

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR THE PROPOSED LEEUPPOORT SOUTH MIXED USE DEVELOPMENT

On Part of the Remaining Extent of the
Farm Leeuwpoot 113 IR



REFERENCE: Gaut: 002/16-17/E0215

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1. INTRODUCTION, BACKGROUND AND THE WAY FORWARD

1.1 Introduction

Leeuwpoot Development (Pty) Ltd in collaboration with Ekurhuleni Metropolitan Municipality is proposing the development of a Township to be known as **Leeuwpoot South Mixed Use Development** on part of the remaining extent of the Farm Leeuwpoot 113 IR comprising of the following land uses; “Residential 1” (1404 erven for 400 m² bonded stands), “Residential 1” (1212 erven for 300 m² bonded FLISP units), “Residential 1” (981 erven for 220 m² FLISP units), “Residential 1” (1334 erven for 200 m² subsidised units), “Residential 4” (11 erven for 1809 3-storey units 120 u/ha), “Residential 4” (10 erven for 1693 3-storey units 120 u/ha), “Residential 4” (18 erven for 4208 4-storey units 160 u/ha), “Residential 4” (10 erven for 2862 4-storey units 160 u/ha), “Residential 4” (1 erf for 225 3-storey units 120 u/ha), “Special” (3 erven for community facilities), “Business 2” (8 erven for shops, churches, education, restaurants, medical rooms, gymnasiums etc.), “Special” (1 erf for a Clinic), “Special” (256 erven for a Retirement Village comprising of 639 units), “Special” (1 erf for Agriculture with consent), “Public Services” (4 erven for electrical substations) “Community Facility” (7 erven for community facilities); “Community Facility” (5 erven for Primary Schools); “Community Facility” (2 erven for Secondary Schools); “Transportation” (17 erven for Public Transport – Railway, Station, Taxi, Parking), “Public Open Space” (84 erven for Parks), and Roads (Provincial and Streets). The Proposed Development will cater for approximately 18,000 affordable residential units, erven, and supportive land uses on land 769ha in extent, situated within the area of jurisdiction of the Ekurhuleni Metropolitan Municipality.

Refer to Figures 1 and 2 below.

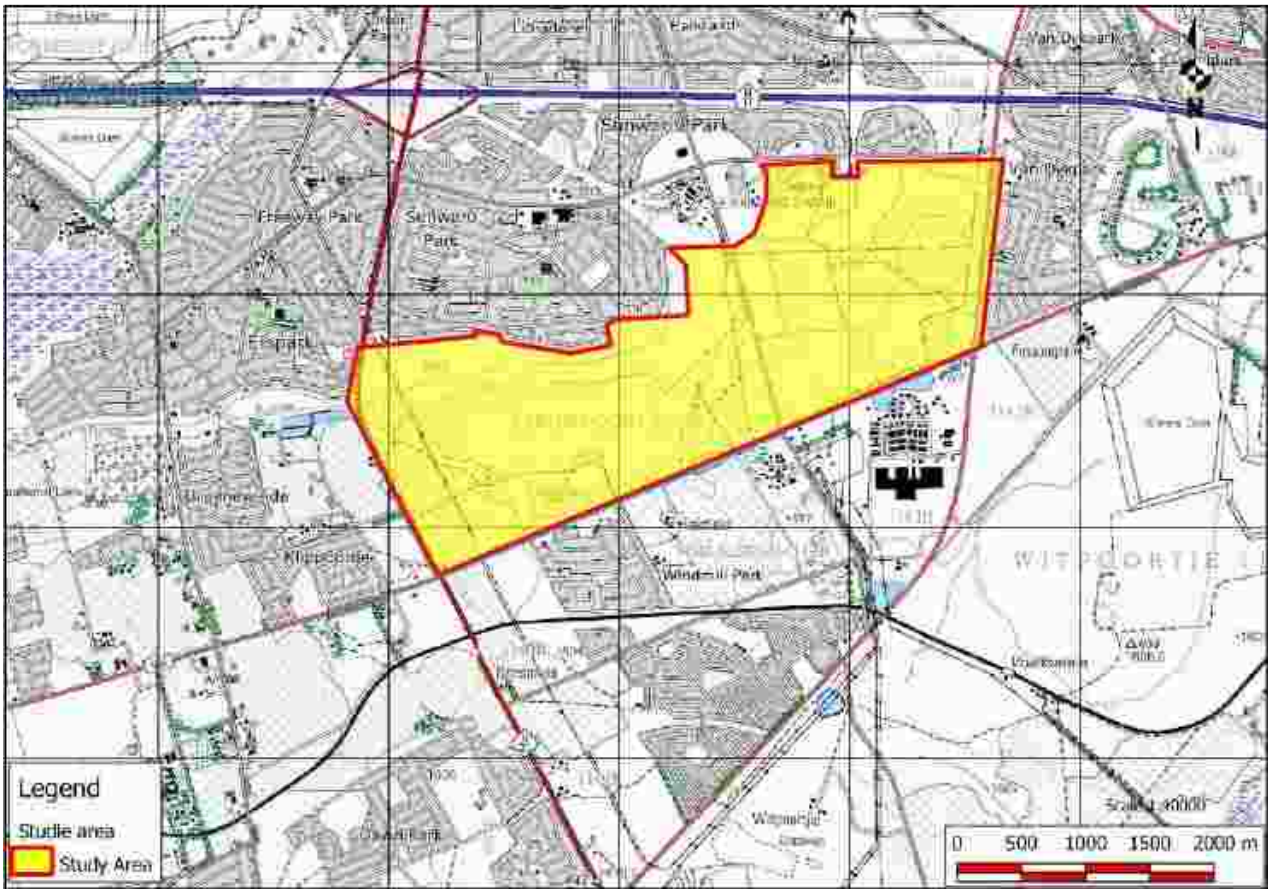


Figure 1: Locality map

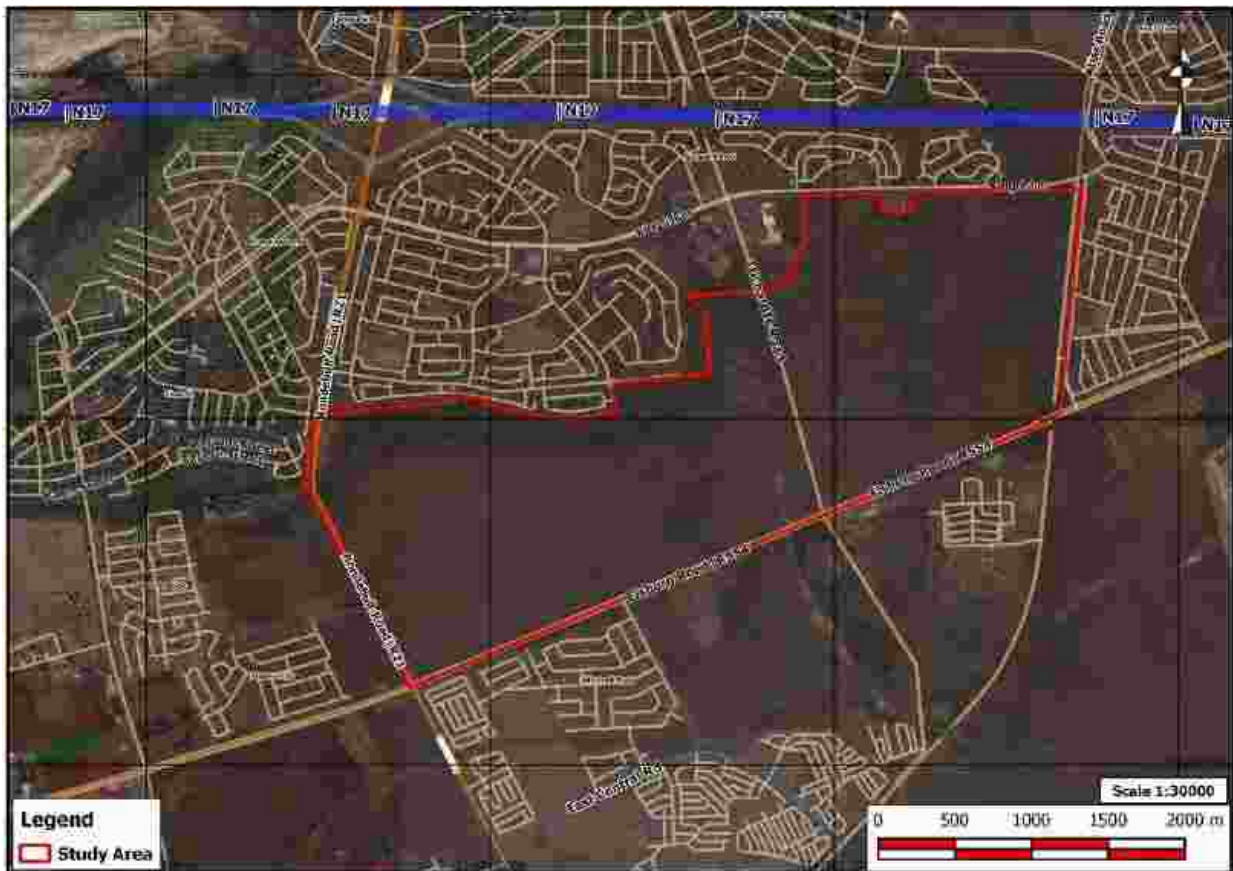


Figure 2: Aerial Map

ENLARGEMENTS OF FIGURES CONTAINED IN THE SCOPING REPORT ARE INCLUDED AS ANNEXURE A.

The attempts of the Ekurhuleni Local Municipality to provide much needed housing on vacant and derelict land within the Urban Area is in line with the relevant spatial development frameworks, Integrated Development Plans, the National Development Plan, The Gauteng Spatial Development Frameworks, the Gauteng Provincial EMF and various other legislative and institutional documents.

The Proposed Infill Development furthermore promotes the optimum utilization of services, it prevents Urban Sprawl, it allows for the provision of housing in close proximity of schools,

social facilities, work places etc. and it promotes increased rates and taxes payable to the Local Authority.

1.2 Activities applied for in terms of NEMA

The Application is made in terms of Government Notices R. 983, R. 984, and R. 985 of the 2014 EIA Regulations of the National Environment Management Act, 1998 (Act No. 107 of 1998) and the intention of the Application is to establish of a Mixed Land Use Development and associated infrastructure to be known as Leeuwpoort South Mixed Use Development consisting of the following land uses:

- “Residential 1” (1404 erven for 400 m² bonded stands),
- “Residential 1” (1212 erven for 300 m² bonded FLISP units),
- “Residential 1” (981 erven for 220 m² FLISP units),
- “Residential 1” (1334 erven for 200 m² subsidised units),
- “Residential 4” (11 erven for 1809 3-storey units 120 u/ha),
- “Residential 4” (10 erven for 1693 3-storey units 120 u/ha),
- “Residential 4” (18 erven for 4208 4-storey units 160 u/ha),
- “Residential 4” (10 erven for 2862 4-storey units 160 u/ha),
- “Residential 4” (1 erf for 225 3-storey units 120 u/ha),
- “Special” (3 erven for community facilities),
- “Business 2” (8 erven for shops, churches, education, restaurants, medical rooms, gymnasiums etc.),
- “Special” (1 erf for a Clinic),
- “Special” (256 erven for a Retirement Village comprising of 639 units),
- “Special” (1 erf for Agriculture with consent),
- “Public Services” (4 erven for electrical substations)
- “Community Facility” (7 erven for community facilities);
- “Community Facility” (5 erven for Primary Schools);
- “Community Facility” (2 erven for Secondary Schools);
- “Transportation” (17 erven for public transport – Railway, Station, Taxi, Parking);

- "Public Open Space" (84 erven for Parks); and
- Roads (Provincial and Streets).

According to the above-mentioned Regulations and Notices, an Environmental Impact Assessment (EIA) Process is required for the above-mentioned project, due to the following listed activity/activities being triggered:

Table 1: Listed activities in terms of Notice No. R983

Relevant Notice and Listed activity	Describe each listed activity as per project description:
GN R983 (Listing Notice 1), 4 December 2014 Activity 9	<p>The development of infrastructure exceeding 1000 meters in length for the bulk transportation of water or stormwater –</p> <p>(i) With an internal diameter of 0,36 meters or more; or (ii) With a peak throughput of 120 litres per second or more; excluding where:</p> <p>a. Such infrastructure is for bulk transportation of water or stormwater or storm water drainage inside a road reserve; or b. Where such development will occur within an Urban Area.</p>
Reason for inclusion:	
<p>A new 800ND external bulk supply pipeline approximately 1km in length and a 500ND bulk supply line approximately 2.4km in length, from the Vogelfontein Reservoir must be installed in order to cater for the residential units proposed as part of Phase 6 of the Leeuwpoot South Mixed-Use Development. The EAP is thus of the opinion that Activity 9 of LN 1 is triggered by the Proposed Development.</p>	
GN R983 (Listing Notice 1), 4 December 2014 Activity 10	<p>The development and related operation of infrastructure exceeding 1000 meters in length for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes –</p> <p>(i) With an internal diameter of 0,36 meters or more; or (ii) With a peak throughput of 120 litres per second or more;</p> <p>excluding where:</p> <p>a. Such infrastructure is for bulk transportation of sewage, effluent, process water, wastewater, return-water, industrial discharge or slimes inside a road reserve; or b. Where such development will occur within an Urban Area.</p>
Reason for inclusion:	
<p>Approximately 77km of sewerage pipes of varying diameters will be installed as part of the six Phases associated with the Proposed Leeuwpoot South Mixed-Use Development. The EAP is thus of the opinion that Activity 10 of LN 1 is triggered by the Proposed Development.</p>	
GN R983 (Listing Notice 1), 4 December 2014 Activity 11	<p>The development of facilities or infrastructure for transmission and distribution of electricity –</p> <p>i) . . . ; or ii) Inside Urban Areas or industrial complexes with a capacity of 275 kilovolts or more.</p>
Reason for exclusion:	
<p>Although the Proposed Mixed-Use Development will require the development of electrical distribution and transmission infrastructure, the capacity will not exceed 275 kilovolts. The EAP is thus of the opinion that Activity 11 of LN 1 is not triggered by the Proposed Development.</p>	
GN R983 (Listing Notice 1), 4	The development of-

Relevant Notice and Listed activity	Describe each listed activity as per project description:
December 2014 Activity 12	<p>(i) canals exceeding 100 square metres in size; (ii) channels exceeding 100 square metres in size; (iii) bridges exceeding 100 square metres in size; (iv) dams, where the dam, including infrastructure and water surface area, exceeds 100 square metres in size; (v) weirs, where the weir, including infrastructure and water surface area, exceeds 100 square metres in size; (vi) bulk stormwater outlet structures exceeding 100 square metres in size; (vii) marinas exceeding 100 square metres in size; (viii) jetties exceeding 100 square metres in size; (ix) slipways exceeding 100 square metres in size; (x) buildings exceeding 100 square metres in size; boardwalks exceeding 100 square metres in size; or (xii) infrastructure or structures with a physical footprint of 100 square metres or more;</p> <p>where such development occurs-</p> <p>(a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;</p> <p>-excluding-</p> <p>(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the Development Footprint Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies; (dd) where such development occurs within an Urban Area; or (ee) where such development occurs within existing roads or road reserves.</p>
Reason for inclusion:	
<p>Roads, bridges, and culverts crossing the watercourse occurring on site, is proposed as part of the Proposed Mixed-Use Development. The proposed bridges and culverts will exceed 100 square meters within a watercourse.</p> <p>The EAP is thus of opinion that the Activity 12 of LN 1 is triggered by the Proposed Development.</p>	
GN R983 (Listing Notice 1), 4 December 2014 Activity 19	<p>The Infilling or Depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from-</p> <p>(i) a watercourse; (ii) the seashore; or (iii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water (iv) mark of the sea or an estuary, whichever distance is the greater</p>

Relevant Notice and Listed activity	Describe each listed activity as per project description:
	<p>- but excluding where such infilling, depositing, dredging, excavation, removal or moving-</p> <p>(a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.</p>
<p>Reason for inclusion:</p> <p>Roads, bridges, and culverts crossing the watercourse occurring on site, is proposed as part of the Proposed Mixed-Use Development. The construction of the bridges and culverts within a watercourse will require the infilling or depositing of more than 5 cubic metres of material, and or removal of more than 5 cubic meters of material from a storm water wetland.</p> <p>The EAP is thus of opinion that the Activity 19 of LN 1 is triggered by the Proposed Development.</p>	
<p>GN R983 (Listing Notice 1), 4 December 2014</p> <p>Activity 22</p>	<p>The decommissioning of any activity requiring –</p> <p>i) a closure certificate in terms of section 43 of the Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002); or</p> <p>ii) a prospecting right, mining right, mining permit, production right or exploration right, where the throughput of the activity has reduced by 90% or more over a period of 5 years,</p>
<p>Reason for exclusion:</p> <p>The Proposed Development site is not currently used for mining, but according to ERPM Limited they have existing Surface and Prospecting rights on the Proposed Development Site. As no mining occurred on this land historically, the EAP is of the opinion that Activity 22 of LN 1 is not triggered by the Proposed Development</p>	
<p>GN R983 (Listing Notice 1), 4 December 2014</p> <p>Activity 24</p>	<p>The development of –</p> <p>i) a road for which an Environmental Authorisation was obtained for the Route Determination in terms of Activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or</p> <p>ii) a road with a reserve wider than 13.5 meters, or where no reserve exists where the road is wider than 8 meters,</p> <p>but excluding -</p> <p>a) roads which are identified and included in activity 27 in Listing Notice 2 of 2014; or</p> <p>b) roads where the entire road falls within an Urban Area.</p>
<p>Reason for exclusion:</p> <p>The Proposed Development Site is transacted by several Provincial Roads as well as PWV15 and occurs within an Urban Area, and therefore Activity 27 of LN 2 is triggered. Activity 24 of LN 1 is thus not triggered by the Proposed Development.</p>	

Relevant Notice and Listed activity	Describe each listed activity as per project description:
GN R983 (Listing Notice 1), 4 December 2014 Activity 26	Residential, retail, recreational, tourism, commercial or institutional developments of a 1000m ² or more, on land previously used for mining or heavy industrial purposes; - Excluding – i) where such land has been remediated . . . ; or ii) or where an Environmental Authorisation has been obtained for the decommissioning . . . ; or iii) where a closure certificate has been issued
Reason for inclusion: The Proposed Mixed-Use Development is more than 1000m ² in size and will be constructed on land for which existing mining surface rights and prospecting rights exist, which has not yet been remediated, for which an Environmental Authorisation for Decommissioning has not yet been obtained, and where a Closure Certificate has not yet been obtained. The EAP is thus of the opinion that Activity 26 of LN 1 is triggered by the Proposed Development.	
GN R983 (Listing Notice 1), 4 December 2014 Activity 27	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for - i) the undertaking of a Linear Activity; or ii) Maintenance purposes undertaken in accordance with a Maintenance Management Plan.
Reason for inclusion: Although the Proposed Development Site has been transformed by Anthropogenic Activities, it is expected that between 1 and 20 hectares of indigenous grassland will have to be cleared in order to facilitate the Proposed Development. The EAP is thus of the opinion that Activity 27 of LN 1 is triggered by the Proposed Development.	
GN R983 (Listing Notice 1), 4 December 2014 Activity 28	Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture or afforestation on or after 01 April 1998 and where such development: (i) will occur inside an Urban Area, where the total land to be developed is bigger than 5 hectares; or (ii) will occur outside an Urban Area, where the total land to be developed is bigger than 1 hectare; Excluding where such land has already been developed for residential, mixed, retail, commercial, industrial, or institutional purposes.
Reason for Inclusion: The Proposed Development site was historically used for agriculture, and therefore the EAP is of the opinion that Activity 28 of LN 1 is triggered by the Proposed Development.	
GN R983 (Listing Notice 1), 4	The decommissioning of existing facilities, structures or infrastructure for – i) Any development and related operation activity or activities listed in

Relevant Notice and Listed activity	Describe each listed activity as per project description:
December 2014 Activity 31	<p>Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014; or</p> <p>ii) Any expansion and related operation activity or activities listed in Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014; or</p> <p>iii) Any development and related operation activity or activities and expansion and related operation activity or activities listed in Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014; or</p> <p>iv) Any phased activity or activities for development and related operation activity or expansion or related operation activities listed in this notice of Listing Notice 3 of 2014; or</p> <p>v) Any activity regardless the time the activity was commenced . . . ;</p> <p>Excluding where –</p> <p>a) Activity 22 of this notice applies;</p> <p>b) Or the decommissioning is covered by part 8 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies.</p>
<p>Reason for Exclusion:</p> <p>The Proposed Development Site is not currently used for mining activities, nor has it historically been used for mining activities. There is thus no need to decommission existing facilities, structures or infrastructure related to mining, and thus the EAP is of the opinion that Activity 31 of Listing Notice 1 is not triggered.</p>	
GN R983 (Listing Notice 1), 4 December 2014 Activity 32	<p>The continuation of any development where the Environmental Authorisation has lapsed and where the continuation of the development, after the date the Environmental Authorisation has lapsed will meet the threshold of any activity or activities listed in this Notice, Listing Notice 2 of 2014, or Listing Notice 3 of 2014 or Listing Notice 4 of 2014.</p>
<p>Reason for exclusion:</p> <p>The Proposed Development will not require the continuation of a development for which Environmental Authorisation has lapsed, and therefore the EAP is of the opinion that Activity 32 of LN 1 is not triggered by the Proposed Development.</p>	

Table 2: Listed activities in terms of Notice No.R984

Relevant Notice and Listed activity	Describe each listed activity as per project description:
GN R984 (Listing Notice 2), 4 December 2014 Activity 6	The development of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent, excluding – i) Activities which are identified and included in Listing Notice 1 of 2014; or ii) Activities which are included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or iii) The development of facilities or infrastructure for treatment of effluent, wastewater, or sewage where such facilities have a daily throughput capacity of 2000 cubic meters or less.
Reason for Exclusion: No emissions, pollution or effluent will be generated by the Proposed Development, and therefore no licences are triggered associated with Activity 6 of Listing Notice 2.	
GN R984 (Listing Notice 2), 4 December 2014 Activity 15	The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for- (i) the undertaking of a Linear Activity; or (ii) Maintenance Purposes undertaken in accordance with a Maintenance Management Plan.
Reason for inclusion: Although the Proposed Development Site has been transformed by Anthropogenic Activities, it is expected that more than 20 hectares of indigenous grassland will have to be cleared in order to facilitate the Proposed Development. The EAP is thus of the opinion that Activity 15 of LN 2 is triggered by the Proposed Development.	

Table 3: Listed activities in terms of Notice No. R 985

Relevant Notice and Listed activity	Describe each listed activity as per project description:
GN R985 (Listing Notice 3), 4 December 2014 Activity 4	The development of a road wider than 4 meters with a reserve less than 13.5 meters. (c) In Gauteng: i. A protected area . . . ; ii. . . . ; iii. . . . ; iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Pan or in Bioregional Plans; v. . . . ; vi. . . . ;
Reason for inclusion: Approximately 40% of the Proposed Development Site is denoted as Important Area in terms of the Gauteng Conservation Plan. Streets to be developed as part of the development will be wider than 4 meters and occur within a Critical Biodiversity Area. The EAP is thus of the opinion that Activity 4 of LN 3 is triggered by the Proposed Development.	
GN R985 (Listing Notice 3), 4 December 2014 Activity 12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of Ecosystem listed in terms of section 52 of the NEMBA or indigenous vegetation is required for Maintenance Purposes undertaken in accordance with a maintenance management plan. (a) In Eastern Cape, Free State, Gauteng, Limpopo, North West and Western Cape provinces: (i) Within any Critically Endangered or Ecosystem listed . . . ; (ii) Within Critical Biodiversity Areas identified in Bioregional Plans; (iii) . . . ; or (iv)
Reason for inclusion: More than 300 square meters of indigenous vegetation occurring within an area denoted as Critical Biodiversity Area will be cleared to cater for the Proposed Development. The EAP is thus of the opinion that Activity 12 of LN 3 is triggered by the Proposed Development.	
GN R985 (Listing Notice 3), 4 December 2014 Activity 14	The development of- (i) canals exceeding 10 square metres in size; (ii) channels exceeding 10 square metres in size; (iii) bridges exceeding 10 square metres in size; (iv) dams, where the dam, including infrastructure and water surface area, exceeds 10 square metres in size; (v) weirs, where the weir, including infrastructure and water surface area, exceeds 10 square metres in size; (vi) bulk stormwater outlet structures exceeding 10 square metres in size; (vii) marinas exceeding 10 square metres in size; (viii) jetties exceeding 10 square metres in size; (ix) slipways exceeding 10 square metres in size; (x) buildings exceeding 10 square metres in size; (xi) boardwalks exceeding 10 square metres in size; or (xii) infrastructure or structures with a Physical Footprint of 10 square metres or

more; (b) In Gauteng: i) A protected area identified in terms of . . . ; ii) . . . ; iii) Gauteng Protected Area . . . ; iv) Sites identified as Critical Biodiversity Areas (CBA) and Ecological Support Areas (ESA) in the Gauteng Conservation Plan . . . ; v) . . . ; vi) . . . ; vii) . . . ; viii) . . . ; ix) . . . ; x) Sites zoned for Conservation or Public Open Space or equivalent zoning.
<p>Reason for inclusion:</p> <p>Bridges and Culverts are Proposed as part of the Proposed Mixed-Use Development The Proposed Bridges and Culverts occur within an area denoted as Critical Biodiversity Area.</p> <p>The EAP is thus of opinion that the Activity 14 of LN 3 is triggered by the Proposed Development.</p>

1.3 Background

Leeuwpoot Developments (Pty) Ltd appointed Bokamoso Landscape Architects and Environmental Consultants CC as an Independent Consultant to prepare the Applicable Environmental Reports. GDARD accepted the **Application** for Environmental Authorisation submitted on **8 November 2016** and issued the project with reference number **Gaut: 002/16-17/0215**.

GDARD accepted the Scoping Report and Plan of Study for Environmental Impact Assessment (**Refer Annexure B5**) on **28 February 2017** which was submitted by Bokamoso Landscape Architects and Environmental Consultants and received by the Department on **1 February 2017**. GDARD requested that the following be undertaken as part of the EIAR:

1. EIAR must comply with Regulation 23 of the Environmental Impact Regulations (EIAR) 2014;
2. All the Specialist Studies identified in the Plan of Study must be undertaken by qualified specialists;

3. Sensitivity Map overlaid on the Layout Plan, indicating buffer zones related to sensitive areas;
4. Wetland delineation must indicate edge of the permanent zone and temporary zone as well as wetland buffer;
5. EIAR to address potential existence of wetland on site, its status, as well as impact which might arise as result of the Proposed Development;
6. All maps must be in colour and correct scale;
7. Confirmation from Local Authority with regards to provision of bulk services;
8. If any infrastructure to be installed will cross sensitive environments, impacts must be assessed and discussed in the EIAR;
9. Comments from Council of Geoscience and PHRAG must be included in EIAR;
10. Comparative assessment of alternatives;
11. The Proposed Development must form part of sustainable development in terms of reducing climate change i.e. green energy and water harvesting etc.;
12. A credible method of impact assessment; and
13. Detailed stormwater management plan approved by the Relevant Authority must be included in EIAR.

The Draft Scoping Report was submitted to GDARD for review on **8 November 2016**.

The Final Scoping Report was submitted to GDARD for review on **1 February 2017**, and the Plan of Study for EIA was approved on **28 February 2017**.

This document represents the **Draft EIA Report** and it is requested that all Government Institutions or Parastatals with a vested interest comment on the report.

2. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

The new Environmental Regulations require that relevant details of the Environmental Assessment Practitioner be included as part of the EIAR. In this regard, attached as **Annexure C**, is a copy of the CV of the EAP for this project, MS Lizelle Gregory from

Bokamoso Landscape Architects and Environmental Consultants. In summary details of the EAP are indicated below:

- **Name:** Lizelle Gregory
- **Company:** Bokamoso Landscape Architects and Environmental Consultants.
- **Qualifications:** Registered Landscape Architect and Environmental Consultant (degree obtained at the University of Pretoria) with more than 25 years' experience in the following fields:
 - Environmental Planning and Management;
 - Compilation of Environmental Impact Assessment;
 - Landscape Architecture; and
 - Landscape Contracting

MS L. Gregory also lectured at the Technicon of South Africa and the University of Pretoria. She is a registered member of the South African Council of the Landscape Architects Profession (SACLAP), the International Association of Impact Assessments (IAIA) and the Institute of Environmental Management and Assessment (IEMA).

3. SCOPE OF WORK AND APPROACH TO THE STUDY

An Application form for Environmental Authorisation of the relevant activities as well as an Environmental Scoping Report has been submitted to Gauteng Department of Agriculture, Conservation, and Environment (GDARD). An Investigative Approach was followed and the relevant physical, social, economic, and Institutional Environmental Aspects were assessed.

The scope of work includes the necessary investigations, to assess the suitability of the study area and the surrounding Environment for the Proposed Activities. The Scoping Exercise identified the Anticipated Environmental Aspects in an issues matrix and it also supplied a preliminary significance rating for the impacts identified. The Scoping Process

also assessed the possible impacts of the Proposed Development on the surrounding Environment (including the Interested and Affected Parties).

This document represents the Draft EIA for the Proposed Development. The EIA must be in line with Section 32 of the National Environmental Management Act (NEMA), 1998 (Act 107 of 1998) and the Approved Plan of Study for EIA that was submitted as part of the Scoping Report.

The EIA takes into consideration the Environment that may be affected by the activity and the manner in which the physical, biological, social, economic, and cultural aspects of the Environment may be affected by the Proposed Activity. A description of the property on which the activity is to be undertaken and the location of the activity on the property are described. A description of the Proposed Activity and any feasible and reasonable alternatives were identified. In addition, a description of the need and desirability of the Proposed Activity, including advantages and disadvantages that the Proposed Activity or alternatives may have, on the Environment and community that may be affected by the activity are included.

An identification of all legislation and guidelines that Bokamoso is currently aware of is considered in the preparation of this EIA Report. Furthermore a description of Environmental issues and potential impacts, including cumulative impacts, are identified and discussed. Information on the methodology that will be adopted in assessing the potential impacts is furthermore identified, including any Specialist Studies or specialised processes that were/should be undertaken.

The EIA Report eventually determines whether a Proposed Project should receive the "Go-Ahead" or whether the "No-Go" option should be followed. If the EAP recommends that the project receive the "Go-Ahead", it will (in most cases) be possible to mitigate the issues identified to more acceptable levels. Reference is also made to the mitigation of identified impacts or for further studies that may be necessary to facilitate the design and construction of an Environmentally Acceptable Facility.

Details of the Public Participation Process (in terms of Sub-Regulation 1) are also included. Sub-Regulation 1 requires that the following information be included as part of the Public Participation Section of the EIA report:

- (i) The steps undertaken in accordance with the Plan of Study For EIA,
- (ii) A list of persons, organisations and Government Organs that were registered as Interested and Affected Parties;
- (iii) A summary of comments received from, and a summary of issues raised by the Interested and Affected Parties, the date of receipt of these comments and the response of the EAP to those comments;
- (iv) Copies of any representations, objections, and comments received from the Registered Interested and Affected Parties.

The mitigation measures and guidelines that are listed in the EIA Report are also summarised in the Environmental Management Plan (EMP) (**refer to Annexure F**). An EMP is also a requirement of the EIA Process (Section 32 and 34 of the National Environmental Management Act (NEMA), Act 107 of 1998).

4. DESCRIPTION OF THE PROPOSED ACTIVITY

4.1 Name of Activity

The Establishment of a Mixed Land Use Development and associated infrastructure to be known as Leeuwpoot South Mixed-Use Development on part of the remaining extent of the Farm Leeuwpoot 113 IR.

4.2 Particulars of Applicant

Applicant: Leeuwpoot Developments (Pty) Ltd

Contact Person: Mr HANNES (J C) POTGIETER

Physical Address: ALLAN CORMACK STREET
INNOVATION HUB
PERSEQUOR PRETORIA
0181

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Fax: 0843 9000

4.3 Background of Project

The Application for Environmental Authorization for the Proposed **Leeuwpoot South Mixed-Use Development** situated on part of the remaining extent of the Farm Leeuwpoot 113 IR was submitted to GDARD on **8 November 2016** and the Final Scoping Report was received by GDARD on **1 February 2017**.

A Memorandum in support of an Application for establishment of a township in terms of Section 96 (1) of the Town Planning Ordinance, 1986 (Ordinance 15 of 1986) was compiled by Urban Dynamics in February 2015 of which the Layout Plan has been revised several times based on comments received from I&APs such as EMM, or results obtained from Specialist Reports. The latest revision of the Layout Plan is dated February 2017.

Refer to Annexure D1b – Leeuwpoot South layout.

The following Specialist Studies were considered during the compilation of this Draft EIA:

- Town Planning Memorandum compiled by Urban Dynamics, February 2015;
- Phase 1 Soil Investigation compiled by Intraconsult Consulting Engineers & Geologists, November 2006;

- Phase 1 Dolomite Stability Assessment Intraconsult Consulting Engineers & Geologists, November 2006;
- Hydopedology based Wetland Assessment compiled by Terrasoil, April 2016;
- Stormwater Management Report compiled by Bigen Africa, September 2016;
- Fauna Habitat Assessment compiled by Bokamoso Environmental, March 2016;
- Flora Assessment compiled by Bokamoso Environmental, March 2016;
- Avifauna Assessment compiled by Bokamoso Environmental, March 2016;
- Phase 1 Heritage Impact Assessment compiled by Leonie Marais-Botes, March 2017;
- Bulk Services Impact Assessment compiled by GLS Consulting, March 2017;
- Preliminary Electrical Engineering Design Report compiled by Bigen Africa Services (Pty) Ltd, December 2016;
- Traffic Impact Assessment compiled by Innovation Transport Solutions, March 2017;
- Market Study compiled by Demacon Market Studies, December 2016;
- Socio-Economic Assessment compiled by Izelque Botha, March 2016;

4.4 Particulars of Activity

4.4.1 Nature of Activity

The Applicant seeks to establish a **Township for Mixed Use Purposes** consisting of the following land uses:

- “Residential 1” (1404 erven for 400m² bonded stands),
- “Residential 1” (1212 erven for 300m² bonded FLISP units),
- “Residential 1” (981 erven for 220 m² FLISP units),
- “Residential 1” (1334 erven for 200 m² subsidised units),
- “Residential 4” (11 erven for 1809 3-storey units 120 u/ha),
- “Residential 4” (10 erven for 1693 3-storey units 120 u/ha),
- “Residential 4” (18 erven for 4208 4-storey units 160 u/ha),
- “Residential 4” (10 erven for 2862 4-storey units 160 u/ha),
- “Residential 4” (1 erf for 225 3-storey units 120 u/ha),
- “Special” (3 erven for community facilities),
- “Business 2” (8 erven for shops, churches, education, restaurants, medical rooms, gymnasiums etc.),
- “Special” (1 erf for a Clinic),
- “Special” (256 erven for a Retirement Village comprising of 639 units),
- “Special” (1 erf for Agriculture with consent),
- “Public Services” (4 erven for electrical substations)
- “Community Facility” (7 erven for community facilities);
- “Community Facility” (5 erven for Primary Schools);
- “Community Facility” (2 erven for Secondary Schools);
- “Transportation” (17 erven for public transport – Railway, Station, Taxi, Parking);
- “Public Open Space” (84 erven for parks), and
- Roads (Provincial and Streets).

4.4.2 Location of Activity

Refer to Figure 1 for Locality Map and Figure 2, Aerial Map

The Proposed Development is 769ha in extent and is situated on part of the remaining extent of the Farm Leeuwpoot 113 IR, Boksburg, and Ekurhuleni Metropolitan Municipality, Gauteng Province. The Proposed Development is situated south of Sunward Park and Kingfisher Avenue, west of Barry Marais Road (M43), north of North Boundary Road (R554), and east of Rondebult Road (R21).

On a regional scale the Proposed Development is situated approximately 6km south of the Boksburg CBD, 3km south of the Boksburg Industrial area, 8.7km northeast of the Barry Marias off ramp on the N3, 5km east of the Roodekop Industrial Area, and 3.3km south of the N17 Rondebult off ramp.

The majority of the surrounding properties are zoned "Residential 1". Several businesses exist along Kingfisher Avenue, including four shopping centres, a hospital, medical consulting rooms, and a filling station (**Refer to Figure 3 – Surrounding land use**). Some properties to the south and west of the Proposed Development site are still zoned "Agricultural".

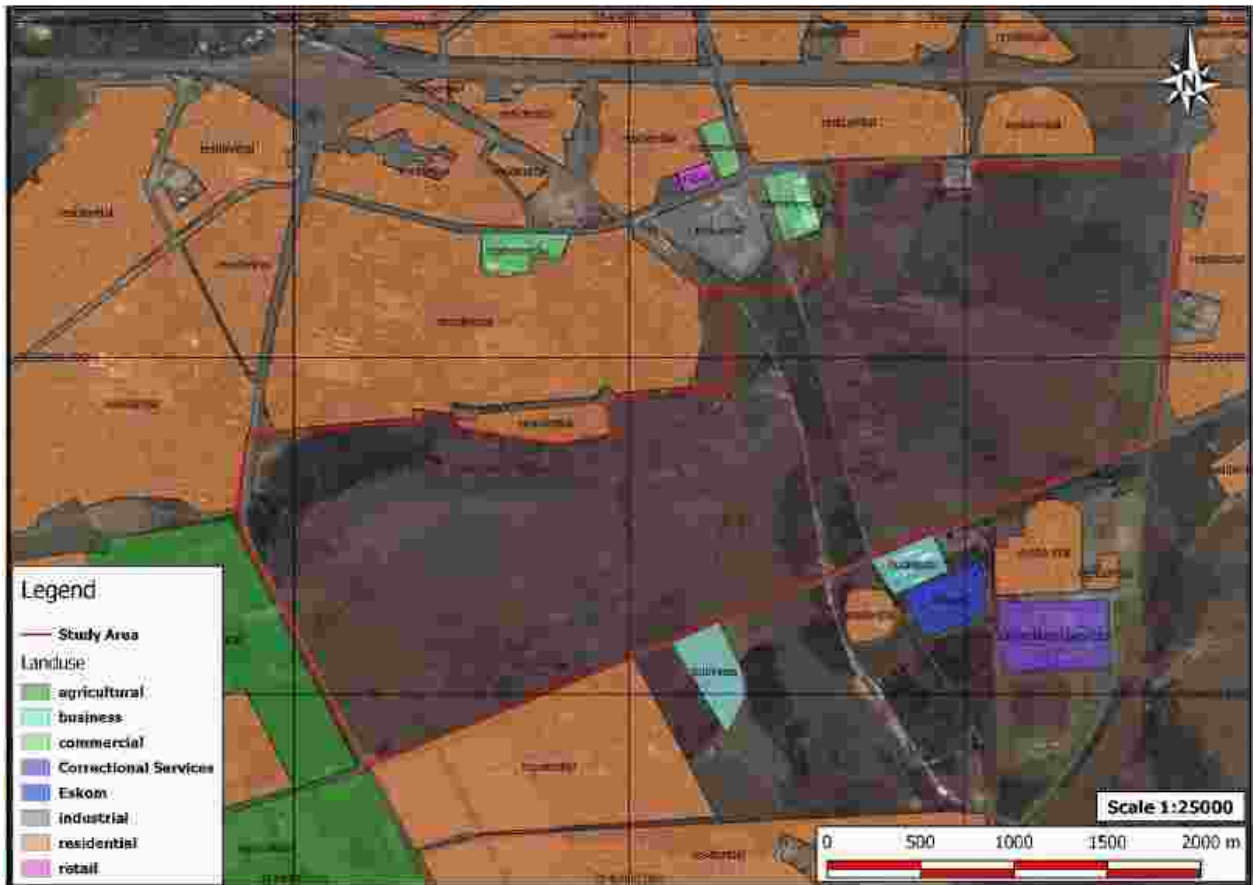


Figure 3: Surrounding Land Use

The Proposed Development falls within Wards 31 and 43, in the Southern Region of the jurisdiction of Ekurhuleni Metropolitan Municipality.

Refer to Figures 1, 2 and 4.



Figure 4: Gauteng Urban Edge

The subject property falls within the Urban Edge of Gauteng Province (Urban Edge 2011).

4.4.3 The Role and Importance of the Proposed Development

The Proposed Leeuwpoort South Mixed-Use Development forms part of a larger housing development project identified by Ekurhuleni Metropolitan Municipality in order to address the urgent housing needs and the housing backlogs in the Ekurhuleni Metropolitan area.

The Proposed Development Site is vacant and is situated in close proximity of the Boksburg CBD. The development of the study area will furthermore promote the optimum utilisation of services, it will promote urban renewal, it will promote Urban Densification and it will contribute to economic growth of the area.

The Proposed Development complies with the principal of Infill Development in accordance with the Ekurhuleni Metropolitan Spatial Development Framework of 2011.

4.4.4 The Need and Desirability

The following motivation with regards to Need for Leeuwpoort South was provided by Town Planning Consultants **Urban Dynamics**:

“Need

It is the view of the Applicant that the Proposed Township Establishment of Leeuwpoort South will enhance the value of the land in the area due to the stabilizing effect that formal development of the Remaining Extent of the Farm Leeuwpoort No 113 IR will have and that it will contribute to much needed economic growth and supply of affordable residential opportunities in this part of Ekurhuleni.

Housing Need

It is hereby stated that there is a qualified need to address regional housing issues in the sub-region. The site is located close to areas such as Windmill Park and Dawn Park in need of more affordable housing opportunities which is conveniently located close to the Boksburg Node. Most of Ekurhuleni's affordable suburbs are

poorly located in terms of access to amenities and centres of employment and this makes the development of Leeuwpoot South in this location unique.

The growing gap between income and the cost of housing don't only affect lower income households but also households with middle-range incomes whom struggle to find affordable accommodation. There are a growing number of South African households that are willing and able to buy or rent a non-subsidized house. However, many of these families simply have nowhere to go as there is little suitable housing stock made available to them in good localities. Many of these families resort to subsidised housing as an alternative residential option thereby creating a shortage of subsidised housing supply. A need exists to create affordable housing for middle income households who are willing to purchase or rent non-subsidised housing and thereby participate in financed and bonded housing.

The Proposed Leeuwpoot South Development proposes to address the need to initiate an upward mobility trend through the provision of "Gap Housing". "Gap Housing" addresses the gap between what middle income families earn and the affordability of housing. "Gap Housing" is therefore aimed at widening the availability of housing stock for the lower income families. This Proposed Development commits itself to providing "Gap Housing". This will be achieved by bridging the gap between the high and low income housing types.

Economic Empowerment – Bridging the Gap

In the process of bridging the gap between high and low income areas, it is essential to ensure that employment opportunities are available to all income levels in order for them to be able to improve their economic status and partake in financial growth. These employment opportunities should be located in close proximity to communities. In this case Leeuwpoot South is situated close to the Boksburg CBD and various industrial areas in and around Boksburg. The relatively short driving distances to these areas of economic opportunity make this location suitable for a residential development. The proximity of employment opportunities to this development can benefit the residents of this Proposed Development. The

development will also link the existing developments such as Sunward Park, Windmill Park, Van Dyk Park and Klippoortjie to make a more compact and coherent Urban Form. The development will close the locational gap between these areas. Economically, this development will also bring new business opportunities in the area (stands zoned "Business 2" and "Business 3" will allow the establishment of local businesses and some local employment. The linkages created between the areas will enhance the value of the development economically and provide mobility to its residents to economic opportunities.

Strategic Location

The site is located along Rondebult Road which links the N17 in the south with the N12 in the north and provides access to various commercial and residential areas situated along the route. The Leeuwpoot Development is situated next to Rondebult Road which is part of Phase 1 of the BRT network. The BRT comprises of grid-based corridors along mobility spines linking main residential and economic nodes in line with the Metropolitan Special Development Framework. Very few greenfield developments are so well located within the Urban Core. The site falls in an area which is earmarked as "Preferred Urban Growth Area" in the Ekurhuleni MSDF (2015). In order to create the preferred Urban Form (According to the MSDF (2015) the following criteria were used to identify the Preferred Urban Development areas:

- Support a compact city.
- Avoid 'leap frog' development.
- Availability of engineering services.

The MSDF (2015) continues: The emphasis in this case is to overcome the fragmented nature of the city and to develop a continuous urban structure in support of engineering, social and business services. It is important that the longer-term expansion of engineering services be planned in such a manner that Urban Growth will be incremental with the proposed priority area as base. Future Urban Growth should aim at linking presently active areas instead of 'leap frog' development in isolated Greenfield Nodes.

Upgrading of Infrastructure

With the proposed infrastructure upgrades the development of the Leeuwpoot South will ensure the most optimal use of the existing infrastructure while providing the necessary infrastructure upgrades to support the Proposed Development. This will enhance the sub-area in terms of infrastructure availability and will provide the needed housing development and associated supportive land uses and amenities further enhancing and benefiting the area.

Infill Development

The site represents an Infill Site which needs to be developed in order to integrate the various pockets of development to form a cohesive Urban Environment. In this context, the site will connect the areas of Sunward Park, Windmill Park, Van Dyk Park and Klippoortjie to create a continuous and coherent Urban Form. As available land for development is used up and the pressures on the current Urban Edge increase, it is sensible to start developing the previously overlooked parcels of infill land situated inside the urban edge. The site is situated inside the Urban Edge and close to the economic core and should thus be optimised to decrease pressure on the Urban Edge.

According to the Ekurhuleni Growth and Development Strategy, 2025, Infill Development and Densification will be promoted at all times. In this regard developable vacant land in and around the Urban Core, especially land parcels owned by government, will be identified and prioritised for public sector development initiatives, like human settlement development with housing subsidy funding. Such development will contribute much to the more cost-effective utilisation of existing Bulk Services Infrastructure. The maximum and most cost-effective utilisation of existing Bulk Services Capacity will be sought by promoting infilling and densification in selected areas of the Metro, notably the Core Urban areas in and around the mining belt – this will tie in with the strategies to ensure a compact, integrated and equitable city.

Densification, intensification and infill development are elements which are fundamental to the restructuring of the South African 'Apartheid City' and to the concept of a compact city that optimally utilises all existing resources within the area (MSDF, 2015).

Variety of Housing Typologies

The Proposed Development will consist of a mixture of bonded stands, subsidised stands and FLISP (Finance Linked Individual Subsidy Programme) units. This will create a Mixed Use Development, with various densities and with various housing options and typologies and will make it a sustainable and integrated development. Within the township layout provision was made for various housing typologies and densities to provide for interest and variety.

Leeuwpoort South is a development that aims to promote a high quality, Residential and Mixed Use Environment supported with private and public amenities. As such it could be argued that the Proposed Development will act as a key structuring feature in the sub-region because it will encourage a range of housing options to meet different and changing needs of households in the area. The Proposed Development promotes mixed-uses by allowing appropriate services, supportive uses and social amenities to be intermingled with residential development.

Better Utilization of Land

The Application is made to ensure the optimum utilization of the site without defeating any of the primary considerations in respect of environmental issues, compatibility, health, safety, orderliness, economics and the wellbeing of all persons and instances. The Proposed Development introduces an alternative investment opportunity within the Urban Core of Boksburg. It is the intention to realise the development potential of the property by establishing mixed income and Mixed Land Use in Leeuwpoort South, which is strategically located close to the Boksburg Primary Node. The Proposed Development will consist of an integrated, multifunctional neighbourhood offering residential, business, community and recreational facilities. The land is currently underutilised, and the proposed development will clean up the site and provide considerable investment.

Impact on Surrounding Properties

The impact of this Proposed Development on the surrounding developments will be mostly positive as the development will clean up the site which is used for illegal dumping. The Proposed Development will be a high quality development which will not detract property values in the area. The provision of new tenure options and housing typologies would generally enhance the area and accommodate a wide range of residents and income groups. The Proposed Development will protect the area from land invasion thus having a lesser potential impact. The development will complement and be compatible with the uses in the Sunward Park to the north and would be compatible with the development in Windmill Park since the Proposed Development provides for a mixed income development and is sensitive in placing land uses and housing typologies adjacent to the surrounding developments. The development will have a minimal impact on Sunward Park as it is separated from Sunward Park by a wetland system and Kingfisher Avenue.”

Desirability

The Proposed Mixed Use Development is desirable due to complying with principles of the Spatial Planning Land-Use Management (SPLUMA) Act No. 16 of 2013, Ekurhuleni Metropolitan Spatial Development Framework, 2011, the National Development Plan, and the Gauteng Spatial Development Framework (GSDF) 2011.

SPLUMA

Principle of spatial justice

“Ekurhuleni has identified this strategically located, inactive land parcel to develop an inclusionary Mixed Land Use Development, which will cater for a variety of income groups. The Proposed Development will offer bonded housing typologies and inclusionary housing addressing the distorted spatial space in Ekurhuleni and bridging the gap between areas such as Sunward Park, Windmill Park, Van Dyk Park and Klippoortjie developments. The development will improve ownership for previously disadvantaged individuals.

The proposal of a Mixed Use Development will provide for a cohesive social and economic environment, meeting basic needs of residents as well as addressing past spatial imbalance. The Proposed Development will improve access to housing (close to the Boksburg CBD) and employment opportunities, ensuring a development that is integrated, socially just, functional and environmentally sustainable.

Inclusion of previously excluded

The Proposed Development will promote inclusivity by providing inclusionary or gap housing to people who are unable own property in the competitive residential market. Inclusionary housing is considered the central theme of the development and the Proposed Development will promote the above principle by making provision for the lower-middle income to participate in the property market. The development is in line with the Ekurhuleni MSDF, 2015 as it is an infill development located within the urban edge and within the Preferred Urban Growth Area.

Spatial sustainability

The Proposed Development is aimed at providing inclusionary housing with a mixed use component. The Proposed Development will deliver formal housing with supportive facilities attracting investors and financial investment into the area. Ekurhuleni promotes development along public transport corridors where it has already focused considerable investment in infrastructure and social amenities and where it plan to do further investment. The Proposed Development within close proximity to the node and in the Preferred Urban Growth Area could be promoted as it will not place additional strain on the fiscal, institutional and administrative means of the City and the Republic, but will optimise on the investments already made in the area.

Ekurhuleni Metropolitan Spatial Development Framework, 2011

“In terms of local policy, the Proposed Development of Leeuwpoort South is located in the jurisdiction of Ekurhuleni Metropolitan Municipality and falls within the Southern Region and more specifically in Wards 31 and 43.

The Ekurhuleni Metropolitan Spatial Development Framework, 2015 sets out its vision to be The Smart, Creative and Developmental City. Based on the vision, the mission statement developed for the EMM reads as follows: Ekurhuleni provides sustainable and people centred development services that are affordable, appropriate and of a high quality. We are focussed on social, environmental, and economic regeneration of our city and communities, as guided by the principles of Batho Pele and through the commitment of a motivated and dedicated team."

□ **Specialised Activity Nodes within the Core Development Triangle**

The City wants to promote the Core Development Triangle, but there are a number of core areas within the Ekurhuleni Core Development Triangle of which the "East West Development Corridor" (previous mining belt) which includes the CBDs of Germiston, Boksburg and Benoni is one. This site is situated within the previous mining belt along the East West Development Corridor where Infill Development and Densification is promoted.

□ **Optimise Linkages within the Core Area**

The site is situated adjacent and near to the two major desire lines (linkages of primary nodes to the core area) which is the area between N17 and N12 as well as the north south linkage between Tembisa and the Alberton area.

□ **Link Disadvantaged Communities to the Core Area**

It is then essential to link the communities from the four disadvantaged areas to this Core Development Triangle which is achieved by designing the EMM public transport system in such a way that it feeds into the Core Development Triangle.

□ **Mixed Use, High-Density Development along Corridors and at Nodes**

Ekurhuleni Metropolitan Municipality promotes Mixed Use, High Density Development along these public transport corridors and in the areas in and around the activity nodes. This will ensure the optimum utilisation (and rationalisation) of public transport in the EMM area and it will

support the disadvantaged communities in terms of easy access to job opportunities.

□ **Structure the IRPTN to Support Development Corridors**

The Integrated Rapid Public Transport System (IRPTN) should be designed around the main strategic linkages within the EMM area. In this regard that it is essential to promote Transit Orientated Development around the railway network within the EMM. The railway network links all the major activity nodes to one another and it runs through large portions of strategically located vacant land in the EMM.

□ **Promote Infill Residential Development**

Apart from the strategic linkages mentioned above, the EMM should then as a priority also promote infill residential development in all the strategically located vacant areas that are suitable for development. In this regard it is essential to properly utilise the opportunity provided by publicly owned vacant land in the area to set the trend of infill development in motion. Infill Residential Development should be promoted in vacant areas within the Core Development Triangle as a priority, and within the Urban Edge in general. This should take the form of strategic densification as described in the Ekurhuleni Residential Densification Strategy. Public housing is one of the strongest instruments available to a local authority to set a certain trend of development in an area, be it a corridor initiative, or the principle of Infill Development or a specific typology of housing to be provided. Essentially, the Infill Development will then evolve around the reclamation of strategically located mining land in the area. It should be noted that Infill Development should not take place to the detriment of the environment. Infill Development should also not take place in areas that are detrimental to the health of future inhabitants.”

National Development Plan

“The National Development Plan (NDP) offers a long-term perspective for the development of South Africa aimed at eliminating poverty and reducing

inequality by 2030. The importance of creating sustainable human settlements is emphasized by the NDP. The key target for human settlements as described by the plan includes:

- More people living closer to their places of work.*
- Better quality public transport.*
- More jobs in or close to dense urban townships.*
- Clear strategy for densification of cities through land use planning and focused strategy on the housing gap.*

Due to the location of the site close to the Boksburg CBD, the Proposed Development will offer affordable residential opportunities in close proximity to places of work. The development itself also offers a small commercial component which could lead to long term job creation. The road network within the development provides for public transport stops as well as possible public transport routes and is linked to the adjacent to Rondebult Road which is one of Ekurhuleni's strategic public transport networks and part of the IRPTN Phase 1. The location of the site as well as the site layout will contribute to an efficient public transport system benefiting local and surrounding residents. The development will also address the issue of providing densification along major IRPTN routes in a growing region as well as meeting the ever increasing "Gap Housing" market. It can be interpreted that the Proposed Development will assist in realizing the vision of the National Development Plan by creating a development that is compact offering some employment opportunities and access to quality public transport."

Gauteng Spatial development framework

"Gauteng Spatial Development Framework (GSDF) aims to achieve an equitable and sustainable Urban System and Structure the Urban Form. The GSDF does not replace municipal SDF's but enables the creation of a coherent framework, which forms the basis for future development and

decision-making processes (e.g. Policy, resources and socio-economic profiles). The framework aims to achieve the following for the province:

- Functional efficiency (so that individual elements work together as a whole);*
- Environmental harmony (creating development processes and forms that are environmentally sustainable);*
- A Sense of Place (creating a place that is recognisably distinct, strengthens local identity, and simultaneously plays its role within the wider Urban System); and*
- Socio-economic sustainability (is viable, enabling economic growth and expansion and supports all social activities and the development of its communities).*

The Proposed Development will encourage the above mentioned principles as it will take a holistic approach towards delivering a township establishment that is efficient and socio-economic sustainability.”

5. ALTERNATIVES IDENTIFIED

Alternatives considered as a part of the EIA Process included the “No-Go” Option, land use alternatives, and layout alternatives.

5.1 The “No-Go” Alternative

The Proposed Development site is vacant and has been earmarked by the Ekurhuleni Metropolitan Municipality for residential development in the form of affordable housing. The locality of the Proposed Mixed-Use Development provides for affordable housing in close proximity to economic opportunities in the Boksburg CBD. The Proposed Development shall provide affordable housing which is in line with the **Ekurhuleni Metropolitan Spatial Development Framework (MSDF), 2011** principle of promoting Infill

Residential Development. This principle states that the EMM should promote Infill Residential Development in strategically located vacant land areas.

The Proposed Development can thus be motivated in terms of the institutional framework documents relevant to the locality of the Application Site, is desirable and is supported in terms of the following:

- The Proposed Development complies with the objectives set out in the Spatial Planning and Land Use Management Act (SPLUMA), Act No.16 of 2013;
- The Proposed Development is in line with the principles of the Ekurhuleni MSDF;
- Bulk Services already border the proposed development site;
- The Proposed Development is considered desirable and necessary from a town planning point of view;
- The Proposed Development will provide in the current need for affordable housing and will contribute to economic growth.

The most Significant Environmental Preliminary Issues that were Identified during the Scoping Process for the Proposed Leeuwpoort South Mixed Use Development are:












- According to the GDARD C-plan a portion of the Proposed Development Site qualifies as is a Critical Biodiversity Area due to consisting of Irreplaceable sites as a result of the potential presence of Orange Listed Plant Habitat (**refer to Figure 6**).
- The site falls within the Tsakane Clay Grassland vegetation unit and the Klipriver Highveld Grassland. Tsakane Clay Grassland vegetation unit is considered Vulnerable, while the Klipriver Highveld Grassland is listed as Critically Endangered according to the National list of threatened terrestrial ecosystems for South Africa, 2011. Sensitive areas have been designated as Public Open Space in the Proposed Development Layout Plan.
- In terms of Avifauna the wetland vegetation habitat unit provides optimal breeding and foraging habitat for both African Grass Owl and African Marsh Harrier.
- The wetland vegetation habitat unit is situated along the north-western section of the study area with one small artificial wetland (due to a sewerage leak) to the

east. The total surface area of the wetland vegetation study unit is approximately 100ha. The proximity of the wetlands to the Proposed Development site triggers a Water Use License Application.

