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**DRAFT ENVIRONMENTAL IMPACT  
ASSESSMENT REPORT  
FOR THE PROPOSED MIXED LAND USE  
TOWNSHIP ESTABLISHMENT ON THE  
REMAINDER OF PORTION 406 OF THE  
FARM PRETORIA TOWN AND  
TOWNLANDS 351 JR, SALVOKOP,  
TSHWANE CBD, GAUTENG PROVINCE**

DEA Ref No:

14 /12/16/3/3/2/590

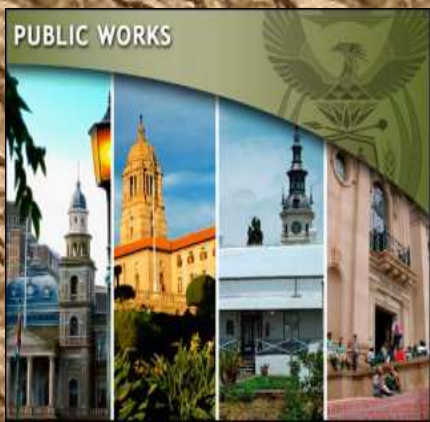
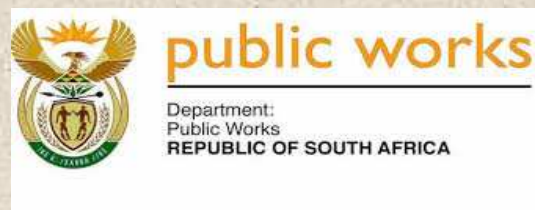
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**THE DEPARTMENT OF PUBLIC WORKS**



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	<b>Name</b>	<b>Signature</b>	<b>Date</b>
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## COMMENT ON THE DRAFT EIA REPORT

This Draft Environmental Impact Assessment Report (D EIA) has been made available in English for public comment for a period of 40 days, from Monday 24 November 2014 up to and including Friday 23 January 2015. Copies of the report have been made available at the following venues:

PLACE	CONTACT NUMBER	OPERATING HOURS
Inkukuleko Community Centre – Salvokop	012 328 8088	9:00am to 17:00pm (Monday to Friday), 9:00am to 12:00pm (Saturday)
<a href="http://www.seedcracker.co.za/projects/environmentalimpactassessments">www.seedcracker.co.za/projects/environmentalimpactassessments</a>	Seedcracker Environmental Consulting (SEC) 082 626 4117 012 654 5970	

Comment has to be made on or before Friday 23 January 2015, by:

- Writing a letter or any additional written submissions by hand delivery to SEC's offices (no postal services); and
- By e-mail, fax or telephone to Seedcracker Environmental Consulting;

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## LIST OF ABBREVIATIONS

<b>BID</b>	<b>Background Information Document</b>
<b>CRR</b>	<b>Comments and Response Report</b>
<b>DEA</b>	<b>Department of Environmental Affairs</b>
<b>DWA</b>	<b>Department of Water Affairs</b>
<b>EAP</b>	<b>Environmental Assessment Practitioner</b>
<b>EIA</b>	<b>Environmental Impact Assessment</b>
<b>EIR</b>	<b>Environmental Impact Report</b>
<b>EMPr</b>	<b>Environmental Management Programme</b>

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<b>GARA</b>	<b>Gauteng Agricultural Potential Atlas</b>
<b>GDARD</b>	<b>Gauteng Department of Agriculture and Rural Development</b>
<b>GIS</b>	<b>Geographic Information System</b>
<b>HIA</b>	<b>Heritage Impact Assessment</b>
<b>I&amp;AP's (IAP's)</b>	<b>Interested and Affected Parties</b>
<b>IDP</b>	<b>Integrated Development Plan</b>
<b>IEM</b>	<b>Integrated Environmental Management</b>
<b>NEMA</b>	<b>National Environmental Management Act, 1998 (Act No. 107 of 1998)</b>
<b>NSBA</b>	<b>National Spatial Biodiversity Assessment</b>
<b>PoS</b>	<b>Plan of Study</b>
<b>PPP</b>	<b>Public Participation Process</b>
<b>RoD</b>	<b>Record of Decision</b>
<b>SAHRA</b>	<b>South African Heritage Resources Agency</b>
<b>SAS</b>	<b>Scientific Aquatic Services</b>
<b>SEC</b>	<b>Seedcracker Environmental Consulting</b>
<b>SR</b>	<b>Scoping Report</b>
<b>ToR</b>	<b>Terms of Reference</b>

## GLOSSARY OF TERMS

**Affected environment:** Those parts of the socio-economic and biophysical environment impacted on by the development.

**Affected public:** Groups, organizations, and/or individuals who believe that an action might affect them.

**Alternative proposal:** A possible course of action, in place of another, that would meet the same purpose and need. Alternative proposals can refer to any of the following but are not necessarily limited thereto:

- alternative sites for development
- alternative projects for a particular site
- alternative site layouts
- alternative designs
- alternative processes
- alternative materials

**Alien species:** A plant or animal species introduced from elsewhere: neither endemic nor indigenous.

**Anthropogenic:** Change induced by humans intervention.

**Applicant:** Any person who applies for an authorisation to undertake an activity or to cause such activity to be undertaken as contemplated in Section 22(1) of the Environment Conservation Act, 1989 (Act No. 73 of 1989).

**Authorities:** The national, provincial or local authorities, which have a decision-making role or interest in the proposal or activity. The term includes the lead authority as well as other authorities.

**Baseline:** Conditions that currently exist. Also called “existing conditions.”

**Baseline information:** Information derived from data which:

- \* Records the existing elements and trends in the environment; and
- \* Records the characteristics of a given project proposal

**Conurbation:** A region comprising a number of cities, large towns, and other urban areas that, through population growth and physical expansion, have merged to form one continuous urban and industrially developed area.

**Decision-maker:** The person(s) entrusted with the responsibility for allocating resources or granting approval to a proposal.



**Decision-making:** The sequence of steps, actions or procedures that result in decisions, at any stage of a proposal.

**Environment:** The surroundings within which humans exist and that are made up of - i. the land, water and atmosphere of the earth; ii. micro-organisms, plant and animal life; iii. any part or combination of (i) and (ii) and the interrelationships among and between them; and iv. the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being. This includes the economic, cultural, historical, and political circumstances, conditions and objects that affect the existence and development of an individual, organism or group.

**Environmental Assessment (EA):** The generic term for all forms of environmental assessment for projects, plans, programmes or policies. This includes methods/tools such as EIA, strategic environmental assessment, sustainability assessment and risk assessment.

**Environmental consultant / Assessment Practitioner:** Individuals or firms who act in an independent and unbiased manner to provide information for decision-making.

**Environmental Impact Assessment (EIA):** A public process, which is used to identify, predict and assess the potential environmental impacts of a proposed project on the environment. The EIA is used to inform decision-making.

**Fatal flaw:** Any problem, issue or conflict (real or perceived) that could result in proposals being rejected or stopped.

**Impact:** The positive or negative effects on human well-being and/or on the environment.

**Ecology:** The study of the inter relationships between organisms and their environments.

**Environment:** All physical, chemical and biological factors and conditions that influence an object and/or organism.

**Environmental Impact Assessment:** Assessment of the effects of a development on the environment.

**Environmental Management Plan:** A legally binding working document, which stipulates environmental and socio-economic mitigation measures that must be implemented by several responsible parties throughout the duration of the proposed project.

**Interested and affected parties (I&APs):** Individuals, communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. These may include local communities, investors, business associations, trade unions, customers, consumers and environmental interest groups. The principle that

environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

**Lead authority:** The environmental authority at the national, provincial or local level entrusted in terms of legislation, with the responsibility for granting approval to a proposal or allocating resources and for directing or coordinating the assessment of a proposal that affects a number of authorities.

**Mitigate:** The implementation of practical measures to reduce adverse impacts.

**Proponent:** Any individual, government department, authority, industry or association proposing an activity (e.g. project, programme or policy).

**Role-players:** The stakeholders who play a role in the environmental decision-making process. This role is determined by the level of engagement and the objectives set at the outset of the process.

**Scoping:** The process of determining the spatial and temporal boundaries (i.e. extent) and key issues to be addressed in an environmental assessment. The main purpose of scoping is to focus the environmental assessment on a manageable number of important questions. Scoping should also ensure that only significant issues and reasonable alternatives are examined.

**Stakeholders:** A sub-group of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term therefore includes the proponent, authorities (both the lead authority and other authorities) and all interested and affected parties (I&APs). The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

**Stakeholder engagement:** The process of engagement between stakeholders (the proponent, authorities and I&APs) during the planning, assessment, implementation and/or management of proposals or activities. The level of stakeholder engagement varies depending on the nature of the proposal or activity as well as the level of commitment by stakeholders to the process. Stakeholder engagement can therefore be described by a spectrum or continuum of increasing levels of engagement in the decision making process. The term is considered to be more appropriate than the term “public participation”.

**Study area:** Refers to the entire study area encompassing the total area as indicated on the study area map.

**Visual impact:** Changes to the visual character of available views resulting from the development that include: obstruction of existing views; removal of screening elements

thereby exposing viewers to unsightly views; the introduction of new elements into the viewshed experienced by visual receptors and intrusion of foreign elements into the viewshed of landscape features thereby detracting from the visual amenity of the area.

## SECTION A: INTRODUCTION

### A 1 Application for Environmental Authorisation

The Department of Public Works (DPW) (land development applicant) proposes the establishment of a mixed land use township development, to be located on The Remainder of Portion 406 of the Farm Pretoria Town and Townlands 351 JR, Salvokop, City of Tshwane Metropolitan Municipality, Gauteng Province. The site is located east of the R101 (Kgosi Mampuru Drive), north of the Salvokop Freedom Park, and south of the Gautrain and Pretoria Train Station, Tshwane CBD. The site measures approximately 45 hectares in extent, and is located inside the urban edge.

Seedcracker Environmental Consulting CC (SEC), an independent environmental consulting company, has been appointed by The Department of Public Works, as the Environmental Assessment Practitioner (EAP) to undertake the Scoping and Environmental Impact Assessment and Public Participation Process (PPP), for the Salvokop Precinct Project. SEC meets the requirements as an independent EAP in terms of the EIA Regulations of 2006.

SEC submitted an application for environmental authorisation to the approving authority – the National Department of Environmental Affairs (DEA) - for the “Salvokop” Mixed Land Use Development Proposal – on the 9<sup>th</sup> September 2013. The DEA acknowledged receipt of this application on the 20<sup>th</sup> September 2013, and issued the reference number for the project: 14/12/16/3/3/2/590. This EIA application was subsequently advertised (October 2013) to the public, adjacent property owners, local authorities, and other interested parties such as Ward Councillors, Parastatals and community based organisations. The Final Scoping Report was submitted to the approving authority (National Department of Environmental Affairs - DEA) at the end of October 2013, and approved by the DEA in January 2014, thereby authorising the applicant to proceed with the EIA Phase of the development. Due to delays experienced in receiving all updated technical reports from the lead agent (civil services and traffic), an extension of time request was submitted to the DEA in May 2014, requesting an additional six months to submit the Draft EIAR. This request was approved on the 11<sup>th</sup> November 2014.

This report represents the *Draft* Environmental Impact Assessment Report (DEIAR) and has been prepared in accordance with the National Environmental Management Act (NEMA) (No 107 of 1998), in terms of sections 24 and 24D of NEMA, as read with the EIA regulations of GNR 543, and GNR 545.



## A 2 Approved Scoping Report and conditions of acceptance

The Final Scoping Report was submitted to the approving authorities at the end of October 2013, and approved by the DEA in January 2014. The letter of acceptance authorised the applicant to proceed with undertaking the Environmental Impact Assessment for the Salvokop mixed use development, in accordance with the tasks outlined in the plan of study for Environmental Impact Assessment. Specific additional conditions were listed in the acceptance letter. Please see Appendix A for this authority correspondence.

### A 2.1 The DEA requested that the following information requirements be addressed in the EIAR:

1. *All applicable Departmental Guidelines must be considered throughout the application process.*

Please refer to Section E of this report for a list of all the applicable Departmental Guidelines.

2. *Please be advised that in terms of the EIA Regulations and NEMA the investigation of alternatives is mandatory. Alternatives must therefore be identified, investigated to determine if they are feasible and reasonable. It is also mandatory to investigate and assess the option of not proceeding with the proposed activity (the 'no-go' option).*

Please refer to Section C of this report for a list of alternatives investigated.

3. *Should water, solid waste removal, effluent discharge, storm water management and electricity services be provided by the municipality, you are requested to provide this office with written proof that the municipality has sufficient capacity to provide the necessary services to the proposed development. Confirmation of the availability of services from the service providers must be provided together with the reports to be submitted.*

Delta Built Environmental Consultants (Pty) Ltd ("Delta BEC") were appointed to undertake a *civil services investigation* in order to service the site. Lengthy discussions have taken place over the last 12 months between Tshwane and Delta regarding service provision for the proposed Salvokop government precinct. The Tshwane municipality *have* capacity to provide, effluent discharge, stormwater management and water to the development, however, various upgrades are required. There is no capacity available in terms of electricity provision and the construction of a new substation is required.

SEC is still awaiting the formal confirmation letters from Tshwane regarding service provision. The confirmation of availability will be submitted together with the Final EIR.

4. *In the report to be submitted it must clearly be demonstrated in which way the proposed development will meet the requirements of sustainable development. You must also consider energy efficient technology and water saving devices and technologies for the proposed development. This could include measures such as the recycling of waste, the use of low voltage or compact fluorescent lights instead of incandescent globes, maximising the use of solar heating, the use dual flush toilets and low-flow shower heads and taps, the management of storm water, the capture and use of rainwater from gutters and roofs, the use of locally indigenous vegetation during landscaping and the training of staff to implement good housekeeping techniques.*

In the absence of such measures being available at the time of writing this report, SEC proposes the following energy efficient measures to be adopted into the building design:

Appropriate structural designs, energy effective building construction and orientation, have not been considered by the applicant to date. A comprehensive, broad based Environmental Management Programme (EMPr) is however included in this report (please refer to Appendix G) and must form part of the pre-construction and construction phases of the proposed development. The following basic energy-saving techniques can be used to reduce building energy use, and as such, are brought to the attention of the developer:

1. Ensure that the planned building configuration takes maximum advantage of the site and climate. Bermed, or partially buried, construction can moderate building temperature, save energy, and preserve open space.
2. Reducing cooling loads by eliminating undesirable solar heat gain.
3. Reducing heating loads by using desirable solar heat gain. Using day lighting through building windows can displace artificial lighting, reduce energy costs, and is associated with improved occupant health, comfort, and productivity.
4. Using natural light as a substitute for (or complement to) electrical lighting.
5. Using natural ventilation whenever possible.
6. Using more efficient heating and cooling equipment to satisfy reduced loads.
7. As the preliminary layout is refined, ensure that access to daylight continues to be optimized. Consider perimeter access to light and views, roof monitors, skylights, and light shelves.
8. Develop material specifications and a building envelope configuration that maximizes energy performance. Consider window shape and placement, shading devices, differentiated façades, reflective roofing, fabric roofs, induced ventilation, night time cooling ventilation, and selective glazing.
9. Continue energy analyses, including multiple runs of similar products (e.g., various glazings and insulation levels) to determine best project-specific options. In addition to first cost, consider durability and long-term energy performance.

The following recommendations regarding *structural designs* are brought to the attention of the developer:

1. Use of building material that requires excessive amounts of energy to manufacture should be minimised.
2. Use of building material originating from sensitive or scarce environmental resources should be minimised. E.g. no tropical hardwood may be used.
3. Building material should be legally obtained by the supplier, e.g. wood must have been legally harvested, and sand should be obtained only from legal borrow pits and from commercial sources.
4. Building material that can be recycled / reused should be used rather than building material that can not.
5. Use highly durable building material for parts of the building that is unlikely to be changed during the life of the building (unlikely to change due to e.g. renovation, fashion, changes in family life cycle) is highly recommended.

The following Architectural principles are provided by S.E.C, to encourage the applicant and the developer, to ensure the buildings on site or both energy efficient and make effective use of alternative energy sources: Solar power should be considered for heating hot water systems. Gas could be considered for cooking. Recommendations for improving energy efficiency are provided as follows:

- building orientation,
- use of local material,
- sufficient glazing protection,
- natural ventilation principles, and
- potential rain water harvesting.

Further emphasis must be placed on indoor environmental quality (IEQ) through electrical efficiency of lighting as well as air-conditioning. The maximised use of natural light and ventilation will play a significant part in this aspect. Direct access by occupants to external views should be maximised by a large plan-width of the house. Allowance must be made for screening of glazed areas to reduce glare (enhancing the IEQ) - this will also assist with the buildings 'air tightness'. Water efficient flush-masters must be incorporated in the building with the hand-wash-basins being fit with time-controlled flush-masters.

5. *A detailed and complete EMPr must be submitted with the EIR. This EMPr must not provide recommendations but must indicate actual remediation activities which will be binding on the applicant. Without the EMPr the documents will be regarded as not meeting the requirements and will be returned to the applicant for correction.*

See refer to Appendix I for a copy of the EMPr.

6. *The applicant/EAP is required to inform this Department in writing upon submission of any draft report, of the contact details of the relevant State Departments to whom copies of the draft report were submitted for comment. Upon receipt of this confirmation, this Department will in accordance with Section 240(2) & (3) of the National Environmental Management Act, 1998 (Act 107 of 1998) inform the relevant State Departments of the commencement date of the 40 day commenting period or 60 days in the case of the Department of Water Affairs for waste management activities which also require a licence in terms of the National Water Act, 1998 (Act 36 of 1998).*

The scoping and EIA reports have been submitted to the following State Departments:

- Department of Water Affairs
- DEA: Arts and Culture
- City of Tshwane Metropolitan Municipality
- Gauteng Department of Agriculture and Rural Development
- South African Heritage Resource Agency (DEIAR only)

Proof of submissions of the SR are included in Appendix A of this report. The proof of submission of the DEIAR to the various departments will occur within the week of 24 November – 28 November 2014. These proofs of submission will be submitted to the reviewing official at the DEA the first week of December 2014.

7. *Should it be necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999), please submit the necessary applications to SAHRA or the relevant provincial heritage agency and submit proof thereof with the Environmental Impact Assessment Report. The relevant heritage agency should also be involved during the public participation process and have the opportunity to comment on all the reports to be submitted to this Department*

The Basic Heritage Impact Assessment and the Urban Heritage Sensitivity Study are attached in Appendix G. In the absence of the appointed specialists submitting their reports to SAHRA during the scoping phase of this project, this DEIAR has been sent to SAHRA for their comments and input. The majority of the buildings of heritage value have been excluded from development for the Salvokop Government Precinct. SAHRA has been involved during the public participation process as an interested and affected party.

8. *You are required to submit the final site layout plan together with the Final EIR to the Department. All available biodiversity information must be used in the finalisation of the layout plan.*

Please refer to Figure 3 for the proposed site layout plan. All biodiversity information has been included on the site layout plan.



9. *The Environmental Management Programme (EMPr) submitted as part of the application for environmental authorisation must include the following:*

- *All recommendations and mitigations to be recorded in the Final EIR.*
- *A plant rescue and protection plan which allows for the maximum transplant of conservation important species from areas to be transformed. This plan must be compiled by a vegetation specialist familiar with the site in consultation with the ECO and be implemented prior to commencement of the construction phase.*
- *An open space management plan to be implemented during the construction and operation of the facility.*
- *A re-vegetation and habitat rehabilitation plan to be implemented during the construction and operation of the facility including timeframes for restoration which must indicate rehabilitation within the shortest possible time after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.*
- *An alien invasive management plan to be implemented during construction and operation of the facility. The plan must include mitigation measures to reduce the invasion of alien species and ensure the continues monitoring and removal of alien species is undertaken.*
- *A storm water management plan to be implemented during the construction and operation of the facility. The plan must ensure compliance with applicable regulations and prevent off-site mitigation of contaminated storm water or increased soil erosion. The plan must include the construction of appropriate design measures that allow surface and subsurface movement of water along drainage lines so as not to impede natural surface and subsurface flows. Drainage measures must promote the dissipation of storm water run-off.*
- *An affective monitoring system to detect any leakage or spillage of all hazardous substances during their transportation, handling, use and storage. This must include precautionary measures to limit the possibility of oil and other toxic liquids from entering the soil or storm water systems.*
- *An erosion management plan for monitoring and rehabilitating erosion events associated with the facility. Appropriate erosion mitigation must form part of this plan to prevent and reduce the risk of any potential erosion.*
- *A traffic management plan for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan must include measures to minimize impacts on local commuters eg limiting construction vehicles travelling on public roadways during the monitoring and late afternoon commute time and avoid using roads through densely populated built-up areas so as not to disturb existing retail and commercial operation.*
- *An environmental sensitivity map indicating environmental sensitive area and features identified during the EIA process.*

- *Measures to protect hydrological features such as streams, rivers, pans, wetlands, dams and their catchments, and other environmental sensitive areas from construction impacts including the direct or indirect spillage of pollutants.*

Please refer to Appendix I for a copy of the EMPr.

**A 2.2 The City of Tshwane Environmental Management and Parks Division, requested that the following information requirements be addressed in the EIAR:**

- a) All the identified specialist studies must be conducted and included in the EIA Report. The studies must indicate all potential impacts of the proposed development and appropriate mitigation measures.

This recommendation has been addressed in the specialist studies completed for the Salvokop Government Precinct.

- b) A storm water management plan must be compiled by a qualified engineer and included in the EIA report. It is recommended by this Department that "Green" stormwater retention method be incorporated within the proposed development such as permeable paving for infiltration of water onto the ground and large formal landscaped areas which can accumulate water and naturally infiltrate water before entering formal stormwater systems.

See Appendix C for the storm water management plan compiled for the Salvokop Government Precinct.

- c) A detailed layout plan, overlaying all ecological sensitivities on site shall be included within the EIA report and submitted to this Department for perusal. The layout plan shall also be made available for the surrounding Interested and Affected parties to evaluate and comment on.

See Figure 3 for the township layout plan. The specialist ecological assessment conducted for the site, confirmed that the entire study area has been severely transformed by urban development and associated edge effects such as alien floral invasion, refuse dumping and general habitat degradation. In most cases, the soil profile has been extensively disturbed and natural vegetation removed. The majority of the plant species associated with the study area are alien invasives and/or garden plants. Floral diversity is low, and community structure is *completely transformed*. Due to the extent of vegetation transformation within the habitat unit, its ecological sensitivity has been rated by the ecological specialists as *low*, and *no sensitivity map* has been produced for the study area. The entire study area is considered to be of low ecological sensitivity. No sensitive habitat is present in the study area, and the proposed development is not anticipated to have a significant negative impact on the receiving environment.

- d) A general Rehabilitation plan shall be included within the EIA Report which will aim to prevent erosion and aid the return of natural, endemic and indigenous vegetation cover to at least 80% of the rehabilitated area. The proposed rehabilitation plan should be included for the road servitudes as well as any sensitive water and wetland crossings.

Please see Appendix I for the EMPr, which addresses these recommendations. A landscape development plan will be compiled for the precinct, if the project is approved. This landscaping plan will be compiled in association with the CoT, and include their specific requirements in this regard. The development will not cross any water bodies or wetlands.

- e) An Environmental Management Plan should be included within the EIA Report. The EMP should address impacts and mitigation measures for the pre-construction, construction and post-construction activities. All issues and recommendations from Specialist studies should be included within the final and approved EMP. An Environmental Control Officer and contact details should also be included within the EMP.

Please see Appendix I for the EMPr.

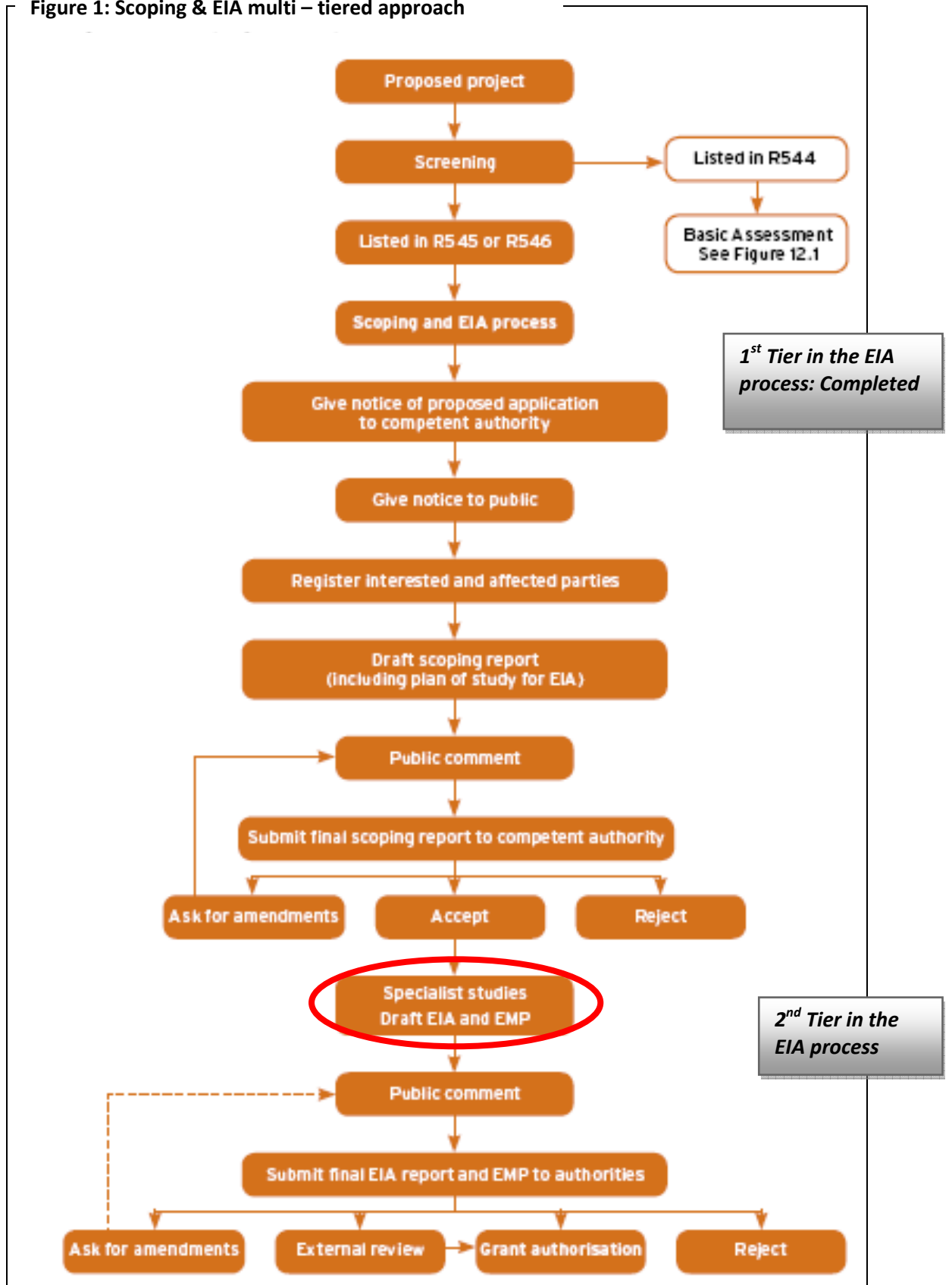
### A 3 Environmental Authorisation

The primary legislation regulating Environmental Impact Assessment (EIA) within South Africa is the National Environmental Management Act (“NEMA” Act 107 of 1998). When NEMA was promulgated, provision was made for the Minister of Environmental Affairs and Tourism (“the Minister”) to identify *activities which may not commence prior to authorisation* from either the Minister or the provincial Member of the Executive Council (“the MEC”). In addition to this, NEMA also provided for the formulation of regulations in respect of such authorisations.

The EIA Regulations (2010) allow for a Basic Assessment process for activities with limited environmental impact (listed in GN R.544, 2006) and a more thorough “multi - tiered” approach to activities with greater environmental impact (listed in GN R.545, 2010). The multi tiered approach includes both (i) Scoping and (ii) EIA processes. See figure 1 for this illustration.

The EIA process makes sure that *environmental issues* are raised when a project or plan is first discussed, and that all concerns are addressed as a project gains momentum through to implementation. Recommendations made by the EIA may necessitate the redesign of some project components, require further studies, and suggest changes which alter the economic viability of the project or cause a delay in project implementation. To be of most benefit it is essential that an environmental assessment is carried out to determine significant impacts early in the project cycle, so that recommendations can be built into the design and cost-benefit analysis without causing major delays or increased design costs. To be most effective, once implementation has commenced, the EIA should lead to a mechanism whereby adequate monitoring is undertaken to realize environmental management. An important output from the EIA process should be the delineation of enabling mechanisms for such effective management.

Figure 1: Scoping & EIA multi – tiered approach





The EIA process being conducted for the Salvokop mixed land use development, has addressed the impacts associated with the project, and provides an assessment of the project in terms of the biophysical, social and economic environments to assist both the environmental authorities, and the applicant, in making decisions regarding implementation of the project.

The EIA conducted for the Salvokop mixed land use development consists of three phases:

1. *The Scoping Phase*: The applicant must submit a report detailing the scoping phase of the application (Scoping Report), and set out the terms of reference for the EIA process (Plan of Study for EIA). *Completed for this application*;
2. *The Impact Assessment Phase*: The Scoping Report is followed by a report detailing the EIA phase (EIR); and
3. *The Decision-Making Phase* by the authorities (GDARD): The competent authority will issue a final decision subsequent to their review of the EIR.

#### **A 4 EIA Phase**

The EIA phase determines the *significance of the impact* of the proposed activity on the surrounding environment. During the EIA phase, an Environmental Impact Report (EIAR) is compiled, and, following public review, is submitted to the approving authority – the DEA, for final decision making.

The EIA process for the proposed Salvokop mixed land use development has been undertaken in accordance with the EIA regulations published in Government Notice 28753 of 21 April 2006, in terms of Section 24(5) of the National Environment Management Act (NEMA; Act No 107 of 1998).

The EIA assesses those identified potential environmental impacts and benefits (direct, indirect and cumulative impacts) associated with the project design, construction, and operation phases, and recommends appropriate mitigation measures for potentially significant environmental impacts. The environmental impacts are assessed both before and after mitigation to determine:

- The significance of the impact despite mitigation; and
- The effectiveness of the proposed mitigation measures.

As in the scoping phase, there is a detailed public participation process that ensures all interested and affected parties (I&APs) are informed of the proposed activity and, provided an opportunity to comment. The DEIAR will be released simultaneously to the registered

IAP's, to provide stakeholders with an opportunity to verify that the issues raised through the process have been captured and adequately addressed and considered within the study.

