste from offices, showrooms and restaurants will be produced</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Only general waste will be generated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy consumption</td>
<td></td>
<td>Renewable energy options and/or alternative energy sources to be used</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Reduction in demand for energy/power</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compliance with municipal spatial plans</td>
<td></td>
<td>Development conditions to aim to maximise intensity of land use</td>
<td>medium</td>
<td></td>
</tr>
<tr>
<td>Opportunity for effective mix of development will be missed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provision of social infrastructure</td>
<td>-ve</td>
<td>Provision of other social infrastructure within the development</td>
<td>high</td>
<td></td>
</tr>
<tr>
<td>Exclusion of hospital limits the potential of development to contribute to the social infrastructure in the area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

- Ecological Assessment
- Verification of Status Quo of Wetland and Grassland Conditions, Country View Ext 16,
- Wetland/Riparian delineation
- Geotechnical Assessment
- Town planning approval

Describe any gaps in knowledge or assumptions made in the assessment of the environment and the impacts associated with the proposed development.

All information provided by the Applicant and the appointed specialist consultants to the EAP was correct and valid at the time it was provided;

- The EAP does not accept any responsibility in the event that additional information comes to light at a later stage of the process;
- All data from an unpublished research is valid and accurate; and

39
• The scope of this investigation is limited to assessing the potential environmental impacts associated with the Country View Extension 16 development.

Biodiversity assessment - the findings, results, observations, conclusions and recommendations presented in this report are based on the authors’ best scientific and professional knowledge as well as the interpretation of information available to them at the time of compiling this report.

Wetland assessment - Only wetlands within the boundaries of the Study Site were assessed as part of this study, and no downstream or upstream wetlands were assessed/delineated.

3. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

<table>
<thead>
<tr>
<th>Proposal</th>
<th>Potential impacts:</th>
<th>Significance rating of impacts (positive or negative):</th>
<th>Proposed mitigation:</th>
<th>Significance rating of impacts after mitigation:</th>
<th>Risk of the impact and mitigation not being implemented</th>
</tr>
</thead>
</table>

AS THIS IS A COMMERCIAL DEVELOPMENT WITHIN A RAPIDLY DEVELOPING AND GROWING COMMUNITY, NO CLOSURE/DECOMMISSIONING IS ANTICIPATED. AS A RESULT, NO SUCH ASSESSMENT IS DEEMED NECESSARY

Alternative 1

<table>
<thead>
<tr>
<th>Proposal</th>
<th>Potential impacts:</th>
<th>Significance rating of impacts (positive or negative):</th>
<th>Proposed mitigation:</th>
<th>Significance rating of impacts after mitigation:</th>
<th>Risk of the impact and mitigation not being implemented</th>
</tr>
</thead>
</table>

REFER TO COMMENT ABOVE

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

N.A

Where applicable indicate the detailed financial provisions for rehabilitation, closure and ongoing post decommissioning management for the negative environmental impacts.

N/A

4. CUMULATIVE IMPACTS

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

Cumulative impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. This section provides a description and analysis of the potential cumulative effects of the township both during construction and occupation by considering the effects of the development relative to the:

• The biophysical environment; and
• Socio-economic conditions.

Cumulative impacts analysis

For the most part, cumulative impacts or aspects thereof are too uncertain to be quantifiable, mainly due to data availability and accuracy. This is particularly true of cumulative impacts arising from potential or future projects, the design or details of which may not be finalised or available and
the direct and indirect impacts of which have not yet been assessed.

Given the limited detail available regarding such future developments, the analysis that follows is of a generic nature and focuses on key issues and sensitivities for the proposed activity and how these might be influenced by cumulative impacts with other activities. In most cases, only qualitative assessments of cumulative impacts are possible, i.e. they are not formally rated.

The main threat in terms of cumulative impacts is on the watercourse. However, an ecological assessment was carried out and revealed lack of ecologically important resources on site. The sensitive feature (wetland), though already impacted upon, will be protected.

On the other hand since the proposed development falls within an area earmarked for similar type of developments in terms of the RSDF, the cumulative impacts of the development won’t be negative.

5. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Proposal

Short term environmental impacts of the project during the construction phase include increased construction vehicles, dust, noise, possible pollution and impact on wetland and potential increased traffic, noise and groundwater contamination during operation phase.

The implementation of mitigation measures identified above and in the attached EMPr is expected to result in these impacts being mitigated to acceptable levels.

The overall environmental and socio-economic impact associated with the proposed development is considered to be acceptable.

Although the Provincial C-Plan shows parts of the site as Critical Biodiversity Areas and Ecological support areas, the on-site study and examination of historical imagery showed extensive disturbance in the past, resulting in reduced ecological functioning and floral diversity of the development site. The bulk of the development footprint will impact on secondary grassland and will have minimal impact on the connectivity of the grasslands, as the shape of the development is longitudinal, the total area is small, and the area runs alongside an existing road and is surrounded on three sides by dense suburban development. Therefore, the overall impact on the grasslands was regarded as low.

The Rietspruit River lies to the north of the site. The valley bottom wetland described in Wetland Consulting Services (2010) forms a tributary to the Rietspruit River. The site slopes towards these two watercourses. The site falls within Quarternary Catchment A21B. Wetlands in this catchment are sensitive to changes in regional hydrology, particularly where their catchment becomes transformed and the water available to sustain them becomes redirected.

According to the 2010 Wetland Assessment Report the wetlands on site are seriously modified and as such their Present Ecological Status is considered E with loses in natural habitat, biota, and basic ecosystem function being extensive. No Pristine wetlands were found within the study area. Since
the 2010 survey, small changes to grassland and wetland conditions have occurred (Limosella May 2014 Wetland and Grassland Status Quo Verification). However, their ecological integrity, as well as the hydrological function of the wetland, remains primarily unchanged. A classification of vegetation on site still reflects secondary Egoli Granite Grassland. No primary grassland was recorded. The PES score of the wetland remains category E and the Ecological Importance and Sensitivity (EIS) score remains category D (low/marginal ecological importance and sensitivity).

The existing impacts on the wetlands on site include the transformation of vegetation, impeding of flows upslope of the site through the construction of the road and an increase in concentrated flows through the bridge culvert under the R562 resulting in an increase in erosion and sedimentation. Because of rapid development around the area, especially in the upstream catchment, peak and base flows have increased.

On the other hand, all the wetlands were rated to be of low/marginal ecological importance and sensitivity with a recommended ecological management class of D (low/marginal ecological importance and sensitivity).

Although the wetland specialist concluded that development of the site will likely result in an increase in surface runoff exacerbating the risk of erosion and deterioration of water quality, a proper stormwater management plan that will ensure erosion is controlled and stormwater is adequately managed to prevent negative impacts on the watercourse associated with, and occurring downstream of the site, the impacts of the development can be mitigated to acceptable levels.

Even so, it should also be emphasised that the wetland specialist also concluded that since the soils on site are shallow, buffering the wetland will not necessarily result in improved infiltration/groundwater recharge. Instead, a controlled water retention system that will aim to strike a balance between pre and post development flows and regulating the release thereof into the surrounding landscape is a more viable option. A 30m buffer zone is therefore not recommended for the purposes of protecting the wetland.

If the recommendations in the EMPr are implemented and monitored then the proposed development as outlined in the preferred alternative will not have a negative impact on society and the environment. In fact there’s more environmental and socio-economic value to developing the site than the no go option and since throughout the report it has already been demonstrated that the proposal is sound and impacts can be mitigated to acceptable levels, there’s no strong justifiable reason to not authorise the development.

**Alternative 2**

This alternative will have similar physical impacts with the preferred alternative.

**No-go (compulsory)**

The ‘no-go’ alternative is the option of not developing the site. This alternative would result in no environmental impacts considering that the development would not be pursued. However there could be other environmental and economic consequences in the long term. From this perspective the no-go alternative could potentially result in:

- Opportunities for provision of services to the site not realised. This could result in
degradation of the site due to poor maintenance.

- Development of alternative land use which might not realise the full potential of the site.
- Loss of employment opportunities to prospective employees.

Implementation of the no-go alternative will likely result in a less favourable land use of the site. This is not considered desirable given that the existing land use is not contributing to the maintenance and strategic development vision of the site (as an approved township).

### 6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Findings</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor placement of infrastructure pre and during construction</td>
<td>Potential impacts on the wetland during the different implementation phases were identified. With the implementation of mitigation measures the significance of such impacts would very low</td>
<td>The wetland area must be fenced off and access be gained from Oliefantsfontein Road.</td>
</tr>
<tr>
<td>Geology and soils</td>
<td>With development there could be destabilisation of surface geology as a result of excavations as well as potential erosion, degradation and loss of topsoil due to construction activities as well as stormwater runoff</td>
<td>The proposed mitigation measures will reduce such risk to a low classification</td>
</tr>
</tbody>
</table>
| Impact on wetland and water resources       | There is high risk that the development will:  
  • Impact on important floral species  
  • Loss of wetland habitat and ecological structure  
  • Changes to wetland ecological and sociocultural service provision  
  • Impacts on wetland/riparian hydrological function | Infrastructure must be located outside of the wetland. Stormwater management plan must be developed and implemented to limit impact of run-off on the wetland. Also alien vegetation must be removed regularly. |
<p>| Topography                                  | The development is not likely to affect the topography of the area                                                                                                                                      | Architecture to ensure that the development is aesthetically acceptable and complimentary to the existing/future environment |
| Biodiversity                                | No biodiversity important                                                                                                                                                                                | The wetland area, including the |</p>
<table>
<thead>
<tr>
<th><strong>Air quality</strong></th>
<th>There is medium risk of dust liberation during construction</th>
<th>Mitigation measures that will reduce the risk to low to be implemented.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Noise</strong></td>
<td>A risk of medium significance for noise generation during construction is expected.</td>
<td>Implementation of mitigation measures will reduce such a risk to low significance</td>
</tr>
</tbody>
</table>
| **Visual intrusion and light pollution** | There might visual intrusion due to the following:  
  - Alteration of the site leading to alteration of the visual character of the surroundings.  
  - Littering, rubbish and illegal dumping on the site;  
  - The buildings and advertising signs;  
  - Lighting that may be visually intrusive. | • The site must be managed properly and all rubbish and rubble removed to a registered waste disposal facility.  
• Excess soil and bedrock should be disposed of at an appropriate facility.  
• A certificate of disposal must be obtained for any waste that is disposed of.  
• Refuse bins must be provided on site and these must be emptied regularly. Waste must not remain on site for more than 2 weeks.  
• The construction camp must be located as far from other properties as possible.  
• Indigenous plants or trees must be retained to provide screens to make the construction site less visually intrusive.  
• Advertising signs should blend in with the environment.  
• Light pollutions should be minimised. Lighting on site is to be sufficient for safety and security purposes, but shall not be intrusive to neighbouring residents, disturb wildlife.  
• Should overtime/night work be authorised, the Contractor shall be responsible to ensure that lighting does not cause undue disturbance to neighbouring residents. In this situation low flux and frequency lighting shall be utilised.  
• Construction activities must be limited to the daylight hours. |
| **Waste generation** | Waste will be generated during both construction and operational phases | • General waste disposal bins must be made available for use on site. General waste should be placed in a water tight container and disposed of on a regular basis.  
• Where possible construction waste should be recycled or reused. |
<table>
<thead>
<tr>
<th>BASIC ASSESSMENT REPORT: COUNTRY VIEW EXT16: GAUT002/15-16/E0202</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic</strong></td>
</tr>
<tr>
<td>The construction phase is likely to generate additional traffic in terms of construction vehicles and heavy vehicles delivering materials to the site.</td>
</tr>
<tr>
<td><a href="#">• Caution to be taken to ensure construction vehicles are not parked close to the road and do not block the way to the neighbouring properties.</a></td>
</tr>
<tr>
<td><a href="#">• Proper and adequate lanes to allow for ingress/egress to be provided.</a></td>
</tr>
<tr>
<td><a href="#">• Clear signs should be displayed along the D795 and entrance to the site indicating a construction site and turning construction vehicles.</a></td>
</tr>
<tr>
<td><strong>Safety and security</strong></td>
</tr>
<tr>
<td>A construction site can be a dangerous place and thus could result in harm to people and property and by their nature act as a magnet to the unemployed, resulting in large numbers of people gathering around the site.</td>
</tr>
<tr>
<td><a href="#">• The site to be fenced off to prohibit unauthorised entry.</a></td>
</tr>
<tr>
<td><a href="#">• Health and Safety Officer to be appointed to continuously monitor the safety conditions during construction.</a></td>
</tr>
<tr>
<td><a href="#">• All construction staff must have the appropriate PPE.</a></td>
</tr>
<tr>
<td><a href="#">• Staff handling chemicals or hazardous materials must be trained in the use of the substances.</a></td>
</tr>
<tr>
<td><a href="#">• Record and report any environmental, health and safety incidents to the responsible person.</a></td>
</tr>
<tr>
<td><a href="#">• Signs should be erected to warn of construction activities.</a></td>
</tr>
<tr>
<td><strong>Heritage resources</strong></td>
</tr>
<tr>
<td>No heritage resources were found or are likely to exist on site</td>
</tr>
<tr>
<td>If any resources are found, these must be managed as per the provisions of the EMPr.</td>
</tr>
<tr>
<td><strong>Alignment with spatial plans</strong></td>
</tr>
<tr>
<td>The development proposal is compatible with the RSDF</td>
</tr>
<tr>
<td>No mitigation required</td>
</tr>
</tbody>
</table>
and will ensure integrated development

Increase in tax base | The project will contribute to an increase in the tax base for the municipality. | No mitigation required

Employment opportunities | Some employment opportunities will be created during both construction and operational phases. | No mitigation required

 Provision of social infrastructure | Hospital provided to service surrounding residential areas | No mitigation required

Energy consumption | The project will rely on the existing electricity sources. | It is recommended that renewable energy options and/or alternative energy sources be listed as the preferred options under the conditions of establishment.

For alternative 2

Although the physical impacts will be similar to those of the preferred alternative, the preferred alternative provides social benefits and will result a mixed use development and efficient use of land and infrastructure. Thus the preferred alternative maximises the development potential of the site.

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

The overall significance of environmental impacts that were identified for the proposed activity is low. This low overall impact is the result of several factors including but not limited to the following:

- The wetlands on site are seriously modified and as such their Present Ecological Status is considered E with loses in natural habitat, biota, and basic ecosystem function being extensive. No Pristine wetlands were found within the study area.
- All the wetlands were rated to be of low/marginal ecological importance and sensitivity with a low/marginal ecological importance and sensitivity.
- The wetland specialist concluded that development of the site will likely result in an increase in surface runoff exacerbating the risk of erosion and deterioration of water quality. Thus with a proper stormwater management plan that will ensure erosion is controlled and stormwater is adequately managed to prevent negative impacts on the watercourse associated with, and occurring downstream of the site, the impacts of the development can be mitigated to acceptable levels.
- Nonetheless, it should also be emphasised that the wetland specialist concluded that since the soils on site are shallow, buffering the wetland will not necessarily result in improved infiltration/groundwater recharge. Instead, a controlled water retention system that will aim to strike a balance between pre and post development flows and regulating the release thereof into the surrounding landscape is a more viable option. A 30m buffer zone is therefore not recommended for the purposes of protecting the wetland.
- From a spatial and socio-economic context, the preferred alternative is:
  - Is aligned with the spatial plans and provide a mix of land uses that are supportive of each other
- Will result in efficient use of land and infrastructure;
- Provides social infrastructure in support of urban development; and
- Will lead to sustained employment opportunities.