- Some of the Bulk Services to be provided to the Proposed Development will stretch across the watercourses present within the Proposed Development area requiring Environmental Authorisation and triggering a Water-Use License Application.
- Trichardt Road transects the site from north to south. Evidence of illegal dumping exists next to Trichardt Road and along Boundary Road.
- Several Surface Right Permits (SRPs) in favour of several organisations are registered against the property. DMR will be requested to confirm if any SRPs are still valid.

No "Fatal Flaws" were identified during the Scoping Phase which would trigger the "No-Go" option.

Table 4: Environmental Issues - "No-Go" Option

Issue	Short term	Medium term	Long Term	Impact	Reasons
Geology and soils				Positive Neutral Negative	The site is undermined and vacant. The potential for erosion exists considering the site is vacant and slopes towards the watercourse.
Hydrology				Positive Neutral Negative	With potential for erosion, siltation will become an increasing problem in the adjacent watercourse and water pollution will occur when stormwater runoff is not managed. The wetland might degrade as a result of the aforementioned.
Vegetation				Positive Neutral Negative	Exotic invaders could invest the vacant property and easily spread via the watercourse. Protected vegetation and habitat occurring on site might be destroyed as a result of no development.
Fauna				Positive Neutral Negative	Protected Fauna potentially occurring on site might be hunted, their habitat might be destroyed, or habitat might be negatively affected by siltation of the wetland.
Social				Positive Neutral Negative	No sites of historical importance occur on site. The need for affordable housing will not be addressed if the "No-Go" option is affected.
Economic				Positive Neutral Negative	Currently the study area does not have any economic benefits for the local community and without development the status quo will prevail.

Note: The "No-Go" option is predominantly neutral in the short term but turns negative in the medium to long term.

5.2 Land use alternatives

5.2.1 Mix Use Development (Preferred Alternative)

The Proposed Mixed Use Development will consist of the following land use zones; which will be elaborated on below: Residential 1, Residential 4, Special, Business 2, Community Facility, Transportation, Public Open Space, and Roads.

The Environmental Issues identified on the study area were regarded as the form giving elements for the preferred layout. Following completion of the Ecological Studies, Hydrological Studies (i.e. wetland delineation), Cultural and Historical Survey, and various other investigations, it was possible to compile a sensitivity map of the study area. **Refer to Figure 26 for Sensitivity Map and Refer to Figure 28 for Proposed Layout Over Site Sensitivities**

The original layout was amended in order to accommodate the site sensitivities and issues identified and the layout presented as **Figure 8b** in this report represents the preferred layout.

Discussion of the Proposed Land-Uses:

The development provides bonded, FLISP and subsidised stands and units in Leeuwpoot South at a level that is affordable for people in the “Gap Market”. The development will cater for bonded housing for middle income groups; lower earning income groups and subsidised market making it a fully integrated development in line with the BNG principles, principles of the National Development Plan and principles of the Spatial Planning and Land Use Management Act.

A total of 4931 single residential erven plus 10797 residential units will be provided and are made up of the following components:

- “Residential 1” (1404 erven for 400 m² bonded stands),
- “Residential 1” (1212 erven for 300 m² bonded FLISP units),

- “Residential 1” (981 erven for 220 m² FLISP units),
- “Residential 1” (1334 erven for 200 m² subsidised units),
- “Residential 4” (11 erven for 1809 3-storey units 120 u/ha),
- “Residential 4” (10 erven for 1693 3-storey units 120 u/ha),
- “Residential 4” (18 erven for 4208 4-storey units 160 u/ha),
- “Residential 4” (10 erven for 2862 4-storey units 160 u/ha), and
- “Residential 4” (1 erf for 225 3-storey units 120 u/ha).

The above is in line with the Ekurhuleni Metropolitan Spatial Development Framework (EMSDF), 2011 principle of promoting infill residential development. This principle states that the EMM should promote infill residential development in strategically located vacant land areas.

Business

The layout provides for 8 stands zoned “Business 2” for shops, restaurants, medical consulting rooms etc. to provide local shopping facilities for the community living in Leeuwpoort South.

Community Facilities

The layout provides for 7 community facilities which could be used as churches, crèches, multi-purpose centres or any other community use depending on the need in the community. Two Secondary Schools and 5 Primary Schools, as well as one combined Primary and Secondary School have also been provided for use by the future residents. There are also two stands zoned

Special

One erven zoned as “Special” has been set aside for a clinic. 256 Erven were set aside for 639 units forming part of a retirement village, and one erf for Agricultural purposes.

Transportation

The layout provides for 17 stands zoned Transportation which will accommodate public transport facilities such as a railway station, taxi or bus stops. These erven are located

where it is easily accessible from the surrounding Provincial Road Network and from the nodal development around the station. The placement of the public transport facilities were done with visibility and legibility in mind.

Public open space

84 Erven zoned as “Public Open Space” was provided to accommodate the areas which are affected by the wetlands and pans and make provision of parks as part of the development.

EMM Metro Parks strongly insist that no area smaller than 5 000m² for a Public Open Space per Phase. The Proposed Leeuwpoot South Mixed Use Development comprises of six phases i.e. 5000m² times six (6) Phases equals a total surface area of 30 000m² for Public Open Space. The Proposed Development makes provision for 244ha i.e. 2 440 000m² of Public Open Space for the entire development comprising of six Phases or Townships.

World Urban Parks international median for park provision of 14.2 hectares per 1,000 residents. Of this 6.6 hectares per 1,000 residents is maintained Urban Parkland, with the balance being natural/conservation area.

Public Services

Four erven are zoned “Public Services” to cater for electrical substations.

Roads

The development will gain access from the K131 Rondebult Road, K132 North Boundary Road and Proposed K165 (bisecting the site). The current Trichardt Road alignment will be accommodated where practical, but will largely be realigned to accommodate the K165.

The internal street hierarchy for the development can be classified into 3 classes:

- Class 3 arterial roads 20, 25 and 30m road reserves providing access to the Provincial Roads;
- Class 4 access roads - bus/taxi routes in 16m reserves; and

- Class 5b residential access streets in 10,5m street reserves.

Community and social facilities are located at the intersections of the main arterials with other arterials (possible public transport routes) to facilitate ease of access for the community who will be using the facilities. Public Transport Facilities are located along the 25m access roads into the development. Class 4 access roads (16m road reserve) have been provided as access roads into the various development blocks and in some cases forms possible bus routes.

10,5m reserves were provided to allow access to the individual stands.

One of the principles of the Ekurhuleni Metropolitan Spatial Development Framework (EMSDF), 2011 is *Mixed Use, High-Density Development along Corridors and at Nodes*. In terms of this principle the Ekurhuleni Metropolitan Municipality should promote mixed use, high density development along public transport corridors and in the areas in and around the activity nodes to ensure optimum utilisation of public transport in the EMM area and to support disadvantaged communities in terms of easy access to job opportunities. Another principle is *Promoting Infill Residential Development*. In terms of this principle Infill Residential Development should be promoted in vacant areas within the Core Development Triangle [of which the “East West Development Corridor” (previous mining belt) which includes the CBDs of Germiston, Boksburg and Benoni is one] as a priority, and within the Urban Edge in general. The proposal for the establishment of a Mixed Use Development is thus in line with the principles of the EMSDF.

Table 5: Environmental Issues, Alternative 1: "Mixed Use Development"

Issue	Short term	Medium term	Long Term	Impact	Reasons
Geology and soils				Positive	The site is undermined and vacant. The potential for erosion could be addressed by means of developing the land.
				Neutral	
				Negative	
Hydrology				Positive	Erosion and resultant siltation of the watercourse will be prevented with the installation of attenuation ponds as part of the Development Layout.
				Neutral	
				Negative	
Vegetation				Positive	Protected vegetation occurring on site will be protected by incorporating it into Public Open Space Areas.
				Neutral	
				Negative	
Fauna				Positive	The Wetland and buffer boundaries will be incorporated into Public Open Space areas, for serve as Fauna Habitat.
				Neutral	
				Negative	
Social				Positive	No sites of Historical Importance were identified on site. The need for affordable housing within close proximity to economic opportunities will be addressed by the Proposed Development.
				Neutral	
				Negative	
Economic				Positive	The Proposed Mixed-Use Development will produce economic benefits, not only for the residents of the Proposed Township, but for the local community as well.
				Neutral	
				Negative	

Note: The Proposed Development Option is predominantly negative in the short term, turns neutral in the medium term and then positive in the long term.

5.2.2 Commercial

According to the Ekurhuleni Metropolitan Spatial Development Framework (EMSDF), 2011 the study area is earmarked for residential development in the form of affordable housing. Considering the Proposed Development land is vacant and the EMSDF principle that the EMM should promote Infill Residential Development on strategically located vacant land, utilising the property solely for commercial purposes, would not be in line with the Metropolitan Spatial Development Framework.

5.2.3 Low density residential

Although Low Density Residential is mentioned as alternative, developing the entire site with Low Density Residential stands is not in line with the principle of *Promoting Infill Residential Development*. In terms of this principle Infill Residential Development should be promoted in vacant areas within the Core Development Triangle [of which the “East West Development Corridor” (previous mining belt) which includes the CBDs of Germiston, Boksburg and Benoni is one] as a priority and within the Urban Edge in general. According to this principle, Infill Residential Development should take the form of strategic densification as described in the Ekurhuleni Residential Densification Strategy.

The option of utilising this specific portion of vacant land as low density residential development is thus not in line with the principles of Ekurhuleni Metropolitan Municipality.

5.2.4 Agriculture

Although the Proposed Development Site is currently zoned “Agricultural”, it has, according to the Gauteng Agricultural Potential Atlas (GAPA 3), low as well as high agricultural potential (**refer to Figure 5**). One stand 11ha in extent has been set aside for the Purpose of Agricultural Land Use.

The Proposed Development Site does not fall within the seven Agricultural Hubs identified in Gauteng and therefore agriculture is not considered a viable option for the study area.

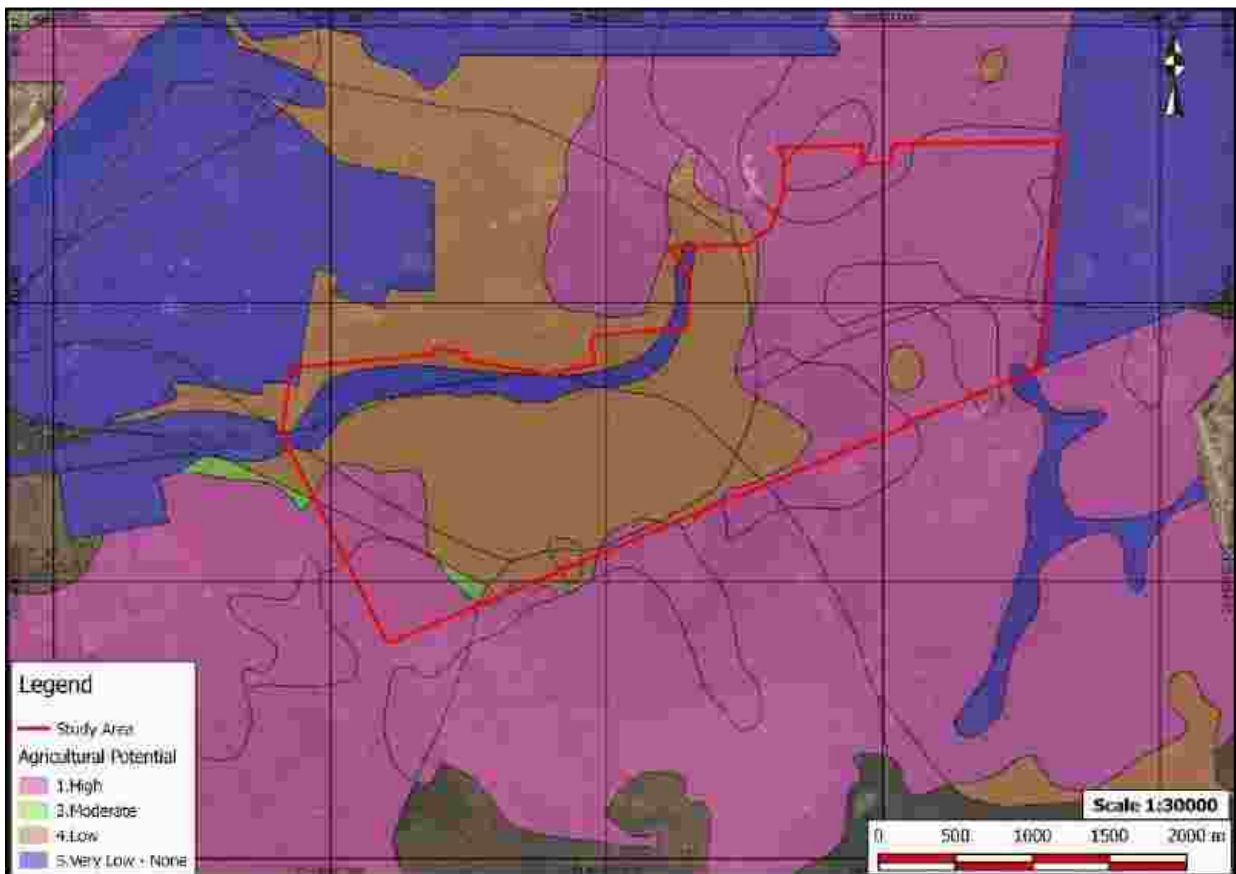


Figure 5: Agricultural potential

5.2.5 Conservation

According to the GDARD C-plan a portion of the Proposed Development Site qualifies as a Critical Biodiversity Area due to consisting of Irreplaceable sites as a result of the potential presence of Orange Listed Plant Habitat along the drainage line and the pan (refer to Figure 6).

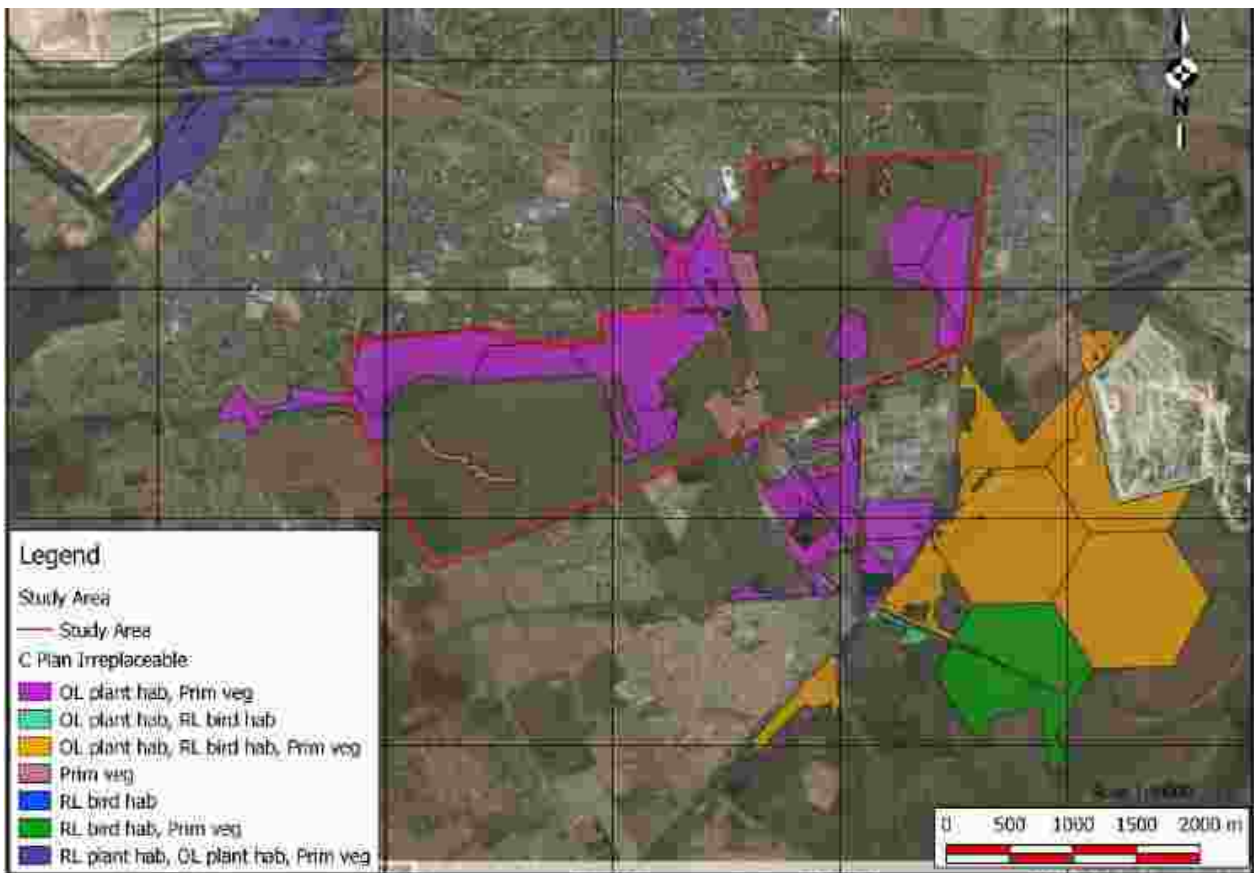


Figure 6: Gauteng Conservation Plan CBA – Irreplaceable sites

The study site lies within the Quarter Degree Squares (QDS) 2628AC and 2628AD. The site falls partly within the Tsakane Clay Grassland vegetation unit in the centre of the site, and the Carletonville Dolomite Grassland to the west and The Klipriver Highveld Grassland to the east. The Tsakane Clay Grassland vegetation unit is considered Endangered, while the Carletonville Dolomite Grassland is listed as Vulnerable according to Mucina and Rutherford, 2006. The Klipriver Highveld Grassland is categorised as Critically Endangered

according to the National list of threatened terrestrial ecosystems for South Africa, 2011 (Government Gazette no. 34809, 2011).

The Proposed Development Site does not form part of a protected area in terms of the National Environmental Management: Protected Areas Act.

A Fauna Assessment conducted concluded that five Fauna Habitats are present on site: *Eragrostis* Pan, *Setaria - Typha* Drainage Line, *Themeda - Eragrostis* Grassland, Transformed *Eucalyptus - Hyparrhenia* Grassland, and Disturbed *Eragrostis - Hyparrhenia* Grassland.

The drainage line and pan habitats are suitable for threatened aquatic species and was therefore designated as "Public Open Space" as part of the Proposed Development. The terrestrial habitat units are fragmented and not well connected to similar habitats.

The Flora Assessment conducted concluded that the Moist *Themeda - Eragrostis* Grassland, Disturbed *Verbena - Eragrostis* Pan, and *Setaria - Typha* Drainage Line are sensitive due to the presence of Orange Listed Plant Species and should be excluded from the Proposed Development. The drainage line, the pan, as well as the *Themeda - Eragrostis* Grassland vegetation unit has been excluded from the development and incorporated into "Public Open Space" zones.

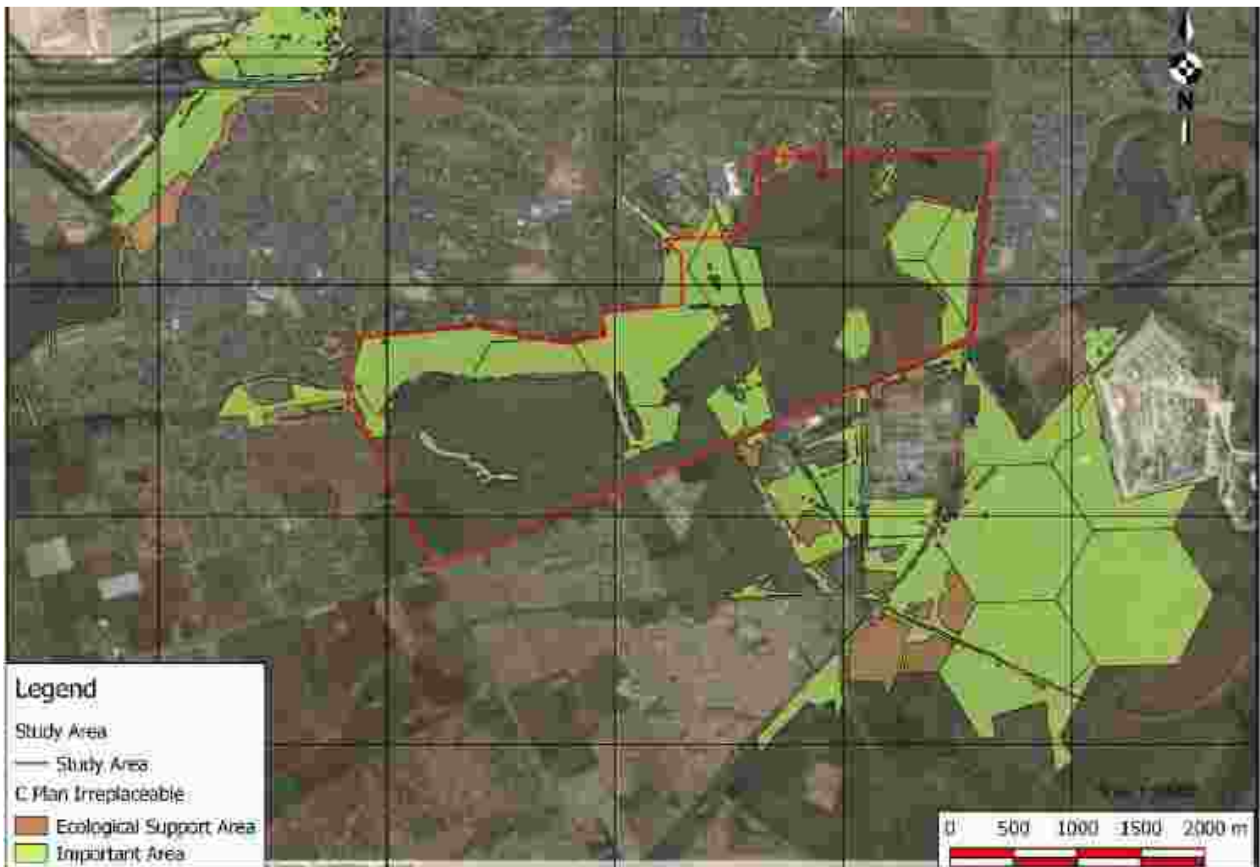


Figure 7: Gauteng Conservation Plan – C-Plan Area

The Avifauna Assessment concluded that three threatened and/or near threatened species, namely Red-footed Falcon (*Falco vespertinus*), African Grass Owl (*Tyto capensis*) and African Marsh Harrier (*Circus ranivorus*) potentially occur on site due to the site providing suitable breeding habitat, but according to the Avifauna specialist the probability of occurrence is estimated to be low.

Considering that the drainage line, the pan, as well as the *Themeda - Eragrostis* Grassland vegetation unit have been excluded from the development and incorporated into “Public Open Space” zones, and that the site is not in a pristine condition due to anthropogenic impacts such as historic cultivation, and existing dumping of building rubble, conserving the site in its entirety is not regarded as the most feasible option for the Proposed Development Site. The highly sensitive habitat areas have however been incorporated into the development as “Public Open Space”.

5.3 Locality Alternatives

The Proposed Development Site is vacant and has been earmarked by the Ekurhuleni Metropolitan Municipality for Residential Development in the form of affordable housing. The locality of the Proposed Mixed-Use Development provides for affordable housing in close proximity to economic opportunities in the Boksburg CBD.

The Proposed Development Site is situated just south of the Boksburg CBD, which is a Mixed-Use Business Area, and in between residential areas. The Proposed Development site is ideal for affordable housing based on integrating pockets of development into a coherent hole, and utilising existing bulk infrastructure.

Several other residential developments are also planned on vacant land elsewhere in Ekurhuleni e.g. Parkdene X7 and Reiger Park X19. It is clear that the locality of the Proposed Township is in line with the existing and planned land uses of the area and thus suitable for the Proposed Planned Mixed Use Development. Therefore, locality alternatives were not considered.

5.4 Layout Alternatives

Various layouts have been considered, but the Environmental Aspects of the Site acted as the main form giving effect to the Preliminary Layout which was included as part of the Final Scoping Report. The Preliminary Layout (**Figure 8a: Preliminary layout map**) was then tested and revised by means of Specialist Inputs conducted as part of the EIA Phase of the Assessment Process, as well as comments received from I&APs during the Scoping Phase of the Assessment Process.

The following Specialists formed part of the Project Team:

- Civil Engineers;
- Electrical Engineers,
- Geotechnical Engineers;
- Town and Regional Planners;

- Architects and Landscape Architects;
- Heritage Specialist;
- Ecologists;
- Air Quality Specialist;
- Noise Specialist,
- Economist;
- Social Impact Assessor;
- Environmental Consultants (Bokamoso Environmental Consultants); and
- The Applicant.

The latest Layout or Proposed Layout (**Refer Figure 8b for Proposed Layout**) is based on results obtained from Specialist Studies conducted as well as inputs from I&APs received during the Scoping Phase of the Assessment Process.

The Major Changes affected from Preliminary Layout to the Proposed Layout are:

- Stands and surface area zoned as “Public Open Space” increased from 66 stands covering 238ha to 84 stands covering 244ha following completion of the wetland assessment and ecological assessments which identified highly sensitive ecological areas and associated buffers;
- “Special” Land Use for the purpose of a Retirement Village increased from 9ha to 19ha;
- Number of “Residential 4” units increased from 7120 to 10797 units;
- Number of stands and surface area zoned “Transportation” increased from 7 stands on 12ha to 17 stands on 14ha in order to cater for Bus stops, Taxi stands, Railway Station etc. at strategic locations within the development site;
- Number of primary schools catered for under “Community Facility” Land Use increased from 4 schools catering for 4500 learners to 5 schools catering for 4500 learners based on comments received from interested and affected parties;
- Number of Secondary Schools decreased from 4 schools catering for 2700 learners to 2 schools catering for 2700 learners,

- The Portion of the Development Site classified as having a High stability risk due to underlying Dolomite has been zoned as “Special” for Agricultural purposes on 11ha and “Community Facility” for a sports field 15ha in size.

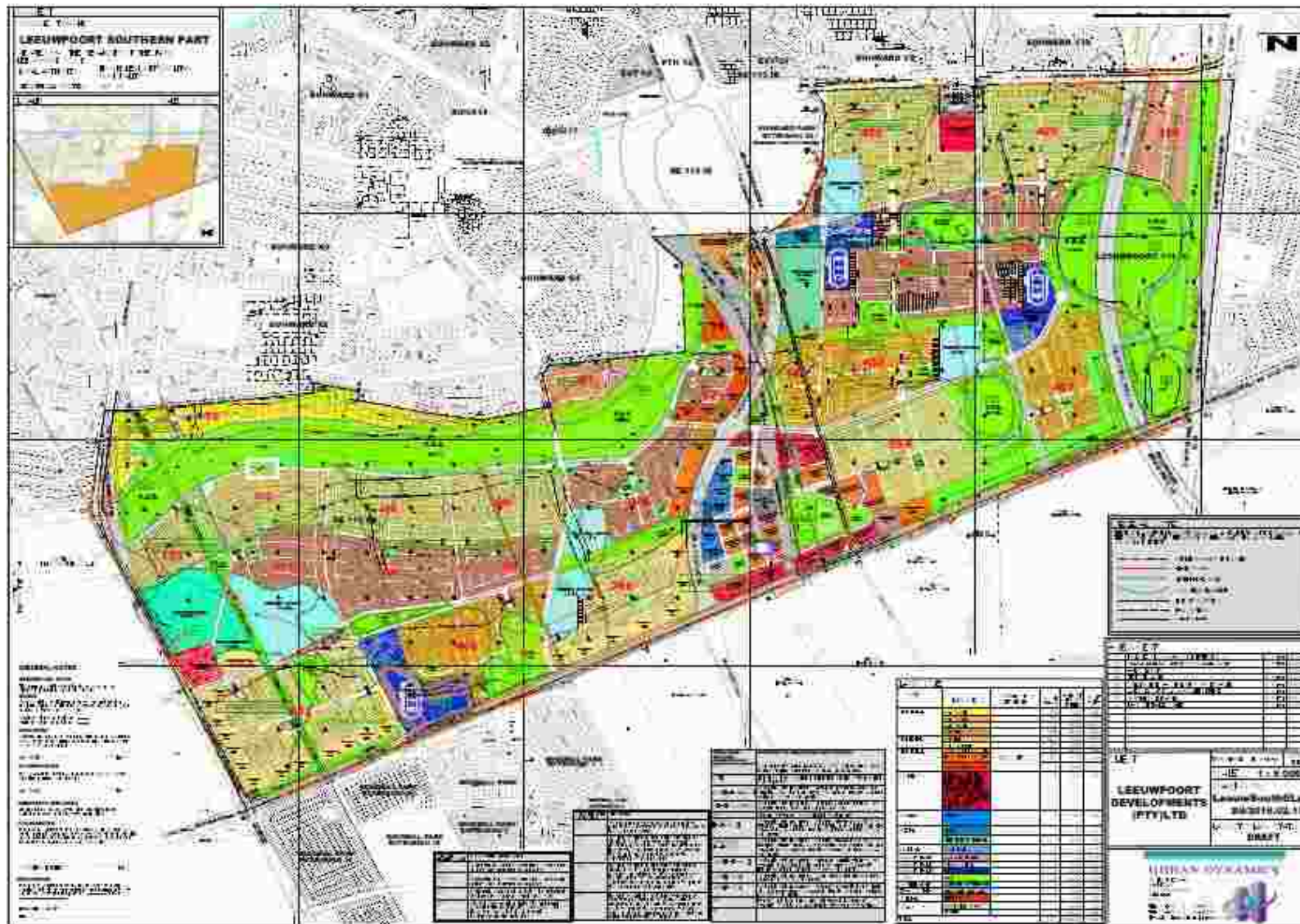


Figure 8a: Preliminary Layout Map

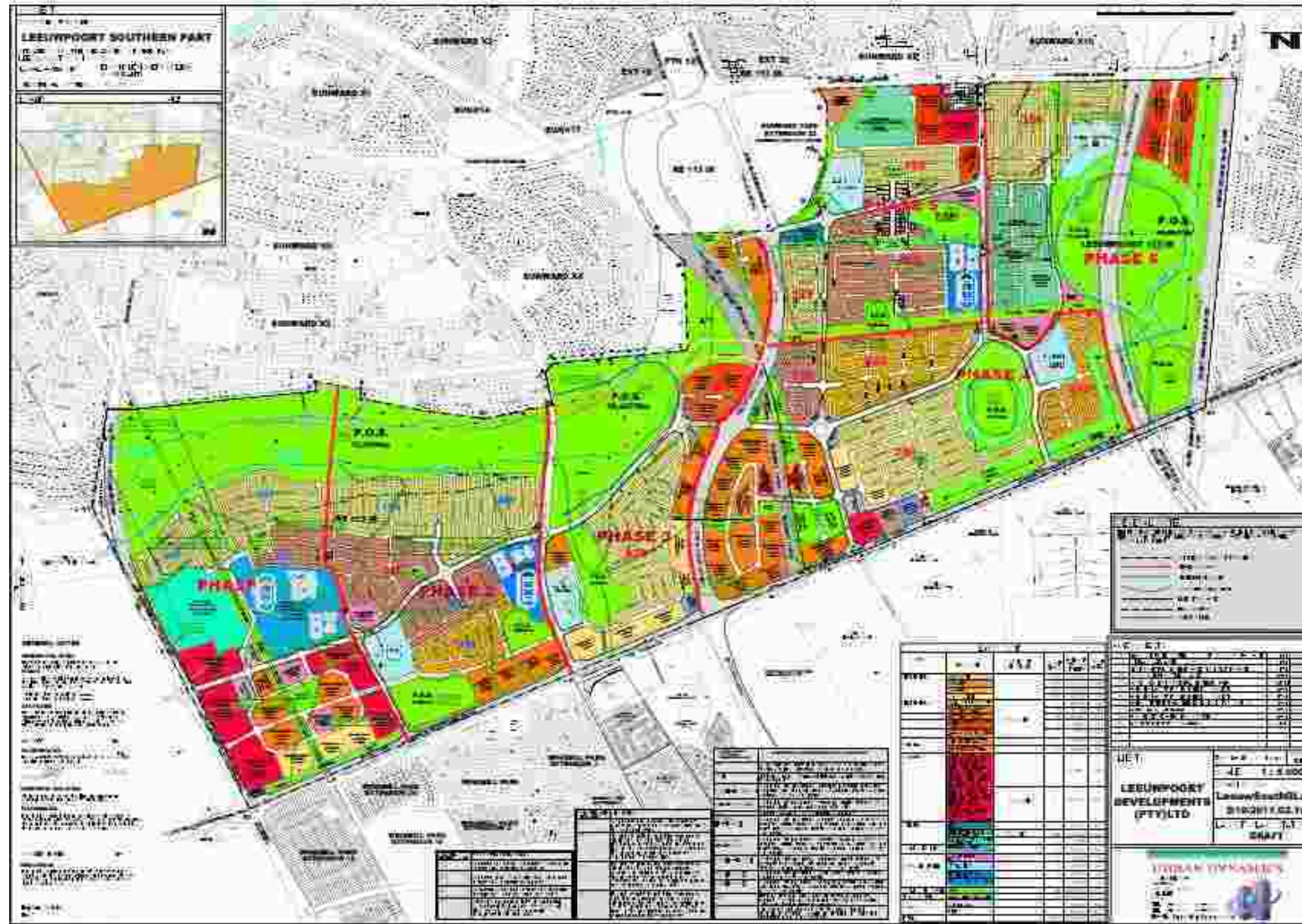


Figure 8b: Proposed Layout Map

6. THE DESCRIPTION OF THE BIOPHYSICAL ENVIRONMENT

This section describes the Biophysical and Socio-economical Environments. It also lists the anticipated adverse and beneficial impacts of the Proposed Development on the Environment. Where possible, mitigation measures were supplied for the adverse impacts and the significance of the impacts listed was also indicated in specific impact tables. In some cases, the impacts have already (during the planning phase) been addressed to such an extent that it was not regarded as necessary to carry the impacts over to the significance rating section of the report.

Although it was not necessary to mitigate the positive impacts listed in the impacts tables, the positive impacts identified in this section of the report will also automatically be carried over to the significance rating section of the report to indicate the specific benefits associated with the Proposed Development. This will also make it possible to compare the severity of the adverse impacts with the advantages of the beneficial impacts and to eventually make an informed decision regarding the Proposed Mixed Use Development.

The following section incorporates the most important information supplied by Specialist Studies and Reports.

6.1 THE PHYSICAL ENVIRONMENT

6.1.1 Geology and Soils

A Phase 1 Soil Investigation for the Proposed Leeuwpoort Development as well as a Phase 1 Dolomite Stability Investigation was compiled by Intraconsult Associates during November 2006 for Township Establishment on land parcels situated on the Farm Leeuwpoort 113 IR. Subsurface conditions were evaluated by excavating trial pits and soil properties were determined by testing soil samples recovered from various soil horizons. Refer to Annexure D2a for Phase 1 Soils Investigations for the Proposed Leeuwpoort Development and Annexure D2b for Phase 1 Dolomite Stability Investigations of 226 Hectares in the South-Western Sector of the Leeuwpoort Development.

According to the geological map of the area rock formations generally dip to the south and south west. The southwestern sector of the eastern half of the Proposed Development site is characterized by quartzites and shale of the Black Formation and dolomites of the Malmani Subgroup of the Transvaal Supergroup. Dolorite intrusions occur in the eastern section of the Proposed Development Site.

The existing land use is agriculture with a number of servitudes for bulk water, electricity, and a slurry line transecting the site. Two deep borrow pits were identified next to the R554 during the 2006 investigation.



Figure 9: Geology Map

The developable part of the Proposed Development site i.e. portions which were not zoned as “Public Open Space” due to being ecologically sensitive, has been classified into the zones listed below based on the Dolomite Stability Assessment.

Eastern part of the development site:

- 2(R3)[H1-H2/C/S] – developable with precautions for subsurface rocks, active soils, collapsible soils, and compressible soils;
- 2(R3)[H/C/S] - developable with precautions for subsurface rocks, active soils, collapsible soils, and compressible soils;
- 2(R3)[H1/C/S] developable with precautions for subsurface rocks, active soils, collapsible soils, and compressible soils;;
- 2/3E – developable and unfavorable for development due to excavations; and
- 2[H2-H3/C/S1-S2] - developable with precautions for active soils, collapsible soils, and compressible soils.

Western part of the development site:

- 2[H2-H3/C/S1-S2]- developable with precautions for active soils, collapsible soils, and compressible soils;
- 2(R3)[H1-H2/C/S] - developable with precautions for subsurface rocks, active soils, collapsible soils, and compressible soils;
- 2PD1 (R3)[H1-H2/C/S];
- 2PD2/D3(R3)[H1-H2/C/S] – developable with precautions for dolomitic subsurface, potential heave/shrink soils and difficult near surface excavations;
- 2PD3(R3)[H1-H2/C/S] – developable with precautions for dolomitic subsurface, potential heave/shrink soils and difficult near surface excavations;
- 3D4 i.e. least favorable for urban development due to underlying dolomite and associated high risk for doline formation; and
- 3BP – limited development potential due to deep and extensive borrow pits.

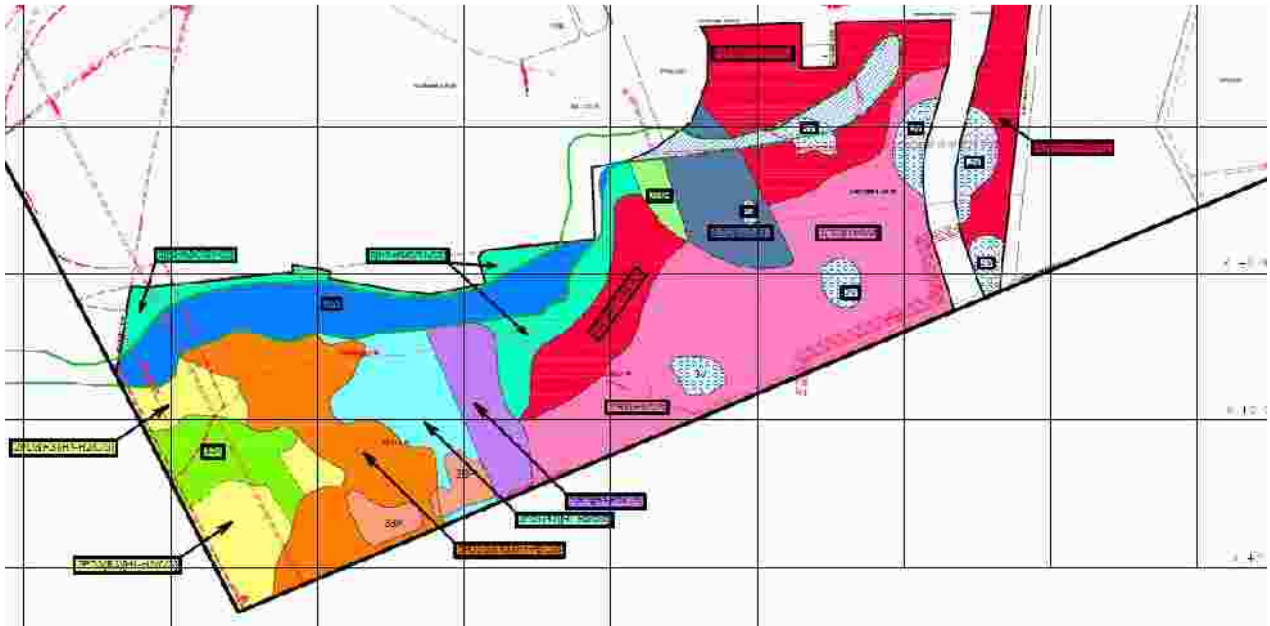


Figure 10: Soil Map (courtesy of Intraconsult)

According to the Dolomite Stability Investigation the site is underlain by Dolomite of the Chuniespoort Group and Rocks of the Black Reef Formation. The Proposed Development site was divided into four Dolomite Stability Zones:

- Zone 1 i.e. no to low risk of sinkhole and doline formation with respect to water ingress of groundwater drawdown.
- Zone 2 i.e. low risk of sinkhole and doline formation with respect to water ingress of groundwater drawdown.
- Zone 3 i.e. low to medium risk of sinkhole and doline formation with respect to water ingress of low risk with respect to groundwater drawdown.
- Zone 4 i.e. high risk large sinkhole and doline formation with respect to water ingress of low risk with respect to groundwater drawdown.

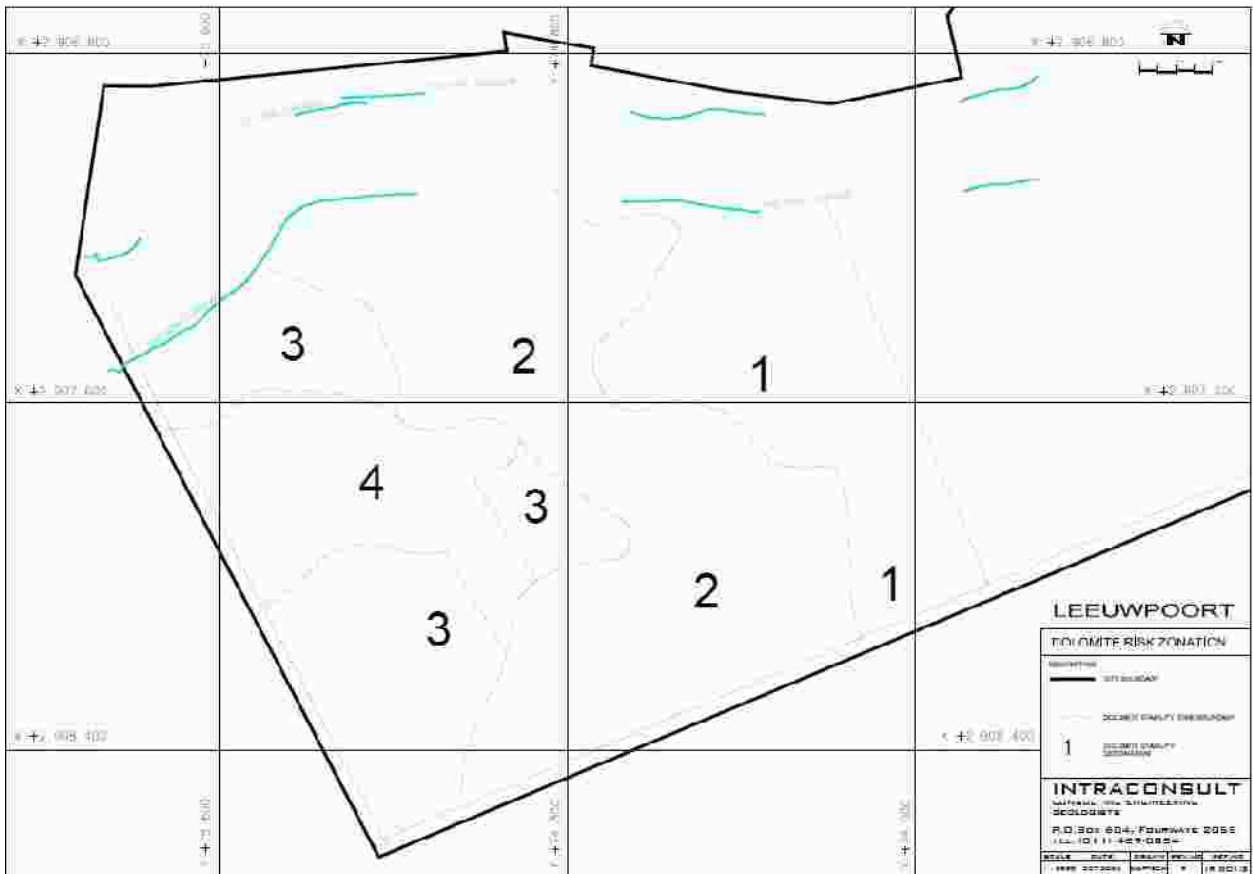


Figure 11: Dolomite Risk Zonation (courtesy of Intraconsult)

Table 6: Issues and Impacts – Geology and Soils

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation (Yes/No)	Possible
1)	Occurrence of borrow pits next to R554	-	Yes	
2)	Potential active, collapsible soils, compressible soils	-	Yes	
3)	High risk for doline formation on approximately 30ha of land on western boundary of development site due to underlying dolomite	-	Yes	

6.1.1.1 Discussion of Issues identified, possible mitigation measures and significance of issue after mitigation – geology and soils

1) Occurrence of borrow pits next to R554

Mitigation measures to be included in the EMP

- **Pre-construction Phase**

- Old borrow pits to be rehabilitated with suitable fill material prior to construction commencing.
- Old borrow pit areas to be zoned as "Public Open Space"

The **significance** of the issue **following mitigation** is **Low**.

2) Potential active, collapsible, and compressible soils

Mitigation measures to be included in the EMP

Planning Phase

- Civil Design to cater for occurrence of active, collapsible, and compressible soils.

The **significance** of the issue **following mitigation** is **Low**.

3) High risk for doline formation on approximately 30ha of land on western boundary of development site due to underlying dolomite

Mitigation measures to be included in the EMP

Planning Phase

- Conduct Phase 1 Geotechnical study.
- Zone the high risk zone as non-residential land use.

Construction Phase

- Implement recommendations as per Phase 1 Geotechnical Investigation.

The **significance** of the issue **following mitigation** is **Moderate to High**.

6.1.2 Hydrology

6.1.2.1 Surface Hydrology

The study area is situated in Quaternary Sub-catchment C22B as well as Quaternary Sub-catchment C22C of drainage region C, in the Vaal River catchment area, which ultimately drains into the Vaal River. The non-perennial stream flows from east to west along the northern boundary of the Proposed Development Site.

Two pans occur in the south eastern portion of the development site. Water drains from the large pan along a wetland southwards into a non-perennial stream situated off-site. The non-perennial stream occurring along the northern boundary and associated wetland, as well as the two pans have been incorporated into the proposed layout as "Public Open Space".

Refer to Annexure D3b for Stormwater Management Plan compiled for the Proposed Development.

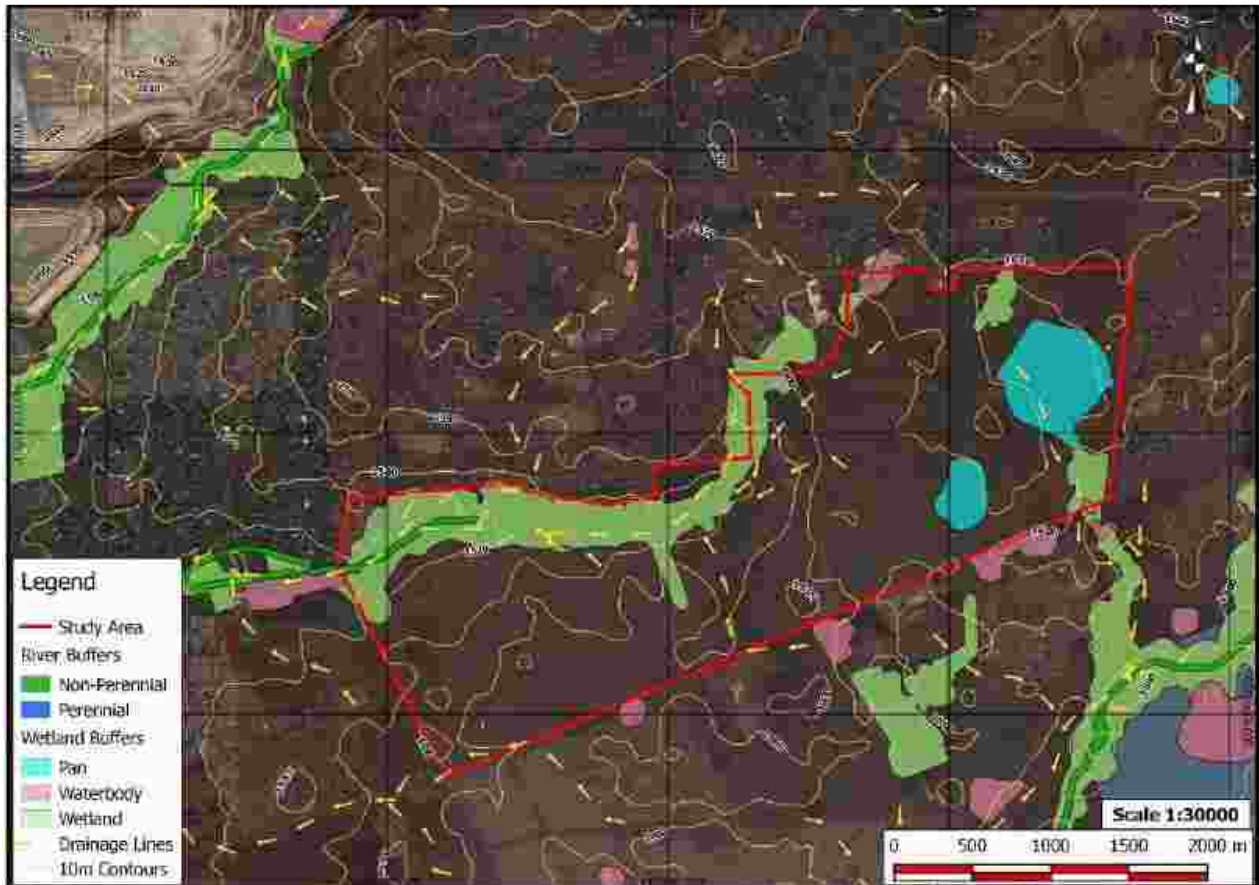


Figure 12: River Buffers & Hydrology

6.1.2.2 Wetland Delineation

A *Hydropedology based Wetland Assessment* was carried out by Dr J H van der Waals, a registered Soil Scientist of TerraSoil Science, and a Report was compiled during May 2014. Wetlands on site were investigated and assessed in terms of wetland indicators as described in the Department of Water Affairs wetland delineation guidelines of 2005. Delineated wetlands are restricted to two wetlands; a valley bottom wetland associated with a non-perennial stream along north-eastern boundary, several stormwater wetlands feeding into the non-perennial stream, and a seepage wetland. Other water bodies identified on site are; a stormwater and sewage leak, two pans, and a goldmine slimes leak. **Refer to Annexure D3a for Wetland Assessment.**

The Wetland specialist concluded that the entire site has been impacted by human activities in the form of gold mining related activities, urban developments with storm water and sewage effluent outflows, and historical tillage and Agricultural Land Use Activities.

The entire north-eastern boundary of the Proposed Development Site is zoned as "Public Open Space" due to the presence of the valley bottom wetland, storm water wetlands and seepage wetland. The two pans have also been zoned "Public Open Space".

6.1.2.3 Flood lines

The study area is affected by 1:50 and 1:100-year flood lines of the non-perennial stream along the north-eastern boundary and therefore a Floodline Determination was carried out for the site and the flood lines were indicated on the Layout of the Proposed Development. The involved engineers also certified the flood lines (**Refer to Annexure D1b for Proposed Development Layout denoting 1:100 floodline**).

Sediment containment structures are required to prevent accumulation of sediment in the wetland area as a result of construction activities. Stormwater mitigation measures must be implemented throughout the site due to increase in sealed surface areas and subsequent increase in stormwater volume and velocity.

6.1.2.4 Subsurface Hydrology – Groundwater

Due to the gradient of the site sloping towards the non-perennial stream along the north-eastern boundary, it is anticipated that groundwater will follow the gradient to the adjacent watercourse.

No groundwater was intercepted in the boreholes drilled as part of the Phase 1 Soils and Dolomitic Stability Investigation Studies.

Table 7: Issues and Impacts – Hydrology

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation (Yes/No)	Possible
1)	Wetlands and pans were identified on site	-	Yes	
2)	Accumulation of sediment in the wetlands and pans as a result of construction activities	-	Yes	
3)	Increase in stormwater volume and velocity due to increase in sealed surface areas	-	Yes	

6.1.2.5 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Hydrology

1) Wetlands and pans identified on site

The Wetland Specialist identified a valley bottom wetland, and several stormwater wetlands, as well as two pans on site.

Planning Phase

- Wetlands and pans to be zoned as “Public Open Space”.

Construction Phase

- Denote wetlands and associated buffers with coloured pegs prior to construction commencing and erect “NO-GO” signage.

2) Accumulation of Sediment in the Wetlands and Pans as result of Construction Activities

Sediment Containment Structures are required to prevent accumulation of sediment in the wetlands and pans a result of construction activities.

Planning Phase

- Budget and design attenuation structures.

Construction Phase

- Construct attenuation structures in accordance with Stormwater Report.

3) Increase in Stormwater Volume and Velocity due to Increase in Sealed Surface Areas

Stormwater Mitigation Measures must be implemented throughout the site due to increase in sealed surface areas and subsequent increase in stormwater volume and velocity.

Planning Phase

- Budgeted for Stormwater Mitigation Measures in accordance with Stormwater Management Report.

Construction Phase

- Implement Stormwater Mitigation Measures in accordance with Stormwater Management Report.

6.1.3 Topography

The site is fairly level, with elevation varying between 1,614m above mean sea level in the south east corner of the Proposed Development Site to 1,584m in the north west corner, sloping towards the watercourse running along the northern boundary. The general slope angle is approximately 1.7%.

The Proposed Development will be visible from the R21 (Rondebult Road) running past the eastern boundary of the proposed development.

Table 8: Issues and Impacts – Topography

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation (Yes/No)	Possible
1)	Visibility from surrounding land and roads	Neutral	Yes	

6.1.3.1 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – topography

1) **Visibility from Surrounding Land and Roads**

The visibility of structures to surrounding land owners could be displeasing. Reflective surfaces of buildings to be constructed as part of the Development could result in impaired visibility of drivers travelling on adjacent roads.

Mitigation Measures to be Included in the EMP

Planning Phase

- Building designs to be aesthetic pleasing to passers-by and fit into surrounding landscape;
- Construction materials used on outer surfaces of buildings should not be reflective and negatively affect motorist's sight.

The **Significance** of the Issue **following Mitigation** is **Low**.

6.1.4 Climate

Boksburg normally receives about 588mm of rain per year, with most rainfall occurring during summer. Lowest rainfall (0mm) occurs during July and the highest (110mm) during January.

The prevalent wind direction is northerly and north-westerly with an average wind speed of 4.2km/hr.

Should the construction phase be scheduled for the summer months, frequent rain could cause very wet conditions, which makes construction and Environmental Rehabilitation work difficult. Such wet conditions often cause delays to construction projects. If dry and windy conditions occur during the construction phase, dust pollution could become a problem to other developments surrounding the Proposed Development Site.

Table 9: Issues and Impacts – Climate

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
1)	Wet conditions deterring construction and rehabilitation	-	Yes
2)	Dry and windy conditions resulting in air pollution	-	Yes

6.1.4.1 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Climate

1) Wet Conditions deterring Construction and Rehabilitation

Should the construction phase be scheduled for the summer months, frequent rain could cause very wet conditions, which would negatively affect construction and Environmental Rehabilitation?

Mitigation Measures to be included in the EMP

Planning Phase

- Construction should be scheduled for winter months.

2) Dry and windy Conditions resulting in Air Pollution

If construction is conducted during winter months associated with high wind speed, the clearing of topsoil for construction purposes, could result in ambient dust pollution.

Mitigation Measures to be included in the EMP

Planning Phase

- Dust suppression should be planned for in terms of budget, water supply, mobile plant etc.

Construction Phase

- Dust suppression should be applied daily prior to construction commencing during winter months.

The **significance** of the issue **following mitigation** is **Low**.

6.2 THE BIOLOGICAL ENVIRONMENT

A Fauna Habitat Assessment, Flora Assessment, as well as Avifauna Assessment were conducted for the Proposed Development Site by Bokamoso Environmental Specialists during March 2016.

6.2.1 Flora Survey

The study site lies within the Quarter Degree Squares (QDS) 2628AC and 2628AD. The site falls partly within the Tsakane Clay Grassland vegetation unit in the centre of the site, and the Carletonville Dolomite Grassland to the west and The Klipriver Highveld Grassland to the east. The Tsakane Clay Grassland vegetation unit is considered Endangered, while the Carletonville Dolomite Grassland is listed as Vulnerable according to Mucina and Rutherford, 2006. The Klipriver Highveld Grassland is categorised as Critically Endangered according to the National list of threatened terrestrial ecosystems for South Africa, 2011 (Government Gazette no. 34809, 2011).