The EIA phase aims to achieve the following:

- Provide an overall description and assessment of the social and biophysical environments affected by the proposed alternatives put forward as part of the project;
- Assess potentially significant impacts (direct, indirect and cumulative) associated with the proposed new mixed land use development on the on the Remainder of Portion 406 of the Farm Pretoria Town and Townlands No 351 JR;
- Comparatively assess identified feasible alternatives;
- Identify a preferred alternative for consideration and decision making by the approving authorities;
- Identify and recommend appropriate mitigation measures for potentially significant environmental impacts; and
- Undertake a fully inclusive public involvement process to ensure that IAPs are afforded the opportunity to participate, and that their issues and concerns are recorded.

The EIA addresses potential environmental impacts and benefits associated with all phases of the project, including design, construction and operation, and aims to provide the environmental authorities with sufficient information to make an informed decision regarding the proposed project.

#### ***A 4.1 Environmental Impact Assessment Report***

The aim of the EIAR is to document the outcome of the EIA Phase and includes the following:

- Details and expertise of the Environmental Assessment Practitioner (EAP) undertaking the EIA;
- A detailed description of the proposed activity;
- A description of the property and the location on the property of the proposed activity;
- A description of the need and desirability for the project;
- A description and assessment of feasible and reasonable alternatives;
- A description of the receiving environment;
- Documentation of the Public Participation Process and a register of Interested and Affected Parties; (See Appendix J)
- A summary of the findings/recommendations of any required specialist studies

- A description of environmental issues and impacts associated with the project proposal and alternatives;
- A description of the methodology used in the assessment of impacts;
- An assessment of each impact and a description of appropriate mitigation measures;
- Details of any assumptions, uncertainties or gaps in knowledge;
- An environmental impact statement that includes an opinion on the authorisation of the proposed activity a summary of the findings, and
- An assessment of the positive and negative impacts;
- A draft Environmental Management Programme (EMPr);
- Copies of the specialist reports; and
- Any other information required by the authorities.

This *Draft* EIA report includes an Environmental Management Programme (EMPr), which details environmental specifications required to be implemented to reduce environmental impacts associated with the proposed project during the construction and operation of the development.

## A 5 Listed Activities identified in the Environmental Legislation

The EIA process is undertaken according to the regulations made in terms of Chapter 5 of the National Environmental Management Act No. 107 of 1998 (NEMA). The regulations (GNR. 543) outline the procedures and criteria for the submission, processing and consideration of and decisions on applications, for the environmental authorisation of activities. Three lists of activities, (published on 02 August 2010 as Government Notice Numbers R.544 to 546), define the activities that require either a Basic Assessment or a thorough Scoping and Environmental Impact Assessment. The activities triggered by the proposed Salvokop land use development are listed in Table 1. Because the proposed development triggers listed activities from GNR.545, the Salvokop project requires a *full Scoping and EIA application*.

Table 1 provides a summary of the listed activities associated with the project that require environmental authorisation.

**Table 1: Listed activities associated with the project**

Government Notice	Activity Number	Listed Activity
-------------------	-----------------	-----------------

<b>Listing Notice 1 of R544 EIA Regulations dated 18 June 2010</b>	<b>* 9</b>	<p>The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water -</p> <p>(i) with an internal diameter of 0,36 metres or more; or</p> <p>(ii) with a peak throughput of 120 litres per second or more,</p> <p>excluding where: such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.</p>
	<b>*12</b>	<p>The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50000 cubic metres or more, unless such storage falls within the ambit of activity 19 of Notice 545 of 2010;</p>
	<b>*47</b>	<p>The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre -where the existing reserve is wider than 13,5 meters; or where no reserve exists, where the existing road is wider than 8 metres – excluding widening or lengthening occurring inside urban areas.</p>
<b>Listing Notice 2 of R545 EIA Regulations dated 18 June 2010.</b>	<b>15</b>	<p>Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more; except where such physical alteration takes place for: linear development activities; or agriculture or afforestation where activity 16 in this Schedule will apply.</p>

**\*These listed activities have been introduced to the application; following receipt of the updated and finalised civil services reports, dated November 2014. These activities could not have been anticipated at the onset of the project (July 2013). The EIA application form has been amended to include these activities accordingly. See Appendix A.**

## **A 6 Details of the Environmental Assessment Practitioner**

As per the requirements of the National Environmental Management Act: NEMA, 1998 (Act No. 107 of 1998), (NEMA) and the Environmental Impact Assessment Regulations, April 21 2006, the following information is pertinent with regards to the Environmental Assessment

Practitioner (EAP) that has been appointed for the Environmental Assessment Phase, for the proposed ***mixed township development referred to as Salvokop Extension 4, to be located on the remainder of Portion 406 of the Farm Pretoria Town and Townlands 351 JR, Salvokop, City of Tshwane Metropolitan Municipality, Gauteng Province.***

**Contact Details of the Environmental Assessment Practitioner:**

**Mrs Stephanie Cliff**

**Cell:** 082 626 4117

**Tel:** 012 654 5970

**Fax:** 086 518 4885

**E-mail:** stephweb@mweb.co.za

**Postal:** P O Box 12460

Clubview 0014



In terms of section 18 of the EIA Regulations (2006), an EAP must have (i) expertise in conducting environmental impact assessments, (ii) have thorough knowledge of the Environmental Management Act, and (iii) consider any guidelines that have relevance to the proposed activity.

In fulfilment of this requirement, the author of this report (Stephanie Cliff), and the founding member of Seedcracker Environmental Consulting CC (SEC), has the following expertise in the field of Environmental Management:

- BSc Animal Science (Hons).
- BSc Wildlife Management (Hons).
- 11 years experience in the Environmental Impact Assessment field
- Founding member of the EAPASA accreditation board
- Member of IAIA SA
- Member of the Conservation & Environmental Management Forum
- Registered with Environment South Africa & Cameron Cross Environmental Attorneys CCI Industry News and Legislation updates

Stephanie Cliff (BSc Animal Science Hons, BSc Wildlife Management Hons), established Seedcracker Environmental Consulting in February 2008. Her introduction (in 2003) and subsequent involvement in all fields of environmental and social management have been in leadership positions. Stephanie has considerable experience in the management and co-ordination of all aspects of the Environmental Impact Assessment (EIA) processes.

Stephanie has gained advanced knowledge of Integrated Environmental management (IEM) tools and principles, the principles and fundamental criteria of the Environmental Conservation Act, the principles and fundamental criteria of the National Environmental

Management Act (NEMA), provincial policies and regulations including draft and future legislation.

### A 6.1 Independence

The requirement for independence of the environmental consultant is aimed at reducing the potential for bias in the environmental process. Neither SEC nor any of its sub-consultants have any interests in secondary or downstream developments that may arise out of the authorisation of the proposed project. Furthermore, SEC is bound by the codes of conduct for EAPSA, and upon registering the project, has signed a declaration affirming the following:

- SEC will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- SEC declares that there are no circumstances that may compromise its objectivity in performing such work;
- SEC has expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- SEC will comply with the Act, regulations and all other applicable legislation;
- SEC will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- SEC has no, and will not engage in, conflicting interests in the undertaking of the activity;
- SEC undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- SEC will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- SEC will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;

- SEC will keep a register of all interested and affected parties that participated in a public participation process; and
- SEC will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this report are true and correct; and
- SEC will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations.

## A 6.2 EAPSA Certification

- The Environmental Assessment Practitioners Association of South Africa was launched on 7 April 2011, when 802 individuals resolved, as founding members, to form the organisation. Messrs Stephanie Cliff of Seedcracker Environmental Consulting CC was present at this launch, and is subsequently *registered as a founding member*.
- The Board of EAPASA has applied to the Minister of Environmental Affairs to be recognised as a Registration Authority in terms of Section 24H of the National Environmental Management Amendment Act (NEMA), Act 107 of 1998. This registration has not yet occurred, which means that to date, Certification as an EAP with the Board remains *voluntary*, and in no way eliminates qualified professionals in the field of Environmental Management, from delivering professional consultation to the built environment field.
- An *Interim Certification Board* (ICB) is in place - to provide an operating structure for the certification of Environmental Assessment Practitioners. Prior to establishing the Interim Certification Board, there was no means of certification available for environmental practitioners who do not have a natural science background. To this end, Messrs Stephanie Cliff of Seedcracker Environmental Consulting CC has an Honours degree in BSc Natural Sciences. As such, Messrs Stephanie Cliff of Seedcracker Environmental Consulting CC subscribes to upholding professional standards and quality environmental assessment work.
- Messrs Stephanie Cliff is therefore regarded as a fully qualified EAP, and founding member of the EAPASA.

## A 7 The Applicant

The details of the project applicant, *new contact person*, are as follows:

<b>Project applicant:</b>	Department of Public Works		
<b>Contact person:</b>	Mr Malusi Ganiso		
<b>Physical address:</b>	Corner Bosman and Madiba, Pretoria,		
<b>Postal code:</b>	001	<b>Cell:</b>	076 689 8270



<b>Telephone:</b>	012 406 1035	<b>Fax:</b>	011 834 7999
<b>E-mail:</b>	Malusi.ganiso@dpw.gov.za		

## SECTION B: DESCRIPTION OF PROPOSED ACTIVITY

### B 1 Project locality and extent

The subject property is located within an area colloquially referred to as Salvokop. Salvokop is located to the south of the Pretoria CBD and is considered for all intents and purposes to form part of the Pretoria Inner City. The Salvokop precinct is bordered by Kgosi Mampuru Street (Potgieter Street) to the west and the Pretoria Station / Gautrain Station and related railway line to the north and east. The N14 National Road (Ben Schoeman Freeway) demarcates the property in the south. Freedom Park is established on the southern confines of the property and significantly contributes to the cultural and historical value of the precinct in large. The property falls within the jurisdiction of the City of Tshwane Metropolitan Municipality (CoT), within Region 3. The site measures approximately 45 hectares in extent, and is located inside of the urban edge. Please see Figure 2.

### B 2 Project Description

The Department of Public Works (DPW) (land development applicant) proposes the establishment of a mixed township development, to be located on The Remainder of Portion 406 of the Farm Pretoria Town and Townlands 351 JR, Salvokop, Tshwane CBD, Gauteng Province. (Refer to Figure 2). The development is to be referred to as the “*Salvokop Precinct*”. The development will be comprised of the following:

- Business Facilities – to be zoned ‘Business 1 – 10% of the overall land-use is proposed to be orientated towards the provision of retail facilities. It is intended that retail will activate the streets and provide amenities and services to the working and residential populations. There is an opportunity to create a new nightlife node offering restaurants and entertainment. The Business zone and specifically erven 9 and 10 will incorporate a residential component. Middle income apartments are proposed.
- Educational Facilities – 4% of the layout; the current POPUP (People Upliftment Programme) will remain and the Child Soul Care Rotary Facility will move to the area zoned as Educational.
- Government Facilities –the layout (49%) proposes predominately offices (government and private) to the north and eastern portions of the site;



<p style="text-align: center;"><b>CONCEPT</b></p> <p>Project Description:</p> <p style="text-align: center;"><b>SALVOKOP TOWNSHIP ESTABLISHMENT</b></p> <p>Drawing Title:</p> <p style="text-align: center;"><b>LOCALITY MAP</b></p> <p>Scale:</p> <p>M 1:5000</p> <p>0 100 200 300 400 500 600 (m)</p> <p>Date: _____ Drawing Date: _____ Drawn By: _____</p> <p>Checked By: _____ Drawn By: _____ Approved By: _____</p>	<p><b>LEGEND:</b></p> <ul style="list-style-type: none"> <li><span style="color: red;">—</span> STUDY AREA</li> <li><span style="border-bottom: 1px solid black; width: 20px; display: inline-block;"></span> CADASTRAL</li> <li><span style="border-bottom: 1px dashed black; width: 20px; display: inline-block;"></span> RAIL</li> <li><span style="border-bottom: 1px solid black; width: 20px; display: inline-block;"></span> ROADS</li> <li><span style="border-bottom: 2px solid yellow; width: 20px; display: inline-block;"></span> NATIONAL AND PROVINCIAL ROADS</li> </ul>	<p style="text-align: center;"></p> <p style="text-align: center;"><b>HEAD OFFICE</b> Pretoria Bay 021 Private 8811 Tel: +27 12 001 2265</p> <p style="text-align: center;"><b>DEPARTMENT OF PUBLIC WORKS</b></p> <hr/> <p style="text-align: center;"></p> <p style="text-align: center;"><b>DELTA</b></p> <p style="text-align: center;">P.O. BOX 88333 WILLOW PARK 0152 TEL: +27 12 364 5155 FAX: +27 12 364 4758</p> <hr/> <p style="text-align: center;">Local Partners:</p> <p style="text-align: center;"> </p>
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**Figure 2: Study area locality map**





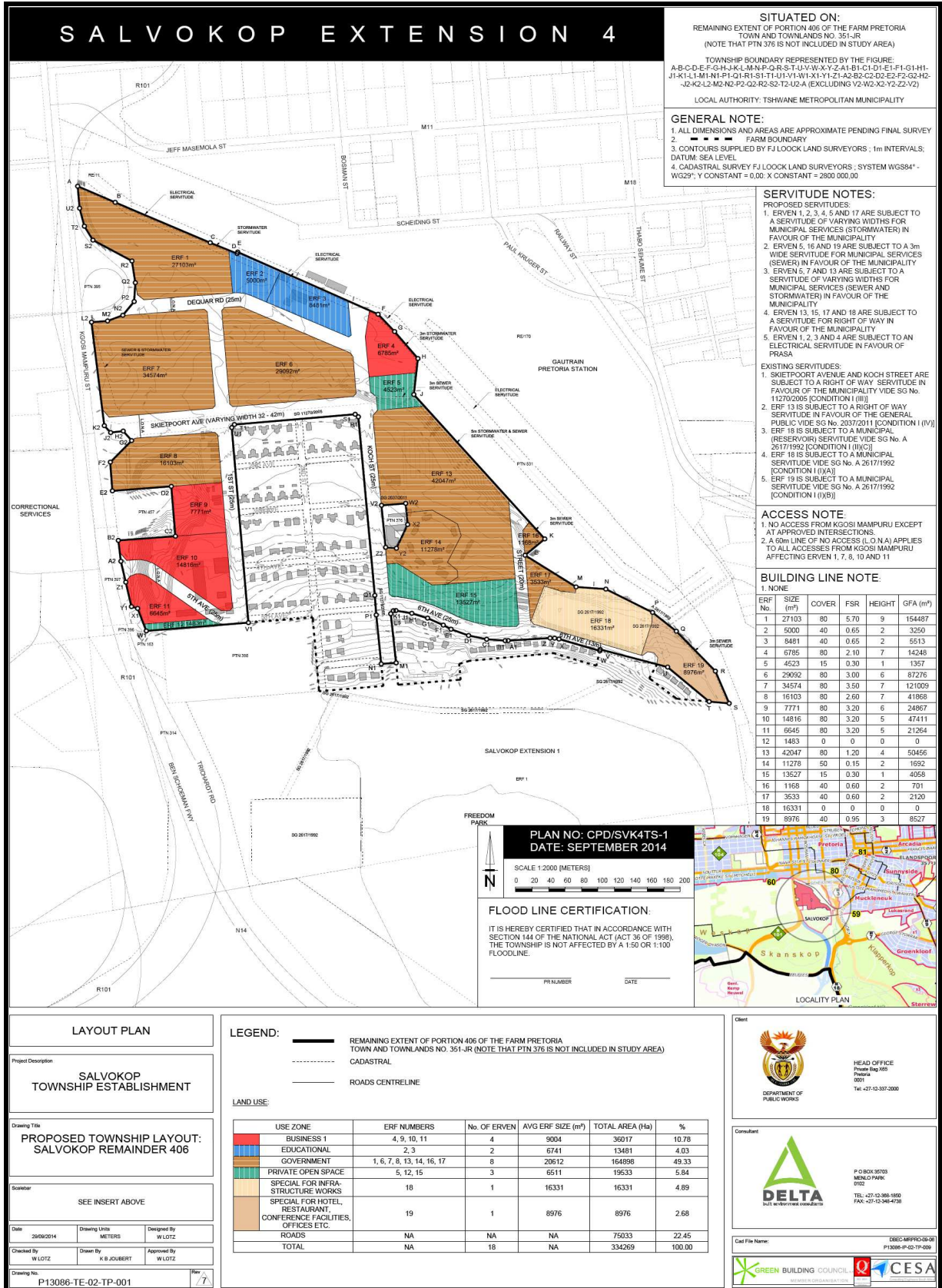
- Special for Hotel, Restaurant and Conference Facilities – 2% of the overall land-use is proposed to be orientated towards the provision of hotel and conference facilities. The inclusion of the said uses is intended to support the business community and the Inner City tourist industry.
- Private Open Space, to be provided adjacent to Freedom Park, StastSA and Jopie Fourie Primary School. (Jopie Fourie Primary school does not form part of the site development area.
- Special for Infrastructure Works; and Roads.

See Figure 3 for the proposed layout plan indicating all the envisaged land uses. The township consists of 18 erven as well as a number of public streets.

A summary of the land-use currently being applied for is included below:

**Table 2: Summary of Salvokop proposed Land-uses**

Erven	Use Zone	Uses Permitted
4,9,10,11	Business 1	Business Building, Dwelling Units, Government Purposes, Guest-house, Institution, Light Industry subject to schedule 10, Parking site subject to schedule 10, Places of refreshment, Residential building excluding boarding house, hostels and blocks of Tenements, Retail industry, Shop, Social Hall, Sport and Recreation club, Including places of amusement, Erf 4 Includes Places of amusement in addition to the standard inclusions under Business 1.
2,3	Educational	Places of Child Care, Places of Instruction, Place of public worship, Social Hall, Sport and Recreation Club including a clinic.
1,6,7, 8,13,14,16, 17	Government	Government Purposes –For the purpose of this scheme government purposes shall mean land and buildings designed or used for government offices, depots, workshops, stores, communication centers, conferencing facilities, meeting rooms, boardrooms, administrative facilities, police stations, post offices, public library, etc. and includes supporting services and incidental uses such as business buildings, places of refreshment, shops, parking garage, places of child care, etc.



**LAYOUT PLAN**

Project Description  
**SALVOKOP TOWNSHIP ESTABLISHMENT**

Drawing Title  
**PROPOSED TOWNSHIP LAYOUT: SALVOKOP REMAINDER 406**

Scale  
SEE INSERT ABOVE

Date: 26/09/2014 Drawing Units: METERS Designed By: W LOTZ

Checked By: W LOTZ Drawn By: V.S. JOUBERT Approved By: W LOTZ

Drawing No: P13086-TE-02-TP-001

**LEGEND:**

- REMAINING EXTENT OF PORTION 406 OF THE FARM PRETORIA TOWN AND TOWNLANDS NO. 351-JR (NOTE THAT PTN 376 IS NOT INCLUDED IN STUDY AREA)
- CADASTRAL
- ROADS CENTRELINE

**LAND USE:**

USE ZONE	ERF NUMBERS	No. OF ERVEN	AVG ERF SIZE (m <sup>2</sup> )	TOTAL AREA (Ha)	%
BUSINESS 1	4, 9, 10, 11	4	9004	36017	10.78
EDUCATIONAL	2, 3	2	6741	13481	4.03
GOVERNMENT	1, 6, 7, 8, 13, 14, 16, 17	8	28912	144568	48.33
PRIVATE OPEN SPACE	5, 12, 15	3	6511	19533	5.84
SPECIAL FOR INFRA-STRUCTURE WORKS	18	1	16331	16331	4.89
SPECIAL FOR HOTEL, RESTAURANT, CONFERENCE FACILITIES, OFFICES ETC.	19	1	8976	8976	2.68
ROADS	NA	NA	NA	75033	22.45
TOTAL	NA	18	NA	334269	100.00

**Client:**

HEAD OFFICE  
Private Bag 955  
0001  
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**Consultant:**

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0102  
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FAX: +27-12-348-4728

Client File Name: DREC-ARPPD-06-19  
P13086-TE-02-TP-001

**GREEN BUILDING COUNCIL** MEMBER ORGANISATION

**CESA**

Figure 3: Proposed township layout plan



5, 12,15	Private Open Space	Private open space
18	Special for Infrastructure Works	Agriculture, Electricity station, Reservoir, Sewage Works
19	Special	Government purposes, hotel, places of refreshment

The following land-use classifications have been developed and are assigned to specific pockets of land in order to guide future development.

*Government Use Zoning:*

The majority of the precinct will be used for government purposes in light of the principle that the precinct will primarily serve the purpose of a government precinct. As can be seen from Figure 3, government offices will occupy the majority of the northern and eastern parts of the precinct. These areas exhibit a strong interface with the Inner City in light of the spatial proximity, and will also be easily accessible from the Inner City once Koch Street is connected with Bosman Street. These areas are also the most visible from the Inner City and the use of these areas for government office purposes is considered a natural expansion of the Inner City across the railway line.

*Educational Use Zoning:*

Although the use zone classification refers to “educational”, it should be understood that this particular land use zone is orientated towards the provision of social facilities within the precinct. The terminology “educational” was utilised in order to create alignment with the Tshwane Town Planning Scheme, 2008 in terms of which most social facilities are grouped under the “educational” land use zone. As can be seen from Figure 3, social facilities will be located in the most northern extent of the property. The primary consideration informing the location of these facilities pertained to the fact that existing facilities, such as POPUP, have already been constructed within this area, and instead of uprooting and relocating these facilities, it is proposed to retain the facilities in their current position and concentrate all other social facilities into one designated area. The educational use zone will primarily allow for land to be used for the purposes of child care facilities, places of instruction, places of public worship, social halls, places of refreshment and sport and recreational facilities.

*Business Use Zoning:*

It is currently envisaged that the Business Use Zone will apply to the area of land situated at the position where the pedestrian walkway connects the Pretoria Station and the Salvokop precinct, indicated in Figure 3. The area of land will be divided into two primary sub-areas that will respectively provide for a public square and a landmark building. The ground floor of the landmark buildings must be completely accessible to the public and contain opportunities and services serving the public such as restaurants, coffee shops, internet café’s, etc. This will allow that the total area to be accessible to the public. It is further

proposed that a parking structure be provided below the square and the landmark building in order to raise the level of the area to a similar height at which the pedestrian walkway will enter into the precinct in order to link the walkway directly into the public square.

The area should become a public space where people meet, interact, socialise, shop, eat and unwind. The buildings to be erected on the property will therefore have to make provision for the inclusion of facilities and establishments that specifically promote the aforementioned vision.

The Business Use Zone will allow for the use of land and buildings such as business buildings, government purposes, parking garages, places of refreshment, place of amusement retail industries, shops, light industrial uses (such as a bakery and drycleaners), hotels, etc. Business buildings will inter alia allow for the use of land for offices, financial institutions, fitness centres, hairdressers, medical and dental consulting rooms, optometrists or for other business purposes, such as inter alia beauty salon. Places of refreshment within the above-mentioned context refer to the use of land and buildings for the preparation, sale and consumption of refreshments on the property such as a restaurant, cafés, coffee shops, tea rooms, tea gardens, sports bars, pubs, bars and may include take-ways. Places of amusement will refer to the use of land and buildings or a part of a building for entertainment purposes such as a theatre, cinema, music hall, concert hall, an exhibition hall, etc.

*Mixed Use Zoning – per the SDP Busniss Zoning (Erf 9 and 10)*

It is envisaged that a Mixed-Use Zone will accommodate buildings that allows for an integrated mix of uses that not only promotes the concept of a horizontal mixed use but specifically vertical mixed uses in the same building. It is specifically envisaged that the pockets of land and buildings resorting under this land-use classification includes a considerable number of residential apartments in order to ensure the continued existence of a residential component within the precinct. In addition to the residential units to be accommodated within buildings, it is also proposed that a limited number of business uses be integrated in buildings appropriately proportioned to the needs of the community. The incorporation of additional and alternative business uses such as offices and shops can also be allowed within buildings. The Mixed Use Zone will therefore allow for the use of land for dwelling-units, business buildings, government purposes, parking garages, places of refreshment, shops, etc.

*Special Zone:*

The Special Zone is situated within the south-eastern extent of the township and shares a boundary with the Freedom Park. In light of the scenic, unique and isolated location of the property, the opportunity exists to incorporate a niche precinct support zone. This zone will allow for the construction of facilities supporting the government activities within the

precinct through offering services such as VIP offices, a small conference and meeting venue, short stay accommodation and recreation facilities.

See Appendix B for the *detailed town planning application undertaken by Delta Built Environmental Consultants (Delta BEC)* for further discussions on the above extracts taken from this document.

### B 3 Site Description and Surrounding Land Uses

The Remainder of Portion 406 of the Farm Pretoria Town and Townlands 351 JR is situated within a built environment. A substantial number of existing activities are currently located within the boundaries of the property, which includes a large number of existing residential buildings and informal structures (backyard shacks and a cluster of shacks).

In addition to the formal and informal residential structures, *(the developable area and layout plan as per figure 3 does not include the existing Salvokop residential area. Currently, no houses will be demolished to make way for the proposed development. The residential component of Salvokop is not included as part of this EIA)*, the study area is also utilised for the purposes of inter alia parking facilities, a bus depot, a number of social facilities, historical structures, etc.

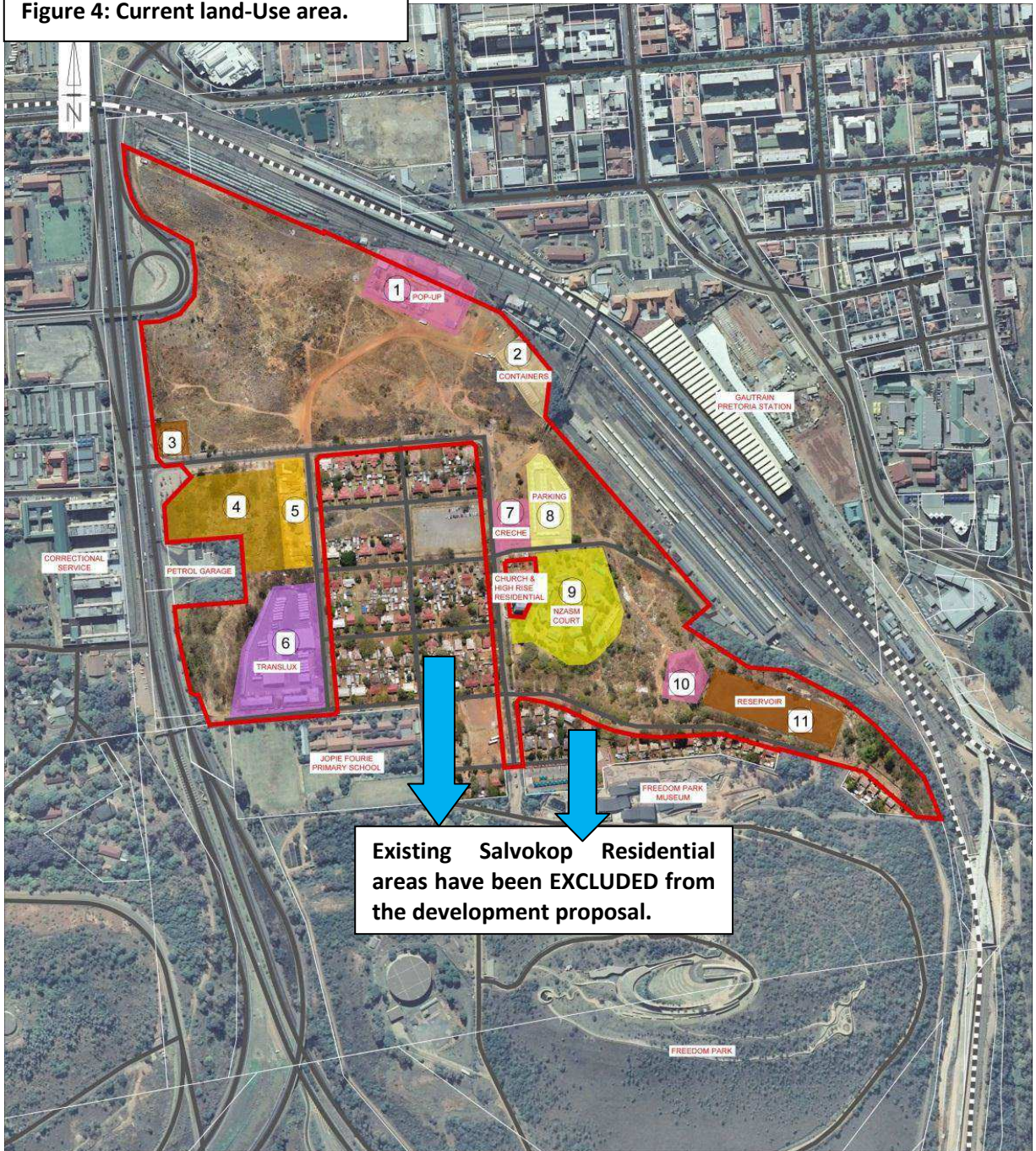
The study area currently utilises 11 primary “areas”. These land-uses were grouped into “areas” based on their spatial characteristics and the specific geographical location of such uses. The 13 “areas” were spatially demarcated and have been illustrated in Figure 4. Table 3 provides a description of the primary purpose for which the different “areas” is currently utilised for.

**Table 3: Current Land-use zoning**





Area	Description of Use
Area 1	POPOP (People Upliftment Programme) & POPkids
Area 2	Transnet Facility & Containers
Area 3	Infrastructure
Area 4	Informal housing (Shacks)
Area 5	Formal Structures
Area 6	Translux Bus Depot
Area 7	Child Soul Care Rotary Foundation
Area 8	Parking Site
Area 9	NZASM Court
Area 10	Cross Roads Boys Shelter



Figure 4: Current land-Use area.



Existing Salvokop Residential areas have been EXCLUDED from the development proposal.