If the recommendations in the EMPr are implemented and monitored then the proposed development as outlined will not have a negative impact on society and the environment. In fact there’s more environmental and socio-economic value to developing the site than the no go option and since it has emerged that the impacts can be mitigated to acceptable levels, there’s no strong justifiable reason to not authorise the development.

7. Spatial Development Tools
Indicate the application of any spatial development tool protocols on the proposed development and the outcome thereof.

- City of Johannesburg Metropolitan Regional Spatial Development Framework
- Gauteng Province Environmental Management Framework

8. Recommendation of the Practitioner
Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner as bound by professional ethical standards and the code of conduct of EAPASA).

YES
NO

The report relies on specialist inputs, experience and knowledge of the EAP

If “NO”, indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):

If “YES”, please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

The specialist studies have shown that the preferred alternative will not lead to any adverse impacts on the environment. The EIA has also assisted in the identification of essential mitigation measures that will mitigate the impacts associated with these components to within acceptable limits. From a planning perspective, the development complies with the relevant plans and policies. Further, the proposal is located within an area already earmarked for this type of development.

From a socio-economic and biophysical perspective the application should be approved, provided that the essential mitigation and monitoring measures are implemented. NSS believes there’s reasonable motivation and enough mitigation measures to mitigate the impacts of the development on the river system.

Recommendations
- The provisions of the EMPr must be incorporated into the construction conditions. An ECO must be appointed to monitor compliance during construction and submit audit reports to GDARD;
- A storm water management plan must be prepared for the approval of the municipality. Such a plan must be implemented to ensure storm water runoff is contained and does not lead to erosion and pollution of the stream
- The development should include a responsible clearance and disposal of the existing high density of alien/invasive plants on site. These plants should be cleared outside of the seeding season, during the dry-season (to avoid waterborne spread) and incinerated away from water courses
- No contractors or staff may impact on the wetland; and the ECO should monitor contractor
9. THE NEEDS AND DESIRABILITY OF THE PROPOSED DEVELOPMENT

Briefly, in terms of securing ecologically sustainable development and proper use of natural resources, no natural resources will be negatively affected as the sensitive parts of the site are going to be protected through a proper storm water management plan which will form part of the EMPr. Ecological assessments were conducted and the stream at the edge of the property will be protected. Nonetheless, it should be noted that the wetland specialist concluded that the storm water management system must aim to strike a balance between pre and post development flows and that a 30m buffer zone is not recommended for the purposes of protecting the wetland.

Negative cumulative impacts could include increase in storm water runoff, some impacts on the wetland and increase in traffic. Positive impacts include provision of community serving facilities, business development, employment opportunities, and contribution to municipal taxes, improved infrastructure and services in the area.

In terms of promoting justifiable economic and social development, the area which comprises the northern boundary of the City of Johannesburg’s municipal area has in the past and will in all likelihood in future remain one of the fastest growing and developing parts within the Greater Johannesburg metropolitan area. So the proposed development is aligned with this development trend and will provide high order uses in support of the N1 corridor which is also compatible with the objectives of the sub area spatial plans.

In terms of the RSDF policy document, the property is situated well within the Urban Development Boundary and all essential services and suitable road access can be made readily available for the proposed township.

The proposed township’s locality relative to ancillary land uses such as educational and retail facilities, open space systems, etc. coupled with its general accessibility on a regional and local level, is underscoring its desirability and potential for the type of development proposed.

10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

10 years

11. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

If the EAP answers “Yes” to Point 7 above then an EMP is to be attached to this report as an Appendix.

EMPr attached
SECTION F: APPENDICES

Appendix A: Site Locality Maps Layout Plan
Appendix B: Site Photographs
Appendix C: Facility Illustration
Appendix D: Route Position Information
Appendix E: Public Participation Information
Appendix F: Services Letters
Appendix G: Specialist Reports
Appendix H: Draft Environmental Management Programme (EMPrr)
Appendix I: Other Information
Appendix A: Site Locality Maps and Layout Plan
Appendix A1 – Locality Maps
Appendix A2 – Layout Plan
Appendix B: Photographs

North

North- East
Aerial Photographs

West

North

North-East
Appendix C: Facility Illustration
Appendix D: Route Position

N/A
Appendix E: Public Participation Information

(information to be included in the final BAR)
Appendix E₁ – Proof of site notices

To be included
Appendix E₂ – Written notices issued
Appendix E3 – Proof of newspaper advertisements
Appendix E4 – Communications to and from interested and affected parties

To be included
Appendix E5 – Minutes of any public and/or stakeholder meetings

NIL
Appendix E₆ - Comments and Responses Report
Appendix E7– Comments from I&APs on Basic Assessment (BA) Report
Appendix E8 – Comments from I&APs on amendments to the BA Report
# Appendix E9 – Copy of the register of I&APs

<table>
<thead>
<tr>
<th>Nr</th>
<th>Registered Parties</th>
<th>Contact details</th>
<th>Address</th>
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<tbody>
<tr>
<td><strong>Stakeholders</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 1 | Council for Geo-Science | jgrobler@geoscience.org.za  
info@geoscience.org.za | 280 Pretoria Road, Silverton, PRETORIA |
| 2 | SAHRA Gauteng | asalomon@sahra.org.za  
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| 3 | PHRAG | maphata.ramphele@gauteng.gov.za | |
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paia@eskom.co.za | |
| 6 | SANRAL | schmidk@nra.co.za | |
| 7 | Gautrans | kumen.govender@gauteng.gov.za  
Freda.Maimela@gauteng.gov.za | |
| 8 | Randwater | mmpshe@randwater.co.za  
koneigh@randwater.co.za | |
| 9 | City Of Johannesburg | EtienneA@joburg.org.za  
lebomol@joburg.org.za | 118 Jorrison Street  
Traduna Building 6th floor  
Bramfontein  
TEL: 011 587 4201  
FAX: 086 627 7516 |
| 10 | Spoornet | daniel.ramokone@transnet.net  
loveous.tampane@transnet.net  
casperm@tshwane.gov.za | |
| 11 | PetroSA | petrosa@petrosa.co.za  
Tel+27 21 929 3000  
Fax: +27 21 929 3144 | |
| **Other Interested and Affected Parties** | | | |
| 12 | Ward Councillor | Motsumi, Leepile Johannes  
leepilem@joburg.org.za  
0110265471  
0825358649 | Ward 92 |
Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information
Appendix F₁ – COJ Approval of the Township
Appendix F2 – Conditions of Township Establishment
Appendix F₃ – Approval of the Outline Scheme Report
Appendix F4 – Gautrans Approval
Appendix F5 – GDARD Decision on Land Use Query
Appendix G: Specialist Reports
Appendix $G_1$: Ecological and Wetland Assessment
Appendix G₂: Verification of status Quo of Wetland and Grassland Conditions
Appendix G3: Wetland/Riparian Delineation
Appendix G₄: Geotechnical Assessment Reports
Appendix G₅: Town Planning Memo

Refer to the township approval
AMENDMENT TO RIGHTS:
COUNTRY VIEW X 16 SITUATED ON A PART (PROPOSED PORTION 3) OF THE REMAINDER OF PORTION 19 OF THE FARM RANDJESFONTEIN 405-J.R.

CENTURY PROPERTY DEVELOPMENTS PTY LTD
P.O. Box 4366
RIETVALLEIRAND
0174

Tel No.: 011-300 8739
Cell No.: 082 499 1474
Fax No.: 0866 9399 73

Project No.: CV16
Ref No.: Rights 2015

Enquiries: Johann Jordaan
Date: June 2015
DEVELOPMENT CONTROLS
The following development controls are proposed for the erven:

CONDITIONS TO BE INCORPORATED INTO THE TOWN PLANNING SCHEME IN TERMS OF SECTION 125 OF ORDINANCE 15 OF 1986 IN ADDITION TO THE PROVISIONS OF THE TOWN-PLANNING SCHEME IN OPERATION

COUNTRY VIEW X 16

ERVEN 1 AND 2

USE ZONE ... XVI ... SPECIAL

1. The erf and the buildings erected thereon or to be erected thereon shall be used solely for offices, showrooms, restaurants, shops (builders hardware), gymnasium, institutional, hotel, conference center, commercial purposes provided that the façade of the commercial building will be the same as an office façade

2. Coverage: 50%

3. F.S.R.: 1,0

4. Height: 3 storeys

5. Density: n/a

6. Effectively, paved parking spaces together with the necessary manoeuvring area, shall be provided on the erf to the satisfaction of the local authority.

7. Building lines: PWV5 – 20m; P795 – 16m; Other – to the satisfaction of the local authority: Provided that all building lines may be relaxed by the relevant authority.

8. The property shall be landscaped and maintained to the satisfaction of the local authority.

9. A site development plan shall be submitted to the local authority for approval where such plan shall be approved prior to the approval of building plans.

10. Should the erven be consolidated or notarially tied with each other or with adjacent erven, the development controls as contained herein shall be applicable to the newly consolidated or notarially tied erf.
Appendix H: Draft Environmental Management Programme
DRAFT EMPR REPORT

COUNTRY VIEW EXTENSION 16 ON A PART OF THE REMAINDER OF PORTION 1037 OF THE FARM RANDJESFONTEIN 405 JR

Prepared for:

February 2016
<table>
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<tr>
<th>Acronym</th>
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<tr>
<td>DW&amp;S</td>
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<td>Environmental Assessment</td>
</tr>
<tr>
<td>ECO</td>
<td>Environmental Control Officer</td>
</tr>
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<td>EMPr</td>
<td>Environmental Management Programme</td>
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<tr>
<td>EMS</td>
<td>Environmental Management System</td>
</tr>
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<td>GDARD</td>
<td>Gauteng Department of Agriculture and Rural Development</td>
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<td>Heritage Impact Assessment</td>
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<tr>
<td>HSRA</td>
<td>Health and Safety Risk Assessment</td>
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<td>I&amp;AP</td>
<td>Interested and Affected Parties</td>
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<tr>
<td>LOS</td>
<td>Level of Service</td>
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<tr>
<td>NCR</td>
<td>Non Conformance Report</td>
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<td>Nation Home Builders Registration Council</td>
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<tr>
<td>OHS</td>
<td>Occupation Health and Safety</td>
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<tr>
<td>QMS</td>
<td>Quality Management System</td>
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<tr>
<td>SAHRA</td>
<td>South African Heritage Resource Agency</td>
</tr>
<tr>
<td>SHE</td>
<td>Safety Health and Environment</td>
</tr>
<tr>
<td>TES</td>
<td>Traffic Engineering Services</td>
</tr>
<tr>
<td>WUL</td>
<td>Water Use License</td>
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</tbody>
</table>
GLOSSARY OF TERMS

ACCIDENT: A motor vehicle accident.

ARCHAEOLOGICAL RESOURCES: This includes (a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artefacts, human and hominid remains and artificial features and structures; (b) rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation; wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation; features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

BUILDING AND DEMOLITION WASTE: Building and demolition waste means waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any building structure, and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition.

CONSTRUCTION PROJECT MANAGEMENT TEAM: The team consists of a Project Manager as well as a Safety and Health Officer as required in terms of the Occupation Health and Safety Act and an Environmental Control Officer as required in terms of NEMA.

CONSTRUCTION: means the building, erection or establishment of a facility, structure or infrastructure that is necessary for the undertaking of a listed or specified activity but excludes any modification, alteration or expansion of such a facility, structure or infrastructure and excluding the reconstruction of the same facility in the same location, with the same capacity and footprint.
**CONTRACTOR:** Companies and or individual persons appointed on behalf of the Client to undertake activities, as well as their sub-contractors and suppliers.

**CULTURAL SIGNIFICANCE:** This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

**DEVELOPMENT** - This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:

- Construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- Carrying out any works on or over or under a place;
- Subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- Constructing or putting up for display signs or boards;
- Any change to the natural or existing condition or topography of land; and
- Any removal or destruction of trees, or removal of vegetation or top soil.

**DECONSTRUCTION:** Deconstruction is the selective dismantlement of building components. Deconstruction has also been defined as construction in reverse. Deconstruction is commonly separated into two categories; structural and non-structural. Non-structural deconstruction, also known as off-stripping, consists of reclaiming non-structural components e.g. doors, windows, and finish materials. Structural deconstruction involves dismantling the structural components of a building.

**DEGRADATION:** The lowering of the quality of the environment through human activities e.g. river degradation, soil degradation, atmospheric degradation.

**DEMOLITION:** Demolition is the tearing-down of buildings and other structures, the opposite of construction. Demolition contrasts with deconstruction, which involves taking a building apart while carefully preserving valuable elements for re-use.
DOMESTIC WASTE: waste, excluding hazardous waste, that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreation purposes generated directly by the consumption of products for domestic use.

ENVIRONMENT: In terms of the National Environmental Management Act (NEMA) (No 107 of 1998) (as amended), Environment means the surroundings within which humans exist and that are made up of:

- The land, water and atmosphere of the earth;
- micro-organisms, plants and animal life;
- any part or combination of (i) or (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

EMERGENCY: An undesired event that results in a probable significant environmental impact and requires the notification of the relevant statutory body such as a local or provincial authority.

ENVIRONMENTAL ASSESSMENT PRACTITIONER: Means the individual responsible for planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management programmes or any other appropriate environmental instrument introduced through the EIA Regulations.

ENVIRONMENTAL CONTROL OFFICER: An individual nominated through the Client to be present on site to act on behalf of the Client in matters concerning the implementation and day to day monitoring of the EMPr and conditions stipulated by the authorities as prescribed in NEMA.

ENVIRONMENTAL IMPACT: A change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation’s activities, products or services.
ENVIRONMENTAL MANAGEMENT PROGRAMME: A detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive environmental impacts and limiting or preventing negative environmental impacts are implemented during the life-cycle of the project. This EMP focuses on the construction phase, operation (maintenance) phase and decommissioning phase of the proposed project.

FATAL FLAW: is an issue or conflict (real or perceived) that could result in developments being rejected or stopped.

FOSSIL: Mineralised bones of animals, shellfish, plants and marine animals. A trace fossil is the track or footprint of a fossil animal that is preserved in stone or consolidated sediment.

GENERAL WASTE: waste that does not pose an immediate hazard or threat to health or to the environment, and includes:
- domestic waste;
- building and demolition waste;
- business waste; and
- inert waste.

GENERAL WASTE LANDFILL SITE: A waste disposal site that is designed, managed, permitted and registered to allow for the disposal of general waste.

GREENFIELD LAND: is a term used to describe undeveloped land in a city or rural area. Greenfield land can be unfenced open fields, urban lots or restricted closed properties kept off limits to the general public by a private or government entity.

GROUNDWATER: All subsurface water that fills voids between highly permeable ground strata comprised of sand, gravel, broken rocks, porous rocks, etc. And move under the influence of gravitation.
HAZARDOUS WASTE LANDFILL SITE: A waste disposal site that is designed managed permitted and registered to allow for the disposal of hazardous waste.

HAZARDOUS WASTE: Hazardous waste means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.

HERITAGE RESOURCES: This means any place or object of cultural significance, including all human-made phenomena and intangible products that are the result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.

IMPACT: A description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.