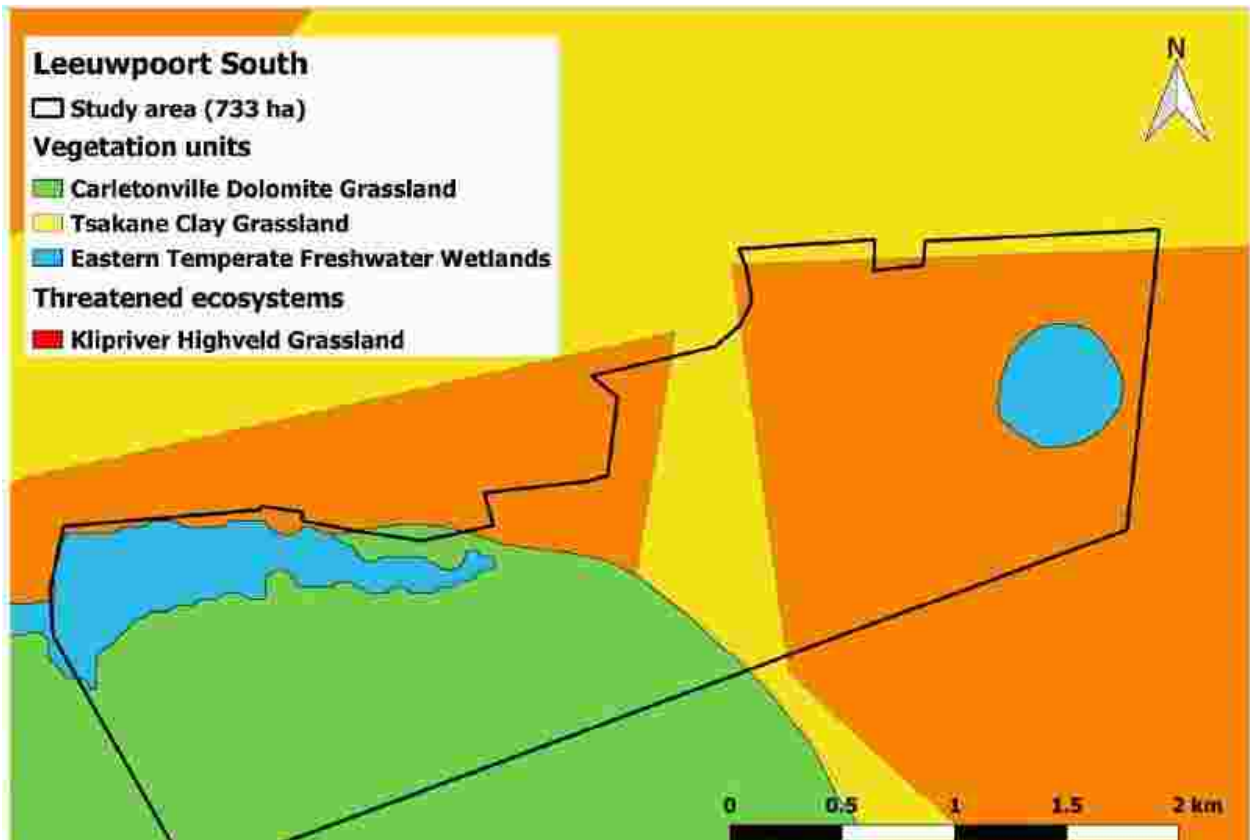


Figure 13: Vegetation Units

6.2.1.1 Vegetation Type

Five Vegetation Units were identified within the study area including:

- **Disturbed *Verbena - Eragrostis* Pan**

This study unit is degraded due to presence of alien plant species. According to the GDARD C-Plan the two pans provide potential habitat to the Orange Listed Plant Species *Hypoxis hemerocallidea*. Due to the sensitive nature of the pans the two pans are zoned "Public Open Space" in the Proposed Layout.

- **Transformed *Eucalyptus - Hyparrhenia* Grassland**

According to the Flora specialist this study unit is regarded as transformed due to the presence of alien plant species and illegal dumping.

- **Moist *Themeda* - *Eragrostis* Grassland**

This vegetation unit is in a natural condition with no disturbances visible. According to the GDARD C-Plan this unit provides suitable habitat for Orange Listed Plant Species, however none were observed during the specialists site visit. This study unit has been incorporated into “Public Open Space” as part of the Proposed Development Layout.

- **Disturbed *Eragrostis* – *Hyparrhenia* Grassland**

This unit covers most of the study area and according to the Flora specialist this vegetation unit has low ecological value due to historic cultivation, but moderate ecological importance due to high species richness.

- ***Setaria* - *Typha* Drainage Line**

The Drainage line vegetation unit is in a semi-natural state with some alien vegetation. This vegetation unit has been zoned as “Public Open Space” as part of the Proposed Development.

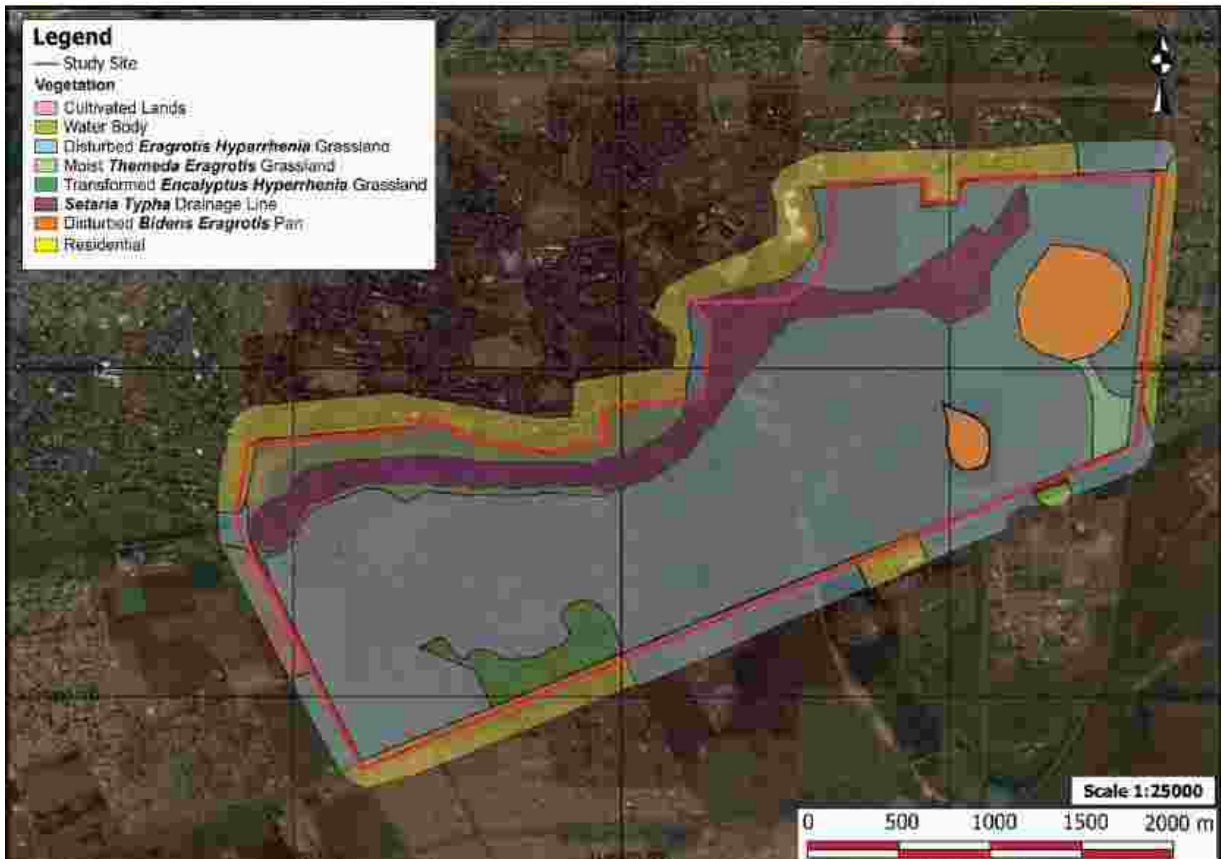


Figure 14: Vegetation Habitat Units

The drainage line and pan habitats are suitable for threatened aquatic species and was therefore designated as “Public Open Space” as part of the Proposed Development. The terrestrial habitat units are fragmented and not well connected to similar habitats.

The Flora Assessment conducted concluded that the Moist *Themeda - Eragrostis* Grassland, Disturbed *Verbena - Eragrostis* Pan, and *Setaria - Typha* Drainage Line are sensitive due to the presence of Orange Listed Plant Species and should be excluded from the Proposed Development. The drainage line, the pan, as well as the *Themeda - Eragrostis* Grassland vegetation unit has been excluded from the development and incorporated into “Public Open Space” zones.

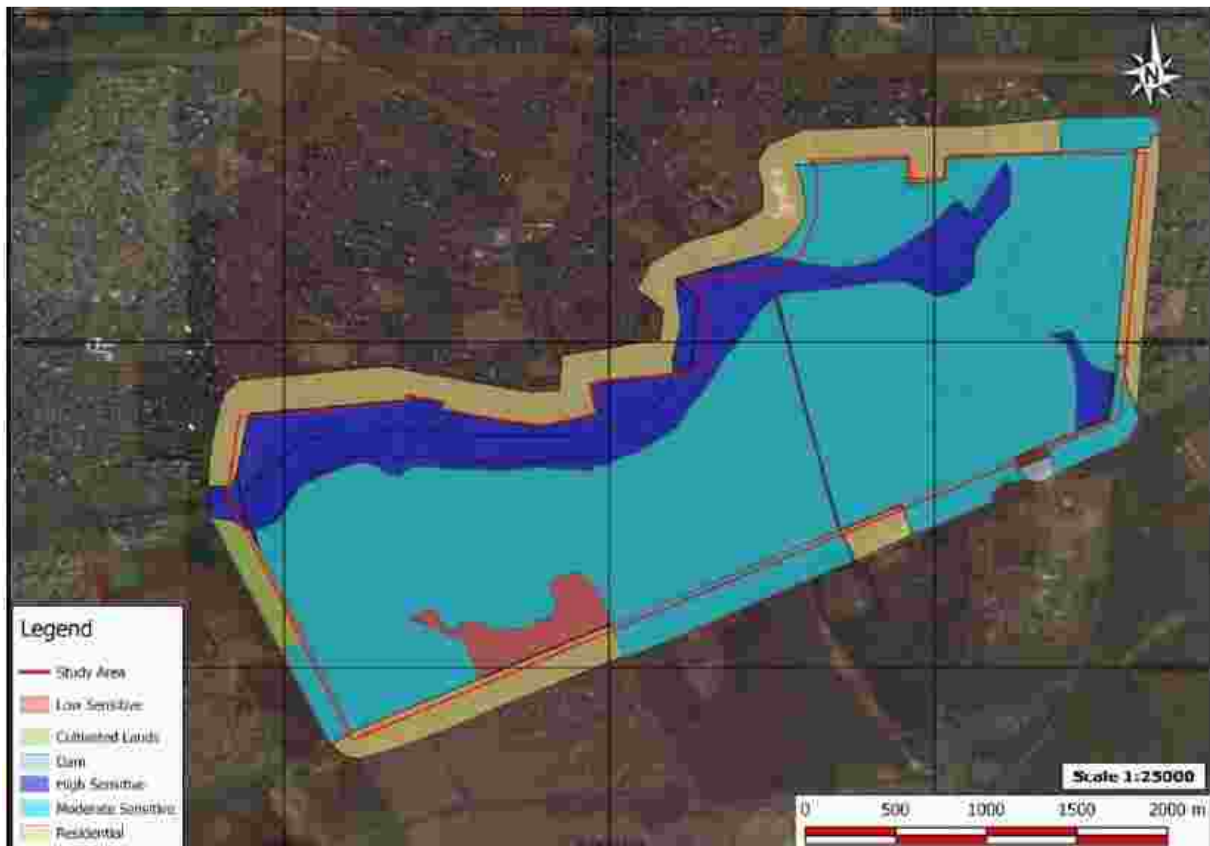


Figure 15: Vegetation Sensitivity

According to the Flora specialist The Transformed *Eucalyptus - Hyparrhenia* Grassland is highly disturbed and degraded with exotic plant species dominating the area and is therefore not considered ecologically sensitive.

6.2.1.2 Orange and Red Data Flora Species

According to the GDARD C-plan approximately 30% of the Proposed Development Site is a Critical Biodiversity Area due to consisting of Irreplaceable Sites (**refer to Figure 6**).

The Disturbed *Eragrostis - Hyparrhenia* Grassland has a moderate ecological importance due to its moderately high species and the occurrence of the Orange Listed Species *Hypoxis hemerocallidea*. The Orange Listed Species *Hypoxis hemerocallidea* was found in

abundance and a rescue plan should be implemented to ensure the survival of this species (**Refer to Annexure D4b**).

Table 10: Issues and Impacts – Flora

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
1)	Ecologically sensitive vegetation units	-	Yes
2)	Occurrence of Orange Listed Species <i>Hypoxis hemerocallidea</i> in Disturbed <i>Eragrostis</i> - <i>Hyparrhenia</i> Grassland vegetation unit to be developed	-	Yes

6.2.1.3 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Flora

1) Ecologically sensitive vegetation unit

The Flora Assessment conducted concluded that the Moist *Themeda* - *Eragrostis* Grassland, Disturbed *Verbena* - *Eragrostis* Pan, and *Setaria* - *Typha* Drainage Line are sensitive due to the presence of Orange Listed Plant Species and should be excluded from the Proposed Development.

Mitigation Measures to be included in the EMP

Planning Phase

- The highly sensitive drainage line, the pans, as well as the Moist *Themeda* - *Eragrostis* Grassland vegetation and associated buffers to be zoned as “Public Open Space” as part of the Proposed Development Layout.
- Initiate rescue and relocation plan for ***Hypoxis hemerocallidea*** occurring outside areas denoted as “Public Open Space”.

Construction Phase

- Denote highly sensitive ecological areas and associated buffers with coloured pegs prior to construction commencing.

- Erect "NO-GO" signs at ecological sensitive areas.

2) Occurrence of Orange Listed Species *Hypoxis hemerocallidea* in Disturbed *Eragrostis* - *Hyparrhenia* Grassland vegetation unit to be developed

The Disturbed *Eragrostis* - *Hyparrhenia* Grassland has a moderate ecological importance due to its moderately high species richness and the occurrence of the Orange Listed Species *Hypoxis hemerocallidea*.

Mitigation Measures to be included in the EMP

Planning Phase

- Apply for Biodiversity permit for rescuing *Hypoxis hemerocallidea* prior to development commencing
- Flora specialist to rescue *Hypoxis hemerocallidea* prior to construction commencing.

6.2.2 Fauna Survey

A Fauna Assessment conducted concluded that five Fauna Habitats are present on site: *Eragrostis* Pan, *Setaria* - *Typha* Drainage Line, *Themeda* - *Eragrostis* Grassland, Transformed *Eucalyptus* - *Hyparrhenia* Grassland, and Disturbed *Eragrostis* - *Hyparrhenia* Grassland.

6.2.2.1 Mammals

Despite the Grassland habitat having been transformed and degraded, and having limited connectivity to similar habitats due to surrounding urban development, there is suitable terrestrial habitat for small mammal species; however, no threatened species are expected to occur within the terrestrial habitat according to the Fauna specialist.

Both the drainage line and the pans provide suitable habitat for aquatic mammal species. Due to the drainage area and pans having potential to house Near Threatened Mammal species such as the African March Rat and the Giant Bullfrog, the Fauna specialist

recommended that these habitats be excluded from the Proposed Development (**Refer to Annexure D4a**).

No Red Data Invertebrate Species were recorded nor are expected to occur within the Proposed Development Site.

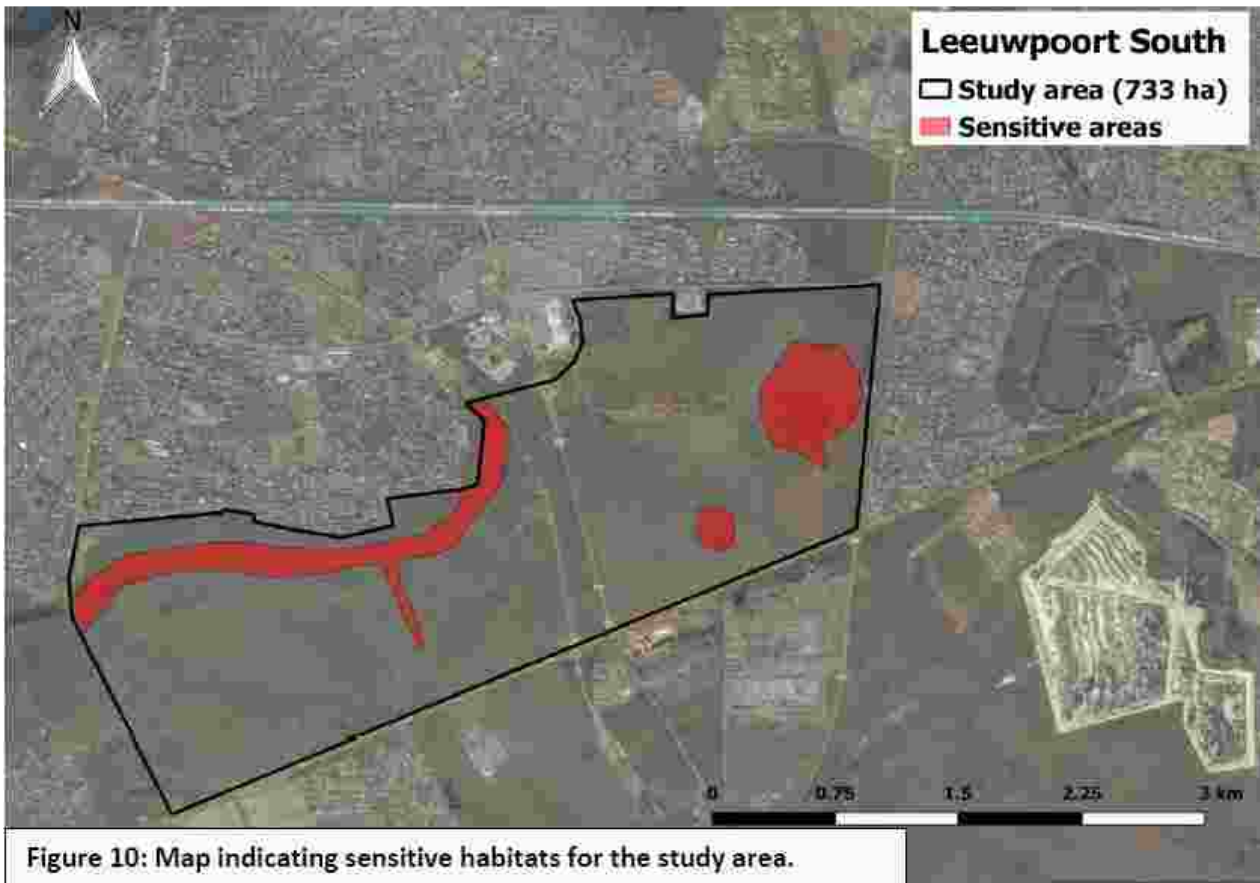


Figure 16: Fauna Sensitivity Map

Cultivation of study area could have displaced mammal species. The terrestrial habitat is regarded as having a moderate sensitivity due to being in a semi-natural state and providing suitable habitat for several mammal species. Due to the limited impact on the drainage line it is expected that more specialist species occur within this study unit. Connectivity to similar habitats exists to the west and thus aquatic mammal species could move freely to similar habitats. Although the Near Threatened African March Rat and Vlei

Rats were not observed during the Fauna Survey, they do have a high probability of occurrence.

Even though the Giant Bullfrog has a high probability of occurring within the pans on the Proposed Development site, GDARD does not require confirmation of presence of such species on site. Both the drainage line and the pans have been designated as “Public Open Space” in order for to conserve the sensitive ecological environments as part of the Proposed Development.

6.2.2.2 Avifauna

An Avifaunal Assessment was conducted in March 2016 comprising of a desktop study to identify prevalent Avifauna Species occurring on or near the study area, as well as field surveys conducted on 23rd and 24th of March 2016. A list of expected species was compiled and used as a reference guide during the field survey.

The Avifauna Assessment identified three distinct habitat types within the study area namely: Wetland Vegetation, Grassland, and Degraded Pans.

Both pans are degraded and contain minimal grass cover due to being overgrown by alien weeds. Despite the aforementioned the pans do still provide suitable breeding ground for the regionally Vulnerable African Grass Owl.

The wetland vegetation unit associated with the drainage line is in a good natural state but not connected to similar habitats due to surrounding Urban Development. The wetland provides suitable habitat for two threatened bird species i.e. African Marsh Harrier, and the African Grass Owl, the probability of occurrence is regarded as low.

Despite the aforementioned the entire drainage line, due to the undisturbed nature and high species diversity is regarded as highly sensitive, and has therefore been zoned as “Public Open Space” in order to conserve it as part of the Proposed Development. During the site visit one single nesting Marsh Owl was recorded.

The entire Grassland habitat was previously cultivated as agricultural land and has been transformed by alien plant invasion. Other impacts noticed during the site visit included grass harvesting, dirt roads transecting the habitat, and illegal dumping of rubble. Due to the low connectivity to similar habitats and Anthropogenic Impacts listed above, the Avifauna specialist regarded the Grassland habitat as having low Avifauna Sensitivity.



Figure 17: Avi-fauna Sensitivity Map

Of the 134 bird species expected to occur on site, 84 species were either confirmed on site, or are highly likely to occur in or around the study area.

The Avifauna specialist recommended that prior to any construction commencing an additional Avifauna Assessment must be conducted to confirm/deny presence of African Grass Owl and African Marsh Harrier. The Avifauna sensitivity map should be adjusted accordingly and all highly sensitive areas should be incorporated into the development as “Public Open Space”.

Table 11: Issues and Impacts – Fauna

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
1)	Highly Ecologically Sensitive Fauna Habitat occurring within the Proposed Development Site	-	Yes
2)	Potential presence of African Grass Owl within Grassland Vegetation Unit	-	Yes

6.2.2.4 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Fauna

1) Highly Ecologically Sensitive Fauna Habitat occurring within the Proposed Development Site

Due to the drainage area and pans having potential to house Near Threatened Mammal species such as the African Marsh Rat and the Giant Bullfrog, the Fauna specialist recommended that these habitats be excluded from the Proposed Development. The wetland provides suitable habitat for two threatened bird species i.e. African Marsh Harrier, and the African Grass Owl, the probability of occurrence is regarded as low. Despite the aforementioned the entire drainage line, due to the undisturbed nature and high species diversity is regarded as highly sensitive.

Mitigation Measures to be Included in the EMP

Planning Phase

- The highly sensitive drainage line and pans and associated buffers to be zoned as “Public Open Space” as part of the Proposed Development Layout.

Construction Phase

- Denote sensitive ecological areas and associated buffers with coloured pegs prior to construction commencing.
- Erect “NO-GO” signs at ecological sensitive areas.

2) Potential presence of African Grass Owl within Grassland vegetation unit

The Avifauna specialist recommended that prior to any construction commencing an additional Avifauna Assessment must be conducted to confirm/deny presence of African Grass Owl and African Marsh Harrier. The Avifauna sensitivity map should be amended accordingly and all highly sensitive areas should be incorporated into the development as “Public Open Space”.

Mitigation Measures to be Included in the EMP

Planning Phase

- Avifauna specialist to confirm/deny presence of African Grass Owl and Marsh Harrier within the study area.
- Avifauna sensitivity map to be amended accordingly and all Highly sensitive Ecological Areas to be zoned “Public Open Space”.
- **Township Phases and clearing for construction should be planned to commence from south to north and from west to east to provide Fauna Species occurring on site ample time to relocate towards open space areas zoned as “Public Open Space” as part of the Proposed Development.**

Construction Phase

- Denote Sensitive Ecological Areas and associated buffers with coloured pegs prior to construction commencing.
- Erect “NO-GO” signs at ecological sensitive areas.
- **Clearing for construction should commence from south to north and from west to east to provide Fauna Species occurring on site ample time to relocate towards open space areas zoned as “Public Open Space” as part of the Proposed Development.**

6.2.3 Aquatic Biodiversity

The Wetland Speciality classified the drainage line as having a Present Ecological Status (PES) of F due to drastic hydrological, chemical and biological alteration associated with historic mining. The PES of the small pan is classified as C due to it being hydrological intact and only being impacted by grazing and historic cultivation. The PES of the large pan is classified as D due to historic activities as well as the construction of a pipeline through it.

Due to all watercourses associated with the Proposed Development being regarded as highly ecologically sensitive and having been included in the Proposed Development Site as "Public Open Space" the EAP did not regard an Aquatic Biodiversity Assessment as necessary.

7. DESCRIPTION OF THE EXISTING SOCIAL ENVIRONMENT

7.1 Archaeology/Cultural History

It terms of the EIA Regulations, it is necessary to identify and list the specific legislation and permit requirements, which potentially could be infringed upon by the Proposed Project. The necessity and possibilities for the implementation of mitigation measures should also be identified.

It should be noted that in terms of the National Heritage Resources Act (Act 25 of 1999), Section 35(4), no person may, without a permit issued by the Responsible Heritage Resources Authority destroy, damage, excavate, alter, deface or otherwise disturb any Archaeological or Paleontological site or material.

Also important is that Section 34(1) of this act states that no person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit, issued by the relevant provincial heritage resources authority.

The Proposed Mixed Use Development exceeds 0.5ha in extent and therefore triggered a Phase 1 Heritage Impact Assessment. A *Phase 1 Heritage Impact Assessment Report* was compiled by Leonie Marais-Botes during March 2017 for the Proposed Leeuwpoot South Mixed Use Development (**Refer to Annexure D5 for Phase 1 Heritage Impact Assessment**) following two sites visits on 11 November 2016 and 30 March 2017.

Table 12: Issues and Impacts – Cultural history

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
2)	Potential for sub-surface archaeological/historical finds	-	Yes

7.1.1 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Cultural history

1) Potential for sub-surface archaeological/historical finds

Despite no heritage sites identified during the field survey, the potential for sub-surface archaeological/historical finds exists and should be catered for during construction.

Mitigation Measures to be Included in the EMP

Planning Phase

- Conduct a HIA
- Inform contractors of potential for sub-surface archaeological/historical finds.

Construction Phase

- Contractors to be on the lookout for sub-surface archaeological/historical finds
- Construction to be halted should any sub-surface archaeological/historical finds be unearthed and archaeologist to be called in to assess the find.

7.2 Agricultural Potential

Although the Proposed Development Site is currently zoned “Agricultural”, it has, according to the Gauteng Agricultural Potential Atlas (GAPA 3), low as well as High Agricultural Potential **(refer to Figure 5)**. One stand 11ha in extent has been set aside for the purpose of Agricultural Land Use as part of the Proposed Development Layout.

The Proposed Development Site does not fall within the seven Agricultural Hubs identified in Gauteng and therefore the EAP did not regard an Agricultural Potential Study as necessary.

7.3 Institutional Environment

7.3.1 International Level

Relevant International Conventions to which South Africa is a Party:

- **Convention relative to the Preservation of Fauna and Flora in their Natural State**, 8 November 1993 (London);
- **Convention on Biological Diversity**, 1995
(Provided and added stimulus for a re-examining and harmonization of its activities relating to Biodiversity Conservation. This convention also allows for the in-situ and ex-situ propagation of gene material);
- **Agenda 21** adopted at the United Nations Conference on Environment and Development (UNCED) in 1992. (An action plan and blueprint for sustainable development).

7.3.2 National Level

7.3.2.1 The National Environmental Management Act; 1998 (Act 107 of 1998)

NEMA provides 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 co-ordinating Environmental functions exercised by Organs of State, and to provide for matters connected therewith.

Integrated Environmental Management

Integrated Environmental Management (IEM) is a philosophy, which prescribes a code of practice for ensuring that Environmental Considerations are fully integrated into all stages of the development process. This philosophy aims to achieve a desirable balance between conservation and development.

In terms of the Amended 2017 Environmental Impact Assessment (EIA) Regulations published in Government Notices no. R983, R984, and R985 published in the Government Gazette no. 38282 of 4 December 2014 of the National Environment Management Act, 1998 (Act No. 107 of 1998) a Basic Assessment Report is required for activities listed in Notices R983 and R 985, and a Scoping and Environmental Impact Assessment is required for activities listed in Notice R 984.

Implications for the Development

The Proposed Mixed Use Development triggers listed Activity 15 of GN R984 and therefore an Application for Environmental Authorisation in terms of the Scoping and Environmental Impact Assessment Process of the Amended 2014 Environmental Impact Assessment (EIA) Regulations is followed.

7.3.2.2 The National Water Act, 1998 (Act No: 36 of 1998)

In terms of Section 144 of the National Water Act it is required that the 1:50 and 1:100 year flood line be indicated on all relevant drawings that are submitted for approval. A Section 21 Water Use License is required for any development which may take place within and /or impact any water resource and or flood lines.

In terms of Section 21 of the National Water Act, the developer must obtain a Water Use License for the following activities:

- a) Taking water from a water resource;
- b) Storing water;
- c) Impeding or diverting the flow of water in a watercourse;
- d) Engaging in a stream flow reduction activity contemplated in section 36;
- e) Engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1);
- f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;
- g) Disposing of waste in a manner which may detrimentally impact on a water resource;

- h) Disposing in any manner of water which contains waste from or which has been heated in any industrial or power generation process;
- i) Altering the bed, banks, course or characteristics of a water course;
- j) Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and
- k) Using water for recreational purposes.

Implications for the Development

In terms of the Section 21 of the National Water Act, the developer will have to apply for a Water Use License for construction of services within 500m of the valley bottom wetland and pans occurring within the Proposed Development Site. A Water Use License compiled will be submitted to DWS for approval.

7.3.2.3 National Environmental Management: Air Quality (Act No. 39 of 2004)

This Act replaced the Atmospheric Pollution Prevention Act (Act No. 45 of 1965).

The purpose of the Act is "To reform 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; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of Government; for specific air quality measures; and for matters incidental thereto."

The Act describes various regulatory tools that should be developed to ensure the implementation and enforcement of air quality management plans. These include:

- Priority Areas, which are air pollution 'hot spots';
- Listed Activities, which are 'problem' processes that require an Atmospheric Emission Licence;
- Controlled Emitters, which includes the setting of emission standards for 'classes' of emitters, such as motor vehicles, incinerators, etc.;
- Control of noise; and

- Control of odours.

Implications for the Development

The Proposed Development does not trigger any regulatory tools in terms of the Act, however during the construction phase, generation of dust and noise could become a factor to residence living adjacent to the Proposed Development Site. The surrounding mine tailings dams could pose a dust nuisance and even potential health impact to residents and therefore an AQIA was initiated.

7.3.2.4 National Heritage Resources Act, 1999 (Act No 25 of 1999)

The National Heritage Resources Act (NHRA) requires Heritage Resources Impact Assessments for various categories of development stipulated in section 38 of the Act. It also provides for the grading of Heritage Resources and the implementation of a three-tier level of responsibilities and functions for Heritage Resources to be undertaken by the State, Provincial Authorities, depending on the grade of the Heritage Resource. The Act defines cultural significance, archaeological and paleontological sites and materials (Section 35), historical sites and structures (Section 34), and graves and burial sites (Section 36) that fall under its jurisdiction. Archaeological sites and material are generally those resources older than a hundred years, including gravestones and grave dressing. Procedures for managing graves and burial grounds are set out in Section 36 of the NHRA. Graves older than 100 years are legislated as Archaeological sites and must be dealt with accordingly.

Section 38 of the NHRA makes provision for application by developers for permits before any Heritage Resource may be damaged or destroyed.

The National Heritage Resources Act legislates the necessity and Heritage Impact Assessment in areas earmarked for development, which exceed 0.5ha and linear development exceeding 300m in length. The Act makes provision for the potential destruction to existing sites, pending the Archaeologist's Recommendations through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA).

Implications for the Development

A Phase Heritage Impact Assessment (HIA) conducted during 2017 did not identify any sites of cultural/historical importance within the Proposed Development Site. However provision was made in the EMP for possible unearthing of archaeological finds during the construction phase.

7.3.2.5 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.

Implications for the Development

Specialist Biodiversity Assessments were carried out pertaining to Flora, Fauna, and Avifauna. The aforementioned studies established that the drainage lines and pans occurring within the Proposed Development site are of High Ecological Importance and should therefore be protected.

7.3.2.6 National Spatial Biodiversity Assessment

The National Spatial Biodiversity Assessment (NSBA) classifies areas worthy of protection based on its Biophysical Characteristics, which are ranked according to priority levels.

Implications for the Development

Certain portions of the Proposed Development Site is not classified as being worthy of protection based on the Biophysical Characteristics.

7.3.2.7 National Environmental Management: Protected Areas Act, 2003 (Act No 57 of 2003)

Ecologically Viable Areas representative of South Africa's Biological Diversity and its natural landscapes.

Implications for the Development

The Proposed Development Site is not a declared Protected Area.

7.3.2.8 Water Services Act, 1997 (Act No 108 of 1997)

The purpose of this Act is to ensure the regulation of national standards and measures to conserve water taking into account, amongst other factors, the following:

- ❑ Basic sanitation;
- ❑ Basic water supply;
- ❑ Interruption in provision of water services;
- ❑ Quality of potable water;
- ❑ Control of objectionable substances;
- ❑ Disposal of grey water;
- ❑ Use of effluent; and
- ❑ Quantity and quality of industrial effluent discharged into a sewerage system.

Any interruption in provision of water services during the construction phase of the Proposed Development must be according to national standards.

Implications for the Development

A water and sewage services report was compiled for the purpose of the Proposed Development. Some upgrades to bulk infrastructure is required in order to give effect to the Proposed Development. The cost of the bulk service upgrades have been catered for in the project budget by the developer. If services to neighbouring properties will be interrupted due to connecting the Proposed Leeuwpoot South to existing bulk

infrastructure, the owners of the affected properties should be informed of the ensuing interruption 48 hours in advance. Ekurhuleni has provided comments on the provision of services for the Proposed Development.

7.3.2.9 National Veld and Forest Fire Act, 1998 (Act No. 101, 1998)

The purpose of this Act is to prevent and combat veld, forest, and mountain fires throughout the Republic. Furthermore, the Act provides for a variety of institutions, methods, and practices for achieving the prevention of fires.

Implications for the Development

Mitigation Measures for the prevention of fires during construction phase of the Proposed Development and during operational phase within areas to be zoned as 'Public Open Space' must be implemented.

7.3.2.10 Conservation of Agricultural Resources Act (Act No. 43 of 1983)

This act provides for control over the utilization of Natural Agricultural Resources of South Africa in order to promote the conservation of soil, water sources and the vegetation as well as the combating of weeds and invader plants; and for matters connecting therewith.

Implications for the Development

Although the Proposed Development Site is currently zoned "Agricultural", it has, according to the Gauteng Agricultural Potential Atlas (GAPA 3), low as well as high agricultural potential (**refer to Figure 5**). One stand 11ha in extent has been set aside for the purpose of Agricultural Land Use as part of the Proposed Development Layout.

The Proposed Development Site does not fall within the seven Agricultural Hubs identified in Gauteng and therefore the EAP did not regard an Agricultural Potential Study as necessary.

7.3.2.11 National Road Traffic Act, 1996 (Act No. 93 of 1996)

This Act provides for all road traffic matters which shall apply uniformly throughout the Republic and for matters connected therewith.

Implications for the Development

The Proposed K165 and Proposed PWV15 will be affected by the Proposed Mixed Use Development as both transect the development site from north to south. The SANRAL and GDRT have to approve the design and construction of sections of the K165 and PWV17 as part of the Proposed Development.

7.3.2.12 The Town planning & Townships Ordinance, 1986 (Act No. 15 of 1986)

The purpose of the ordinance is to consolidate and amend laws relating to Town-planning and the Establishment of Townships.

Implications for the Development

The Proposed Development triggers a Township Establishment Application which has been submitted to Ekurhuleni Metropolitan Municipality.

7.3.2.13 National Environmental Management: Waste Act, 2003 (Act No 59 of 2009)

The Act aims to consolidate Waste Management in South Africa, and contains a number of commendable provisions, including:

- The establishment of a National Waste Management Strategy, and national and provincial norms and standards, for amongst other, the classification of waste, waste service delivery, and tariffs for such waste services;
- Addressing reduction, reuse, recycling and recovery of waste;
- The requirements for industry and Local Government to prepare Integrated Waste Management Plans;
- The establishment of control over contaminated land;

- Identifying waste management activities that require a license, which currently includes facilities for the storage, transfer, recycling, recovery, treatment and disposal of waste on land;
- Co-operative Governance in issuing licenses for Waste Management Facilities, by means of which a licensing authority can issue an integrated or consolidated license jointly with other organs of state that has legislative control over the activity; and
- The establishment of a National Waste Information System.

Implications for the Development

A Waste License Application is not triggered by the Proposed Development, however waste generated during construction as well as operational phase of the Development will have to be managed responsibly. Ekurhuleni has provided comments on the provision of services for the Proposed Development.

7.3.2.14 Occupational Health & Safety Act (OHSA), 1993 (Act No 85 of 1993)

The Act was created to provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

Implications for the Development

Regulations of the Act will apply during the construction phase of the Proposed Development.

7.3.3 On a Provincial Level

7.3.3.1 Gauteng Spatial Development Framework (GSDF), 2011

- **Resourced Based Economic Development**

Resource Based Economic Development should result in identification of the Economic Core. Development should be encouraged in close proximity to existing resources, which includes infrastructure such as roads, water, and electricity.

- **Contained Urban Growth**

To contain Urban Growth an Urban Edge was identified to curb Urban Sprawl. The idea behind the Urban Edge is to encourage development within certain areas of a city. Only certain types of developments are allowed on the outside of the Urban Edge. The goal is to curb Urban Sprawl and thereby protecting the natural Environment. The way to do this is to increase the densities of the built Environment within the Urban Edge.

- **Re-direction of Urban Growth**

Developments in economic non-viable areas should be limited and thereby achieving growth within the economic growth sphere.

- **Protection of Rural Areas and Enhancement of Tourism and Agricultural Related Activities**

Only certain types of developments (i.e. lodges, game reserves, sport and recreational activities, etc.) should be allowed on the outside of the Urban Edge, thereby protecting rural areas and agricultural land and enhancing tourism related facilities.

Implications for the Development

It is evident that the Proposed Township Establishment and accompanying increase in residential density, comply with most of the mentioned development directives; being undeveloped land which is centrally located with regard to built-up areas, established

infrastructure, services and facilities as well as being easy accessible to the targeted residents and workforce, thereby limiting the impact on the Natural Environment.

7.3.3.2 The Gauteng Densification Strategy 2005

The Gauteng Densification strategy requires densities of between 20 and 25 residential units per hectare.

Implications for the Development

The development complies with this strategy which requires densities of between 20 and 25 units per hectare. The density of the development is 25 units per hectare for “Residential 1” land use and 120 to 180 units per hectare for “Residential 4” land use, and therefore contributes to densification.

7.3.3.3 The Gauteng Transport Infrastructure Act, 2001

The act was created to consolidate the laws relating to roads and other types of transport infrastructure in Gauteng; and to provide for the planning, design, development, construction, financing, management, control, maintenance, protection and rehabilitation of provincial roads, railway lines and other transport infrastructure in Gauteng; and to provide for matters connected therewith.

In terms of Section 46 of the Act, no person may erect, construct, or lay, or establish a structure or object on or over, or below the surface of a Provincial Road or railway line or land in a building restriction area.

Implications for the Development

The Proposed K165 and Proposed PWV15 will be affected by the Proposed Mixed Use Development as both transect the development site from north to south. The SANRAL and GDRT have to approve the design and construction of sections of the K165 and PWV17 as part of the Proposed Development.

7.3.3.4 Gauteng Transport Infrastructure Amendment Act, 2003

To amend the Gauteng Transport Infrastructure Act, 2001 so as to amend and insert certain definitions; to provide for the necessary land use rights with respect to stations and for the necessary powers of the MEC to enter into contracts for road and rail projects; to amend the procedure in relation to route determination; to make a second Environmental Investigation at the stage of preliminary design of a road or railway line unnecessary where the competent Environmental Authority decides that the Environmental Investigation at the stage of route determination is adequate; and to provide for incidental matters.

Implications for the Development

This Environmental Authorisation for the Proposed Mixed Use Development also investigates the impact of the Proposed Construction of a section of the K165 in accordance with the Gauteng Transport Infrastructure Amendment Act.

7.3.3.5 The Gauteng Draft Red Data Policy

The main purpose of the draft Red Data Policy is to protect Red Data Plant Species in Gauteng Province. This policy requires that Red Data Species remain *in-situ* and it gives priority ratings (based on where they occur) to the different Red Data Species.

Implications for the Development

During the Ecological Assessments conducted, no Red Data Listed Fauna or Flora Species were observed on-site, however Near Threatened Fauna and Avifauna Species potentially occur within the drainage line and pans occurring within the Proposed Development Site. These Ecologically Sensitive areas have been zoned as "Public Open Space" as part of the Proposed Development with the purpose of conserving these areas.

7.3.3.6 The Gauteng Draft Ridges Policy

This Policy is provided for the protection, conservation, and maintenance of ridges within the Gauteng Province. According to the GDARD Draft Ridges Policy no development should take place on slopes steeper than 8.8%.

Implications for the Development

This Policy does not apply to the Application as the study area does not fall within an area classified as a ridge. According to available data a transformed ridge occurs within a few kilometres towards the north-west of the Proposed Development Site.



Figure 18: Ridges Map

7.3.3.7 The Gauteng Conservation Plan, 2014

Gauteng Nature Conservation (hereafter Conservation), a component of the Gauteng Department of Agriculture and Rural Development (GDARD) produced the Gauteng Conservation Plan Version 3 (C-Plan 3) in December 2010. The Conservation Plan was edited on three occasions since then: C-Plan 3.1 was released in July 2011 after it became apparent that some areas were not desirable in Critical Biodiversity Areas (CBAs hereafter). Not all areas were addressed in the first round of editing, so this was done during September 2011 resulting in C-Plan Version 3.2. It was soon released however, that some CBAs became separated by the removal of undesirable areas causing some attributes not to be completely reflective of that CBAs any longer. C-Plan 3.3 became available in October 2011 after this issue was addressed. The C-Plan was subsequently revised during 2014.

The main purpose of C-Plan is:

- to serve as the primary decision support tool for the Biodiversity Component of the Environmental Impact Assessment (EIA) Process;
- to inform protected area expansion and Biodiversity Stewardship Programmes in the province;
- to serve as a basis for development of Bioregional Plans in Municipalities within the Province.

Implications for the Development

According to the GDARD C-plan approximately 30% of the Proposed Development Site is a Critical Biodiversity Area due to consisting of Irreplaceable Sites (**refer to Figure 6**).

The Disturbed *Eragrostis - Hyparrhenia* Grassland has a moderate ecological importance due to its moderately high species and the occurrence of the Orange Listed Species *Hypoxis hemerocallidea*. The Orange Listed Species *Hypoxis hemerocallidea* was found in abundance and a rescue plan should be implemented to ensure the survival of this species

7.3.3.8 Draft Policy on the Protection of Agricultural Land (2006)

An atlas denotes agricultural potential in Gauteng in terms of the policy on protection of agricultural land.

Implications for the Development

Although the Proposed Development site is currently zoned "Agricultural", it has, according to the Gauteng Agricultural Potential Atlas (GAPA 3), low as well as high Agricultural Potential (**refer to Figure 5**). One stand 11ha in extent has been set aside for the purpose of Agricultural Land Use as part of the Proposed Development Layout.

The Proposed Development Site does not fall within the seven Agricultural Hubs identified in Gauteng and therefore the EAP did not regard an Agricultural Potential Study as necessary.

7.3.3.9 Gauteng Urban Edge, 2011

The Gauteng Urban Edge is delineated on a yearly basis denoting areas earmarked for development.

Implications for the Development

The subject property falls inside the Gauteng Urban Edge and is therefore suitable for the proposed Mixed Used Development.

7.3.3.10 Gauteng Noise Control Regulations, 1999

The regulations control noise pollution. Acceptable noise levels within a residential area situated within an Urban Area is 55dBA and the maximum acceptable noise levels in a Rural Area is 45dBA.

Implications for the Development

An Air Quality Impact Assessment related to dust and noise is underway, and results shall be incorporated into the Final EIA Report.

7.3.3.11 Gauteng Provincial Environmental Management Framework

The Gauteng Provincial Environmental Management Framework (GPEMF) divides the province into zones and caters for protected areas.

Implications for the Development

The Proposed Development Site falls within Zone 1: Urban Development Zone and is therefore suitable for the Proposed Mixed Use Development as it is intended to promote Infill Development and densification, in order to minimise Urban Sprawl. Portions of the drainage line as well as both pans are classified as Zone 2: High Control Zone reserved for conservation of sensitive areas within the Urban Development Zone. These areas have been zoned as "Public Open Space" as part of the Proposed Development with the purpose of conserving it.

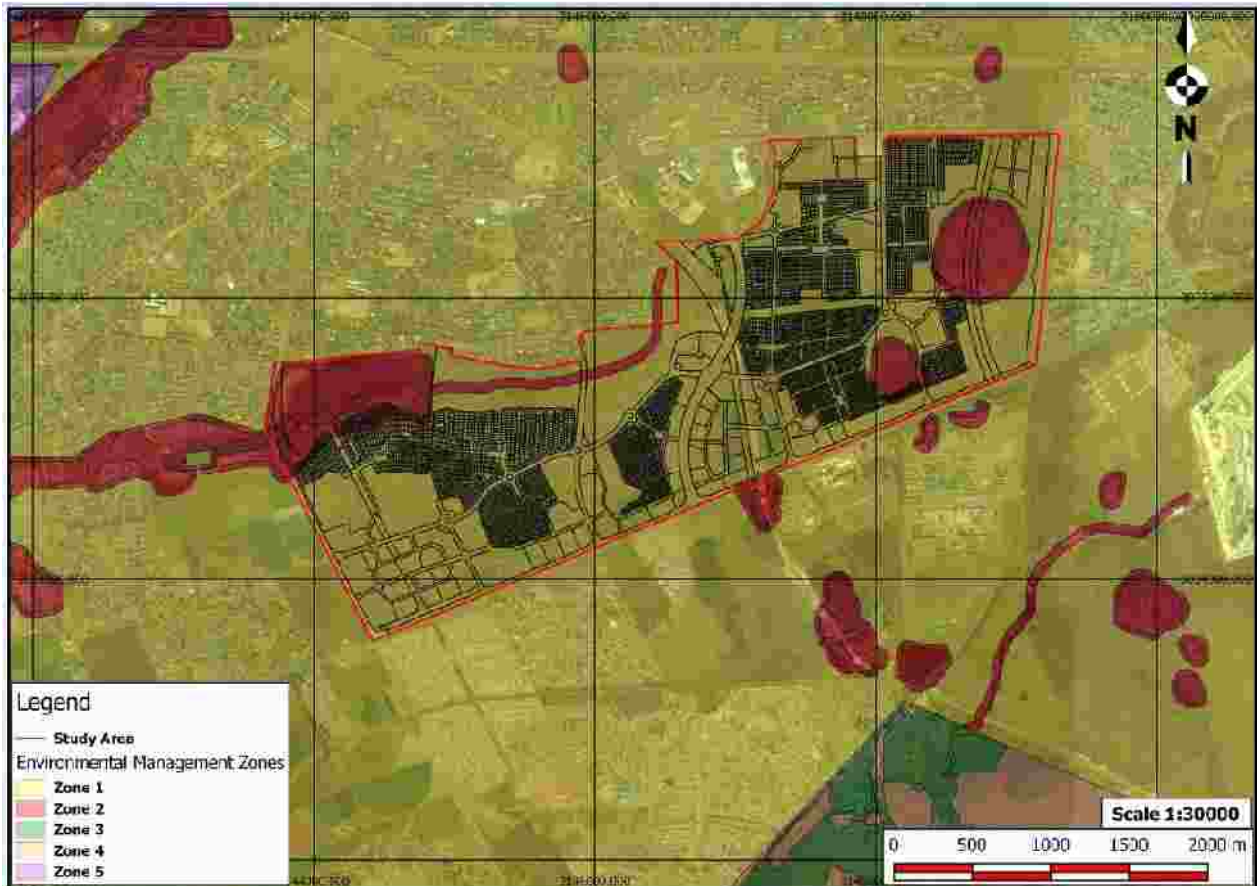


Figure 19: GPEMF

7.3.4 On a Local level

Planning Responsibilities of the Involved Local Authority

In terms of the Local Government Transitional Act, 1993 and recently the Municipal Systems Act, 2000; the prerogative to plan a development within its Jurisdictional Area; is vested in the Local Authority involved. In order to ensure that the Proposed Developments comply with the standards and requirements of the involved Local Authorities, the relevant officials were involved in the planning of the project from the start.

7.3.4.1 Ekurhuleni Metropolitan Spatial Development Framework (MSDF), 2011

One of the principles of the Ekurhuleni Metropolitan Spatial Development Framework (MSDF), is to Promote Infill Residential Development in strategically located vacant land areas.

Implications for the Development

The Proposed Mixed Use Development will be established on land which is currently vacant and surrounded by developed land in close proximity to the Boksburg CBD, which is in line with the **Ekurhuleni Metropolitan Spatial Development Framework (MSDF), 2011** principle of promoting Infill Residential Development.

7.3.4.2 Local Government Municipal Systems Act, 2000 (Act No. 32 of 2000)

This Act clearly establishes the Integrated Development Plan and Integrated Spatial Development Framework as guidelines to inform development and processes in this regard.

Implications for the Development

Refer to 7.3.4.1 above.

7.3.4.5 Ekurhuleni Bioregional Plan 2012

In terms of the Ekurhuleni Bioregional Plan of 2012 Ekurhuleni has been divided into Bioregions determining Ecological Status and Conservation Requirements.

Implications for the Development

In terms of the Ekurhuleni Bioregional Plan of 2012 the Proposed Development Site falls within "No Natural Habitat Remaining" and "Other Natural Areas" Categories.

"No Natural Habitat Remaining" Category are areas which are transformed or degraded, having no remaining intact habitat and not required as Ecological Support Areas.

"Other Natural Areas" Category are areas that still contain natural habitat but that are not required to meet biodiversity thresholds.

A small portion on the northern side of the property where the watercourse/wetland occurs falls within "Ecological Support Areas 2 (ESA 2)" Category. These areas include urban and cultivated landscapes on floodplains, in buffers around wetlands and in key climate change corridors.

7.4 Visual Environment

The following Visual Assessment Criteria (see **Table 13** below) was used to determine the impact of the Proposed Development on the state of the Environment – the significance is indicated by the respective colour coding for each of the impacts, being high, medium or low:

Table 13: Visual Impact Criteria

CRITERIA	IMPACT		
	HIGH	MEDIUM	LOW
Visibility	A prominent place with an almost tangible theme or ambience.	A place with a loosely defined theme or ambience.	A place having little or no ambience with which it can be associated.
Visual quality	A very attractive setting with great variation and interest – no clutter.	A setting with some visual and aesthetic merit.	A setting with no or little aesthetic value.
Compatibility with the surrounding landscape	Cannot accommodate Proposed Development without the development appearing totally out of place – not compatible with the existing theme.	Can accommodate the Proposed Development Without it looking completely out of place.	The surrounding Environment will ideally suit or match the Proposed Development.
Character	The site or surrounding area has a definite character/Sense of Place.	The site or surrounding environment has some character.	The site or surrounding Environment exhibits little or no character/Sense of Place.
Visual Absorption Capacity	The ability of the landscape not to accept a Proposed Development because of a uniform texture, flat slope, and limited vegetation cover.	The ability of the landscape to less easily accepts visually a particular type of development because of less diverse landform, vegetation, and texture.	The ability of the landscape to easily accept visually a particular type of development because of its diverse landform, vegetation, and texture.
View distance	If uninterrupted view distances to the site are > 5 km.	If uninterrupted view distances to the site are < 5 km but > 1 km.	If uninterrupted view distances to the site are > 500 m and < 1000 m.
Critical Views	Views of the site seen by people from sensitive view sheds i.e. farms, nature areas, hiking trails etc.	Some views of the site from sensitive view sheds.	A limited or partial view of the site from sensitive view sheds.
Scale	A landscape with horizontal and vertical elements in high contrast to human scale.	A landscape with some horizontal and vertical elements in some contrast to human scale.	Where vertical variation is limited and most elements are related to the human and horizontal scale.

From the Visual Assessment (Refer to **Figure 20**) it is evident that the Proposed Development will be visible directly from the boundaries of the Proposed Development Site and from sensitive environments such as Sunward Park to the north.

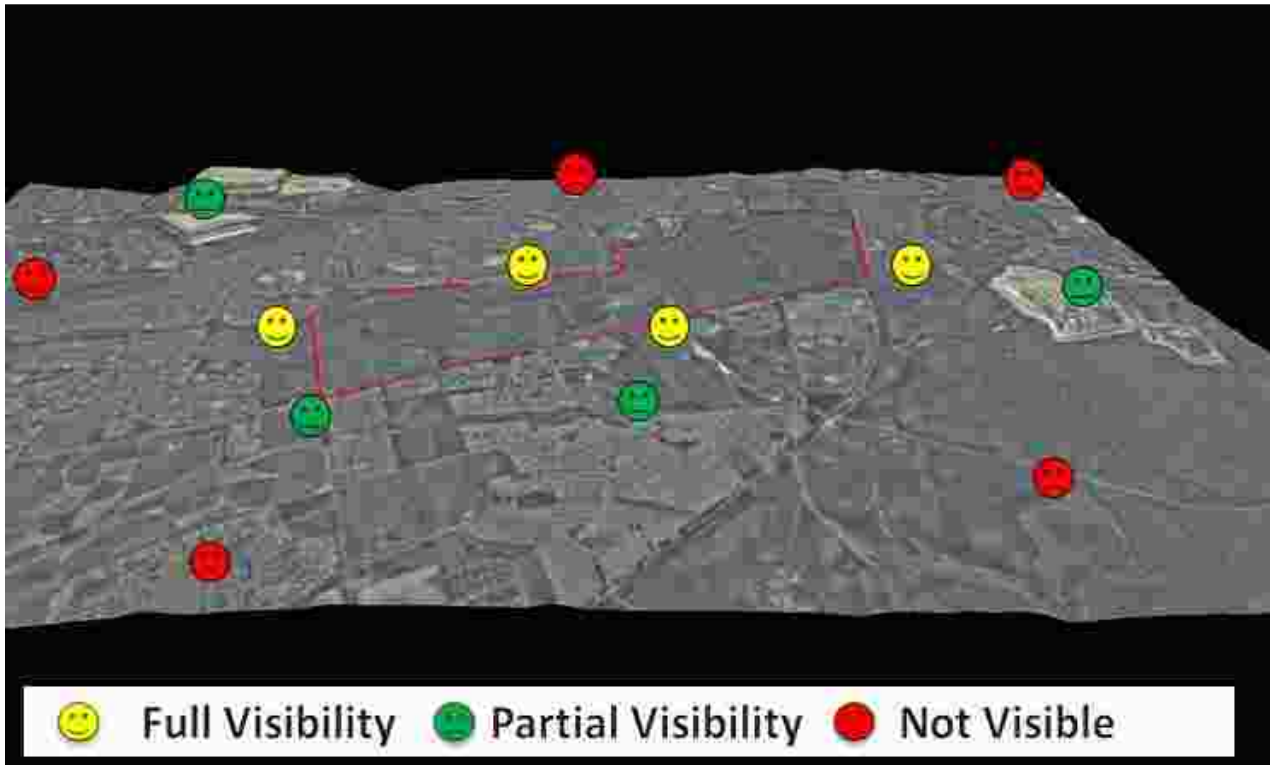


Figure 20: Visual Assessment

Table 14: Issues and Impacts – Visual

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
1)	Visual Impact of the development on neighbouring land users	-	Yes
2)	Reflective structures affecting drivers vision	-	Yes

7.4.1 Discussion of Issues identified, Possible Mitigation Measures and significance of issue after Mitigation – Visual Impact

1) Visual Impact of the Development on Neighbouring Land Users

Development Site is visible surrounding roads and Sunward Park due north.

Mitigation Measures to be included in the EMP

Planning Phase

- The Proposed Development will be visible surrounding roads such as the R21 and therefore the roofs should not reflect the sun i.e. be covered with roofing materials that are non-reflective. Black or charcoal coloured roofs or roofs covered with solar panels will blend in tastefully with the surrounding Environment.
- The colour scheme should be taken from the palette of colours in the natural surroundings.
- The architectural styles, colours, textures, and construction materials used must fit in with the surrounding natural Environment.
- Existing trees should be retained as far as possible. The trees will soften the impact of the proposed permanent structures and they will bring the scale of the structures within the Urban Context down to a more human scale.

Rehabilitation Phase

- Landscaping should be done in concurrence with the building construction in order to create an instant visual enhancement of the development.
- The landscaping of the Proposed Development should blend in with the natural Grassland Vegetation unit that occurs on site and in the area. Trees, shrubs, and groundcovers that are endemic to the Proposed Development site should be used. Landscaping that is in line with the natural vegetation of the area will reduce the visual impact of the Proposed Development.

2) Reflective Structures Affecting Drivers' Vision

Development Site is visible from surrounding roads and reflective surfaces could negatively affect drivers' visibility.

Mitigation Measures to be included in the EMP

Planning Phase

- Construction materials used should be non-reflective.

7.5 Sense of Place

Sense of Place is the subjective feeling a person gets about a place by experiencing the place visually, physically, socially and emotionally. The "Sense of Place" of an area is one of the major contributors to the "Image of the area".

The *Image of an Area* consists of two main components, namely **Place Structure** and **Sense of Place**. These could be defined as the follows:

- Place Structure refers to the arrangement of physical place making elements within a unique structure that can be easily legible and remembered.
- The Sense of Place is the subjective meaning attached to a certain area by individuals or groups and is linked to its history, culture, activities, ambience, and the emotions the place creates.

The "Sense of Place" of the study area is mainly created by some attractive views from the higher lying areas over the drainage line forming the north-western boundary and the pans on the eastern side of the Proposed Development Site.

The aesthetic value of the area is considered to be medium to high due to the drainage line, pans and grassland occurring on site.

The Proposed Development will change the "spirit of place" or genius loci to some extent by combining the human social network and the natural environment by establishing a Mixed Use Development catering for open spaces conserving ecologically sensitive areas.

Table 15: Issues and Impacts – Sense of place

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation (Yes/No)	Possible
1)	Development could have negative effect on Sense of Place.	-	Yes	

7.5.1 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Sense of Place

1) Development could have Negative Effect on Sense of Place.

Due to natural surroundings, the Proposed Development could negatively affect the Sense of Place of the Area.