<p><b>APPLICATION</b></p> <p>Project Description: <b>SALVOKOP TOWNSHIP ESTABLISHMENT</b></p> <p>Drawing Title: <b>EXISTING LAND USE</b></p> <p>Scalebar: M 1:2500 0 25 50 75 100 125 150 175 200 225 250 (m)</p> <p>Date: 06/02/2014 Drawing Units: METERS Designed By: WLOTFZ                  Checked By: WLOTFZ Drawn By: K.B. JOUBERT Approved By: WLOTFZ                  Drawing No: P13086-TE-02-TP-102</p>		<p><b>LEGEND:</b></p> <ul style="list-style-type: none"> <li><span style="color: red;">—</span> TOWNSHIP ESTABLISHMENT AREA OF APPLICATION</li> <li><span style="border-bottom: 1px solid black; width: 20px; display: inline-block;"></span> CADASTRAL</li> <li><span style="border-bottom: 2px dashed black; width: 20px; display: inline-block;"></span> RAIL</li> <li><span style="border-bottom: 2px solid black; width: 20px; display: inline-block;"></span> ROADS</li> <li><span style="background-color: purple; width: 15px; height: 15px; display: inline-block;"></span> BUS DEPOT</li> <li><span style="background-color: yellow; width: 15px; height: 15px; display: inline-block;"></span> PLACE OF CULTURAL / HISTORICAL SIGNIFICANCE</li> <li><span style="background-color: orange; width: 15px; height: 15px; display: inline-block;"></span> FORMAL RESIDENTIAL</li> <li><span style="background-color: brown; width: 15px; height: 15px; display: inline-block;"></span> INFORMAL RESIDENTIAL</li> <li><span style="background-color: yellow; width: 15px; height: 15px; display: inline-block;"></span> PARKING</li> <li><span style="background-color: pink; width: 15px; height: 15px; display: inline-block;"></span> SOCIAL FACILITIES</li> <li><span style="background-color: lightyellow; width: 15px; height: 15px; display: inline-block;"></span> STORAGE (CONTAINERS)</li> <li><span style="background-color: brown; width: 15px; height: 15px; display: inline-block;"></span> INFRASTRUCTURE</li> </ul>	<p>Client:                    HEAD OFFICE:                  Private Bag 155:                  Pretoria 0001                  Tel: +27-12-307-3000</p> <p>Consultant:                    P.O. BOX 36703                  MENLO PARK                  7702                  TEL: +27-12-368-1850                  FAX: +27-12-368-4738</p> <p>Coord File Name: D:\EC-M0150-28-06                  P13086-TP-02-TP-0086</p> <p> </p>
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Area 11	Findlay Reservoir
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There are currently 160 historically significant “Transnet” houses which are occupied by both legal and illegal tenants, with back yard dwellers giving an estimated population of approximately 3500 people in the Salvokop area. This is one of the few informal settlements that are in the heart of the Inner City besides Marabastad. The developable area and layout plan as per figure 3 does not incorporate the residential component, and currently no houses will be demolished due to the proposed development. The residential component of Salvokop is not included as part of this EIA.

The following existing physical features will be retained and incorporated into the future urban form:

- The POPUP facility will be incorporated into the township layout in its current position.
- The area of land currently occupied by the NZASM Court will be incorporated as is, into the township layout in its current position.
- The area of land on which the Findlay Reservoir has been constructed will be incorporated into the Layout Plan and zoned accordingly.
- The existing Child Care Facilities, Child Soul Care Rotary Facility and Cross Roads Boys Shelter will be accommodated in the township layout, *in new positions*.
- The area of land currently utilised for landscaping purposes, storm water infrastructure, a cell phone mast and billboards at the intersection of Skietpoort Avenue and Kgosi Mampuru Road, will be retained in their current positions.

In addition to the above, there is a need to ensure that access remains available to a number of facilities, structures and land-uses currently located outside the boundary of the subject area. These facilities, structures and land-uses include:

- Access through the property to all existing facilities and land-uses that will continue operating within the boundaries of the subject area (as identified above) have been provided.
- Access through the property to the existing “Blue Train” facilities has been provided.
- Access through the property to the Freedom Park has been provided.
- Access through the property to the Jopie Fourie Primary School has been provided.
- Access through the property to the Findlay Reservoir has been provided.
- Pedestrian access to the Pretoria Station has been planned for.

Strategic Environmental Focus has already conducted an Environmental Basic Assessment Application on a portion of the Farm Pretoria Town and Townlands 351 JR, for the construction of the new STATS SA head office. The boundary of the study area for this application included the historically significant NZASM Court. Please refer to Figure 4 for the



locality map of this study area. (NEAS Reference number: DEA/EIA/0001639/2013, DEA Reference Number: 14/12/16/3/3/1/806). Environmental Authorisation has been approved for the new STATS SA head office, and construction activities are presently underway. This study area is excluded from the Salvokop Mixed Land Use Township Establishment development proposal.

The STATS SA buildings forms part of The Department of Public Works (“DPW”) (applicant) pursuit of its mandate, as the custodian of government’s immovable property, to improve the physical working environment of government departments and agencies within the City, in order to enhance service delivery, and Tshwane 2055, CoT’s long-term growth and development strategy; aimed at improving the quality of life across the metropolitan area; revitalising the City and boosting economic growth and development.

**Table 4: Surrounding land uses to the application site / study area**

Cardinal Direction	Land Use
North	Transnet Railway Line and Gautrain Station / Pretoria Station Tshwane Central Business District Thabo Sehume Road
East	Transnet Railway Line Christiaan De Wit Avenue (M3 / M5) UNISA (University of South Africa)
South	Freedom Park M1 Highway Voortrekker Monument / Private Nature Reserve
West	Jopie Fourie Primary School Old Johannesburg Road, R101 Correctional Services

#### **B 4 Need and desirability**

The following motivation has been provided **by Delta Built Environmental Consultants (Pty) Ltd (“Delta BEC”)**, on behalf of the applicant (Appendix B town planning memorandum):

The Department of Public Works (“DPW”) has, in partnership with the City of Tshwane Metropolitan Municipality (“CoT”), identified Salvokop as an area where inner city regeneration should be promoted. This evolves from DPW’s pursuit of its mandate, as the custodian of government’s immovable property, to improve the physical working environment of government departments and agencies within the City in order to enhance service delivery, and Tshwane 2055, CoT’s long-term growth and development strategy

aimed at improving the quality of life across the metropolitan area, revitalising the City and boosting economic growth and development.

Salvokop will be anchored by government departments and agencies head offices, hence it is planned as a government precinct. It will take advantage of already existing major rail and road linkages through the Pretoria Station and the network of major roads and highways to establish itself as a sought after intersection for people, government and business. It will be seamlessly connected to the inner city to enhance accessibility and contribute to the inner city regeneration. It will synergise with the Freedom Park, through which we narrate out national story of beginnings, growth, pain and triumph of the human spirit, to bring into being a vibrant environment in which the affluent, the aspirant and the needy can work, live, play and reflect side by side. Putting people first, preservation of heritage, harmonious articulation with its surrounds and sustainability will be the guiding pillars of the precinct. Some of the government departments are already in the process of establishing their new homes in Salvokop, while others are imminent

*Desirability of the development:*

As the proposed Salvokop site is situated in a very old part of Pretoria town, and since the site and its surroundings have been subjected to human inhabitation, development and associated infrastructure for a significant amount of time, the entire area seems impoverished and deprived of aesthetic value.

The proposed development could only uplift the aesthetic quality of the site, mainly due to its current degraded state and misuse of open space. Increased employment is associated with increased income and consequently with increased buying powers in the area, thus raising the standards of living of the area. The economic impacts on tax revenues will lead to fiscal impacts, which are changes in government revenues and expenditures. Due to the jobs that will be created as a result of the Project as well as the increased business activity levels, the salaries and wages of those jobs along with the increased turnover of the companies can be translated into increased personal and business income tax. Employment opportunities created by the Project are regarded as having an important impact on the Salvokop local community. During the construction phase, temporary employment will be created. The increased employment in the area during the construction phase will also result in increased expenditure, which, in addition, will mean that more than just the proposed jobs required for the construction on the Salvokop site will be created due to economic spin-offs that will result.

The Project can thus be seen as an economic injection to the area as it would lead to increased Government income. The Project may also lead to the creation of other economic spin-offs that benefit the entire region. Local benefits could accrue to the Government through an increased tax base and financial support from the development of the Salvokop Precinct, increasing the capacity of the local municipality and other social and service support actions.

## **B 5 Legal development rights**

The study area is zoned "S.A Railway" at present. Delta Built Environment Consultants (Pty) Ltd have been appointed by the applicant, to apply for Township Establishment Rights.

## **B 6 Services**

Delta Built Environmental Consultants (Pty) Ltd ("Delta BEC") were appointed to undertake a *civil services investigation* in order to service the site. Present available input regarding service provision for the site is as follows (See Appendix C for the Civil Services Reports):

### **B 6.1 Water Reticulation**

The Salvokop reservoir has an existing capacity of 27 000 kl/day, with demand of 29 209 kl/day with a future planned demand of 41 477 kl/day, according to the City of Tshwane Master Plan 2013-10. Though Findlay reservoir is located within Salvokop, the reservoir does not supply any water to the area as it is situated at a too low level.

Tshwane has revealed that though the Master Plan provision was made for the current Salvokop 1 and 2 with a demand of 1 120 kl/day, with the Salvokop Extension 4 development, the additional demand is expected to be 4 626 kl/d. *The township establishment will require a reservoir with an 11,412 Mℓ storage capacity to be constructed.* In order to accommodate City of Tshwane master plan future demands and upgrades, the reservoir to be constructed should have a 30 Mℓ storage capacity. *The location / position of this reservoir is still to be determined by the civil engineers.*

The existing Salvokop area is supplied from a 200 mm pipeline, which is assumed to connect to a 700 mm diameter bulk supply pipeline from the Salvokop reservoir at the eastern end of 6th Avenue. The 200 mm diameter pipeline turns northwards into Koch Street and continues into Skietpoort Avenue.

Upgrades will also be required to supply pipeline from the reservoir from 700 mm to 850 mm in diameter, and the pipeline supplying the reservoir from 450mm to 600mm in diameter.

### **B 6.2 Sewer Reticulation**

Salvokop falls under the Tshwane Bulk Region 3 and under the Apies River drainage system, which drains to the Daspoort Wastewater Treatment Plant. It is concluded from the Master Plan for the Apies Drainage Area – 2013-10 report that the additional sewage outflow can be accommodated at the wastewater treatment plants as when the Daspoort WWTP reaches capacity, sewage will be diverted to Rooiwal. The existing daily peak sewer outflow is estimated to be 4,450 kl/day, with the post development sewer outflow estimated to be 12,989 kl/day.

The increase in sewer outflow from the entire Salvokop precinct is estimated to be 8,539 kl/day. *Upgrades will therefore be required on the existing sewer network downstream of Salvokop [as indicated in the engineering report for pipelines AR 74.1 and AR 76.2], to provide for increased capacity.*

### **B 6.3 Electricity**

Bulk electricity to cater for the new proposed township development is currently *not available* from the existing infrastructure network of the City of Tshwane in the area. The City of Tshwane municipality has proposed an initial first phase upgrade of the existing 11kV distribution network to the area. This upgrade will, however, only provide sufficient supply for the STATS SA development, and not to the full extent of users proposed for the Salvokop Extension 4 Township.

The bulk supply requirements to the full development will require further in-depth investigation by the City of Tshwane Electrical Planning Department, which has been implemented since the Township Application has been lodged.

The estimated peak maximum demand of 66 MVA will be required for the development, based on the township layout and development information of Salvokop Extension 4. During Delta BEC's discussions with the City of Tshwane, it became clear that a prime upgrade of major infrastructure will be required in order to cater for a maximum demand of 66 MVA. In a meeting held with the City of Tshwane Electrical Planning Department on 28 October 2014, DELTA BEC determined and agreed that; should the total development requirement be below 32 MVA; it can be supplied from the Princess Park Substation. If above 32 MVA, it must be supplied from the Belle Ombre Main Substation via a 132 kV underground cable.

Since the estimated demand is far above 32 MVA, the 132Kv installation will be required, including a new prime station, sub feeding two satellite stations in the development, as proposed by the City of Tshwane Municipality.

To achieve a combined total peak load of less than 32MVA, all the government buildings will have to have a maximum momentary demand of 45VA/m<sup>2</sup> (see electricity engineering report). This is in line with peak demands reported to be measured on buildings with a five star GBCSA rating. To achieve this low total demand, a substantial additional investment in building cost that could be as high as 80% will be required. Given the size and total cost of the Salvokop development, the projected cost of the bulk supply infrastructure is considered proportionally low, and therefore not worth the risk to reduce it to a level that is considered marginal.

A further risk to be considered is that; should the development as a whole continue to grow to reach a peak demand above 32MVA; all the newly developed supply infrastructure will have to be abandoned. New substations and cables will have to be installed and the cost thereof will also be for the developer's account.

Furthermore, the feeder infrastructure runs through the city centre and the construction of upgrades causes major disruption to the city that need to be limited as far as possible. Due to procurement and planning requirements, such upgrades have long lead times, with current lead times on similar projects of between 3 and 5 years.

Based on the discussion held with City of Tshwane, the following is recommended:

- Upgrade or provision of 132kV infrastructure from Bello Ombre Substation to a new Salvokop prime station. The 132kV will feed into a prime 132/11kV substation. This will require an approximate land area of 1600 m<sup>2</sup> that will have to be placed strategically in the development

The above activity will require a separate EIA and does not fall under the current EIA as discussed in this document.

#### **B 6.4 Access**

The study area is currently not easily accessible from all directions. The current road network in the vicinity of the study area is shown in Figure 5. See Appendix D for the Detailed Traffic Impact Assessment.

##### Accessibility from the west:

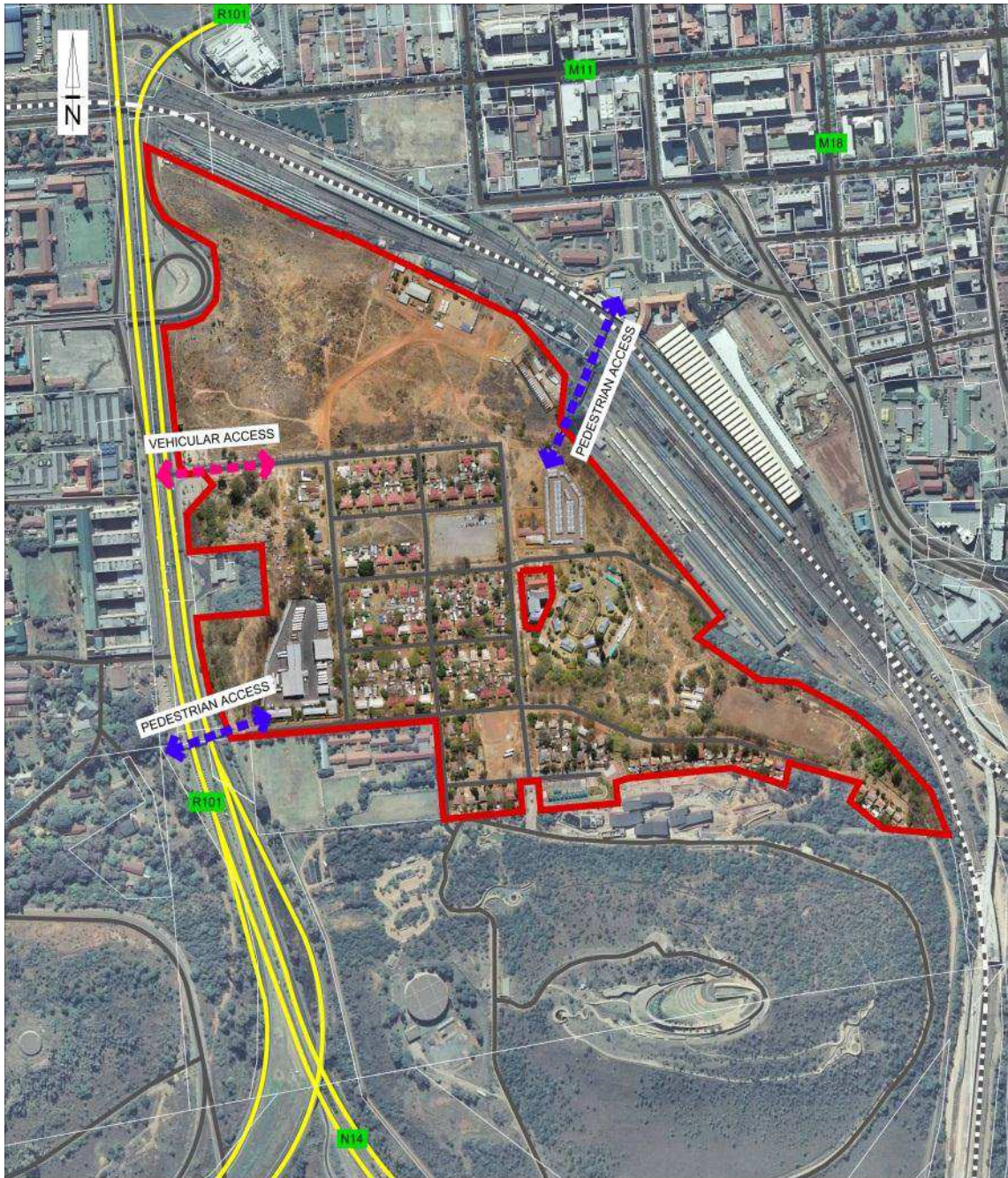
The Salvokop property is currently served by a single vehicular access point via Skietpoort Avenue which intersects with Kgosi Mampuru Street. Kgosi Mampuru Street is a highly trafficked route in this area. Currently no alternative vehicular access is available to the property other than Skietpoort Avenue and should this road be compromised, traffic will not have any ingress or egress alternatives.

The Salvokop Precinct is currently not served directly from the north, due to the rail infrastructure which serves as a physical barrier.

##### Accessibility from the east:

The Salvokop Precinct is currently not served from the east due to the rail infrastructure and the ridge which serve as physical barriers.





<b>CONCEPT</b>		<b>LEGEND:</b> STUDY AREA; REMAINING EXTENT OF PORTION 406 OF THE FARM PRETORIA TOWN AND TOWNLANDS NO. 354-JR (NOTE THAT PTN 378 IS NOT INCLUDED IN STUDY AREA.) CADASTRAL RAIL ROADS NATIONAL AND PROVINCIAL ROADS VEHICULAR ACCESS PEDESTRIAN ACCESS	 HEAD OFFICE Private Bag 285 Pretoria 0001 Tel: +27-12-307-0000 DEPARTMENT OF PUBLIC WORKS
Project Description: <b>SALVOKOP TOWNSHIP ESTABLISHMENT</b>			
Drawing Title: <b>SALVOKOP ACCESS ROUTES: VEHICLE AND PEDESTRIAN</b>		Client File Name: 1000123456789 P:\30000-01-00-11-011	
Scale: M 1:2500 			Green Building Council of South Africa CESA
Date: 15/07/2014 Drawn by: M12/043 Checked by: M12/043	Drawing Title: M12/043 Design: W12/012 Drawn by: W12/012 Checked by: W12/012		

**Figure 5: Existing Accesses into the Salvokop area**



Accessibility from the south:

At present, accessibility from the south is limited to an indirect access via a restricted access controlled service road serving Freedom Park. Accessibility from the south is therefore cumbersome and indirect.

The internal circulation is characterised by a grid pattern / layout that corresponds with the street pattern of the Inner City. The grid pattern enables a structured development lattice characterised by rectangular development pockets. The internal circulation system is well maintained and facilitates efficient movement of vehicles and pedestrians within the study area. The internal street grid is indicated in figure 5.

Accessibility from the north: The Salvokop Precinct is currently not served directly from the north due to the rail infrastructure which serves as a physical barrier.

**B 6.5 Storm Water Management**

The major part of Salvokop Extension 4 has no formalised stormwater system, as the area was mostly undeveloped. A stormwater pipeline is located in Koch Street, which turns into Skietpoort Avenue, and then connects into the stormwater system on Kgosi Mampuru Street. This system drains to the Apies River. This pipeline is currently a 450 mm diameter pipeline and will require upgrading to 750 mm in diameter.

Please refer to the stormwater layout plan as presented in the civil engineering report (Appendix C), drawing number P13086-TE-03-SW-001. The stormwater system consists of combined surface, road and pipe systems. Stormwater will flow from the respective catchment areas into the nearest downstream kerb inlet, entering the stormwater pipe network.

The stormwater system consists of numerous kerb inlets and underground stormwater pipes. This network connects to the existing culvert that is along Kgosi Mampuru Street. The erven on the east will drain to a proposed attenuation pond, which is designed for a 1:20 year flood. The stormwater will then discharge into the existing culverts located at coordinates: 81 019.98 Y, 2 850 712.98 X and 81 050.302Y, 2 850 668.18X. *An attenuation pond is required*, because even though the existing culverts have sufficient capacity for the additional stormwater from the Salvokop development, the pipelines downstream do not have sufficient capacity. The remaining joint capacity for both culverts is according to the As-Built Drawing No. P4560/2 and P4560/3 (please refer to the civil engineering report for these drawings) sourced from CTMM 794 l/s, which is the rate at which stormwater will be discharged into the culvert from the attenuation pond.

The Salvokop property is not affected by a 1:50 and 1:100 year floodline. Scientific Aquatic Services CC (SAS) undertook an Ecological Assessment of the Salvokop site, in October 2013, and confirmed the non-presence of any water resources on the site.



### **B 6.6 Solid Waste Removal**

During the *construction* phase, waste should be managed as described in the EMP. During the *operational* phase, municipal waste services will be utilised, as well as the services of recycling companies.

### **B 7 Traffic and Road Infrastructure**

Salvokop has an existing road network. Due to the proposed upgrades, new access roads and one bridge will be required to serve the proposed new government precinct. No design aspects of the bridge have been discussed at this point, though the geometry has been considered, and a high level Cost Estimate has been included in the specialist traffic report.

#### **Traffic Impact Report**

**EDS Structural Civil and Transportation Engineers (Pty) Ltd** were appointed by Delta BEC on behalf of the Department of Public Works, to assess the impact the proposed development will have on the existing road infrastructure. (See Appendix D for the Traffic Report):

EDS investigated various options in respect of accessibility to the Salvokop Precinct, from a conceptual viewpoint. EDS found most of the options are mutually inclusive, and various implementation combinations can be considered if they are found to be technically feasible.

#### **Evaluation of the roads to be utilised for access to the proposed Salvokop Government Precinct:**

##### **Skietpoort Avenue Access**

Skietpoort Avenue will remain a public road serving the proposed site from the west. It is estimated that no more than approximately 1380 trips generated by the proposed development during the worst peak period, will make use of this access point. Capacity analysis results indicate that the existing intersection layout depicted in the traffic report, has sufficient capacity to accommodate the expected traffic demand. Signal optimisation will be required.

##### **New Link Access - Bridge – Link with the Tshwane CBD at the northern boundary of the Salvokop precinct**

One of the accesses investigated by EDS, is the extension of Koch Street to link with Scheiding Streets Intersection through a *newly proposed overhead bridge in the order of 180m deck span*.

EDS estimated that no more than approximately 670 trips generated by the proposed development during the worst peak period, will make use of this access point. Preliminary

geometric feasibility of this road link has been checked, and was found to be acceptable for the two alternatives. It is clear that this option will provide a direct link; more especially for pedestrians; between Salvokop Precinct and the CBD.

The two lane bridge will have the following configuration:

- Lanes each 3.5 m wide
- Shoulders on both sides – each 2 m wide
- The proposed new bridge deck spans 180 m and it is assumed that the new bridge deck will span the complete railway track network distance

When implemented, EDS strongly recommend that proper provision of pedestrians also be made to sufficiently cater for the expected pedestrians demand. Sufficiently wide and dedicated pedestrians` facility (bridge / walkway) are proposed as part of this link access, since a high demand of pedestrians between the Salvokop Precinct and the CBD, is expected from the new development. A proper pedestrians` facility (bridge / walkway) will also promote the walking mode of transportation, given that as much as approximately 44% of the office employees would likely walk to and from their places of work.

- The proposed linkage over the railway lines is subject to *geometric feasibility* as well as *PRASA (affected land owner) approval*. The geometric feasibility will be discussed into further details and amended to form part of the Final EIR document.

EDS recommend that linkage over the existing railway line infrastructure be promoted to provide more transport and access options, enhance road network and permeability in the urban area. [A typical situation is the railway infrastructure running in the east-west direction to the north of Noord Street in Johannesburg. Areas to the north and south of this railway line infrastructure have been bridged and developments built on the deck include Johannesburg Park Station and Noord Taxi Rank].

EDS have proposed two alternative concept layouts for the proposed geometry of the link bridge; where it will intersect with Bosman and Scheiding Streets. These alternatives have been discussed in Section C of this report: Alternatives.

### ***Dequar Road***

One of the site accesses to the Salvokop Government Precinct, is planned at Dequar Road and Kgosi Mampuru Street Ramp Terminal. EDS estimate that no more than approximately 1980 trips generated by the proposed development during the worst peak period will make use of this access point. The introduction of access to the site at this point, will create another ramp terminal of Dequar Road and Kgosi Mampuru Street. Dequar Road will be extended to the east to form an eastern terminal of Kgosi Mampuru Street. The conceptual layout plan of the intersection is shown in the traffic report.

### ***Klawer Street Access***

One of the proposed site access will result from the extension of Klawer Street to the east. EDS estimate that no more than approximately 1070 trips generated by the proposed development during the worst peak period will make use of this access point.

### **Road upgrades required for the Salvokop Study area**

Given the type and extent of the development proposed, the expected peak trip generations, the capacity analyses as well as site observations, EDS have summarised the necessary roads and intersections upgrades as follows.

1. *Kgosi Mampuru Street / Jeff Masemola Street:* - This intersection operates acceptably during both peak periods. The intersection has ample spare capacity to cater for the future background traffic growth and development traffic without the need for any upgrading, except for the signal optimisation.
2. *Kgosi Mampuru Street / Skietpoort Avenue:* - This intersection operates acceptably during both peak periods. The intersection has ample spare capacity to cater for the future background traffic growth and development traffic without the need of any upgrading, except for the signal optimisation.
3. *Kgosi Mampuru Street / Visagie Street:* - This intersection also operates acceptably during both peak periods. The intersection currently has ample spare capacity to cater for the future background traffic growth and development traffic without the need of any upgrading, except for the signal optimisation.
4. *Sophie de Bruyn Street / Jeff Masemola Street:* - This intersection operates acceptably during both peak periods. The intersection has ample spare capacity to cater for the future background traffic growth and development traffic without the need of any upgrading, except for the signal optimisation.
5. *Sophie de Bruyn Street / Visagie Street:* - This intersection operates acceptably during both peak periods. The intersection has ample spare capacity to cater for the future background traffic growth and development traffic without the need of any upgrading, except for the signal optimisation.
6. *Kgosi Mampuru Street / Dequar Road (Existing):* - This intersection currently operates acceptably during both peak periods. The expected development traffic impact will necessitate the upgrading of this intersection in order to create the additional capacity required during the peak periods. The upgrades required include (i) provision of a short right turning lane along the off ramp (northbound), plus (ii) optimisation of traffic signals.

The proposed intersection geometry is shown in Figure 6.



**Figure 6: Kgosi Mampuru and Dequar Street Intersection upgrades**

7. *Kgosi Mampuru Street / Dequar Road (Proposed)*: - This is a newly proposed intersection which will become the eastern terminal of Kgosi Mampuru Street and Dequar Road. The purpose of the intersection is to provide one of the site accesses to the proposed development. The proposed intersection will be signal controlled.

From a Traffic Engineering point of view the proposed development will have no adverse affect on the existing road infrastructure.

## **B 8 Pedestrian and public transport**

Pedestrian access to the Salvokop area is currently gained as follows:

- Skietpoort Avenue
- Across the steel pedestrian bridge from Pretoria Station
- Pedestrian bridge crossing Kgosi Mampuru Street in the vicinity of 5th Avenue

The study area is within walking distance from the following public transport facilities:

- Gautrain Rail Station
- Pretoria Railway Station; mainly serving commuters from the eastern residential areas of the metro
- Bosman Street Railway Station serving commuters from the north-eastern residential areas of the metro
- Pretoria Station / Intersite Long Distance Bus Stop
- Pretoria Station Commuters Bus Stop
- Bosman Street Taxi Rank

Although not directly adjacent to one another, the Pretoria Station, Bosman Street Taxi Rank and Bus Stop complex act as a major intermodal transport facility in the Tshwane metropolitan area.

In order to improve the linkages between the abovementioned public transport services / facilities and the proposed development, EDS recommend the following pedestrian facilities for the Salvokop Government Precinct;

- A pedestrian walkway linkage along the newly proposed linkage of the site and Scheiding & Bosman Streets
- Rehabilitation of the existing pedestrian bridge across the railway tracks, or the construction of a new pedestrian bridge to minimize walking trip lengths from the transport nodes to the site
- Paved sidewalk along Koch Street and or new perimeter road
- A drop-off facility adjacent to the site

The average walking time between Salvokop Precinct and the various public transport facilities (existing & future planned), taking the proposed pedestrian bridge (linking to Bosman Road) into account, is estimated at 7.5 minutes. This generally implies that the walking distance between the site and these public transport services and facilities is acceptable. It is further proposed that a taxi rank or dedicated public transport holding area be provided on-site, preferably on Erf 4. Provision of such a facility on the deck across the existing railway line infrastructure may be considered an option *in the future*.

With reference to the above, EDS recommend that the Metrobus Feeder Route System be re-planned to directly serve the Salvokop Precinct, in order to encourage the use of public transport and discourage the use of private motor cars. EDS recommend that the developer be prepared to contribute towards the provision and improvement of public transport services and / or facilities as far as possible, in order to sufficiently cater for the expected high demand of pedestrians, seeing that about up to 44% of the office staff would make use of public transport to commute to work.

The concluding remarks of the EDS Structural Civil and Transportation Engineers (Pty) Ltd specialist report are as follows:



- The geometric design feasibility of the proposed access intersection / ramp of the following accesses *must be investigated further*;
  - Dequar & Kgosi Mamupru Streets
  - New Link Access to Scheiding & Bosman Streets
- The trip generation and parking rate reductions used in the study are considered appropriate and thus be supported and approved by the roads authorities.
- Access will be provided for pedestrians in order to be within reasonable walking distance from the retail and open space / park facilities and taxi ranks.

## SECTION C: ALTERNATIVES DESCRIPTION

In terms of the EIA Regulations (2010) Section 31(2)(g), an EIR is required to provide a *Description* of identified potential alternatives to the proposed activity, including advantages and disadvantages that the proposed activity or alternative may have on the environment and the community that may be affected by the activity.

The consideration of alternatives for the use of a site or the undertaking of an activity is a pre-requisite in terms of the NEMA. Alternatives, in relation to a proposed activity, refer to *different means of meeting the general purposes and requirements of the activity*, which may include alternatives to:

- the property on which or location where it is proposed to undertake the activity;
- the type of activity to be undertaken;
- the design or layout of the activity;
- the technology to be used in the activity; and
- the operational aspects of the activity.

The identification, description, evaluation and comparison of alternatives are important for ensuring a sound environmental impact assessment process. Alternatives should be considered as a *norm* within the Environmental Process. The alternatives considered for the Salvokop Precinct development proposal includes:

1. Land use alternatives (including the No-go option),
2. Traffic access alternatives and
3. Layout alternatives.

It was recommended in the final scoping report that stormwater alternatives would be investigated. Due to the development being in a built-up environment, the existing stormwater pipes and culverts will be used. On site attenuation will also be accommodated

to manage storm water. Delta BEC have not proposed any alternatives to these measures. Please refer to Appendix C for a copy of the stormwater layout plan.

## **C 1 Alternatives considered for the application**

### ***C 1.1 Activity / Land Use alternatives***

#### **➤ Mixed land use (the preferred proposal)**

The mixed land use development will consist of government offices, business zoning which includes residential houses on top of the office blocks, educational, offices, shops, commercial uses, medical suites, retail trade, hotel/conference facilities, banks, public open space, is considered the preferred land use for the development.