INCIDENT: An undesired event which may result in a significant environmental impact but can be managed through internal response.

INTEGRATED ENVIRONMENTAL MANAGEMENT: is a philosophy that prescribes a code of practice for ensuring that environmental considerations are fully integrated into all stages of the development and decision-making process. The IEM philosophy (and principles) is interpreted as applying to the planning, assessment, implementation and management of any proposal (project, plan, programme or policy) or activity - at local, national and international level - that has a potentially significant effect on the environment. Implementation of this philosophy relies on the selection and application of appropriate tools for a particular proposal or activity. These may include environmental assessment tools (such as strategic environmental assessment and risk assessment), environmental management tools (such as monitoring, auditing and reporting) and decision-making tools (such as multi-criteria decision support systems or advisory councils).
**INTERESTED AND AFFECTED PARTY** is, for the purposes of Chapter 5 of the NEMA and in relation to the assessment of the environmental impact of a listed activity or related activity, an interested and affected party contemplated in Section 24(4)(a)(v), and which includes – (a) any person, group of persons or organisation interested in or affected by such operation or activity; and (b) any organ of state that may have jurisdiction over any aspect of the operation or activity.

**METHOD STATEMENT:** A method statement is a written submission by the Contractor to the Engineer in response to the specification or a request by the Engineer, setting out the plant, materials, labour and method the Contractor proposes using to carry out an activity, identified by the relevant specification or the Engineer when requesting a Method Statement. It contains sufficient detail to enable the Engineer to assess whether the Contractor’s proposal is in accordance with the Specifications and/or will produce results in accordance with the Specifications.

**MITIGATION:** Measures designed to avoid, reduce or remedy adverse impacts.

**PALAEOONTOLOGY:** Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

**PHASE I STUDIES:** refer to surveys using various sources of data in order to establish the presence of all possible types of heritage resources in any given area.

**PHASE II STUDIES:** include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include the documenting of rock art, engraving or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation of bodies and the relocation of graveyards, etc. Phase II work may require the input of specialists and requires the cooperation and approval of SAHRA.

**POLLUTION:** The National Environmental Management Act, No. 107 of 1998 defined pollution to mean any change in the environment caused by – substances;
radioactive or other waves; or noise, odours, dust or heat emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.

**PRINCIPAL AGENT:** The principal agent is appointed by the Client to oversee the overall project management and the management of the professional project team.

**RECOVERY:** The controlled extraction of a material or the retrieval of energy from waste to produce a product.

**RECYCLE:** A process where waste is reclaimed for further use, this involves the separation of waste from a waste stream for further use and the processing of that separated material as a product or raw material.

**REHABILITATION:** Rehabilitation is defined as the return of a disturbed area to a state which approximates the state (wherever possible) which it was before disruption.

**RE-USE:** To utilise articles from the waste stream again for a similar or a different purpose without changing the form of properties of the articles.

**SAFETY, HEALTH AND ENVIRONMENTAL OFFICER:** The SHE officer is a Contractor representative, responsible for the safety, health and environmental aspects on the construction site. The SHE officer will be responsible for the day-to-day monitoring of the EMPr and Health and Safety Planas per the OHSA.

**SCREENING:** is the process that determines whether or not a development proposal requires environmental assessment, and if so, what level of assessment is appropriate. Screening is therefore a decision-making process that is initiated during the early stages of the development of a proposal.
**SUSTAINABLE DEVELOPMENT:** according to World Commission on Environment and Development (1987), this is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

**URBAN AREAS:** mean areas situated within the urban edge (as defined or adopted by the competent authority), or in instances where no urban edge or boundary has been defined or adopted, it refers to areas situated within the edge of built-up areas.

**WASTE:** Waste means any substance, whether or not that substance can be reduced, re-used, recycled and recovered—
- that is surplus, unwanted, rejected, discarded, abandoned or disposed of;
- which the generator has no further use of for the purposes of production;
- that must be treated or disposed of; or
- that is identified as a waste by the relevant Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but—
  - a by-product is not considered waste; and
  - any portion of waste, once re-used, recycled and recovered, ceases to be waste.

**WASTE DISPOSAL FACILITY:** Waste disposal facility means any site or premise used for the accumulation of waste with the purpose of disposing of that waste at that site or on that premises.

**WATER POLLUTION:** The National Water Act, 36 of 1998 defined water pollution to be the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it – less fit for any beneficial purpose for which it may reasonably be expected to be used; or harmful or potentially harmful (aa) to the welfare, health or safety of human beings; (bb) to any aquatic or non-aquatic organisms; (cc) to the resource quality; or (dd) toproperty.

**WATERCOURSE:** can be a) a river or spring; b) a natural channel or depression in which water flows regularly or intermittently; c) a wetland, lake or dam into which, or
from which, water flows; and/or d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998) and a reference to a watercourse includes, where relevant, its bed and banks.

**WETLAND:** means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

**WORKFORCE:** The entire project team including people employed by the Applicant/Client/Developer directly, his Principal Agent or the Contractor, persons involved in activities related to the project, or person present at or visiting the construction area, including permanent contractors and casual labour.
# TABLE OF CONTENTS

1.0 Introduction and Background .................................................................................................................. 14

2.0 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMP\textit{r}) ................................................................. 15
  2.1 Purpose of the EMP\textit{r} .................................................................................................................................. 15
  2.2 Objectives of the EMP\textit{r} ......................................................................................................................... 15
  2.3 Applicable Documentation ....................................................................................................................... 16
  2.4 Scope of the EMP\textit{r} .................................................................................................................................. 16
  2.5 Structure of the EMP\textit{r} ......................................................................................................................... 17
  2.6 EMP\textit{r} as a live document .................................................................................................................... 18
    2.6.1 Plan .................................................................................................................................................... 19
    2.6.2 Do ...................................................................................................................................................... 19
    2.6.3 Check ................................................................................................................................................ 20
    2.6.4 Act ...................................................................................................................................................... 20
  2.7 Details of the Environmental Assessment Practitioner ............................................................................... 20

3.0 MANAGEMENT AND MONITORING PROCEDURES .................................................................................. 21
  3.1 Organisational Structure and Responsibility ............................................................................................ 21
  3.2 The Developer .......................................................................................................................................... 23
  3.3 The Engineer .......................................................................................................................................... 23
  3.4 The Contractor (including sub-contractors) ............................................................................................... 24
  3.5 Environmental Control Officer .................................................................................................................. 25
  3.6 Occupational Health and Safety Officer ...................................................................................................... 25
  3.7 Safety, Health and Environmental (SHE) Officer ....................................................................................... 26
  3.8 Training and Environmental Awareness ..................................................................................................... 27
  3.9 Monitoring .............................................................................................................................................. 28
  3.10 Reporting Procedures ............................................................................................................................... 29
    3.10.1 Documentation ................................................................................................................................... 29
    3.10.2 Environmental Register .................................................................................................................... 29
    3.10.3 Non-Conformance Report .................................................................................................................. 30
    3.10.4 Environmental Emergency Response ............................................................................................... 31
    3.10.5 Method Statements ............................................................................................................................ 32
    3.10.6 Public Communication and Liaison with I&APs .............................................................................. 33

4.0 COMPLIANCE WITH ENVIRONMENTAL SPECIFICATION ............................................................................. 34
5.0 CONFORMANCE WITH THE APPLICABLE ISO STANDARDS ENVIRONMENTAL MANAGEMENT SYSTEM 35
6.0 ENVIRONMENTAL CODE OF CONDUCT.......................................................................................... 36
7.0 ENVIRONMENTAL GUIDELINES, STANDARDS AND PERMITS ..................................................... 37
8.0 DETAILED ENVIRONMENTAL MANAGEMENT PROGRAMME .................................................... 40

8.1 CATEGORY A: PRE-CONSTRUCTION PHASE ................................................................................. 41
  8.1.1 Authorisations, Permits and Licences .................................................................................. 41
  8.1.2 Appointment of Contractor ............................................................................................. 41
  8.1.3 Preparation of Method Statements .................................................................................. 41
  8.1.4 Appointment of ECO ....................................................................................................... 41
  8.1.5 Environmental Training and Awareness .......................................................................... 42

8.2 CATEGORY B: CONSTRUCTION PHASE ....................................................................................... 43
  8.2.1 Geological Stability and Earthworks ................................................................................. 43
  8.2.2 Health and Safety ............................................................................................................ 43
  8.2.3 Site Management ............................................................................................................. 44

8.3 General and Hazardous Substances and Materials .................................................................. 47
  8.3.1 Spills, Incidents and Pollution Control ............................................................................ 49
  8.3.2 Heritage .......................................................................................................................... 49
  8.3.3 Noise ............................................................................................................................... 50
  8.3.4 Air Quality ....................................................................................................................... 51
  8.3.5 Spoil, Top soil and Erosion .............................................................................................. 52
  8.3.6 Waste Management ........................................................................................................ 56
  8.3.7 Water Management ......................................................................................................... 58
  8.3.8 Fauna, Flora and Ecology ................................................................................................. 61
  8.3.9 Stormwater Management ................................................................................................. 63
  8.3.10 Traffic and Safety .......................................................................................................... 65
  8.3.11 Social Considerations .................................................................................................... 66
  8.3.12 Reporting and Record Keeping ...................................................................................... 66

8.4 Post Construction Phase-Rehabilitation/Maintenance ................................................................. 67
  8.4.1 Rehabilitation ................................................................................................................. 67
  8.4.2 Monitoring and Maintenance .......................................................................................... 68
  8.4.3 Monitoring and Maintenance .......................................................................................... 68

9.0 Conclusion .................................................................................................................................... 69
1.0 INTRODUCTION AND BACKGROUND

The applicant, Century Property Development (Pty) Ltd, proposes to develop a new mixed use township with associated infrastructure on a Part of the Remainder of Portion 1037 of the farm Randjesfontein 405 JR which will include the following:

- Offices
- Restaurants
- Showrooms; and
- A hospital

The township comprises of two erven, namely Erf 646 measuring 3.2142ha and Erf 647 measuring 0.9548ha in extent. Access will be gained from Oliefantsfontein Road and will bisect the property into the erven mentioned above.

The proposed layout has been guided by the development constraints and opportunities presented by the site. Included among these were the shape of the land, nature of adjacent land uses, the need for efficiency in land allocation in relation to infrastructure services, specialist and engineering recommendations, the wetland areas, areas of ecological sensitivity and geological constraints, as well as future roads. However, the Environmental Impact Assessment (EIA) and associated specialists studies will inform the final layout.

The aim of this report is to provide a Draft Environmental Management Programme (EMPr) that would serve as a management tool that will be used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of the project are prevented and that the positive benefits of the projects are enhanced.
2.0 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

2.1 Purpose of the EMPr

An Environmental Management Programme (EMPr) is a stand-alone document used to prescribe management mechanisms/methods for the prevention of undue or reasonably avoidable adverse environmental impacts and for the enhancement of the positive environmental benefits of a development. An EMPr can be based on the National Environmental Management Act (Act No. 107 of 1998, (NEMA)(as amended), and also bestows a ‘Duty of Care’ on those who cause, have caused or may in future cause pollution or degradation of the environment as per Section 28 (1) of NEMA.

2.2 Objectives of the EMPr

The EMPr has been compiled to provide recommendations and guidelines for environmental monitoring throughout the construction and operational phase of the proposed project. This is done to ensure that all relevant factors are considered, and to ensure for environmentally responsible development.

More specific objectives for this EMPr include:

- Provide details of the applicant;
- Provide an outline of the legal requirements;
- Ensuring compliance with regulatory authority stipulations and guidelines which may be local, provincial, national and/or international;
- The eradication of invasive alien plant species;
- The mitigation management of construction associated impacts such as water quality impairment, flow modification, loss of riparian habitat and loss of aquatic ecosystem services;
- To assign roles and responsibilities to parties involved regarding the implementation of this EMPr;
- To describe a monitoring/stakeholder engagement programme which will enable a review of the success of the EMPr;
To outline mitigation measures and environmental specifications which are required to be implemented for all phases of the project in order to minimise the extent of environmental impacts, and to manage environmental impacts associated with the proposed project;

Identifying construction activities that might have detrimental impacts on the environment;

To identify measures that could optimize beneficial impacts;

To establish a method of monitoring and auditing environmental management practices during all phases of development;

Detail specifications deemed necessary to assist in mitigating the environmental impact of the project;

Propose mechanisms for monitoring compliance with the EMP and reporting thereon;

Specify time periods within which the measures contemplated in the Draft Environmental Management Programme must be implemented, where appropriate;

The planting of appropriate indigenous vegetation; and

The effective implementation of construction waste management within the culvert construction area, or any such area directly affecting the quality and flow of the river for which this EMP serves to manage (Rietspruit).

2.3 Applicable Documentation

The documentation required to undertake the Project and that will be read in conjunction with the EMP are listed below:

- Environmental Impact Assessment for the proposed Country View Extension 16 Township
- Environmental Authorisation from the Gauteng Department of Agriculture and Rural Development (GDARD).

2.4 Scope of the EMP
Act (NEMA) Environmental Impact Assessment (EIA) Regulations, 2014, and the requirements of the GDARD this EMPr is to be implemented by the Developer as well as any employee, contractor, agent or sub-contractor appointed to act on behalf of the Developer in the execution of the Project, in order to ensure environmental compliance onsite.

The specifications outlined in this EMPr are thus applicable to all activities undertaken by the Developer as well as appointed contractors and all persons involved in the execution of the works including sub-contractors, the workforce, suppliers and volunteers for the duration of construction, operation and future maintenance.

An Environmental Code of Conduct has also been developed that provides a simplified set of rules that should be adhered to by all persons involved with the project at all times. This is to be displayed at strategic points to ensure constant environmental awareness.

The effectiveness of the EMPr is limited by the level of adherence to the conditions set forth in the EMPr by the Developer, the Contractor and Sub-contractors. It is further assumed that compliance with the EMPr will be monitored and audited as set out in this EMPr and contractual clauses.

2.5 Structure of the EMPr

There are three main phases in the EMPr that provide proposed mitigations and management measures in Table 1.

Table 1: Phases of the Project Life Cycle

<table>
<thead>
<tr>
<th>Category</th>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category A</td>
<td>Pre-Construction</td>
<td>This section will provide guidelines on pre-construction activities including site establishment and clearance; environmental</td>
</tr>
</tbody>
</table>
induction and training and awareness; site access and health and safety.

<table>
<thead>
<tr>
<th>Category B</th>
<th>Construction</th>
<th>This section will provide guidelines on construction methods and considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category C</td>
<td>Rehabilitation</td>
<td>This section of the EMPr provides management principles for the rehabilitation phase of the Development. This will include best practice, procedures and responsibilities as required for various associated activities.</td>
</tr>
</tbody>
</table>

Relevant environmental legislation pertaining to the development is listed in the next section. The Century Property Development (Pty) Ltd shall be responsible for ensuring compliance with the conditions by any person acting on their behalf, including but not limited to, an agent, contractor, sub-contractor, employee or person rendering a service to the holder of the authorisation.

This EMPr is a dynamic document which will be updated as required on a continuous basis to ensure environmental best practices. Any amendments made, must be submitted to the Century Property Development (Pty) Ltd’s Project Manager for approval. Amendments to the EMPr must be submitted to the GDARD.