Mitigation Measures to be included in the EMP

Planning Phase

- Ecologically sensitive areas to be retained as Natural Open Areas zoned as 'Public Open Space' as part of the Proposed Development.

7.6 Demography

Demographics, population composition, income profiles, and other population statistics always play a very important role to evaluate the need for additional land uses.

The need for housing within the Ekurhuleni Metropolitan Municipality, specifically in Boksburg has reached a boiling point. It is thus paramount that the need for affordable housing be addressed as a matter of urgency.

Refer to the Town Planners memorandum attached as **Annexure D1a**.

A Market Research Findings and Recommendations Report were compiled by Demacon Market Studies in December 2016. *A Social Impact Assessment Report* was compiled during March 2017 for the Proposed Leeuwpoort Development Projects comprising

Parkdene X7 Mixed Use Development, Reiger Park X19 Residential Development, and Leeuwpoot South Mixed Use Development.

The *Market Research Findings and Recommendations Report* concluded that the Proposed Three Developments on the Farm Leeuwpoot would add the following economic benefits to the local, metropolitan as well as provincial economies; additional business sales, GGP, employment, as well as property rates payable to EMM.

The *Socio-economic Study* concluded local legislation strongly supports socially responsible development and encourage countering Urban Sprawl and encourage multiple use developments.

Some of the positive impacts associated with the construction phase of the Proposed Developments are; New employment and business opportunities; Skills development and training; alleviation of pressure due to reduction/elimination of housing need for temporary workers. The above positive impacts also apply to the operational phase of the Proposed Developments. Additional positive impacts that will be achieved are; decrease in travelling time and cost to workplaces due to proximity of housing in relation to work opportunities, recreational areas provided for in 'Public Open Space' will contribute to social wellbeing, and the development of vacant land reduces formation of informal settlements.

7.7 Air Quality – Noise and Dust

An Air Quality Impact Assessment conducted concluded that the construction of the Proposed Leeuwpoot South Development, as well as removal of contaminated Gold mine tailings, as well as surrounding recovery of mine tailings, all have a low impact in terms of potential health impact as well as nuisance dust.

The following are the main existing and future noise sources affecting/that will affect the study area:

- The traffic on the R21 bordering the Proposed Development Site to the west;
- Railway line transecting the middle of the site from north to south;

- The proposed K165 which will transect the site from north to south;
- The Proposed PWV15 that will transect the Proposed Development Site from north to south in future; and
- The K155 bordering the Proposed Development Site to the west.

The main noise sensitive sites within close proximity to the Proposed Development Area are:

- Sunward Park Baptist Church north of the Proposed Leeuwpoot South Mixed Use Development;
- Oosterlig High School north of the Proposed Leeuwpoot South Mixed Use Development;
- Siloam Ministries due northeast of the Proposed Leeuwpoot South Mixed Use Development; and
- Freeway Family Church north-north-west the Proposed Leeuwpoot South Mixed Use Development.

Table 16: Issues and Impacts – Noise

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
1)	Potential dust and noise complaints during construction phase	-	Yes

7.7.1 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Air Quality

1) Potential dust and noise complaints during construction phase

The Proposed Development is surrounded by residential developments. During the construction phase of the Proposed Development dust and noise generated as a result of construction activities could result in complaints from surrounding residents.

Mitigation Measures to be included in the EMP

Planning Phase

- Plan for a complaints register to be commissioned and maintained during the construction phase of the Proposed Development.
- Plan and budget for mitigation measures aimed at reducing dust generated during construction activities such as clearing.
- **Plan for construction of a noise attenuation barrier (wall) along western, southern, and eastern perimeters of the Proposed Development.**

Construction Phase

- A complaints register must be commissioned and maintained during the construction phase of the Proposed Development.
- Mitigation measures aimed at reducing dust generated during construction activities such as clearing, must be implemented.
- **Construct of a noise attenuation barrier (wall) along western, southern, and eastern perimeters of the Proposed Development.**

7.8 SERVICES

Bigen Africa compiled an *Engineering Services Report Water and Sanitation* dated April 2016 (**Refer to Annexure D7a**). GLS Consulting compiled an *Assessment of Impact on Water Supply and Sewerage System and required works* in March 2017 (**Refer to Annexure D7b**).

7.8.1 Water

In terms of water supply the Proposed Leeuwpoot South Development was divided into a western section comprising of Phase 1 to 3, and an eastern section comprising of Phase 4 to 6.

Water is supplied by Rand Water and it is proposed that Phase 1 to 3 of the Proposed Leeuwpoot South Mixed Use Development be incorporated into the Sunward Park Tower supply and Phase 4 to 6 should be incorporated into the Vogelfontein Reservoir supply zone. GLS recommended that planning be commenced for the construction of a new 6 MI Sunward Park Reservoir to cater for Phase 3, and construction of a new 32 MI Vogelfontein Reservoir to cater for Phase 4 to 6 of the Proposed Leeuwpoot South Mixed Use Development, as per the Boksburg Water Master Plan.

For Phase 1 to 5 no upgrading of existing external bulk supply pipes are required, however for Phase 6 a new 800ND external bulk supply pipeline approximately 1km in length and a 500ND bulk supply line approximately 2.4km in length, from the Vogelfontein Reservoir must be installed in order to cater for the residential units proposed as part of Phase 6 of the Leeuwpoot South Mixed Use Development. The installation of internal water supply lines ranging from 160ND to 500ND is required for all six Phases.

The proximity of the Proposed Bulk Water Upgrades to the watercourse within the development boundary triggers a Section 21 (c) and (i) Water Use License Application.

No additional water towers or upgrading of existing pump stations are required by the Proposed Development.

EMM Disaster and Emergency Management Services Department categorised the Proposed Development as Category C Fire Risk due to falling outside the 10-minute response time or emergency fire services.

EMM will be responsible for 87% of the cost associated with the Proposed Bulk Water and Sewage Service Upgrades and the Developer - Leeuwpoot Developments (Pty) Ltd, shall contribute 13% to the total cost of Bulk Water and Sewage Service Upgrades required for Leeuwpoot South Mixed Use Development.

EMM to inform the EAP if additional information should be incorporated as part of the Final EIA.

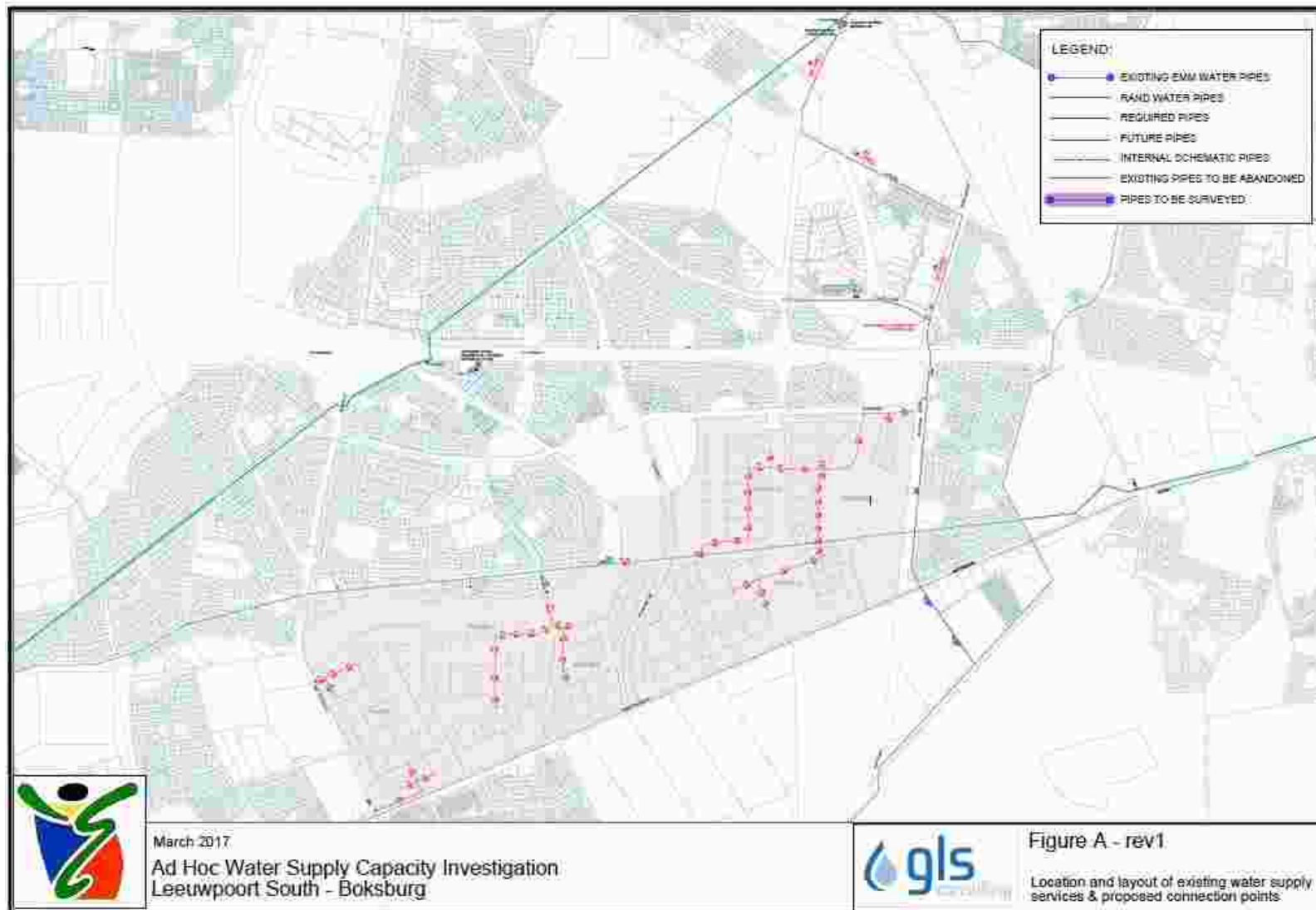


Figure 21: Water Layout (courtesy of GLS Consulting)

Table 21: Issues and Impacts – Water Reticulation

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
1)	Water Reservoir Capacity insufficient for all Phases of Proposed Development	Negative	Yes

7.8.1.4 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Water reticulation

1) Water Reservoir Capacity Insufficient for all Phases of the Proposed Development

GLS recommended that planning be commenced for the construction of a new 6 MI Sunward Park Reservoir to cater for Phase 3, and construction of a new 32 MI Vogelfontein Reservoir to cater for Phase 4 to 6 of the Proposed Leeuwpoot South Mixed Use Development, as per the Boksburg Water Master Plan.

Mitigation Measures to be included in the EMP

Planning Phase

- Planning must commence for the implementation and construction of a new 6 MI Sunward Park Reservoir to cater for Phase 3 of the Proposed Development; and
- Planning must commence for the implementation and construction of a new 32 MI Reservoir at the existing Vogelfontein Reservoir Site in accordance with the Boksburg Water Master Plan, to cater for Phase 4 to 6 of the Proposed Development.

Construction Phase

- Construct a new 6 MI Sunward Park Reservoir to cater for Phase 3 of the Proposed Development; and
- Construct of a new 32 MI Reservoir at the existing Vogelfontein Reservoir Site in accordance with the Boksburg Water Master Plan, to cater for Phase 4 to 6 of the Proposed Development.

7.8.2 Sewer

Sewerage designs for the Proposed Development will be in accordance with the Boksburg Sewer Master Plan. Boksburg falls within the Rietspruit Drainage District and ERWAT is responsible for the treatment of sewage at the Vlakplaats Water Care Works and the Waterval Water Care Works. The bulk of the Boksburg Sewage runoff reports to the Boksburg North outfall sewer and is treated at the Vlakplaats Water Care Works. The remaining sewage reports to the Klippoortjie outfall sewer and is treated at the Vlakplaats and Waterval works respectively. Both the Vlakplaats Water Care Works as well as the Waterval Water Care Works currently run above capacity. Approximately 30MI/day excess flow is currently diverted to the Waterval Water Care Works. The Waterval Water Care Works has a treating capacity of 155MI/day but receives 195MI/day dry weather flow and up to the 242MI/day wet weather flow.

Approximately 77km of sewerage pipes of varying diameters will be installed as part of the six Phases associated with the Proposed Leeuwpoot South Mixed Use Development. Sewers will be installed in road reserves or in municipal erven to provide access for maintenance. EMM indicated that they prefer sewerage systems without pump stations due to cost and management requirements associated with such.

Sewage emanating from the Proposed Leeuwpoot South Mixed Use Development will drain into outfalls sewers as per three drainage areas designated in Figure below; in Vlakplaats Water Care Works via the existing Van Dyk Park Outfall sewer transecting the site from east to west and the Boksburg North outfall sewer, into the Waterval Water Care Works via the newly constructed Klippoortjie outfall sewer, to the Waterval Water Care Works via the existing Sunward Park outfall sewer.

No pump stations are affected nor are new pump stations required to cater for the Proposed Development. Existing main outfall sewers can accommodate the Proposed Development without upgrading, and no future planned main outfall sewers are affected by the Proposed Development.

EMM to confirm in writing that the ERWAT WCW has sufficient treatment capacity.

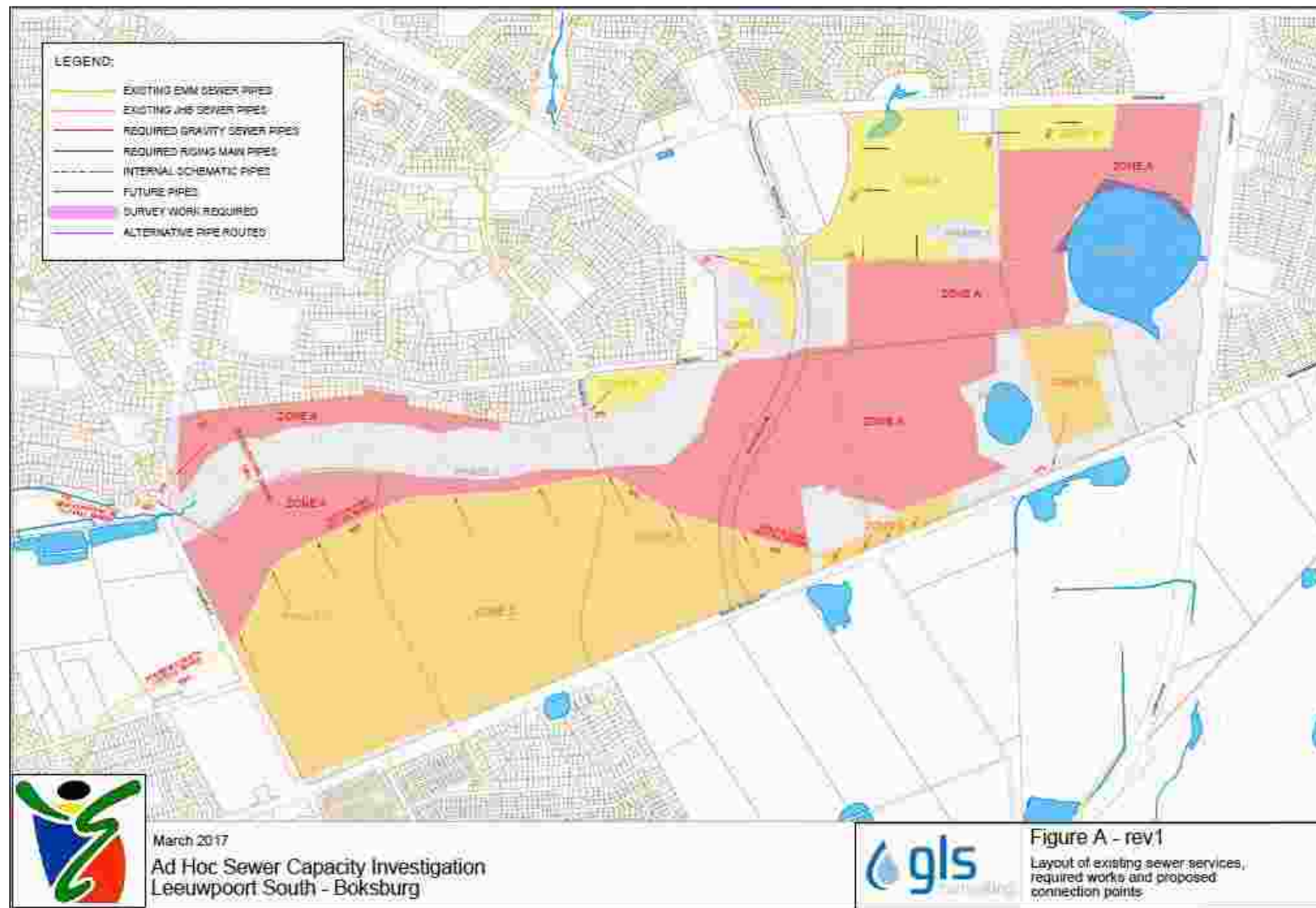


Figure 22: Sewer Layout (courtesy of GLS Consulting)

In terms of Wastewater Treatment Plant capacities, considering excess flow is diverted from the Vlakplaats Water Care Works to the Waterval Water Care Works the Waterval Water Care Works has to be upgraded as a matter of urgency in order to facilitate future development within the catchment area.

Table 17: Issues and Impacts – Sewerage reticulation

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
1)	Waterval Water Care Works to be upgraded as matter of urgency	-	Yes

7.8.2.4 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Sewerage reticulation

1) Waterval Water Care Works to be upgraded as a matter of urgency

Approximately 30MI/day excess flow is currently diverted to the Waterval Water Care Works. The Waterval Water Care Works has a treating capacity of 155MI/day but receives 195MI/day dry weather flow and up the 242MI/day wet weather flow.

Mitigation Measures to be Included in the EMP

Planning Phase

- Commence planning for upgrading of Waterval Water Care.

7.8.3 Stormwater

A *Stormwater Management Report* was compiled by Bigen Africa specifically for management of stormwater associated with the Proposed Leeuwpoot South Mixed Use Development.

The minor flood system comprises of catch pits, junction boxes, manholes, inlet structures and pipes to drain 1:5 year storm events. The major flood system caters for 1:50 storm events by means of road surface itself, pipes, box culverts, canals, natural low points, rivers

and flood-attenuation structures necessary to drain stormwater of larger storms without damage to property and/or loss of life.

Attenuation of stormwater is proposed by means of utilizing one of the major roads to be constructed as part of the Proposed Development, Aquarius Road. The construction of Aquarius Road will include culverts which have been designed to allow the normal stormwater flow through during minor storm events. These culverts were sized so that during major storm events of 1:50 and 1:100, the culverts will also function as an attenuation control in order to ensure the river downstream is protected from the increased stormwater run-off during major storm events, and is protected against erosion that would occur during the large storm events.

Attenuation of stormwater is also proposed by utilizing the two existing pans occurring on the eastern side of the Proposed Development Site. The intention is to control release stormwater from the pans by means of constructing gabion mattress outlets which will ensure controlled discharge to prevent erosion and to prevent an increase in discharge exceeding pre-construction levels.

The Proposed Attenuation structure occurs within a watercourse and associated valley bottom wetland, thus triggering a Section 21 (c) and (i) Water Use License.

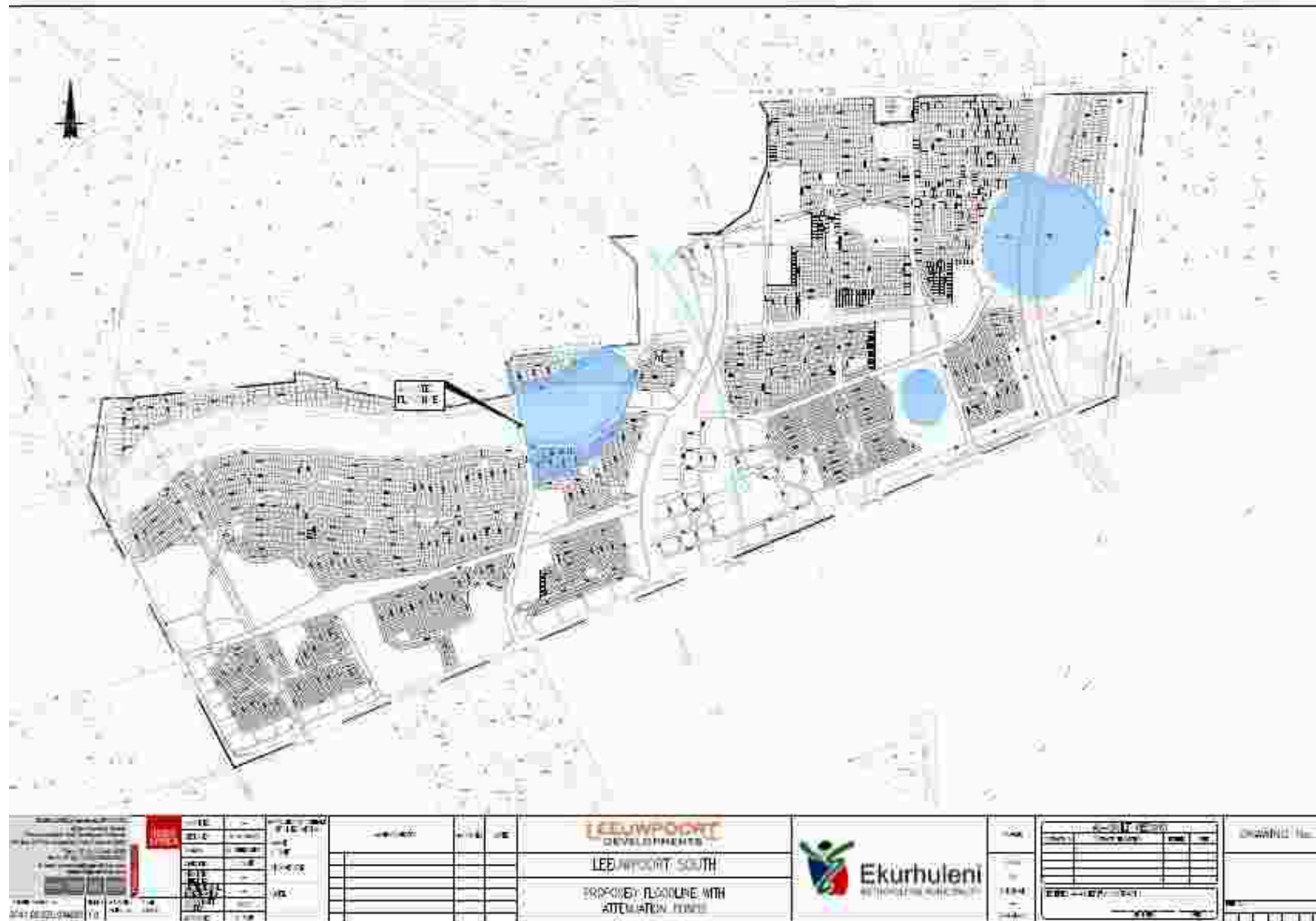


Figure 23: Proposed Stormwater Attenuation Ponds (courtesy of Bigen Africa)

Table 18: Issues and Impacts – Stormwater

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation (Yes/No)	Possible
1)	Stormwater attenuation prior to release into watercourse	-	Yes	

7.8.3.5 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Stormwater

1) Stormwater Attenuation Prior to Release into Watercourse

Due to increase in sealed surfaces associated with the Proposed Mixed Use Development, the volume and velocity of stormwater run-off will increase. In order to prevent erosion of the watercourse, stormwater attenuation measures are required.

Mitigation Measures to be included in the EMP

Planning Phase

- Design and budget for Stormwater Management in accordance with a Stormwater Management Report.
- Design and budget for construction of attenuation structures.
- Apply for Section 21 WUL.

Construction Phase

- Implement Water Use License conditions and associated Plans.
- Construct attenuation structures in accordance with Design drawings.

7.8.4 Electricity

A *Preliminary Engineering Design Report* was compiled by Bigen Africa in December 2016.
Refer to Annexure D8 for Preliminary Engineering Design Report.

The Electrical Design Report assumed that all residential units will have a demand of 3.5kVA, with the total demand calculated as 79, 073kVA for approximately 14,000 residential units.

The Fortman substation is 2km from the Proposed Development which supplies the S13 switching station situated on the corner of Rondebult Road and North Boundary Road, with 6MVA available capacity.

The Medium Voltage supply will be supplied from a new 88/11kV Helderwyk Substation to be constructed as part of this project. MV supply will be in two phases: Phase 1 will entail installing a feeder panel at the existing switching station 13; Phase 2 will entail constructing a new 88/11kV 80 MVA Helderwyk Substation. Eskom will be responsible for the HV of the said substation and EMM shall be responsible for the MV of the said substation. The planned capacity of the substation is 120MVA, but initially it will be 80MVA.

EMM Energy and Electricity Department has already applied for substations for the Proposed Development, comprising of six Phases or Townships, from Eskom.

Medium voltage supply will be in the form of an 11kV underground powerline feeding two centralised switching stations of 40MVA and 6 incomer cables each, situated within the Proposed Development. In the interim a link cable will be installed from the Switching Station S13 to the Proposed Developments switching station 1 in order to transfer the 6MVA available capacity to the Proposed Development until completion of the new Helderwyk Substation.

EMM and Eskom are requested to inform the EAP should any additional information become available for inclusion in the Final EIA Report.

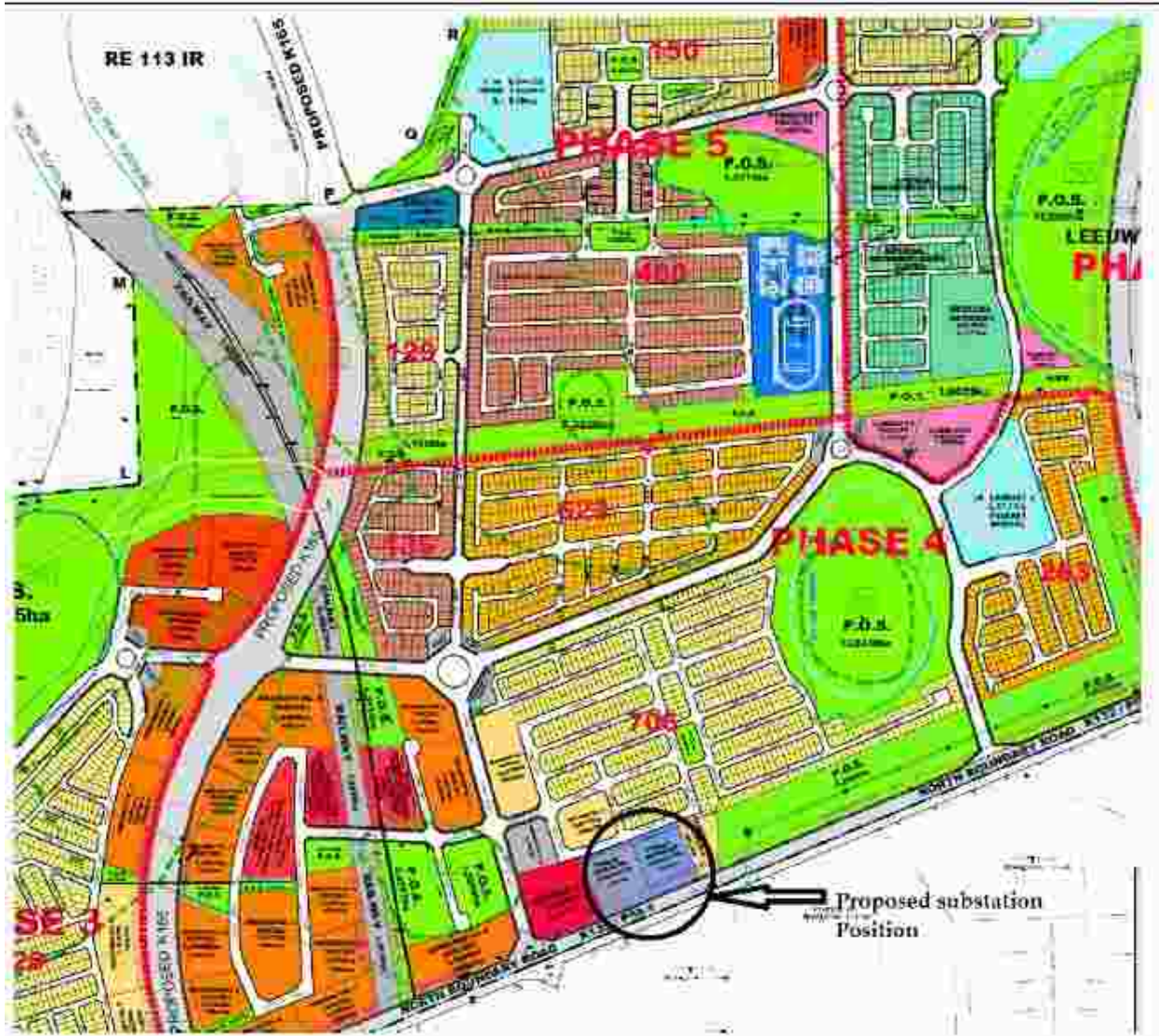


Figure 24: Proposed 88/11kV Substation Position (courtesy of Bigen Africa)

The internal MV network will comprise of an 11kV underground network feeding a configuration of 315kVA and 500kVA LV miniature substations. 14 outgoing feeder panels will be installed at each of the two internal switching stations.

The Proposed Development site is traversed by a railway line, water pipes, sewer lines, telephone, and electrical power lines, as well as slurry pipeline, and has potential prospecting and mining rights registered. It will thus be necessary to engage in Servitude and Way leave agreements with ERPM Limited, Transnet, Spoornet, Eskom, and EMM.

Table 19: Issues and Impacts – Electricity Supply

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
1)	Servitude and Way-leave agreements required for infrastructure traversing the property as well as mining rights.	-	Yes

7.8.4.1 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Electricity

1) Servitude and Way-leave agreements required for infrastructure traversing the property as well as mining rights

The Developer has to register Servitudes and apply for Way leaves from relevant institutions for infrastructure to be affected by the Proposed Development.

Mitigation measures to be included in the EMP

Planning Phase

- Register Servitudes and apply for Way leaves as required.

Construction Phase

- Implement conditions as per Servitude and Way leave agreements.

7.8.5 Solid waste

Preliminary Investigations indicate that the involved Local Authority will be responsible for the removal of domestic waste generated during the operational phase of the project.

Table 20: Issues and Impacts – Solid waste

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
1)	Environmental pollution due to solid waste generated	-	Yes

7.8.5.1 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Solid waste

1) Environmental Pollution due to Solid Waste generated

The Proposed Development will generate solid waste both during construction and Operational Phase which will have to be disposed of responsibly.

Mitigation Measures to be included in the EMP

Planning Phase

- Local Authority to confirm in writing that waste removal service can be provided for the Proposed Development and that Landfill Site has the capacity to receive the volume of waste to be generated by the Proposed Development.

7.8.6 Traffic

A *Transport Impact Assessment – Proposed Sunward Park X24-X29, Region D* was conducted by Innovative Transport Solutions during March 2017 (**refer to Annexure D9**) and submitted to EMM and the Gauteng Department of Roads and Transport (GDRT) for approval.

The Assessment concluded the following road upgrades are required in order to accommodate substantial additional traffic (6500vph peak AM and PM) associated with the Proposed Development:

- Public transport facilities;
 - Public transport bays are proposed downstream of accesses to the Proposed Development; and
 - Adequate sidewalks must lead up to and from the public transport bays.
- Intersection upgrades are required as follows to cater for the development:
 - N17/K131 western terminal;
 - N17/K131 eastern terminal;

- K131 (Rondebult Road)/Kingfisher Avenue;
- K155 (Barry Marias Road)/ Kingfisher Avenue;
- Kingfisher Avenue/Heidelberg Road;
- K132 (North Boundary Road)/Aucamp Street;
- K131 (Rondebult Road)/K132 (North Boundary Road);
- K131 (Rondebult Road)/Agulhas Road; and
- K131 (Rondebult Road)/Uiterkyk Road.
- Additional measures proposed to alleviate traffic:
 - K131 (Rondebult Road): construct three lanes per directions between N17 and K132 (North Boundary Road);
 - K131 (Rondebult Road)/Kingfisher Avenue: options to be discussed with authorities include; Quarter link, Narrow diamond, Narrow single point, Clover Stack.
 - A north-south link across the N17 on Mathews Drive to alleviate directional traffic on the K131 (Rondebult Road).
 - N17 southern terminal: on-ramp loop westbound.
- Construction of a section of the Proposed K165 between Kingfisher Road and K132, to replace Trichardt's Road in future.
- Link upgrades are proposed in the form of one lane per direction from K131 (Rondebult Road)/N17 North Terminal intersection to K131 (Rondebult Road)/K132 (North Boundary Road) intersection which is approximately 4km in length.

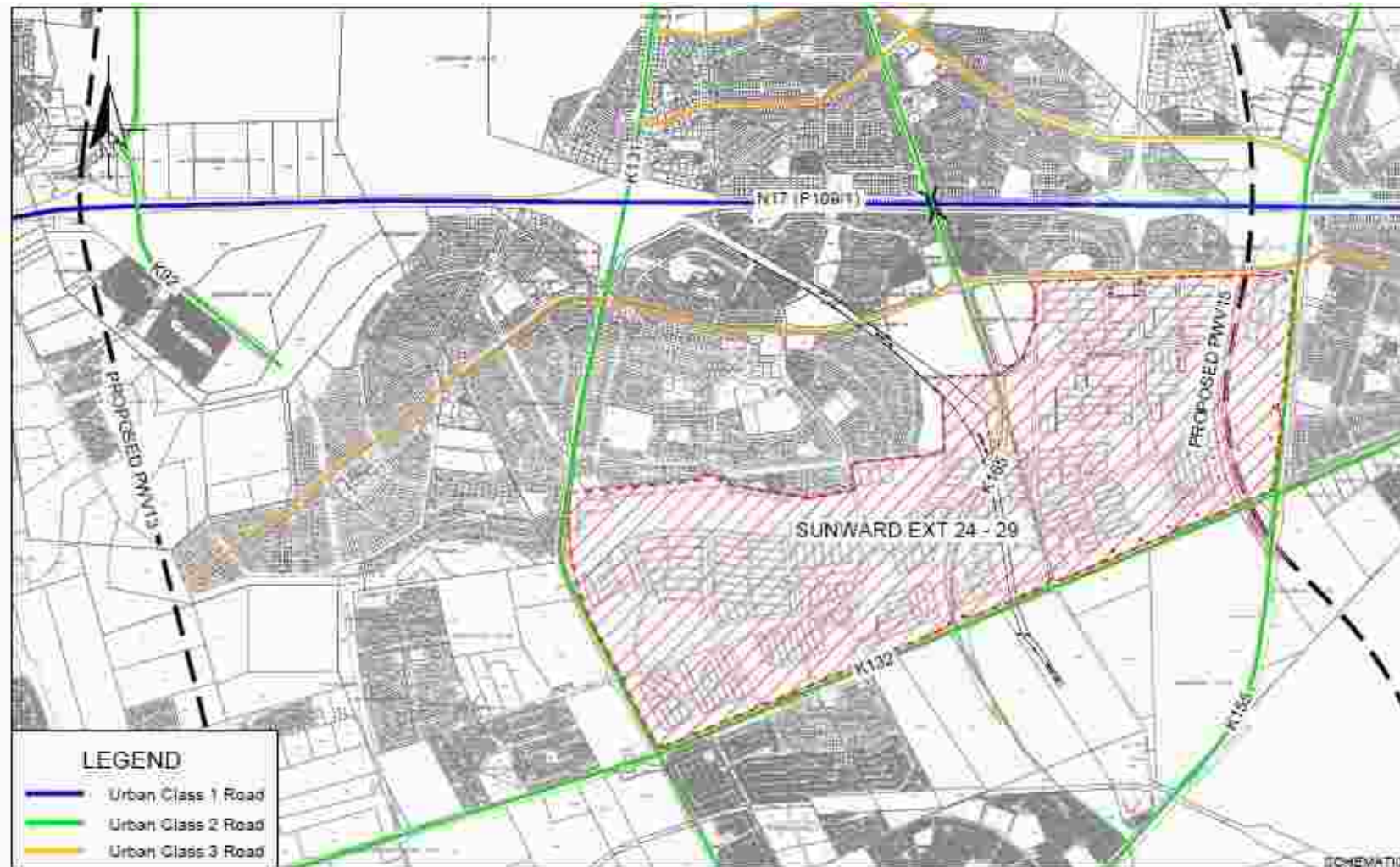


Figure 25: Ekurhuleni Roads Master Plan (courtesy of Innovative Transport Solutions)

EMM insists that the Proposed Development be fenced off along the K131 (Rondebult Road), the Proposed K165 (Trichardt's Road), K155 (Barry Marais Road), the Proposed PWV15, and the K132 (North Boundary Road) in order to prevent pedestrians from crossing these roads from the development.

7.8.6.1 Access

The Proposed Development will have regional access from the N17, K131 (Rondebult Road), K132 (North Boundary Road), K155 (Barry Marais Road) and Trichardt's Road.

- Rondebult Road/Leeuwpoot Street;
- Rondebult Road/Lancaster Road; and
- Direct access from the R 21 (Rondebult Road).

Table 21: Issues and Impacts – Traffic

	Issue/ Impact	Positive/ Negative/ Neutral ±	Mitigation Possible (Yes/No)
1)	Increase in traffic volume	-	Yes
2)	Proposed Development affects Provincial Roads and National Road	-	Yes

7.8.6.2 Discussion of issues identified, possible mitigation measures and significance of issue after mitigation – Traffic

1) Increase in traffic volume

The Proposed Development will result in an increase in traffic volume and requires access to and from.

Mitigation measures to be included in the EMP

Planning Phase

- TIA has been conducted and road upgrades identified in order to cater for the Proposed Development.

- Developer to budget for Proposed External Road Upgrades as part of the development.

Construction Phase

- Proposed Road Upgrades to be constructed as part of the development at the developers cost.

2) Proposed Development affects Provincial and National Roads

The Proposed Development affects Provincial Roads as well as a National Road.

Mitigation Measures to be included in the EMP

Planning Phase

- GDRT and SANTRAL to approve Proposed Road Upgrades.
- Register servitudes if required.

Construction Phase

- Upgrades to Provincial Roads to be in accordance with GDRT Standards and upgrades to National Road to be in accordance with SANRAL standards.

7.9 SENSITIVE ENVIRONMENTS

From an analysis of the Proposed Developments activities impact on the physical, biological, social, economic, and cultural aspects of the Environment, a sensitivity map was compiled, denoting sensitive environments identified **(Refer to Figure 26 below)**. The sensitivity map was then used to compile the Proposed Site Layout as denoted in **Figure 27**.

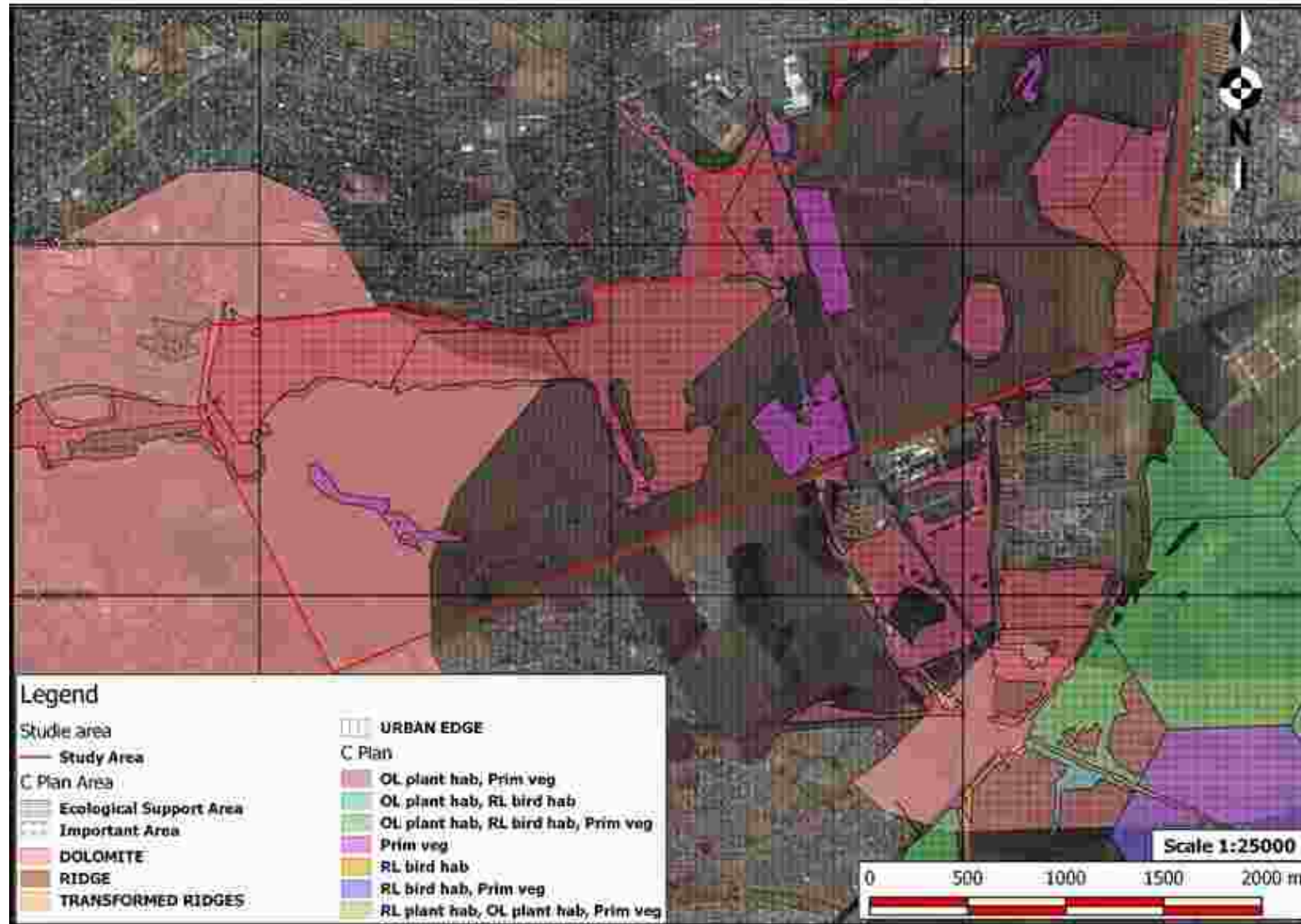


Figure 26: Sensitivity Map

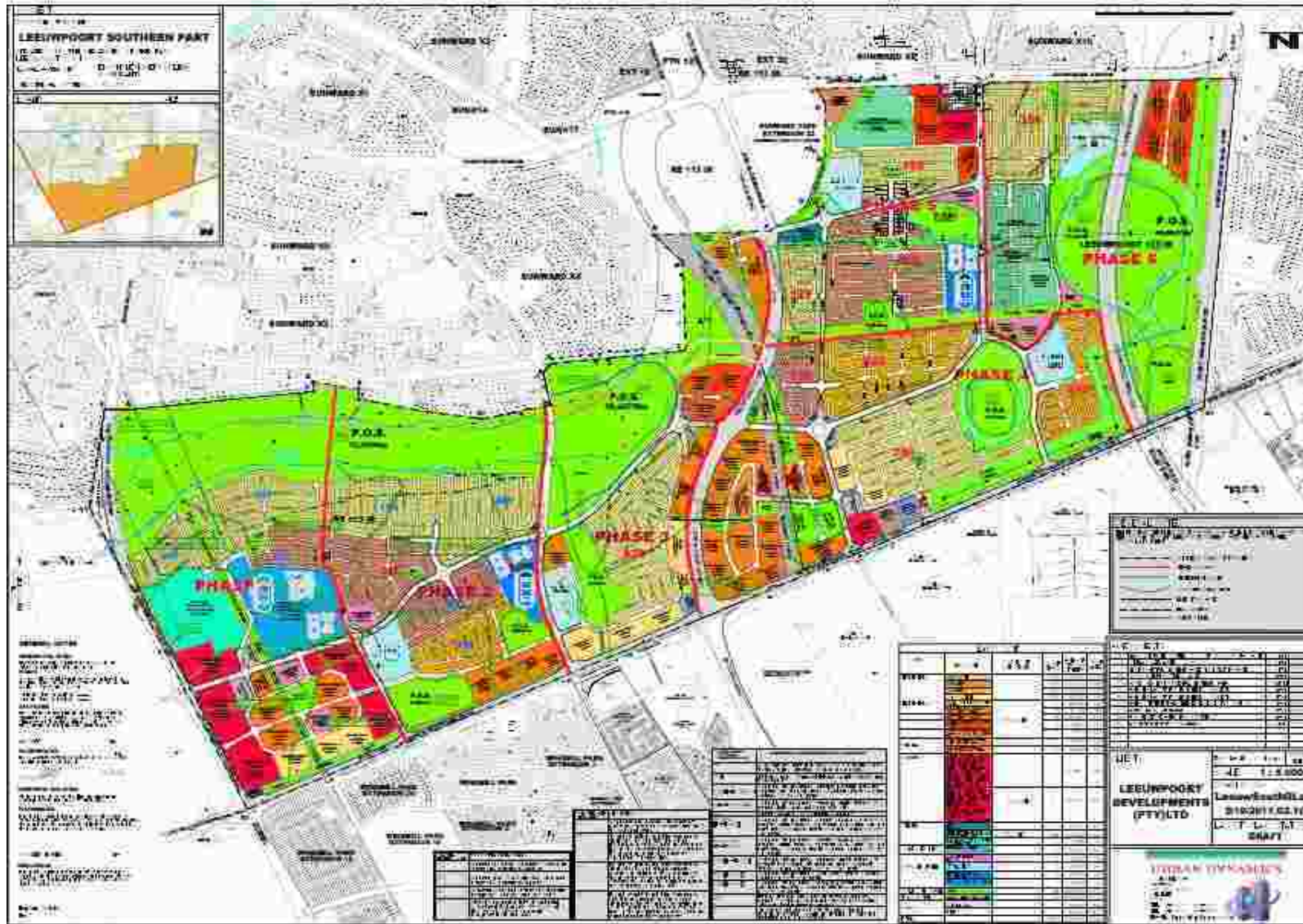


Figure 27: Proposed/Preferred Layout

Sensitive areas identified on the Proposed Development Site associated with watercourses and classified as Irreplaceable Ecological Area in terms of the Gauteng Conservation Plan was zoned “Public Open Space” as part of the Proposed Layout denoted in **Figure 27**.

A high risk for doline formation exists on approximately 30ha of land on western boundary of development site due to underlying dolomite. This tract of land was zoned as non-residential land uses.

An overlay of the Proposed Layout and Sensitive Environmental Areas identified are represented in **Figure 28** below.

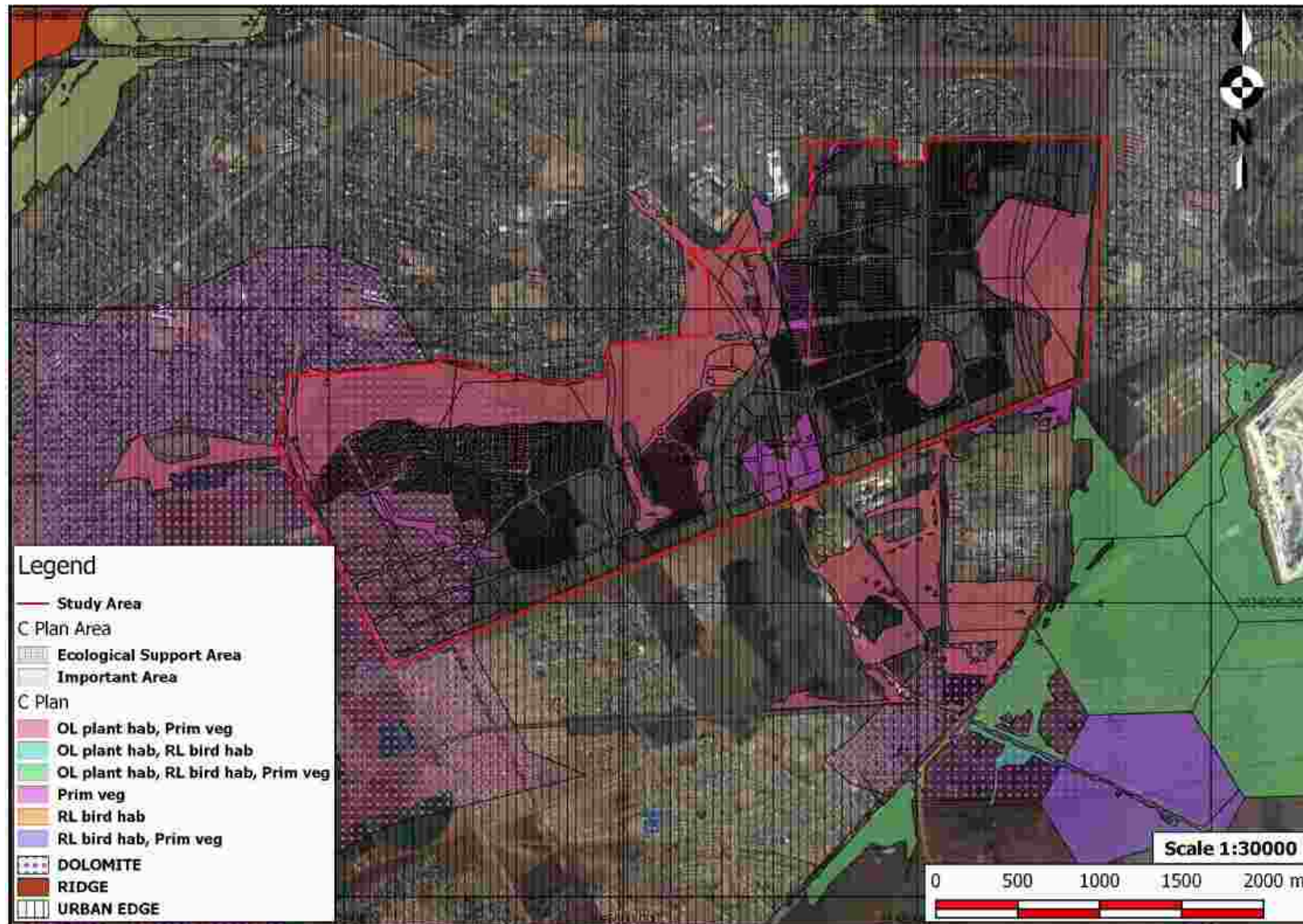


Figure 28: Proposed Layout Versus Sensitive Environments

8 PUBLIC PARTICIPATION

Please Refer to **Annexure E** for Public Participation.

8.1 Purpose of Public Participation

Public Participation is a cornerstone of any Environmental Impact Assessment. The principles of the National Environment Management Act, 1998 (Act No. 107 of 1998) govern many aspects of Environmental Impact Assessments, including Public Participation. These include provision of sufficient and transparent information on an on-going basis to the Stakeholders. This will allow Stakeholders to comment and ensuring the participation of previously disadvantaged people, women, and youth.

Effective Public Involvement is an essential component of many decision-making structures, and effective community involvement is the only way in which the power given to communities can be used efficiently. The Public Participation Process is designed to provide sufficient and accessible information to Interested and Affected Parties (I&APs) in an objective manner which assist them to:

- Raise issues of concern and suggestions for enhanced benefits.
- Verify that their issues have been captured.
- Verify that their issues have been considered by the technical investigations.
- Comment on the findings of the EIA.

8.2 Identification of Interested and Affected Parties

Potential Interested and Affected Parties relevant to the project and the surrounding area were listed. The list was updated during the Scoping Process with information forthcoming from discussions with various role players and authorities (**Refer to Annexure E6**)

8.3 Notifications to I&AP

Stakeholders (I&APs) were notified of the Environmental Impact Assessment Process for the Proposed Mixed Use Development through:

- 1) Site notices were erected at prominent points in and around the study area on 22 March 2017 **(Refer to Annexure E1 for proof of notice)**.
- 2) Notices were distributed to the surrounding land-owners and Interested and Affected Parties by means of faxes, hand delivery and e-mail on 22 March 2017 **(Refer to Annexure E2 for proof of public notice)**;
- 3) An advertisement was placed in the Boksburg Advertiser on 31 March 2017 **(Refer to Annexure E3 for proof of advertisement)**; and
- 4) The Final Scoping Report was published for 30-day review by I&APs from 2 February to 6 March 2017.
- 5) A Public Meeting was held during the Scoping Phase on 25 January 2017 **(Refer to Annexure E5 – Minutes of meetings)**.
- 6) Comments and objections received from I&APs are recorded in **Annexure E4** and Summarised with response in **Comments & Response Report in Annexure E5**.
- 7) The Draft EIA Report will be made available for review by I&APs for a period of 30 days, and comments received will be addressed in the Final EIA.

Since commencement of the Environmental Authorization Application Process several Interested and Affected Parties have registered **(refer to Annexure E6 - List of Interested and Affected Parties)**; and comments were received from the following authorities; EMM, Transnet, Telkom, Gauteng Department of Roads and Transport (GDRT), Randwater, SAHRA, Council of Geoscience, South African Police Service (SAPS), SANRAL, and Airports Company South Africa (ACSA) also commented on the Proposed Development.

8.4 Comments from I&APs

Bokamoso Environmental responded to comments and objections received from I&APs. A summary of the aforementioned is available in **Annexure E5 – Comments & Response Report**.

Randwater confirmed that their infrastructure will be affected by the Proposed Leeuwpoot South Mixed Use Development.

Transnet indicated that infrastructure is not affected by the Proposed Development.

SAPS did not object to the Proposed Development, but stated that the increase in residents might have an impact on policing capacity. SAPS was informed of the densification planned for the area and should plan and budget for resources accordingly. The intended development is aimed at providing formal affordable subsidized housing in close proximity to the Boksburg CBD and work opportunities, and to prevent informal illegal settlement on the vacant land areas in and around Boksburg.

Telkom supplied a Layout Map denoting Telkom Infrastructure in close proximity to the Proposed Development and reissued a Way leave on 24 March 2017 valid for 6 months. This information was passed on to the developer.

Eskom Transmission confirmed that they are not affected by the Proposed Application, but that Eskom Distribution is affected and that an application must be submitted to Eskom Gauteng Region for purpose of obtaining a Way leave.

The Council of Geoscience accepted the *Phase 1 Dolomite Stability Investigation* conclusions and recommendations, and expressed their support of the Proposed Development in correspondence dated 26 September 2016.

ERPM Limited supplied comments to the Draft Scoping Report advising on their Mining Rights (GP 30/5/1/2/2/150MR, and GP 30/5/1/2/2/151MR) as well as Prospecting Right (GP 30/5/1/1/2/2 243PR) affected by the Proposed Leeuwpoot South Mixed Use Developments, and requested an urgent meeting. A meeting between the Developer, Landowner, and ERPM Limited took place on 15 May 2017, where their future mining plans were presented. The Phase 2 Mining affects the proposed Leeuwpoot South Mixed Use Development in the form of a proposed open cast mine bordering Rondebult Road as well as a Crusher. Bokamoso requested ERPM Limited to supply proof of their Mining Rights

for incorporating it into this Draft EIA Report, but at time of going to print the information had not been received yet.

Gauteng Department of Roads and Transport responded that Future Route(s) P58-1, K131, K132, K155, K165 and PWV15 is affected by the Application and stipulated conditions for road upgrades proposed in a letter dated 13 January 2017.

SANRAL requested a copy of the Township Establishment and TIA on 3 May 2017.

Save the Wetlands: Boksburg South/Parkrand Group submitted an appeal against the Proposed Leeuwpoot South Mixed Use Development as well as the Parkdene X7 Mixed Use Development, and the Reiger Park X19 Residential Development on 19 April 2017.

Concerns are summarised below:

- Property value;
- Wetland;
- Crime;
- Safety Issues;
- Old age home not safe anymore;
- Why this is being approved when it was decided that it's an environmentally sensitive area;
- Building Project;
- Don't agree with the low cost housing in this area;
- Concerned whether correct procedures and protocol have been followed;
- Over population of area;
- Availability of infrastructure;
- Protect and save environment;
- Disagree to development;
- Please do not destroy our wetland;

- Overcrowding of schools;
- Impact on public sports ground;
- Safety and saving nature;
- Lack of infrastructure;
- Was any Impact Studies done in the area and who was consulted and what were the findings on such studies i.e. Soil studies, Environmental Impact on ageing infrastructure and why was so little known about the project;
- Devaluation of properties in this area;
- The environment and whole ecosystem – birdlife etc.;
- Destruction of environment and wetlands;
- Increase in crime;
- Property value will be affected negatively;
- The development on land where a wetland is registered. The development will be of low cost housing;
- The wetland will be destroyed and Fauna and Flora will be removed;
- Infrastructure currently under pressure, will not cope;
- Oppose to the illegal development of RDP housing;
- Impact on untouched landscape, known to house endangered African Grass Owl;
- Pollution;
- Traffic impact;
- Overburdened existing infrastructure and roads;
- Can flood during heavy rains;
- There are few natural environments left in Boksburg, we need to preserve nature.
- Safety;
- Not suitable for a housing project;
- Numerous birds that come into the garden from the wetland and we have often seen meerkat in the area;

- Inadequate services;
- Clay is prominent and houses always cracking, our park has an area which is being reclaimed by the wetlands, very unhygienic;
- Loss of biodiversity;
- Animals will be killed;
- The schools are already full;
- Health impacts;
- Impact on business and social;
- Concerned that proper procedures are not followed to obtain approvals;
- For agriculture land not be used;
- Who will fit the bill for this;
- Will take away family time;
- Destroying fishing habitat;
- Damage of natural resources;
- Over population;
- Decrease of health services;
- Save the wetlands;
- Water pollution;
- Noise pollution;
- Impact of Aquarius Road going through the wetland;
- Too many people for available roads;
- Overloading of the local infrastructure;
- Save the bird land;
- Our wetlands are already polluted by all the informal housing development;
- Sanitation;
- Developers are nibbling away at the nation's small wetlands;
- Metro cannot currently provide adequate service delivery for my suburb;
- Overburdened Infrastructure – Ageing and poor maintenance;

- The country is water scarce and by proposing a development is insane as it will destroy HABITAT of wildlife and wetland structures;
- Sinkhole problems will occur;
- Sewerage/drainage problems;
- Better planning required;
- My concern is the detrimental effect on the numerous species which inhabit these wetlands;
- The high-water table in this area is not conducive to building developments;
- The amount of jobless people is very high – crime and murder rate will increase;
- Who will pay for the municipal services;
- Taxi violence;
- Water and sewage overload/electricity to be overloaded;
- Please note that concrete fences are falling down on a weekly basis in these areas;
- Previously the Sasol Garage Development was stopped due to the Environmental Impact on Rondebult;
- Water drainage cannot cope with the rain during a heavy downpour of rain. Existing roads are then flooded;
- The land is regarded as mining land with some surface and sub-surface mining rights; and
- Impact on sporting facility.