As the proposed Salvokop site is situated in a very old part of Pretoria town, and since the site and its surroundings have been subjected to human inhabitation, development and associated infrastructure for a significant amount of time, the entire area is impoverished and deprived of aesthetic value. The proposed development will uplift the aesthetic quality of the site.

Increased employment is associated with increased income, and consequently with increased buying power in the area, thus raising the standards of living of the area. The economic impacts on tax revenues will lead to fiscal impacts, which are changes in government revenues and expenditures. Due to the jobs that will be created as a result of the Project; as well as the increased business activity levels; the salaries and wages of those jobs along with the increased turnover of the companies, can be translated into increased personal and business income tax.

Employment opportunities created by the Project are regarded as having an important impact on local communities. During the construction phase, temporary employment will be created. The increased employment in the area during the construction phase will also result in increased expenditure, which, in addition, will mean that more than just the proposed jobs required for the construction on the Salvokop site will be created due to economic spin-offs that will result.

The Project can thus be seen as an economic injection to the area as it would lead to increased Government income. The Project may also lead to the creation of other economic spin-offs that benefit the entire region. Local benefits could accrue to the Government through an increased tax base and financial support from the development of the Salvokop Precinct, increasing the capacity of the local municipality and other social and service support actions.

➤ **Residential Land Use only**

A residential development *only* could be considered for the site. However, due to the mayoral objectives, and socio – economic principles of this development, a residential only development, was *not* regarded as a feasible alternative from economic and social perspectives. Please also refer to Appendix B for the Town planning Memorandum from Delta BEC, providing a summary of the market assessment that was done for the development.

➤ **No development / no-go option:**

The no development / construction alternative must be considered in keeping with the legal requirements (Section 24 (4) of NEMA). This implies that the site be left as is, and that no development or alteration be done to the site. If this alternative is pursued, the existing conditions on the site will be retained.

The present land use of the study area is however no longer an appropriate land use, as it lies within a *priority development zone* of the City of Tshwane Local Municipality. In keeping with the growing needs of the Pretoria CBD and surrounding communities, the City of Tshwane Local Municipality, approved the Salvokop Spatial Development Framework Plan. It acknowledges its status as an area which needs to serve the communities of Pretoria and surrounds, in terms of government buildings and offices and employment opportunities.

Bearing in mind that the project is a *Mayoral project*, retaining the land as open space, could result in the following impacts:

- A demand for mixed-land use development in the area exists according to the planning framework of the area. This demand will subsequently **not** be met for housing and employment provision in this area.
- If not developed, the property owner will not derive income from the property and will subsequently not be able to maintain it. This will lead to substantial environmental degradation.
- Illegal squatters or vagrants will increase on the site.
- Illegal dumping will take place on site.
- Archaeological sites will be pillaged, and lead to the degradation of the remaining Heritage Sites.

The “No-go” alternative has therefore not been considered as a feasible alternative due to the following:

- The project is being promoted by the City of Tshwane Local Municipality and Department of Public Works, in recognition of the need for a government precinct and employment opportunities in Salvokop.

### **C 1.2 Traffic Design and Access alternatives**

#### ***New Link Access - Bridge – Link with the Tshwane CBD at the northern boundary of the Salvokop precinct***

One of the access points investigated is the extension of Koch Street to link with Scheiding Streets Intersection through a *newly proposed overhead bridge in the order of 180m deck span*. Based on the traffic impact assessment that was done two alternative concept layouts of the proposed geometry of the link where it will intersect with Bosman and Scheiding Streets has been proposed. Please refer to Figures 7 a and b.

The proposed linkage over the railway lines is subject to geometric feasibility as well as PRASA approval. *The geometric feasibility will be discussed in further details and amended to form part of the Final EIR document, in order to obtain the preferred option/alterative.*

It is recommended that the linkage over the existing railway line infrastructure be promoted to provide more transport and access options, enhance road network and permeability in the urban area. A typical situation is the railway infrastructure running in the east-west direction to the north of Noord Street in Johannesburg. Areas to the north and south of this railway line infrastructure have been bridged and developments built on the deck include Johannesburg Park Station and Noord Taxi Rank.

Figure 7a – New link access bridge alternative



Figure 7b - New link access bridge alternative





C 1.3 Design or layout alternatives

Delta BEC provided a preliminary layout plan at the initiation of the Salvokop application, in 2013. This concept layout was based on preliminary investigations and market assessments. See Figure 8.

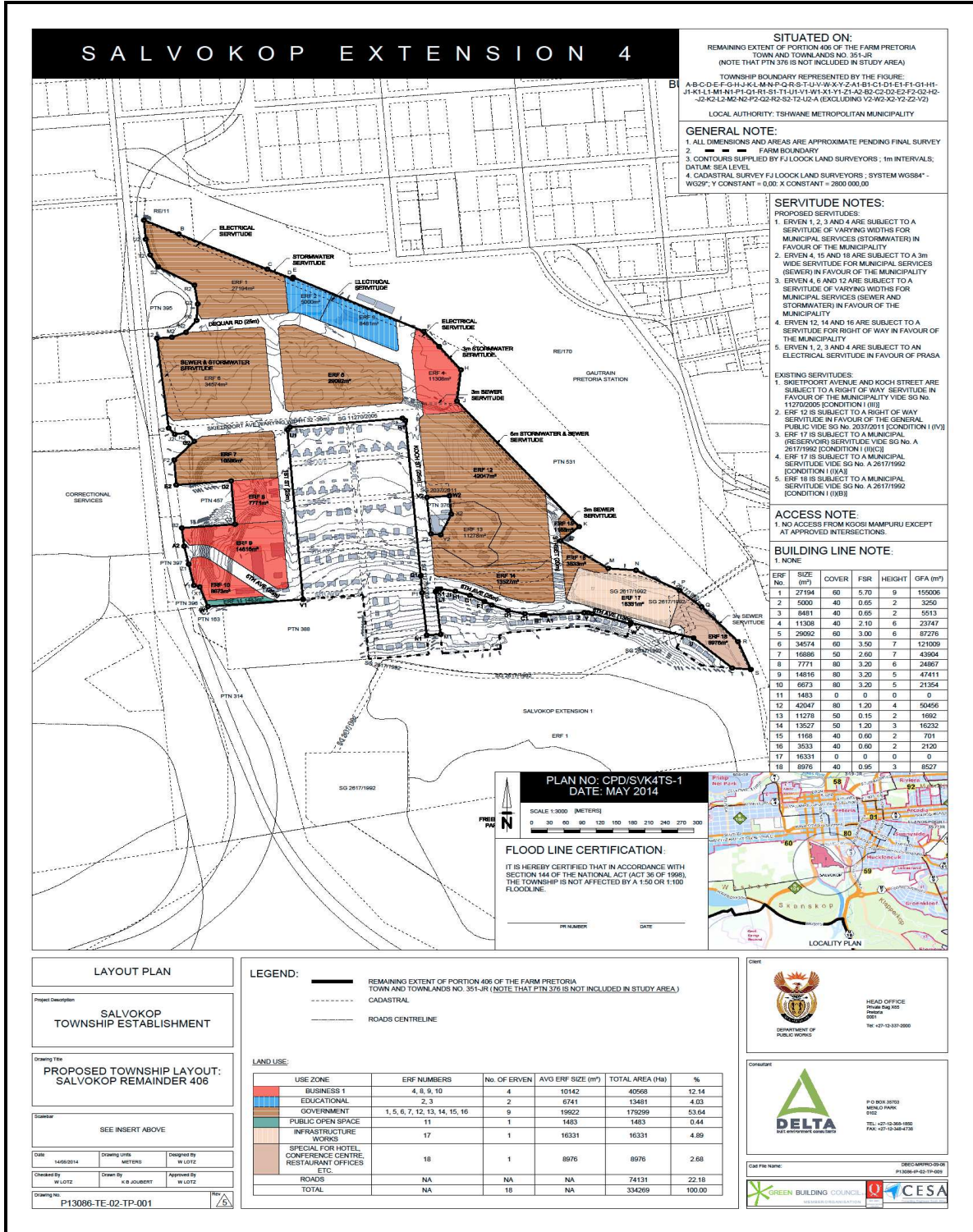


Figure 8: Original Concept Layout





The layout changed during the life of the project however, due to the requirements from the Tshwane open space policy. Additional private open space has been provided for in the present preferred layout plan, as per Figure 3. The original concept layout plan did not include any open space.

The final proposed township layout, has considered all biophysical, social, and technical components, resulting in an integrated mix of safe and secure office typologies that includes other important social amenities. The township design has been focused by a compact mixed land use design, to ensure reliable and affordable basic services to the public. The layout did not have to take cognisance of any sensitive biophysical elements on site, as none exist.

## SECTION D THE RECEIVING ENVIRONMENT

This chapter provides a description of the receiving environment within the study area. Three components to the environment are recognised:

- Physical Environment;
- Biological Environment; and
- Socio-Economic Environment.

Only those elements of the environment that have a direct bearing on the impact assessment process of the project are discussed. The severity of the potential impacts is largely determined by the *state* of the receiving environment. For example, the construction of a house in a pristine wetland habitat would have far more significant ecological impacts than the installation of the house in an already disturbed, non-sensitive area.

### D 1 The Biophysical Environment

#### D 1.1 Geotechnical Conditions

Delta Built Environmental Consultants (Pty) Ltd (“Delta BEC”) was appointed by the Department of Public Works to conduct a geotechnical investigation in terms of the presence of dolomite at the proposed “Salvokop Precinct” township establishment. See Appendix E. The main objective of the investigation was to identify the presence of dolomite on site.

On the basis of the desk study information, and the two boreholes drilled on the south eastern and south western boundaries of the site, Delta BEC concluded that:

- The site is underlain by dolomite only at a very great depth. The boreholes from the desk study database as well as the additional two drilled to 60m in compliance with

the accepted standard definition of “dolomite land” during the field investigation, failed to intersect any dolomite.

- The subsurface profile consists entirely of Pretoria Group shale, quartzite and siltstone, together with intrusive post- Transvaal diabase. At depth these materials become less weathered and competent.
- *The site is characterised as reflecting “no hazard of sinkhole and subsidence formation.*
- Geotechnical investigations for foundation purposes in the residual shale and diabase are required for appropriate foundation design.

No further dolomite stability investigations are required within the boundaries of the Salvokop re-development area.

The Salvokop Precinct is classified as a non-dolomitic land holding with a subsurface profile consisting entirely of the Pretoria Group shale, quartzite and siltstone, together with intrusive post-Transvaal diabase. The site does not reflect any hazard of sinkhole and subsidence formation. Following a dolomite investigation conducted as stated above in respect of the site of application confirmation has been received from the Council for Geoscience confirming that the property is classified as a non-dolomitic landholding.

The site has been classified into three (3) geotechnical zones (Zone I, Zone II and Zone III), see Figure 9. From a shallow soil perspective the site is classified into three zones according to its geotechnical properties and possible solutions associated with such zones.

The respective zones are indicated in the Figure 9.

**Zone A:** No adverse conditions prohibiting the construction of light to heavy structures were observed in Zone A.

**Zone B:** Adverse conditions for light development were flagged in Zone B. Development within the zone should preferably be limited to moderate to heavy structures with founding for these structures taking place at 3 meter or deeper. The preferred solution within the zone is to remove the fill and building rubble to a depth where residual material is encountered. Pre-excavation and piling of heavy structures will be feasible.

**Zone C:** Adverse conditions were also encountered in as far as the construction of light structures is concerned. Development in this zone should be limited to moderate to heavy structures with the founding of the structures occurring on the residual material at depths of up to 3 meters.

Constructing buildings on piles within Zone B and C might also be a possible option. There will, however, be the need to remove the rubble and fill under the alignment of future roads and other municipal infrastructure.



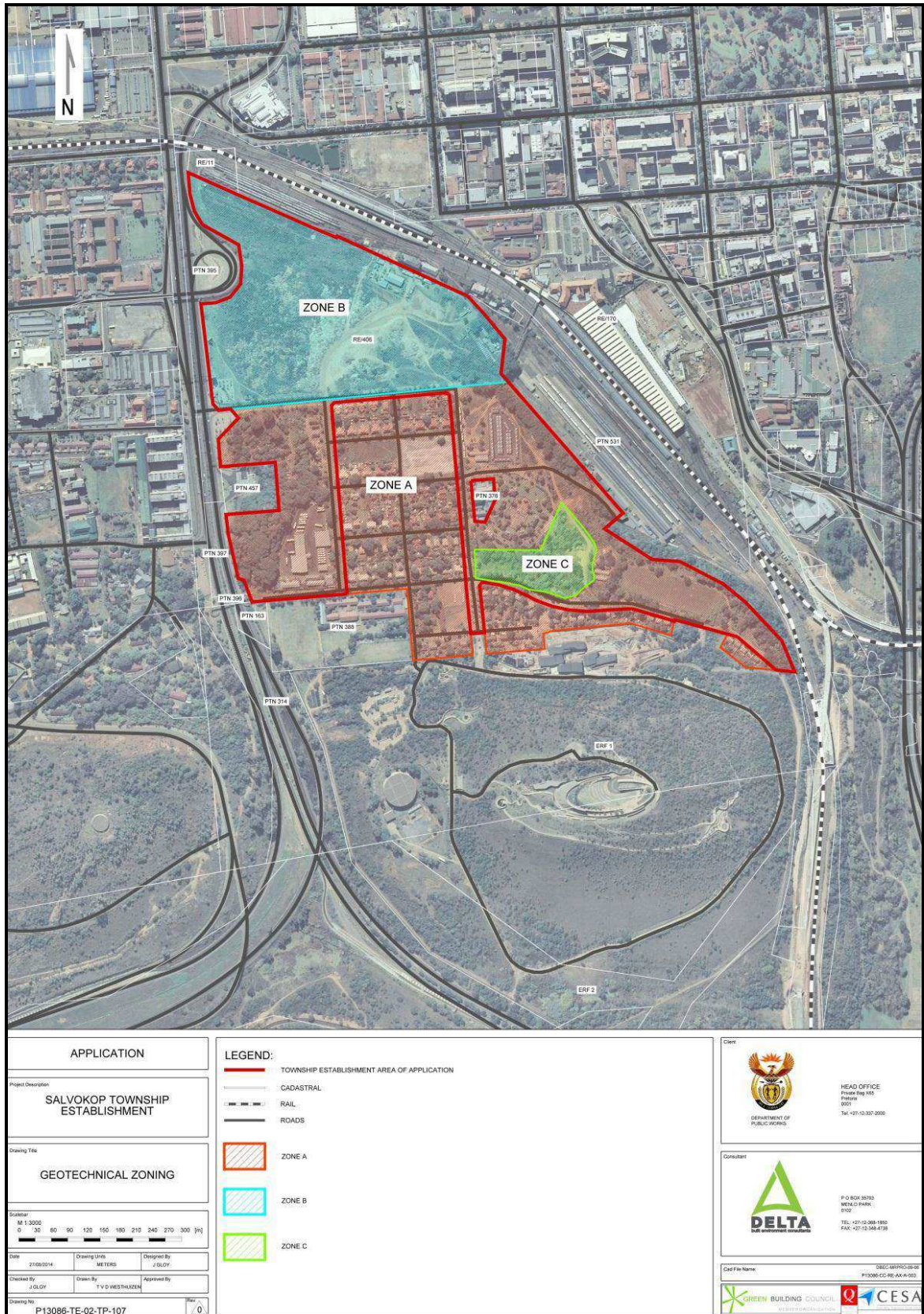


Figure 9: Geotechnical Zones

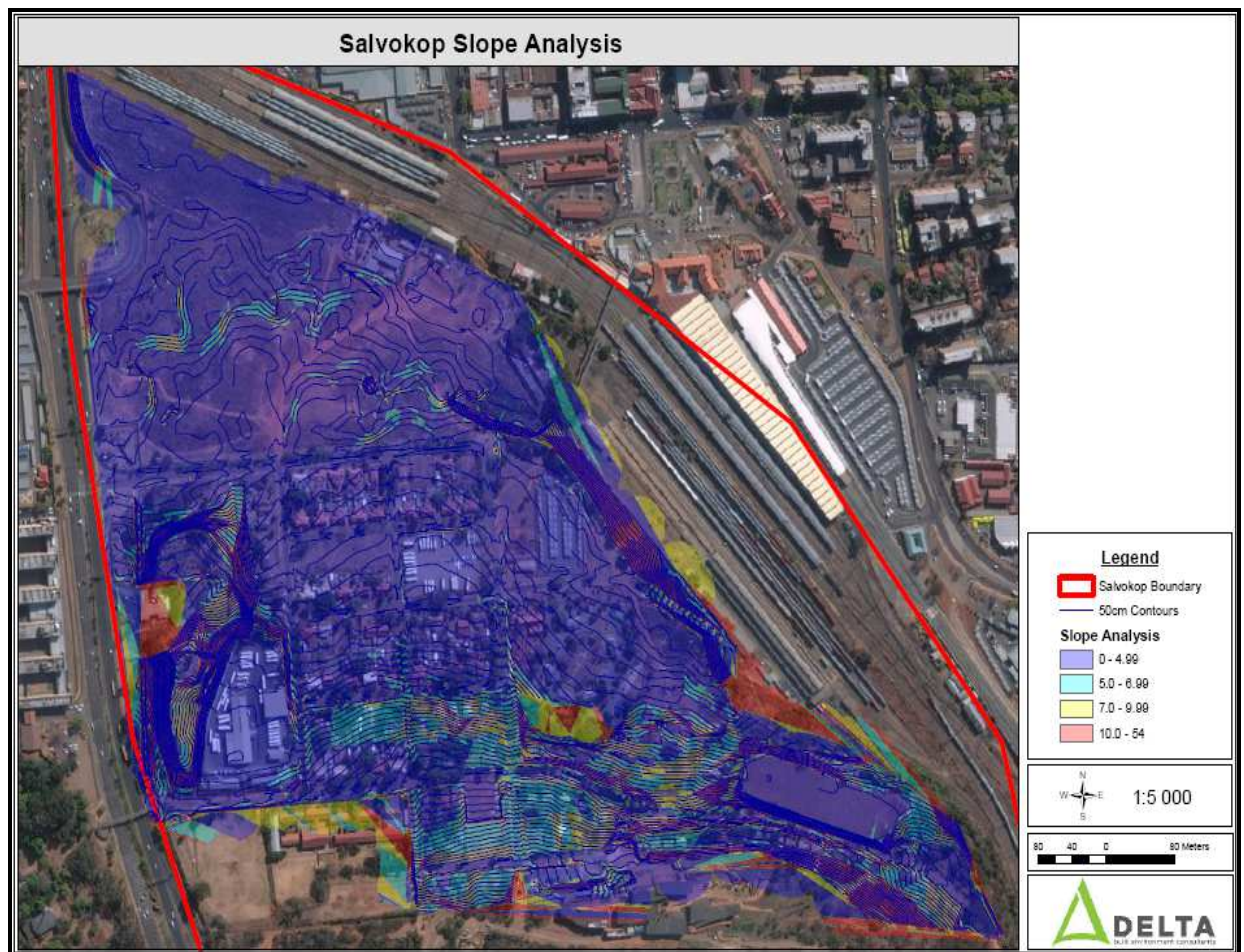




**D 1.2 Topography**

The topography of the property can be described as undulating and relatively steep in the south of the property and gentle in the centre and northern parts of the property.

Delta BEC conducted a slope analysis in respect of the property. This study clearly indicates the presence of steep slopes in the south of the property approaching Freedom Park, as well as in the east of the property adjacent to the railway line. See Figure 10. Infilling and dumping on a portion of land adjacent to Kgosi Mampuru Street has also resulted in some steep slopes being encountered in this area.



**Figure 10: Slope Analysis of the Salvokop Study area**

Scientific Aquatic Services (SAS) were requested to analyse the ridge system which characterises the study area. SAS confirmed that although steep areas are present on the study area, these areas have already been developed by existing houses and other buildings, and as such, extensive habitat transformation has occurred. No areas indicative of intact ridge vegetation were encountered during the assessment.

### D 1.3 Surface water

No water bodies are located within the boundaries of the study area. The hydrological map for the study area is represented in Figure 11.



**Figure 11: Salvokop Hydrology Map**

Scientific Aquatic Services (SAS) was appointed to conduct a wetland verification assessment on the study area. A site investigation was undertaken to verify if any wetland areas are present, which would pose a constraint to the development of the study area. SAS determined the following:

1. Consultation of South Africa's 1:50 000 topographic maps indicate that the study contains no drainage lines or any other watercourses.
2. Analysis of the National Freshwater Ecosystem Priority Areas (NFEPA) database of 2011, indicates that no wetland areas or waterbodies are present on the study area.
3. The Gauteng Department of Agriculture and Rural Development (GDARD) C-Plan (Version 3.3) does not indicate any wetlands or similar ecological features on the study area.
4. During the site assessment, the study area was investigated in order to determine whether the study area contains any features which may be classified as wetlands. The study area is situated in an urban area with urban development comprising the dominant land-use.



3. The dominant vegetation consisted of terrestrial species and alien invasives. No vegetation associated with wetlands or riparian areas was encountered, indicating that insufficient water is present to support vegetation typically adapted to life in saturated soil as per the definition of a wetland according to the National Water Act (NWA) (Act 36 of 1998) and the National Environmental Management Act (NEMA) (Act No. 107 of 1998).
4. No soils indicative of wetlands (such as gleyed soils or mottled soils) are present on the study area.
5. Based on the above findings, it is the opinion of the wetland ecologist that no wetlands are present on the study area or the immediate surroundings; nor are there features which support the presence of saturated soils for long enough periods; for facultative or obligate wetland vegetation to become established.
6. However, when a 500m buffer is applied around the study area, a small portion of the Apies River falls within the buffer to the east of the study area (Figure 12). *This system is highly unlikely to be affected by the proposed development as it is separated from the development area by a railway track and roads.*



Figure 12: 500m Wetland buffer

#### D 1.4 Climate

The climate is typical of Highveld conditions, with relatively warm to hot summers, with fairly high rainfall and moderate to cool winters with little or no rain. Valleys and wetlands are much cooler at night and more prone to frost than higher lying areas. The area experiences thunderstorms, which usually occur in the late afternoons during the summer months. The project area falls within the summer rainfall area, with the majority of rain falling within the months of October to March.

#### D 1.5 Terrestrial Ecology

Scientific Aquatic Services (SAS) was appointed to conduct a terrestrial faunal and floral ecological investigation of the area earmarked for the proposed Salvokop development. See Appendix F for the full specialist report. The ecological study focused on the potential for the study site to support red and orange listed fauna and flora species, as well as delineation of sensitive areas such as ridges. The findings of Scientific Aquatic Services specialist report, are detailed below.

The *Gauteng C-plan (Version 3)* focuses on the mapping of biodiversity priority areas within Gauteng, compiled by the GDARD. Therefore, the C-plan was consulted in order to determine site-specific issues and areas within the study area considered sensitive. The following biodiversity features are applicable to the study area:

- The C-plan indicates that the study area is located inside the urban edge (2010) and development within the urban edge is encouraged, provided that the development is not detrimental to the ecological environment and is in line with local spatial development planning;
- The C-plan indicates “Ecological Support Areas” (ESAs) on the study area, which are related to the ridge areas to the south of the study area. These areas were specifically investigate during the site assessment.

##### D 1.5.1 Flora

The assessment site falls within the Clay Thorn Bushveld (Low & Rebelo 1996), now known as the Marikana Thornveld vegetation type (Mucina & Rutherford 2006). The southern half of the proposed Salvokop site is situated in what was classified as Rocky Highveld Grassland by Low and Rebelo (1996), now known as the Gauteng Shale Mountain Bushveld vegetation type (Mucina & Rutherford 2006). “The Marikana Thornveld vegetation type is characterised by open Acacia karoo woodland, occurring in valleys and slightly undulating plains, and some lowland hills with altitudes roughly varying between 1,050 and 1,450 m above sea level.

The Gauteng Shale Mountain Bushveld vegetation type is characterised by low, broken ridges varying in steepness and with high surface rock cover with altitudes varying between 1,300 and 1,750 m above sea level. The vegetation is characteristically short, semi-open thickets dominated by a variety of indigenous woody plant species including *Acacia caffra*, *Searsia leptodictya*, *Ehretia rigida* and *Combretum* species amongst others. The understorey is usually dominated by a variety of grasses and other herbaceous species (Mucina & Rutherford 2006).

#### **D 1.5.2 Floral Assessment**

The assessment of the study area yielded one habitat unit of which the floral species composition and vegetation structure indicated that the habitat unit is severely transformed by anthropogenic activities.

The entire study area has been severely transformed by urban development and associated edge effects such as alien floral invasion, refuse dumping and general habitat degradation. In most cases, the soil profile has been extensively disturbed and natural vegetation removed. The majority of the plant species associated with the study area are alien invasives and/or garden plants. Floral diversity was low, and community structure was completely transformed.. Very few indigenous species were present, and pioneer grasses dominated the graminoid layer. The floral community was dominated by species such as *Melia azedarach*, *Eucalyptus camaldulensis*, *Acacia mearnsii*, *Tagetes minuta* and *Solanum mauritianum*. Due to the extent of vegetation transformation within the habitat unit, its ecological sensitivity is considered to be low.

#### **D 1.6 Ecological Sensitivity**

The entire study area is considered to be of low ecological sensitivity due to severe habitat degradation, alien floral invasion and general edge effects associated with the urban setting. Thus, no sensitive habitat is present on the study area, and the proposed development is not anticipated to have a significant negative impact on the receiving environment, provided that the mitigation measures as set out in this report are adhered to.

#### **D 1.7 Fauna**

The October 2013 Ecological Assessment undertaken by Scientific Aquatic Services CC (SAS), included the assessment of mammals, birds, Invertebrates and Herpetofuana. The results of this assessment were as follows:

### D 1.7.1 Faunal Habitat Assessment

The faunal assessment conducted was a general assessment with the purpose of identifying common species and taxa in the study area. *No sensitive mammal, avifaunal, reptile, amphibian or invertebrate species were encountered.*

Urbanisation, clearing of vegetation, the surrounding commercial built-up areas and resulting transformation of natural vegetation indicated that the study area presently does not provide any suitable habitat for any protected or Red Data Listed (RDL) faunal species. The only faunal species expected within this habitat unit are species known to occur in close association to human activity such as small rodent species. Thus, no RDL species were calculated to have a POC higher than 60% and no RDL or protected faunal species are expected to occur.

Therefore, the proposed project will not pose a threat to any RDL or protected faunal species, should the mitigation measures as set out in this report be adhered to.

### D 1.7.2 Avifauna

Surveys were conducted across the entire study area and in the immediate surroundings. All avifaunal species encountered are regarded as common and widespread and the probability that any threatened or protected avifaunal species will inhabit the study area is deemed low due to habitat transformation and degree of alien floral invasion.

## D 1.8 Connectivity and sensitivity

The **entire study area is considered to be of low ecological sensitivity** due to severe habitat degradation, alien floral invasion and general edge effects associated with the urban setting. Thus, no sensitive habitat is present on the study area, and the proposed development is not anticipated to have a significant negative impact on the receiving environment, provided that the mitigation measures as set out in the specialist report are adhered to.

## D 2 CULTURAL ENVIRONMENT

### D 2.1 Heritage Resources

Heritage conservation and management in South Africa is governed by the National Heritage Resources Act (Act 25 of 1999) and falls under the overall jurisdiction of the South African Heritage Resources Agency (SAHRA) and its provincial offices and counterparts. Section 38 of the NHRA requires a Heritage Impact Assessment (HIA), to be conducted by an independent heritage management consultant.

A Pelsers Archaeological Consulting (APAC) conducted two Basic Heritage Impact Assessments (HIA) for the proposed mixed land use township development proposed at Salvokop, and Mr M Naude completed a Salvokop Urban Heritage Sensitivity Study. Please refer to Appendix G for these specialist reports.

The overall Salvokop Precinct *has high heritage significance*. Aerial photographs assessed as part of the study, clearly show that there is a large number of historical (late 19th to 20th century) cultural heritage resources that remain within the larger area. See Figure 13. Salvokop was established by the Nederlandsche Zuid-Afrikaansche Spoorweg Maatschappij (NZASM) in 1892 as a permanent railway camp to house its employees. The area developed over the next 110 years as a typical self-contained railway township.

The cultural and heritage resources that have remained *within* the study area include the proclaimed National Heritage site of the NZASM Court, and a large concentration of railway houses. See Figure 13. The resources bear testimony to the importance that railways played in the evolution and transformation of the country, and therefore carry a high historical value to society. A physical demarcation of the NZASM Court boundaries was conducted and the extent of the area has been conserved.

A large number of railway houses have also been constructed within Salvokop, and following from specialist investigations, it was confirmed that most of these buildings are older than 60 years. See Figure 13. As a result of this study (and the social issues), the large majority of the residential areas of the Salvokop study area have been excluded from this EIA application, and thus, from the township application boundaries.

The resultant recommendation contained within the Heritage Reports, suggests that if future development of the Salvokop residential areas is proposed, an Architectural Historian is consulted to undertake a detailed study of the structures and residences in Salvokop, in order to determine their ages and heritage significance. This study must also determine what mitigation measures need to be undertaken (e.g. preservation or possible demolition) before the township establishment and any possible related development actions are undertaken. A preliminary recommendation for this study, is that certain unique types and heritage nodes are preserved within the proposed township development, and that the history of the area is memorialized through various Information Plaques.

#### **Buildings of high heritage significance located within the Salvokop Extension 4 township boundaries**

The position of some of the railway buildings that are located *within* the townships boundaries, are indicated in Figure 14. Apart from the NZASM Court (to be conserved), only





Figure 13: Cultural and heritage resources that have remained within the study area





Figure 14: Heritage Buildings Inside the Township.

Six (6) additional railway houses are located *within* the boundaries of the site of this application. These buildings are situated to the west of 1st Street. See figure 14. An Architectural Historian must still be consulted to undertake a detailed study of these affected residences, in order to determine their ages and heritage significance.

This study must determine whether these houses must be preserved, or if they can be demolished; before any related development actions are undertaken.

Because of the location and heritage value of the project, additional authorisation must be given by the Gauteng Provincial Heritage Resources Authority (PHRAG). Through the public participation process, Mr Andrew Salomon, a Heritage Impact Assessor from the South African Heritage Resources Agency, has requested SEC to upload the FINAL EIA Report to the relevant case on SAHRIS. This draft EIA report will be submitted to Mr Salomon for his review and comment. Comments received from this statutory body will be included in the FEIAR for authority approval. In fulfilment of Mr Salomon's procedural request however, the Final EIA report will also be uploaded to SAHRIS for authorisation.