2.6 EMPr as a live document

The approach adopted for this EMPr is derived from the Deming Cycle (Figure 1), a cycle of continuous improvement that entails the reiterative actions of plan, do, check, act, and then return to the planning phase.
2.6.1 Plan
Project-specific planning for the proposed project involves consideration of the legal triggers, the specifics of the proposed development, and the nature of the receiving environment. This provides a starting point for targeted environmental management objectives. Environmental performance indicators are then determined with measurable targets prescribed to monitor the environmental performance of the project. Achieving the targets depends on compliance with this EMPr and the legislative requirements that underpin it.

2.6.2 Do
Throughout the development’s life-span, the developer will be required to develop and maintain a Quality Management System—designed to ensure that best management practices are implemented on day-to-day management. Such a QMS should at least include the following information:
- Location and extent of associated infrastructure;
- Associated activities, such as the transportation of people and equipment;
- Resources and experience required (staffing);
- Materials and equipment to be used;
- Management actions;
- Human resources used;
- Construction-monitoring activities;
- Emergency/disaster incident and reaction procedures; and
- Rehabilitation procedures for the impacted environment.

These topics will be cross-linked into the contracts related to the development of the project.

### 2.6.3 Check

A system of assessing monitoring results has been developed to check the environmental management performance. Continuous assessment facilitates proactive management of the environmental issues. Mitigation measures can then be successfully implemented on an ongoing basis to keep environmental indicators within their target thresholds. Moreover, the assessment system also enables the assessment of the efficiency of the EMPr. Regular auditing of environmental performance is prescribed to prove and preserve accountability.

### 2.6.4 Act

The assessments and monitoring of the results and findings of the regular audits must be documented within a reporting system. Precautionary mitigation measures and corrective actions will be prescribed and instructions will be given in order to implement these in the field. The findings of monitoring and auditing programmes can also be used to update the EMPr. Although the EMPr is a project-specific document, it is dynamic and should be updated regularly to address the changing circumstances of the scheme.

### 2.7 Details of the Environmental Assessment Practitioner

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Nali Sustainability Solutions (Pty) Ltd</td>
</tr>
<tr>
<td>Representative</td>
<td>Mr Pirate Ncube</td>
</tr>
<tr>
<td>Physical Address</td>
<td>65 Country Club Drive, Irene Farm Villages, Centurion</td>
</tr>
<tr>
<td>Postal Address</td>
<td>P Bag X1, Stand 1829, Irene Farm Villages, Centurion, 0045</td>
</tr>
</tbody>
</table>
| Other contact details | Tel: 0824517120  
Fax: 086 694 1178  
Email: ncube.nali@gmail.com or pirate.ncube@mail.com |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Expertise/experience</td>
<td>Vast experience in environmental and land use management. More than 22 years experience in spatial planning, environmental planning and management encompassing Strategic Environmental Assessments, Environmental Impact Assessments and reviews, Environmental Management Plans, and Environmental Compliance Monitoring as well as Project Management. Served/s in various decision making bodies including the DFA Tribunal, Environmental Advisory Committee, MEC Appeals Advisory Panel. Qualified Town Planner (honours) with Masters in Real Estate and an MBA.</td>
</tr>
<tr>
<td>Assistant EAP</td>
<td>Mr Comfort Mthombothi</td>
</tr>
</tbody>
</table>
| Contact details      | Tel: 0711661173  
Fax: 086 694 1178  
Email: comfort.mthombothi@mail.com |
| Expertise/experience | More than 8 years in the environmental management field specialising in the assessment of environmental authorisation applications. Experienced and skilled in environmental planning, Environmental Management Programmes, EIAs and project management. Holds a BA(Geography and Environmental Studies) from the University of the Witwatersrand, Johannesburg (2006). |

### 3.0 MANAGEMENT AND MONITORING PROCEDURES

#### 3.1 Organisational Structure and Responsibility

The figure below provides an indication of the organizational and team structure for the Project.
Figure 2: Project Organisational Structure
3.2 The Developer

The Developer is ultimately responsible for ensuring compliance with the environmental specification and upholding Century Property Development (Pty) Ltd’s environmental commitment to 100% compliance with all National, Provincial and local legislation that relates to management of this environment.

The Developer will:
- Arrange information meetings for consulting with I&AP’s about the impending construction activities;
- May on the recommendation of the Engineer and/or Environmental Officer order the Contractor to suspend any or all works on site if the Contractor or his Sub-Contractor/Supplier fails to comply with the said specifications; and
- Maintain a register of complaints and queries by members of the public at the site office.

3.3 The Engineer

The Engineer will:
- Enforce the environmental specifications on site;
- Monitor compliance with the requirements of the specification;
- Assess the Contractor’s environmental performance in consultation with the Environmental Officer from which a brief monthly statement of environmental performance is drawn up for record purposes and to be reported to project meetings; and
- Ensure the documentation, in conjunction with the Contractor, the state of the site prior to construction activities commencing. This documentation will be in the form of photographs or video record.
The Contract is required to:

- Be fully conversant with the EMPr and all conditions of the EA, WUL, etc.;
- Provide information on previous environmental management experience and company environmental policy in terms of the relevant forms contained in the Contract Document.
- Supply method statements timeously for all activities requiring special attention as specified and/or requested by the Developer, Environmental Officer and/or Engineer during the duration of the Contract.
- Be conversant with the requirements of this environmental specification/ EMPr. Brief all his/her staff about the requirements of the environmental specification;
- Comply with requirements of the Environmental Officer in terms of this specification and the project specification, as applicable, within the time period specified.
- Ensure any Sub-Contractors/Suppliers who are utilized within the context of the contract comply with the environmental requirements of the project, in terms of the specifications. The Contractor will be held responsible for non-compliance on their behalf.
- Bear the cost of any delays, with no extension of time granted, should he or his Sub-Contractors/Suppliers contravene the said specifications such that the Engineer orders a suspension of work. The suspension will be enforced until such time as the offending party(ies), procedure, or equipment is corrected.
- Bear the costs of any damages/compensation resulting from non-adherence to the said specifications or written site instructions.
- Comply with all applicable legislation.
- Ensure that he informs the Engineer timeously of any foreseeable activities which will require input from the Environmental Officer.
- The Contractor will conduct all activities in a manner that minimizes disturbance to the natural environment as well as directly affected residents and the public in general.
3.5 **Environmental Control Officer**

The ECO will:

- Be fully conversant with the EMPr;
- Be familiar with the recommendations and mitigation measures of the associated EMPr for the project;
- Monitor the implementation of the EMPr during the construction and rehabilitation phases;
- Ensure site protection measures are implemented on site;
- Monitor that the Principal Contractor, sub-contractors, construction teams and the Developer are in compliance with the EMPr at all times during the construction and rehabilitation phases of the project;
- Monitor all site activities monthly for compliance.
- Conduct monthly audits of the site according to the EMPr, and report findings to the Developer/Contractor;
- Attend monthly site meetings;
- Recommend corrective action for any environmental non-compliance at the site;
- Compile a monthly report highlighting any non-compliance issues as well as progress and compliance with the EMPr prescriptions. These monthly reports are to be submitted to the Developer and GDARD; and
- Conduct once-off training with the Contractor or on the EMPr and general environmental awareness.

It must be noted that the responsibility of the ECO is to monitor compliance and give advice on the implementation of the EMPr and not to enforce compliance. Ensuring compliance is the responsibility of the Developer and the SHE Officer.

3.6 **Occupational Health and Safety Officer**

The OHS Officer will be responsible for undertaking of the following:

- Compilation of a comprehensive project Health and Safety Risk
Assessment (HSRA)

- Compilation of health and safety specifications based on risks identified;
- Reviewing and approval of health and safety plan(s) submitted by appointed Principal Contractor(s);
- Conducting monthly health and safety inspections and compiling monthly OHS reports;
- Conducting monthly health and safety audits with audit reports;
- Assisting the Developer/Contractor in the investigation of major accident/incidents;
- Monitoring of site activities for compliance to the Occupational Health and Safety Act (OHSA) and Regulations;
- Establishment and monitoring of project health and safety file;
- Monitoring the Principal Contractor(s’) health and safety performance; and
- Preparation of project close-out reports and submission of project health and safety files to the Client.

3.7 Safety, Health and Environmental (SHE) Officer

The Safety, Health and Environmental Officer will:

- Be fully conversant with the EMPr;
- Be fully conversant with all relevant environmental legislation applicable to the project, and ensure compliance with them;
- Compilation of Method Statements together with the Principal Contractor that will specify how potential environmental impacts in line with the requirements of the EMPr will be managed, and, where relevant environmental best practice and how they will practically ensure that the objectives of the EMPr are achieved;
- Convey the contents of this EMPr to the construction site staff and discuss the contents in detail with the Contractor;
- Undertake regular and comprehensive inspection of the site and surrounding areas in order to monitor compliance with the EMPr;
- Take appropriate action if the specifications contained in the EMPr are not
followed;
- Monitor and verify that environmental impacts are kept to a minimum, as far as possible;
- Order the removal from the construction site of any person(s) and/or equipment in contravention of the specifications of the EMPr;
- Report any non-compliance or remedial measures that need to be applied to the appropriate environmental authorities, in line with the requirements of the EMPr;
- Submitting a report at each site meeting which will document all incidents that have occurred during the period before the site meeting;
- Ensuring that the list of transgressions issued by the ECO is available on request; and
- Maintain an environmental register which keeps a record of all incidents which occur on the site during construction. These incidents include:
  - Public involvement/complaints.
  - Health and safety incidents.
  - Incidents involving hazardous materials stored on site.
  - Non-compliance incidents.

3.8 Training and Environmental Awareness

It is important to ensure that the Contractor has the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and ongoing minimisation of environmental harm. Training needs should be identified based on the available and existing capacity of site personnel (including the Contractors and Sub-contractors) to undertake the required EMPr management actions and monitoring activities. It is vital that all personnel are adequately trained to perform their designated tasks to an acceptable standard.

The environmental training is aimed at:
- Promoting environmental awareness;
• Informing the Contractor of all environmental procedures, policies and programmes applicable;
• Providing generic training on the implementation of environmental management specifications; and
• Providing job-specific environmental training in order to understand the key environmental features of the construction site and the surrounding environment.

Training will be done in a verbal format. The training will be a once-off event; however the Contractor should make provision for weekly training or Toolbox Talks. In addition to training, general environmental awareness must be fostered among the project’s workforce to encourage the implementation of environmentally sound practices throughout its duration. This ensures that environmental accidents are minimised and environmental compliance maximized.

### 3.9 Monitoring

A monitoring programme will be in place not only to ensure compliance with the EMPr through the contract/work instruction specifications, but also to monitor any environmental issues and impacts which have not been accounted for in the EMPr that are, or could result in significant environmental impacts for which corrective actions required. Century Property Development (Pty) Ltd will cause and or carry out the internal audits.

As part of the contract or work instruction, Century Property Development (Pty) Ltd will stipulate the period and frequency of monitoring required. This will be determined from applicable permits and authorisations from authorities. The Project Manager will ensure that monitoring is carried out.
3.10 Reporting Procedures

3.10.1 Documentation
The following documentation must be kept on site in order to record compliance with the EMPr:
- An Environmental File which includes:
  - Copy of the EMPr;
  - Copy of the Environmental Authorisation;
  - Copy of all other licenses/permits;
  - Copy of all rehabilitation plans;
  - Copy of the Stormwater Management Plan;
  - Copy of relevant legislation;
  - Environmental Policy of the Main Contractor;
  - Environmental Method statements compiled by the Contractor;
  - Non-conformance Reports;
- Environmental register, which shall include:
  - Communications Register—including records of Complaints, and, minutes and attendance registers of all environmental meetings.
  - Monitoring Results—including environmental monitoring reports, register of audits, Non-Conformance Reports (NCR).
  - Incident book – including copies of notification of Emergencies and Incidents, this must be accompanied by a photographic record.
  - Waste manifests.
- Waste Documentation such as Sewerage Disposal Receipts;
- Material Safety Data Sheets for all hazardous substances;
- Dust suppression register;
- Water Quality Monitoring reports (if necessary);
- Written Corrective Action Instructions; and
- Notification of Emergencies and Incidents.

3.10.2 Environmental Register
The Developer will put in place an Environmental Register. The contractor will
ensure that the following information is recorded for all complaints/incidents:

- Nature of complaint/incident.
- Causes of complaint/incident.
- Party/parties responsible for causing complaint/incident.
- Immediate actions undertaken to stop/reduce/contain the causes of the complaint/incident.
- Additional corrective or remedial action taken and/or to be taken to address and to prevent reoccurrence of the complaint/incident.
- Time frames and the parties responsible for the implementation of the corrective or remedial actions.
- Procedures to be undertaken and/or penalties to be applied if corrective or remedial actions are not implemented.
- Copies of all correspondence received regarding complaints/incidents.

The above records will form an integral part of the Contractors' Records. These records will be kept with the EMPr, and will be made available for scrutiny if so requested by the Developer.

3.10.3 Non-Conformance Report

A Non-Conformance Report (NCR) will be issued to the Contractor as a final step towards rectifying a failure in complying with a requirement of the EMPr. This will be issued by the ECO to the Contractor in writing. Preceding the issuing of an NCR, the Contractor must be given an opportunity to rectify the issue.

Should the ECO assess an incident or issue and find it to be significant (e.g. non-repairable damage to the environment), it will be reported to the relevant authorities and immediately escalated to the level of a NCR. The following information should be recorded in the NCR:

- Details of non-conformance;
- Any plant or equipment involved;
- Any chemicals or hazardous substances involved;
- Work procedures not followed;
Any other physical aspects.
Nature of the risk.
Actions agreed to by all parties following consultation to adequately address the non-conformance in terms of specific control measures and should take the hierarchy of controls into account.
Agreed timeframe by which the actions documented in the NCR must be carried out.
ECO should verify that the agreed actions have taken place by the agreed completion date, when completed satisfactorily; the ECO and Contractor should sign the Close-Out portion of the Non-Conformance Form and file it with the contract documentation.

3.10.4 Environmental Emergency Response
The Contractor’s environmental emergency procedures must ensure appropriate responses to unexpected / accidental actions/incidents that could cause environmental impacts. Such incidents may include:
- Accidental discharges to water (i.e. into the watercourse) and land;
- Accidental spillage of hazardous substances (typically oil, petrol, and diesel);
- Accidental toxic emissions into the air; and
- Specific environmental and ecosystem effects from accidental releases or incidents.

The Environmental Emergency Response Plan is separate to the Health and Safety Plan as it is aimed at responding specifically to environmental incidents and must ensure and include the following:
- Construction employees shall be adequately trained in terms of incidents and emergency situations;
- Details of the organization (i.e. manpower) and responsibilities, accountability and liability of personnel;
- A list of key personnel and contact numbers;
- Details of emergency services (e.g. the fire department / on-site fire detail, spill clean-up services) shall be listed;
• Internal and external communication plans, including prescribed reporting procedures;
• Actions to be taken in the event of different types of emergencies;
• Incident recording, progress reporting and remediation measures to be implemented; and
• Information on hazardous materials, including the potential impact associated with each, and measures to be taken in the event of accidental release.

The Contractor and their sub-contractor(s) must comply with the environmental emergency preparedness and incident and accident-reporting requirements as per the relevant legal requirements.

3.10.5 Method Statements

It is a statutory requirement to ensure the wellbeing of employees and the environment. To allow the mitigation measures in this document to be implemented, task-specific method statements should be developed for each set of tasks.