A comprehensive response to points listed by Save the Wetlands can be found in **Annexure E5 – Comments & Response Report.**

9 COMPARATIVE ASSESSMENT BETWEEN ALTERNATIVE 1, TO 6

9.1 Anticipated Impacts, Including Cumulative Impacts

The impacts/aspects (beneficial and adverse) of the Proposed Mix Use Development (Alternative 1), and other alternatives on the receiving Environment were identified. The above impacts, as well as the Affected Environmental Characteristics, are indicated in **Tables 22 and 23** below.

Table 22: Comparative Assessment of Impacts and Issues Associated with Development, before Mitigation

Environmental Aspects Key to impacts: ☺ – Lower positive ☺m – Medium positive ☺h – Higher positive ☹ – Lower negative ☹m –Medium negative ☹h – Higher negative ☹ – Neutral	Physical				Biological		Socio-Economical								Institutional				Total Impacts	
	Geology and Soils	Hydrology	Topography	Climate	Fauna	Flora	Qualitative Environment Visual, Noise, Pollution, Security	Compatibility of Land-Use	Availability of municipal services	Upgrading of Municipal Services	Economic Impact Local Authority	Economic Impact I&APs	Economic Impact Private Sector	Cultural and Historical	Impact on agricultural potential land	In line with IDP	In line with SDF or other frameworks And open space plans	In line with Provincial legislation, policies guidelines		In line with National legislation
Alternative 1 "Mixed Use" PROPOSAL	☹h	☹m	☹l	☹l	☹m	☹l	☹m	☹	☹m	☹l	☹l	☹l	☺m	☹	☹	☺h	☺h	☺h	☺h	☺h x 4 ☺m x 1 ☹ x 3 ☹l x 5 ☹m x 5 ☹h x 1
Alternative 2 "Commercial Only"	☹h	☹m	☹l	☹l	☹l	☹m	☹m	☹l	☹l	☹l	☹	☹l	☺h	☹	☹	☺m	☺m	☺m	☺m	☺h x 1 ☺m x 4 ☹ x 3 ☹l x 7 ☹m x 3 ☹h x 1
Alternative 3 "Low density residential only"	☹h	☹m	☹l	☹l	☹l	☹m	☹m	☹l	☹l	☹l	☹	☹m	☺l	☹	☹	☹l	☹l	☹l	☹l	☺l x 5 ☹ x 3 ☹l x 6 ☹m x 4 ☹h x 1
Alternative 4 "Agriculture only"	☹h	☹m	☹l	☹l	☹l	☹m	☹l	☹m	☹l	☹	☹	☹l	☹l	☹	☹	☹h	☹h	☹h	☹m	☹ x 4 ☹l x 7 ☹m x 4 ☹h x 4
Alternative 5 "Conservation only"	☹	☹	☹	☹	☺l	☺l	☺l	☹	☹	☹	☹l	☹	☹l	☹	☹l	☹h	☹h	☹h	☹h	☺l x 3 ☹ x 9

Environmental Aspects Key to impacts: ☺l – Lower positive ☺m – Medium positive ☺h – Higher positive ☹l – Lower negative ☹m – Medium negative ☹h – Higher negative ☺ – Neutral	Physical				Biological		Socio-Economical								Institutional				Total Impacts	
	Geology and Soils	Hydrology	Topography	Climate	Fauna	Flora	Qualitative Environment Visual, Noise, Pollution, Security	Compatibility of Land-Use	Availability of municipal services	Upgrading of Municipal Services	Economic Impact Local Authority	Economic Impact I&APs	Economic Impact Private Sector	Cultural and Historical	Impact on agricultural potential land	In line with IDP	In line with SDF or other frameworks And open space plans	In line with Provincial legislation, policies guidelines	In line with National legislation	
																				☹l x 4 ☹h x 3
Alternative 6 "No Go"	☹l	☹l	☹l	☹l	☹l	☹l	☹l	☹m	☺	☺	☹l	☺	☹l	☺	☹h	☹h	☹h	☹h	☺x5 ☹l x 9 ☹m x 1 ☹h x 4	

Table 23: Comparative Assessment of Impacts of Development, after Mitigation

Environmental Aspects Key to impacts: 😊- Lower positive 😊m- Medium positive 😊h- Higher positive 😞- Lower negative 😞m- Medium negative 😞h- Higher negative 😐 - Neutral	Physical				Biological		Socio-Economical								Institutional				Total Impacts	
	Geology and Soils	Hydrology	Topography	Climate	Fauna	Flora	Qualitative Environment Visual, Noise, Pollution, Security	Compatibility of Land-Use	Availability of municipal services	Upgrading of Municipal Services	Economic Impact Local Authority	Economic Impact I&APs	Economic Impact Private Sector	Cultural and Historical	Impact on agricultural potential land	In line with IDP	In line with SDF or other frameworks And open space plans	In line with Provincial legislation, policies guidelines		In line with National legislation
Alternative 1 "Mixed Use" PROPOSAL	😊	😊	😊	😊	😊m	😊	😊	😊h	😊	😊m	😊h	😊h	😊m	😊	😊	😊h	😊h	😊h	😊h	😊h x 7 😊m x 7 😊x 10
Alternative 2 "Commercial Only"	😊	😊	😊	😊	😊m	😊	😊	😊	😊	😊	😊m	😊	😊h	😊	😊	😊	😊	😊	😊	😊h x 5 😊m x 2 😊l x 2 😊x 10
Alternative 3 "Low density residential only"	😊	😊	😊	😊	😊m	😊h	😊	😊m	😊	😊	😊	😊m	😊	😊	😊	😊m	😊m	😊m	😊m	😊h x 4 😊m x 3 😊l x 2 😊x 10
Alternative 4 "Agriculture only"	😊m	😊l	😊l	😊l	😊m	😊h	😊l	😊m	😊l	😊	😊	😊	😊	😊	😊	😊h	😊h	😊h	😊l	😊l x 2 😊x 4 😊l x 6 😊m x 3 😊h x 4
Alternative 5 "Conservation only"	😊	😊	😊	😊	😊m	😊h	😊	😊	😊	😊	😊	😊	😊	😊	😊l	😊h	😊h	😊l	😊	😊h x 1 😊m x 1 😊l x 3 😊x 10 😊l x 2 😊h x 2
Alternative 6 "No Go"	😊	😊	😊	😊	😊	😊	😊h	😊m	😊	😊	😊m	😊	😊h	😊	😊	😊h	😊m	😊l	😊	😊x 13 😊l x 1 😊m x 2 😊h x 3

9.2 Competitive Assessment between Proposal and Alternatives

From **Table 22** and **Table 23** above it can be concluded that Alternative 1, the Proposal for Mixed Use Development is the Preferred Alternative due to all impacts turning either neutral or positive following implementation of Proposed Mitigation Measures.

The Biological Impacts of Alternative 2 - Commercial and Alternative 3 - Low Density Residential are similar to Alternative 1 - Mixed Use Development due to the possibility of including sensitive Environments into 'Public Open Space' Zones as part of these developments. From an Institutional Environment Alternative 2 and 3 are less aligned with National, Provincial and Local Development Frameworks than Alternative 1.

Utilizing the Proposed Development Site for Alternative 4 - Agriculture will not cater for preserving the Sensitive Environments and will have a significant negative impact on the adjacent watercourse and pans due to the potential of erosion and siltation as a result of agricultural activities. Conserving the area as per Alternative 5 will have a positive impact on the Biophysical Environment, but this alternative is not aligned with National, Provincial, and Local Development Frameworks pertaining to the development of the specific site and will not contribute to the socio-economic development of the precinct by creating housing, and job opportunities. In case the decision is made to leave the land undeveloped, funds will have to be secured to formally conserve the area as to prevent the degradation of sensitive Environments associated with the watercourse and pans.

The "No-Go" Alternative will not secure the preservation of the Sensitive Environments in the long run, due to potential for illegal land occupation. There is already evidence of human activities on site which could degrade the Sensitive Environments.

The Proposed Land Use of a Mixed Use Development will secure the conservation of Sensitive Environments bordering the Proposed Development Site, and is aligned with National Provincial as well as Local Government Frameworks and Policies related to development of land within Urban Area, and is therefore regarded as the Preferred Alternative.

From an Integrated Environmental point of view i.e. biological, physical, socio-economical, and institutional environment, Alternative 1 is regarded as the preferred development alternative.

10 SIGNIFICANCE ASSESSMENT

10.1 Description of Significance Assessment Methodology

The significance of Environmental Impacts was assessed in accordance with the following method:

Significance is the product of probability and severity. Probability describes the likelihood of the Impact actually occurring, and is rated as follows:

Improbable	Low possibility of impact to occur either because of design or historic experience	Rating = 2
Probable	Distinct possibility that impact will occur	Rating = 3
Highly probable	Most likely that impact will occur	Rating = 4
Definite	Impact will occur, in the case of adverse impacts regardless of any prevention measures	Rating = 5

The **severity factor** is calculated from the factors given to “intensity” and “duration”. Intensity and duration factors are awarded to each impact, as described below.

The **Intensity factor** is awarded to each impact according to the following method:

Low intensity	natural and manmade functions not affected	Factor 1
Medium intensity	environment affected but natural and manmade functions and processes continue	Factor 2
High intensity	environment affected to the extent that natural or manmade functions are altered to the extent that it will temporarily or permanently cease or become dysfunctional	Factor 4

Duration is assessed and a factor awarded in accordance with the following:

Short term	<1 to 5 years	Factor 2
Medium term	5 to 15 years	Factor 3
Long term	impact will only cease after the operational life of the activity, either because of natural process or by human intervention	Factor 4
Permanent	mitigation, either by natural process or by human intervention, will not occur in such a way or in such a time span that the impact can be considered transient	Factor 4

The **Severity Rating** is obtained from calculating a severity factor, and comparing the severity factor to the rating in the table below. For example:

$$\begin{aligned}
 \text{The Severity factor} &= \text{Intensity factor X Duration factor} \\
 &= 2 \times 3 \\
 &= 6
 \end{aligned}$$

A **Severity factors** of six (6) equals a Severity Rating of Medium severity (Rating 3) as per table below:

Calculated values 2 to 4	Low Severity	Rating 2
Calculated values 5 to 8	Medium Severity	Rating 3
Calculated values 9 to 12	High Severity	Rating 4
Calculated values 13 to 16	Very High severity	Rating 5

A Significance Rating is calculated by Multiplying the Severity Rating with the Probability Rating.

The **Significance Rating** should influence the development project as described below:

Significance Rating 4 to 6	Low significance	Positive impact and negative impacts of low significance should have no influence on the Proposed Development Project.
Significance Rating >6 to 15	Medium significance	Positive Impact: Should weigh towards a decision to continue Negative Impact: Should be mitigated to a level where the impact would be of medium significance before project can be approved
Significance Rating 16 and more	High significance	Positive impact: Should weigh towards a decision to continue, should be enhanced in final design. Negative impact: Should weigh towards a decision to terminate proposal, or mitigation should be performed to reduce significance to at least medium significance rating

In correspondence received from GDARD some officials were of the opinion that the significance methodology used by Bokamoso Environmental applies a simple mathematical formula to Environmental Aspects with significantly different sensitivity values, which might or might not give an inaccurate final significance value.

The significance methodology used by Bokamoso Environmental was prescribed to Environmental Consultants in courses on Impact Assessments. No methodology can be accurate to a numerical value where the Environment is concerned, because it cannot be measured. Numerical values are only an indication of the significance or severance of impacts. If we do not agree with the outcome of the assessment, we will adjust the numerical value to reflect a more realistic significance. The methodology only acts as an aid to the Environmental Consultant and the consultant need to use his/her experience in the field together with the methods in order to reach a realistic significance of impacts. Bokamoso, in particular MS Lizelle Gregory, has extensive experience in the field of impact assessments.

10.2 Significance Assessment of Anticipated Impacts of the Preferred Alternative

Impacts indicated under each section of the Environment were each assessed according to the above methodology. **Table 24** below contains the results of the significance assessment.

Table 24: Result of Significance Assessment of Impacts associated with the Proposed Mix Use Development (following mitigation)

	Probability Rating	Severity Rating		Severity Factor	Severity Rating	Significance Rating
		Intensity	Duration			
CONSTRUCTION PHASE						
Beneficial Impacts						
Provision of affordable housing	5	4	2	8	3	15 Medium
Job creation	5	4	2	8	3	15 Medium
Conservations of Sensitive Environments	4	2	2	4	2	8 Medium
Alignment with National, Provincial, and Local Development Policies and Frameworks	5	4	2	8	3	15 Medium
Adverse Impacts						
Occurrence of borrow pits next to R554	5	2	2	4	2	10 Medium
Potential active, collapsible soils, compressible soils	4	2	2	4	2	8 Medium
High risk for doline formation on approximately 30ha of land on western boundary of development site due to underlying dolomite	4	4	4	16	5	20 High
Accumulation of sediment in the wetland area and pans as a result of construction activities	4	2	2	4	2	8 Medium
Increase in stormwater volume and velocity due to increase in sealed surface areas	4	2	2	4	2	8 Medium
Visibility from surrounding land and roads	3	1	2	2	2	6 Low
Wet conditions deterring construction and rehabilitation	2	2	2	4	2	4 Low
Dry and windy conditions resulting	3	2	2	4	2	6

	Probability Rating	Severity Rating		Severity Factor	Severity Rating	Significance Rating
		Intensity	Duration			
in air pollution						Low
Ecologically sensitive vegetation units	3	2	2	4	2	6 Low
Occurrence of Orange Listed Species <i>Hypoxis hemerocallidea</i> in Disturbed <i>Eragrostis - Hyparrhenia</i> Grassland vegetation unit to be developed	5	2	2	4	2	10 Medium
Highly Ecologically Sensitive Fauna Habitat occurring within the Proposed Development Site	5	2	2	4	2	10 Medium
Potential presence of African Grass Owl within Grassland vegetation unit	3	2	2	4	3	6 Low
Potential for sub-surface archaeological/historical finds	3	2	2	4	2	6 Low
Visual Impact of the development on neighbouring land users	3	1	2	2	2	6 Low
Reflective structures affecting drivers vision	3	2	2	4	2	6 Low
Development could have negative effect on Sense of Place.	3	2	2	4	2	6 Low
Potential dust and noise complaints during construction phase	3	2	2	4	2	6 Low
Water Reservoir Capacity insufficient for all Phases of Proposed Development	5	2	2	4	2	10 Medium
Waterval Water Care Works to be upgraded as matter of urgency	5	2	2	4	2	10 Medium
Stormwater attenuation prior to release into watercourse	4	2	2	4	2	8 Medium
Servitude and Way leave agreements required for infrastructure traversing the property as well as mining rights.	5	2	2	4	2	10 Medium
Environmental pollution due to solid waste generated	3	2	2	4	2	6 Low
Increase in traffic volume	5	4	2	8	3	15 Medium
Proposed upgrades affect Provincial Roads and National Road	5	4	2	8	3	15 Medium

	Probability Rating	Severity Rating		Severity Factor	Severity Rating	Significance Rating
		Intensity	Duration			
OPERATION PHASE						
Beneficial Impacts						
Provision of affordable housing	5	4	2	8	3	15 Medium
Job creation	5	4	2	8	3	15 Medium
Conservations of Sensitive Environments	5	2	2	4	2	10 Medium
Alignment with National, Provincial, and Local Development Policies and Frameworks	5	4	2	8	3	15 Medium
Adverse Impacts						
Potential active, collapsible soils, compressible soils	4	2	2	4	2	8 Medium
High risk for doline formation on approximately 30ha of land on western boundary of development site due to underlying dolomite	4	4	4	16	5	20 High
Increase in stormwater volume and velocity due to increase in sealed surface areas	4	2	2	4	2	8 Medium
Visibility from surrounding land and roads	3	1	2	2	2	6 Low
Ecologically sensitive vegetation units	3	2	2	4	2	6 Low
Highly Ecologically Sensitive Fauna Habitat occurring within the Proposed Development Site	5	2	2	4	2	10 Medium
Visual Impact of the development on neighbouring land users	3	1	2	2	2	6 Low
Reflective structures affecting drivers vision	3	2	2	4	2	6 Low
Development could have negative effect on Sense of Place.	3	2	2	4	2	6 Low
Stormwater attenuation prior to release into watercourse	4	2	2	4	2	8 Medium
Environmental pollution due to solid waste generated	3	2	2	4	2	6 Low
Increase in traffic volume	5	2	4	8	3	15 Medium

10.3 Discussion of Significance Assessment

Several beneficial impacts with a high significance rating are associated with the Proposed Mixed Use Development, considering it is in line with Local Development Policy. The Draft Environmental Management Plan (**Refer to Annexure F**) contains proposed measures to achieve maximum gain from the above beneficial impacts.

Only the risk for doline formation on approximately 30ha of land on western boundary of development site due to underlying dolomite have a High impact following the implementation of mitigation measures, both during construction and operational phase, as the underlying Geology cannot be changed. Many of the adverse impacts associated with the construction phase do not apply to the operational phase of the development e.g. nuisance dust due to vegetation clearance.

The adverse impacts with medium significance following mitigation during construction and operational phase relate to stormwater attenuation, traffic and sensitive ecological environment denoted as "Public Open Space".

Measures that are recommended in this Report and the Environmental Management Plan will mitigate the adverse impacts to an acceptable level. No "Fatal Flaw" adverse impacts, or adverse impacts that cannot be adequately mitigated, are anticipated to be associated with the Proposed Mixed Use Development to be known as Leeuwpoot South.

11 CONCLUSION

No “Fatal Flaws” were identified that could prevent the Proposed Project from being executed.

From an assessment of the biophysical, social-economic, cultural, and legislative environments it is evident that the Proposed Mixed Use Development – Alternative 1, is in line with National, Provincial, and Local Development Policies and Frameworks. Potential Impacts identified can be sufficiently mitigated as not to detrimentally affect the Environment.

Biophysical Environment

The western section of the Proposed Development Site is underlain by Dolomite of which 30ha has a High risk for Doline formation. This portion of land has been zoned as Sport fields and as Agricultural land as per recommendation made in a Phase 1 Dolomite Stability Investigation. Old borrow pits occurring along the R554 shall be rehabilitated with suitable fill material prior to construction commencing, and is zoned as “Public Open Space”.

Two pans occur in the south eastern portion of the development site. Water drains from the large pan along a wetland southwards into a non-perennial stream situated off-site. The non-perennial stream occurring along the northern boundary and associated wetland, as well as the two pans have been incorporated into the proposed layout as “Public Open Space”.

The Flora Assessment conducted concluded that the Moist Themeda - Eragrostis Grassland, Disturbed Verbena - Eragrostis Pan, and Setaria - Typha Drainage Line are sensitive due to the presence of Orange Listed Plant Species and should be excluded from the Proposed Development. The drainage line, the pan, as well as the Themeda - Eragrostis Grassland vegetation unit has been excluded from the development and incorporated into “Public Open Space” zones. A rescue and relocation plan should be initiated for Hypoxis hemerocallidea occurring outside areas denoted as “Public Open Space”, prior to construction commencing.

Due to the drainage area and pans having potential to house Near Threatened Mammal species such as the African March Rat and the Giant Bullfrog, the Fauna specialist recommended that these habitats be excluded from the Proposed Development.

The wetland provides suitable habitat for two threatened bird species i.e. African Marsh Harrier, and the African Grass Owl, but the probability of occurrence is regarded as low. Despite the aforementioned the entire drainage line, due to the undisturbed nature and high species diversity is regarded as highly sensitive, and has therefore been zoned as “Public Open Space” in order to conserve it as part of the Proposed Development. During the site visit one single nesting March Owl was recorded.

The Avifauna specialist recommended that prior to any construction commencing an additional Avifauna Assessment must be conducted to confirm/deny presence of African Grass Owl and African Marsh Harrier. The Avifauna sensitivity map should be adjusted accordingly and all highly sensitive areas should be incorporated into the development as “Public Open Space”.

Township Phases and clearing for construction should be planned to commence from south to north and from west to east to provide Fauna Species occurring on site ample time to relocate towards open space areas zone as “Public Open Space” as part of the Proposed Development.

Cultural and Socio-economic

Despite no heritage sites identified during the field survey, the potential for sub-surface archaeological/historical finds exists and should be catered for during construction.

ERP Limited indicated that they own Mining Rights which would affect the Proposed Leeuwpoort South Mixed Use Developments. A meeting between the Developer, Landowner, and ERP Limited took place on 15 May 2017, where future mining plans were presented. The Phase 2 Mining affects the proposed Leeuwpoort South Mixed Use Development in the form of

a proposed open cast mine bordering Rondebult Road as well as a Crusher. Bokamoso requested ERPM Limited to supply proof of their Mining Rights for incorporating it into this Draft EIA Report, but at time of going to print the information had not been received yet. Once proof of Mining Rights are obtained, the Developer of the proposed Leeuwpoot South Mixed Use Development is willing to negotiate with ERPM Limited regarding affected areas and amending the township layout in order to cater for Rights, still to be confirmed.

The need for housing within the Ekurhuleni Metropolitan Municipality, specifically in Boksburg has reached a boiling point. It is thus paramount that the need for affordable housing be addressed as a matter of urgency. The Socio-economic study concluded local legislation strongly supports socially responsible development and encourage countering Urban Sprawl and encourage multiple use developments.

Some of the positive impacts associated with the construction phase of the Proposed Developments are; New employment and business opportunities; Skills development and training; alleviation of pressure due to reduction/elimination of housing need for temporary workers. The above positive impacts also apply to the operational phase of the Proposed Developments. Additional positive impacts that will be achieved are; decrease in travelling time and cost to workplaces due to proximity of housing in relation to work opportunities, recreational areas provided for in 'Public Open Space' will contribute to social wellbeing, and the development of vacant land reduces formation of informal settlements.

An *Air Quality Impact Assessment* conducted recommended that a complaints register related to dust and noise be commissioned and maintained during the construction phase of the proposed development, mitigation measures aimed at reducing dust generated during construction activities such as clearing be planned and budgeted for, a noise attenuation barrier (wall) along western, southern, and eastern perimeters of the Proposed Development be planned and budgeted for as requested by EMM.

GLS recommended in their *Assessment of Impact on Water Supply System and required works* that planning be commenced for the construction of a new 6 Ml Sunward Park Reservoir to

cater for Phase 3, and construction of a new 32 MI Vogelfontein Reservoir to cater for Phase 4 to 6 of the Proposed Leeuwpoot South Mixed Use Development, as per the Boksburg Water Master Plan.

Approximately 30MI/day excess flow is currently diverted to the Waterval Water Care Works. The Waterval Water Care Works has a treating capacity of 155MI/day but receives 195MI/day dry weather flow and up to the 242MI/day wet weather flow. GLS thus recommended that the Waterval Water Care Works to be upgraded as matter of urgency in order to cater for future developments in the area.

Attenuation of stormwater is proposed by means of utilizing one of the major roads to be constructed as part of the Proposed Development, Aquarius Road. The construction of Aquarius Road will include culverts which have been designed to allow the normal stormwater flow through during minor storm events. These culverts were sized so that during major storm events of 1:50 and 1:100, the culverts will also function as an attenuation control in order to ensure the river downstream is protected from the increased stormwater run-off during major storm events, and is protected against erosion that would occur during the large storm events.

Attenuation of stormwater is also proposed by utilizing the two existing pans occurring on the eastern side of the Proposed Development Site. The intention is to control release stormwater from the pans by means of constructing gabion mattress outlets which will ensure controlled discharge to prevent erosion and to prevent an increase in discharge exceeding pre-construction levels.

The Medium Voltage supply will be supplied from a new 88/11kV Helderwyk Substation to be constructed as part of this project. MV supply will be in two phases: Phase 1 will entail installing a feeder panel at the existing switching station 13; Phase 2 will entail constructing a new 88/11kV 80 MVA Helderwyk Substation. Eskom will be responsible for the HV of the said substation and EMM shall be responsible for the MV of the said substation. The planned capacity of the substation is 120MVA, but initially it will be 80MVA.

Medium voltage supply will be in the form of an 11kV underground powerline feeding two centralised switching stations of 40MVA and 6 incomer cables each, situated within the Proposed Development. In the interim a link cable will be installed from the Switching Station S13 to the Proposed Developments switching station 1 in order to transfer the 6MVA available capacity to the Proposed Development until completion of the new Helderwyk Substation.

EMM Energy and Electricity Department has already applied for substations for the Proposed Development, comprising of six Phases or Townships, from Eskom.

The Developer has to register Servitudes and apply for Way leaves from relevant institutions for infrastructure to be affected by the Proposed Development.

A *Transport Impact Assessment – Proposed Sunward Park X24-X29, Region D* concluded that road upgrades are required in order to accommodate substantial additional traffic (6500vph peak AM and PM) associated with the Proposed Development: Public transport facilities; intersection upgrades; and construction of section of the Proposed K165.

Institutional

The Proposed Development can thus be motivated in terms of the institutional framework documents relevant to the locality of the Application site, is desirable and is supported in terms of the following:

- The Proposed Development complies with the objectives set out in the Spatial Planning and Land Use Management Act (SPLUMA), Act No.16 of 2013;
- The Proposed Development is in line with the principles of the Ekurhuleni MSDF;
- Bulk Services already border or transect the Proposed Development Site;
- The Proposed Development is considered desirable and necessary from a Town Planning point of view;
- The Proposed Development has incorporated and catered for sensitive environments denoted in the **Ekurhuleni Bioregional Plan 2012**, and the **Gauteng Provincial Environmental Management Framework**.

- The Proposed Development will provide in the current need for affordable housing and will contribute to economic growth.

Due to Proposed Road Upgrades crossing a watercourse, and the development itself and Bulk Service Upgrades occurring within 500m from a wetland, a Water Use Licence Application in terms of the National Water Act is triggered.

The Proposed K165 and Proposed PWV15 will be affected by the Proposed Mixed Use Development as both transect the development site from north to south. The SANRAL and GDRT have to approve the design and construction of sections of the K165 and PWV17 as part of the Proposed Development in accordance with the Gauteng Transport Infrastructure Act. Several Surface Right Permits (SRPs) in favour of several organisations are registered against the property. EMPR has Mining Rights as well as a Prospecting Rights registered against the Proposed Development Site.

12 RECOMMENDATION

From the Specialist studies conducted it was concluded that the watercourse and associated wetland as well as the two pans occurring on site was highly sensitive in terms of Fauna and Flora, and should be conserved. The watercourse and pans will be conserved as part of the Proposed Development by means of zoning these areas as "Public Open Space".

The Avifauna specialist recommended that prior to any construction commencing an additional Avifauna Assessment must be conducted to confirm/deny presence of African Grass Owl and African Marsh Harrier. The Avifauna sensitivity map should be adjusted accordingly and all highly sensitive areas should be incorporated into the development as "Public Open Space". **The potential impact of mining on the Ecology should be investigated, once Mining Rights are confirmed.**

All recommendations made in Service reports regarding bulk water and sewerage, electricity, and road upgrades required in order to cater for the Proposed Development, must be

implemented. Wayleave and Servitudes are required for some of the service upgrades and these should be applied for from relevant institutions prior to construction commencing.

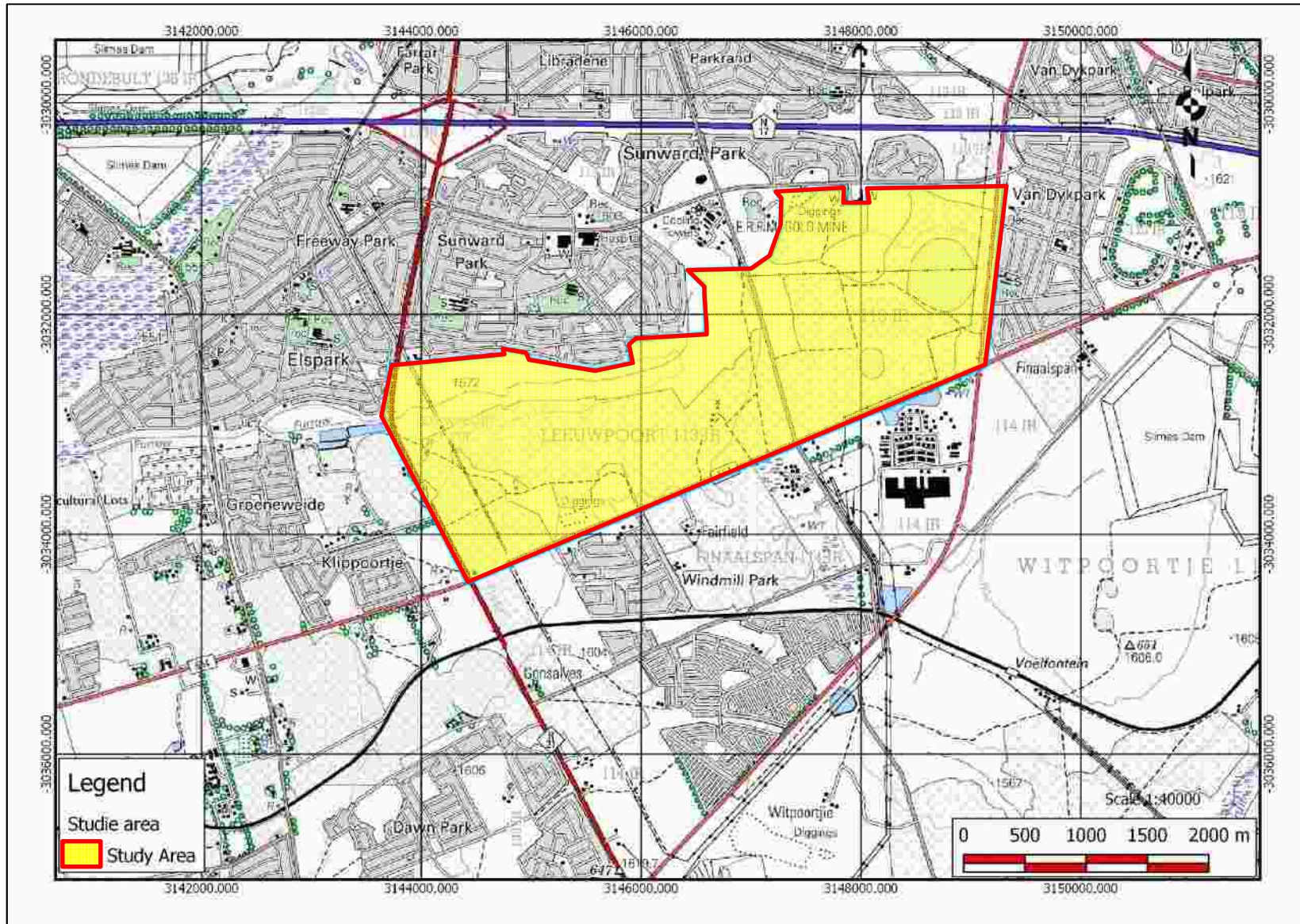
A Water Use License Application is triggered by the Proposed Development and will be applied for from the Department of Water and Sanitation.

Considering that recommendations made by Specialist were included in the Draft EMP and that results of the Specialist studies determined the Proposed Layout, it is suggested that the Draft EIA be accepted and that the Applicant be authorised to continue with the Final EIA for Proposed Development, in order to obtain Environmental Authorisation for the Proposed Leeuwpoot South Mixed-Use Development.

ANNEXURE A

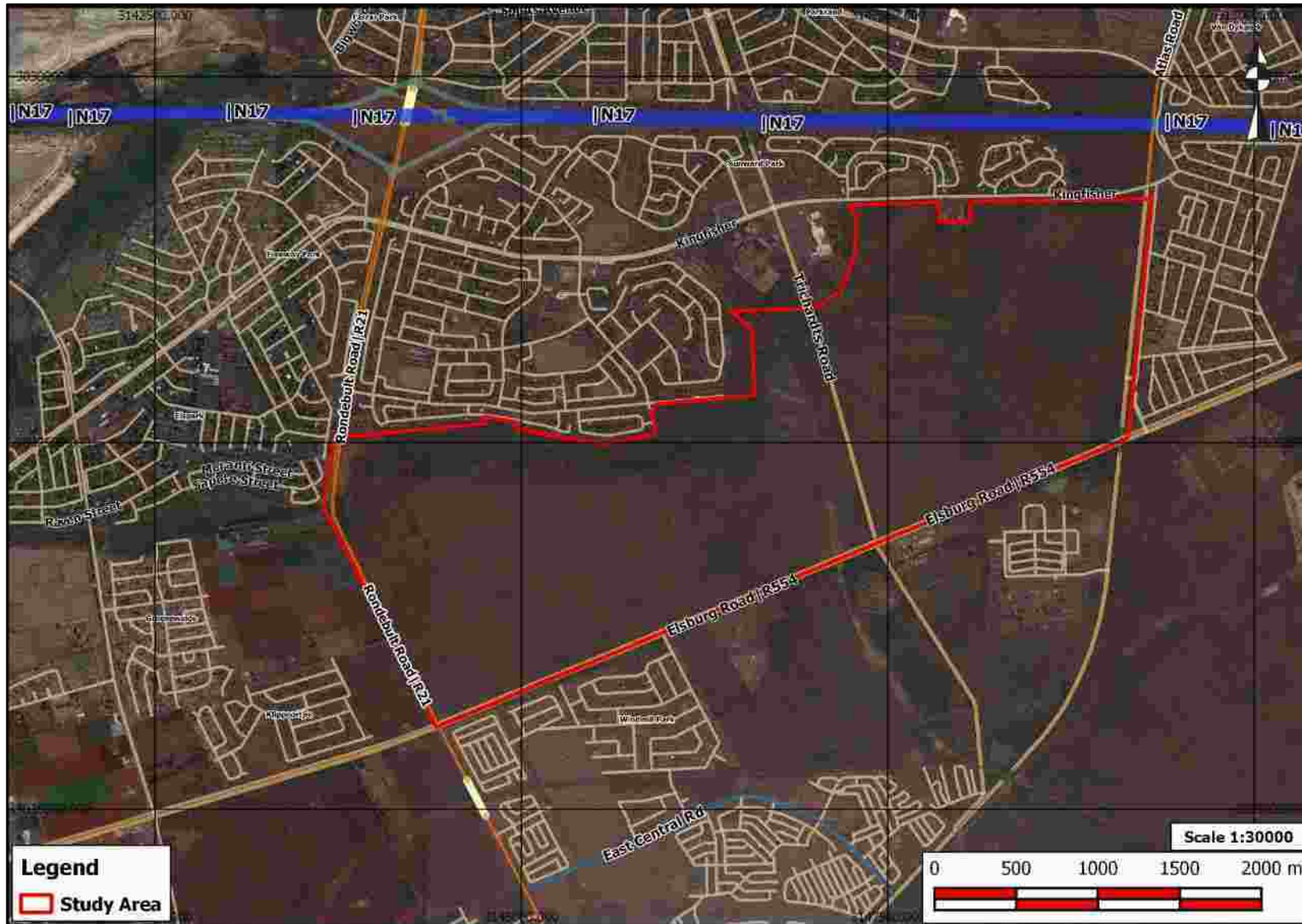
MAPS

Leeuwpoot - Mixed Use Development Locality Map



Leeuwpoort - Mixed Use Development

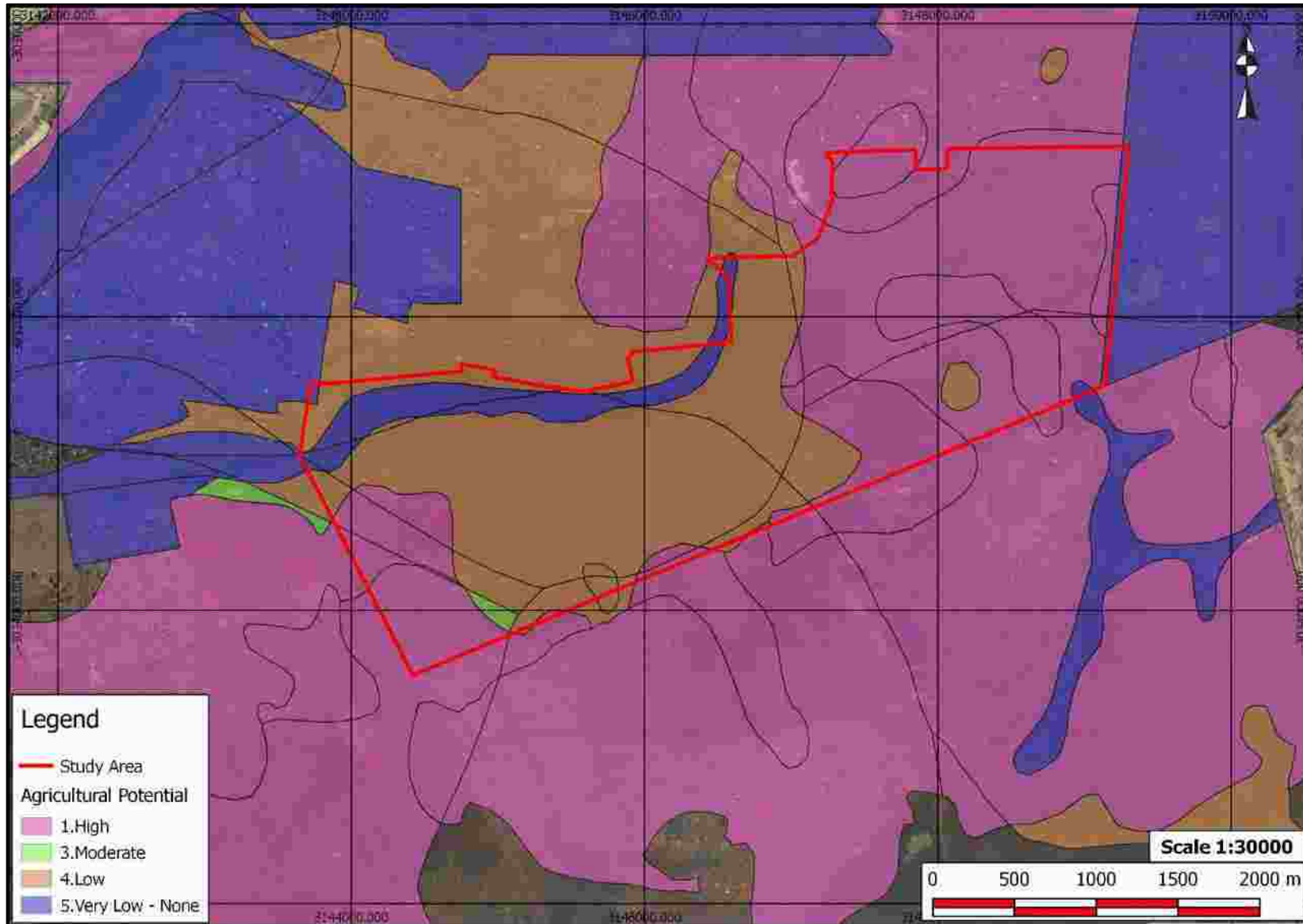
Aerial



Projection - Transverse Mercator
Datum - Hartebeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian -29

Leeuwpoot - Mixed Use Development

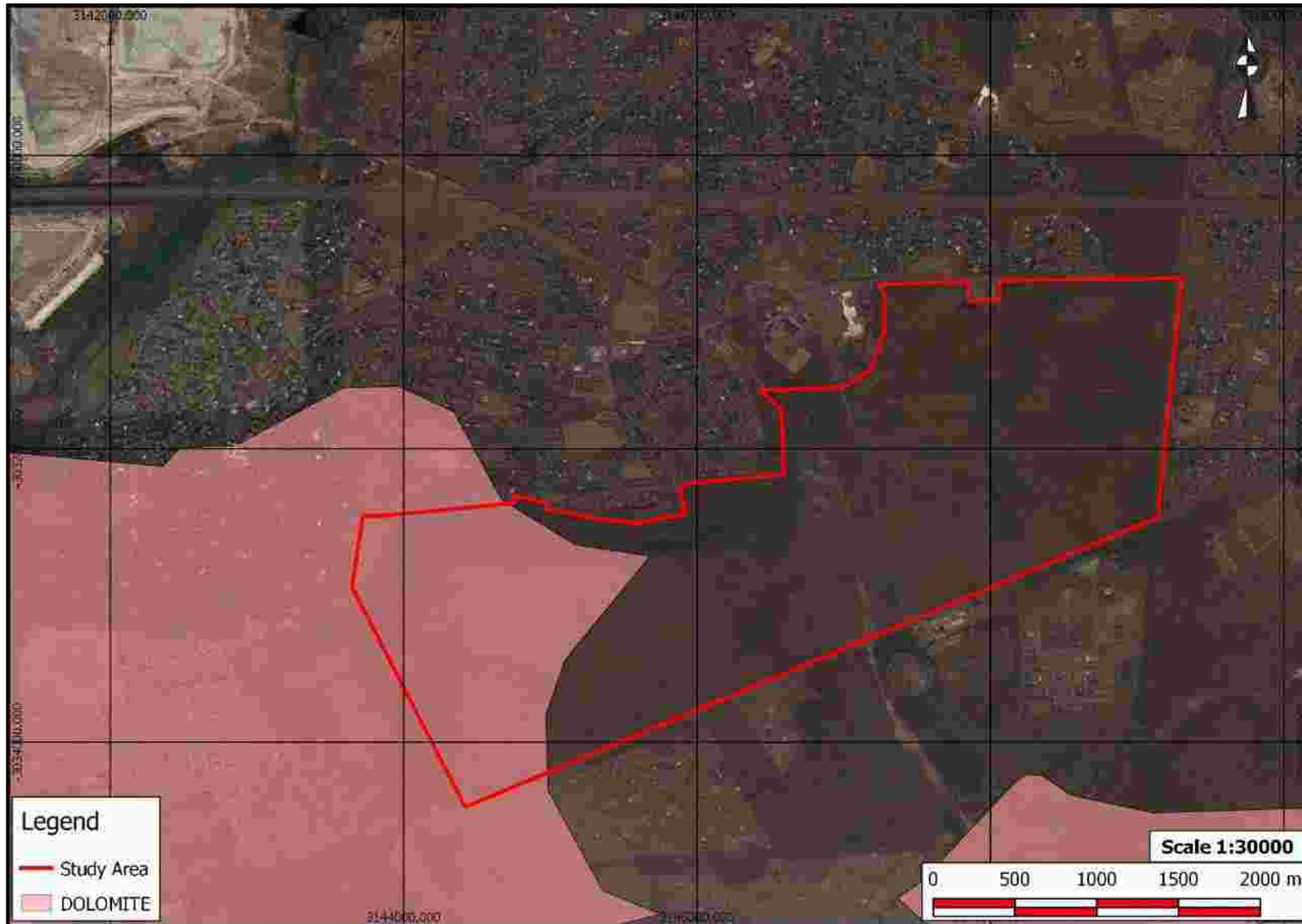
Agricultural Potential



Projection - Transverse Mercator
Datum - Hartebeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian - 29

Leeuwpoot - Mixed Use Development

Dolomite



Projection - Transverse Mercator
Datum - Hartebeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian -29

Leeuwpoot - Mixed Use Development

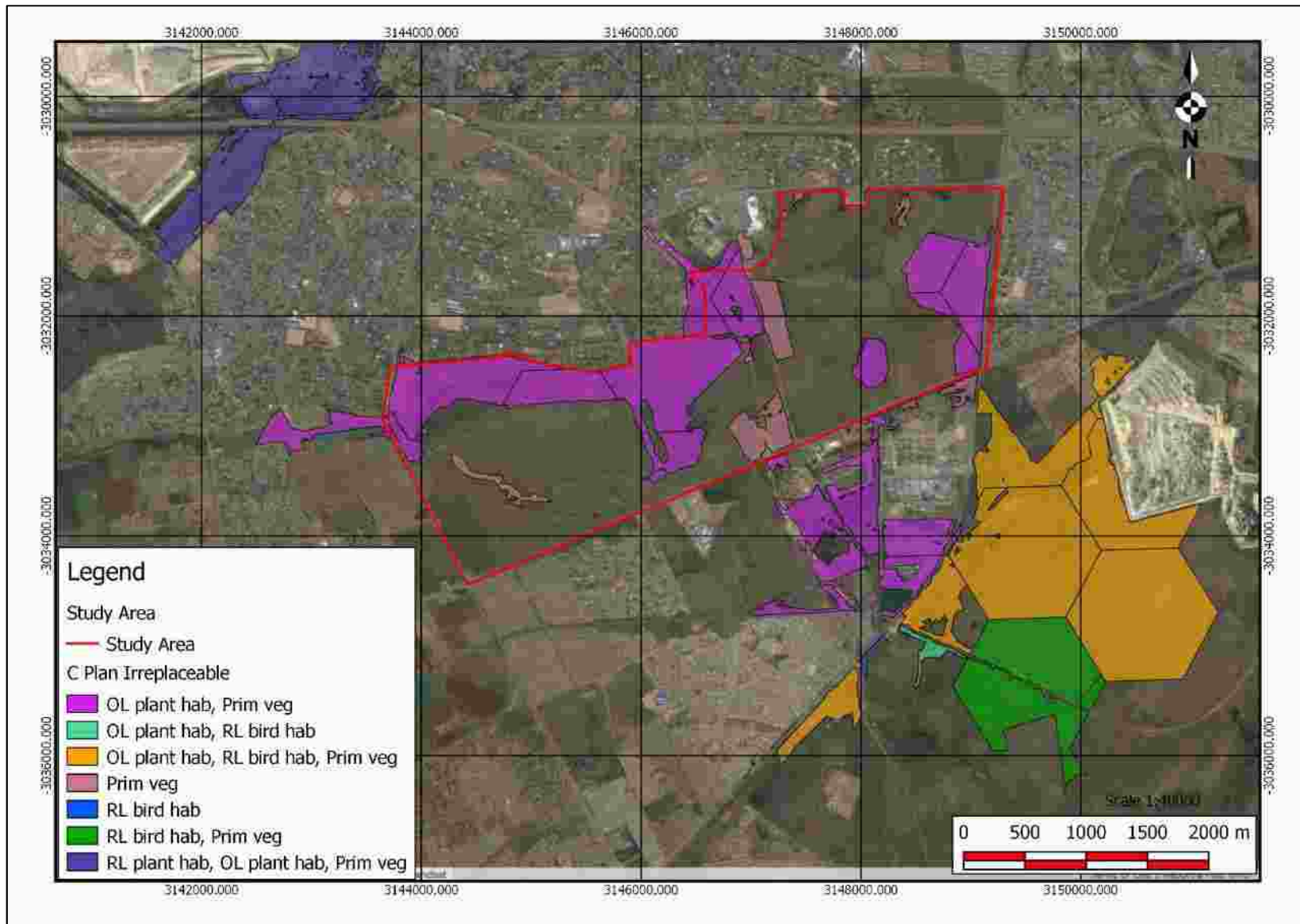
Urban Edge



Projection - Transverse Mercator
Datum - Hartebeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian -29

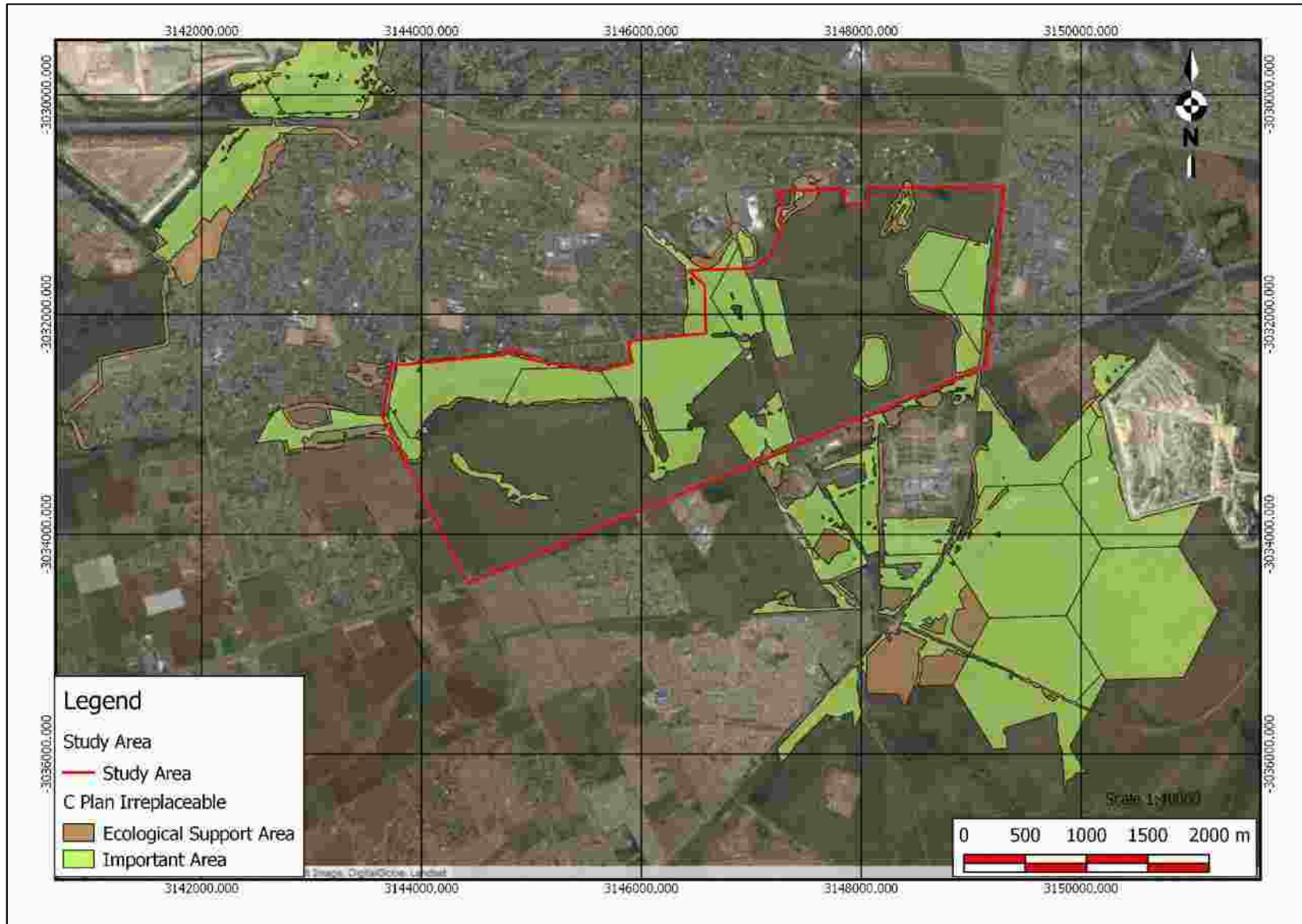
Leeuwpoort - Mixed Use Development

C Plan Irreplaceable



Leeuwpoot - Mixed Use Development

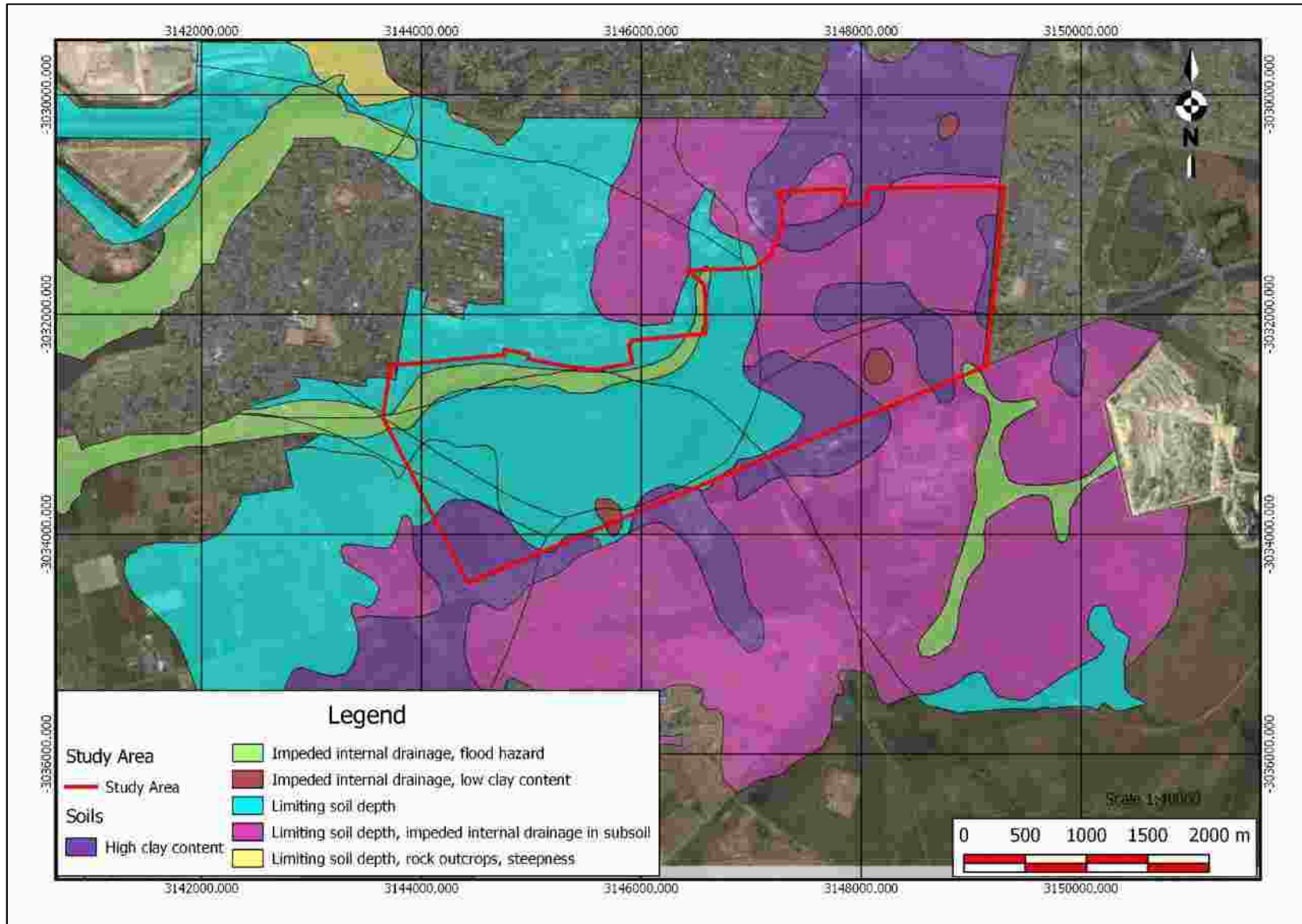
C Plan Area



Projection - Transverse Mercator
Datum - Hartbeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian -29