### **D 3 SOCIAL ENVIRONMENT**

#### **D 3.1 Air Pollution**

*Air Quality* may be divided into physical and chemical aspects. The physical aspect comprises particulates, such as dust and smoke, blown from or released into the atmosphere by an activity. Chemical aspects comprise volatile and non-volatile chemical compounds (including odours) emitted into the atmosphere by activities or processes.

During construction dust from site preparation and platform shaping activities will be blown into surrounding areas. Mitigation will be through the implementation of dust suppression measures, as addressed in the draft EMPr.

Odour nuisance from uncollected wastes emanating from the retail and business facilities, may negatively affect neighbouring residents. Mitigation measures include:

- Ensuring that waste handling, storage and collection is undertaken in accordance with the relevant health and municipal legislation, practices and procedures; and
- Managing the development in compliance with the relevant environmental, water, and health legislation.

*Waste Management* includes the management of both solid and liquid waste, or effluent, produced by a facility or an activity. Litter blown from the development may accumulate in the residential area. The following measures will aid in mitigation of this potential impact:

- Ensuring that the design of the development includes adequate facilities for the temporary storage of waste, in terms of volume, location and enclosure;

- Ensuring that waste handling, storage and collection is undertaken in accordance with the relevant health and municipal legislation, practices and procedures;
- Provision of adequate numbers of litter bins throughout the development; and
- Implementation of an appropriate collection and disposal strategy to ensure regular removal of waste to a permitted waste disposal facility.
- Promoting the recycling of waste, with specialist service providers appointed to remove the waste from site.

See Appendix I for the EMPr which details Solid Waste Management for the site.

No formal study of the air quality in the study area has been undertaken, but it is expected to be typical of areas in and around the Pretoria CBD.

### D 3.2 Noise

Currently, noise is generated on site, due to the urban setting of the area. Potential Noise sources created by the new development will be:

**Construction Noise:** During construction activities, people are often exposed to different levels of pounding, roaring, beeping and other loud noises from construction work. Construction noise abatement measures have been provided in the EMPr, to ensure that the construction activities are not a source of excessive noise to the Salvokop residents.

**Operational Noise:** Commercial operators commonly generate noise from their ventilation systems. Trades and industries can reduce noise pollution from their operation through proper selection and maintenance of their equipment and ensuring compliance with legal requirements. Traffic noise generated from the new development.

## D 4 QUALITATIVE ENVIRONMENT

### D 4.1 Visual Impact

The construction phase of the new development will cause an alteration to the character of the site from being a residential area surrounded by degraded open spaces, to becoming a residential area located in the middle of a construction site, and ultimately, a residential area surrounded by high rise, high density, government offices and places of retail.

Mr M Naude undertook the Salvokop Urban Heritage Sensitivity Study (See Appendix G) which also looked at the urban design of the current environment. As identified by M. Naude, the present characteristics of the Salvokop skyline (visual impacts) are:

- The Freedom Park Monument and heritage site is located on the apex of Salvokop but is only recognizable by the sequence of flagpoles on the skyline. The remaining heritage site features have been set in such a way that they are almost completely obscured and not visible from a distance.



- A permanent geological feature the Salvokop outcrop forms the focus of the area and the ultimate feature defining the skyline when looking southwards.
- When looking southwards or from the city centre, towards Salvokop, no deliberate (manmade) features - except for the Freedom park flagpoles – dominate the skyline.
- The only visual element dominating the skyline is the green vegetation that defines the general character of Salvokop.
- The most recently erected multi-storey apartment building, is the tallest building in the study area, and does not relate to any other residential unit in the area.

Given these present visual attributes of the study area, the proposed Government Precinct will have a significant visual impact on the existing Salvokop residents, completely altering the sense of place and present visual setting.

#### **The Salvokop Development Framework 2014**

Delta BEC was appointed by The Department of Public Works (DPW) to compile a Development Framework for the Salvokop Precinct, namely, the Salvokop Development Framework 2014. The preparation of the Salvokop Development Framework was prepared within a municipal planning policy context, and supports existing spatial initiatives and endeavours aimed at the revitalisation of the Tshwane CBD.

In addition to the Salvokop SDF defining the purpose for which vacant land within Salvokop will be utilised, the development parameters associated with the individual pockets of land were investigated. The development parameters assist in determining the influence the Government precinct development will have on the development potential associated with the property. The following development parameters have been studied in the Salvokop SDF 2014:

#### **Guidelines on the Height of Buildings:**

In order to establish what the appropriate height of buildings within the precinct should be, Delta BEC identified a number of principles that ultimately influences such a resolution. These principles include:

- It is accepted that a line of sight currently exists between the Freedom Park Monument and the Union Buildings that should not be infringed upon.
- A view of the Freedom Park Monument from the Tshwane Inner City should be encouraged as far as possible and should not unnecessarily be infringed upon.



- The height of the proposed new buildings will have to be integrated with the height of existing buildings that will be retained on site (such as the railway houses).
- The property predominantly slopes in a south to north direction and the height of buildings can therefore increase in a similar direction in order to take advantage of the general slope.
- In order to further promote the integration of the precinct into the Tshwane CBD, it is advised that the areas in close proximity to the CBD reflect a similar urban and built form compared with the buildings in the CBD.
- Within the context of the aforementioned principles, building heights should be maximised in order to optimise the use of land within the precinct.

### Lines of sight

Delta BEC assessed the building heights by firstly assessing the lines of sight (LOS). The SDF considers two lines to be most influential, namely:

- The line of sight between the Union Buildings and the Freedom Park (including the museum and the office buildings) are considered to be of importance and must be retained.
- The Freedom Park Monument can be viewed from certain areas within the CBD and it is proposed that this general line of sight be protected as far as possible.

### Line of Sight - Union Buildings and Freedom Park

In order to assess the impact that the existing line of sight between the Freedom Park and the Union Buildings may have on the development of the site, a cross section was generated to determine a *minimum height threshold* that must apply during the planning phase.

The alignment of the section referred to above, is illustrated in Figure 15. The south-eastern extent of the Salvokop precinct is affected by the line of sight between the Union Buildings and the Freedom Park. Figure 16, illustrates that the general slope of the Salvokop study area, declines steeply in a northerly direction.

If a line of reference is inserted in the section connecting the Freedom Park Office Buildings with the Union Buildings, Delta BEC have determined that a maximum building height of approximately 23 meters south of 7th Avenue can be accommodated, whilst the height of structures on the eastern boundary of the property can extend up to 41 meters without affecting the LOS. It should, however, be noted that it is not envisaged that buildings exceeding three (3) stories will be erected within this area, and therefore it is not foreseen that the line of sight will be infringed upon.

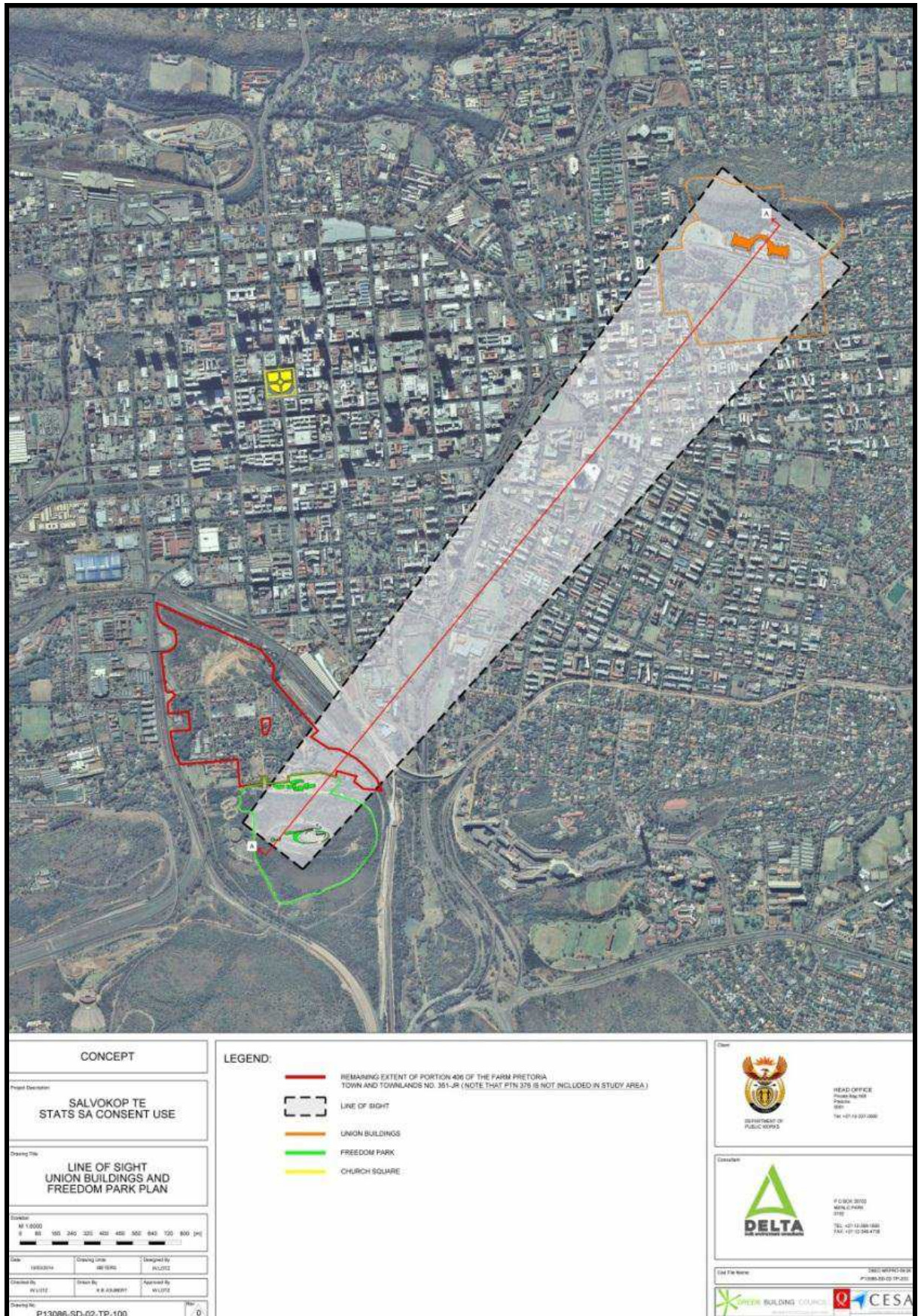


Figure 15: Line of Sight to the Union Buildings





### Line of Sight – Tshwane CBD to Freedom Park Monument

The Freedom Park Monument can be seen from certain areas within the Tshwane CBD. In light of the importance of this museum, Delat BEC propose that the Salvokop precinct is sensitive towards the fact that this line of sight should be retained, and protected as far as possible.

In order to determine the potential influence of this principle on planning, a cross section was generated between the north-western extremity of the property and the Freedom Park Museum. The alignment of this section is illustrated in figure 17.

The slope of the property declines in a northerly direction, and hence, the slope allows for an increase in building heights from the southern extent of the property towards the northern extent. The area that is most affected is the area between Skietpoort Avenue and the northern boundary of the property. It can be seen that buildings should preferably not exceed 27 meters within this area. A conversion of this height parameter into stories implies a height limitation of 8 storeys.

The height restrictions applicable to the rest of the property are summarised below:

**Table 5: Height Limitations**

Section	Height Limitations
Skietpoort and 2nd Ave	45 meters
2nd Avenue and 2nd Str	49 meters
2nd Street and 3rd Ave	53 meters
3rd Avenue and 4th Ave	56 metres
4th Avenue and the Cnr of Koch Str and 5th Ave	59 meters
Cnr of Koch Str and 5th Ave and Freedom Park	60 meters

The principle has also been established that spatial synergy should be established with the Tshwane CBD. One of the ways in which this can be achieved is by means of allowing for a similar type of built form within close proximity to the CBD, thus in close proximity to the northern boundary of the property.

Subsequent to considering all of the above-mentioned considerations and principles, the most appropriate strategy considered in respect of the allocation of height of buildings, is to locate the maximum height zone in the northern extent of the property and to systematically decrease the height of buildings, as these buildings approach existing buildings to be retained, as well as the Freedom Park in the southern extent of the property.

- *The height limitation of 8 storeys has been adopted as a maximum parameter for the subject area based on the line of sight assessment.*

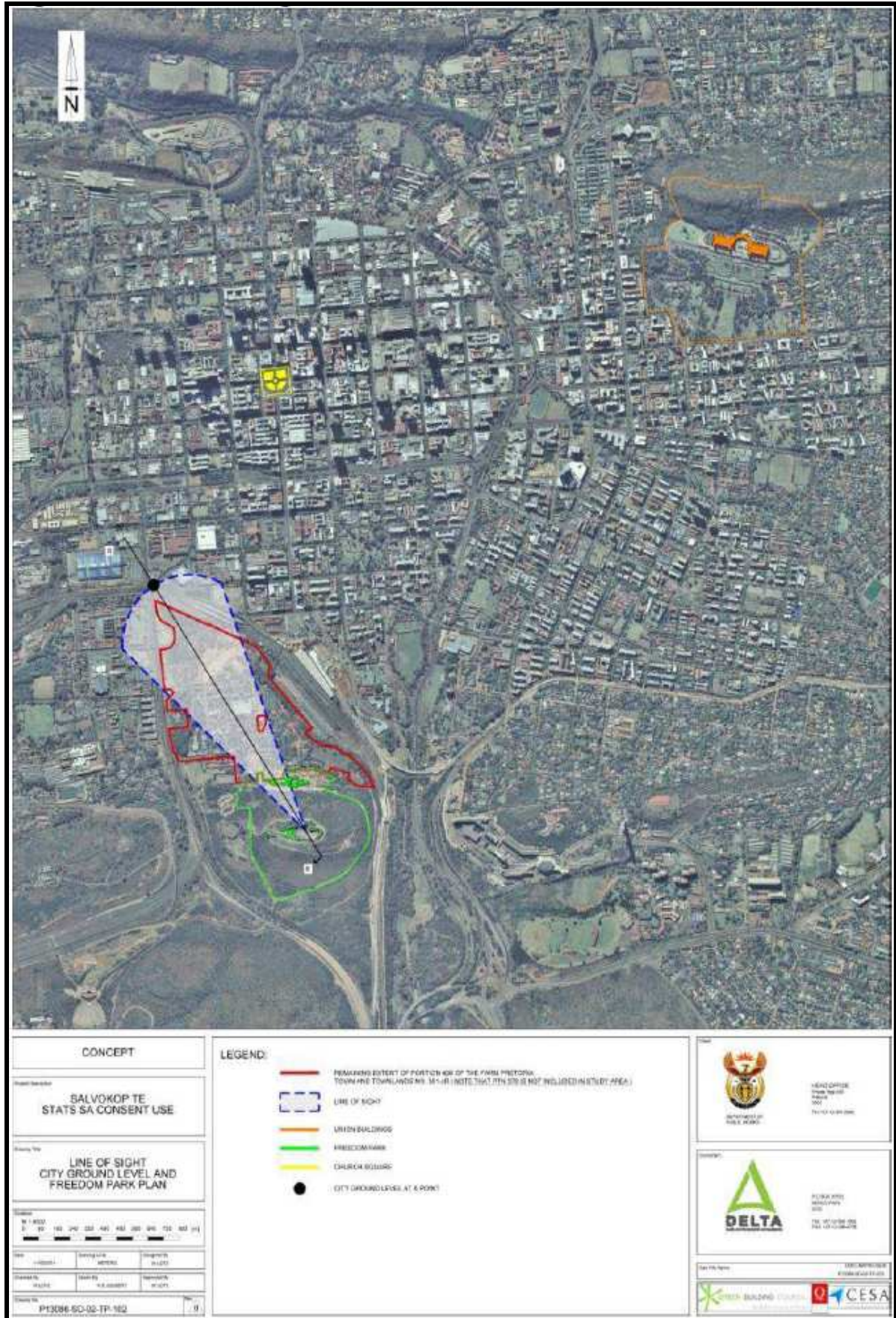


Figure 17: Line of sight to the CBD



Mitigation measures to reduce the visual impact during construction and operation are addressed in Section G of this report. Visual screening and overall tidiness of the construction site will play a role in mitigating significant adverse visual impacts.

## **D 5 SOCIO - ECONOMIC ENVIRONMENT**

Demographics of a study area are important to ensure that new developments will complement the existing land uses.

The study area falls within the City of Tshwane Metropolitan Municipality (CTMM) in the Gauteng Province. The CTMM is bordered by the metropolitan areas of the City of Johannesburg and the Ekurhuleni Metropolitan Municipality (EMM) in the south. The Kungwini Municipality (Metsweding District Municipality) and Nokeng tsa Taemane District Municipality borders the eastern boundary of the CTMM. CTMM is bordered by the West Rand District Municipality in the south-east.

Specifically, the subject property is located within the City of Tshwane's administrative Region 3. The region is host to several national government departments and includes the most important metropolitan node namely the Capital Core.

### ***Demographic Overview of Salvokop***

Overall, the primary trade area reveals the following pertinent characteristics:

- Population of at least 130 128 people / 51 150 households (2013)
- Weighted average monthly household income (households earning an income) approximately R16 494.8 (2013)/ LSM 4 to 10+ approximately R18 386.23 (2013)
- Moderate to high living standard levels iV LSM 1 to 3 (30.7%); LSM 4 to 10+(69.3%)
- Dominant demand for middle priced spectrum of residential and commercial products and services.

### ***Socio-Economic Profile for Salvokop***

- Consumers are predominantly South Africans (81.1%), largely African Blacks (61.5%) and a moderate segment of Whites (19.8%). The dominant home language includes English (28.6%) and Afrikaans (18.7%).
- The average household size ranges between 2 and 4 members (79.0%), with one to two children (56.0%) predominantly aged less than 12 years (64.6%).
- Households are predominantly characterised by double breadwinners (48.9%), predominantly employed within the private sector (74.4%). The larger segment of breadwinners has obtained a degree (37.8%) or at least matric (32.9%). Dominant occupations present a mixture between white and blue collar occupations.
- It is predominantly the women in the households (53.5%), predominantly aged between 25 and 40 years (69.3%) that conduct the retail purchases of the household.

- Main method of transport includes private vehicles (60.2%) and taxis (22.7%).
- The dominant life stages present in the market include:
  - Young couples (19.1%)
  - Mature families (17.6%)
  - Mature singles (11.8%)
  - Young independents (8.8%)
  - Mature couples (8.8%)
  - Young families (8.8%)
  - Single parents (8.8%)

As previously stated, the current residential component of Salvokop (central component of Salvokop) does not form part of the study area of this EIA process. However, in order to assess what the proposed impacts of the proposed new development will be on the social environment, a separate and independent Social Impact Assessment, has been initiated by the DPW.

## SECTION E LEGISLATION AND GUIDELINE DOCUMENTS

The **national legislation** listed here is applicable to the proposed development and the requirements and obligations therein have been considered throughout the scoping and EIA process:

### Planning

- **Development Facilitation Act, 1995, Act 67 of 1995:** Determines general principles for land development, amongst others that policy, administrative practice and laws should promote efficient and integrated land development in that they promote the integration of the social, economic, institutional and physical aspects of land development and promote the availability of residential and employment opportunities in close proximity to or integrated with each other, and discourage the phenomenon of "urban sprawl" in urban areas to contribute to the development of more compact towns and cities that encourages environmentally sustainable land development practices and processes.
- **Local Government: Municipal Structures Act, 1998, Act 117 of 1998:** Sets the functions of municipalities and indicates that they must seek to achieve the integrated, sustainable and equitable social and economic development by ensuring integrated development planning and promotion of bulk infrastructure development and services.
- **Gauteng Planning and Development Act, 2003:** provides a number of principles to promote spatial restructuring and development. Key amongst these is that the Province shall encourage development and land use *which "... promotes the more*

*compact development of urban areas and the limitation of urban sprawl and the protection of agricultural resources” and development that “results in the use and development of land that optimises the use of existing resources such as engineering services and social facilities... ”.*

- **National Spatial Development Perspective:** The NSDP was born out of a concern from National Government that national investment and development programmes are (i) not addressing the distortions of the past apartheid spatial economy and (ii) not aligned between various spheres of government. The aim of the NSDP is therefore to – · provide a better understanding of the South African spatial economy; and · to provide normative principles for the reconfiguration of apartheid spatial relations through investment and development programmes. The overarching theme or message throughout the NSDP is (i) that economic development in the country is crucial, (ii) that government should support economic development by directing fixed investment primarily to those areas where it can have the most benefit to the economy and (iii) that all spheres of government (horizontal and vertical) should align along the same development programmes in order to have the best combined effect.

## Environmental Assessment

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- **National Environmental Management Act, 2006, Act 107 of 1998:** The act determines the processes, principles and criteria for consideration of applications, i.e. it is applicable in its entirety. The objective of NEMA is: *“To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for coordinating environmental functions exercised by organs of state; and to provide for matters connected therewith.”*
- **National Environmental Management Act, Act 107 of 1998:** The Environmental Impact Assessment Regulations 2010: The NEMA EIA 2010 regulations and the listing notices thereto, replace the National Environmental Management Act (NEMA) EIA regulations of 2006 and its associated listing notices.

**Application relevance:** *This report represents the Draft Environmental Impact Assessment Report (DEIAR) and has been prepared in accordance with the National Environmental Management Act (NEMA) (No 107 of 1998), in terms of sections 24 and 24D of NEMA, as read with the EIA regulations of GNR 543, and GNR 545.*

## Water

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- **National Water Act, 1998, Act 36 of 1998:** The act defines certain environmental elements, such as water courses and riparian habitats, and activities, such as waste. It also states that any act or omission, which pollutes or is likely to pollute a water

resource is an offence and it indicates what activities are also subject to license applications that must be considered during the environmental authorisation process.

- **Water Services Act, 1997, Act 108 of 1997:** Sets requirements for entering into services agreements with the water services provider and determination of the capacity of the services provider to accommodate the proposed development.

**Application relevance:** *No waterbodies are situated on site and the study area is not affected by a 1:100 or 1:50 floodline.*

## Waste

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- **National Waste Act, 2008 (Act No. 58 of 2008):** The Waste Act repealed Section 20 of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) and introduced new provisions regarding *the licensing of waste management activities*. In terms of the Waste Act the Minister has published a list of waste management activities that have, or are likely to have, a detrimental effect on the environment.

**Application relevance:** *No activities proposed for the Salvokop township application will require a waste management license.*

- **National Waste Act, 2008 (Act No. 59 of 2008):** National Domestic Waste Collection Standards. This legislation aims to enforce an integrated approach to waste management, with emphasis on prevention and reduction of waste at source and, where this is not possible, to encourage reuse and recycling in preference to disposal.

## Air / Atmospheric Pollution

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- **National Environmental Management: Air Quality Act, Act 39 of 2004:** The law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; and to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; and for specific air quality measures.

Part IV of the Act deals with dust control – *“Whenever dust originating on any land in a dust controlled area is causing a nuisance to persons residing or present in the vicinity of that land, the owner or occupier may be required to take the prescribed steps or adopt the “best practicable means” for the abatement of the dust”.*

**Application relevance:** Based on the proposed land uses for the Salvokop development, no noxious industries are permitted, and hence, no adverse or significantly negative impacts on air quality in the study area are envisaged.

## Heritage resources

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- **National Heritage Resources, Act, 1999, Act 25 of 1999:** Sets requirements for assessment of impacts on the cultural and heritage assets, the processes to be followed in notifying the competent authority and the elements of a report on the assessment.

The protection of archaeological and palaeontological resources is the responsibility of a provincial heritage resources authority (SAHRA) and all archaeological objects, palaeontological material and meteorites are the property of the State. “Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority”.

**Application relevance:** Because of the location of the project, additional authorisation must be given, based on the HIA reports that have been compiled for this EIA application, by the Gauteng Provincial Heritage Resources Authority (PHRAG).

## Roads, transport and advertising

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- **Advertising on Roads and Ribbon Development Act, Act 21 of 1940:** Provisions for the location of buildings, i.e. building lines along proclaimed roads and the nature of advertisements.
- **Road Traffic Act, 1989, Act 29 of 1989:** The establishment of new intersections and determination of traffic requirements, primarily through implementation of the traffic impact assessment recommendations.

**Application relevance:** See Appendix D for the Traffic Impact Report conducted by EDS Structural Civil and Transportation Engineers (Pty) Ltd. Roads for the township will be provided to the satisfaction of Gautrans and Roads Department.

## Workers health and well-being

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- **Occupational Health and Safety Act, 1993, Act 85 of 1993:** The objective of this Act is to provide for the health and safety of persons at work. The considerations of the Act must be incorporated into the construction phase environmental management plan during the EIA process.



**Application relevance:** See Appendix I for the EMPr.

## Biophysical environment

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- **National Veld and Forest Fire Act, 1998, Act 101 of 1998:** Determines a duty to prepare and maintain firebreaks on every owner on whose land a veld fire may start or burn or from whose land it may spread. It sets criteria for such firebreaks, amongst others that it may not lead to soil erosion and that it must be free of inflammable material capable of carrying a veld fire across it.  
**Application relevance:** *Mitigation measures for the prevention of fires must be implemented.*
- **National Forests Act, 1998, Act 84 of 1998:** Provides special measures for the protection of certain forests and trees. In terms of Section 12 (1) (d) of this Act and GN No. 1012 (promulgated under the National Forests Act), no person may, except under licence:
  - Cut, disturb, damage or destroy a protected tree; or
  - Possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree; or
  - of any protected tree or any forest product derived from a protected tree.
- **National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004),** The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed. In terms of the Biodiversity Act, the developer has a responsibility for:
  - ▶ The conservation of endangered ecosystems and restriction of activities according to the categorisation of the area (not just by listed activity as specified in the EIA regulations).
  - ▶ Application of appropriate environmental management tools in order to ensure integrated environmental management of activities thereby ensuring that all developments within the area are in line with ecological sustainable development and protection of biodiversity.
  - ▶ Limit further loss of biodiversity and conserve endangered ecosystems.
- **National Spatial Biodiversity Assessment,** The National Spatial Biodiversity Assessment (NSBA) classifies areas as worthy of protection based on its biophysical characteristics, which are ranked according to priority levels.

**Application relevance:** See Appendix F for the Ecological Assessments conducted for the site. The entire study area is considered to be of low ecological sensitivity due to severe habitat degradation, alien floral invasion and general edge effects associated with the urban setting.

- **National list of threatened terrestrial ecosystems for South Africa (2011)**

The study area and its importance have been investigated in terms of the National Threatened Ecosystems as published in the National Environmental Management: Biodiversity Act: National list of ecosystems that are threatened and in need of protection, (G 34809, GoN 1002).

The study area falls within the Marikana Thornveld and Witwatersberg Pretoria Mountain Bushveld. Marikana Thornveld is listed as a *Vulnerable* ecosystem, while Witwatersberg Pretoria Mountain Bushveld is indicated as a *Critically Endangered* ecosystem. Thus, special attention was paid during the ecological investigations to determine whether the areas indicated as consisting of Witwatersberg Pretoria Mountain Bushveld are indeed representative of this ecosystem.

The Biodiversity Act (Act 10 of 2004) provides for listing of threatened or protected ecosystems. Threatened ecosystems are listed in order to reduce the rate of ecosystem and species extinction by preventing further degradation and loss of structure, function and composition of threatened ecosystems (SANBI, BGIS).

The study area lies within an urban environment which has been heavily transformed as a result of edge effects associated with urban areas such as alien floral invasion. There is a proliferation of informal shelters, and refuse dumping and discharge of sewerage from leaking infrastructure are evident. The entire study area is considered to be of low ecological sensitivity due to severe habitat degradation, alien floral invasion and general edge effects associated with the urban setting.

#### **F 4.2 Administrative environment / Spatial Planning**

*The provincial policies and guidelines listed here are applicable to the proposed development and the requirements and obligations therein have been considered throughout the EIA process:*

##### **Conservation Plan (C-Plan)**

The Gauteng C-plan (Version 3) focuses on the mapping of biodiversity priority areas within Gauteng, compiled by the GDARD. Therefore, the C-plan was consulted in order to determine site-specific issues and areas within the study area considered sensitive. The following biodiversity features are applicable to the study area:

- The C-plan indicates that the study area is located inside the urban edge (2010) and development within the urban edge is encouraged, provided that the development is not detrimental to the ecological environment and is in line with local spatial development planning;
- The C-plan indicates “Ecological Support Areas” (ESAs) on the study area, which are related to the ridge areas to the south of the study area. These areas were specifically investigated during the site assessment.

Scientific Aquatic Services (SAS) were requested to analyse the ridge system which characterises the study area. SAS confirmed that although steep areas are present on the study area, these areas have already been developed by existing houses and other buildings, and as such, extensive habitat transformation has occurred. No areas indicative of intact ridge vegetation were encountered during the assessment.

### ***Gauteng Spatial Development Framework***

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The Gauteng Spatial Development Framework identified five (5) critical factors for development in the province (and by implication in Tshwane), namely:

- Contained urban growth
- Resource based economic development (resulting in the identification of the economic core)
- Re-direction of urban growth (stabilise/limit growth in economically non-viable areas, achieve growth on the land within the economic growth sphere)
- Protection of rural areas and enhancement of tourism and agricultural related activities
- Increased access and mobility.

*The development proposal for the Salvokop Township application, complies with a number of the outlined critical factors. The Salvokop Area is seen as a key element to drive transformational change in both the Capital South precinct and wider Inner City environment. The opportunity for Salvokop to grow as a mixed use commercial centre and act as a key driver and catalyst for the Inner City’s regeneration has been identified. Bulk infrastructure in the form of water, sewerage and electricity is available, but needs to be upgraded to cater for the size of the new development. The development proposal will offer a range of community facilities and services to the surrounding community.*

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**Sustainable Development Criteria for Built Environment Projects requiring Environmental Impact Assessments in Gauteng, 2009**

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This document has been developed by the Gauteng Department of Agriculture and Rural Development to ensure that sustainable development is integrated in to planning and design of built environment projects requiring Environmental Impact Assessments (EIAs) in Gauteng. The document defines sustainable development and outlines the implications of this for the built environment. It also provides objectives and criteria for sustainable built environments that can be used by developers of built environment project that require EIAs.

The environmental context, legislation and potential future measures to reduce carbon measures make it clear that the built environment must change to support sustainable development and has a very significant role to play. In order to develop practical measures that should be integrated into the built environment it is useful to set out built environment or development objectives that, together, would support sustainable development. These objectives are set out below and form the starting point for the sections in this document which provide more detailed criteria.

**Land Use and Integrated Development:** Development should be integrated with existing and planned infrastructure and land uses to ensure efficient systems and balanced land use.

**Biodiversity:** Development should be located where damage to natural environments and ecosystems is minimised. It should ensure that existing natural environments are conserved and take opportunities to strengthen this.

**Agriculture and Landscaping:** Development should be located where they will not lead to a loss of agricultural land. Landscaping and agriculture should be developed and managed to minimise negative impacts and local food production should be supported.