A Method Statement details how and when a process will be carried out, detailing possible dangers/risks, and the methods of control required.

• Type of construction activity;
• Timing and location of the activity;
• Construction procedures;
• Materials and equipment to be used;
• Transportation of the equipment to/from site;
• How equipment/material will be moved while on site;
• Location and extent of construction site office and storage areas;
• Identification of impacts that might result from the construction activity;
• Methodology and/or specifications for impact prevention/containment;
• Methodology for environmental monitoring;
• Emergency/disaster incident and reaction procedures (required to be demonstrated); and
- Rehabilitation procedures and continued maintenance of the impacted environment.

The Contractor will be accountable for all actions taken in on-compliance of the approved Method Statements. The Contractor shall keep all the Method Statements and subsequent revisions on file, copies of which must be distributed to all relevant personnel for implementation.

Examples of the Method Statements required include:
- Bunding;
- Blasting;
- Construction site and office/yard establishment;
- Cement mixing/concrete batching/bentonite mixing;
- Contaminated water;
- Dust;
- Environmental awareness course(s);
- Environmental monitoring;
- Erosion control;
- Fire, hazardous and/or poisonous substances;
- Fuels and fuel spills (may form part of the item above);
- Storage, handling and decanting of diesel (may form part of the item above);
- Personnel, public and animal safety;
- Rehabilitation of modified environment(s);
- Solid and liquid waste management;
- Sources of materials (including MSDSs);
- Top-soil management;
- Stormwater Management; and
- Wash areas.

3.10.6 Public Communication and Liaison with I&APs
The Developer must ensure that the adjacent landowners are informed and updated throughout the construction phases. Sufficient signage should be
erected around the site (including at the entrance), informing the public of the construction activities taking place. The sign boards should include the following information:

- The name of the Contractor.
- The name and contact details of the site representative to be contacted in the event of emergencies or complaint registration.

### 4.0 COMPLIANCE WITH ENVIRONMENTAL SPECIFICATION

The EMPr forms part of the Contract Documentation and is thus a legally binding document. It is also necessary for the Contractor to make provisions as part of their budgets for the implementation of the EMPr. In terms of this Act an individual responsible for environmental damage must pay costs both to the environment and human health and the preventative measures to reduce or prevent additional pollution and/or environmental damage from occurring. This is referred to as the *Polluter Pays Principle*. Section 28 of the NEMA embodies the polluter pays principle.

The Contract or is deemed not to have complied with the Environmental Specification/EMPr if:

- There is evidence of contravention of clauses within the boundaries of the site, site extensions and haul / access roads;
- Environmental damage ensues due to negligence;
- The Contractor ignores or fails to comply with corrective or other instructions issued by the Developer, ECO or Engineer within a specified time; and
- The Contract or fail stores pond adequately to complaints from the public.

Application of a penalty clause will apply for incidents of non-compliance. The contractor will be allowed one offense and a written warning will be issued by the Environmental Officer. Failure to rectify the offense within one (1) working week of the issue of the warning or a repeat offence may result in a fine being imposed at the discretion of and issued by the Environmental Officer.

The Developer is responsible for the implementation of the EMPr and for
compliance monitoring of the EMPr. The EMPr will be made binding on all contractors (including sub-contractors) operating on the site and will be included with the Contract. Non-Compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance.

5.0 CONFORMANCE WITH THE ISO STANDARDS ENVIRONMENTAL MANAGEMENT SYSTEM

The ISO Environmental Management System (EMS) is the internationally recognised standard for the environmental management of organisations. It prescribes controls for those activities that have an effect on the environment. These include the use of natural resources, handling and treatment of waste, energy consumption, water resource management and so forth.

This standard specifies requirements for an EMS to enable an organisation to develop and implement a policy and objectives which takes into account legal and other requirements to which the organization subscribes, and information about significant environmental aspects. It applies to those environmental aspects that the organisation identifies as those which it can control and those which it can influence. It does not itself state specific environmental performance criteria.

All the requirements in ISO standards are intended to be incorporated into any EMS. The extent of the application will depend on factors such as the environmental policy of the organisation, the nature of its activities, products and services, the location and the conditions in which it functions. The ISO family addresses various aspects of environmental management. It provides practical tools for companies and organisations looking to identify and control their environmental impact and constantly improve their environmental performance. The aim of the ISO standard is to achieve continuous improvement through the cycle outlined in Figure3.
6.0 ENVIRONMENTAL CODE OF CONDUCT

One of the objectives of the EMPr is to ensure that all the workforce, contractors, sub-contractors and construction staff have an understanding of environmental issues and potential impacts on site activities. This environmental code of conduct provides the basic rules that should be strictly adhered to. It is the responsibility of the Contractor to ensure that the Code is adhered to.

ENVIRONMENTAL CODE OF CONDUCT

ALL PERSONS ARE OBLIGED TO KEEP TO THE RULES OF THIS CODE OF CONDUCT

Ignorance, negligence, recklessness or a general lack of commitment resulting in environmental degradation or pollution shall not be tolerated!

ENVIRONMENTAL RULES

- Do not waste electricity, water or consumables;
- Only use authorized accesses;
- Do not litter;
- Dispose solid waste to the correct waste containers provided;
- Prevent pollution;
• Use the toilet facilities provided;
• Do not dispose contaminated waste water to the stormwater or the environment
• Immediately report any spillage from containers, plant or vehicles;
• Do not burn or bury any waste in the site and;
• Do not trespass onto private properties;
• Strictly leave all animals alone. Never tease, catch or set devices to trap or kill any animal.
• Never damage or remove any trees, shrubs or branches unless it forms part of working instructions and authorization has been received where necessary;
• Do not deface, draw or cut lettering or any other markings on trees, rocks or buildings in the area;
• Know the fire fighting procedure and locations of firefighting equipment; and
• Know the environmental incident procedures.

7.0 ENVIRONMENTAL GUIDELINES, STANDARDS AND PERMITS

The following is a summary of the environmental legislation applicable to the proposed project

<table>
<thead>
<tr>
<th>Legislation</th>
<th>Sections</th>
<th>Relates to</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Section 24</td>
<td>Environmental rights.</td>
</tr>
<tr>
<td>National Environmental Management Act (No 107 of 1998 [as amended])</td>
<td>Section 2</td>
<td>Defines the strategic environmental management goals and objectives of the government. Applies through-out the Republic to the actions of all organs of state that may significantly affect the environment.</td>
</tr>
<tr>
<td></td>
<td>Section 24</td>
<td>Provides for the prohibition, restriction and control of activities which are likely to have a detrimental effect on the environment.</td>
</tr>
<tr>
<td></td>
<td>Section 28</td>
<td>The developer has a general duty to care for the environment and to institute such measures</td>
</tr>
</tbody>
</table>
as may be needed to demonstrate such care.

| Environment Conservation Act (No 73 of 1989) and Regulations | Sections 19 and 19 A | Prevention of littering by employees and subcontractors during construction and the maintenance phases of the proposed project |
| National Heritage Resources Act (No 25 of 1999) and Regulations | Section 32 | No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site. |
| Section 34 | No person may, without a permit issued by the South African Heritage Resource Agency (SAHRA) or a provincial heritage resources authority destroy, damage, alter, exhume, 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. Grave is widely defined in the Act to include the contents, headstone or other marker of such a place, and any other structure on or associated with such place. |
| Section 35 | This section provides for Heritage Impact Assessments (HIAs), which are not already covered under the ECA. Where they are covered under the ECA the provincial heritage resources authorities must be notified of a proposed project and must be consulted during the HIA process. The Heritage Impact Assessment (HIA) will be approved by the authorising body of the provincial directorate of environmental affairs, |
which is required to take the provincial heritage resources authorities’ comments into account prior to making a decision on the HIA.

<table>
<thead>
<tr>
<th>National Environmental Management Biodiversity Act (Act No. 10 of 2004)</th>
<th>Provide for the protection of species and ecosystems that warrant national protection and the sustainable use of indigenous biological resources.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Health and Safety Act (No 85 of 1993)</td>
<td>Section 8 Control of dust</td>
</tr>
<tr>
<td>Occupational Health and Safety Act - Major Hazard Installation Regulations (GN R692, July 2001)</td>
<td>Sections 5 and 6 Control of offensive odours</td>
</tr>
<tr>
<td>National Water Act (No 36 of 1998) and Regulations</td>
<td>Section 19 General duties of employers to their employees</td>
</tr>
<tr>
<td>National Road Traffic Act (No 93 of 1996)</td>
<td>Section 20 General duties of employers and self employed persons to persons other than their employees</td>
</tr>
<tr>
<td>Town Planning and Townships Ordinance 15 Of 1986</td>
<td>Road safety.</td>
</tr>
<tr>
<td>SANS 10103 (Noise Regulations)</td>
<td>Town Planning.</td>
</tr>
<tr>
<td></td>
<td>The measurement and rating of environmental noise with respect to annoyance and to speech communication.</td>
</tr>
</tbody>
</table>
8.0 DETAILED ENVIRONMENTAL MANAGEMENT PROGRAMME

The EMPr specifies the minimum requirements to be implemented by the Developer as per the scope of works and scope of the environmental authorisation, in order to minimise and manage the potential environmental impacts and ensure sound environmental management practices. It also provides the framework for environmental monitoring throughout the construction and operational phases.

The provisions of this EMPr are binding on the Developer during the life of the project. The EMPr must be binding on Century Property Development (Pty) Ltd or any authority to which responsibility for the construction activities has been delegated to, until such time that the Gauteng Department of Agriculture and Rural Development (GDARD) has formally absolved the Developer from its responsibilities in terms of this EMPr.

It is essential that the EMPr requirements be carefully studied, understood, implemented, and adhered to at all time. To simplify the EMPr requirements, each aspect related to the EMPr has been addressed in the table below. Each action within the EMPr is supported by the priority of when the specific action will need to be implemented. Each of these aspects is briefly described below for ease of reference.

- **Environmental Measures, Actions and Controls**
  This section indicates the actions required to either prevent and/or minimise the potential impacts on the environment that is associated with the project.

- **Responsibility**
  This section indicates the party responsible for implementing the environmental measures and action plans laid out in the EMPr.

- **Monitoring Frequency**
  This section indicates when the actions for that specific aspect must be implemented and/or monitored.
### 8.1 CATEGORY A: PRE-CONSTRUCTION PHASE

<table>
<thead>
<tr>
<th>ACTIONS AND CONTROLS</th>
<th>RESPONSIBILITY</th>
<th>MONITORING FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Authorisations, Permits and Licences</strong></td>
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</tr>
<tr>
<td>All necessary authorisations, permits and licenses must be obtained by the Developer as part of the implementation of the activity</td>
<td>Developer</td>
<td>Once-off</td>
</tr>
<tr>
<td><strong>Appointment of Contractor</strong></td>
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<td></td>
</tr>
<tr>
<td>The Developer must ensure that this EMPr forms part of any contractual agreements with a Contractor(s) and sub-contractors for the execution of the proposed project. The Contractor must make adequate provision in their budgets for the implementation of the EMPr.</td>
<td>Developer</td>
<td>Once-off</td>
</tr>
<tr>
<td>The Principal Contractor (including sub-contractors and suppliers) must comply with the relevant provisions of the EMPr, applicable environmental legislation, by-laws and associated regulations promulgated in terms of these laws.</td>
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<tr>
<td>Tender documents should include statements to include the use of local communities or local community organisations where possible in supplying services and labour for construction purposes.</td>
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<tr>
<td>Local labourers should employed for construction work.</td>
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</tr>
<tr>
<td><strong>Preparation of Method Statements</strong></td>
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<td></td>
</tr>
<tr>
<td>Method Statements must be submitted by the Contractor to the SHE Officer and must be adhered to by the Contractor and Project Engineer. These relate to water and stormwater management requirements, traffic requirements, solid waste management requirements, fuel storage and filling and dispensing of fuel (diesel and petrol), hydrocarbon spills, contaminated water treatment, the storage of hazardous materials, standard emergency procedures, and biohazard control.</td>
<td>Contractor</td>
<td>Once-off</td>
</tr>
<tr>
<td>The ECO will monitor the implementation of the Statements. All copies of the statements and plans must be submitted to the appointed ECO.</td>
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</tr>
<tr>
<td><strong>Appointment of ECO</strong></td>
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</tr>
<tr>
<td>An Independent ECO must be appointed by the holder of the Environmental Authorisation at their cost to monitor the implementation of the EMPr.</td>
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<tr>
<td>The nomination of the ECO must be given, in writing, at least fourteen days before the start of any work.</td>
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</tbody>
</table>
clearly setting out reasons for the nomination, and with sufficient detail to enable the developer to make a decision. The developer will, within seven days of receiving the request, approve, reject or call for more information on the nomination.

<table>
<thead>
<tr>
<th>Developer</th>
<th>ECO</th>
<th>SHE Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once-off</td>
<td>Once-off/Monthly</td>
<td>Once-off</td>
</tr>
</tbody>
</table>

Once a nominated environmental auditor has been approved he/she will be the ECO and must undertake monthly site inspections and provide monthly audit reports for the duration of the construction and rehabilitation phases. Each audit report must contain the results of the full audit. These audit results report on whether the response to the audit item is favourable, un-favourable or not applicable. Not applicable answers are for those aspects of the construction that have not yet started or are not applicable to the contract being considered. Graphs must be produced for each stage of the EMPR; general requirements, requirements during construction and post construction activities. Each of the aspects within each stage is allocated a percentage score. The percentage score is the percentage of favourable items against the total number of applicable items. The higher the score, the better the compliance. Complete compliance will result in a 100% score.

**Environmental Training and Awareness**

Construction staff must be adequately educated by the ECO, and the SHE Officer about the provisions included in the EMPR and general environmentally friendly practice.

<table>
<thead>
<tr>
<th>The EA and EMPR forms part of the formal site induction for all contractors, sub-contractors and casual labourers, preferably in their native language. The induction training will, as a minimum, include the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The importance of conformance with all environmental policies;</td>
</tr>
<tr>
<td>- The environmental impacts, actual or potential, of their work activities;</td>
</tr>
<tr>
<td>- The environmental benefits of improved personal performance;</td>
</tr>
<tr>
<td>- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirements of the Consultant's environmental management systems, including emergency preparedness and response requirements; and</td>
</tr>
<tr>
<td>- The mitigation measures required to be implemented when carrying out their work activities.</td>
</tr>
</tbody>
</table>

All contractors, sub-contractors and casual labourers must acknowledge their understanding of the EMPR and environmental responsibilities by signing an induction attendance record.
The Contractor is expected to have “tool box” talks. These talks must be in accordance with the risks and trends associated with the project. Proof of these talks must be kept onsite.