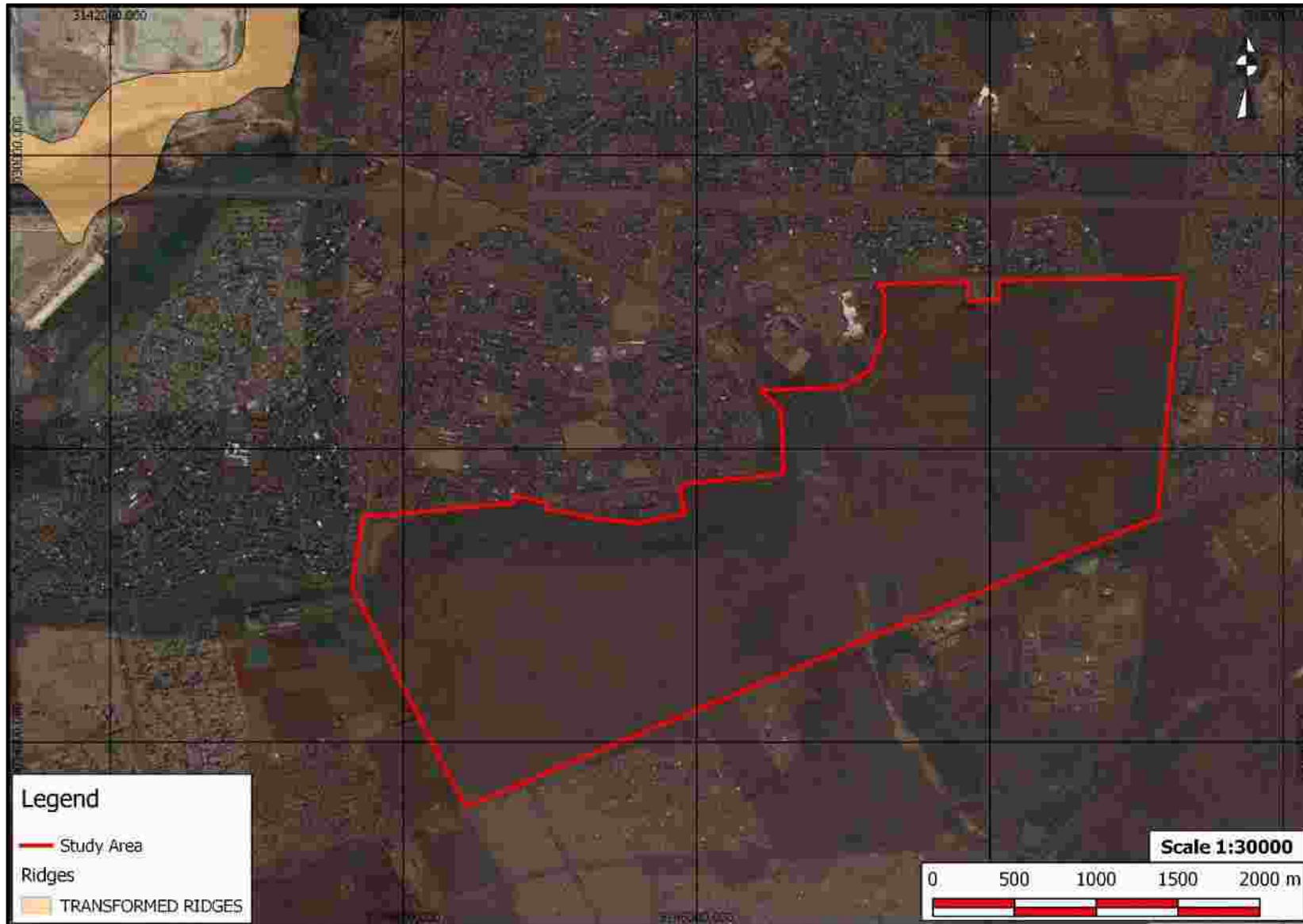
Leeuwpoot - Mixed Use Development

Soils



Leeuwpoort - Mixed Use Development

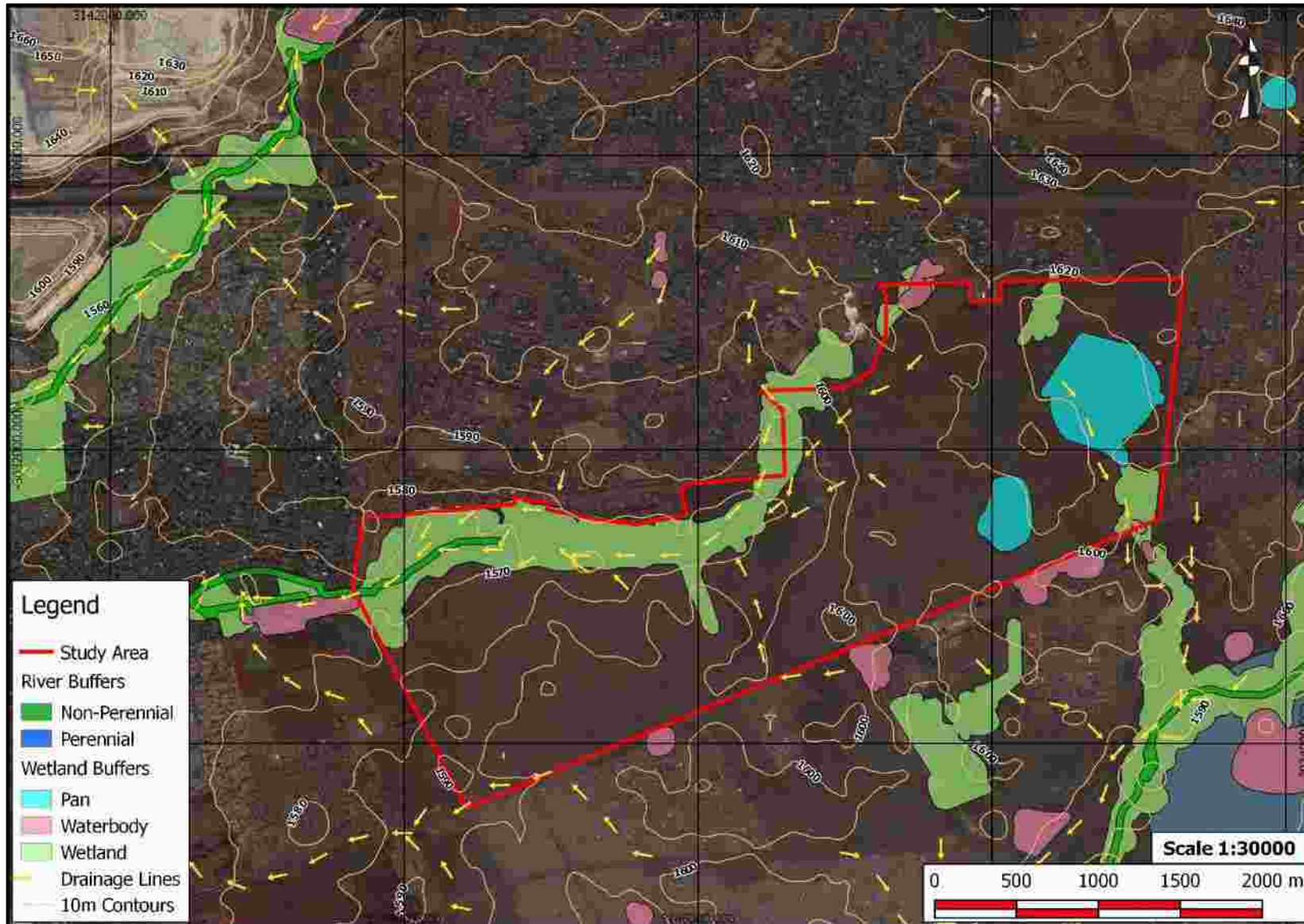
Ridges



Projection - Transverse Mercator
Datum - Hartebeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian -29

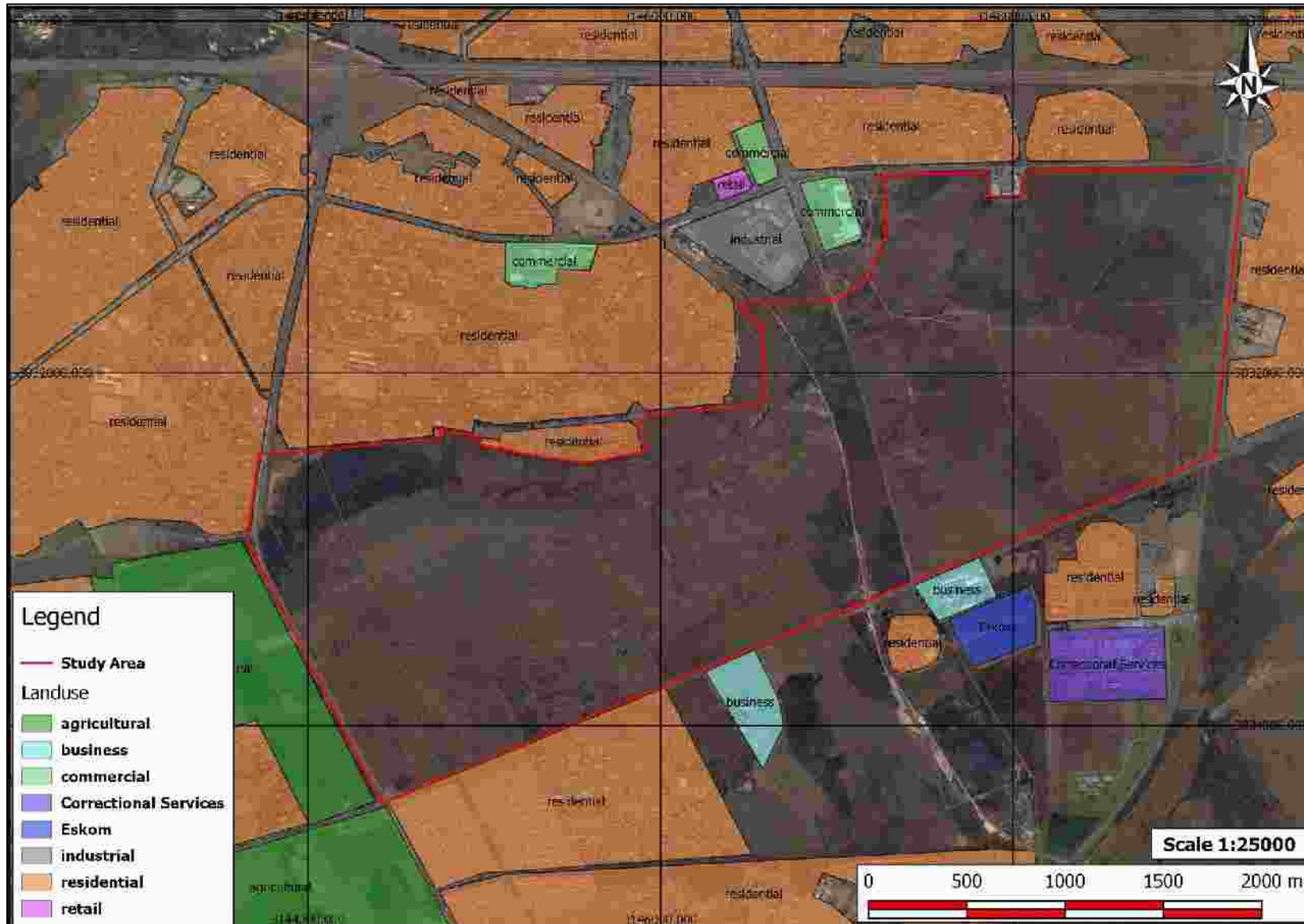
Leeuwpoort - Mixed Use Development

Hydrology



Leeuwpoort - Mixed Use Development

Landuse



Legend

- Study Area
- Landuse
 - agricultural
 - business
 - commercial
 - Correctional Services
 - Eskom
 - industrial
 - residential
 - retail

Projection - Transverse Mercator
Datum - Hartebeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian -29

**ANNEXURE B1
GDARD ACKNOWLEDGE
RECEIPT OF APPLICATION**

LEBOMBO GARDENS BUILDING
38 LEBOMBO ROAD
ASHLEA GARDENS
0081

P.O. BOX 11375
MAROELANA
0161

Tel: (012) 346 3810
Fax: 086 570 5659
E-mail: lizelleg@mweb.co.za
Website: www.Bokamoso.biz



Landscape Architects, Environmental Consultants,
Environmental Auditing, Water License Applications

ACKNOWLEDGEMENT OF RECEIPT

GAUTENG DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT
DIAMOND CORNER BUILDING
11 DIAGONAL STREET
JOHANNESBURG
2000
E-mail: malesela.sehona2@gauteng.gov.za

ATTENTION: MALESELA SEHONA

8 November 2016

RE: APPLICATION FOR THE PROPOSED LEEUWPOORT SOUTH DEVELOPMENT
SITUATED ON THE REMAINING EXTENT OF THE FARM LEEUWPOORT 113 IR,
EKURHULENI
REFERENCE NUMBER: 002/16-17/E0215

Please receive herewith three copies of the **Application** for the proposed
Leeuwpoort South Mixed Use Development.

By Hand

Name and Surname:
(Receiver)

Date:

Where:

Signature:

Sender:

Adèle Drake

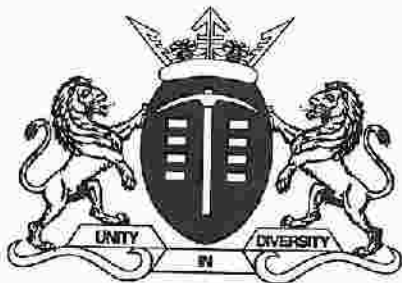


REG NO: CK 2010/087490/23
VAT REG NO: 4080260872

BOKAMOSO LANDSCAPE ARCHITECTS AND ENVIRONMENTAL CONSULTANTS CC

MEMBER: Lizelle Gregory

ANNEXURE B2
GDARD ACKNOWLEDGE
RECEIPT OF DRAFT SCOPING
REPORT



agriculture and rural development

Department: Agriculture and Rural Development
GAUTENG PROVINCE

11 Diagonal Street, Diamond Building, Newtown, Johannesburg
P O Box 8769, Johannesburg, 2000

Telephone: (011) 240-2500

Fax: (011) 240-2700

Website: <http://www.gdard.gpg.gov.za>

Reference:	002/16-17/E0215
Enquiries:	Malesela Sehona
Telephone:	(011) 240-3048
Email:	malesela.sehona2@gauteng.gov.za

Bokamoso Landscape Architects & Environmental Consultants CC

Email/Fax. lizcleg@mweb.co.za

Dear Sir / Madam

Scoping Application and Draft Scoping Report: Leeuwoort South mixed use development on part of the remaining extent of the Farm Leeuwoort 113 IR, Boksburg, Ekurhuleni Metropolitan Municipality, Gauteng Province

The Department acknowledges having received the application form and Draft Scoping Report for environmental authorisation of the above-mentioned project on 08/11/2016 and final amendments were made on 17/11/2016.

The application has been assigned the reference number Gaut: 002/16-17/E0215. Kindly quote this reference number in any future correspondence in respect of the application.

You are required to submit five (5) copies (3 full colour hard copies and 2 CDs-PDF) of the Final Scoping Report as well as a copy of the previously submitted application form for environmental authorisation.

In terms of Regulation 45 of the EIA Regulations 2014, this application will lapse should you fail to meet any of the time-frames prescribed in terms of these regulations, unless an extension has been granted in terms of regulation 3(7).

Please draw the applicant's attention to the fact that the activity may not commence prior to an environmental authorisation being granted by the Department.

Yours faithfully

MBELA

Boniswa Belot

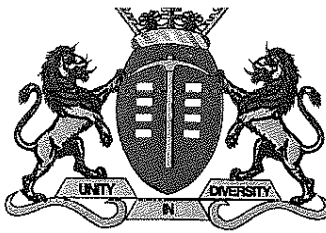
Deputy Director: Strategic Administration Support

Date: 18/11/2016

CC: Leeuwoort Development (Pty) Ltd

Att: H Potgieter
Email/Fax: 011 482 9959

ANNEXURE B3
GDARD COMMENTS ON DRAFT
SCOPING REPORT

**GAUTENG PROVINCE**AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA**Diamond Building, 11 Diagonal Street, Newtown
PO Box 8769, Johannesburg, 2000
Tel: 011 240 2500
Fax: 011 240 2700****Reference: Gaut 002/15-16/E0215****Enquiries: Erick Moletsane****Telephone: 011 240 3890****E-mail: Erick.Moletsane@gauteng.gov.za****Bokamoso Landscape Architects and Environmental Consultants CC**

P. O. Box 11375

MAROELANA

0161

Attention: Lizelle Gregory**Tel No.: 012 346 3810****Fax No.: 086 570 5659**

Dear Lizelle Gregory

COMMENTS ON THE DRAFT SCOPING REPORT FOR THE PROPOSED LEEUWPOORT SOUTH MIXED USE DEVELOPMENT ON PART OF THE REMAINING EXTENT OF THE FARM LEEUWPOORT 113-IR, EKURHULENI METROPOLITAN MUNICIPALITY

The draft scoping report regarding the above-mentioned development received by the Department on 08 November 2016 has reference.

The proposal is for township development and associated infrastructure activity components listed as activity 9, 10, 11, 12, 19, 22, 24, 26, 27, 28, 31 and 32 of Listing Notice 1, activity 4, 6 and 15 of Listing Notice 2 and activity 12 and 14 of Listing Notice 3 of the Environmental Impact Assessment Regulations, 2014. The activity is proposed to take place on part of the remaining extent of the farm Leeuwpoot 113-IR. The site is 1340 hectares in extent of which 769 hectares is applicable to the proposed Leeuwpoot mixed use development and located North of R554 road, situated close to intersections of N17, R21 and Barry Marais road.

The Department will like to comment as follows:

A. Alignment of the activity with applicable legislations and policies

The report has made provisions to accommodate all applicable legislation, policies and guidelines. The activity entails township mixed use development and associated infrastructure which have an impact in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended). Gauteng Environmental Management Framework, 2015 (GEMF, 2015) identifies the proposed site as The Gauteng Provincial Environmental Management Framework indicates that the proposed site falls within Environmental Management Zone 1 which is dominated by urban development comprising of light industries / service industries and residential developments as defined in the Gauteng Spatial Development Framework.

B. Guidelines: GDARD requirements

The Departmental Geographic Information System indicates that the site is characterised with environmental sensitivities in terms of Conservation Plan. The proposed activity will take place to vacant and undeveloped land zoned urban development comprising of light industries / service industries and residential developments.

C. Alternatives

Alternatives were considered and assessed and it has been stated that the proposed activity is the best suitable activity in the area.

D. Significant rating of impacts

There are assessments of impacts included in the draft report, therefore impacts must be assessed and as such credible methods of impacts identification, assessment and ratings must be employed to assess the impacts, including cumulative impacts, of the proposed development. This must be included in the final Scoping Report.

E. Locality map and layout plans or facility illustrations

The locality map and layout plan is attached as part of the draft scoping report. The layout plan must show all proposed activities that will take place. The layout plan must be in A3 size.

F. Scoping of issues on the site and Plan of study for EIA

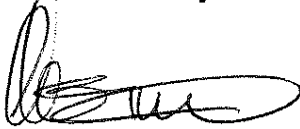
The Plan of Study attached as Annexure C is adequate and therefore must be implemented as outlined in the Draft Scoping report.

G. Public participation process

The Public participation process was done in accordance to the minimum requirements of EIA Regulations 2014.

If you have any queries regarding the contents of this letter, please contact the official of the Department at the number or email address indicated above.

Yours faithfully



Mr. T. Leku

Acting Director: Impact Management

Date: 5/12/2016

**ANNEXURE B4
GDARD ACKNOWLEDGE
RECEIPT OF FINAL SCOPING
REPORT**



agriculture and rural development

Department: Agriculture and Rural Development
GAUTENG PROVINCE

11 Diagonal Street, Diamond Building, Newtown, Johannesburg
P O Box 8769, Johannesburg, 2000

Telephone: (011) 240-2500

Fax: (011) 240-2700

Website: <http://www.gdard.gpg.gov.za>

Reference:	Gaut: 002/16-17/E0215
Enquiries:	Malesela Sehona
Telephone:	(011) 240-3048
Email:	malesela.sehona2@gauteng.gov.za

Bokamoso Landscape Architects & Environmental Consultants CC

Email/Fax. lizelleg@mweb.co.za


Dear Sir / Madam

Final Scoping Report: / Leeuwoort South mixed use development on part of the remaining extent of the Farm Leeuwoort 113 IR, Boksburg, Ekurhuleni Metropolitan Municipality, Gauteng Province

The Department acknowledges having received the report for environmental authorisation of the abovementioned project on 01/02/2017.

Please draw the applicant's attention to the fact that the activity may not commence prior to an environmental authorisation being granted by the Department.

Yours faithfully


Boniswa Belot
Deputy Director: Strategic Administration Support
Date: 07/02/2017

CC: Leeuwoort Development (Pty) Ltd

Att: H Potgieter
Email/Fax: 011 482 9959

ANNEXURE B5
GDARD APPROVAL OF PLAN OF
STUDY FOR ENVIRONMENTAL
IMPACT ASSESSMENT



GAUTENG PROVINCE
AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

FAX COVER

TO:	FROM:
Lizelle Gregory	Thivhadini Netshiozwi
COMPANY:	DATE:
Bokamoso Landscape Architects and Environmental Consultants CC	2017
FAX NUMBER:	TOTAL NO. OF PAGES, INCLUDING COVER:
086 570 5659	03
PHONE NUMBER:	TEL:
012 346 3810	011 240 3388
RE:	YOUR REFERENCE NUMBER:
Accepted Scoping Report: Proposed Leeuwpoot South Mixed Use Development on Part of the remaining extent of the farm Leeuwpoot 113-IR, Ekurhuleni Metropolitan Municipality.	Gaut 002/16-17/E0215

URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY PLEASE RECYCLE

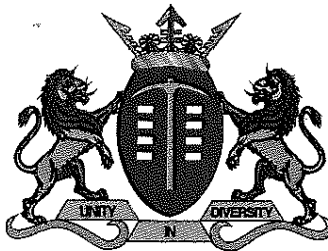
CC

Ekurhuleni Metropolitan Municipality

Attn: Stewart Green
 Fax: 011 999 3364

Leeuwpoot Development (Pty) Ltd

Attn: Hannes Potgieter
 Fax: 011 482 9959



GAUTENG PROVINCE
 AGRICULTURE AND RURAL DEVELOPMENT
 REPUBLIC OF SOUTH AFRICA

Diamond Building, 11 Diagonal Street, Newtown
 PO Box 8769, Johannesburg, 2000
 Tel: 011 240 2500
 Fax: 011 240 2700

Reference: Gaut 002/16-17/E0215
 Enquiries: Erick Moletsane
 Telephone: 011 240 3384
 Email: Erick.Moletsane@gauteng.gov.za

Bokamoso Landscape Architects and Environmental Consultants CC
 P.O. Box 11375
 Maroelana
 0161

Attention: Lizelle Gregory
 Fax No.: 086 570 5659
 Tel No.: 012 346 3810
 Email: lizelleg@mweb.co.za

PER FACSIMILE / REGISTERED MAIL

Dear Madam

SCOPING REPORT ACCEPTED: PROPOSED LEEUWPOORT SOUTH MIXED USE DEVELOPMENT ON PART OF THE REMAINING EXTENT OF THE FARM LEEUWPOORT 113-IR, EKURHULENI METROPOLITAN MUNICIPALITY

The Scoping Report and Plan of Study for Environmental Impact Assessment (EIA) which was submitted in respect of the above-mentioned application and received by this Department on 01 February 2017 have been approved. You may accordingly proceed with undertaking the environmental impact assessment in accordance with the tasks that are outlined in the plan of study for environmental impact assessment.

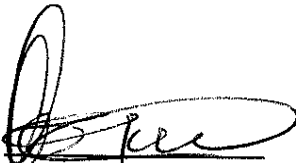
Notwithstanding the above, your attention is drawn to the following requirements that must be addressed in the draft Environmental Impact Assessment Report (EIAR):

- 1) The EIAR must comply with Regulation 23 of the EIA Regulations, 2014.
- 2) The specialist studies listed under Annexure C section 8 of Plan of Study for EIAR must be undertaken by qualified specialists. The Fauna and Flora specialist studies must comply with GDARD Minimum Requirements for Biodiversity Assessments and signed off by specialist registered with South African Council for Natural Scientific Professions (SACNAPS).
- 3) The layout plan submitted on the final Scoping Report as Annexure D is noted, however an overall sensitivity map overlaid on the layout plan, indicating all the relevant buffer zones and sites that have been excluded due to their sensitive nature must be submitted with the draft EIAR. The layout plan, printed on A1 paper size, must be to scale, clear, legible and indicate legend which corresponds with activity components.
- 4) Wetland delineation study must indicate the edge of permanent zone and temporary zone of the wetland as well as buffer areas.
- 5) The Department's database indicates that there is wetland on the site; therefore draft EIAR must provide information on the potential existence of the wetland on the site, its status as well as impact that may arise as a result of the proposed development.
- 6) All maps must be in colour and be to correct scale.
- 7) A confirmation from the local authority with regards to provision of bulk services (e.g. water supply, sewerage and waste disposal, energy, storm water) and related services such as road

- infrastructures is required. This must include a description of the infrastructure, specifications, layout, capacity and the planned routes.
- 8) Should installation of services and roads infrastructure cross sensitive areas including riverine systems and/or wetlands, impacts associated with such crossings must be thoroughly assessed, discussed and reported on in the draft EIAR.
 - 9) Comments from Council for Geosciences and Gauteng Heritage Resources Agency on specialist studies must be obtained and submitted as part of the draft EIAR.
 - 10) Comparative assessment of all alternatives taking into consideration, the sensitive areas on the site, surrounding land uses, nature and scale of activity components must be done and outcomes reported on in the draft EIAR.
 - 11) The proposed development must form part of sustainable development in terms of reducing climate change and go greening, therefore energy technology, waste management plan (waste hierarchy) and rain water harvesting system must be part of the draft EIAR.
 - 12) A credible method of impact assessment, impact identification, rating and mitigation must be used to determine the impact of the proposed development on the biophysical environment on the site.
 - 13) A detailed storm water management plan for this development must be compiled and approved by the local authority and approval/comments must form part of the draft EIAR.

If you have any queries concerning this issue please feel free to contact the relevant official at the number given above.

Yours faithfully,



Mr. T. Leku

Acting Director: Impact Management

Date: 28/02/2017

ANNEXURE B6

ESKOM RESPONSE



Ms Lizelle Gregory
Bokamoso Environmental
PO Box 11375
Maroelana
0181

Date:
24 February 2017

Enquiries:
Tel +27 11 897 6011
Ziyanda Maqubela
INV180/2016

Dear Ms Gregory

**RE: THE PROPOSED LEEUWPOORT SOUTH MIXED USE DEVELOPMENT-
LEEUWPPORT 113-IR - SCOPING PHASE PUBLIC MEETING.**

I refer to your letter dated 25 January 2017 and wish to inform you that Eskom Transmission (Tx) is not affected by this application.

Eskom Dx services are affected and an application must be submitted to Eskom Gauteng region, Ekurhuleni zone on wayleave.emm@eskom.co.za

For any further information please contact the writer at the above mentioned telephone number.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'ZS Maqubela'.

ZS Maqubela
LAND MANAGEMENT

ANNEXURE B7
TRANSNET RESPONSE



PYP/W1/07/05/NC/35363

Ms Juanita De Beer
 Senior Public Participation Consultant & EAP
 Bokamoso Landscape Architects and Environmental Consultants CC
 PO Box 11375
MAROELANA
 0161

Dear Ms De Beer

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PHASE AND WATER USE LICENSE APPLICATION FOR MIXED USE DEVELOPMENT – LEEUWPOORT SOUTH

Your letter dated 22 March 2017 has reference.

Transnet Pipelines, a division of Transnet SOC Limited, is not affected by the proposal as indicated on your Boksburg Locality and Site/Project Layout Plan.

Your awareness of the existence of Transnet's pipeline servitudes and concern for their integrity is appreciated.

Yours Sincerely

[Handwritten signature]
Thami Hadebe (Mr)
Servitude Management

Date: 28 March 2017

A division of	202 Anton Lembede (Smith) Street	P.O. Box 3113
Transnet SOC Ltd	Durban	Durban, South Africa, 4000
Registration Number	4001	T +27 31 361 1456
1990/000900/30		F +27 31 361 1341

Directors: LC Mabaso (Chairperson) SI Gama* (Group Chief Executive) Y Forbes GJ Mahlalela PEB Mathekga ZA Nagdee VM Nkonyane SD Shane BG Stagman PG Williams GJ Pita* (Group Chief Financial Officer)

*Executive

Group Company Secretary: NE Khumalo

ANNEXURE B8
TELKOM WAYLEAVE

**Regional Executive: Technology and
Network Services: Gauteng Central Region**

P.O BOX 932
Crown Mines
2025

Tel : +27 11 995 9912

Fax :

Email : gautengwayleaves@telkom.co.za

APPLICANT'S NAME : **ADELE DRAKE**
YOUR REFERENCE : **ENVIRONMENTAL IMPACT ASSESSMENT PROCESS**
OUR REFERENCE : **Z7068-16-17**
CONTACT PERSON : **LR MELLO**
TEL.NO. : **+27 11 995 9912**
REGION : **Gauteng**

24 March 2017

BOKAMOSO LANDSCAPE ARCHITECTS AND ENVIRONMENTAL CONSULTANTS CC

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS: SOUTH OF SUNWARD PARK – BOKSBURG.

1. This wayleave will be valid for a period not exceeding 6 months from the date indicated above.
2. Should a period of 6 months expire without any construction taking place, a new request will have to be submitted.
3. The applicant must contact *Mr/Mrs .. ALEX CHAKALE..* on .. **081 354 9844..** or alternatively contact Gauteng Logistics on *(011) 661-5010*, at least 5 working days prior to commencement of work.
4. Should the applicant require that service be indicated on site, *Mr/Mrs .. ALEX CHAKALE..* on .. **081 354 9844...** must be contacted or alternatively contact Gauteng Logistics on *(011) 661-5010*
5. No overhead Telkom plant indicated.
6. Telkom underground plant **affected** has been indicated on the attached plan. The exact positions cannot be guaranteed. **If any damage to Telkom Infrastructure it will be for the applicant's account.**

7. Should the applicant find it necessary to have Telkom plant shifted or deviated, a written request must be submitted to this office, giving a 3 months minimum notification. Costs will be for the applicant's account.
8. Please do not hesitate to contact the wayleave office if you have any queries concerning the above.
9. Any damage to Telkom infrastructure please call the toll free number 0800203951.

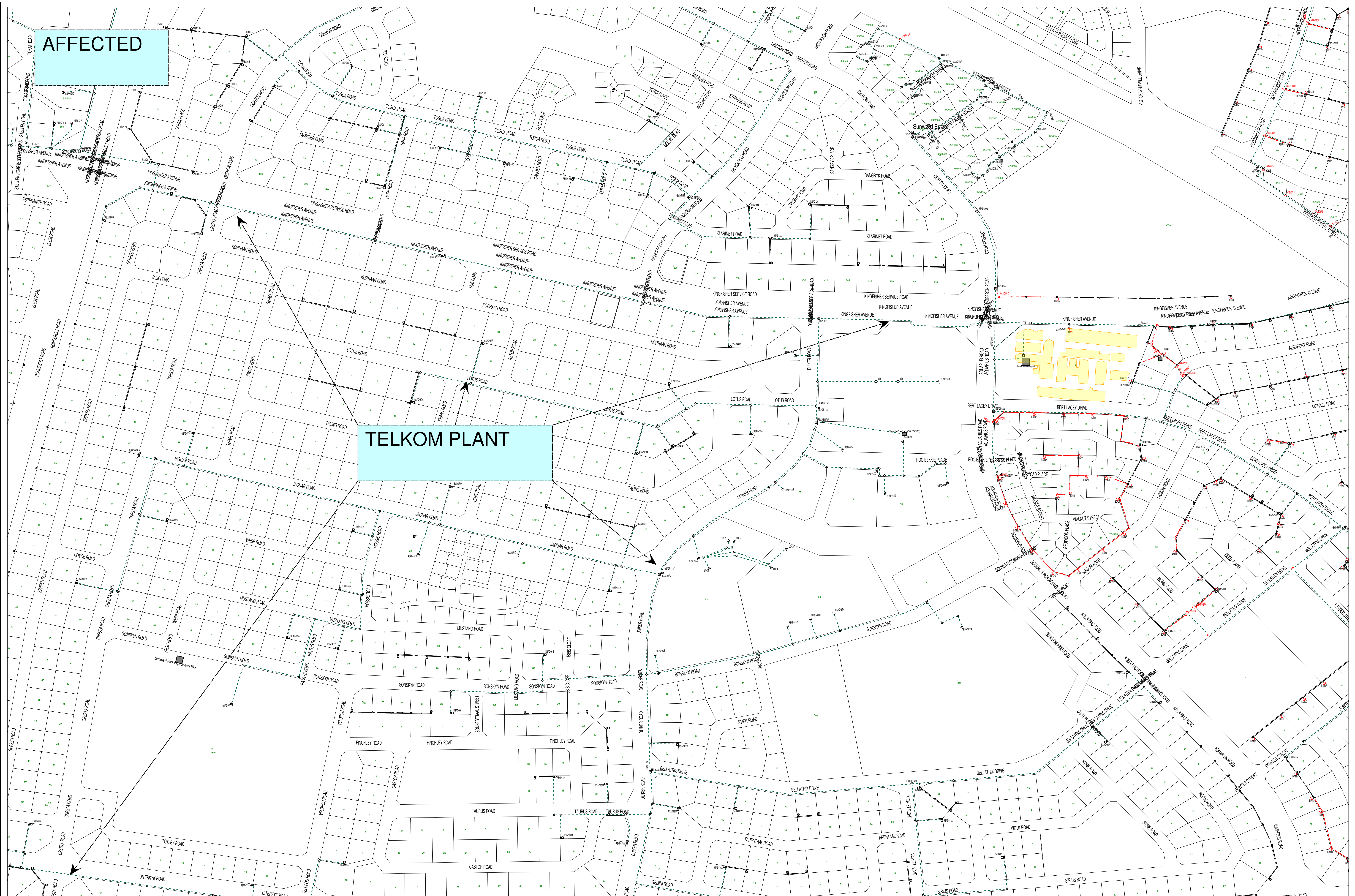
Yours faithfully



.....
pp Operations Manager
CW Esterhuizen
Tel: 011 995 9937
Cell: 0813540052

AFFECTED

TELKOM PLANT

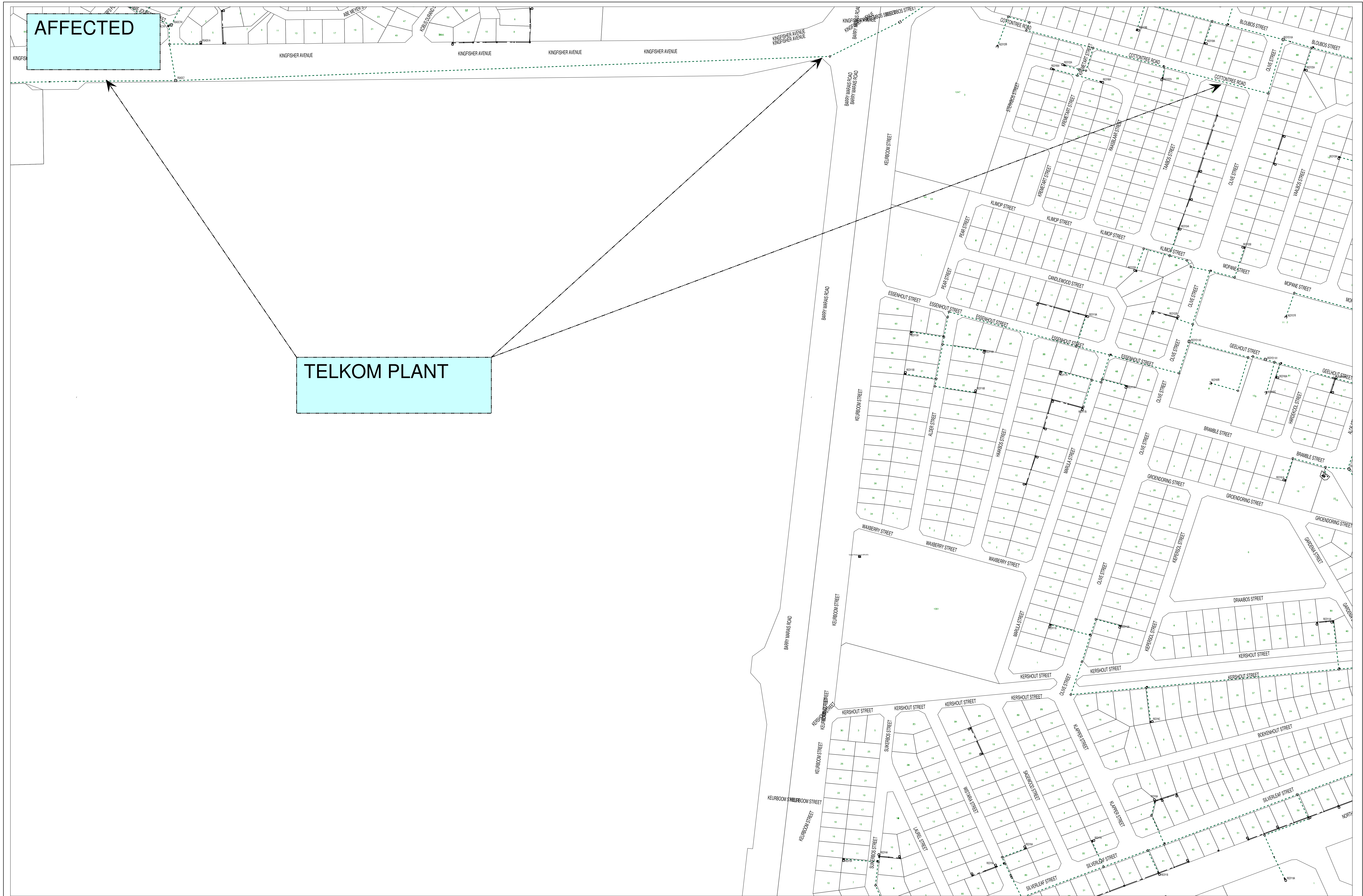


Planned Street Distribution Cabinet	Existing Street Distribution Cabinet	Existing Underground Route
Planned Street	Existing Street	Planned Underground Route
Planned Street Pit	Existing Street Pit	Existing Overhead Route
Planned Paper Junction Box	Existing Paper Junction Box	Planned Overhead Route
Planned Paper Junction	Existing Paper Junction	To Be Replaced Overhead Route
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	

Title Block	
Project	TELKOM REGIONAL EXECUTIVE KWA-ZULU NATAL
Exchange Area	ELPHINSTON
Drawn By	LA WELLS
Checked By	
Approved	
Date	2016/09/17
Project No.	
Drawn	
Checked	
Approved	
Date	2016/09/17
Project No.	
Drawn No.	1
Checked No.	1
Approved No.	1
Date	2016/09/17

AFFECTED

TELKOM PLANT

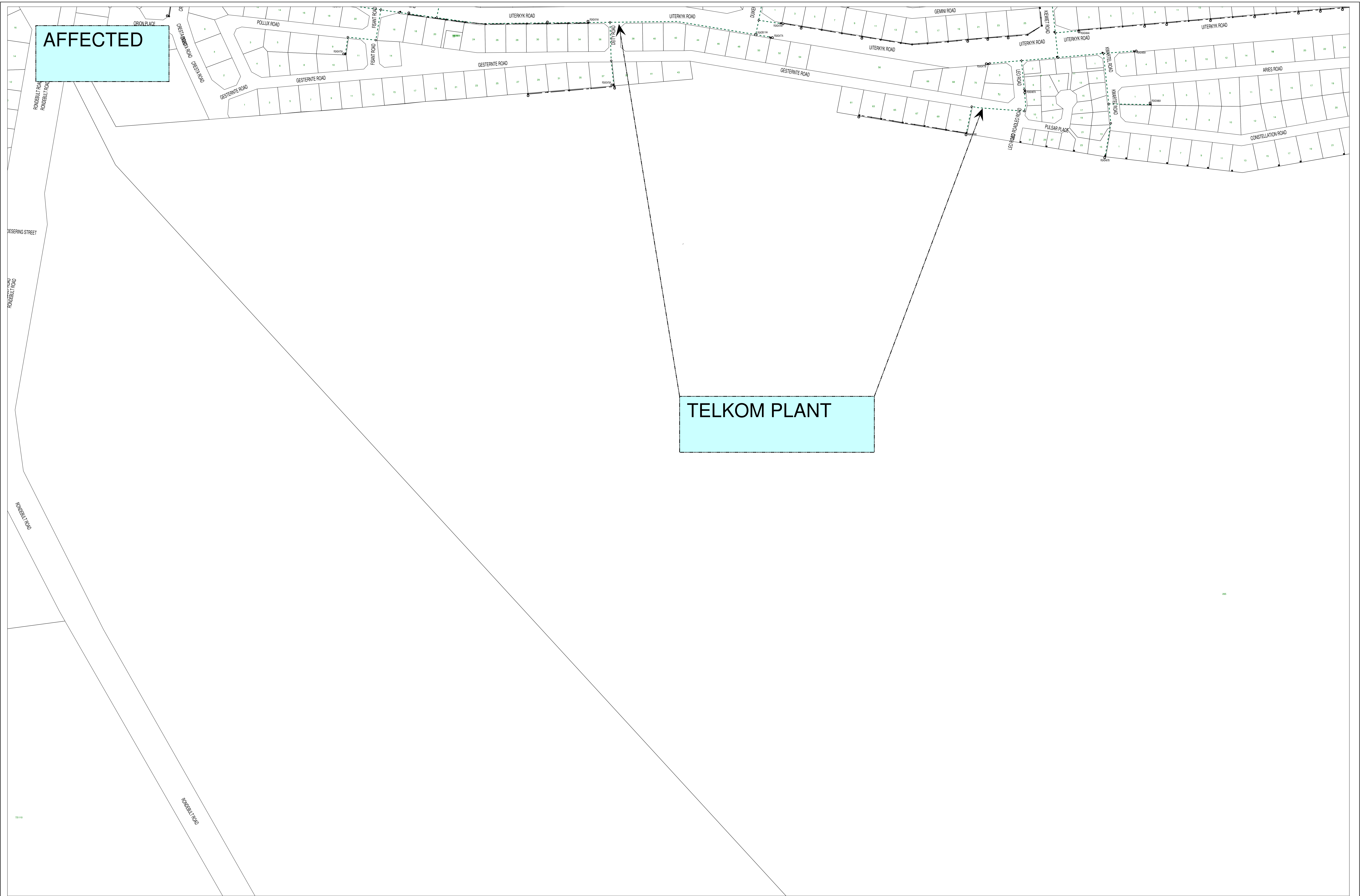


Planned Street Distribution - Cable	Existing Street Distribution - Cable	Existing Underground Route
Planned Street	Existing Street	Planned Underground Route
Planned Street Pk	Existing Street Pk	Existing Overhead Route
Planned Paper Junction Box	Existing Paper Junction Box	Planned Overhead Route
Planned Paper Joint	Existing Paper Joint	To Be Replaced Overhead Route
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	

Title Block	
Region:	ESKOM
Exchange Area:	SWINBURG
Drawn By:	LR VALLI
Checked By:	
Approved:	
Details:	ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
Drawing No:	2700-16-17
Scale:	Page Size: A3 Sheet No: 1 of 1

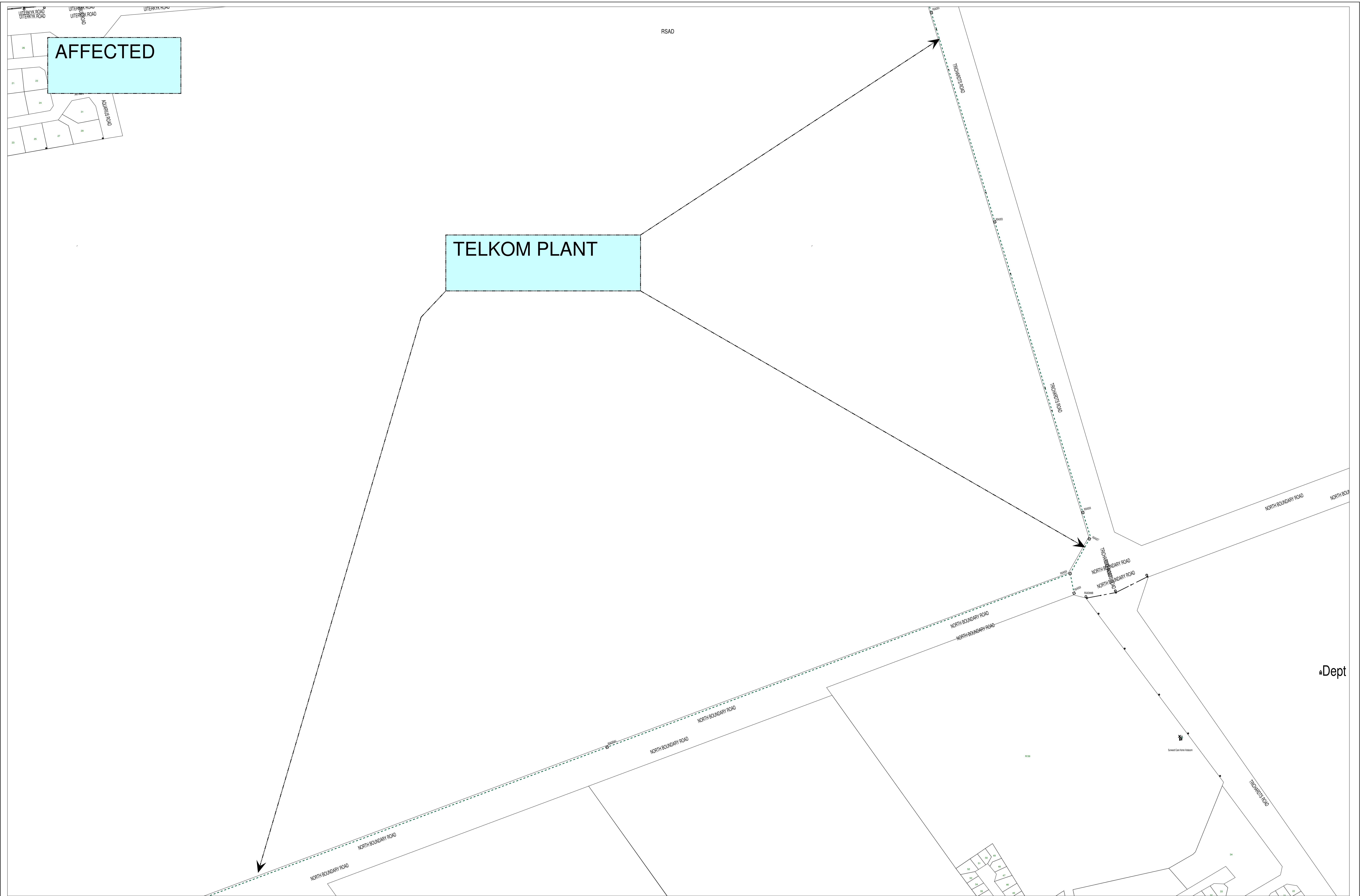
AFFECTED

TELKOM PLANT



Planned Street Distribution Cabinet	Existing Street Distribution Cabinet	Existing Underground Route
Planned Manhole	Existing Manhole	Planned Overhead Route
Planned Junction Pit	Existing Junction Pit	Existing Overhead Route
Planned Pole Junction Box	Existing Pole Junction Box	Planned Overhead Route
Planned Pole Joint	Existing Pole Joint	To Be Reinstated Overhead Route
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	

Title Block			
Region:	ESKOM	Project No.:	TELKOM REGIONAL EXECUTIVE KWA-ZULU NATAL
Exchange Area:	ELANING	Drawn By:	LIJ VILJO
Drawn By:	LIJ VILJO	Date:	24/09/2017
Approved:		Project No.:	
Details:	ENVIRONMENTAL IMPACT ASSESSMENT PROCESS		
Drawing No.:	2758-16-17	Page No.:	4 of 7
Scale:		Sheet No.:	



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TELKOM PLANT

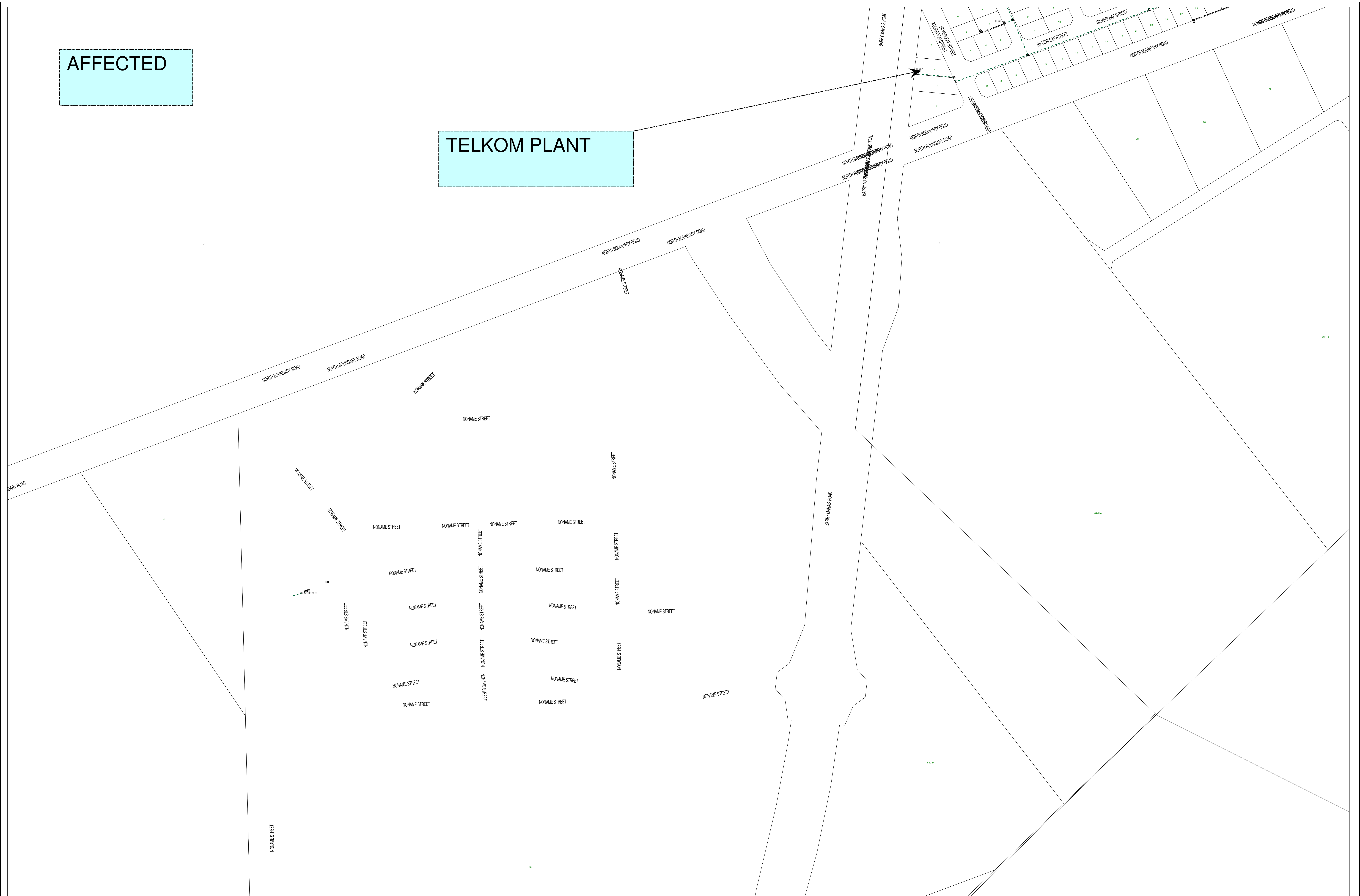
Planned Street Distribution Cabinet	Existing Street Distribution Cabinet	Existing Underground Route
Planned Manhole	Existing Manhole	Planned Underground Route
Planned Manhole Pit	Existing Manhole Pit	Existing Overhead Route
Planned Manhole Box	Existing Manhole Box	Planned Overhead Route
Planned Manhole	Existing Manhole	To Be Reconstructed Overhead Route
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	

Title Block	
Region:	ESW/WE
Exchange Area:	ESW/WE
Drawn By:	LA VILLI
Checked By:	
Approved:	
Project No.:	2019/017
Details:	ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
Drawing No.:	2708-16-17
Scale:	

Dept

AFFECTED

TELKOM PLANT

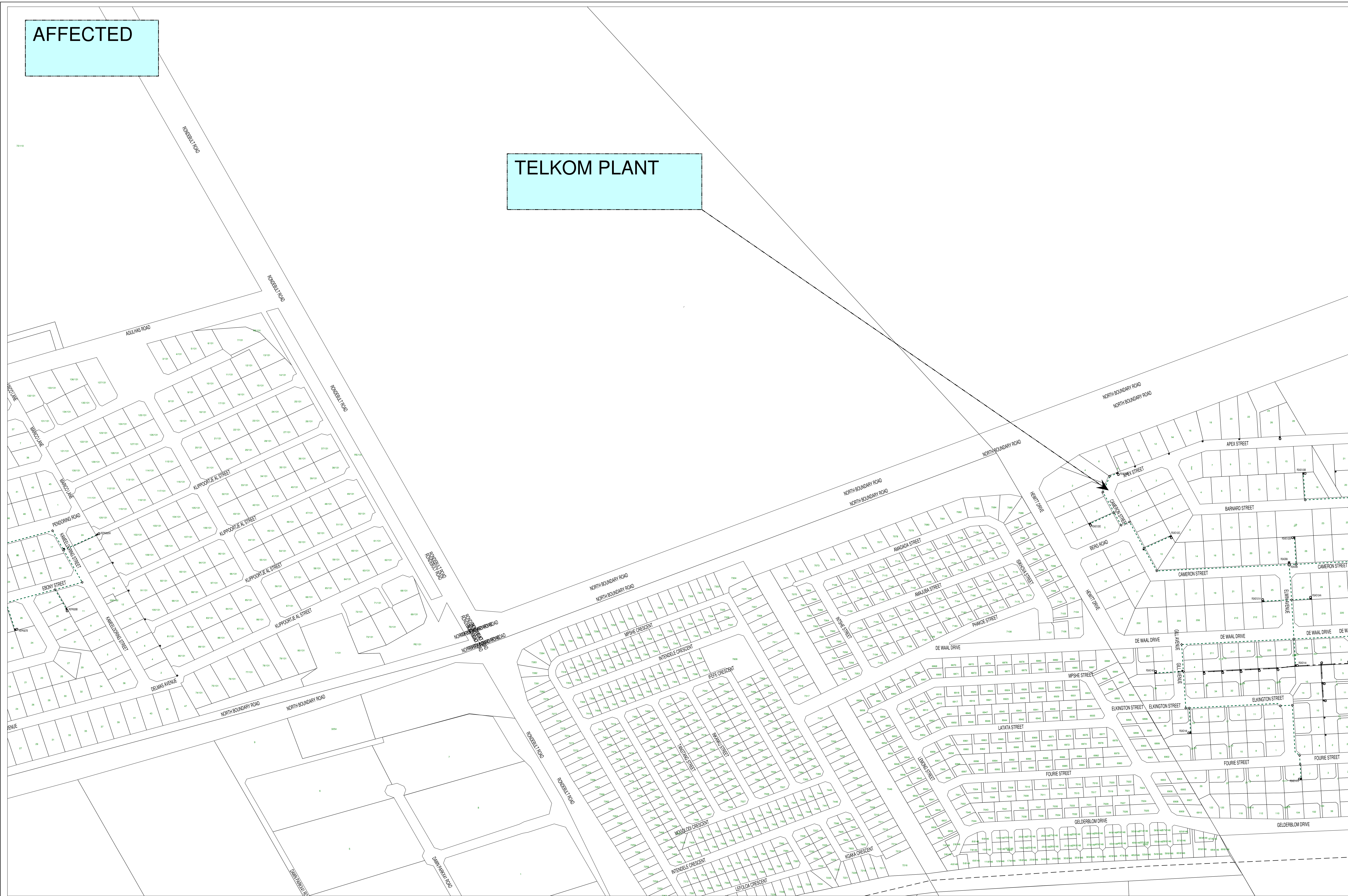


Planned Street Distribution Cabinet	Existing Street Distribution Cabinet	Existing Underground Route
Planned Manhole	Existing Manhole	Planned Overhead Route
Planned Manhole Pit	Existing Manhole Pit	Existing Overhead Route
Planned Manhole Box	Existing Manhole Box	Planned Overhead Route
Planned Manhole	Existing Manhole	To Be Reconstructed Overhead Route
Planned Manhole	Existing Manhole	
Planned Manhole	Existing Manhole	
Planned Manhole	Existing Manhole	
Planned Manhole	Existing Manhole	
Planned Manhole	Existing Manhole	

Title Block			
Region:	EGM	TELKOM REGIONAL EXECUTIVE KWA-ZULU NATAL	
Exchange Area:	ELWAND	Drawn By:	LEWILLI
Drawn By:	LEWILLI	Date:	2019/01/17
Approved:		Project No.:	2019/01/17
Details:	ENVIRONMENTAL IMPACT ASSESSMENT PROCESS		
Drawing No.:	2700-16-17	Page No.:	42
Scale:		Sheet No.:	4 of 1

AFFECTED

TELKOM PLANT



Planned Street Distribution Cabinet	Existing Street Distribution Cabinet	Existing Underground Route
Planned Street	Existing Street	Planned Underground Route
Planned Street Pit	Existing Street Pit	Existing Overhead Route
Planned Paper Junction Box	Existing Paper Junction Box	Planned Overhead Route
Planned Paper Joint	Existing Paper Joint	To Be Reconnected Overhead Route
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	
Planned Pole	Existing Pole	

Title Block	
Project:	TELKOM REGIONAL EXECUTIVE KWA-ZULU NATAL
Exchange Area:	
Drawn By:	
Checked By:	
Approved:	
Details:	ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
Drawing No:	2700-16-17
Date:	
Page No:	43
Sheet No:	1 of 1

ANNEXURE B9
ERPM LIMITED

23 November 2016

HNG/go/blhunt

BOKAMOSO ENVIRONMENTAL

Attention: Adele Drake or Juanita De Beer

Per Email: reception@bokamoso.net

Dear Adele or Juanita

RESPONSE TO DRAFT SCOPING REPORT FOR THE PROPOSED LEEUWPOORT SOUTH MIXED USE DEVELOPMENT

We refer to the public invitation to submit comments and representations to Bokamoso Environmental in relation to the Draft Scoping Report for the proposed Leeuwpoot South Mixed Use Development ("*Draft Scoping Report*").

The intention of this notice is to provide confirmation of our interests and rights in the areas demarcated in the Draft Scoping Report ("*Study Area*"). Further, we confirm that we are the holders of various mining and prospecting rights and surface rights, which relate to the areas within and/or around such Study Area, in particular and without limitation, the:

- i. mining Rights held under DMR reference numbers:
 - i. GP 30/5/1/2/2/150MR
 - ii. GP 30/5/1/2/2/151MR; and
- ii. prospecting right held under registration number GP 30 /5/1/1/2 243PR.

It is further confirmed that the mining rights are valid and enforceable until at least the years 2042 and 2036, respectively, and are further subject to the right of renewal. We also confirm that we are currently operating on such rights and it is our intention to continue to operate in terms of such mining and/or prospecting rights held by us in this area.