**Water, Sewage and Storm Water Runoff:** Development should minimise the consumption of municipal potable water and production of waste into municipal sewage systems. Increased storm water runoff and water pollution should be avoided.

**Materials and Construction:** Development should minimise the negative environmental impacts of construction and the consumption of resources. Positive social and economic impacts of construction and resource use should be maximised.

**Energy, Mechanical and Electrical Systems:** Development should minimise the use of non-renewable energy and maximise use of renewable energy sources.

**Waste and Pollution:** Development should minimise the amount of waste diverted to land fill. Pollution should also be avoided.



Local Economic Development: Development should support diverse productive local economies that create work and sustainable enterprises.

Transport: Development should reduce the reliance on cars and ensure that low energy environmentally friendly forms of transport are encouraged.

Health and Well Being: Development should support the health and well being of people on site and in neighbouring communities.

Education: Development should support education and ongoing learning of people on site and in neighbouring communities.

Housing: Development should support Inclusionary Housing and ensure that people who work on site do not have to travel long distances to access affordable housing.

Inclusion and Social Cohesion: Development should support social cohesion and benefit the full diversity of the population.

Management and Monitoring: Sustainable development targets that reflect the South African context should be set for the development and operation of the development. Management and monitoring should be carried out to ensure that these are achieved.

*The proposed Salvokop mixed Township Development is well located within the Tshwane CBD. The site of application is situated within an area colloquially referred to as the Salvokop area or precinct area which exhibits strong spatial linkages with the Tshwane CBD. The Salvokop Area is seen as a key element to drive transformational change in both the Capital South precinct and wider Inner City environment. The opportunity for Salvokop to grow as a mixed use commercial centre and act as a key driver and catalyst for the Inner City's regeneration has been identified. Bulk infrastructure in the form of water, sewerage and electricity is available, but needs to be upgraded to cater for the size of the new development. The development proposal will offer a range of community facilities and services to the surrounding community.*

### **Tshwane City Strategy**

The Tshwane City Strategy is a bold initiative by the City of Tshwane Metropolitan Municipality (CTMM) to *influence the development path of the City over the next 20 years*. The City Strategy introduces important implicit policy and emphasis shifts. One of the fundamentals of the City Strategy is the *restructuring of the urban environment in such a way that people's lives are improved through better and more equal access to economic and social opportunities*. Just as with the National Spatial Development Perspective, this implies a focussed approach to development around areas with opportunity, not only for economic development, but also for residential development.

Some of the issues related to densification that are clearly highlighted by the City Strategy are:

- Create places of opportunity that will support wide range of densification in places that benefit from access to concentrated public investment in services and infrastructure
- Create economic opportunities at important interchanges and nodes receiving clusters of social facilities and allow higher density residential development to grow around these places.
- Present alternatives to people whereby the advantages that different places can offer are optimised.

*The proposed Salvokop mixed Township Development is well located within the Tshwane CBD. The site of application is situated within an area colloquially referred to as the Salvokop area or precinct area which exhibits strong spatial linkages with the Tshwane CBD. The Salvokop Area is seen as a key element to drive transformational change in both the Capital South precinct and wider Inner City environment. The opportunity for Salvokop to grow as a mixed use commercial centre and act as a key driver and catalyst for the Inner City's regeneration has been identified. Bulk infrastructure in the form of water, sewerage and electricity is available, but needs to be upgraded to cater for the size of the new development. The development proposal will offer a range of community facilities and services to the surrounding community.*

### **Tshwane Retail Strategy**

The provision or inclusion of retail facilities as part of any new development is subject to the provisions of the Tshwane Retail Strategy. The primary purpose of the Tshwane Retail Strategy relates to the process of ensuring that the needs of the retail sector are balanced with the needs of communities, urban functionality and sustainable development. The inclusion of retail in a new development should make a positive contribution to the overall urban environment. The said contribution will be measured as a function of functionality, equitability, convenience and attractiveness. The provision of retail facilities should therefore be approached holistically, looking at the economic, social and environmental aspects. A number of principles underlay the provision of retail facilities within the City:

- Market forces and the free economy must be allowed to determine the trend and tempo of retail development.
- The desirability of a retail facility will be influenced by the broader area and the specific site as well as the degree to which the retail development contribute to the enhancement of the overall environment and the achievement of metropolitan development goals.
- Retail developments must be sensitive towards its location and surrounding environment, and be designed and sited in such a way that it contributes to the overall quality of the environment and not detract from it.

- Retail applications and the evaluation thereof have to take consideration of the local context.

The Tshwane Retail Strategy identifies a number of specific spatial strategies to be adopted in respect of the provision of retail facilities. The following spatial strategies are applicable to the formulation of the Salvokop Development Framework:

- 'Follow-the roofs'/ new growth areas strategy: This strategy focuses on new growth areas and the provision of retail facilities once a certain threshold level of houses and disposable income is reached. In the case of a 'follow the roofs' strategy, timing is of critical importance.
- Modal interchange strategy: This type of facility depends mainly on the nature of the commuters, the area as well as the different transport modes used. Land uses in these areas should be focussed on transport orientated developments, with retail focussing on convenience and day-to-day goods.

### **Tshwane Spatial Development Framework (SDF) 2010 and Beyond**

Within the SDF the sentiment is expressed that the importance of the Pretoria CBD within a metropolitan context cannot be underestimated. The CBD is still the largest job opportunity zone within the City of Tshwane. Despite the aforementioned, challenges exist in the fact that the CBD has lost its status as the focal point of commercial and office related activity within the metropolitan area. This is largely due to the development of a number of high order decentralised nodes. This has partially led to a gradual process of urban decay within the CBD and surrounding areas.

It is further stated that despite the loss of status, Tshwane's CBD still functions as the seat of various government departments and remains the administrative capital of South Africa. The link between the city and national government is reflected in all aspects of the city. The relative affluence of the city compared to the rest of the country is a manifestation of the influence of central government. The influence of the role of the city as a seat of government is especially visible in the Inner City and manifests itself in monumental and historic buildings and large public spaces such as the Union Buildings, Church Square and Burgers Park.

The Inner City has always had a significant government function and still accommodates a large percentage of government activities. However, the relocation of Provincial government to the City of Johannesburg contributed greatly to the decline of office occupancy rates in the Inner City and the decline in ancillary and subservient activities. The decentralisation of specifically private investment from the Inner City to decentralised nodes has also impacted significantly on the Inner City in recent years. This trend of private decentralisation is a worldwide phenomenon and severely influences the overall vitality of the Inner City.

Within the SDF the strategic approach of enhancing, supporting and celebrating the role of the Inner City as heart of the Capital City, home to the public sector, retail and entertainment node for the northern areas, centre of the African urban spirit and place of more than half of the city's employment opportunities is emphasised. The City aims to do this through the Inner City Regeneration Programme, which encompasses various reform strategies.

The SDF further also refer to a number of opportunities that have been identified specifically in respect of Region 3 in order to inter alia address the above-mentioned required reform. One of these opportunities, specifically mentioned, pertains to the redevelopment of Salvokop. The MSDF furthermore identifies 8 restructuring zones of which Zone A specifically includes reference to the Salvokop Precinct.

The MSDF further elaborates on spatial strategies that need to be implemented and adhered to in order to successfully guide the future spatial manifestation on a metropolitan level.

### **Tshwane Regional Spatial Development Framework for Region 3**

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The Regional Spatial Development Framework for Region 3 confirms that the Inner City is the strongest node in the metropolitan area in terms of job opportunities, retail space and offices. It furthermore confirms that due to a change in the client profile of the Inner City, this node has lost its position as an area where the highest hierarchy of goods are provided.

The RSDF confirms that the exodus of higher order uses to other metropolitan nodes led to a change in the user profile of the Inner City over the last decade. The Inner City is mostly a trade destination for residents' dependant on public transport and residents of the higher density residential developments surrounding the Inner City.

The RSDF accepts that the upgrading and regeneration of buildings and land uses in the Inner City in accordance with regeneration plans, will eventually lead to attracting higher income groups to the Inner City. Catalytic projects such as the Mandela Development Corridor will play a major role in upgrading efforts and should receive the full support of all role players.

Within the RSDF it is specifically stated that efforts to consolidate the government departments within the capital core should be supported to enhance the capital city status of the inner city. It is specifically stated that head offices seeking to relocate to Tshwane should be accommodated in the Inner City area and every effort should be made to support such development.

Proposals contained in the Tshwane Inner City IDF and supported via the Urban Development Zone initiative is welcomed and should be used to initiate intervention.

## **Tshwane Inner City Development and Regeneration Strategy**

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The purpose of the Tshwane Inner City Development and Regeneration Strategy (“the Strategy”) is to lay the foundation for the repositioning and regeneration of this area through the introduction of certain key interventions.

Within the strategy it is stated that the Tshwane Inner City is a place of strategic significance, not only in the city, but also from a national and international perspective. However, it is generally acknowledged that the Inner City is currently not functioning as it should from an environmental, economic and social point of view. The City Development Strategy, the IDP and the Metropolitan Spatial Development Framework have all identified the inner city, together with its important role within the Capital City vision, as a strategic focus area. The Tshwane City Vision, namely “to become the leading international African capital city of excellence that empowers the community to prosper in a safe and healthy environment”, clearly sets out the development goal of becoming the African Capital City of Excellence. The Inner City, as the functional and symbolic heart of the Capital City, has to transform to a place of excellence as an embodiment of the Tshwane City Vision.

It is further stated that in order to ensure that the critical success factors are present in the Inner City, it is necessary that those areas or aspects of the Inner City that do not meet the necessary standards, receive urgent attention.

The following aspects have been identified as challenges within the strategy:

- The Inner City needs a clear and unique identity
- It is important to attract high profile developments to the Inner City
- The Inner City must make provision for a range of housing opportunities, for a number of socio-economic groups
- Sufficient residential support facilities must be provided to carry the increasing permanent residential population
- The Inner City must provide tourism, entertainment and recreational opportunities, for residents and visitors
- The Inner City must comprise a dedicated public transport system (an internal circulation system)
- The Inner City must be made pedestrian friendly
- The Inner City needs sufficient public spaces (soft and hard) in order to be a world-class capital city
- Safety must be one of the main priorities
- A dedicated management structure must be put in place

In order to elevate the position of the Inner City to a place of excellence and to address the gaps that exist, certain drastic interventions are required.



The Inner City Development and Regeneration Strategy is based on a “catalytic intervention”-approach whereby specific strategic interventions are proposed to significantly address the challenges in order to achieve the critical success factors. The proposal is to focus public budget expenditure on specific projects and catalytic developments, thereby creating strong stimuli for private sector investment to respond positively. This is based on the so-called ripple-effect approach, where one major intervention can create a number of positive spin-offs. The interventions proposed integrate physical, economic and social spheres and also imply certain institutional arrangements

### ***Region 3 Density Plan***

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The Region 3 Density Plan makes provision for the application of the above-mentioned density classifications to the spatial environment. The purpose of the plan is to spatially interpret densification and compaction efforts and to provide guidance in respect of the spatial manifestation of the aforementioned efforts. Specific recommendations in respect to the Salvokop Precinct and its surroundings are included within the Density Plan. Following an assessment of the Density Plan, it can be confirmed that the Salvokop Precinct falls within a “transport” zone where residential densities between 60 and 120 units per hectare should be applied.

### ***Tshwane Inner City Project (Re Kgabisa Tshwane)***

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The National Department of Public Works commissioned a multidisciplinary team in 2004, with support of Cabinet, to prepare a plan involving a spatial strategy, a financial strategy and a comprehensive needs analysis for each department as well as an implementation strategy to roll out the redevelopment of National Government Head Offices in Tshwane.

One of the components of the plan is a spatial guidance tool for locating and managing the accommodation of Government in the Inner City. This tool, integrated with other policy documents and projects, will result in an improved image for Government in Tshwane and the stimulation of growth and development in the Inner City.

The vision of the framework is built around the need not only for an improved public image of National Government, but also for an improved public environment within which to work. Some of the main points of the vision are, therefore, investment in public infrastructure, improved urban management, creation of a public space network, creation of a public transport system and establishing an overall vision for the Capital City. A spatial development framework (TICP) SDF was adopted by the CTMM in January of 2006. The underlying concept of the SDF entails the consolidation and clustering of government offices in a series of nodes along two functional axes within the Inner City. The two corridors coincide with the road alignments of Paul Kruger and W.F. Nkomo Streets (Church Street)

### ***Tshwane Open Space Framework***

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Open Space as defined by the Tshwane Open Space Framework (TOSF), adds ecological, social, economic and place making value to any development, and the integration and appropriate response of development to Open Space must at all times be facilitated. Any development within or adjacent to the TOSF network, must be compatible to the functioning, quality, safety requirements and aesthetics of the Open Space in terms of land use, scale, spatial interaction, appearance and landscaping. Developments must actively contribute to the protection and enhancement of the current and envisioned open space network, without harming the integrity of the open space in any way.

According to the TOSF, open space within a developed area, is referred to as an Urban Environment. This open space becomes Private Open Space, for the exclusive use of the specific community, and is owned and maintained by the representative entity of the development. According to the TOSF, possible open space to be considered for proposed Salvokop mixed land use development, includes Green (Irreplaceable site, Protected Area, High Ecological Sensitivity) and Blue (Dams, Wetlands and rivers) *Ecological Nodes*, and Green (Ridge systems) and Blue (Watercourses, floodlines) *Ways*. These open space typologies are all considered to be of metropolitan significance and influence. According to GDACE, Green and Blue Nodes are essential in meeting targets set for the conservation of biodiversity in Gauteng. The Tshwane Open Space Framework provides a holistic Framework within which the sustainable spatial development of the City can be guided and directed. The principles of the TOSF will be implemented in the planning phases of the proposed Commercial and Light Industrial Township. These principles serve to facilitate the merger of development along side areas of conservation importance.

***Application relevance:*** *As the policy of the City of Tshwane requires that open space is provided in new proposed townships, functional "Open Space" areas have been provided in the Salvokop township.*

### ***Spatial Development Framework for Salvokop 2014***

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The Spatial Development Framework for Salvokop 2014, was developed by Delta BEC. The primary purpose of the Salvokop Development Framework relates to the process of assessing the current reality of the precinct in order to define and deliver a new spatial vision that will guide the development of the precinct in the future. The spatial vision will be formulated and moulded through a process of iterative sequential assessment and re-assessment in order to ultimately provide a framework guiding development. Concepts will be converted to tangible development parameters that will serve as spatial planning tools to be applied during the consideration and assessment of development proposals.

In light of the fact that the Salvokop Precinct has been identified as a strategic location to be utilised as part of an approach to revitalise and rejuvenate the Tshwane CBD, it is expected

that pressure to develop and unlock the potential of land within the precinct will continue to increase. The Municipality will be requested to consider development applications in order to facilitate the release of the said development potential and the Salvokop Development Framework will enable the holistic consideration of the appropriateness and suitability of any land use applications.

- **City of Tshwane Integrated Development Plan 2011 - 2016**

*The **National Guidelines** listed below are applicable to the proposed development and the requirements and obligations therein have been considered throughout the EIA process:*

### **National Spatial Development Perspective**

The National Spatial Development Perspective aims to *influence the development path of Cities over the next 20 years*. One of the fundamentals of the City Strategy is the *restructuring of the urban environment in such a way that people's lives are improved through better and more equal access to economic and social opportunities*. This implies a focussed approach to development around areas with opportunity, not only for economic development, but also for residential development.

Some of the issues related to densification that are clearly highlighted by the National Spatial Development Perspective are:

- Create places of opportunity that will support wide range of densification in places that benefit from access to concentrated public investment in services and infrastructure
- Create economic opportunities at important interchanges and nodes receiving clusters of social facilities and allow higher density residential development to grow around these places.
- Present alternatives to people whereby the advantages that different places can offer are optimised.

*The development proposal for the Salvokop mixed land use township, complies with a number of the outlined critical factors. The proposed Salvokop mixed land Use Township is aimed at providing business opportunities in an affordable manner, within a well designed mixed use township. The development framework will be designed to meet the needs of the community for housing, convenience, education, social and healthcare amenities. The diverse land uses will further compliment the surrounding land uses.*

- **DEAT. 2002. Integrated Environmental Management, Information series 2: Scoping (Department of Environmental Affairs and Tourism (DEAT. 2002));**

- **DEAT. 2002. Integrated Environmental Management, Information series 3: Stakeholder Engagement (Department of Environmental Affairs and Tourism(DEAT. 2002));**
- **DEAT. 2002. Integrated Environmental Management, Information series 12: Environmental Management Plans (Department of Environmental Affairs and Tourism (DEAT. 2002));**
- **DEAT (2005a) Guideline 3: General Guide to Environmental Impact assessment Regulations 2005, Integrated Environmental Management Guideline Series, Department of Environmental Affairs and Tourism (DEAT), Pretoria;**
- **DEAT (2005b) Guideline 4: Public Participation, in support of the EIA Regulations 2005, Integrated Environmental Management Guideline Series, Department of Environmental Affairs and Tourism (DEAT), Pretoria;**
- **DEAT (2006) Guideline 5: Assessment of Alternatives and Impacts in support of the Environmental Impact Assessment Regulations 2005, Integrated Environmental Management Guideline Series, Department of Environmental Affairs and Tourism (DEAT), Pretoria;**
- **DEA. 2010. Companion to the EIA Regulations 2010, Integrated Environmental Management Guideline Series 5, Department of Environmental Affairs;**
- **DEA. 2010. Companion to the EIA Regulations 2010, Integrated Environmental Management Guideline Series 7, Department of Environmental Affairs;**
- **DEA&DP. 2010. Guideline on Public Participation 2010, EIA Guideline and Information Document Series;**
- **NEMA. 2012. Public Participation in the Environmental Impact Assessment Process.**
- **DWA Best Practice Guidelines including:**
  - **G1: Storm Water Management;**
  - **G4: Impact Prediction;**
  - **H2: Pollution Prevention and Minimisation of Impacts;**
  - **H3: Water Reuse and Reclamation; and H4: Water Treatment.**

## SECTION F: THE PUBLIC PARTICIPATION PROCESS

### F 1 Public Participation Process conducted for the proposed development

Public and stakeholder involvement in the EIA process is widely recognised as being an *essential* component of the EIA process. The input and contribution added to the process, by public comment and involvement, leads to better and more acceptable decision-making. The involvement of interested parties, adjacent land owners, NGO bodies and rate payers associations, can help to identify whether all impacts have been included and whether all risk groups have been identified.

Taking stakeholders viewpoints into account improves project viability. The World Bank (1991) has found that where such views are seriously considered and incorporated in the EIA process, projects are likely to be more successful. Public and stakeholder involvement is particularly important during the scoping, impact assessment, and mitigation phases of an EIA. During the scoping and EIA phases, public involvement is undertaken to ensure that all the significant issues are identified, local information about the project is gathered and alternative ways of achieving the project objectives are considered. Public involvement is particularly important in understanding the nature and extent of potential socio-cultural impacts

Participants need to be able to see that they can *influence the direction of a project*. Participation has the advantages that it can help to demonstrate that vested interests are not having an undue influence and it can play a role by promoting dialogue in consensus building.

### F 2 PUBLIC PARTICIPATION PROCESS UNDERTAKEN FOR THE SCOPING PHASE OF THIS APPLICATION:

#### F 2.1 The Public Participation Process

A public participation process, forming part of the Environmental Scoping process, was undertaken for this project to obtain the inputs of I&APs. This process included press advertisements, distribution of background information documents, site notices, E-mail, fax and telephonic communication with ward councillors and municipal contacts, and an arranged focus group meeting with Ward Councillors and community representatives, as detailed in the below sections.

#### F 2.2 How issues were raised during the Scoping phase

Issues were raised and recorded through receipt of written comments sent to Seedcracker Environmental Consulting CC via e-mail and fax.

#### F 2.3 Identification of stakeholders

The identification of Interested and Affected Parties (I&APs) during the Scoping phase was undertaken through the following:



➤ **Contacting authorities**

Relevant government departments, municipalities and the affected ward councillor were contacted to inform them of the proposed project and to obtain their issues and comments in this regard. See **Appendix J** for the database informed of this application.

➤ **Newspaper advertisements**

The formal announcement of the project was done by placing an advertisement in the following local and regional publications:

- The Pretoria News: 02 October 2013

See **Appendix H** for proof of this advertisement.

The objective of the newspaper advertisement was to:

- Inform I&APs of the proposed project;
- Inform I&APs of the Scoping and EIA Application and the way in which I&APs could lodge any objections to the proposed development and provide comments; and
- Invite I&APs to become involved in the proposed project by registering as I&APs

➤ **Site Notices**

On-site notice boards (approximately 6) were placed at highly visible locations throughout the site, at the start of the public participation process. The site notice contained information regarding the intended project, the applicant, locality description, property description, the public participation process and contact details of the environmental assessment practitioner. The content of the site notices is included in Appendix H as well as photographs of the site notices.

➤ **Flier distribution**

Seedcracker Environmental Consulting CC distributed 100 fliers (which were translated into Setswana), to the salvokop residents, on the same day as the site notices were erected. See **Appendix H** for this flier.

➤ **Consultation with I&APs**

**1. Focus Group Meeting with Freedom Park**

A focus group meeting was held with the Freedom Park representatives on 20 February 2014. Please refer to Appendix H for a copy of the minutes and attendance register of this meeting. A follow-up meeting is proposed during the review period of the draft EIR.

## **2. Focus Group Meeting with the Ward Councillor for Salvokop, and her community representatives**

A meeting was arranged on 21 August 2014 with Cllr Mabena and her two community representatives, Messrs “Dolly” and “Fortune”, at the offices of Delta BEC. This meeting was attended by the Delat BEC project managers and SEC. The aim of the discussion was to present the development proposal to the Councilor, and for her to provide suggestions regarding the public open day that was being arranged, ie. venue, date, time, parties to invite, etc. Cllr Mabena committed herself to informing the community of the public open day, and informing them that the residential component of Salvokop had been excluded from the township establishment process. As such, the social issues and community concerns would be addressed in a separate process, to be initiated by the DPW, namely, a dedicated Social Impact Assessment.

## **3. Public Open Day**

Site Notices were placed in and surrounding the Salvokop study area one week prior to the public meeting, informing the public of the details relevant to the public open day. The public open day was held on the 13th September 2014 at the Jopie Fourie Primary School, from 9am-12pm.

The public open day aimed to provide I&APs with:

- Background to the proposed project;
- Feedback on the proposed project and findings of the Scoping Process, and
- A further opportunity to ask questions and raise concerns regarding the proposed project.

The attendance register of this public open day is included in Appendix H.

## **4. Meeting Attendance with the Salvokop Development Forum**

At the public open day, SEC was made aware of the existence of the Salvokop Development Forum. The Forum invited SEC to attend their monthly meetings, and provide the forum with feedback regarding the EIA process and the development proposal. SEC attended a meeting with the Forum on the 30<sup>th</sup> Sept 2014, at the Inkukuleko Community Centre. See Appendix H for the minutes taken from this meeting.

The outcome of discussions with parties who attended this meeting, were recorded by SEC as follows:

*The community is not against development, they just want to be kept informed, involved, and included. The community want to have a sense of ownership with regards to the development around them, in terms of job opportunities, participation toward development, and creating a better living environment for themselves. The community feels completely sidelined and excluded at the moment, and this will eventually spill over into objections and antagonistic actions toward the development vision for Salvokop.*

Following this forum meeting, SEC recommended the following course of action to the DPW:

1. *An independent, separate Social Impact Study (SIS) must be conducted for the Salvokop area. This scope of work is not included in the Public participation process being conducted for the EIA. We have explained to the community that in order to receive approval of development in the open spaces around them, we have to separate the residents issues from the EIA being conducted. Their issues must be studied, discussed and addressed in this SIS.*
2. *The DPW must form a part of the SDF meetings, and re-establish the “task team” which apparently dissolved some years ago. This task team can contribute greatly to the Social Impact Study, which must be used as the vehicle to identifying the solutions to the residents issues.*
3. *The issues which have been raised, and which need to be addressed by the task team and the SIS, include the following:*
  - *Address the security of ownership / tenure. Tenants presently paying rent to the DPW, want the opportunity to buy their house.*
  - *The residents of salvokop want to be consulted, and be presented with the feasible alternatives for (i) staying at salvokop, or (ii) being relocated. Lease City Housing has offered their services to assist with this exercise.*
  - *Security of ongoing service provision and maintenance to the residents, hygiene management, etc.*
  - *Establishment of a team / body / party who has the authority to hold transgressors accountable for their illegal actions, in terms of safety and security.*
  - *Open channels of engagement with the community with regards to employment opportunities when construction starts on site. The residents want to be first in line.*
  - *Jopie Fourie has requested the new development to cater for 2 – 3 new schools. They do not have the capacity to take on more children. Where will the employees who enter the new government buildings take their children to a school?*

Subsequent to tabling these suggestions to the DPW, quotations for a Social Impact Assessment have been sourced, and the appointment of this study is underway.

**SEC proposes that the social issues addressed in this separate, independent specialist study, is submitted to the DEA with the submission of the Final EIA Report.**

## F 2.4 Comments and Response Register

The Comments and Responses Register has been presented in the form of individually submitted comments. The register includes the comments received during the Public Participation Process undertaken as part of the Scoping phase for the proposed project. This includes responses to the advertisements, response sheets, and comments received during the project period. See Appendix H.

The Comments and Responses Report has the following objectives:

- To provide a formal and integrated *record* of all the issues raised by Interested and Affected Parties (I&APs) and the responses provided by the EIA Study Team throughout the duration of the project.
- To provide a mechanism that allows all parties participating in the process (including the environmental authorities) to verify whether the issues raised have been considered and where appropriate, adequately addressed by the EIA Study Team.

In terms of the public participation exercise conducted for the application, the following conclusions and recommendations were made following the Scoping phase:

## F 2.5 Draft Scoping Report

The EIA Regulations specify that I&APs must have an opportunity to verify that their issues have been captured. All the issues raised during the public review period were captured in the draft Scoping Report which was made available for public review, for a period of 40 days from 03 October 2013 to 11 November 2013, the draft Scoping report was made available to the public for comment. The DSR was made available for public review, for a period of 40 days, at the INKUKULEKO COMMUNITY CENTRE, SALVOKOP.

Furthermore, the DSR was made available electronically on seedcrackers website: [www.seedcracker.co.za](http://www.seedcracker.co.za). I&APs have 40 days, until 11 November 2013, to submit their written comments on the DSR.

Concerns / comments raised by I&AP's during the review period, included the following aspect:

- Historical significance of the site must be studied and preserved;
- Social Environment of the area must be looked at;
- Comment from City of Tshwane Environmental;
- Comments from Land Affairs; and
- Comments from Sasol.

## F 2.6 Final Scoping Report

The Final Scoping Report was finalised and submitted to the DEA in November 2014. As is required by the NEMA EIA Regulations, I&APs must be given the opportunity to comment on all draft *and final* reports. Consequently, the FSR was made available to the IAP's in the same locations in which the DSR was made available, for an additional 21 days. Registered I&APs were notified of the availability of the Final Scoping Report in writing. No Comments were received w.r.t the final SR.

## F 3 PUBLIC PARTICIPATION PROCESS UNDERTAKEN FOR THE EIA PHASE OF THIS APPLICATION:

### F 3.1 Draft EIA Report

Issues raised during the Scoping Phase, have been captured in this Draft EIA Report (DEIAR). The DEIAR has been made available to the public in English. A period of *40 days* has been made available for the public to comment on the Draft EIA Report from Monday 24 November 2014, up to and including Friday 23 January 2015. Copies of the report will be made available at the following venues.

PLACE	CONTACT NUMBER	OPERATING HOURS
Inkukuleko Community Centre – Salvokop	012 328 8088	9:00am to 17:00pm (Monday to Friday), 9:00am to 12:00pm (Saturday)
www.seedcracker.co.za	Seedcracker Environmental Consulting (SEC) 082 626 4117 012 654 5970	

Comment must be made on or before Friday 23 January 2015, by:

- Writing a letter or any additional written submissions by hand delivery to SEC's offices (no postal services); and
- By e-mail, fax or telephone to Seedcracker Environmental Consulting;

Contact details for **SEEDCRACKER ENVIRONMENTAL CONSULTING:**

- P O Box 12460 Clubview 0014
- T: 012 654 5970 / 082 626 4117 (**Stephanie**) / 0731577362 (**Diana**)
- F: 086 518 4885
- E-mail: (Stephanie) stephweb@mweb.co.za or (Diana) dianav@lantic.net

*SEC will be presenting the DEIAR to the Salvokop Development Forum during the public review period. Minutes of discussions resulting from this presentation will be included in the FEIAR.*



### F 3.2 Responsibilities of Interested & Affected Parties (I&AP's)

Members of the public who want to participate in the assessment process needed to register, and are referred to as I&AP's. Registered I&AP's are entitled to comment, in writing, on all written submissions to the authority and to raise any issues that they believe may be significant, provided that:

- Comments are submitted within the timeframes set by the competent authority.
- A copy of the comments submitted directly to the competent authority is served on the applicant or EAP.
- The I&AP discloses any direct business, financial, personal or other interest which that party may have in the approval or refusal of the application.

### F 3.3 Final EIA Report

The Final EIA Report will be prepared following the end of the public review period of the DEIAR and various final inputs from the professional team – ie, the final layout plan accommodating the traffic access points, the civil engineering reports, etc. The final EIA Report will be submitted to the DEA for authority review and final decision making. The public will also have the opportunity to review the final EIA report for a period of 21 days. This review period will be communicated to all registered IAP's, and hard copies will be delivered to local authorities and state departments.

## SECTION G ENVIRONMENTAL ASSESSMENT OF IMPACTS

### G 1 Objective of Impact Assessment

The NEMA Regulations require that a Scoping and Environmental impact assessment (EIA) process be undertaken to support an application for environmental authorisation. A key component of these processes is the identification and assessment of *potential impacts* of the proposed activity. Different types of impacts may occur from the undertaking of an activity. The impacts may be positive or negative and may be categorized as being direct (primary), indirect (secondary) or cumulative impacts.

The *objective* of the assessment of impacts is to identify and assess all the significant impacts that may arise from the undertaking of an activity. The findings of impact assessments are used to inform the competent authority's decision as to whether the activity should be authorised, authorised subject to conditions that will mitigate the impacts to within acceptable levels, or should be refused.

It is sometimes difficult to make predictions in respect of the impacts that may occur. Value judgments may therefore be required on less than perfect information. The use of a *logical approach*, where uncertain elements are assessed, in a clear and methodical process, helps to ensure that the assessment is focused and provides a basis for making predictions and value judgements that will ultimately inform the decision of the competent authority.

## G 2 Impact Assessment Methodology

The environmental impacts identified during the Scoping and EIA phases are addressed in this section. Sub-regulation 32(2)(j) of NEMA requires that an assessment of the *significance* of each impact be provided together with an indication of the *extent* to which the impact could be addressed through the implementation of *mitigation* measures.