### 8.2 CATEGORY B: CONSTRUCTION PHASE

<table>
<thead>
<tr>
<th>ACTIONS AND CONTROLS</th>
<th>RESPONSIBILITY</th>
<th>MONITORING FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Geological Stability and Earthworks</strong></td>
<td></td>
<td>Ongoing</td>
</tr>
<tr>
<td>• All site disturbances must be limited to the areas where structures will be constructed.</td>
<td>Engineer</td>
<td></td>
</tr>
<tr>
<td>• Where the natural ground slope exceeds a slope angle of 1:6, the fill should be constructed on the surface benched into suitable in-situ material.</td>
<td>Contractor</td>
<td></td>
</tr>
<tr>
<td>• The fill slopes to be based on the Geotechnical Engineers’ recommendations to ensure stability.</td>
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</tr>
<tr>
<td>• Large excavations for the contractor lay down area, storage areas or waste areas are not permitted.</td>
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</tr>
<tr>
<td>• No development, except as approved, may take place within the 1:100 flood line of the drainage feature on site.</td>
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<td></td>
</tr>
<tr>
<td>• Blasting</td>
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<td></td>
</tr>
<tr>
<td>✓ Rocky substrates, Aquifers etc. are considered to be sensitive areas, thus Blasting must be restricted to gas blasting only.</td>
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<td></td>
</tr>
<tr>
<td>✓ Due to the extensive residential development around the development, blasting should be kept to a very low intensity and where necessary gas blasting should be considered.</td>
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<td></td>
</tr>
<tr>
<td><strong>Health and Safety</strong></td>
<td></td>
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</tr>
<tr>
<td>• The Contractor must adhere to the prescriptions of the relevant health and safety legislation and standards. The Contractor must familiarise himself and his employees with the contents of the aforementioned legislation.</td>
<td>Contractor</td>
<td>Once-off</td>
</tr>
<tr>
<td>• First Aid contents must be available at all times.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The Contractor must implement adequate and mandatory safety precautions relating to all aspects of construction. Such safety measures and work procedures/instructions must be communicated to construction workers.</td>
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</tr>
<tr>
<td>• The wearing of Personal Protective Equipment (PPE) on site is mandatory for all personnel and</td>
<td></td>
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</table>
construction team members. Minimum requirements must include the wearing of an approved safety helmet, safety boots, safety eyewear, safety reflective jackets and dust masks, ear plugs, etc. where appropriate.

- PPE signs must be erected on site at the areas where it is required and the integrity and availability of the signs must be maintained.
- No one must be allowed on site unless they are wearing approved safety equipment.
- Casual visitors must be required to sign a register at the security checkpoint and undergo a site induction by the SHE Officer. The responsible person must then be contacted before the visitor is allowed access to site. No unauthorised visitors are to be allowed onsite.
- Workers’ right to refuse work in unsafe conditions must be respected.
- All personnel must be trained in basic site safety procedures.
- The Contractor must design, test/exercise appropriate emergency preparedness programmes (plans, schedules, procedures and methods) for addressing environmental accidents, incidents and events such as spills of fuel, oil or lubricants; fires etc.

<table>
<thead>
<tr>
<th>Site Management</th>
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</thead>
<tbody>
<tr>
<td><strong>Site Establishment</strong></td>
</tr>
<tr>
<td>- Prior to the establishment of the site camp/office, the Contractor will produce a site layout plan showing the positions of all equipment storage, waste stockpiling, fuel storage areas and other infrastructure for approval of the ECO and SHE Officer.</td>
</tr>
<tr>
<td>- The construction area must be clearly demarcated on the layout plan, and all other areas (in particular the wetland and associated buffer) must be considered no-go areas for the construction personnel.</td>
</tr>
<tr>
<td>- Adequate signage must be placed in the area where construction will take place informing the public of the activities taking place.</td>
</tr>
<tr>
<td>- The site must be secured and manned on a 24 hour basis.</td>
</tr>
<tr>
<td>- The Contractor must take responsibility for the site to conform to all contractual aspects and environmental standards applicable.</td>
</tr>
<tr>
<td>- The Contractor must provide adequate refuse bins that must be cleaned/emptied and the waste</td>
</tr>
<tr>
<td>Contractor</td>
</tr>
</tbody>
</table>
removed from site on a regular basis.

- The construction camp must be kept in an orderly state at all times.
- Vegetation removed for the site establishment is to be kept to a minimum. No trees are to be removed, if possible, with the exception of alien weeds and invader plants.
- The construction camp is to be located a minimum horizontal distance of 100 m from the wetland above the 1:100 year floodline.
- The Contractor must ensure that drainage on the camp site is such to prevent standing water and/or sheet erosion from taking place.

**Ablution/Sanitation**

- A minimum of one chemical toilet must be provided per 10 persons.
- The chemical toilets must be strategically placed (easily accessible to workers, preferably no more than a 300 m from the work face) and will not be situated within any water course, or within the wetland or associated buffer.
- Chemical toilets must be secure, clean and functional throughout the construction period.
- All ablution activities must take place in these facilities, and the waste material must be stored and disposed of at the registered waste disposal site or collected by a suitable waste contractor on a regular basis.
- The Contractor must ensure that toilets are cleaned or emptied regularly and that no spillage occurs during routine maintenance.
- All temporary/portable toilets must be secured to the ground to prevent them from toppling due to wind or any other cause.
- Unauthorised dumping/spilling of waste from toilets into the environment and burying of waste are strictly prohibited.

**Access**

- Access to the construction site must be via the approved access route off Olifantsfontein Road. Strict access control to be implemented.
- The wetland area must be maintained as a no-go zone - No vehicles may drive onto the retained wetland or other sensitive sites.
- Steep gradients must be avoided as much as possible.
- All no-go areas will be indicated as such with warning signs in all relevant languages.
- Adequate drainage and erosion protection in the form of cut-off berms or trenches must be provided around the sites and where necessary.
- No vendors or other similar traders must be allowed on the site

### Fires
- Fire fighting measures such as fire extinguishers must be located on site.
- The work force must be made aware of fire prevention and fire fighting measures.
- No open fires shall be allowed on site under any circumstances.
- The contractor should have fire-fighting equipment available on all vehicles working on site, especially during the winter months.

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Daily</th>
</tr>
</thead>
</table>

### Vehicle Maintenance Yard
- Heavy machinery and construction vehicles are to be stored in a vehicle maintenance yard which must be illustrated on the construction camp layout map.
- A dedicated maintenance area must be demarcated with an impermeable surface leading to an oil-water separator. No vehicle may be extensively repaired in any place other than in the dedicated maintenance yard.
- Washing of vehicles is prohibited on site or at the Construction Camp and Vehicle Maintenance Yard.

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Ongoing</th>
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</table>

### Traffic Access
- Access will be gained from Oliefontsfontein Road and will bisect the property into the erven mentioned above.
- The developer carries out the proposed road upgrades to mitigate the impacts of the development traffic.
- It is very important that existing access roads be used where at all possible. Existing access tracks must first be upgraded rather than constructing new tracks.
- The contractor needs to properly mark all access roads. Markers shall show the direction of travel to which the road leads.
- Roads not to be used shall be marked with a “NO ENTRY” sign.
- All speed limits must be strictly adhered to at all times.

<table>
<thead>
<tr>
<th>Contractor/ECO</th>
<th>Once-off</th>
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</thead>
</table>
No new roads must be constructed across any drainage line unless absolutely necessary.

If there are high volumes of construction traffic along site access roads, dust prevention measures must be implemented to reduce dust creation and travel into adjacent areas.

**Construction site and activities**

**General and Hazardous Substances and Materials**

- Storage areas must not be within 100m of the edge of the buffer around the wetland.
- Storage areas must be designated, demarcated and fenced.
- Storage areas should be secured, under lock and key, so as to minimise the risk of crime.
- Fire prevention facilities must be present at all storage facilities.
- Proper storage facilities for the storage of oils, paints, grease, fuels, chemicals and any hazardous materials to be used must be provided to prevent the migration of spillage into the ground and groundwater regime around the storage area(s). These pollution prevention measures for storage should include a bund wall high enough to contain at least 110% of any stored volume. Such a facility must be on an impervious surface. The storage area must be securely fenced and all hazardous substances such as fuel, oils, chemicals, etc., must be stored there in. Drip trays, a thin concrete slab or a facility with PVC lining, must be installed in such storage areas with a view to prevent soil and water pollution.
- Any water that collects in the bund must not be allowed to stand and must be removed immediately.
- All fuel storage tanks and associated facilities must be designed and installed in accordance with the relevant oil industry standards, SANS codes and other relevant requirements.
- Symbolic safety signs depicting No Smoking, No Naked Flames and Danger are to be prominently displayed in and around the fuel storage area.
- The capacity of the tank must be clearly displayed and the product contained within the tank clearly identified.
- Only empty and externally clean tanks may be stored on the bare ground. All empty and externally dirty tanks must be sealed and stored in an area where the ground has been protected.
- If fuel is dispensed from 200 litre drums, the proper dispensing equipment must be used. The drum must not be tipped in order to dispense fuel. The dispensing mechanism of the fuel storage tank must be stored in a waterproof container when not in use.
• All waste fuel and chemical contaminated rags must be stored in leak-proof containers and disposed of at an approved hazardous waste site.

• Storage sites will be provided with bunds to contain any spilled liquids and materials. These storage facilities (including any tanks) must be on an impermeable surface that is protected from the ingress of stormwater from surrounding areas in order to ensure that accidental spillage does not pollute local soil or water resources.

• Material Safety Data Sheets (MSDSs) must be readily available on site for all chemicals and hazardous substances to be used on site. Where possible, the available MSDSs should additionally include information on ecological impacts and measures to minimise negative environmental impacts during accidental releases or spillages.

• Staff dealing with these materials/substances must be aware of their potential impacts and follow the appropriate safety measures.

• A suitable Waste Disposal Contractor must be employed to remove waste oil. These wastes must only be disposed of at licensed landfill sites designed to handle hazardous waste. Appropriate weigh bills must be provided for all hazardous waste being disposed of.

• The Contractor must ensure that his staff are made aware of the health risks associated with any hazardous substances used and have been provided with the appropriate protective clothing/equipment in case of spillages or accidents and have received the necessary training.

• Cement/concrete must not be mixed directly on the ground. Dagga boards, mixing trays and impermeable sumps must be used at all mixing and supply points. Unused cement bags are to be stored so as not to be affected by rain or runoff events.

• The washing of concrete trucks onsite is prohibited.

• Used cement bags must be stored in weatherproof containers to prevent windblown cement dust and water contamination. Used cement bags must be disposed of on a regular basis via the solid waste management system, and must not be used for any other purpose.

  All visible remains of excess concrete must be physically removed on completion of the plaster or concrete pour section and disposed of. Washing the remains into the ground is not acceptable as groundwater contamination could occur.
- No paint products may be disposed of on site.
- Care should be taken of the storage thresholds contained in the EIA Regulations (2014) Listing Notices as well as the Waste Management Activities contained in Category A and B.
- The Contractor must maintain a record of the sourcing of all materials used during construction.

### Spills, Incidents and Pollution Control

- Any spillage, which may occur, must be investigated and immediate action must be taken according to the requirements of the Spill Contingency Plan. This must also be reported to the ECO and SHE Officer.
- In the case of a spill of hydrocarbons, chemicals or bituminous material in the Construction Camp or on the construction site/bunding area, the spill should be contained and cleaned up and the material together with any contaminated soil collected and disposed of as hazardous waste to minimize pollution risk and reduce bunding capacity.
- Should a pollution incident occur on site the Contractor must:
  - Implement reasonable measures immediately to contain and minimise the impacts of the incident;
  - Notify all persons whose health may be affected by the incident;
  - Undertake cleanup procedures immediately;
  - Notify the Contractor of the incident immediately who will advise the employee as to the measures that should be implemented;
  - Record the incident in the Environmental Incident Register; and
  - Implement measures to prevent similar incidents from occurring in the future.

Concrete mixing must be confined to as few areas as possible and ad hoc mixing is to be avoided. Areas where concrete was mixed must be cleaned up after use. Concrete mixing is to be undertaken on an impervious surface.

- Soil and construction material stockpiles are to be bermed to prevent leachate and polluted runoff

### Heritage

- If an artefact onsite is uncovered, work in the immediate vicinity must be stopped immediately.
- The contractor must take reasonable precautions to prevent any person from removing or damaging any such article and must immediately, upon discovery thereof, inform the Construction Engineer of such discovery who in turn must contact a registered archaeologist.
- Work may only resume once clearance is given in writing by the archaeologist.

**Noise**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Contractor</th>
<th>Ongoing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate signage must erected to signal the start of construction activities.</td>
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<tr>
<td>All construction vehicles and equipment are to be kept in good repair</td>
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<tr>
<td>Where possible, stationary noisy equipment (for example compressors, generators etc.) must be encapsulated in acoustic covers, screens or sheds. Portable acoustic shields must be used in the case where noisy equipment is not stationary (for example drills, angle grinders, chipping hammers).</td>
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<tr>
<td>Construction activities, and particularly the noisy ones, are to be contained to reasonable hours during the day and early evening. Machines in intermittent use must be shutdown in the intervening periods between work or throttled down to a minimum.</td>
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<tr>
<td>In general, operations must meet the noise standard requirements of the Occupational Health and Safety Act (Act No 85 of 1993).</td>
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<tr>
<td>Construction staff working in areas where the 8-hour ambient noise levels exceed 75 dBA must wear ear protection equipment.</td>
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</tr>
<tr>
<td>Noise levels must be kept within acceptable limits. All noise and sounds generated must adhere to SANS 10103 specifications for maximum allowable noise levels for central business districts. No pure tone sirens or hooters may be utilised except where required in terms of SANS standards or in emergencies.</td>
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<tr>
<td>Noisy operations must be combined so that they occur where possible at the same time.</td>
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</tr>
<tr>
<td>Noise from labourers must be controlled.</td>
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<tr>
<td>Noise suppression measures must be applied to all construction equipment. Construction equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order. Should the vehicles or equipment not be in good working order, the Contractor may be instructed to remove the offending vehicle or machinery from site.</td>
<td></td>
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</tr>
<tr>
<td>The Contractor must take measures to discourage labourers from loitering in the area and causing noise disturbance. Where possible, labour must be transported to and from the site by the Contractor or his sub-contractors by the contractors own transport.</td>
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<td></td>
</tr>
<tr>
<td>Construction activities are to be contained to reasonable hours during normal working hours.</td>
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</tbody>
</table>
- Neighbours are to be given at least three days warning prior to any blasting, piling or other ‘noisy’ activities.
- No vendors or similar informal traders must be allowed to trade on the site.

**Air Quality**

**Pollution Management and Odour Control**

- Any oil containing equipment or containers must be managed in a manner to avoid oil exposure to atmosphere to limit evaporation of volatiles to atmosphere.
- Odours from chemical toilets and waste must be managed. Removal and disposal of litter and debris must be undertaken during periods of high ventilation. Chemical toilets must be cleared and cleaned at least weekly.
- No fires are to be allowed onsite.
- Vehicles must be maintained to avoid excessive emissions and smoke. Similarly equipment must be serviced.

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<tr>
<th>Contractor</th>
<th>Daily</th>
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</table>

**Dust Control**

- Dust track-on from disturbed areas to paved road surfaces should be avoided by making use of one of the following measures:
  - Road sweeping.
  - Chemical dust suppression of disturbed areas to reduce the amount of dust which can be lifted by the wheels of trucks.
  - Wet suppression to the roads using a light spray.
  - The washing down of the wheels of trucks before they exit only paved road surfaces.
- If water is abstracted from a water resource for dust suppression, a Water Use Licence/General Authorisation must be obtained from the Department of Water Affairs. Dust liberated to atmosphere should not reduce the visibility for private vehicles making use of the road passing by the site.
- All construction vehicles and equipment are to be kept in good repair.
- Speed limits of a maximum of 40km/h are to be implemented on site and enforced by the Contractor.
- Shade cloth fencing is to be used to reduced dust aggravation
- Construction activities are to be contained to reasonable hours during the day avoiding periods of sunrise and sunset.
- In areas where there is a large potential for dust liberation (high wind days) wet suppression using a light spray should be applied to the areas in question.
- A dust suppression register as well as a complaints register needs to be kept.
- All complaints received need to be investigated with remedial action taken communicated to the affected party within 14 days.