Accordingly, East Rand Proprietary Mines Limited ("*ERPM*") has very real and material rights and interests relating to the Draft Scoping Report and the Study Area and thus qualifies as an interested and affected party.

Accordingly, it is requested that the abovementioned mining, prospecting and surface area rights in or around the Study Area are duly noted and appropriately considered by yourselves and any related developers of such area and further that any future mining and prospecting activities are adequately accommodated within the developer's plans, determinations and recommendations for and relating to the relevant areas.



We would also request that we be informed of and consulted in relation to any progress, update or change relating to the intended Scoping Report and/or development relating thereto. Also, we would appreciate the opportunity to meet with you to discuss our rights and our current and proposed operations in and around the Study Area.

Further correspondence can be directed to the following addresses for the attention of Henry Gouws (East Rand Proprietary Mines Limited) and Mark Gilbert (ERPM South Africa Holdings (Pty) Ltd):

Henry Gouws
P.O Box 12442
Selcourt
Springs
1667
Fax: +27 11 742 1044
e-mail: henry.gouws@drdgold.com

Mark Gilbert:
174 Berwick
Fernridge Estate
Fourways
2191
Fax: +27 86 572 7281
e-mail: mark@marvik.com

Kindly acknowledge receipt hereof.

Yours faithfully



Henry Gouws
Director

ANNEXURE B10
SANRAL 3 MAY 2017



Northern Region

38 Ida Street, Menlo Park, Pretoria

Private Bag X17, Lynnwood Ridge, 0040, South Africa

Tel +27 (0) 12 428 6200 Fax +27 (0) 12 348 1680/ 0883/ 1512

Offices in Val de Grace – Pretoria (Head Office), Cape Town, Pietermaritzburg, Port Elizabeth

Reference: N11/4/3-17/2-18 **Fax Number:** +27 (0) 12 348-1512
Date: 03 May 2017 **Direct Line:** +27 (0) 12 426-6269
Contact Person: Tiyiselani Mashela **Website:** www.nra.co.za
Email: mashel@nra.co.za

URBAN DYNAMICS Gauteng Inc
P.O Box 291803
MELVILLE
2109

For attention: Mr. Danie van der Merwe

Dear Sir

**N17/2: PROPOSED LEEUWPOORT SOUTH MIXED USE DEVELOPMENT
SITUATED ON PART OF THE REMAINING EXTENT OF THE FARM
LEEUWPOORT 113-IR; SUNWARD PARK EXTENSION 23**

Your letter **DvdM11654** dated 1 September 2016, refers.

The South African National Roads Agency SOC Limited (SANRAL) hereby requests a copy of the township application and Traffic Impact Study for further evaluation as stated in our letter dated 23 November 2016 (see attached letter "annexure 1").

Yours faithfully,

For THE REGIONAL MANAGER: NORTHERN REGION



"Annexure 1" file



Northern Region
38 Ida Street, Menlo Park, Pretoria
Private Bag X17, Lynnwood Ridge, 0040, South Africa
Tel +27 (0) 12 426 6200 Fax +27 (0) 12 348 1680/ 0883/ 1512
Offices in Val de Grace – Pretoria (Head Office), Cape Town, Pietermaritzburg, Port Elizabeth

Reference: N11/4/3-17/2-18 **Fax Number:** +27 (0) 12 348-1512
Date: 23 November 2016 **Direct Line:** +27 (0) 12 426-6269
Contact Person: Tiyiselani Mashele **Website:** www.nra.co.za
Email: mashelet@nra.co.za

*Creating
Health through
infrastructure*

BOKAMOSO ENVIRONMENTAL CONSULTANTS
P.O Box 11375
MAROELANA
0161

For attention: Ms. Juanita De Beer

Dear Madam

N17/2: PROPOSED LEEUWPOORT SOUTH MIXED USE DEVELOPMENT

Your correspondence dated 26 October 2016, refers.

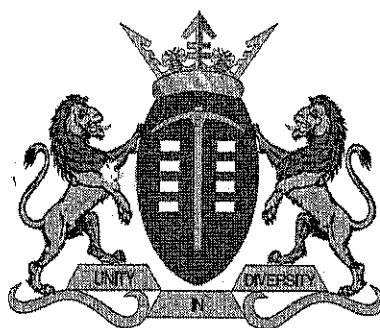
The South African National Roads Agency SOC Limited (SANRAL) is an Interested & Affected Party as the N17 national route is affected. Please forward a copy of the township application and Traffic Impact Study for further evaluation.

Yours faithfully,

For THE REGIONAL MANAGER: NORTHERN REGION



ANNEXURE B11
GAUTRANS 13 JAN 2017



101

GAUTENG PROVINCE

Department: Roads and Transport
REPUBLIC OF SOUTH AFRICA

Private Bag X83 Marshalltown 2107, Sage Life Building, 41 Simmonds Street, Johannesburg, 2000
Tel (011) 355 7173/7000 Fax: (011) 355 7184

Enquiry : Mr. L. C. Kutama
Telephone No : +27 11 355 7173
Ref : 1/1/3/1/3 – 22733

13 JAN 2017

Attention: Danie van der Merwe
Urban Dynamics
P.O. Box 291803
MELVILLE
2109

Sir/Madam,

PROPOSED TOWNSHIP: SUNWARD PARK EXTENSION 23

DISTRICT: EKURHULENI METROPOLITAN MUNICIPALITY

Your letter DvdM11654 dated 1 September 2016 refers. The delay in responding and attending to this application is sincerely regretted.

The Department wishes to inform you that this Department has no objection to the township subject to the following information and conditions being applied:-

1. EXISTING AND PROPOSED ROADS

The following existing and/or future transport infrastructure is affected by the layout of the above-mentioned proposed township:

- 1.1 Existing road **P58-1**
- 1.2 Future road **K131**
- 1.3 Future road **K132**
- 1.4 Future road **K155**
- 1.5 Future road **K165**
- 1.6 Future road **PWV15**

2. CONDITIONS

2.1 ROAD OR STREET WIDTHS AND BOUNDARIES TO BE ADOPTED IN THE TOWNSHIP DESIGN

Provision must be made for the following existing and/or future road widths and boundaries in the township design.

2.1.1 Road **P58-1**

- (a) Existing: with varying widths as declared and planned vide **PRS70/47/2Bp** and **PRS70/47/3Bp** indicated on a copy of an extract of the application plan annexed hereto.
- (b) Future widening: None required.

2.1.2 Future road **K131**

Future road **K131** with varying widths as planned vide plan **PRS97/29/4Bp** and **PRS97/29/5Bp** which has been accepted and published in terms of section 10(3) of the Gauteng Transport Infrastructure Act **must** be excluded from the township.

2.1.3 Future road **K132**

Future road **K132** with varying widths as planned vide plan **PRS70/47/2Bp** and **PRS70/47/3Bp** which has been accepted and published in terms of section 10(3) of the Gauteng Transport Infrastructure Act **must** be excluded from the township.

2.1.4 Future road **K155**

Future road **K155** with varying widths as planned vide plan **PRS81/29/2Bp** and **PRS/81/29/3Bp** which has been accepted and published in terms of section 10(3) of the Gauteng Transport Infrastructure Act **must** be excluded from the township.

2.1.5 Future road **K165**

Future road **K165** with varying widths as planned vide plan **PRS90/115/5Bp**, **PRS90/115/6Bp** and **PRS90/115/7Bp** which has been accepted and published in terms of section 10(3) of the Gauteng Transport Infrastructure Act **must** be excluded from the township.

2.1.6 Future road **PWV15**

Future road **PWV15** with varying widths as planned vide plan **PRS81/1/7Bp** and **PRS81/1/8Bp** which has been accepted and published in terms of section 10(3) of the Gauteng Transport Infrastructure Act **must** be excluded from the township.

2.1.7 Third Orders Road(s)

Also note must be taken that in terms of the Gauteng Strategic Road Network Review, there may be a number of local authority third (3rd) order roads that maybe affected and comments must be from the Ekurhuleni Metropolitan Municipality concerning the said roads.

NOTE: Road centerlines and or boundaries must in all instances be established in conjunction with and to the satisfaction of the Department of Roads and Transport.

2.2 REGIONAL BUSINESS- AND/OR COMMUNITY CENTRE(S)

Should this application include a regional business- or community Centre, a Traffic Impact Study, indicating road upgrading, must be submitted for evaluation. This could result in further conditions being specified. This, together with the layout of parking bays and access roads shall be subject to the approval of the Department of Roads and Transport. The applicant shall further guarantee that sufficient additional parking can be provided in the event of serious traffic congestion owing to the presence of the business Centre.

2.3 ACCESS (ES)

Ingress to and egress from the roads **K131, K132 (P58-1), K155 and K165** will be provisionally via Access Road "A" (Road K131), Access Road "B", Access Road "C", "Access Road "F" (Road K132), "Access Road "D" and Access Road "E" (Road K165), "Access Road "G" and Access Road "H" (Road K155) and shall also comply with the requirements of paragraphs 2.3.1 to 2.3.5.

These access points will only be valid if; all the geometric requirements (i.e. sight distances, gradients, acceleration- and deceleration- lanes, etc.) that might be required by the Department can be met.

Notice must be taken that these accesses are not for this development only, but for the area as a whole and no access control gates may be erected on these access roads. Said access road(s) should be planned as a class 3 road in accordance with the standards of the local authority.

Provision must be made for the road reserve splays at the access points to roads **K131, K132 (P58-1), K165 and K155** as indicated on Plan No: **22733/1** dated 10 January 2017 annexed hereto. (Refer to typical plan GRP 5/1, for splay measurements).

Access Road "A" (Road K131), "Access Road "B", Access Road "C", "Access Road "F" (Road K132), "Access Road "D" and Access Road "E" (Road K165), "Access Road "G" and Access Road "H" must be at least 25m wide and must be determined in conjunction with the Local

authority. These widths are the minimum street widths required. However, wider street reserves might be required, depending on site-specific characteristics. To ascertain the required street reserve widths, a detailed investigation must be undertaken at the access points taking the existing and future design of the provincial roads into account.

The final street widths must be confirmed with the Department.

Access to the access streets will not be allowed nearer than 100m from the road reserve of the above mentioned road(s).

These distances are the minimum requirement. A detailed investigation must be undertaken to determine if these distances are sufficient so as not to have any adverse effect on the construction of the provincial roads taking the future design of the provincial roads into account.

These distances (100 metres) may be increased at the discretion of the local authority and the increased distances shall be the applicable distances from the road reserves of the affected provincial roads.

The final distances must be confirmed with the Department.

After all the above have been complied with, will the accesses be confirmed.

The access must be constructed before any development takes place.

The right to access will be revoked immediately if the access is not constructed before development takes place.

No access will be allowed to the road(s) **PWV15** at all, therefore paragraph 2.3.1 to 2.3.5 are not applicable for said roads.

Where a temporary access is granted for this township, it shall not form part of the conditions for Township Establishment, but for such an access paragraphs 2.3.1 to 2.3.5 will also be applicable.

2.3.1 Any access to the township, whether it is permanent or temporary, shall be built to the satisfaction of the Department of Roads and Transport before it is used. Any such access may be constructed in two phases, viz.;

2.3.1.1 A temporary low cost construction which shall be built by the applicant, and which shall be followed by a permanent construction to be built by the applicant/Local Authority (whoever is responsible for the construction of streets in or for the township) simultaneously with the construction of the streets in or for the township.

In the absence of any streets in the township, such permanent construction shall be done to co-incide with the installation of other engineering services, but in any event, before the construction of any structures on the erven in the township.

2.3.1.2 No access as contemplated in par.2.3.1.1 shall be commissioned without the written permission of the Department of Roads and Transport having been obtained.

2.3.2 Geometric design and building specifications of the access/streets

For the construction of the access whether temporary or permanent, the applicant shall submit to the Department of Roads and Transport, for approval, plan(s) prepared and signed by a Professional Civil Engineer, in accordance with Departmental requirements.

2.3.3 The applicant/Local Authority responsible for the construction of the access

2.3.3.1 After the plans and specifications stated in paragraphs 2.3.2. have been approved by the Department of Roads and Transport, the applicant shall build the temporary/permanent access at his cost under the supervision of a Professional Civil Engineer to the satisfaction of the Department of Roads and Transport. This work shall be executed in accordance with the requirements of paragraph 2.3.1. On completion of the work, the Professional Civil Engineer shall certify that the work has been carried out in accordance with the approved plan(s) and specifications. The certificate shall be handed in to the Department of Roads and Transport.

NOTE : The above planning and design specifications must clearly show over which parts and how far inside the township the bitumen surface of the access road(s) shall stretch.

2.3.4 Permission to work inside the road reserve

The applicant/Local Authority shall not commence with any work inside the road reserve until he has obtained written approval from the Department of Roads and Transport to do so.

2.3.5 Indemnity of the Administrator against claims

During the construction of the access inside the road reserve, the applicant/Local Authority shall take the necessary precautions to regulate the traffic satisfactorily, and to safeguard the traffic against accidents. He shall at his own cost erect barriers, road signs in both official languages and employ flagmen to the satisfaction of the Professional Civil Engineer, but with the

proviso that the Department of Roads and Transport (or his representative) may instruct the Professional Civil Engineer on the precautions taken to safeguard traffic, and these instructions are promptly executed at the sole cost of the applicant/Local Authority.

The applicant/Local Authority shall indemnify the Department of Roads and Transport, its officers or workers against any claims arising out of any death of or injuries to any person or damage to any property whatsoever (including services such as water pipes, telephone or electric cable, etc.) caused by or resulting from the activities of the applicant in the road reserve.

Where someone other than the State or Local Authority is responsible for the construction of the access, the applicant shall take out a policy covering him to the amount of R100 000 (one hundred thousand rand). This is necessary to enable the applicant to comply with the above requirements. Before any work is done in the road reserve, the applicant shall deliver proof that the policy has been taken out and all costs of it have been paid in full.

N.B. No work shall be executed inside the road reserve until the relevant plans and specifications stated in paragraphs 2.3.2.1 and 2.3.3.1 have been approved by the Department of Roads and Transport.

2.4 LINES OF NO ACCESS

No ingress to or egress from the above road will be allowed along the lines lettered A₁-A₂-A₃-A₄ (K131), A₅-A₆-A₇-A₈-A₉-A₁₀ (K131 and K132), A₁₁-A₁₂-A₁₃-A₁₄-A₁₅-A₁₆ (K132), A₁₇-A₁₈-A₁₉-A₂₀ (K132 and K165), A₂₁-A₂₂ (K165), A₂₃-A₂₄ (K165), A₂₅-A₂₆ (K165), A₂₇-A₂₈ (K165), A₂₉-A₃₀ (K165 and K132), A₃₁-A₃₂-A₃₃ (K132 and PWV15), A₃₄-A₃₅-A₃₆-A₃₇ (PWV15, K132 and K155), A₃₈-A₃₉-A₄₀-A₄₁ (K155) as shown on the plan mentioned in paragraph 6.1 in red (solid).

2.5 PHYSICAL BARRIER

A physical barrier, which is in compliance with the requirements of EXECUTIVE COMMITTEE RESOLUTION 1112 of 26 June 1978 read with Section 46 (2) (b) of the Gauteng Transport Infrastructure Act, 2001 (Act No 8 of 2001) and the Gauteng Transport Infrastructure Regulations, 2002 (Regulation 20 in terms of Notice 219 of 2003 dated 29 January 2003) shall be erected on the lines of no access as described in paragraph 2.4.

2.6 SERVICE ROADS

2.6.1 Service roads shall be remote and separated from the road by means of at least one row of erven. (Refer to Typical plan GTP 3/2-case 3).

2.6.2 Parallel service roads shall as far as possible be continuous with existing or planned service roads so as to relieve the traffic volume on the main roads. Therefore, existing and planned parallel service

roads in consecutive townships shall be shown on a key plan, to the satisfaction of the Department of Roads and Transport.

2.7 BUILDING RESTRICTIONS AREA(S)

Building restriction areas, which are in compliance with the requirements of EXECUTIVE COMMITTEE RESOLUTION 1112 of 26 June 1978 shall be provided. The building restriction lines are shown in green (dotted) on the plan mentioned in paragraph 4.1.

No buildings or structures may be erected within the building restriction of 16 metres from the reserve boundary of road(s) **K131, K132 (P58-1), K165 and K155** and 30 metres from the reserve boundaries of road(s) **PWV15** for multiple story residential use and 20 metres from the reserve boundaries of road(s) **PWV15** for single story residential and any other uses.

2.8 LAND USE ALONG THE ROAD(S)

Land uses of erven abutting on the lines of no access shall be in accordance with EXECUTIVE COMMITTEE RESOLUTION 1112 of 26 June 1978.

2.8.1 The Provincial Government shall not be responsible for the cost of (Acoustic Screening) Noise Barrier

The applicant / Local Authority shall be responsible for any costs involved in the erection of Acoustic Screening, if and when the need arises to erect such screening. This stipulation, alternatively, if not accepted by either of the above parties, must be made a condition of township establishment so that the owners of the erven which are within a distance of 95m from the centerline of the effected road(s) are liable for the erection of such screening.

2.8.2 Erven adjacent to roads **K131, K132 (P58-1), K165 K155** and **PWV15** must be approximately the same area as other erven after the 16/20/30 m building restriction line has been taken into account.

2.8.3 Take Note: No direct access to roads **K131, K132 (P58-1), K165 K155** will be allowed from the public garage site. If access to a filling station is required, a separate application therefore, must be submitted to the Department.

2.9 STORMWATER DRAINAGE

2.9.1 Part 4, Sections 40, 41, 46, 48 of Transport Infrastructure Act, Act No 8 of 2001, are applicable.

2.9.2 The developer/property owner/applicant is responsible for acceptance, handling and disposal of stormwater. The whole natural catchment above and below the proposed development/change in land use must be given consideration.

- 2.9.3 No alterations to the existing catchment will be allowed without the approval from this Department and/or the relevant Authorities.
- 2.9.4 If alterations are contemplated, a well-motivated concept discussing all possible alternatives must be presented for approval at the stage of Services Report compilation.
- 2.9.5 If the development/change in land use area constitutes only a part of the total effective drainage area, this Department nevertheless, will require a drainage system adequate for the total effective drainage area and which may allow for the final development.
- 2.9.6 All changes in the run-off resulted from the proposed development/change in land use must be accommodated within the development/property boundaries and the discharge must be effected in the general direction of the natural contours.
- 2.9.7 If crossing of the provincial road is unavoidable it should be done in the shortest possible way, with taking into account the latest departmental planning.
- 2.9.8 The developer/property owner/applicant shall be responsible for the construction of the drains within the road's boundaries. Further disposal of stormwater must be acceptable to **all parties** concerned.
- 2.9.9 The developer/property owner/applicant to agree on costs apportionment with the Local Authority. This Department will not contribute to the cost of stormwater structures.
- 2.9.10 For design guidelines of the drainage system proposal applicant is referred to the following documents:
- Code of Procedure: Structures (Gautrans)
 - Guidelines on the Planning and Design of Township Roads and Stormwater Drainage (SAICE)
 - Drainage Manual (Draft) and Typical Drainage Plans, series 2000.
- 2.9.11 **The Services Report containing the stormwater design proposal must be submitted to this Department for approval at the time of the application, i.e. before Township Proclamation.**
- 2.9.12 No construction of the drainage structures may commence without written permission (the Wayleave) from this Department.
- 2.9.13 The Local Authority or the authorized person acting **on behalf** of the Local Authority should lodge the application for a wayleave.
- 2.9.14 Wayleaves will only be considered for the development/changes in land use, for which Services agreement has been signed.

2.10 THE PROVINCIAL ADMINISTRATION NOT RESPONSIBLE FOR THE COST OF THE DRAINAGE SCHEME

The applicant/Local Authority (whoever is responsible for the drainage of the township) shall build the drainage scheme at his cost simultaneously with the construction of the roads and the drainage scheme for the township.

2.11 FINAL APPROVED PLAN TO BE RECEIVED WITHIN 10 YEARS

The final approved plan showing the layout of the township shall be supplied to the Department of Roads and Transport within 10 years of the date of acceptance of these conditions by the applicant, otherwise the application shall be submitted to the Department of Roads and Transport for reconsideration of these conditions and revision as deems necessary.

2.12 TRACING TO BE AMENDED

The letters/dimensions stated in the above conditions must be shown on the original tracing of the layout plan before any further prints are made.

2.13 REVISED/AMPLIFIED PLAN

5 Copies of the revised/amplified plan, together with the applicant's written acceptance of all the above conditions, must be submitted to the Department of Roads and Transport.

3. TRAFFIC IMPACT STUDIES

If this application results in a traffic generation of more than 50 peak hour vehicle trips, this Department must be supplied with a traffic impact study addressing all road improvements that might be required on provincial roads.

NOTE: all road improvements will be to the account of the developer.

4. ADVERTISEMENTS

No advertisements as described under article 2 of the Advertising on Roads and Ribbon Development Act, Act 21 of 1940 that may be visible from road(s) **K131, K132 (P58-1), K165, K155 and PWV15**, shall be displayed without the written approval of the controlling authority (Department of Roads and Transport).

5. DEPARTMENT OF ROADS AND TRANSPORT ENTITLED TO REVISE THESE CONDITIONS

The Department reserves the right to revise these conditions at any time before it receives the final written acceptance of them by the applicant.

6. PLANS TO BE READ WITH THESE CONDITIONS

The following plan will serve as explanation of the above conditions and shall be read with the conditions:

- 6.1 Township layout plan no: 22733/1 (as amended 10/01/17)
- 6.2 PRS97/29/4BP, PRS97/29/5BP (K131), PRS70/47/2BP, PRS70/47/3BP (K132), PRS90/115/5BP, PRS90/115/6BP, PRS90/115/7BP (K165), PRS81/29/2BP, PRS81/29/3BP (K155), PRS81/1/7BP and PRS81/1/8BP (PWV15)
- 6.3 Typical plans GTP 5/1 and GTP 3/2.

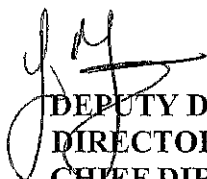
7. DESIGN PLANS AND SPECIFICATIONS TO BE READ WITH THESE CONDITIONS

The following shall be read with these conditions:

7.1 Design plans and specifications mentioned in paragraphs 2.3.2.

8. INCLUSION OF CONDITIONS IN TOWN PLANNING SCHEME OR CONDITIONS OF ESTABLISHMENT

These conditions must be incorporated into the relevant conditions of establishment of the township/the town planning or land use scheme/ title deed restrictions / rezoning/ consent / subdivision conditions of the above subject property (ies). Proof of the above must be submitted to this Department.



**DEPUTY DIRECTOR: DEVELOPMENT FACILITATION
DIRECTORATE: TRANSPORT INFRASTRUCTURE PLANNING
CHIEF DIRECTORATE: TRANSPORT POLICY AND PLANNING
BRANCH: TRANSPORT
DEPARTMENT OF ROADS AND TRANSPORT**

DATE: 13 JAN 2017

ANNEXURE B12
COUNCIL OF GEOSCIENCE –
15 Feb 2007



Council for Geoscience

Private Bag X112 Pretoria 0001 SOUTH AFRICA 280 Pretoria Street Silverton Pretoria
Reception: +27 (0)12 841 1911 Internet: <http://www.geoscience.org.za>

Our Reference: F 302B

Your Reference: IR801R
Typing Reference: Leeupoort

Enquiries : Greg Heath
Tel: (012) 841 1185
Fax: (012) 841 1148
Email: gheath@geoscience.org.za

No of Pages: 3
15 February 2007

Messrs Intraconsult Associates
Intraconsult
PO Box 804
Fourways
2055

Dear Sirs

REPORT IR801R: GFSH-2, PHASE 1 DOLOMITE STABILITY INVESTIGATIONS OF 226 HECTARES IN THE SOUTH WESTERN SECTOR OF THE LEEUWPOORT DEVELOPMENT

Your report (IR 801 R) has been submitted to this office for reviewing on behalf of the appropriate local authority, refers.

The site is situated southwest of Boksburg and straddles the geological contact between the Ventersdorp Supergroup volcanic formations to the northeast and the thin, Black Reef Formation sediments, and the lowest members of the overlying Chuniespoort Group dolomitic rocks to the southwest. Most of the site that was investigated is furthermore covered by a few tens of metres of Karoo sediments or intrusive dolerite. A relatively small portion that has no cover of such rocks has been delineated.

No dolomitic groundwater was intercepted in the boreholes - even in the area with no cover of Karoo sediments or intrusive dolerite. Whereas it could be considered that there could be a confined dolomitic groundwater level in the area underlain by Karoo sediments and intrusive dolerite, the fact that none was encountered in the area devoid of

14 Mar 07 12:55

Mar 14 2007 13:21 HP LASERJET FAX

such rocks suggests that the dolomitic groundwater level is deeper and that confined conditions probably do not exist.

The land investigated has been subdivided into four (4) zones:

- Zone 1 has been classified as with no risk to Inherent Risk Class 1 dolomitic stability related conditions.
- Zone 2 was classified as being Inherent Risk Class 1,
- Zone 3 as being Inherent Risk Class 1-3 and
- Zone 4, that without a cover of Karoo sediments and/or intrusive dolerite, as Inherent Risk Class 8.

This office is in broad agreement with the delineations and classifications.

The Zone 4 (IRC 8) classification is possibly a little broad and while I concur that the land should be seen as mainly of high inherent risk, following further investigations it could certainly be, I believe, put to some other (than residential) good uses.

The report and its conclusions and recommendations are accepted and it is essential that the many recommendations that have been made, are implemented.

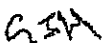
In order to ensure that the recommendations are adequately addressed it is recommended that Messrs Intraconsult be retained up to the stage that the local authority takes over responsibility for the operation and maintenance of the development. Messrs Intraconsult are to certify that the layout plans and densities of development are in accordance with their interpretation of the subsurface geology and associated dolomitic risk, and that an appropriate risk management system has been drawn up, and implemented. It is essential that it is established that the local authority is willing, and able, to maintain the system.

All of this will require them (Messrs Intraconsult) to liaise with, and where necessary, guide professionals such as planners, civil/structural and other engineers, contractors and officials of the local authority to ensure that the development will be, or is, in accordance with their interpretation of the subsurface geology and risk.

A dolomite completion report is to be drawn up to outline the additional conclusions - especially as regards the possibility of palaeosinkholes being present on the site - and recommendations based on the findings 'post' the present report - at the accession of responsibility by the local authority. A signed copy of the layout as accepted by the Competent Person is to be submitted to the Council for Geoscience for record purposes.

Interaction with the Council for Geoscience in this ongoing process is also recommended.

Yours faithfully


G. Heath

Copy to: INTRACONSULT

P.O. BOX 604

F JRWAYS

2055

Fax: 011-469-0961

Copy to: Ekurhuleni Metropolitan Municipality

P.O. Box 13

KEMPTON PARK

1620

14 Mar 07 12:35

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P.O.

F

ANNEXURE B13
COUNCIL OF GEOSCIENCE –
26 Sept 2016

280 Pretoria Street, Silverton, Pretoria
Private Bag X112, Pretoria 0001, South Africa
Tel: +27 (0)12 841 1911
Fax: +27 (0)12 841 1221
email: info@geoscience.org.za
website: www.geoscience.org.za



Council for Geoscience
Leaders in Applied Geoscience Solutions

Our Reference: TA434
Leeuwpoot South
Your Reference: DvdM11654
Enquiries: ML Sebesho
Tel: 012 841 1136
Fax: 086 680 3246
Email: msebesho@geoscience.org.za
No. of Pages: 2

26 September 2016

Urban Dynamics
P.O Box 291803
Melville
2109

ATTENTION: Danie Van Der Merwe

By email: danie@urbandynamics.co.za

Dear Sir,

APPLICATION FOR PROPOSED TOWNSHIP ESTABLISHMENT: LEEUWPOORT SOUTH (PROPOSED SUNWARD PARK EXTENSION 23) SITUATED ON PART OF THE REMAINING EXTENT OF THE FARM LEEUWPOORT NO 113 IR

Receipt of your application for Leeuwpoot South dated 01 September 2016 is acknowledged with thanks.

According to our records, the area is underlain by dolomitic land and therefore there is a risk of karstic sinkhole formation.

Dolomite stability investigations of 226 hectares in the south western sector of the Leeuwpoot development were conducted as per the SANS 1936 (2012) standard, by the firm Intraconsult Associates (Report Ref: IR 801R). The report was submitted, reviewed and a final letter of comments was issued by this office on the 15 February 2007 (CGS Ref: F3028).

This office is in support of the proposed development subject to conditions stated in the letter review comments issued to Intraconsult.

A geotechnical investigation was also conducted on the abovementioned site by Intraconsult Associates. Foundation recommendations for sustainable developments are set out in section 8 of the report. As national custodians of all geological information (Geoscience Amendment Act, Act 16 of 2010) this office appreciates the received copy of the aforesaid report.

For any further queries, please do not hesitate to contact this Office.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'ML Sebesho', is enclosed in a light grey rectangular box.

ML SEBESHO
TECHNICAL OFFICER
ENGINEERING GEOLOGY COMPETENCY

ANNEXURE C
COMPANY PROFILE AND CV OF
EAP

The logo for Bokamoso features the word "Bokamoso" in a stylized, cursive font with a white outline and a black shadow. To the right of the word is a large, intricate piece of Arabic calligraphy, also with a white outline and black shadow. The background of the logo is a dark red silhouette of a tree with many bare branches, set against a light green background with horizontal stripes.

Bokamoso

**Landscape Architects &
Environmental consultants**

**P.O.BOX 11375
Maroelana
0161**

**Tel: (012) 346 3810
Fax: (086) 570 5559**

**E-mail: lizelle@bokamoso.net
reception@bokamoso.net
Website: www.bokamoso.net**

Qualifications And Experience In The Field Of Environmental Planning And Management (Lizelle Gregory (Member Bokamoso)):

Qualifications:

- Qualified as **Landscape Architect** at UP 1991;
- Qualified as **Professional Landscape Architect in 1997**;
- A Registered Member at The **South African Council for the Landscape Architect Profession (SACLAP)** with Practise Number: **PrLArch97078**;
- A Registered Member at the **International Association for Impact Assessment Practitioners (IAIA)**;
- Qualified as an **Environmental Auditor in July 2008** and also became a Member of the International Environmental Management Association (IEMAS) in 2008.

Working Experience:

- Worked part time at Eco-Consult – 1988-1990;
- Worked part time at **Plan Associates as Landscape Architect in training** – 1990-1991;
- Worked as Landscape Architect at **Environmental Design Partnership (EDP)** from 1992 - 1994
- Practised under **Lizelle Gregory Landscape Architects** from 1994 until 1999;
- Lectured** at Part-Time at **UP** (1999) – Landscape Architecture and **TUT** (1998- 1999)- Environmental Planning and Plant Material Studies;
- Worked as **part time Landscape Architect and Environmental Consultant at Plan Associates** and **managed their environmental division for more than 10 years** – 1993 – 2008 (assisted the **PWV Consortium** with various road planning matters which amongst others included environmental Scans, EIA's, Scoping reports etc.)
- Renamed business as **Bokamoso in 2000** and is the only member of Bokamoso Landscape Architects and Environmental Consultants CC;
- More than 20 years experience in the compilation of Environmental Reports**, which amongst others included the compilation of various **DFA Regulation 31 Scoping Reports**, EIA's for EIA applications in terms of the applicable environmental legislation, Environmental Management Plans, Inputs for Spatial Development Frameworks, DP's, EMF's etc. Also included EIA Application on and adjacent to mining land and slimes dams (i.e. Brahm Fisherville, Doornkop)

Qualifications And Experience In The Field Of Landscape Architecture (Lizelle Gregory (Member Bokamoso)):

Landscape Architecture:

-Compiled landscape and rehabilitation plans for more than 22 years.

The most significant landscaping projects are as follows:

-Designed the Gardens of the Witbank Technicon (a branch of TUT). Also supervised the implementation of the campus gardens (2004);

-Lizelle Gregory was the Landscape Architect responsible for the paving and landscape design at the UNISA Sunnyside Campus and received a Corobrick Golden Award for the paving design at the campus (1998-2004);

-Bokamoso assisted with the design and implementation of a park for the City of Johannesburg in Tembisa (2010);

-The design and implementation of the landscape gardens (indigenous garden) at the new Coca-Cola Valpre Plant (2012-2013);

-Responsible for the rehabilitation and landscaping of Jukse River area at the Norwood Shopping Mall (Johannesburg) (2012-2013);

-Designed and implemented a garden of more than 3,5ha in Randburg (Mc Arthurpark). Bokamoso also seeded the lawn for the project (more than 2,5 ha of lawn successfully seeded) (1999);

-Bokamoso designed and implemented more than 800 townhouse complex gardens and submitted more than 500 Landscape Development Plans to CTMM for approval (1995 – 2013);

-Assisted with Landscape Designs and the Masterplan at Eco-Park (M&T Developments) (2005-2011);

-Bokamoso designed and implemented an indigenous garden at an office park adjacent to the Bronberg. In this garden it was also necessary to establish a special garden for the Juliana Golden Mole. During a recent site visit it was established that the moles are thriving in this garden. Special sandy soils had to be imported and special indigenous plants had to be established in the natural section of the garden.

-Lizelle Gregory also owns her own landscape contracting business. **For the past 20 years she trained more than 40 PDI jobless people (sourced from a church in Mamelodi)** to become landscape contracting workers. All the workers are (on a continuous basis) placed out to work at nurseries and other associated industries;

-Over the past 20 years the Bokamoso team compiled more than 800 landscape development plans and also implemented most of the gardens. Bokamoso also designed and implemented the irrigation for the gardens (in cases where irrigation was required). Lizelle regarded it as important to also obtain practical experience in the field of landscape implementation.

- 01** Executive Summary
- 02** Vision, Mission & Values
- 03** Human Resources
- 04** Services
- 05** Landscape Projects
- 06** Corporate Highlights
- 07** Environmental Projects
- 08** Indicative Clients
- 09** Tools

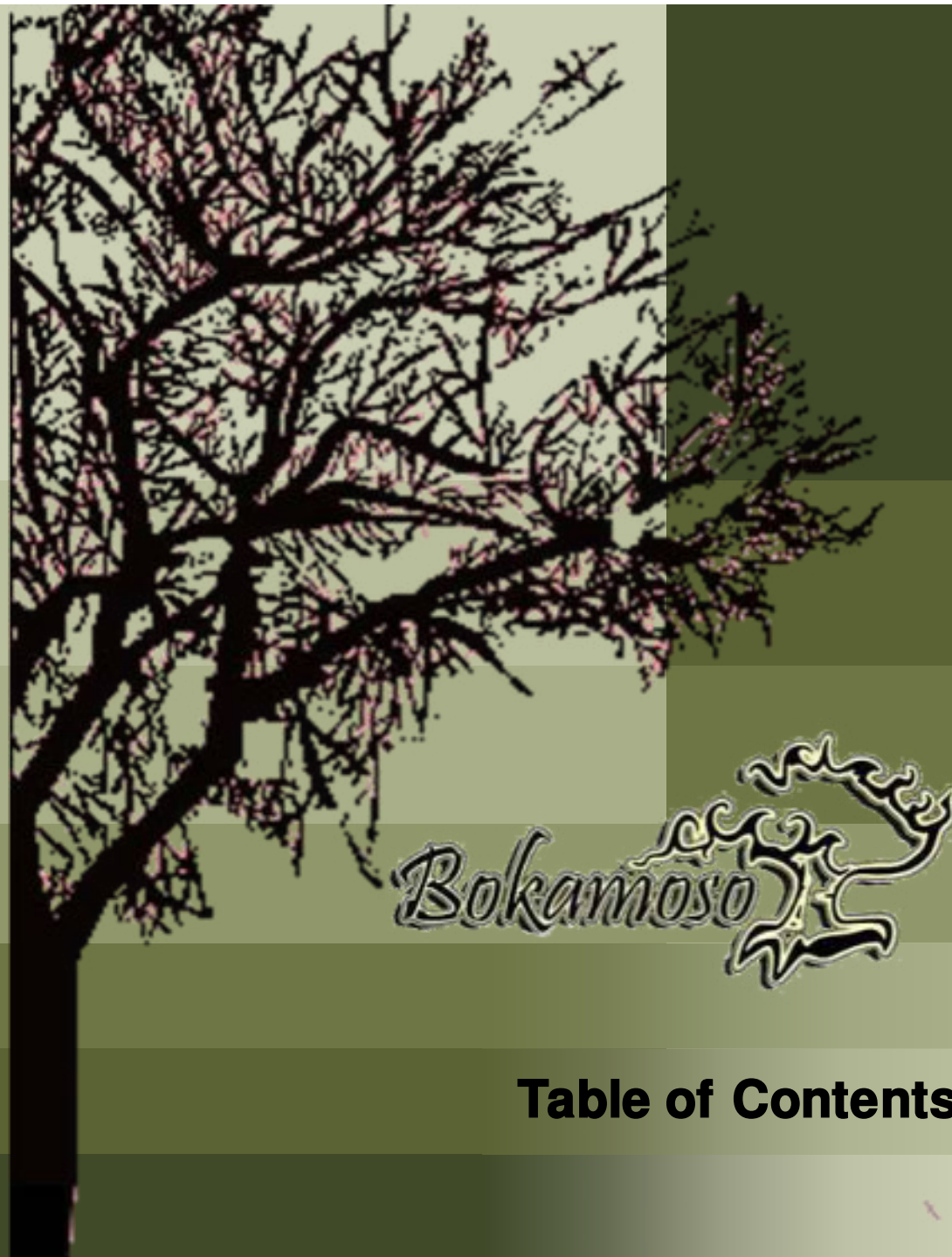


Table of Contents

Bokamoso specialises in the fields of Landscape Architecture and all aspects of Environmental Management and Planning. Bokamoso was founded in 1992 and has shown growth by continually meeting the needs of our clients. Our area of expertise stretches throughout the whole of South Africa. Our projects reflect the competence of our well compiled team. The diversity of our members enables us to tend to a variety of needs. Our integrated approach establishes a basis for outstanding quality. We are well known to clients in the private, commercial as well as governmental sector.

At Bokamoso we stand on a firm basis of environmental investigation in order to find unique solutions to the requirements of our clients and add value to their operations.



01 Executive Summary

011 Company Overview



Vision:

At Bokamoso we strive to find the best planning solutions by taking into account the functions of a healthy ecosystem. Man and nature should be in balance with each other.

Mission:

We design according to our ethical responsibility, take responsibility for successful completion of projects and constitute a landscape that contributes to a sustainable environment. We add value to the operations of our clients and build long term relationships that are mutually beneficial.

Values:

Integrity

Respect



Bokamoso stands on the basis of fairness. This include respect within our multicultural team and equal opportunities in terms of gender, nationality and race.

We have a wide variety of projects to tend to, from complicated reports to landscape installation. This wide range of projects enables us to combine a variety of professionals and skilled employees in our team.

Bokamoso further aids in the development of proficiency within the working environment. Each project, whether in need of skilled or unskilled tasks has its own variety of facets to bring to the table.

We are currently in the process of receiving our BEE scorecard. We support transformation in all areas of our company dynamics.



03 Human Resources

031 Employment Equity

Lizelle Gregory (100% interest)

Lizelle Gregory obtained a degree in Landscape Architecture from the University of Pretoria in 1992 and passed her board exam in 1995.

Her professional practice number is PrLArch 97078.

Ms. Gregory has been a member of both the Institute for Landscape Architecture in South Africa (ILASA) and South African Council for the Landscape Architecture Profession (SACLAP), since 1995.

Although the existing Environmental Legislation doesn't yet stipulate the academic requirements of an Environmental Assessment Practitioner (EAP), it is recommended that the Environmental Consultant be registered at the International Association of Impact Assessments (IAIA). Ms. Gregory has been registered as a member of IAIA in 2007.

Ms. Gregory attended and passed an International Environmental Auditing course in 2008. She is a registered member of the International Environmental Management and Assessment Council (IEMA).

She has lectured at the Tshwane University of Technology (TUT) and the University of Pretoria (UP). The lecturing included fields of Landscape Architecture and Environmental Management.

Ms. Gregory has more than 20 years experience in the compilation of Environmental Evaluation Reports:

Environmental Management Plans (EMP);

Strategic Environmental Assessments;

All stages of Environmental input ;

EIA under ECA and the new and amended NEMA regulations and various other Environmental reports and documents.

Ms. Gregory has compiled and submitted more than 600 Impact Assessments within the last 5-6 years. Furthermore, Ms. L. Gregory is also familiar with all the GDARD/Provincial Environmental policies and guidelines. She assisted and supplied GAUTRANS/former PWV Consortium with Environmental input and reports regarding road network plans, road determinations, preliminary and detailed designs for the past 12 years.



03 Human Resources

032 Members

Consulting

Anè Agenbacht

Introduction to Sustainable Environmental Management—An overview of Principles, Tools, & Issues (Potch 2006)
Leadership Training School (Lewende Woord 2010)
BA Environmental Management (UNISA 2011)
PGCE Education (Unisa 2013) - CUM LAUDE
Project Manager
More than 10 years experience in the compilation of various environmental reports

Mary-Lee Van Zyl

MSc Plant Science (UP)
BSc (Hons) Plant Science (UP)
BSc Ecology (UP)
More than 3 years working experience in the Environmental field
Specialises in ECO works, Basic Assessments, EIA's, and Flora Reports
Compilation of various Environmental Reports

Dashentha Moodley

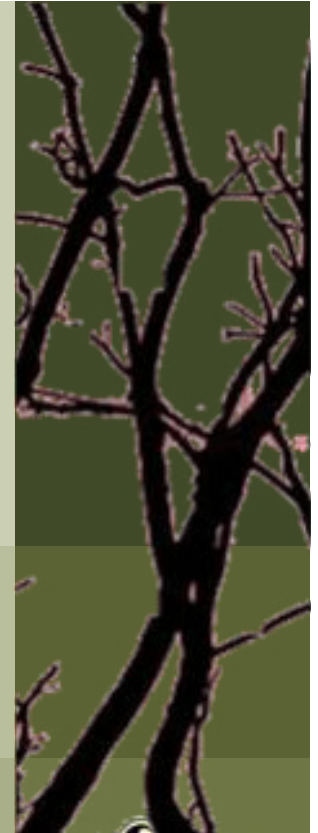
BA (Hons) Degree in Environmental Management (UNISA) - CUM LAUDE
Bachelor of Social Science in Geography & Environmental Management (UKZN)
More than 6 years experience in WUL Applications & Integrated Environmental Management within water resource management.
Senior Environmental Practitioner & Water Use Licence Consultant
Specialises in Water Use License & Compilation of various Env. Reports

Adèle Drake

BA Geography & History (UP)
NQF Level 7 Air Quality Management (UJ)
More than 15 years experience in the field of Environmental Management within Mining Industry (surface and underground), Forestry Industry, Renewable Energy Industry (WEF), and Environmental Consulting. Also ISO 14000, ISO 9000, and Safety Management Auditor.

Ronell Kuppen

BSc (Hons) in Geography (UNISA)
BA Environmental and Development (UKZN)
More than 5 years experience in Environmental Consulting
Specializing in WUL Applications, Waste License Applications, EIAs, Basic Assessments, Public Participations, Borrow Pits



03 Human Resources

033 Personnel

Ben Bhukwana

BSc Landscape Architecture (UP)

More than 6 years experience in the field of Landscape Architecture (Design, Construction, Implementation, and Management).
Specialises in landscape design, ECO, rehabilitation plans and compilation various environmental reports and compilation of tender documents

Juanita de Beer

Diploma Events Management and Marketing (Damelin)

Specializes in Public relations and Public Participation Processes (4 years experience)
Specialises in compiling various environmental reports

Alfred Thomas

CIW Foundation & Internet Marketing (IT Academy)

12 years experience in GIS and IT in general.
GIS Operator and Multimedia Specialist.

Bianca Reyneke

**Applying SHE Principles and Procedures (NOSA)
Intro to SAMTRAC Course (NOSA)**

SHEQ Coordinator and compilation of environmental reports
Specialises in compiling various environmental reports

A.E. van Wyk

BSc Environmental Sciences (Zoology and Geography)

Specialises in compiling various environmental reports



Elsa Viviers

Interior Decorating (Centurion College)

(Accounting/ Receptionist) and Secretary to Lizelle Gregory

Loura du Toit

N. Dip. Professional Teacher (Heidelberg Teachers Training College)

Librarian and PA to the Project Manager

Merriam Mogalaki

Administration Assistant with in-house training in bookkeeping

Landscape Contracting

Elias Maloka

Assisting with Public Participations and Office Admin

Site manager overseeing landscape installations.

Irrigation design and implementation.

Landscape maintenance

More than 18 years experience in landscape construction works.

The contracting section comprises of six permanently employed black male workers. In many cases the team consists of up to 12 workers, depending on the quantity of work.



03 Human Resources

035 Personnel

In-house Specialists

Corné Niemandt

MSc Plant Science (UP 2015) – Cum Laude
BSc (Hons) Zoology (UP 2012)
BSc Ecology (UP 2011)
Specialises in ecological surveys and report writing
Compilation of fauna and flora specialist reports
GIS: Generating maps

Garth van Rooyen

BSc (Hons) Environmental Soil Science
BSc Geology
Soil and Wetland Specialist



03 Human Resources

035 Personnel



01 Environmental Management Services

- Basic Assessment Reports
- EIA & Scoping Reports
- Environmental Management Plans
- Environmental Scans
- Strategic Environmental Assessments
- EMP for Mines
- Environmental Input and Evaluation of Spatial Development Frameworks
- State of Environmental Reports
- Compilation of Environmental Legislation and Policy Documents
- Environmental Auditing and Monitoring
- Environmental Control Officer (ECO)
- Visual Impact assessments
- Specialist Assistance with Environmental Legislation Issues and Appeals
- Development Process Management
- Water Use License applications to DWA
- Waste License Application



04 Services

041 Consulting Services

02 Landscape Architecture

- Master Planning
- Sketch Plans
- Planting Plans
- Working Drawings
- Furniture Design
- Detail Design
- Landscape Development Frameworks
- Landscape Development Plans (LDP)
- Contract and Tender Documentation
- Landscape Rehabilitation Works

03 Landscape Contracting

Implementation of Plans for:

- Office Parks
- Commercial/ Retail / Recreational Development
- Residential Complexes
- Private Residential Gardens
- Implementation of irrigation systems



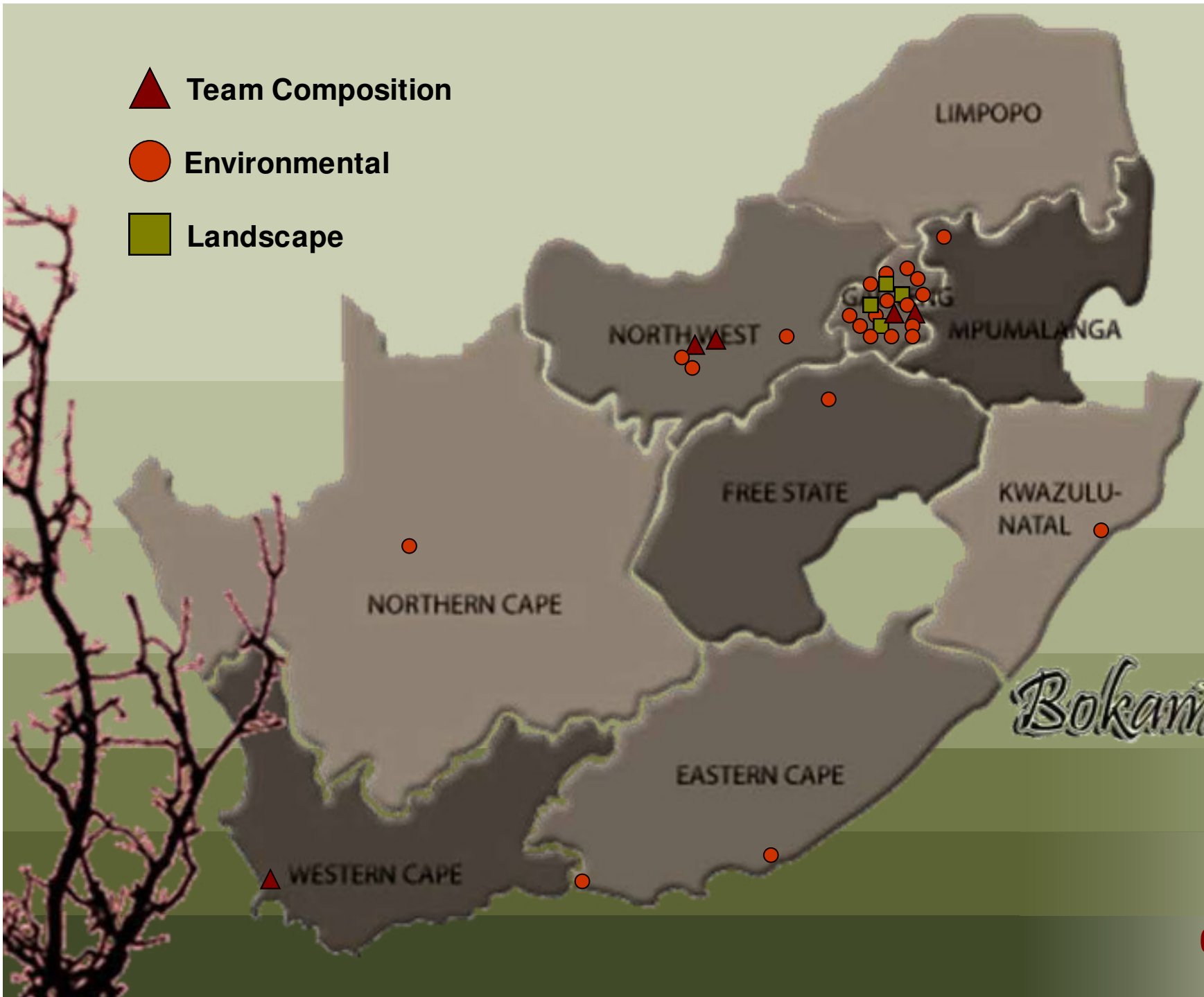
04 Services

042 Contracting Services

▲ Team Composition

● Environmental

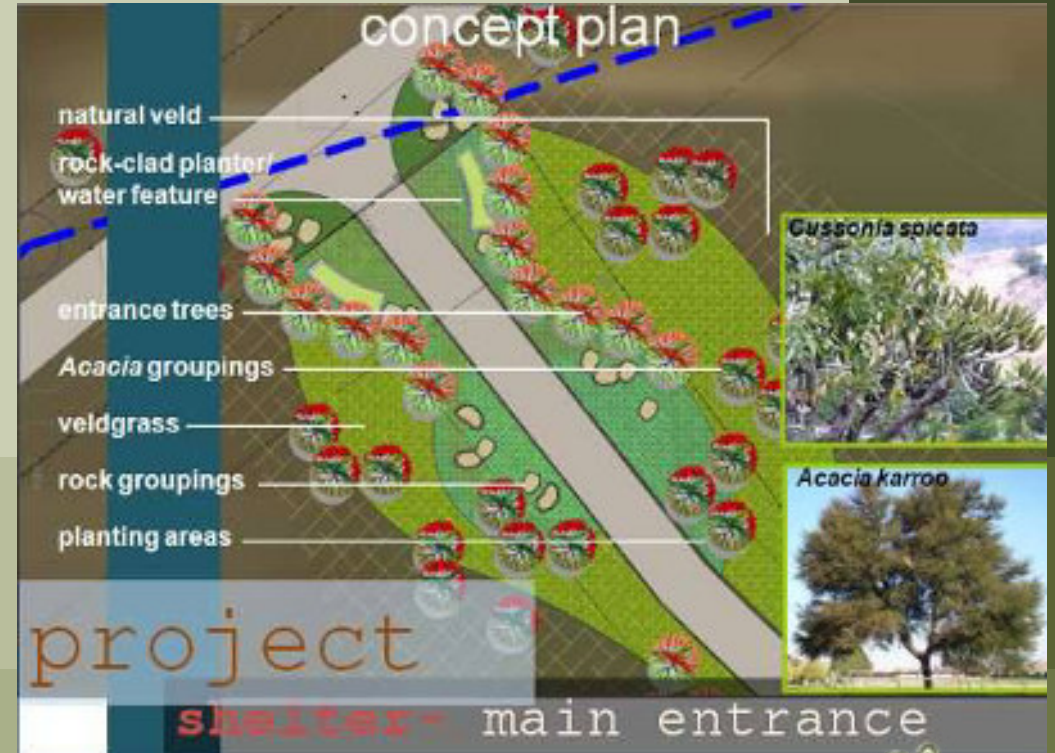
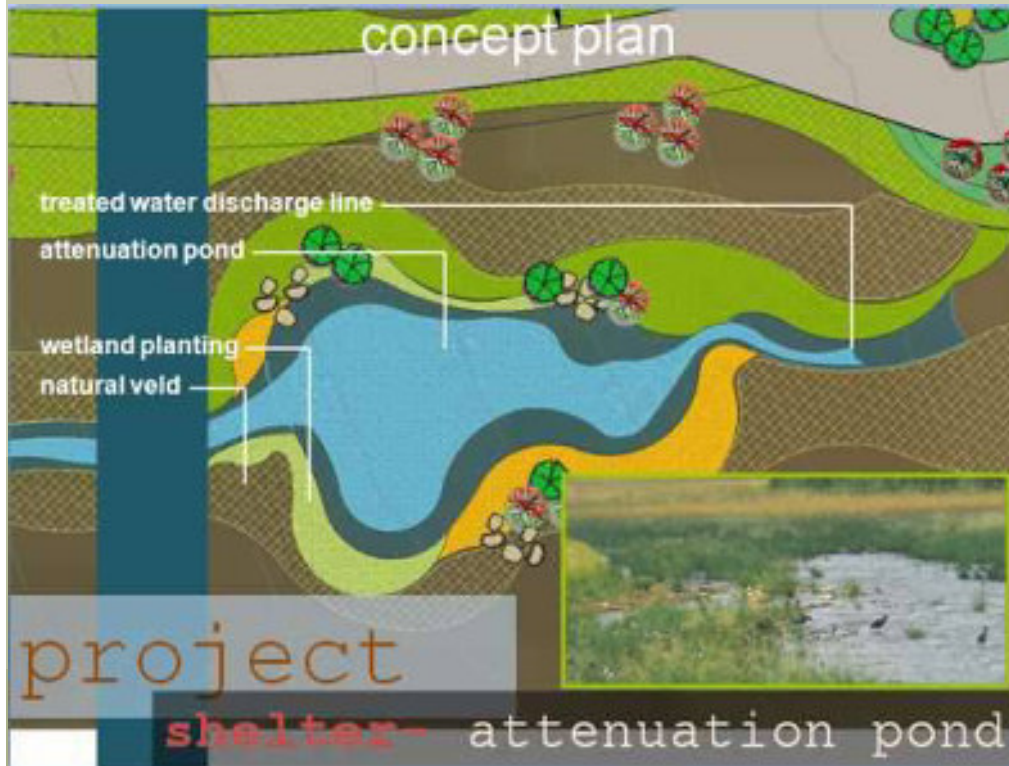
■ Landscape