There are different approaches that can be adopted to the undertaking of the assessment of impacts, but any approach should always be based on a methodology that includes:


- a clear process for impact identification, prediction and evaluation;
- specification of impact identification techniques;
- criteria for evaluating the significance of impacts;
- the design of mitigation measures to address impacts;
- defining types of impacts (direct, indirect or cumulative);
- specifying uncertainties; and
- the assessment of alternatives and impacts results in options that represent the minimum impact on the environment.

The potential environmental impacts of the proposed *Salvokop Mixed Use Township* project were evaluated according to their *severity, duration, extent* and *significance* of the impact described below.

### G 2.1 Significance of Impact

The significance of the impact has been determined through the following criteria:

- (a) *Nature of Impact*: This includes a brief description of how the proposed activity will impact on the environment. The nature of the impact is *described* as follows:

Nature	
	Description
Positive +	Impacts affect the environment in a positive manner, such that natural, cultural and/or social functions and processes are not affected or enhanced.
Negative – 	Impacts affect the environment in a negative manner, such that natural, cultural and/or social functions and processes are altered, destroyed, lost, etc.

- (b) *Extent*: This refers to the geographic area on which the activity will have an influence and can include the following extents:

Extent		
	Rating Value	Description
Project site	1	the immediate location of the activity
Study area	3	the proposed area and its immediate environs within a 5

		km radius of the activity
Local	5	Local Municipality
Regional	6	Province
National	7	Country

(c) *Duration*: This refers to the expected timeframe of an impact and can be expressed as:

Duration		
	Rating Value	Description
Short Term	2	0-5 years
Medium Term	4	5 – 15 years
Long Term	6	15 – 40 years
Permanent	8	40 + years, permanent and lasting change that will always be there

(c) *Likelihood*: This considers the likelihood of the impact occurring and should be described as:

Likelihood		
	Rating Value	Description
Improbable	2	where the impact is unlikely to occur
Probable	4	where there is a good probability, < 50 % chance, that the impact will occur
Highly Probable	6	where it is most likely, 50-90 % chance, that the impact will occur
Definite	9	where the impact will occur, > 90 % chance of occurring, regardless of any prevention measures

(d) *Severity Scale*: The severity is used to evaluate how severe negative impacts would be on the environment, and is described as follows:

Severity		
	Rating Value	Description
No effect	1	no impact by the proposed development
Low	3	short term impacts with mitigation being very easy, cheap, less time consuming or not necessary
Medium	4	medium term impacts that could be mitigated
High	5	long term impacts, an irreversible and permanent change that cannot be mitigated

### G 2.2 Degree of confidence

It is necessary to indicate where the *degree of confidence* has been used, in determining the rating values of each criteria, *ie.* chosen value between 1 and 3, etc. The rating value used in the significance methodology has been *predicted, based on the availability of information, expertise of the EAP, specialist input, ground truths and authority support tools.*

### G 2.3 Significance Rating Matrix

		Consequence											
Likelihood		3	4	5	6	7	8	9	10	11	12	13	14
	2	5	6	7	8	9	10	11	12	13	14	15	16
	3	6	7	8	9	10	11	12	13	14	15	16	17
	4	7	8	9	10	11	12	13	14	15	16	17	18
	5	8	9	10	11	12	13	14	15	16	17	18	19
	6	9	10	11	12	13	14	15	16	17	18	19	20
	7	10	11	12	13	14	15	16	17	18	19	20	21
	8	11	12	13	14	15	16	17	18	19	20	21	22
	9	12	13	14	15	16	17	18	19	20	21	22	23

The *significance of impacts* is determined based on the evaluation of an activity's impact in terms of; *consequence and likelihood*. Using the *sum of the evaluated ranking criteria*, and the matrix in Table 2, overall significance can be classified as follows:

Low	Where the impact <i>will not have</i> a significant influence on the environment. Management measures <i>can</i> be proposed to ensure that significance does not increase.	5 – 11
Medium	Where the impact <i>could have</i> a significant influence on the environment unless it is mitigated or managed.	12 – 17
High	Where the impact <i>will have</i> a significant influence on the environment regardless of any possible mitigation and hence must be either avoided or managed.	18 - 23

In addition, *comments from interested and affected parties (IAP)* will also influence the ranking of impacts. According to the NEMA, the applicant must consult with IAPs and record their comments and concerns. Although the significance ranking (as described above) may evaluate an impact to have a medium impact, the members of the public may consider the impact as having a high significance. The concerns raised by the public will then be indicated with the significance ranking with management measures being proposed and implemented to address all realistic concerns raised by IAPs. The additional criteria used in the evaluation of impacts for this application, is given below:

Additional criteria that influence the significance of an impact	Abbreviation used in Section G of this report
Cumulative impacts	Cml
Comments from interested and affected parties	IAP
Degree of confidence	Conf

#### G 2.3 Mitigation and monitoring

Where negative impacts are identified, mitigation measures (ways of reducing impacts) will be provided, and where positive impacts are identified, ways of enhancing these impacts will

also be mentioned. Where no mitigation is feasible, this will be stated and the reasons given. Quantifiable standards against which the effectiveness of the mitigation can be measured have been set. This may include input into monitoring and management programmes included in the applications EMP.

### **G 3 Knowledge Gaps and Adequacy of assessment methodology**

The environment that is likely to be affected by the proposed Salvokop mixed land use project has been assessed, and this DEIAR has studied all prevailing conditions of the environmental aspects identified. Based on the information at hand, specialist reports, and supportive tools used by the EAP, it is believed that the environment is well understood. Hence, no significant knowledge gaps exist in terms of the current state of the environment, the DEIAR and draft EMP.

Due to the nature of the existing environment, the local conditions of the area, and the EAP's professional expertise (Mrs Stephanie Cliff has 11 years experience in the field of impact assessment and mitigation), it is believed that the predictive measures are suitable and contain no limitations).

### **G 4 Impact Assessment**

#### **G 4.1 Pre-Construction Phase: *Direct impacts***

##### *G 4.1.1 Dolomitic Impacts*

On the basis of the desk top study information and the two boreholes drilled on the south eastern and south western boundaries of the site, it is concluded that:

- The site is underlain by dolomite only at a very great depth. The boreholes from the desk study database as well as the additional two drilled to 60m in compliance with the accepted standard definition of "dolomite land" during the field investigation, failed to intersect any dolomite.
- The subsurface profile consists entirely of Pretoria Group shale, quartzite and siltstone, together with intrusive post- Transvaal diabase. At depth these materials become less weathered and competent.
- *The site is characterised as reflecting "no hazard of sinkhole and subsidence formation.*
- Geotechnical investigations for foundation purposes in the residual shale and diabase are required for appropriate foundation design.

Following a dolomite investigation conducted as stated above in respect of the site of application confirmation has been received from the Council for Geoscience confirming that the property is classified as a non-dolomitic landholding.



**Source of the impacts:**

- Construction Phase: Construction works, foundation excavation and earthworks
- Operational Phase: Effects of geotechnical constraints

**Description of the impacts:**

- Type of land use (Residential vs. commercial), dictating different founding conditions
- Foundation collapse, building destruction

**Significance Statement: *Geotechnical Suitability***

Impact	Duration		Extent		Severity		Likelihood		Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Operational Phase</b>									
<b>Impact:</b>		<b>Risk of foundation collapse and building destruction</b>									
<b>Without mitigation</b>	Medium	4	Site	1	Medium	4	Probable	4	<b>13</b>	Conf	Medium -
<b>With mitigation</b>	Medium	3	Site	1	Low	3	Probable	4	<b>11</b>	Conf	Low -

**Mitigation Measures:**

The geotechnical zones are indicated in the Figure 9.

**Zone A:** No adverse conditions prohibiting the construction of light to heavy structures were observed in Zone A.

**Zone B:** Adverse conditions for light development were flagged in Zone B. Development within the zone should preferably be limited to moderate to heavy structures with founding for these structures taking place at 3 meter or deeper. The preferred solution within the zone is to remove the fill and building rubble to a depth where residual material is encountered. Pre-excavation and piling of heavy structures will be feasible.

**Zone C:** Adverse conditions were also encountered in as far as the construction of light structures is concerned. Development in this zone should be limited to moderate to heavy structures with the founding of the structures occurring on the residual material at depths of up to 3 meters.

Constructing buildings on piles within Zone B and C might also be a possible option. There will, however, be the need to remove the rubble and fill under the alignment of future roads and other municipal infrastructure.

**G 4.2 Pre-Construction Phase : *Indirect impacts***

No impacts identified at this stage.

**G 4.3 Pre-Construction Phase : Cumulative impacts:**

No impacts identified at this stage.

**G 5.1 Construction Phase: Direct impacts**

**G 5.1.1 Bulk Earthworks – Removal of vegetation**

**Impacted environment:** Soil, ie. soil erosion

**Description:** Soil erosion, loss of topsoil and deterioration of soil quality are the main potential impacts that could be caused during the construction activities. Once disturbed, soil becomes more susceptible to erosion. Changes to natural drainage patterns may be created by the earth work structures. Diversion of storm-water may result in large volumes of water being concentrated in certain areas, thereby increasing the risk of erosion. Erosion of the soil surface greatly increases the risk of losing topsoil to erosion, impairing the soils ability to support vegetation growth.

**Significance Statement:** *Soil erosion*

Impact	Duration		Extent		Severity		Likelihood		Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Construction Phase</b>									
<b>Impact:</b>		<b>Soil erosion and pollution</b>									
<b>Without mitigation</b>	Short	2	Site	1	Low	3	Highly Probable	6	<b>12</b>	Conf	Medium -
<b>With mitigation</b>	Short	2	Site	1	Low	3	Probable	4	<b>10</b>	Conf	Low -

**Mitigation Measures:**

See Appendix I for the EMPR’s discussion on erosion and sediment control.

**G 5.1.2 Bulk Earthworks – Removal of vegetation**

**Impacted environment:** Air quality

*Air Quality* may be divided into physical and chemical aspects. The physical aspect comprises particulates, such as dust and smoke, blown from or released into the atmosphere by an activity. Chemical aspects comprise volatile and non-volatile chemical compounds (including odours) emitted into the atmosphere by activities or processes.

**Source of the impacts:**

- Construction activities will result in the liberation of dust as well as surrounding land uses and activities, which can impact on surrounding areas.

**Description of the impacts:**

- Dust generation during construction activities

The **construction phase** will comprise a series of different operations including

- land clearing,
- topsoil removal,
- excavation, and
- construction of top structures.

Each of these operations has its own duration and potential for dust generation.

**Significance Statement: *Impact on Air Quality***

Impact	Duration		Extent		Severity		Likelihood		Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Construction Phase</b>									
<b>Impact:</b>		<b>Impact on Air Quality</b>									
<b>Without mitigation</b>	Medium Term	4	Site	1	Medium	4	Probable	4	<b>13</b>	Conf	Medium -
<b>With mitigation</b>	Medium Term	4	Site	1	Low	2	Probable	4	<b>11</b>	Conf	Low -

**Mitigation Measures:**

In order to minimize the impacts on the air quality of the study area, the following mitigation measures are recommended:

- Dust suppression methods should, where logistically possible, must be implemented at all areas that may / are exposed for long periods of time.
- Blasting and drilling (if required) should be delayed under unfavorable wind and atmospheric conditions.
- Frequent (daily if necessary) wetting of access roads.
- Dust suppression for the material extraction and utilization activities, if required.
- Maintenance of effective exhaust systems on vehicles.
- Efficient operation of the air filters on equipment.
- Maintenance of fire prevention practices and effective and timely access to or collaboration with fire fighting teams.
- Prohibition of any fires on site.

- Trucks will drive with headlights on for safety reasons at all times to improve visibility.
- Trucks transporting material must be covered by a Tarpaulin
- Trucks speed must be reduced and monitored closely on site
- Additional measures as proposed in the Draft EMPr.

**G 5.1.3 Bulk Earthworks – Removal of vegetation**

**Impacted environment:** *Loss of floral species of conservation concern*

The assessment of the study area yielded one habitat unit of which the floral species composition and vegetation structure indicated that the habitat unit is severely transformed by anthropogenic activities.

The entire study area has been severely transformed by urban development and associated edge effects such as alien floral invasion, refuse dumping and general habitat degradation. In most cases, the soil profile has been extensively disturbed and natural vegetation removed. The majority of the plant species associated with the study area are alien invasives and/or garden plants. Floral diversity was low, and community structure was completely transformed. Very few indigenous species were present, and pioneer grasses dominated the graminoid layer. The floral community was dominated by species such as *Melia azedarach*, *Eucalyptus camaldulensis*, *Acacia mearnsii*, *Tagetes minuta* and *Solanum mauritianum*. Due to the extent of vegetation transformation within the habitat unit, its ecological sensitivity is considered to be low.

**Source of the impacts:**

- Construction and site clearing works.

**Description of the impacts:**

- Loss of floral species of conservation concern IF encountered

**Significance Statement:** *Loss of floral*

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Construction Phase</b>					
<b>Impact:</b>		<b>Loss of remaining vegetation cover</b>					
<b>Without mitigation</b>	Permanent	8 Site	1 Low	3 Definite	9 21	Conf	**High
<b>With mitigation</b>	Permanent	8 Site	1 Low	3 Definite	9 21	Conf	**High

\*\*\*\* The permanent loss of vegetation on site cannot be prevented, if the development is approved. **Although the overall significance is high negative, the site is not regarded as sensitive, and no suitable habitat occurs on site to support mammal species.**

### Mitigation Measures:

SAS recommend the following mitigation measures:

#### *Development and operational footprint*

- The boundaries of footprint areas are to be clearly defined and it should be ensured that all activities remain within defined footprint areas and edge effects strictly controlled.
- Appropriate sanitary facilities must be provided during the construction phase and all waste removed to an appropriate waste facility.

#### *RDL and protected plant species*

- Should any RDL or other protected plant species be encountered within the study area in the future, the following should be ensured:
  - Effective relocation of individuals to suitable offset areas.
  - All rescue and relocation plans should be overseen by a suitably qualified specialist.

#### *Vehicle access*

- It must be ensured that all hazardous storage containers and storage areas comply with the relevant SABS standards to prevent leakage. All vehicles must be regularly inspected for leaks. Re-fuelling must take place on a sealed surface area to prevent ingress of hydrocarbons into topsoil.
- All spills should be immediately cleaned up and treated accordingly.

#### *Alien plant species*

- Proliferation of alien and invasive species is expected within disturbed areas. These species should be eradicated and controlled to prevent their spread beyond the study area. Alien plant seed dispersal within the top layers of the soil within footprint areas, that will have an impact on future rehabilitation, has to be controlled.
- Removal of the alien and weed species encountered on the property must take place in order to comply with existing legislation (amendments to the regulations under the Conservation of Agricultural Resources Act, 1983 and Section 28 of the National Environmental Management Act, 1998). Removal of species should take place throughout the construction, operational and rehabilitation/ maintenance phases.
- Species specific and area specific eradication recommendations:
  - Care should be taken with the choice of herbicide to ensure that no additional impact and loss of indigenous plant species occurs due to the herbicide used.



- Footprint areas should be kept as small as possible when removing alien plant species.

#### *Soils*

- To prevent the erosion of top soil, management measures recommended include berms, soil traps, hessian curtains as required and storm water diversion away from areas susceptible to erosion.

#### *Fire*

- Informal fires on the property should be prohibited during all development phases.

#### *Dust*

- It must be ensured that all roads and construction areas are regularly sprayed with water in order to curb dust generation. This is particularly necessary during the dry season when increased levels of dust generation can be expected. These areas should not be over-sprayed causing water run-off and subsequent sediment loss.

#### *Rehabilitation*

- An effective rehabilitation and landscaping programme should be developed for the study area to be implemented as soon as construction activities are complete.
- All soils compacted as a result of construction activities falling outside the development footprint areas should be ripped, profiled and re-vegetated. Special attention should be paid to alien and invasive control within these areas. Alien and invasive vegetation control should take place throughout all development phases.

### **G 5.1.4      *Bulk Earthworks – Removal of vegetation***

#### **Impacted environment: *Fauna : Loss of Faunal Biodiversity***

Urbanisation, clearing of vegetation, the surrounding commercial built-up areas and resulting transformation of natural vegetation indicated that the study area presently does not provide any suitable habitat for any protected or Red Data Listed (RDL) faunal species. The only faunal species expected within this habitat unit are species known to occur in close association to human activity such as small rodent species. Therefore, the proposed project will not pose a threat to any RDL or protected faunal species.

The faunal assessment conducted was a general assessment with the purpose of identifying common species and taxa in the study area. SAS confirmed that no sensitive mammal, avifaunal, reptile, amphibian or invertebrate species were encountered.

#### **Source of the impacts:**

- Construction and site clearing works.

**Description of the impacts:**

- Habitat destruction.

**Significance Statement:** *Loss of faunal biodiversity*

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance				
<b>Project Phase:</b>		<b>Construction Phase</b>									
<b>Impact:</b>		<b>Loss of Faunal Biodiversity</b>									
<b>Without mitigation</b>	Long Term	6	Site	1	Low	4	Probable	4	<b>14</b>	Conf	Low-
<b>With mitigation</b>	Long Term	6	Site	1	Low	2	Improbable	2	<b>11</b>	Conf	Low -

**Mitigation Measures:**

SAS recommend the following mitigation measures:

*Development and operational footprint*

- The boundaries of footprint areas are to be clearly defined and it should be ensured that all activities remain within defined footprint areas and edge effects strictly controlled.
- Appropriate sanitary facilities must be provided during the construction phase and all waste removed to an appropriate waste facility.

*RDL and protected plant species*

- Should any RDL or other protected plant species be encountered within the study area in the future, the following should be ensured:
  - Effective relocation of individuals to suitable offset areas.
  - All rescue and relocation plans should be overseen by a suitably qualified specialist.

*Vehicle access*

- It must be ensured that all hazardous storage containers and storage areas comply with the relevant SABS standards to prevent leakage. All vehicles must be regularly inspected for leaks. Re-fuelling must take place on a sealed surface area to prevent ingress of hydrocarbons into topsoil.
- All spills should be immediately cleaned up and treated accordingly.

*Alien plant species*

- Proliferation of alien and invasive species is expected within disturbed areas. These species should be eradicated and controlled to prevent their spread beyond the

study area. Alien plant seed dispersal within the top layers of the soil within footprint areas, that will have an impact on future rehabilitation, has to be controlled.

- Removal of the alien and weed species encountered on the property must take place in order to comply with existing legislation (amendments to the regulations under the Conservation of Agricultural Resources Act, 1983 and Section 28 of the National Environmental Management Act, 1998). Removal of species should take place throughout the construction, operational and rehabilitation/ maintenance phases.
- Species specific and area specific eradication recommendations:
  - Care should be taken with the choice of herbicide to ensure that no additional impact and loss of indigenous plant species occurs due to the herbicide used.
  - Footprint areas should be kept as small as possible when removing alien plant species.

#### *Soils*

- To prevent the erosion of top soil, management measures recommended include berms, soil traps, hessian curtains as required and storm water diversion away from areas susceptible to erosion.

#### *Fire*

- Informal fires on the property should be prohibited during all development phases.

#### *Dust*

- It must be ensured that all roads and construction areas are regularly sprayed with water in order to curb dust generation. This is particularly necessary during the dry season when increased levels of dust generation can be expected. These areas should not be over-sprayed causing water run-off and subsequent sediment loss.

#### Rehabilitation

- An effective rehabilitation and landscaping programme should be developed for the study area to be implemented as soon as construction activities are complete.
- All soils compacted as a result of construction activities falling outside the development footprint areas should be ripped, profiled and re-vegetated. Special attention should be paid to alien and invasive control within these areas. Alien and invasive vegetation control should take place throughout all development phases.

### ***G 5.1.5 Bulk Earthworks – Removal of vegetation***

#### **Impacted environment: *Cultural and Historical Impacts***

In accordance with Section 38 of the NHRA, independent heritage consultants were appointed to conduct Heritage Impact and urban heritage Sensitivity Assessments, to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the land development area.

The Salvokop area has a high heritage significance.

**Source of the impacts:**

- Human settlement / development.

**Description of the impacts:**

- Impact on heritage resources older than 60 years

**Significance Statement:** *Buildings of Heritage value older than 60 years*

Impact	Duration		Extent		Severity		Likelihood		Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Construction &amp; Operational Phases</b>									
<b>Impact:</b>		<b>Preservation of Buildings older than 60 years</b>									
<b>Without mitigation</b>	Permanent	8	Regional	6	High	4	Probable	5	<b>23</b>	Conf	High -
<b>With mitigation</b>	Long Term	6	Site	1	Low	2	NA		<b>9</b>	Conf	Medium

**Mitigation Measures:**

An Architectural Historian must still be consulted to undertake a detailed study of the affected residences located within the township boundaries, in order to determine their ages and heritage significance. This study must determine whether these houses must be preserved, or if they can be demolished; before any related development actions are undertaken.

Because of the location and heritage value of the project, additional authorisation must be given by the Gauteng Provincial Heritage Resources Authority (PHRAG). Through the public participation process, Mr Andrew Salomon, a Heritage Impact Assessor from the South African Heritage Resources Agency, has requested SEC to upload the FINAL EIA Report to the relevant case on SAHRIS. This draft EIA report will be submitted to Mr Salomon for his review and comment. Comments received from this statutory body will be included in the FEIAR for authority approval. In fulfilment of Mr Salomon's procedural request however, the Final EIA report will also be uploaded to SAHRIS for authorisation.

**G 5.2.1 Top Structure construction (steel works, brick work, etc.) – Hydrocarbon spills and leaks from machinery**

**Impacted environment:** Soil, ie. Soil pollution

**Description:** Improper vehicle storage, accidental spills

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Construction Phase</b>					
<b>Impact:</b>		<b>Soil pollution through hydrocarbon spills</b>					
<b>Without mitigation</b>	Short	2 Site	1 Medium	4 Highly Probable	6	13 Conf	Medium -
<b>With mitigation</b>	Short	2 Site	1 Low	2 Probable	4	10 Conf	Low -

**Mitigation measures:**

See Appendix I for the EMPR’s discussion on erosion and sediment control.

**G 5.2.2 Top Structure construction (steel works, brick work, paving, roads asphalt etc.) – Hydrocarbon spills and leaks from machinery**

**Impacted environment:** Surface Water Quality

**Description:** Poorly managed construction materials and methods, as well as surface and ground water contamination from hazardous substances. Uncontrolled construction activities could cause run-off contaminated with silt or cement to reach the storm water system, leading to water contamination.

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Construction Phase</b>					
<b>Impact:</b>		<b>Impacts on surface water quality: Siltation and erosion, groundwater pollution, Pollution &amp; contamination of the storm water system through hazardous substances and washing + ablution facilities / activities of construction crew, Increased storm water runoff &amp; Contamination of storm water with hazardous substances such as cement, hydrocarbons from poorly maintained heavy machinery, paints</b>					
<b>Without mitigation</b>	Short Term	2 Study area	3 Medium	4 Probable	6	15 Conf	Medium -
<b>With mitigation</b>	Short Term	2 Site	1 Low	2 Improbable	2	7 Conf	Low -

**Mitigation measures:**

See Appendix I for the EMPR’s discussion on erosion and sediment control.

**G 5.3 Waste Management: Poor management and disposal of solid waste**

**G 5.3.1 Waste Generation at construction site**



**Impacted environment:** Soil, surrounding flora and fauna, surface water pollution

**Description:** Poor management and disposal of solid waste. *Waste Management* includes the management of solid, liquid and effluent waste, produced by a facility or an activity. Ineffective management of waste could result in surface, ground water and air contamination as well as ecological and health impacts.

**Source\_of the impacts:**

- Construction of the township, empty cement bags and construction workers empty plastics blowing across the site;
- Sewage generated from the chemical toilets;
- General and domestic waste;
- Oils, grease, contaminated materials; and
- Polluted soil originating from hydrocarbon spills

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance	
<b>Project Phase:</b>		<b>Construction Phase</b>						
<b>Impact:</b>		<b>Impact on Waste Management</b>						
<b>Without mitigation</b>	Short Term	2 Site	1 Medium	4 Probable	5 12	Conf	Medium -	
<b>With mitigation</b>	Short Term	2 Site	1 Low	2 Probable	4 9	Conf	Low -	

**Mitigation Measures:**

In order to minimize the impacts of poor waste disposal and management, the following mitigation measures are recommended:

- Ensuring that the design of the development includes adequate facilities for the temporary storage of waste, in terms of volume, location and enclosure;
- Ensuring that waste handling, storage and collection is undertaken in accordance with the relevant health and municipal legislation, practices and procedures;
- Provision of adequate numbers of litter bins throughout the development; and Implementation of an appropriate collection and disposal strategy to ensure regular removal of waste to a permitted waste disposal facility.
- Promoting the recycling of waste, with specialist service providers appointed to remove the waste from site.
- Additional measures as proposed in the Draft EMPr.

**G 5.4 Increased Noise and Disturbance**

**Source & Description\_of Impacts:**

Construction activities are likely to result in increased noise and disturbance to the surrounding areas. These levels may be expected to decrease somewhat post construction, but will remain altered from pre-construction levels throughout the operational lifetime of the development. Increased noise and disturbance associated with people and vehicles moving through the study area, to and from the development site, will be associated with the operational phase.

A noise impact assessment was not regarded as necessary due to the spatial framework and development intentions for the Salvokop area.

**Significance Statement:** *Impact of Noise and Disturbance*

Impact	Duration		Extent		Severity		Likelihood		Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Construction &amp; Operational Phases</b>									
<b>Impact:</b>		<b>Impact of Noise and Disturbance: Construction activities &amp; Increased numbers of people and vehicles moving through the study area, to and from the development</b>									
<b>Without mitigation</b>	Permanent	8	Site	6	High	4	Highly Probable	6	<b>24</b>	Conf	High -
<b>With mitigation</b>	Medium Term	4	Site	1	Medium	3	Probable	4	<b>12</b>	Conf	Medium

**Mitigation Measures:**

Mitigation of these impacts is possible through the following means:

- The business and retail components of the proposed development must be situated adjacent to busy feeder roads into the township, where there will be a higher noise level due to the constant traffic noise.
- All mechanical ventilation and/or refrigeration plants for any proposed buildings must be acoustically screened off, so as not to impact very negatively on the adjacent land uses.
  - Working hours should be restricted to 07:00 – 18:00 from Monday to Friday, 07:00 to 13:00 on Saturday with operation being prohibited on Sundays and public holidays.
  - Designing the development such that operational noise is directed inward to the development and away from the neighbouring residential areas;
  - All mechanical ventilation units and compressors on the outside of any convenience shops is to be acoustically screened off;
  - Emergency generators are to be enclosed in a brick manufactured building and acoustically screened off.
  - The noise generated by emergency generators may not exceed the prevailing noise level for the night time period;
  - The playing of amplified music is not allowed.

- The construction crew must abide by the National Noise laws and the local by-laws regarding noise.
- Comply with the provisions of SABS Code of Practice 0103-1994 for the recommended sound and noise levels for different areas of occupancy and activities for residential and non-residential indoor spaces.
- Keep the construction sites and camps neat, clean and organised in order to portray a tidy appearance.
- Screen the construction camp and lay-down yards by enclosing the entire area with a dark green or black shade cloth of no less than two metres in height.
- Additional measures as proposed in the Draft EMPr.

The following aspects must be taken into consideration when selecting equipment for the operational development:

- Selecting equipment with lower sound power levels;
- Installing silencers for fans;
- Installing acoustic enclosures for equipment causing radiating noise;
- Installing vibration isolation for mechanical equipment.

### **G 5.5 Visual Impacts**

Visual impacts are highly subjective in nature and perception. They may be mitigated to some extent through the use of sensitive design, selection of materials and surrounding development.

#### ➤ *Visual impacts during construction phase*

##### **Source of the impacts:**

- Earthworks including stock piles on site;
- Cleared surfaces exposing bare soil;
- The accumulation of construction rubble on site;
- Construction camps;
- Installation of bulk services such as roads, sewage, electricity, etc;
- Building construction and
- Littering.

##### **Description of impact:**

The development will at first be devoid of large trees or any major vegetation clusters. A stark and almost barren character will prevail as the newly constructed buildings will dominate the scene. A construction site is generally an eyesore attributed to the destructive activities and the subsequent untidy/chaotic appearance.

Mr M Naude undertook the Salvokop Urban Heritage Sensitivity Study which also looked at the urban design of the current environment. As identified by M. Naude the current characteristics in terms of the skyline (visual impacts) are:

- The Freedom Park Monument and heritage site is located on the apex of Salvokop but is only recognizable by the sequence of flagpoles on the skyline. The remaining heritage site features have been set in such a way that they are almost completely obscured and not visible from a distance.
- A permanent geological feature the Salvokop outcrop forms the focus of the area and the ultimate feature defining the skyline when looking southwards.
- When looking southwards or from the city centre, towards Salvokop, no deliberate (manmade) features - except for the flagpoles – dominate the skyline.
- The only visual elements dominating the skyline is the *green vegetation that defines the general character of Salvokop*.
- The most recently erected multi-storey apartment building is the tallest building in the study area and does *not relate to any other residential unit in the area*.

Given these present visual attributes of the study area, the proposed Government Precinct will have a significant visual impact on the existing Salvokop residents, completely altering the sense of place and present visual setting.

**Significance Statement:** *Impacts on construction related visual aspects*

Impact	Duration		Extent		Severity		Likelihood		Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Construction Phase</b>									
<b>Impact:</b>		<b>Impacts on construction related visual aspects: Construction activities</b>									
<b>Without mitigation</b>	Medium Term	4	Site	1	Medium	4	Highly Probable	6	<b>15</b>	Conf	Medium -
<b>With mitigation</b>	Medium Term	4	Site	1	Low	4	Probable	4	<b>13</b>	Conf	Medium -

**Mitigation measures:**

Delta BEC undertook a line of sight assessment for the proposed development and the principle has been established that spatial synergy should be established with the Tshwane CBD. One of the ways in which this can be achieved is by means of allowing for a similar type of built form within close proximity to the CBD, thus in close proximity to the northern boundary of the property.