### Spoil, Top soil and Erosion

<table>
<thead>
<tr>
<th>Topsoil</th>
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</thead>
</table>
| - The Contractor must strip and stockpile all soil within the work area for subsequent use at a later stage.  
- Top soil removed must be stockpiled in a designated area.  
- Stockpiles must be located outside of the retained wetland buffer. Stockpiles must be protected from wind and rain with the use of tarpaulins where necessary. The Engineer is to use his discretion in this regard.  
- Efforts must be taken to ensure that stock piles do not erode and cause siltation into the wetland and buffer.  
- Top soil must be kept separate from overburden and must not be used for in filling.  
- Weeds must be eradicated from top soil prior to spoiling.  
- The Contractor must exercise suitable precautions with the storage, handling and transport of all materials that could adversely affect the environment. If pollution of any surface or groundwater occurs, it must immediately be reported to GDARD and appropriate mitigation measures must be employed. |

| Contractor | ongoing |

### Spoil

| Contractor | ongoing |
|----------------|
| - Litter and general waste is to be removed from the soil and spoiling before stock piling.  
- Spoil sites will be shaped to fit the natural topography.  
- Spoil sites may receive a minimum of 75 mm topsoil and be grassed with a recommended indigenous seed mixture by a qualified ecologist.  
- Slopes must not exceed a vertical: horizontal ratio of 1:3. |
- Soil erosion on site must be prevented at all times, i.e. pre, during and post construction activities. Suitable erosion control measures must be implemented in areas sensitive to erosion such as near water supply points and edges of slopes. These measures must include:

  - Phased construction activities must take place to ensure the removal of vegetation, only as it becomes necessary for work to proceed. This enables erosion and sedimentation to be minimised and centralised in relatively small areas easier to control and to stabilize. Top soil storage must be as brief as possible and storage must occur in a bunded area away from water courses as described above.

- Vegetative Cover – vegetation reinforces soil and holds it in place thereby reducing erosion. Temporary or permanent vegetation must be planted on all bare soil immediately after any ground disturbance. The prompt rehabilitation of exposed soil areas with indigenous vegetation will ensure that soil is protected from the elements. The unnecessary removal of vegetation especially on steep areas must be prevented. Taking necessary precautions in terms of design, construction and earthworks, cuts and fills must be taken. Soil stockpiles must be vegetated or covered to reduce soil loss as a result of wind or water to prevent erosion and sedimentation. Disturbed areas must be rehabilitated as soon as possible.

  - Seeding, anchored mulch, wool binders or erosion control fabrics must be used to provide surface protection and stabilisation until vegetation is established.
  - The suitable use of sand bags or Hessian sheets must be used to stabilise bare soil.
  - The suitable use of geo-textiles, turf blankets or mats must be used as slope protection for exposed slopes.
  - Proper drainage controls such as culverts and cut-off trenches must be used to ensure proper management of surface water runoff to prevent erosion and sedimentation.

- Construction vehicles must remain on designated demarcated areas.

- Work areas must be clearly defined and demarcated to avoid unnecessary disturbance of areas
outside the maintenance area.

- Constant cognisance of the inherent high erosion risk potential of all soils and sites on the property must be taken and appropriate control and preventative measure put in place.

<table>
<thead>
<tr>
<th><strong>Site Establishment, Management and Erosion Control</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- The spoil site must not be within the wetland or associated buffer.</td>
</tr>
<tr>
<td>- A signboard must be placed in the area where spoiling activities such as clearing and infilling will take place informing the public of the activities taking place.</td>
</tr>
<tr>
<td>- The Contractor must take responsibility for the site to conform to all contractual aspects and environmental standards applicable.</td>
</tr>
<tr>
<td>- The spoil site must be cleared of all inert waste, rubble, foundations and litter.</td>
</tr>
<tr>
<td>- Top soil must be separated from over burden and spoiled separately.</td>
</tr>
<tr>
<td>- No large rocks or building rubble is permitted to be spoiled at these sites. If building rubble is to be spoiled, a waste management licence as per the requirements of the National Environmental Management Waste Act will be required.</td>
</tr>
<tr>
<td>- Dumping of any other material, including litter is prohibited.</td>
</tr>
<tr>
<td>- Spoil site should not be located within the 1:100 year flood line.</td>
</tr>
<tr>
<td>- Litter and general waste is to be removed from the soil and spoiling before stockpiling.</td>
</tr>
<tr>
<td>- Spoil sites will be shaped to fit the natural topography.</td>
</tr>
<tr>
<td>- Spoil sites must receive a minimum of 75mm top soil and be grassed with the recommended seed mixture.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Rehabilitation and Maintenance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- A period of one year must be allowed for following practical completion, unless otherwise specified.</td>
</tr>
</tbody>
</table>
| - Cordon off areas that are under rehabilitation as no-go areas using danger tape and steel droppers. If necessary, these areas should be fenced off to prevent vehicular, pedestrian and Contractor /Developer.
livestock access.

- Delay the re-introduction of spoil material to all rehabilitation areas until an acceptable level of re-vegetation has been reached. Fencing may be used, or the area may be covered by branches.
- Re-vegetation must match the vegetation type which previously existed, unless otherwise indicated in the Contract or specified by the ECO.
- Base the new carrying capacity of rehabilitated land on the status quo rather than the regional estimate.
- Water all transplanted, planted and grassed areas.
- Watering must commence and continue immediately after the seeds have germinated and growth begins.
- Mow lawns regularly to a height of 50mm above ground level. This promotes adequate coverage.
- Prune trees and shrubs at the end of winter so as to stimulate growth. Avoid pruning during the growing season as this stunts growth.
- A minimum grass cover of 80% is required, and individual plants must be strong and healthy growers at the end of the Maintenance Period.
- In sodding, acceptable cover entails that 100% cover is attained by the specified vegetation.
- Bare areas that show no specified vegetation growth after three months of the Rehabilitation Work are to be spread with additional topsoil, ripped to a depth of 100 mm and re-planted, re-sodded, re-hand sown or re-hydro seeded.
- Control weeds by means of extraction, cutting or other approved methods.
- For planted areas that have failed to establish, replace plants with the same species as originally specified. The same species as originally specified must be used unless otherwise specified by the ECO.
### General Waste

- General waste produced on site includes:
  - Office waste (e.g. food, waste, paper, plastic);
  - Operational waste (clean steel, wood, glass); and
  - General domestic waste (food, cardboards, paper, bottles, tins).

- An adequate number of general waste receptacles, including bins must be arranged around the Construction Camp, on site to collect all domestic refuse, and to minimise littering.

- Bins must be clearly marked and lined for efficient control and safe disposal of waste.

- Different waste bins, for different waste streams must be provided to ensure correct waste separation.

- A fenced area must be allocated for waste sorting and disposal on the site.

- General waste produced on site is to be collected in skips for disposal at a registered landfill site. Hazardous waste is not to be mixed or combined with general waste earmarked for disposal at the municipal landfill site.

- No general waste is to be disposed of at the spoil area.

- Under no circumstances is waste to be burnt or buried on site. The excavation and use of rubbish pits on site is forbidden.

- Waste bins must be cleaned out on a regular basis to prevent any windblown waste and/or visual disturbance.

- All general waste must be removed from the construction areas on a daily basis and disposed of in suitable waste receptacles at the Construction Camp.

- The Contractor must ensure that all general waste is disposed of at an appropriately licensed waste disposal facility. Through exploring practical means for reducing, reusing and recycling waste generated in undertaking the activity, the Contractor must dispose of the minimum
Hazardous Waste

- Hazardous waste produced on site includes:
  - Oil and other lubricants, diesel, paints, solvent;
  - Containers that contained chemicals, oils or greases; and
  - Equipment, steel, other material (rags), soils, gravel and water contaminated by hazardous substances (oil, fuel, grease, chemicals or bitumen).
- Hazardous waste is to be disposed of at a Permitted Hazardous Waste Landfill Site. The ECO must be informed of where waste is or will be disposed of.
- Hazardous waste bins must be clearly marked and stored in a contained area (or have a drip tray) and covered (either stored under a roof or the top of the container must be covered with a lid).
- A hazardous waste disposal certificate must be obtained from the waste removal company as evidence of correct disposal.

Waste water

- All waste water generated at the proposed development must be disposed of in a suitable manner so as not to cause any surface or subsurface water pollution or health hazard. Waste water including cement-contaminated water must not enter any water course and must be managed by the site manager to ensure that the existing water resources on and off site are not polluted by activities emanating from the above development.
- Contaminated waste water including cement-contaminated water must not enter any water course and must be managed by the Contractor to ensure that the existing water resources on and off site are not polluted by activities emanating from the above development.
- Used oil and wastewater must be disposed of to a ROSE registered facility. An SDC is to be obtained by the Contractor.
## Water Management

**Water Pollution Management (including ground water and soil contamination)**

- The flow direction of any surface water runoff must be established prior to disturbing any area.
- The stockpiling of soil or any other material must not be allowed near a water course or water body in order to prevent pollution or impede surface runoff;
- Every effort must be made to ensure that any chemicals or hazardous substances do not contaminate the soil or ground water on site.
- Dirty water originating from maintenance activities is to be contained and disposed of correctly, to prevent the contamination of soil and/or any water courses.
- Bathing or washing of clothes, equipment or machinery within any watercourse or within the wetland is prohibited.
- Erosion and loss of soil must be prevented by minimising the construction areas exposed to surface water runoff.
- Bare areas are to be rehabilitated as soon as the areas become available or after use.
- All water consumption on site must be recorded on a daily basis.
- The abstraction of water from any water resource for construction purposes and/or dust suppression must not be permitted without a water use licence/general authorisation from the Department of Water Affairs.

## Wetland Management

- Construction to be monitored by an ECO according to the stipulation of the EMPR
- Every effort must be made by the developer to ensure that the wetland is protected during construction activities. A means to ensure continued protection of the sensitive areas after construction must also be implemented.
- No temporary accesses to be constructed through the wetland and no machinery to enter the wetland area

| Contractor/ECO | ongoing |
- No batching or chemical/fuel storage areas to be located within the wetland feature.
- A construction stormwater management plan to be devised to prevent silt and polluted water ingress into the wetland on the site.
- The wetland on the developing site must be left as a strict no-development zone, and must not be physically affected in any way.
- No clearing or infilling of the wetland is permitted. The wetland must be pegged to demarcate it and prohibit workers or vehicles from entering onto the wetland. The entire boundary of the wetland along the working corridor must be screened off with shade-cloth or a similar barrier. This barrier must not be easily permeable to humans so as to prevent access to the wetland. The barrier must be on the wetland side of the clearing activities.
- Under no circumstances may any of the construction workers or staff access the wetland. All staff must be informed of this requirement.
- The excavator used may not leave the roadbed to access any part of the wetland. All machinery operators must be made clearly aware of this requirement.
- No machinery may cross a wetland as a short-cut between two points. Any contractor who does so must be liable for a fine as a noncompliance offence.
- A spill kit must be present on site at all times of operation. The kit must be used immediately should any diesel or hydraulic fluid spills occur. The ECO must be notified immediately should a spill occur.
- No stockpiling/banks/berms in the wetland.
- The full length of works must not be stripped of vegetation at once. The Contractor must submit a clearing and earthworks plan to the SHE Officer for approval prior to construction occurring. This plan must indicate how clearing and earthworks are going to progress across the site in a phased manner. The unnecessary removal of groundcover on slopes must be avoided.
- The stormwater management system must look to return water to the ground as quickly as
possible.

- Flows into wetland areas must be at pre-development velocity so that there are no additional impacts as a result of the construction/development activities on the wetland.
- A combination of sandbags and silt fences must be established along the edge of the wetland buffer during the construction phase and repaired immediately when damaged. The berms, sandbags and silt fences must only be removed once vegetation cover has successfully re-colonised the embankments.
- Re-vegetation must take place immediately after completion of the construction activities. If re-vegetation of exposed surfaces cannot be established immediately due to phasing issues, rows of sand bags or silt fences must be established along the contours at regular intervals to slow runoff and capture eroded soil.
- Runoff from the platforms must not be allowed to flow over the edges of the platform and down the embankments. Ponding must not be allowed to occur. In this regard, platform runoff must be diverted away from the platforms via some sort of diversion structure, preferably an open drain. This runoff must be diverted into the formal stormwater network where possible. However, sediment must be removed from the runoff before being discharged into the formal system. This can be achieved by using temporary sediment capture ponds. If no formal stormwater system is possible, the diverted runoff must be diverted to a temporary detention pond or temporary outlets armoured against erosion with energy dissipation measures.
- Effort must be made to ensure that the stormwater system including pipes, drains, headwalls and Reno- mattresses are not silted up during the construction phase. Siltation will be minimised by ensuring that the roads and paths remain clear of sediment. Sediment on the roads from erosion or construction traffic must be cleared at the end of every day between September and March and at the end of every week between April and August. The need to clear will be minimal if all the bare slopes (sediment sources) are re-vegetated as soon as possible and
adequate erosion protection and silt control applied where grassing is not feasible.

- After every rainfall event, the contractor must check the site for erosion damage and rehabilitate this damage immediately. Erosion rills and gulleys must be filled-in with appropriate material and silt fences or fascine work must be established along the gulley for additional protection until grass has re-colonised the rehabilitated area.

<table>
<thead>
<tr>
<th>Fauna, Flora and Ecology</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Removing of vegetation must be restricted to the immediate area for construction and as instructed by Site Manager.</td>
</tr>
<tr>
<td>- The cleared vegetation must be disposed of to a suitable disposal site. The burning of vegetation cleared or disposal to adjacent site is prohibited.</td>
</tr>
<tr>
<td>- Protected trees and species identified by an ecologist or ECO may not be removed or cut without a permit from the relevant provincial Department.</td>
</tr>
<tr>
<td>- Care must be taken to avoid the introduction of alien plant species on the site and surrounding areas.</td>
</tr>
<tr>
<td>- Where alien plants have been introduced on to the site during clearing and infilling, they must be removed. The Contractor must develop an Action Plan for the removal of alien invasive species and submit it to the ECO and Ecologist for approval.</td>
</tr>
<tr>
<td>- Invader species and weeds must be removed and disposed of in accordance with existing legislation (Conservation of Agricultural Resource Act (No.43 of 1983) on a regular basis.</td>
</tr>
<tr>
<td>- The removal of indigenous/endemic shrubs and small trees must be kept to a minimum and only be removed if absolutely necessary.</td>
</tr>
<tr>
<td>- Close site supervision must be maintained during construction.</td>
</tr>
<tr>
<td>- The wetland and associated 32m buffer must be strictly maintained as a no-go area, and no removal of any fauna and flora from this area of the site must be permitted.</td>
</tr>
<tr>
<td>- Provision of adequate toilet facilities must be implemented to prevent the possible...</td>
</tr>
</tbody>
</table>

Contractor/ECO | ongoing
contamination of ground (borehole) water in the area. Mobile toilets must be provided in order to minimise unauthorised traffic of construction workers outside of the designated areas.