The most appropriate strategy considered in respect of the allocation of height within the proposed new government precinct, is to locate the maximum height zone in the northern extent of the property, and to systematically decrease the height of buildings as these buildings approach existing buildings to be retained as well as the Freedom Park in the

southern extent of the property. *The height limitation of 8 storeys has been adopted as a maximum parameter for the subject area based on the line of sight assessment.*

#### Design Stage:

- Avoid bright coloured finishes to buildings that will increase colour contrast between the buildings and the earthy background created by the foliage. Building facades and roofs should preferably be painted or finished with natural earthy tones.
- Minimise roads around the perimeter of the development. Concentrate road circulation in the centre between the buildings to reduce the possibility of vehicle lights disturbing adjacent residents at night.
- Provide screen planting around buildings to reduce the visibility from external vantage points.
- Avoid light trespass and glare originating from street and security lighting. Fit “full cut-off” luminaries to limit the amount of light trespass and to control light output and restrain glare (Shaflik, 1997).
- When vertical structures or surfaces are lit, such as building facades or signs, direct the light downwards if possible. If the only alternative is to ‘up-light’ the element, the correct luminaire must be fitted to avoid light spillage.
- Limit the extent of construction by clearly demarcating the construction site with a perimeter fence and thereby restrict the activities on the property alone.
- No activities shall be allowed outside the perimeter of the property, specifically no vegetation shall be damaged or removed outside the property as certain trees and shrubs play a role in screening the site from viewpoints;
- Temporary establishments such as the site offices and storage sheds shall be located in the least prominent locations and shall be enclosed by means of a visually impermeable screen.
- Signage- and advertising boards shall be neatly arranged, simple and unobtrusive. Avoid signboards at different locations around the site and maintain a high standard of aesthetic appeal.

#### ➤ *Visual impacts during the operational phase*

**Significance Statement:** *Impacts on operation related visual aspects*

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance	
<b>Project Phase:</b>		<b>Operation Phase</b>						
<b>Impact:</b>		<b>Impacts on operation related visual aspects: Establishment of self sustained built environment</b>						
<b>Without mitigation</b>	Medium Term	4 Site	1 Medium	4 Highly Probable	6 15	Conf	Medium -	
<b>With mitigation</b>	Medium Term	4 Site	1 Low	4 Improbable	2 13	Conf & IAP	Low -	



**Mitigation measures:**

The most effective mitigation measures will be the *elapse of time*. People become accustomed to the presence of a new development. Sound architectural design principles must be implemented when the design of the buildings are considered. Such design principles should involve appropriate scale, proportions, harmony, rhythm and identity to name a few.

**G 5.6 Inconvenience to road users****Impacted environment: Traffic Safety**

Potential impacts are largely associated with the location of access to the development and, during construction, the movement of heavy vehicles and machinery on the busy feeder roads (via Skietpoort Avenue which intersects with Kgosi Mampuru Street) in the vicinity of the development.

**Source of the impact:**Construction Phase

- Construction vehicles travelling to the site, utilising busy feeder roads.
- The construction of road upgrades to accommodate the background traffic, and the traffic generated by the development itself.

Operational Phase

- The development will result in an increase in the traffic, caused by increased number of vehicles travelling to the site.

**Description of the impact:**Construction Phase

- Construction vehicles travelling outside the boundaries of the site in order to retrieve materials used on site. This will predominantly influence the traffic on Skietpoort Avenue which intersects with Kgosi Mampuru Street. The construction vehicles are heavy-duty and thus travel at a lower speed than the rest of the traffic that use the busy feeder roads.

Operational Phase

- Operation of the upgraded road network in the study area

**Significance Statement: Traffic Safety Impacts**

Impact	Duration		Extent		Severity		Likelihood		Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Construction &amp; Operation Phases</b>									
<b>Impact:</b>		<b>Impacts on Traffic Safety Impacts: Construction vehicles: Upgrading roads &amp; accessing the site</b>									
<b>Without mitigation</b>	Medium Term	4	Site	1	Medium	4	Highly Probable	6	15	Conf	Medium -
<b>With mitigation</b>	Medium Term	4	Site	1	Low	4	Improbable	2	13	Conf & IAP	Low -

### **Mitigation Measures:**

From a Traffic Engineering point of view, the proposed development will have no adverse affect on the existing road infrastructure.

*The recommendation of EDS Structural Civil and Transportation Engineers (Pty) Ltd is as follows:*

- It is recommended that geometric design feasibility of the proposed access intersection / ramp of the following accesses be investigated further;
  - Dequar & Kgosi Mamupru Streets
  - New Link Access to Scheiding & Bosman Streets
- The trip generation and parking rate reductions used in this study are considered appropriate and thus be supported and approved by the roads authorities.
- Access will be provided for pedestrians in order to be within reasonable walking distance from the retail and open space / park facilities and taxi ranks.

### **Construction Phase**

- It is important to erect proper signs indicating the operations of heavy vehicles in the vicinity of dangerous crossings and access roads.
- Construction vehicles must avoid peak hour traffic, i.e. between 7am and 9am and again between 4pm and 6pm on weekdays.
- Routes should be planned to avoid construction vehicles travelling through residential areas where possible.
- It is important to erect warning signs on existing roads when impacted on by construction.
- Traffic on existing roads should be controlled during construction activities impacting on these roads (i.e. construction works at intersections). At least one lane should be open for traffic or alternatively a detour route must be available at all times.
- A traffic points - man should be appointed where necessary.
- Construct the internal road network of the proposed development, according to relevant specifications.
- Ensure that the necessary signage and traffic measures are implemented for safe and convenient access to the township.

- Delivery vehicles should access the site outside of peak hours if possible i.e. during 09:00 – 15:00.
- All road infrastructures must be designed and constructed according to the standards and service agreements achieved with the Local Municipality.

Operational Phase

- Introduce appropriate reduction in speed as you approach the proposed development access.
- Build slip lanes to access the development safely.
- Ensure that the roads in the vicinity of the site are in a good condition and report any damages to the road surface or traffic signs to the responsible authority.
- Ensure that no advertising boards are erected in close proximity to the access point that can result in decreased visibility to traffic to or from the development.

**G 5.7 Impact on the existing residential area of Salvokop**

**Source of the impact:**

Construction Phase

- General intrusion impacts associated with the inflow of workers are anticipated where construction activities take place in close proximity to residential areas

Operational Phase

- Fear regarding whether the residential houses will be removed or demolished, and fear as to what will happen to those people.
- Some residents have also been living in the area for long periods of time, which increases the sentimental value attached to these properties. Residents consulted in the study area are extremely concerned about the impact of the proposed project on their property and the replacement cost of acquiring new properties (in cases where relocation could be necessary).

**Description of the impact:**

Visual impacts and resultant impact on sense of place and well being.

**Significance Statement:** *Impact on existing residential area of Salvokop*

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance	
<b>Project Phase:</b>		<b>Construction &amp; Operation Phases</b>						
<b>Impact:</b>		<b>Impact on existing residential area of Salvokop and change in terms of sense of place and ASSUMED relocation.</b>						
<b>Without mitigation</b>	Medium Term	4 Site	1 Medium	4 Highly Probable	6	<b>15</b>	Conf	Medium -

With mitigation	Medium Term	4	Site	1	Low	4	Improbable	2	13	Conf IAP	&	Medium -
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### Mitigation Measures:

A separate and independent **Social Impact Assessment (SIA)** will be conducted to address the Salvokop community concerns, in a dedicated, participatory manner. The SIA will address the housing ownership issues, which is the community's greatest concern. The Salvokop residential area has been *excluded* from the township application. It is the intention of the DPW to separate the township establishment process on the vacant portions of land within Salvokop, from the complicated and lengthy issues of heritage significance, further archaeological studies, relocation and housing strategies, and in order not to delay the Government Precinct development.

SEC hopes to make this SIA available in the Final EIA report.

### Construction Phase

- Careful consideration should be given to the building designs to limit the visual impact on the residential areas.
- Residents that would be affected by the development should be consulted prior to the construction phase with regards to the construction schedules, transportation routes, construction of additional access roads and construction methods to be used
- There should be strict adherence to speed limits when using local roads and when travelling through residential areas
- Access routes and access points for heavy construction vehicles should be indicated to warn motorists of the movement of these vehicles
- Limit the movement of construction vehicles to off-peak periods (where possible)
- Limit the movement of construction vehicles in areas where sensitive receptors are situated e.g. schools and pedestrians
- Machinery and vehicles should be in good working order to limit excessive noise pollution

### Operational Phase

- Negative economic implications for those residents that would be resettled due to e.g. further distance from work and other amenities
- Negative economic implications due to the move as such
- Disruption in social networks, and social relationships with possible negative psychological consequences
- Loss of community cohesion and loss of "sense of place" by residents
- Periods of uncertainty due to negotiations with property owners and finalisation of resettlement process

**G 5.8 Impact on health, safety and security**

**Source of the impact:**

Construction Phase

- The congregation of construction workers on site.
- Improper construction waste management on site.
- Risk of storage and use of heavy-duty equipment for construction activities.

Operational Phase

- An increase in opportunistic crime associated with an increase in the number of non-residents passing through the neighbouring residential area;
- Possible impacts on community health associated with the proposed development are closely related to the management of solid waste from restaurant, and food retail facilities. Improper management and maintenance of sewage systems within the proposed development could potentially result in public health impacts, and
- Staff injury emergencies occurring during the operational phase.

**Description of the impact:**

The construction phase will be characterized by several activities involving a number of people. There will be a need for construction campsites, which could imply that if unmonitored, a number of male workers will be camping in the area. This could be a security threat, even if only a perception. The following problems associated with the presence of construction workers could also arise:

- Increase in theft and other incidences in the area;
- Ethnic clashes could arise if foreign labour is employed instead of un-employed workers from the Salvokop area.

**Significance Statement:** *Health, Safety & Security Impacts*

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance	
<b>Project Phase:</b>		<b>Construction &amp; Operation Phases</b>						
<b>Impact:</b>		<b>Health, Safety &amp; Security Impacts: Construction staff residing on site, Use of heavy duty , Platform for criminal activity equipment for construction activities</b>						
<b>Without mitigation</b>	Medium Term	4 Site	1 Medium	4 Highly Probable	6 15	Conf	Medium -	
<b>With mitigation</b>	Medium Term	4 Site	1 Low	4 Improbable	2 13	Conf & IAP	Low -	

**Mitigation Measures:**Construction Phase

- Ensure that the handling of equipment and materials is supervised and adequately instructed.
- Security staffs are to be utilised to ensure the safety of the public and construction equipment. The contractor will have to provide his own security arrangements while on site.
- Provide adequate facilities on site to treat emergencies to staff.
- Limit access to the site to the workforce.
- Adhere to the prescribed safety precautions in terms of the Occupational Health and Safety Act in the event of blasting required during excavations.
- The boundary of the development must be fully enclosed. This implies that the development area must be enclosed by a fence.
- Designing the development in such a manner that it is not conducive to overnight parking of vehicles.

Operational Phase

- Ensure that the requirements of the relevant health and occupational health and safety legislation are adhered to in both design and operation of the development.
- Provision of appropriate and adequate security management measures at the development throughout its operational lifetime.

**G 5.9 Creation of Employment opportunities**

It is expected that the proposed development will result in the creation of new employment opportunities. Direct and indirect employment opportunities will be associated with construction and operational phases of the development as follows:

- Improvement in the quality of life of local unemployed residents hired by contracted companies during the construction phase of the proposed development.
- Improvement in the quality of life of local unemployed residents hired by individuals and/or contracted companies during the operation phase of the proposed development.
- Improvement in the quality of life of local residents as a result of the increase in the ability of the Local Municipality to provide services and houses resulting from an increase in rates associated with the proposed development.

Employment opportunities associated with the construction phase are expected to be of short duration in nature, whilst those associated with the operational phase are expected to be long duration / sustainable opportunities. Optimising the number of opportunities for local residents to obtain employment on the project (both construction and operational stages) will enhance the positive aspect of this impact.



**Significance Statement: *Creation of Employment opportunities***

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Construction &amp; Operation Phases</b>					
<b>Impact:</b>		<b>Creation of Employment opportunities</b>					
<b>POSITIVE</b>	Long Term	6 Local	5 High	5 Definite	9	23+ Conf	<b>HIGH POSITIVE</b>

**G 6 Cumulative Impacts: Construction Phase**

Cumulative impacts result from actions which may not be significant on their own but which are significant when added to the impact of other similar actions. The anticipated impacts resulting from the construction and implementation of this development could potentially result in cumulative negative effects when taking the following into consideration:

The combined impact of erosion, silt, sediment, dust, waste, run off and litter could potentially contribute to the degradation of the study area.

- The proposed development will add additional pressure to services in the area.
- Construction impacts may further lead to nuisance noise impacts, the transformation of the general ambience and quality of the site and surrounds and visual concerns. Therefore it is essential that the EMPR for the construction phase be implemented to minimise the impact of construction activities on the environment.

The potential cumulative impact is rated to be of Study area extent, Medium to Long term Duration, Medium severity and Probable occurrence. The significance of this impact is considered to be Medium. Mitigation is likely to limit the significance to Low.

Positive cumulative impacts that will result from the proposed development include:

- Socio-economic upliftment, employment creation, skills transfer
- Inner city regeneration
- Revegetation and landscaping
- Improved road infrastructure in the study area

**G 7 OPERATIONAL PHASE: *Direct impacts:*****G 7.1 Increased noise**

**Impacted environment:** Socio-Economic

**Description:** Noise levels will be increased from pre-construction state. Noise in the form of vehicles, hooting taxis, commuters, and air ventilation systems, will all contribute to an increased noise level in the study area.

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance				
<b>Project Phase:</b> <b>Impact:</b>		<b>Operational Phase</b> <b>Impacts on operational related noise aspects</b>									
<b>Without mitigation</b>	Long Term	6	Site	1	Medium	4	Highly Probable	6	<b>17</b>	Conf	Medium -
<b>With mitigation</b>	Long Term	6	Site	1	Low	4	Probable	4	<b>15</b>	Conf	Medium -

### G 7.2 Waste Management

**Impacted environment:** Socio-Economic, soil pollution and surface water quality

**Description:** Operational phase of the retail facilities may result in odours, attracting rodents and vermin, and wind swept litter dispersion into neighbouring areas, if not managed adequately.

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance				
<b>Project Phase:</b> <b>Impact:</b>		<b>Operational Phase</b> <b>Impacts on operational related waste management aspects</b>									
<b>Without mitigation</b>	Long Term	6	Study area	3	Medium	4	Highly Probable	6	<b>18</b>	Conf	High -
<b>With mitigation</b>	Long Term	6	Site	1	Low	4	Probable	4	<b>15</b>	Conf	Medium -

### G 7.3 Landscaping and Re-vegetation

**Impacted environment:** Soil integrity and topsoil improvement, flora

**Description:** A positive impact associated with the developed precinct, is the complimentary landscaping of open space areas with indigenous vegetation. Landscaping will assist with soil erosion by providing a basal cover to the exposed soil, and will attract a realm of ecological systems to the site, ie. birds to the trees.

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b> <b>Impact:</b>		<b>Operational Phase</b> <b>Impacts on construction related visual aspects: <i>Construction activities</i></b>					

<b>Without mitigation</b>	Long Term	6	Site	1			Highly Probable	6	<b>13</b>	Conf	High+
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## G 8 OPERATIONAL PHASE: *Indirect impacts*

No impacts identified at this stage.

## G 9 OPERATIONAL PHASE: *Cumulative impacts*

### G 9.1 Increased stormwater runoff

**Impacted environment:** Soil erosion, surface water quality

**Description:** The proposed development entails a change in the land use from vacant land to a high density mixed land use township. The precinct will be defined by impermeable surfaces. The implication is that the rate of infiltration of storm water into the ground will be radically reduced. Therefore, the flow rate will increase causing an increase in the run-off on surface level. The run-off from the adjacent Roads will also contribute to the storm water that will drain onto the site, and into the storm water infrastructure.

Impact	Duration		Extent		Severity		Likelihood		Total Rating	Additional criteria	Overall Significance
<b>Project Phase:</b>		<b>Operational Phase</b>									
<b>Impact:</b>		<b>Cumulative Impacts: Increased stormwater runoff</b>									
<b>Without mitigation</b>	Long Term	6	Study area	3	High	5	Highly Probable	6	<b>&gt;18</b>	Conf	High -
<b>With mitigation</b>	Long Term	6	Site	1	Medium	4	Probable	4	<b>&gt;15</b>	Conf	Medium -

### G 9.2 Increased traffic in the Salvokop area

**Impacted environment:** Salvokop community

**Description:** The proposed development is expected to generate 4799 and 5106 peak hour vehicular trips during the respective morning and afternoon peak hours. Most of the intersections analysed by the traffic engineers, have ample spare capacity to accommodate the expected development traffic impact, whilst some would require upgrading as part of site access provision. Once all the upgrades and public access bridges are in place, the traffic in and out of Salvokop will be quite substantial. Public transport will be important, and connectivity to the CBD will be critical to ensure no congestion within the Salvokop area. The

design speeds of 60 km/h for residential access collector roads and 30 km/h for residential access roads will need to be policed as much as possible.

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance				
<b>Project Phase:</b> <b>Impact:</b>		<b>Operational Phase</b> <b>Cumulative Impacts: Increased traffic through the Salvokop study area</b>									
<b>Without mitigation</b>	Long Term	6	Study area	3	High	5	Highly Probable	6	>18	Conf	High -
<b>With mitigation</b>	Long Term	6	Site	1	Medium	4	Probable	4	>15	Conf	Medium -

## G 9.2 Increased pressure on service provision to the site

**Impacted environment:** Salvokop community

**Description:** The magnitude of the proposed Government Precinct, requires a number of engineering solutions, upgrades and design recommendations, to cater for the efficient and sustainable supply of water, sewer and power to the new, very high “bulk” township. The incorporation and implementation of energy saving devices and green principle design building recommendations will go a long way in assisting the government buildings reliance and excessive consumption of natural resources. This development should be used to set the benchmark for “building for the future”, where emphasis is placed on environmentally conscience decisions and design. The recycling of grey water for irrigation, collection and storage of rain water to provide water for the townships kitchens, irrigation, etc, should be standardised. Solar power should be employed to the maximum, and where practically feasible. Dual flush toilet systems and continual inspection and maintenance of the sewer lines should be employed for a development this size.

Impact	Duration	Extent	Severity	Likelihood	Total Rating	Additional criteria	Overall Significance				
<b>Project Phase:</b> <b>Impact:</b>		<b>Operational Phase</b> <b>Cumulative Impacts: Increased pressure on civil services</b>									
<b>Without mitigation</b>	Long Term	6	Study area	3	High	5	Highly Probable	6	>18	Conf	High -
<b>With mitigation</b>	Long Term	6	Site	1	Medium	4	Probable	4	>15	Conf	Medium -

## SECTION H: CONCLUSIONS AND RECOMMENDATIONS

In terms of section 31 (2) of the EIA regulations (2010), *an environmental impact assessment report must include:- (n) A reasoned opinion as to whether the activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation; (o) An environmental impact statement which contains - (i) a summary of the key findings of the EIA; and (ii) a comparative assessment of the positive and negative implications of the proposed activity and identified alternatives.*

In line with the above-mentioned legislative requirement, this Chapter of the EIR provides a summary of the findings of the proposed Salvokop Extension 4 EIA process, including the EAP's opinion as to whether the activity should or should not be authorised.

### H 1 Environmental Impact Statement

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The detailed environmental assessment for the proposed Salvokop mixed land use township, has not found any significant impacts that *cannot* be mitigated to acceptable and manageable levels.

Following a dolomite investigation conducted as stated above in respect of the site of application confirmation has been received from the Council for Geoscience confirming that the property is classified as a non-dolomitic landholding.

The entire study area is considered to be of low ecological sensitivity due to severe habitat degradation, alien floral invasion and general edge effects associated with the urban setting. Thus, no sensitive habitat is present on the study area, and the proposed development is not anticipated to have a significant negative impact on the receiving environment, provided that the mitigation measures as set out in this report are adhered to.

The Salvokop area has a high heritage significance. Six (6) railway houses are located *within* the boundaries of the site of this application. These buildings are situated to the west of 1st Street. An Architectural Historian must still be consulted to undertake a detailed study of the affected residences located within the township boundaries, in order to determine their ages and heritage significance. This study must determine whether these houses must be preserved, or if they can be demolished; before any related development actions are undertaken.

Because of the location and heritage value of the project, additional authorisation must be given by the Gauteng Provincial Heritage Resources Authority (PHRAG). Through the public participation process, Mr Andrew Salomon, a Heritage Impact Assessor from the South African Heritage Resources Agency, has requested SEC to upload the FINAL EIA Report to the relevant case on SAHRIS. This draft EIA report will be submitted to Mr Salomon for his review and comment. Comments received from this statutory body will be included in the

FEIAR for authority approval. In fulfilment of Mr Salomon's procedural request however, the Final EIA report will also be uploaded to SAHRIS for authorisation.

Civil service provision to the phased townships over an extended period of time must be accommodated by upgraded municipal civil infrastructure, as well as the contribution by private developers to the area. Developments that will gradually feed into the existing municipal systems can be sufficiently provided with civil services.

The opportunities which the proposed Salvokop mixed land use township will offer the regional area includes the implementation of "Green Building" principles to effectively manage consumption levels of resources, the minimization and recycling of waste generated on site with subsequent job creation opportunities, appointment and implementation of Green procurement strategies, protection of biodiversity, indigenous plant species and important stone age sites, and the implementation of any other principles/tools as specified in the Tshwane Integrated Environmental Policy.

Overall, no significant impacts as a result of the development, that *cannot* be mitigated, were identified. Prior to earth works and construction activities, all service agreements (water, sewer, roads), specifically electrical services, storm water management plans and Archaeological assessments must be completed and approved by the relevant competent authorities.

It is recommended that geometric design feasibility of the proposed access intersection / ramp of the following accesses be investigated further;

- Dequar & Kgosi Mamupru Streets
- New Link Access to Scheiding & Bosman Streets

These approvals must form an extension of any environmental authorisation received.

All mitigation and management measures are contained in the EMPR. It is the opinion of SEC that the information contained in this document, is sufficient for the approving authorities to provide final comment, which will inform the finalisation of the EIA report.

## **H 2 Environmental Management Programme (EMPR)**

EMPR's aim to identify and minimise the potential impacts that the proposed construction and operational phases of the project may have on the receiving environment. A draft EMPR has been developed which is contained in Appendix I and includes detailed mitigatory measures for the construction phase.

As a general guideline, the EMPR should be based on a comprehensive set of environmental aspects (elements of the facility that can interact with the environment), and hence, the EMPR compiled for this application includes the following key components:



- Mechanisms for the on-going identification and assessment of environmental aspects and impacts;
- Environmental management programmes; objectives and targets;
- Environmental monitoring and reporting framework;
- Environmental management procedures; and,
- Mechanisms for the recording of environmental incidents and implementing corrective and preventative actions.

### **H 3 EAP Opinion**

The information contained in this DEIAR and Specialist Studies, provides a detailed and comprehensive description of the proposed project, baseline environment and potential environmental impacts associated with the mixed land use project. As no significant impacts that cannot be mitigated were identified, SEC is of the opinion that the project should proceed, provided the necessary mitigation and management measures are implemented. Furthermore, should the proposed development be approved, the social and economic benefits to the Salvokop and surrounding communities, will be significantly positive.

The proposed application and development of the land as being applied for, is consistent with the institutional planning policy adopted for the area by the Local Authority and will act as stimulus in the development of the proposed government precinct within the Salvokop area. The development is needed, desirable and it is recommended that the Municipality move to approve the request contained within this application.

## SECTION J APPENDICES

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### **Appendix A: Correspondence with relevant authorities**

### **Appendix B – G : Specialist Reports**

Copies of the specialist reports undertaken as part of the project design and development process, and this EIA, are included in the following appendices:

**Appendix B:** MOTIVATING MEMORANDUM IN SUPPORT OF A TOWNSHIP ESTABLISHMENT APPLICATION IN TERMS OF SECTION 96(1) OF THE TOWN PLANNING AND TOWNSHIPS ORDINANCE, 1986 (ORDINANCE 15 OF 1986), DELTA BEC, NOV 2014

**Appendix C:** SERVICES DESIGN REPORT, DELTA BEC, NOV 2014

**Appendix D:** TRAFFIC IMPACT STUDY, OCTOBER 2014

**Appendix E:** GEOTECHNICAL ASSESSMENT ABOUT THE PRESENCE OF DOLOMITE ON SITE. DELTA BEC, SEPT 2013

**Appendix F:** TERRESTRIAL ECOLOGICAL ASSESSMENT AS PART OF THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR A PROPOSED NEW DEVELOPMENT IN THE SALVOKOP SUBURB, PRETORIA, GAUTENG PROVINCE, SAS, OCT 2013

**Appendix G:** BASIC HERITAGE IMPACT ASSESSMENTS, AND THE URBAN HERITAGE SENSITIVITY STUDY

### **Appendix H: Public Participation**

In accordance with the requirements of Sub-Regulation 32(2)(e)(iv) copies of all correspondence (representations, objections and comments) received from Interested and Affected Parties have been included in Appendix J.

### **Appendix I: Environmental Management Programme (EMPr)**

In accordance with the requirements of Sub-regulation 32(2)(o) an environmental management programme (EMPr) conforming with the requirements of Regulation 34 is included in Appendix I.

**Appendix A: Correspondence with relevant authorities**

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## Appendix A -1: DEA Authority Comments

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**Appendix A -2: New EIA application including listed activities not anticipated at the initiation of the project**

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**NOT AVAILABLE AT THE TIME OF PRINTING. TO BE SUBMITTED TO THE DEA AS SOON AS RECEIVED FROM THE DEA.**

## **Appendix A -3: City of Tshwane Comments on the Scoping Report**

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## **Appendix A -4: Proof of submission of the Scoping Report to the authorities**

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## **Appendix B – G : Specialist Reports**

Copies of the specialist reports undertaken as part of the project design and development process, and this EIA, are included in Appendices B - G.

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- Appendix B:** MOTIVATING MEMORANDUM IN SUPPORT OF A TOWNSHIP ESTABLISHMENT APPLICATION IN TERMS OF SECTION 96(1) OF THE TOWN PLANNING AND TOWNSHIPS ORDINANCE, 1986 (ORDINANCE 15 OF 1986), DELTA BEC, NOV 2014
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**APPENDIX C:**

**SERVICES DESIGN REPORT, DELTA BEC, NOV 2014**

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## **Appendix D:**

### **TRAFFIC IMPACT STUDY, OCTOBER 2014**

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**Appendix E:**

**GEOTECHNICAL ASSESSMENT ABOUT THE PRESENCE OF DOLOMITE ON SITE. DELTA  
BEC, SEPT 2013**

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## **Appendix F:**

**TERRESTRIAL ECOLOGICAL ASSESSMENT AS PART OF THE ENVIRONMENTAL  
IMPACT ASSESSMENT PROCESS FOR A PROPOSED NEW DEVELOPMENT IN THE  
SALVOKOP SUBURB, PRETORIA, GAUTENG PROVINCE, SAS, OCT 2013**

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## **Appendix G:**

### **BASIC HERITAGE IMPACT ASSESSMENTS AND THE URBAN HERITAGE SENSITIVITY STUDY**

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**Appendix H: Public Participation**

In accordance with the requirements of Sub-Regulation 32(2)(e)(iv) copies of all correspondence (representations, objections and comments) received from Interested and Affected Parties have been included in Appendix H.

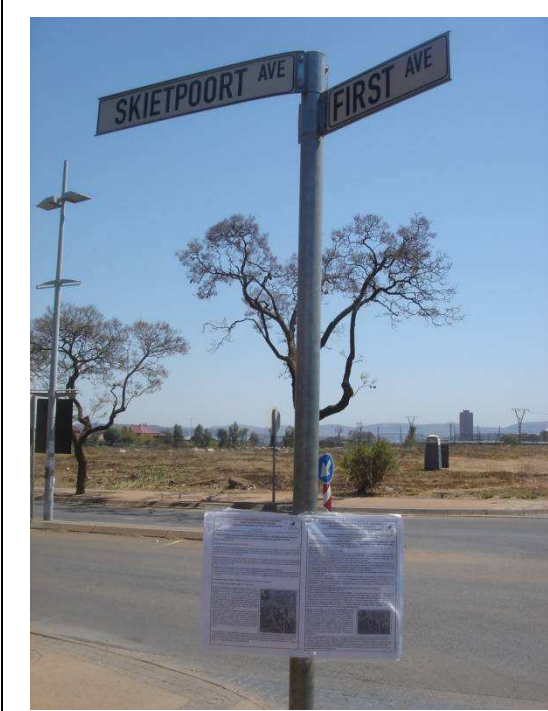
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## **IAP DATABASE**

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## **NEWSPAPER ADVERTISEMENT**

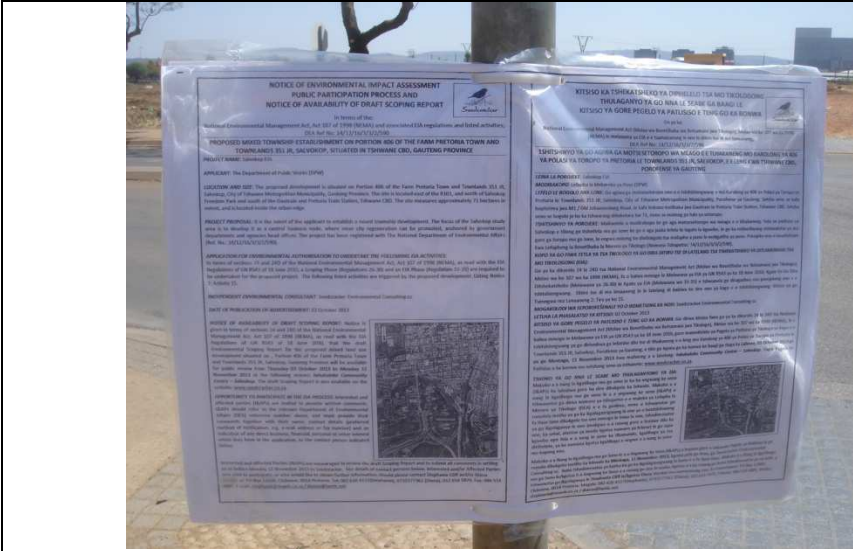
**SITE NOTICES**



Skietpoort and first







Koch and 3rd Streets



Second and fifth streets

	<p>Gravel Road along historical Transnet houses</p>
	<p>Entrance to Salvokop – Skietpoort and Kgosi Mampuru Drive</p>

## **BACKGROUND INFORMATION DOCUMENT**

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## INFORMATION FLIER TRANSLATED TO TSWANA

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## **PROOF OF DELIVERY OF BID TO ADJACENT PROPERTY OWNERS**

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## COMMENTS RECEIVED FROM IAP'S

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**ATTENDANCE REGISTER AND MINUTES TAKEN AT THE FOCUS FROUP  
MEETING WITH THE FREEDOM PARK REPRESENTATIVES**

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## ATTENDANCE REGISTER OF THE SALVOKOP PUBLIC OPEN DAY

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## MINUTES TAKEN AT THE SALVOKOP DEVELOPMENT FORUM

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## COMMENTS AND RESPONSE REPORT

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**Appendix H: Environmental Management Programme (EMPR)**

In accordance with the requirements of Sub-regulation 32(2)(o) an environmental management programme (EMPr) conforming with the requirements of Regulation 34.

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