- All temporary stockpile areas including litter and dumped material and rubble must be removed in completion of construction. All alien invasive species should be removed from the site to prevent further invasion.
- Educational programmes for the contractors’ staff must be implemented to ensure that project workers are alerted to the possibility of snakes being found during vegetation clearance. The construction team must be briefed about the management of snakes and other dangerous animals on site. In particular, construction workers are to go through on-going refresher courses to ensure that snakes are not killed or injured when found.
- No animal may be hunted, trapped, snared or captured for any purpose. Fences and boundaries should be patrolled weekly in order to locate and remove snares/traps.
- Speed of vehicles should be limited to avoid injury of fauna and allow for sufficient safety margins.
- Dangerous animals should be handled by a competent person.
- Severe contractual fines must be imposed and immediate dismissal on any contract employee who is found attempting to snare or otherwise harms remaining faunal species.
- No animals should be intentionally killed or destroyed and poaching should not be permitted on the site.

<table>
<thead>
<tr>
<th>Ecologically sensitive areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>The wetlands should be effectively rehabilitated and incorporated into the layout of the proposed development so that their habitat integrity and ecological service provision potential can be increased.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vegetation Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is recommended that a contractor should comply with the following parameters:</td>
</tr>
</tbody>
</table>

/. The contractor or ecologist appointed by the contractor must have the necessary knowledge to be able to identify protected species as well as species not interfering with the operation of the line due
to their height and growth rate.

The contractor must also be able to identify declared weeds and alien species that can be totally eradicated.

The contractor must be in possession of a valid herbicide applicators license.

Only vegetation that could potentially threaten the development in terms of clearance and fire risk must be cleared.

<table>
<thead>
<tr>
<th>Stormwater Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater control is to be included in the design of the urban development. A formal stormwater control plan for both construction and operation must be compiled prior to the onset of construction and approved by the City of Johannesburg.</td>
</tr>
<tr>
<td>Soft engineering to be used in the creation of stormwater retention features.</td>
</tr>
<tr>
<td>Such stormwater retention features are to be placed within the stipulated buffer (not in the wetland), as close to the outer edge of the buffer area as possible.</td>
</tr>
<tr>
<td>The Stormwater Management Plan must be implemented to ensure proper management of stormwater on the site during and after construction to ensure that pollutants and sediment are not released into any water resources.</td>
</tr>
<tr>
<td>Designs for the buildings and site development in general must avoid concentration of stormwater runoff both spatially and in time and may be required to provide for on-site attenuation of stormwater runoff to limit peak flows to pre-development levels.</td>
</tr>
<tr>
<td>Detailed plans to control and prevent erosion by water must be agreed between the contractor and approved ECO prior to the commencement of any works, including site clearance, on any portion of the site.</td>
</tr>
<tr>
<td>Removal of vegetation cover must be carried out with care and attention to the effect, whether temporary or long-term, that this removal will have on erosion potential.</td>
</tr>
<tr>
<td>Precautions must be taken at all times on building sites to contain soil erosion and prevent any eroded material from being removed from the site.</td>
</tr>
</tbody>
</table>
| Landscaping and re-vegetation of areas not occupied by buildings or paving must be programmed to proceed immediately after building works have been completed, or have reached a stage where
newly established ground cover is not at risk from the construction works.

- On-site stormwater control systems, such as swales, berms, soil fences and attenuation ponds are to be constructed before any construction commences on the site. As construction progresses, the stormwater control measures are to be monitored and adjusted to ensure complete erosion and pollution control at all times.
- Earthworks on sites are to be kept to a minimum. Where embankments have to be formed, stabilization and erosion control measures must be implemented immediately.
- Stormwater must not be allowed to pond in close proximity to existing building foundations.
- Prior to any physical work proceeding on site, a stormwater control plan (SCP) detailing the proposed stormwater control measures are to be formulated. No work is to be undertaken without an approved SCP.
- The SCP must describe what control measures are to be implemented before and during the construction period, as well as the final stormwater control measures required for the site on completion of site development. Plans must indicate who is responsible for the design of the control measures and who is, or will be, designated as the responsible person on site during each stage of the implementation of the control measures.
- SCPs must show that all the provisions, regulations and guidelines contained in this document have been taken into account.
- In the event of a failure to adequately implement the approved stormwater control plan, the contractor must be responsible for making good all consequential environmental damage at his own cost. The developer is therefore advised to ensure that all members of the professional team and contractors are competent to undertake the development work and are adequately insured.
- No materials, fluids or substances are allowed to enter the stormwater system that could have a detrimental effect on the flora, fauna and aquatic life in the water courses and wetlands. Regular monitoring of the sites should be undertaken.
- Any site that is required to store any substances that could be regarded as hazardous in terms of water pollution must notify the Municipalities and must take measures to ensure spillages of the substance(s) can be adequately contained to prevent contamination of the water resources within the development.
- No stormwater, wash water, or wastewater may be directed towards any permanent water body or wetland without the installation of suitable filtration system to prevent pollution, including silt, from entering such water body.

### Traffic and Safety

<table>
<thead>
<tr>
<th>Lane Closures</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Temporary loading and off-loading areas and holding of construction vehicles must be designed prior to construction activities to ensure that the most preferable access and haulage routes has been identified.</td>
</tr>
<tr>
<td>- Road signs for all lane closures to be done in accordance to the South African Road Traffic Signs Manual (SARTSM, 1999).</td>
</tr>
<tr>
<td>- Construction routes must be clearly defined.</td>
</tr>
<tr>
<td>- Disruption to the peak traffic periods 06h00 – 9h00 and 15h00 – 18h00 to be minimised or if possible avoided.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Daily</th>
</tr>
</thead>
</table>

### Pedestrian Protection

- Pedestrians to be protected from construction activities at all times.
- Pedestrian conflict with site access and construction vehicles to be managed by traffic officer.
- The construction site camp must remain fenced for the entire construction period.

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Daily</th>
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</thead>
</table>

### Maintenance Vehicles

<table>
<thead>
<tr>
<th>Contractor</th>
<th>ongoing</th>
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</thead>
</table>

- Holding of all maintenance vehicles to be controlled to ensure that through traffic along Olifantsfontein Road is not unnecessarily impeded.
- Vehicles and equipment must be serviced regularly to avoid the contamination of the area from oil and hydraulic fluid leaks etc.
- Machinery or equipment used on site must not constitute a pollution hazard in respect of the above substances. The Constructor must order such equipment to be repaired or withdraw from use if they consider the equipment or machinery to be polluting and irreparable.
- Suitably covered receptacles must be available at all times and conveniently placed for the disposal of waste. All used oils, grease or hydraulic fluids must be placed therein and these receptacles will be

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*Note: The table structure and content have been adjusted for better readability and coherence.*
removed from the site on a regular basis for disposal at a registered or licensed disposal facility.
• All speed limits must be adhered to.

### Road Maintenance

- Contractors must ensure that any damage to the pedestrian walkway or holding areas are maintained in good condition by attending to any damages (e.g. road signs or storm water damage etc.) as soon as these develop.
- If necessary, staff must be employed to clean surfaced roads adjacent to construction sites where materials have spilt.
- All temporary road signs to be removed and pavement reinstated at completion of works.
- All covered road signs to be reinstated.

### Social Considerations

- Working hours are restricted to 07:00 – 17:00 during weekdays and 08:00-13:00 over weekends if necessary. Should work be required after these hours, the ECO must be notified and any person who resides in close proximity to the site and who may be impacted upon by the disturbance should also be notified.
- All neighbouring landowners and those that are disturbed due to construction activities are to be notified of construction activities.

### Reporting and Record Keeping

#### Complaints Register

- Complaints received must be registered and recorded by the contractor and also brought to the attention of the contractor. Both parties will respond accordingly. The following information must be recorded in the case of any complaint/incident:
  ./ Time, date and nature of complaint;
  ./Response and investigation undertaken; and
  ./Corrective and preventative actions taken and by whom.
- All complaints received will be investigated and a response is to be given to the complainant within 7 days.
All environmental incidents occurring on the site will need to be recorded in an Environmental Incident Book and brought to the attention of the ECO. The following information must be provided:

- Time, date and nature of complaint
- Response and investigation undertaken; and
- Corrective and preventative actions taken and by whom

### 8.3 Post Construction Phase-Rehabilitation/Maintenance

<table>
<thead>
<tr>
<th>ACTIONS AND CONTROLS</th>
<th>RESPONSIBILITY</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rehabilitation</strong></td>
<td><strong>Contractor</strong> / <strong>Engineer</strong></td>
<td>Post construction</td>
</tr>
<tr>
<td>Improper rehabilitation of the areas affected by development could result in erosion of the deposited material and altered overland flows from the immediate catchment to adversely affecting the hydrology and morphology of the wetland on the site, and thus state of the wetland.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Developer is responsible for compliance with the provisions for Duty of Care and Remediation of Damage in accordance with Section 28 of National Environmental Management Act (NEMA), Act No.107 of 1998.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All remaining maintenance materials, building rubble and waste are to be removed from the site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All disturbed surfaces compacted by maintenance activities including the ablutions and loading areas should be ripped to a minimum depth of 30cm to allow organic contaminants to breakdown and promote vegetation establishment.</td>
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<td></td>
</tr>
<tr>
<td>Locally appropriate indigenous vegetation must be included in the landscape for the site.</td>
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<td></td>
</tr>
<tr>
<td>Rehabilitation or re-vegetation of the disturbed areas must take place during or immediately after construction is complete.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only appropriate indigenous vegetation should be used for the rehabilitation and re-vegetation within the disturbed area.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final rehabilitation must be completed within a period specified by the Engineer.</td>
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</tr>
<tr>
<td>All disturbed areas must be successfully rehabilitated within 3 months of completion of the contract.</td>
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</tr>
<tr>
<td>Rehabilitation efforts must ensure that no visible erosion scars remain three months after completion of</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Disturbed areas of natural vegetation as well as cuts and fills must be rehabilitated immediately to prevent soil erosion.
- Re-seeding must be done on disturbed areas as directed by the ECO.

### Monitoring and Maintenance

- The conditions of the development must be monitored for a period of one year after the development is complete to ensure that:
  - Erosion is not taking place;
  - The stormwater runoff measures are working;
  - An Environmental Complaints Register should be kept detailing complaints received, date, response and action taken;
  - Any maintenance where intrusive works are necessary should adhere to the mitigation measures put in place in the EMPr; and
  - Where such measures are impractical due to the nature, duration and extent of maintenance works, a maintenance method statement should be developed prior to maintenance works being undertaken.
- Where such measures are impractical due to the nature, duration and extent of maintenance works, a maintenance method statement should be developed prior to maintenance works being undertaken.
- Decommissioning to be guided by the EMPr
- Final rehabilitation to be monitored by an ECO according to the stipulations of the EMPr

### Monitoring and Maintenance of wetland area

- During the operational phase, the wetland area must be kept free of any physical disturbance, with the exception of low intensity recreational activities such as the establishment of walking paths, etc.
- The wetland area should not be subject to mowing, except on the boundary of the site, as detailed below.
- Periodic ecological maintenance of the wetland area may be required every few years in order to prevent the formation of overly-moribund growth.
9.0 CONCLUSION

Although all foreseeable actions and potential mitigations or management actions are contained in this document, the EMPr should be seen as a day-to-day management document. The EMPr thus sets out the environmental standards that are required to minimise the negative impacts and maximise the positive benefits of the proposed development as detailed in the BAR. The EMPr thus is a “live document”, and if continuously reviewed and managed correctly can result to a successful construction and operation of the proposed development.

All attempts should be made to have this EMPr available, as part of any contractual documentation, so that the contractors are made aware of the potential cost and timing implications needed to fulfill the implementation of the EMPr, thus adequately costing for these.

Further guidance should also be taken on any conditions contained in the Environmental Authorisation, if the project is granted approval, and that these GDARD conditions must be incorporated into the final EMPr.
Appendix I_{1}:   Abridged Company Profile
Nali Sustainability Solutions is a black-owned professional environmental consultancy established in 2012. It offers expertise in the field of environmental management, environmental planning and policy development to a range of clients encompassing the public and private sectors as well as infrastructure developmental agencies. Although based in Pretoria, the company is capable of delivering quality services throughout South Africa.

Through years of experience in environmental and land development gained by the founder, NSS is able to provide a wide range of services including:

- Sound advisory services
- Efficient management of environmental assessments and applications
- Policy development
- Compliance monitoring and reporting

In order to leverage resources and expertise and to improve competitiveness in delivering value to clients NSS has also entered into a Collaborative Arrangement with a widely experienced consulting company, Bokamoso Landscape Architects & Environmental Consultants based in Gauteng but providing services throughout South Africa and the Southern Africa Region.

About the Founder

The founder, Mr Pirate Ncube, has vast experience and expertise in land use management, spatial planning and environmental management. For a period of more than 20 years, he has served in various capacities in the sector including as a consulting/town planner, reviewer and manager of EIAs, head of environmental management and conservation in Gauteng Province and a member of the Gauteng DFA Tribunal.
Vision

By understanding our clients’ needs and delivering quality and responsive services NSS’s vision is to be the service provider of choice in sustainable environmental management.

Mission

NSS partners with clients to find sustainable solutions that are anchored in social, economic and environmental considerations.

In order to achieve this, we shall:

- Be informed by the client’s needs discharge our responsibilities within the legislative framework and take into account the context in order to provide a superior technical solutions;
- Provide quality, innovative and responsive services to our clients;
- Present top quality and experienced workforce that is well motivated;
- Provide an enabling environment and opportunities for advancement of staff.

Values

- Responsiveness
- Excellence
- Integrity

KEY ENVIRONMENTAL SERVICES

NSS consulting services focuses on the environmental legal requirements in support of project implementation, provides environmental advisory services to key development agencies and offers expertise in environmental policy development.
Specialist knowledge and supportive skills within NSS and in Collaborative Arrangements enable the provision of quality services in:

- Integrated Environmental Management including:
  - Advisory Services;
  - Policy development;
- Management of Environmental Impact Assessments (EIAs) Applications (and amendments thereof);
- Environmental Management Programmes (EMPrs);
- Environmental monitoring and auditing;
- Registration and Licensing of water users;
- Social Impact Assessments (SIAs); and
- Public participation and consultation.

Some of the Environmental Impact Assessments Projects - Applications and Amendments

- Alberton bridge
- Groblesdal regional shopping centre
- Riversands Industrial and Commercial Development Precinct
- Meadowhurst Commercial development township
- The Hills Eco Estate
- Meyersdal Nature Estate
- Innoland Mixed use township
- Kyalami residential township
- Wilgeheuwel residential township
- Helderfontein school development
- Atterbury Road extension
- Linksfield mixed Use Township
- Doornkloof residential estate
- Louwlardiia mixed use development
- Monavoni residential development
Current EIA Projects

- Kosmosdal Mixed use township
- Africa Hall of Fame
- Blue Hills Filling Station
- Mushroom Farm Filling Station
- K147 Road Construction
- Zwavelpoort Outfall Sewer
- K77 Road
- Boundary Park Residential Township
- Eye of Africa College
- Grace View Residential Township
- Bulk Water and Sewer for the Blue Rose Development
- Electricity for the Blue Rose Development
- Sunderland Ridge Storm Water Infrastructure

Various Environmental Compliance Monitoring and Reporting projects

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