04 Services

043 Orientation

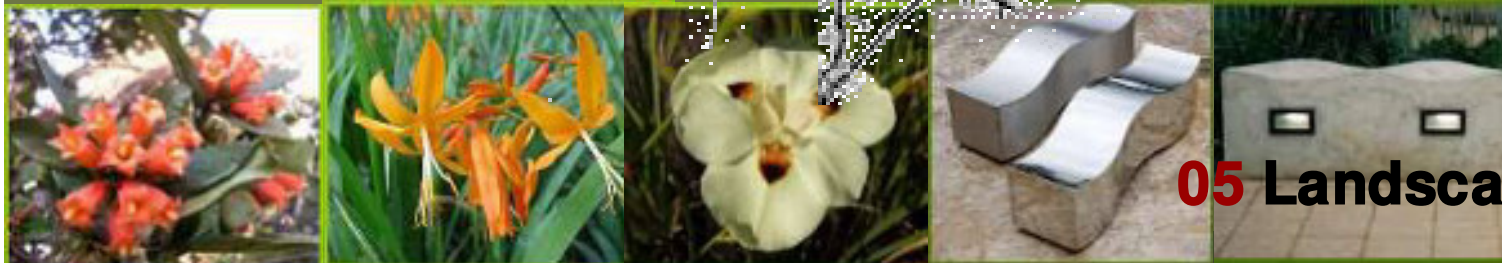
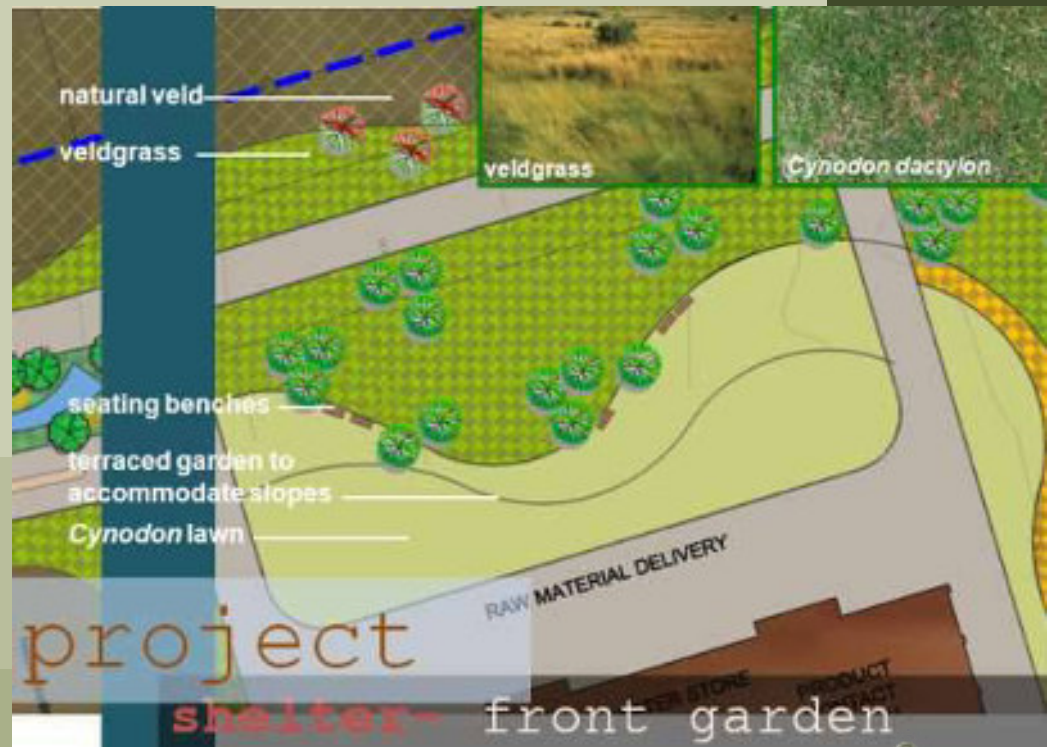
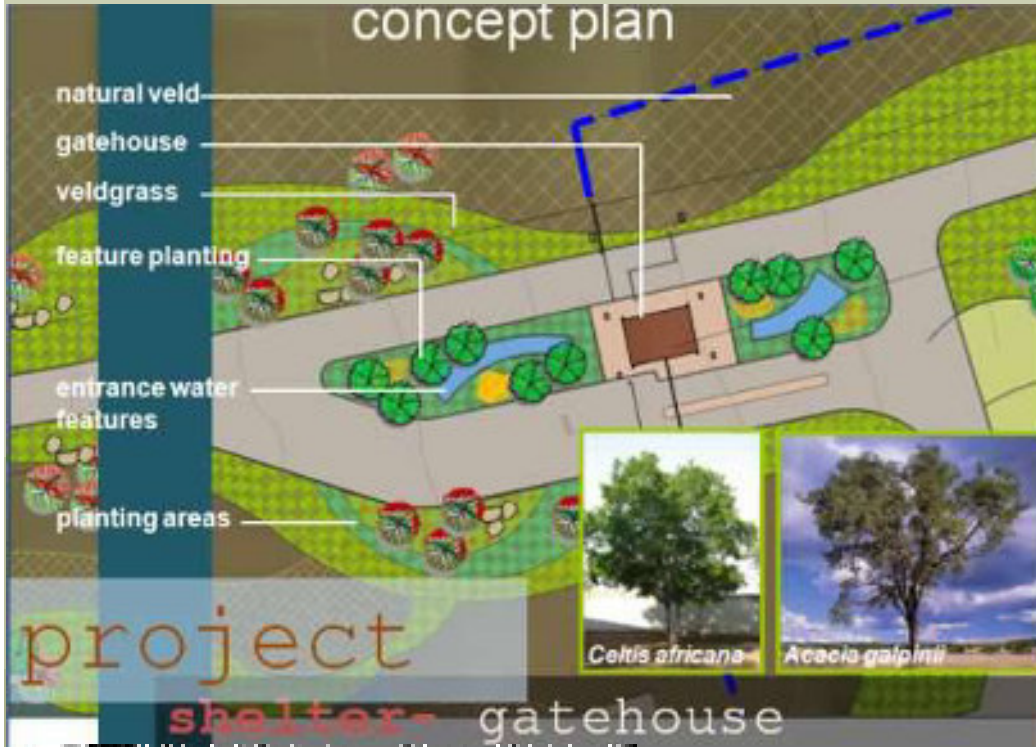
01 Valpre Bottling Plant, Heidelberg



05 Landscape Projects- Current

051 Commercial

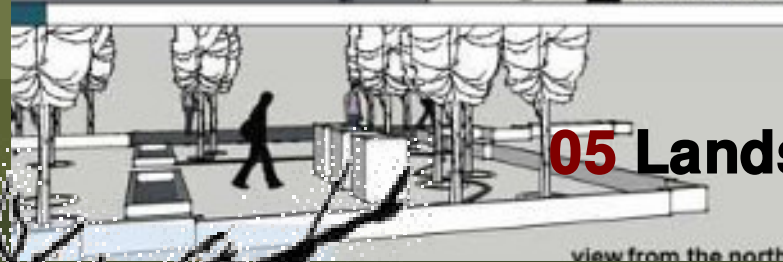
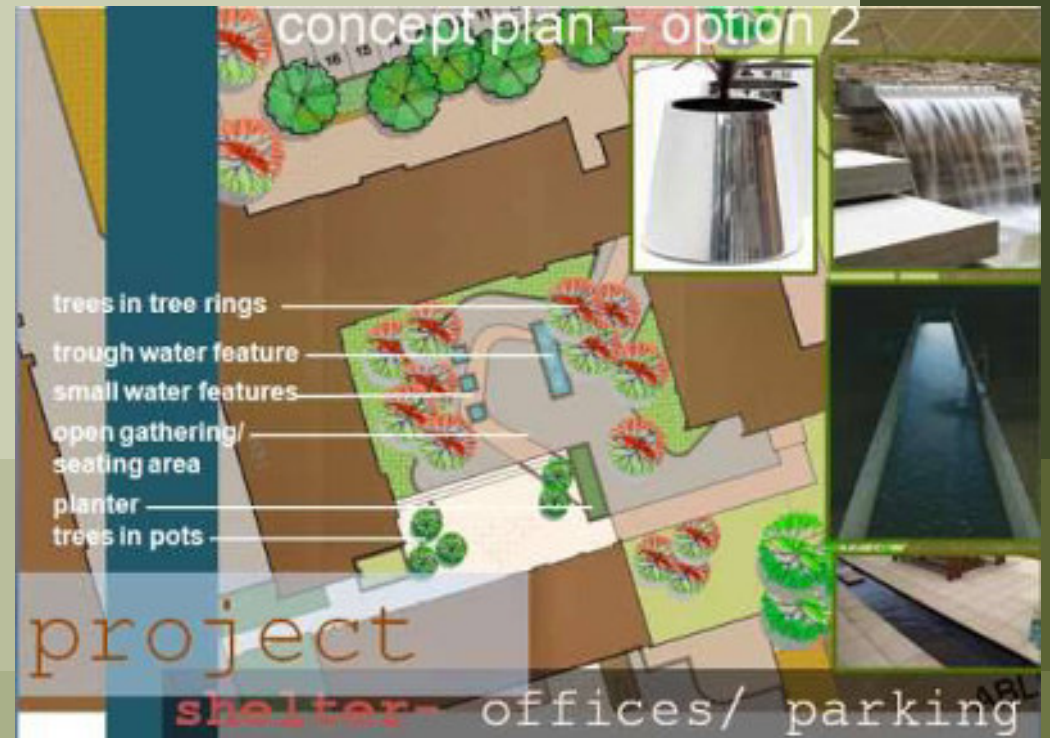
01 Valpre Bottling Plant, Heidelberg



05 Landscape Projects– Current

051 Commercial

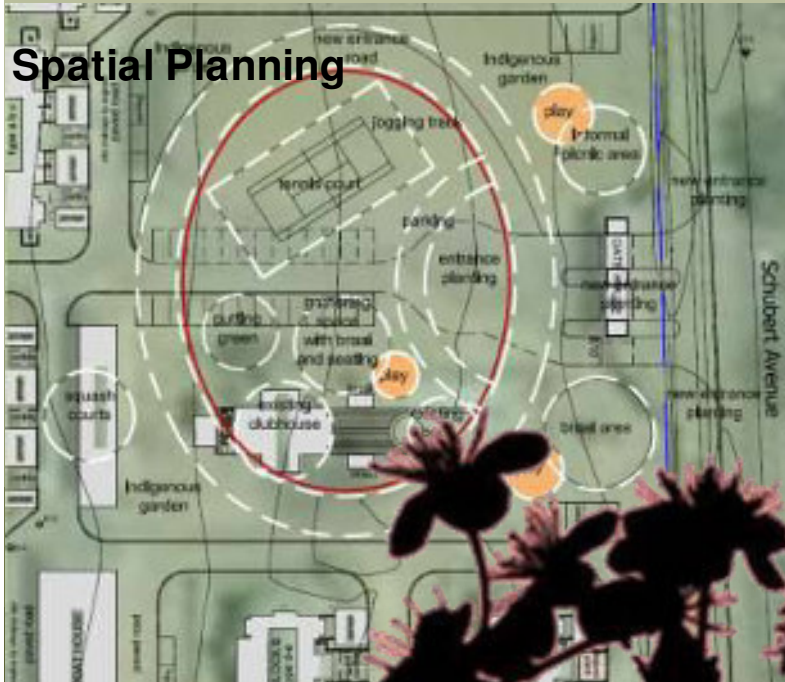
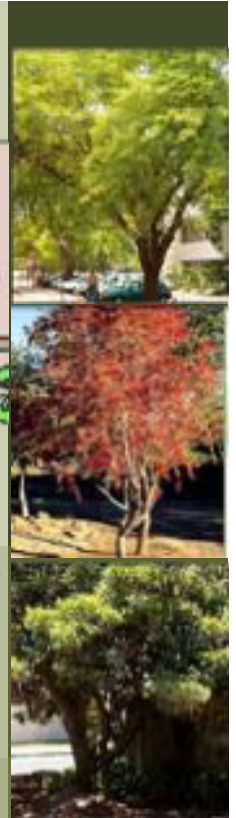
01 Valpre Bottling Plant, Heidelberg



05 Landscape Projects- Current

051 Commercial

02 Melodie Waters, Hartebeespoortedam



Streetscape

Indigenous Planting



05 Landscape Projects – Current

052 Commercial/Recreational



02 Melodie waters, Hartebeestpoortdam



Development Framework



Rehabilitation



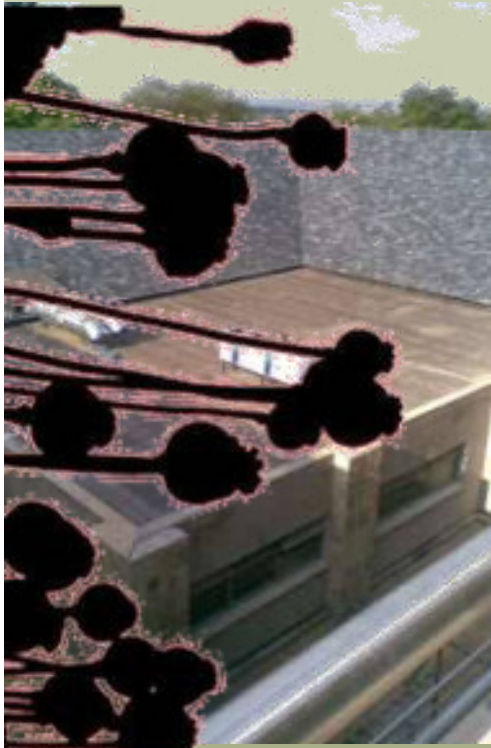
Area Layout



05 Landscape Projects– Current

052 Commercial/Recreational

03 Grain Building, Pretoria



05 Landscape Projects– Completed

053 Offices

04 Ismail Dawson offices, Pretoria

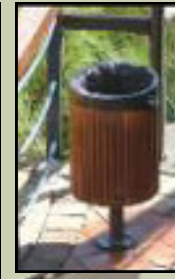


Bokamoso

05 Landscape Projects – Conceptual

053 Offices

05 Celtic Manor, Pretoria

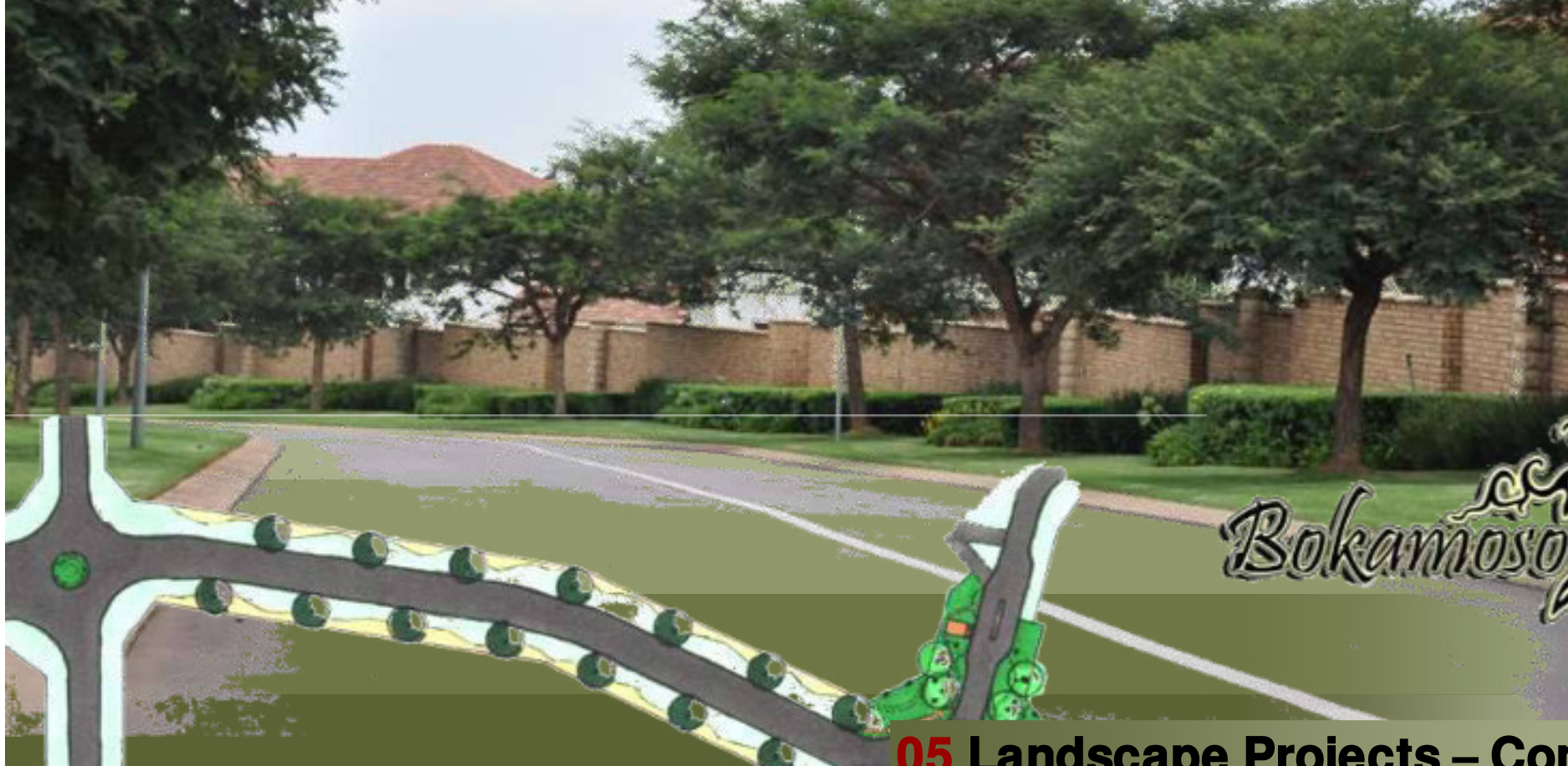


Bokamoso

05 Landscape Projects - Completed

054 Complex Development

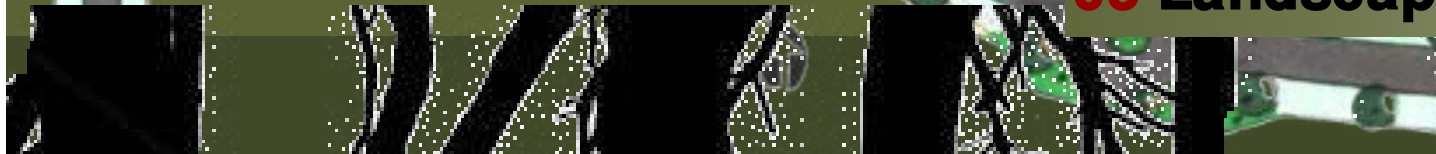
06 The Wilds, Pretoria



Bokamoso

05 Landscape Projects – Completed

054 Complex Development



07 The Wilds, Pretoria



05 Landscape Projects – Completed

055 Residential

08 The Wilds, Pretoria



Bokamoso

05 Landscape Projects – Completed

055 Residential

09 The Wilds, Pretoria



05 Landscape Projects – Completed

055 Residential

010 The Wilds, Pretoria



05 Landscape Projects – Completed

055 Residential

011 Governor of Reserve Bank's Residence, Pretoria



Plant Palette



Option 1



Option 2



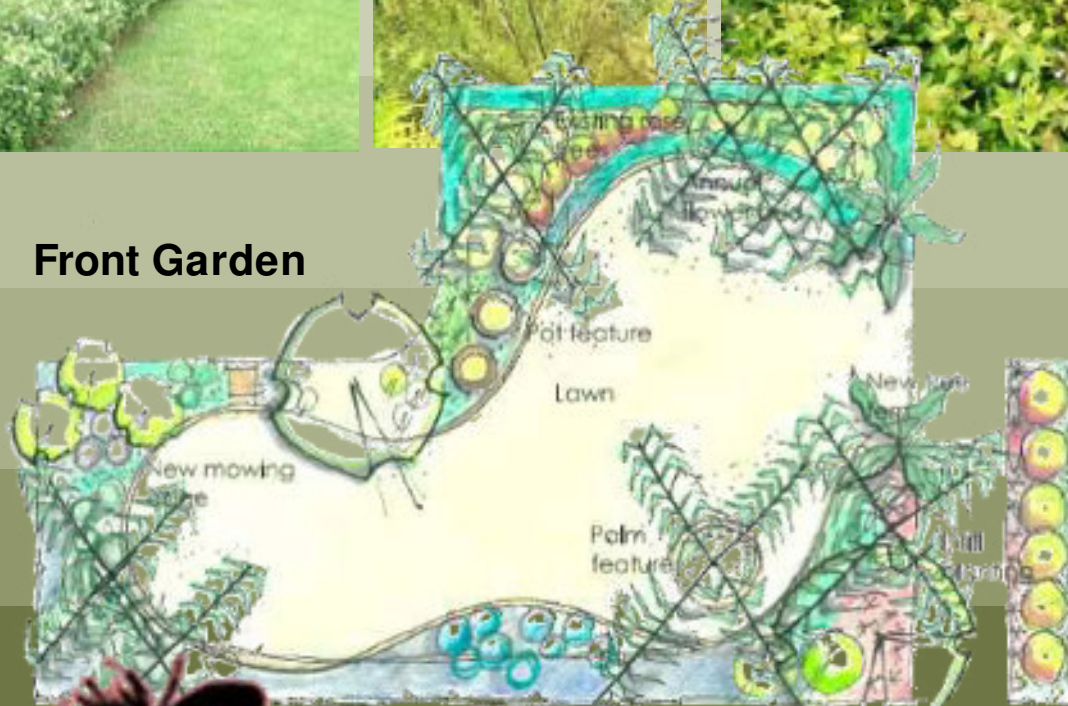
05 Landscape Projects – Conceptual

055 Residential

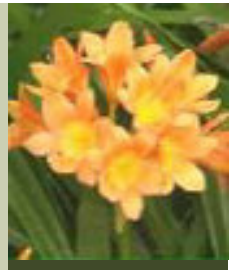
012 House Ismail, Pretoria



Front Garden



Back Garden



05 Landscape Projects - Conceptual

055 Residential



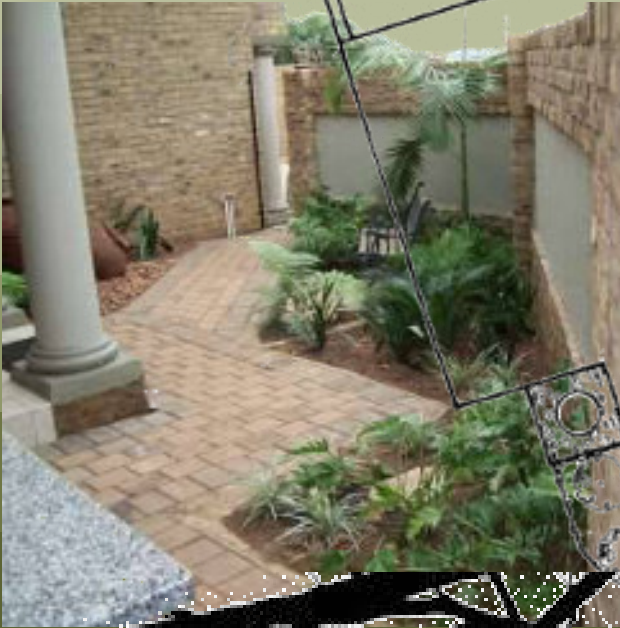
013 Forest Garden, Pretoria



05 Landscape Projects – Completed

055 Residential

015 Forest Garden, Pretoria

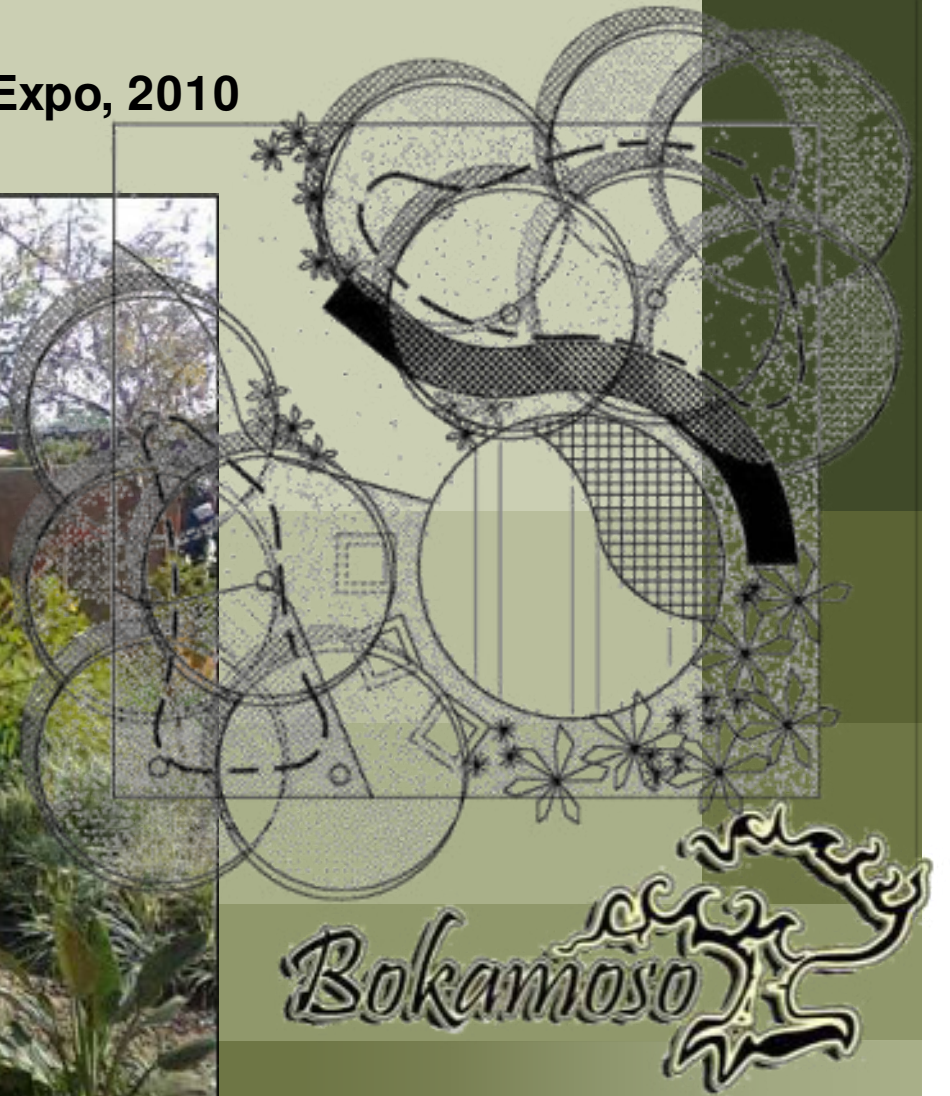


05 Landscape Projects - Completed

055 Residential

01 Safari Garden Expo

Received a Silver Certificate at the Safari Garden Expo, 2010



06 Corporate Highlights

061 Awards

02 UNISA Sunnyside Campus, Pretoria

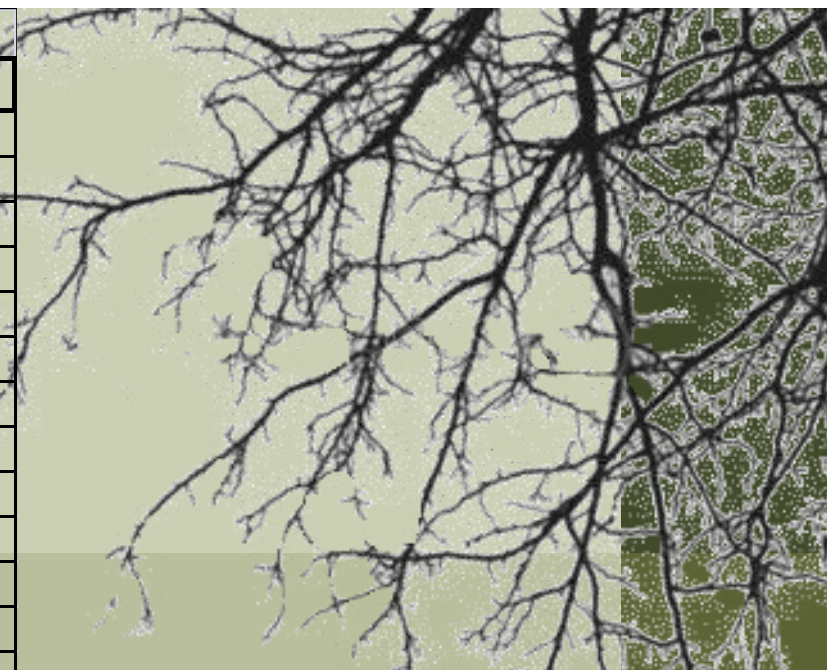
Best Commercial Paving Plan in Gauteng, 1997



06 Corporate Highlights

061 Awards

Project Name	Status	Project
Environmental Impact Assessment(EIA) and Scoping Report		
Junction 21	ROD	EIA
5 O'clock site access	In Progress	EIA
Bokamoso X 1	In Progress	Scoping & EIA
Doornvallei Phase 6 & 7	In Progress	EIA
Engen Interchange	In Progress	Scoping & EIA
Erasmia X15	In Progress	EIA
Franschkloof	In Progress	EIA
K113	Amendment of ROD	EIA
K220 East	ROD	EIA
K220 West	ROD	EIA
K54 ROD conditions	In Progress	EIA
Knopjeslaagte 95/Peachtree	ROD	EIA
Knopjeslaagte portion 20 & 21	ROD	EIA
Lillieslief/Nooitgedacht	In Progress	EIA
Mooiplaats 70 (Sutherland)	In Progress	EIA
Naauwpoort 1 - 12/Valley View	In Progress	EIA
PeachTree X5	In Progress	EIA
Strydfontein 60	In Progress	EIA
Thabe Motswere	In Progress	Scoping & EIA
Vlakplaats	In Progress	EIA
Waterval Valley	In Progress	EIA
Environmental Opinion		
Doornkloof 68 (Ross)	In Progress	Opinion
Monavoni X 53	In Progress	BA & Opinion
Mooikloof (USN)	In Progress	Opinion
Norwood Mall/Sandspruit	In Progress	Opinion
Riversong X 9	In Progress	Opinion
Sud Chemie	In Progress	Opinion
USN Benjoh Fishing Resort	In Progress	Opinion



The adjacent list host the status of our current projects. Only a selected amount of projects are displayed.



07 Current Environmental Projects

071 EIA, Scoping & Opinion

Project Name	Status	Project
Basic Assessment(BA)		
Annlin X 138	In Progress	BA
Clubview X 29	ROD	BA
Darrenwood Dam	In Progress	BA
Durley Holding 90 & 91	In Progress	BA
Elim	In Progress	BA
Fochville X 3	In Progress	BA
Hartebeeshoek 251	In Progress	BA
Klerksdorp (Matlosana Mall)	In Progress	BA
Monavoni External Services	ROD	BA
Monavoni X 45	Amendment of ROD	BA
Montana X 146	In Progress	BA
Rooihuiskraal X29	In Progress	BA
Thorntree Mall	In Progress	BA

Environmental control officer (ECO)		
Grace Point Church	In Progress	ECO
R 81	In Progress	ECO
Highveld X 61	In Progress	ECO
Mall of the North	In Progress	ECO
Olievenhoutbosch Road	In Progress	ECO
Orchards 39	In Progress	ECO
Pierre van Ryneveld Reservoir	In Progress	ECO
Project Shelter	In Progress	ECO

S24 G		
Wonderboom	In Progress	S24 G
Mogwasi Guest houses	Completed	S24 G



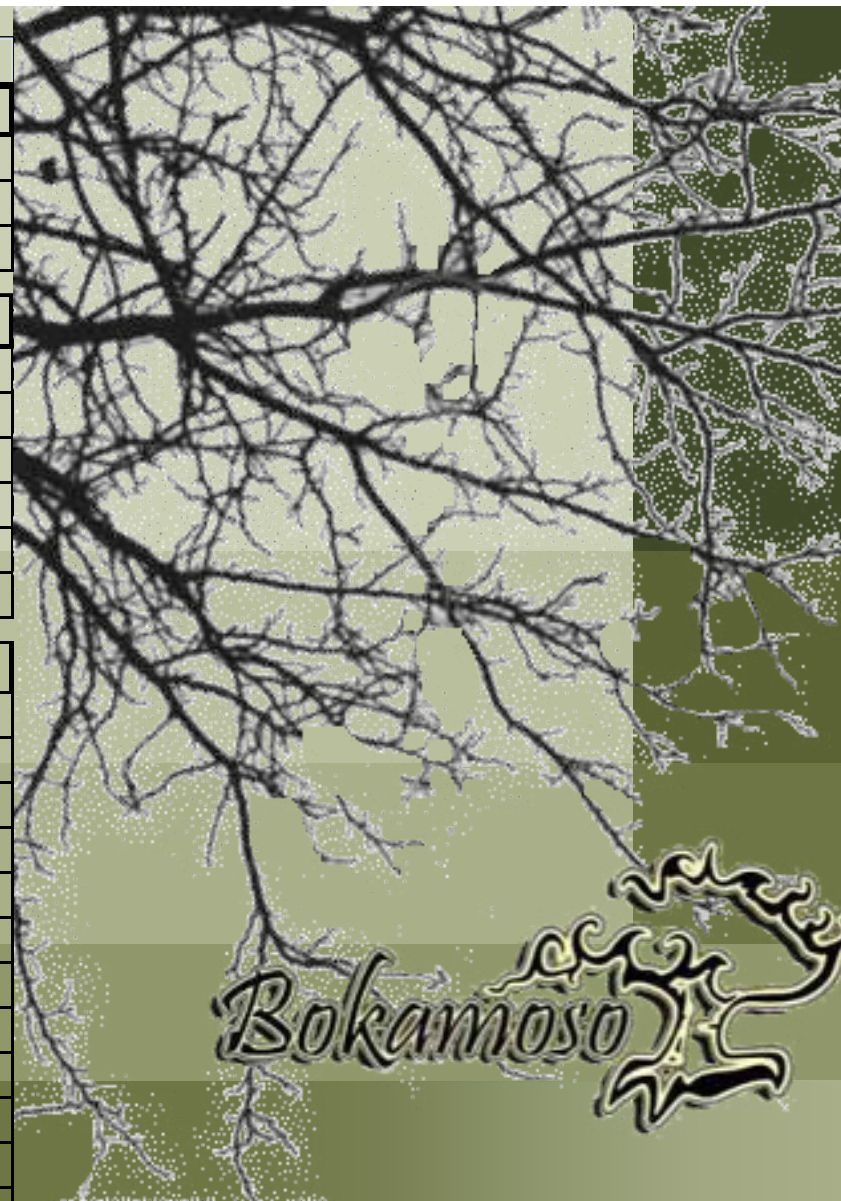
07 Current Environmental Projects

072 BA, ECO & S24 G

Project Name	Status	Project
Objection		
Colesberg WWTW	In Progress	Objection
Nigel Steelmill	Completed	Objection
Chantilly Waters	Completed	Objection

Development facilitation Act- Input (DFA)		
Burgersfort	In Progress	DFA & BA
Doornpoort Filling Station	In Progress	DFA & EIA & Scoping
Eastwood Junction	In Progress	DFA
Ingersol Road (Erf 78, 81 - 83)	In Progress	DFA
Roos Senekal	In Progress	DFA & EIA & Scoping
Thaba Meetse 1	In Progress	DFA & EIA & Scoping

Water Use License Act (WULA)		
Britstown Bulk Water Supply	In Progress	WULA
Celery Road / Green Channel	In Progress	WULA
Clayville X 46	In Progress	WULA
Dindingwe Lodge	In Progress	WULA
Doornpoort Filling Station	In Progress	WULA+DFA+EIA+SC
Eco Park Dam	In Progress	WULA
Groote Drift Potch	In Progress	WULA
Jozini Shopping Centre	In Progress	WULA+BA
K60	Completed	WULA
Maloto Roads	In Progress	WULA
Kwazele Sewage Works	In Progress	WULA
Monavoni External Services	In Progress	WULA+BA
Nyathi Eco Estate	In Progress	WULA
Prairie Giants X 3	In Progress	WULA
Waveside Water Bottling Plant	Completed	WULA



07 Current Environmental Projects

073 Objection, DFA & WULA

Project Name	Status	Project
Environmental Management Plan(EMP)		
Heidelberg X 12	ROD	EMP
Monavoni Shopping Centre	Completed	EMP
Forest Hill Development	Completed	EMP
Weltevreden Farm 105KQ	Completed	EMP+EIA
Raslouw Holding 93	Completed	EMP+BA
Durley Development	Completed	EMP+BA
Rooihuiskraal North X 28	Completed	EMP

Rehabilitation Plan		
Norwood Mall/Sandspruit	In Progress	Rehabilitation
Project Shelter Heidelberg	In Progress	Rehabilitation
Sagewood Attenuation Pond	ROD	Rehabilitation
Velmore Hotel	Completed	Rehabilitation
Grace Point Church	Completed	Rehabilitation
Mmamelodi Pipeline	Completed	Rehabilitation

Visual Impact Assessment		
Swatzkop Industrial Developme	Completed	Assessment +DFA
Erasmia	Completed	Assessment

Signage Application		
Menlyn Advertising	Completed	Signage
The Villa Mall	Completed	Signage+EMP+BA



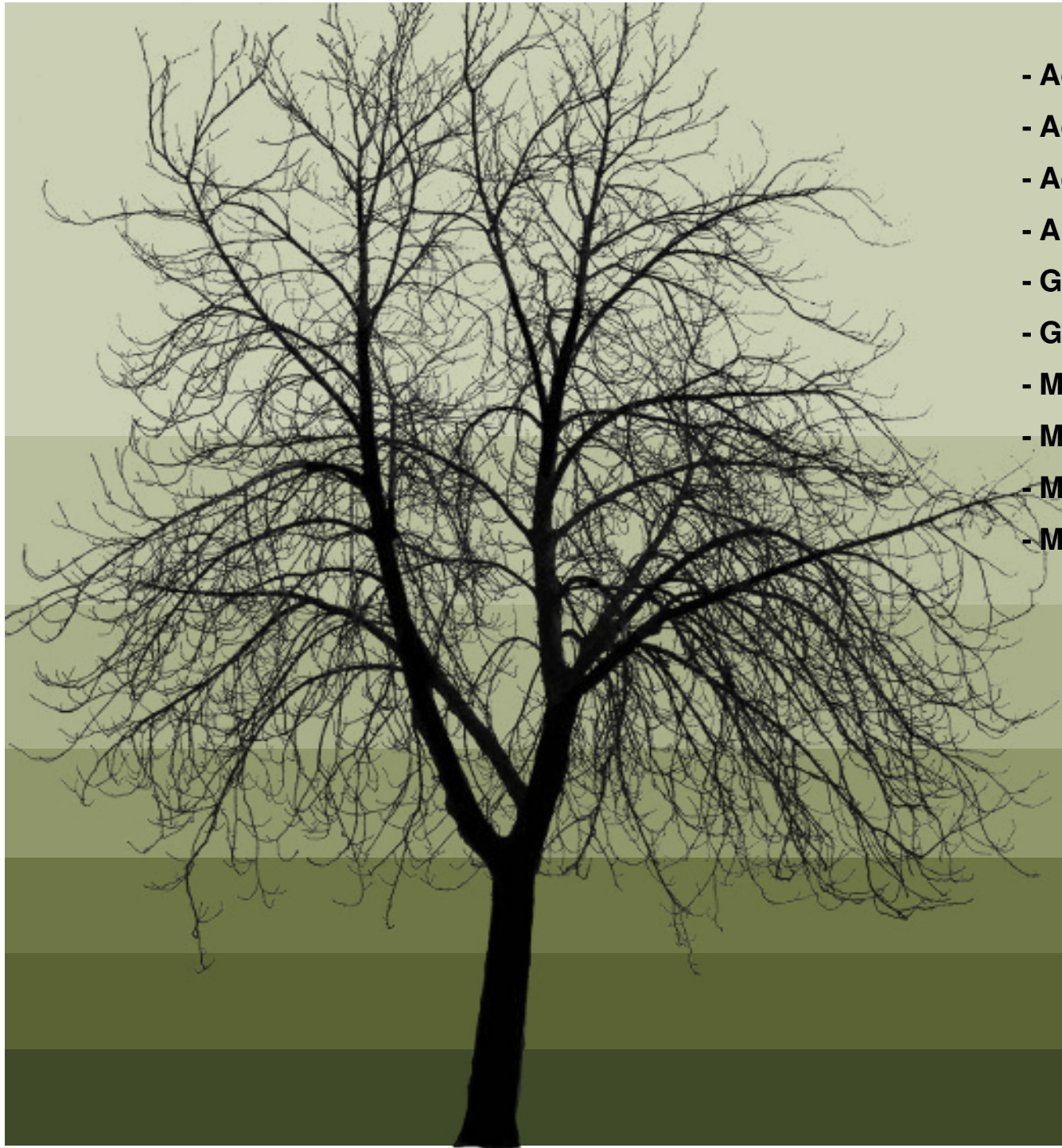
07 Current Environmental Projects

074 EMP, Rehabilitation , Waste Management & Signage Application

- Billion Property Group
- Cavaleros Developments
- Centro Developers
- Chaimberlains
- Chieftain
- Century Property Group
- Coca Cola
- Elmado Property Development
- Flanagan & Gerard
- Gautrans
- Hartland Property Group
- Moolman Group
- MTN
- M&T Development
- Old Mutual
- Property Investment Company
- Petroland Developments
- RSD Construction
- SAND
- Stephan Parsons
- Twin City Developments
- Urban Construction
- USN



08 Indicative Clients



- Adobe Illustrator CS3
- Adobe Photoshop CS3
- Adobe InDesign CS3
- AutoCAD
- Google SketchUP
- GIS
- Microsoft Office Word
- Microsoft Office Excel
- Microsoft Office Publisher
- Microsoft Office Power Point



ANNEXURE D

SPECIALIST REPORTS

ANNEXURE D1a
TOWNPLANNING
MEMORANDUM AND
ANNEXURES

**APPLICATION FOR
TOWNSHIP ESTABLISHMENT:**

LEE UWPOORT SOUTH

**SITUATED ON
A PART OF THE REMAINING EXTENT OF THE
FARM LEE UWPOORT NO 113 IR**

**IN TERMS OF SECTION 108 OF THE TOWN
PLANNING AND TOWNSHIPS ORDINANCE, 1986
(ORDINANCE 15 OF 1986) AS READ WITH THE
SPATIAL PLANNING AND LAND USE
MANAGEMENT ACT, 2013 (ACT 16 OF 2013)**

MARCH 2016

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Annexure L:	Geotechnical Investigation



1. INTRODUCTION

This report seeks to motivate the proposed township establishment of Leeuwpoot South as a Residential township on behalf of the Ekurhuleni Metropolitan Municipality for the development of approximately 13269 residential units and erven and supportive land uses which ranges from subsidised, flisp, affordable to luxury fully bonded units.

The report sets out the rights that are applied for and explains the layout concept on the site. The property is briefly discussed in terms of locality, description, land use, topography, legal issues, environmental issues and engineering services.

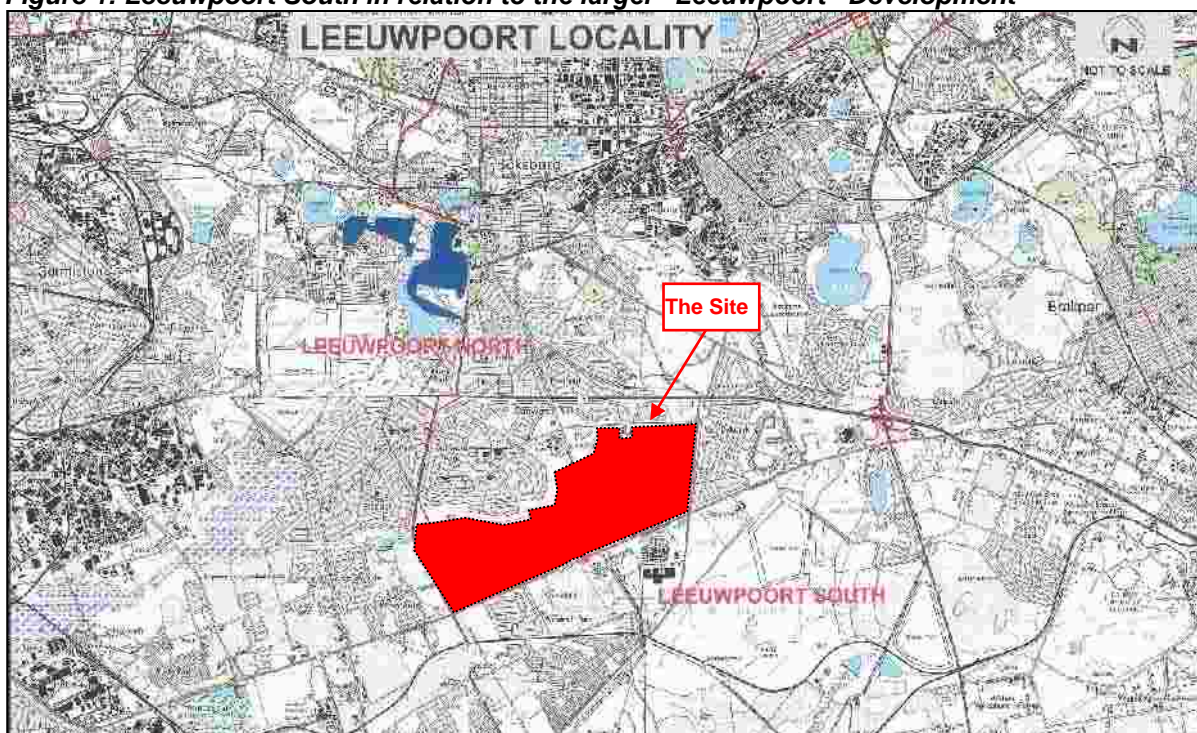
A motivation for the proposed township establishment is provided in terms of need and desirability and includes discussions on local policy frameworks and the Spatial Planning and Land Use Management Act.

2. BACKGROUND

The Farm Leeuwpoot No 113 IR can be linked to earliest mining history in the Boksburg area. Gold was found on the farm in 1886 and Leeuwpoot was proclaimed a public digging site in 1887. Mining operations on the site has since ceased and the land was acquired by the Ekurhuleni Metropolitan Municipality. The Ekurhuleni Metropolitan Municipality earmarked the land for development at various densities and for various levels of affordability to be a mixed use and mixed income development in line with the principles of “Breaking New Ground”, the national Development Plan and Ekurhuleni’s Spatial Development Framework.

Thus the land parcel (Remaining Extent of the Farm Leeuwpoot No. 113 IR) is earmarked for the development of a mixed income development. This township (Leeuwpoot South) forms part of the larger “Leeuwpoot” development which will comprise a total of approximately 13269 residential units and erven on the former mining land.

Figure 1: Leeuwpoot South in relation to the larger “Leeuwpoot” Development





3. THE APPLICATION

Application is hereby made for the establishment of a township consisting of:

- 170 erven zoned “Residential 1” (700m² bonded stands);
- 190 erven zoned “Residential 1” (500m² bonded stands);
- 1732 erven zoned “Residential 1” (400m² bonded stands);
- 1988 erven zoned “Residential 1” (300m² Flisp stands);
- 1514 erven zoned “Residential 3” (220m² Flisp stands / 46u/ha);
- 1743 erven zoned “Residential 3” (200m² Subsidised stands / 50u/ha);
- 21 erven zoned “Residential 4” (Subsidised units / 120u/ha);
- 21 erven zoned “Residential 4” (Flisp units / 160u/ha);
- 5 erven zoned “Residential 4” (Bonded units / 180u/ha);
- 10 erven zoned “Business 2” (shops and restaurants);
- 5 erven zoned “Business 3 (offices)”;
- 1 erf zoned “Special” for a clinic;
- 1 erf zoned “Special” for a retirement village;
- 2 erven zoned “Special” for Agriculture and uses with consent (land undevelopable);
- 11 erven zoned “Special” for security gate houses;
- 1 erf zoned “Public Services” for an electrical substation;
- 5 erven zoned “Community Facility” for community facilities;
- 5 erven zoned “Community Facility” for Primary schools;
- 3 erven zoned “Community Facility” for Secondary schools;
- 7 erven zoned “Transportation” for railway line, station and taxi facilities;
- 96 erven zoned “Public Open Space”; and
- Streets

in terms of the Ekurhuleni Town Planning Scheme, 2014, which township is to be registered as Leeupoort South (or an extension of Sunward Park) on a part of the Remaining Extent of the Farm Leeupoort No. 113 IR, in terms of Section 108 of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986) as read with the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013).

It is proposed that the following development controls be applicable on the development area in accordance with the Ekurhuleni Town Planning Scheme, 2014:

Table 1: The Proposed Zoning for “Residential 1” erven (700m² bonded erven)

ERVEN	
ZONING (COLUMN 2)	Use Zone 1: Residential 1
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	As per Scheme (60%)
FAR	Not applicable
DENSITY	1 dwelling unit per erf
HEIGHT	As per Scheme (2 storeys)
BUILDING LINES	16 m along Provincial Road Street Boundary: 2 metres Other Boundaries: As per Scheme 1 metre on 2 sides
PARKING	Sufficient parking space for the parking of one vehicle



Table 2: The Proposed Zoning for “Residential 1” erven (500m² bonded erven)

ERVEN	
ZONING (COLUMN 2)	Use Zone 1: Residential 1
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	As per Scheme (60%)
FAR	Not applicable
DENSITY	1 dwelling unit per erf
HEIGHT	As per Scheme (2 storeys)
BUILDING LINES	Street Boundary: 2 metres Other Boundaries: As per Scheme 1 metre on 2 sides
PARKING	Sufficient parking space for the parking of one vehicle

Table 3: The Proposed Zoning for “Residential 1” erven (400m² bonded erven)

ERVEN	
ZONING (COLUMN 2)	Use Zone 1: Residential 1
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	As per Scheme (60%)
FAR	Not applicable
DENSITY	1 dwelling unit per erf
HEIGHT	As per Scheme (2 storeys)
BUILDING LINES	Street Boundary: 2 metres Other Boundaries: As per Scheme 1 metre on 2 sides
PARKING	Sufficient parking space for the parking of one vehicle

Table 4: The Proposed Zoning for “Residential 1” erven (300m² flisp erven)

ERVEN	
ZONING (COLUMN 2)	Use Zone 1: Residential 1
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	As per Scheme (60%)
FAR	Not applicable
DENSITY	1 dwelling unit per erf
HEIGHT	As per Scheme (2 storeys)
BUILDING LINES	Street Boundary: 2 metres Other Boundaries: As per Scheme 1 metre on 2 sides
PARKING	Sufficient parking space for the parking of one vehicle



Table 5: The Proposed Zoning for “Residential 3” erven (220m² flisp erven)

ERVEN 1.....	
ZONING (COLUMN 2)	Use Zone 3: Residential 3
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	As per Scheme (60%)
FAR	Not applicable
DENSITY	46 dwelling units per hectare
HEIGHT	As per Scheme (2 storeys)
BUILDING LINES	16 m along Provincial Roads Street Boundary: 2 metres Other Boundaries: As per Scheme 1 metre on 2 sides
PARKING	Sufficient parking space for the parking of one vehicle

Table 6: The Proposed Zoning for “Residential 3” erven (200m² subsidised erven)

ERVEN	
ZONING (COLUMN 2)	Use Zone 3: Residential 3
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	As per Scheme (60%)
FAR	Not applicable
DENSITY	50 dwelling units per hectare
HEIGHT	As per Scheme (2 storeys)
BUILDING LINES	16 m along Provincial Road Street Boundary: 2 metres Other Boundaries: As per Scheme 1 metre on 2 sides
PARKING	Sufficient parking space for the parking of one vehicle

Table 7: The proposed Zoning for “Residential 4” erven (Subsidy walkup units 120u/ha)

ERVEN	
ZONING (COLUMN 2)	Use Zone 4: Residential 4
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	60%
FAR	Not applicable
DENSITY	120 dwelling units per hectare
HEIGHT	As per Scheme (3 storeys)
BUILDING LINES	16 m along Provincial Roads Street Boundary: 2 metre Other Boundaries: 2 metre on all sides
PARKING	0,5 parking spaces per dwelling unit



Table 8: The proposed Zoning for “Residential 4” erven (FLISP walkup units 160u/ha)

ERVEN	
ZONING (COLUMN 2)	Use Zone 4: Residential 4
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	60%
FAR	Not applicable
DENSITY	160 dwelling units per hectare
HEIGHT	As per Scheme (4 storeys)
BUILDING LINES	16 m along Provincial Roads Street Boundary: 2 metre Other Boundaries: 2 metre on all sides
PARKING	0,5 parking spaces per dwelling unit

Table 9: The proposed Zoning for “Residential 4” erven (Bonded walkup units 180u/ha)

ERVEN 1.....	
ZONING (COLUMN 2)	Use Zone 4: Residential 4
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	60%
FAR	Not applicable
DENSITY	180 dwelling units per hectare
HEIGHT	As per Scheme (4 storeys)
BUILDING LINES	16 m along Provincial Roads Street Boundary: 2 metre Other Boundaries: 2 metre on all sides
PARKING	0,6 parking spaces per dwelling unit

Table 10: The proposed Zoning for “Business 2” erven

ERF	
ZONING (COLUMN 2)	Use Zone 6: Business 2
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	60%
FAR	0,6
DENSITY	Not applicable
HEIGHT	3 storeys
BUILDING LINES	16 m along Provincial Roads Street Boundary: 5 metre Other Boundaries: 5 metre on all sides
PARKING	As per Scheme

**Table 11: The proposed Zoning for “Business 3” erven**

ERF	
ZONING (COLUMN 2)	Use Zone 7: Business 3
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	60%
FAR	0,7
DENSITY	Not applicable
HEIGHT	3 storeys
BUILDING LINES	16 m along Provincial Roads Street Boundary: 5 metre Other Boundaries: 5 metre on all sides
PARKING	As per Scheme

Table 12: The proposed Zoning for “Special” for a Clinic

ERF	
ZONING (COLUMN 2)	Use Zone 22: Special
PRIMARY RIGHTS (COLUMN 3)	Clinic, Hospital
SPECIAL CONSENT (COLUMN 4)	Any other use
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	60%
FAR	0,8
DENSITY	Not applicable
HEIGHT	3 storeys
BUILDING LINES	16 m along Provincial Road Street Boundary: 3 metre Other Boundaries: 3 metre on all sides
PARKING	As per Scheme

Table 13: The proposed Zoning for “Special” for a Retirement Village

ERF	
ZONING (COLUMN 2)	Use Zone 22: Special
PRIMARY RIGHTS (COLUMN 3)	Retirement Village, frail care facility
SPECIAL CONSENT (COLUMN 4)	Any other use
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	60%
FAR	Not applicable
DENSITY	Not applicable
HEIGHT	2 storeys
BUILDING LINES	16 m along Provincial Roads Street Boundary: 3 metre Other Boundaries: 3 metre on all sides
PARKING	As per Scheme



Table 14: The proposed Zoning for “Special” for a Gate Houses

ERF	
ZONING (COLUMN 2)	Use Zone 22: Special
PRIMARY RIGHTS (COLUMN 3)	Gate House, Access Control, Access
SPECIAL CONSENT (COLUMN 4)	Any other use
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	100%
FAR	Not applicable
DENSITY	Not applicable
HEIGHT	2 storeys
BUILDING LINES	Street Boundary: 0 metre Other Boundaries: 0 metre on all sides
PARKING	As per Scheme

Table 15: The proposed Zoning for “Special” for a Agriculture and uses by consent

ERF	
ZONING (COLUMN 2)	Use Zone 22: Special
PRIMARY RIGHTS (COLUMN 3)	Agriculture and uses by consent
SPECIAL CONSENT (COLUMN 4)	Any other use
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	10%
FAR	Not applicable
DENSITY	Not applicable
HEIGHT	2 storeys
BUILDING LINES	Street Boundary: 10 metre Other Boundaries: 10 metre on all sides
PARKING	As per Scheme

Table 16: The proposed Zoning for “Public Services”

ERVEN	
ZONING (COLUMN 2)	Use Zone 18: Public Services
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	As per Scheme
FAR	As per Scheme
DENSITY	As per Scheme
HEIGHT	As per Scheme
BUILDING LINES	Street Boundary: As per Scheme (0 metre) Other Boundaries: As per Scheme (0 metre on all sides)
PARKING	As per Scheme

**Table 17: The proposed Zoning for “Community Facility” erven**

ERVEN	
ZONING (COLUMN 2)	Use Zone 16: Community Facility
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	As per Scheme (50%)
FAR	Not applicable
DENSITY	Not applicable
HEIGHT	As per Scheme (3 storeys)
BUILDING LINES	16 m along Provincial Roads Street Boundary: 2 metre Other Boundaries: 2 metre
PARKING	As per Scheme

Table 18: The proposed Zoning for “Transportation” erven

ERVEN	
ZONING (COLUMN 2)	Use Zone 21: Transportation
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	As per Site Development Plan
FAR	Not applicable
DENSITY	Not applicable
HEIGHT	As per Site Development Plan
BUILDING LINES	Street Boundary: As per Scheme (0 metre) Other Boundaries: 0 metre
PARKING	As per Site Development Plan

Table 19: The proposed Zoning for “Public Open Space” erven

ERVEN 527-541	
ZONING (COLUMN 2)	Use Zone 15: Public Open Space
PRIMARY RIGHTS (COLUMN 3)	As per Scheme
SPECIAL CONSENT (COLUMN 4)	As per Scheme
WRITTEN CONSENT (COLUMN 5)	As per Scheme
COVERAGE	As per Scheme
FAR	As per Scheme
DENSITY	As per Scheme
HEIGHT	As per Scheme
BUILDING LINES	As per Scheme
PARKING	As per Scheme

Attached hereto as **Annexure D** find a copy of the **Annexures** to the **Ekurhuleni Town Planning Scheme, 2014**.

3.1 The Layout Plan

Refer to a copy of the proposed **Township Layout Plan** for Leeuwpoot South, attached as **Annexure C**.



3.1.1 Influencing Factors

There are a number of influencing factors that determined the overall layout configuration and structure of the development.

These factors relate to:

- The site is affected by various Provincial Routes: The K131 Rondebult, Road (western boundary), K132 North Boundary Road (southern boundary), K155 Barry Marais Road (eastern boundary), proposed K165 (bisecting the site) and proposed PWV15 (along the eastern boundary of the site and parallel to Barry Marais Road). This also limits access to the site. There are a total of 7 access points from these provincial roads.
- A proposed future railway line linking Voelfontein in the south with Kutalo station in Germiston runs through the centre of the site. A railway station is proposed where the railway line crosses the site and a small node is created around the station.
- Various powerline servitudes cross the site which were accommodated in open space.
- There are there pans in the eastern half of the site which were accommodated in parks.
- There is dolomitic conditions which affects the southwestern section of the site and makes part of the site (13ha) undevelopable.
- Various sewer servitudes cross the site and were accommodated in the layout plan.
- A wetland separates the western part of the site from Sunward Park in the north. Only one road is proposed to cross the wetland and a limited number of stands are provided to the north of the wetland.
- Two borrow pits borders North Boundary Road, one was accommodated in a school site (for a sportsfield) and one was accommodated as open space.

3.1.2 Design Rational

The development motivated in this memorandum is initiated taking into account the existing policy guidelines and legal frameworks. The proposed development conforms to the following principles:

- **Urban Integration and Infill**

The project site represents a strategic infill site. This development will serve to enhance the integration of the fragmented urban development between the existing Sunward Park to the north and Windmill Park to the south. The development will provide new affordable housing in close proximity to the Boksburg CBD through the development of currently under-utilised land. The development is situated along Rondebult Road which forms part of phase 1 of the BRT.

- **Coherent Planning**

The effective and coherent planning of sub-regions has always been disrupted by the presence of pockets of development which is cut off from each other by means of major infrastructure or physical elements. The proposed development which is an affordable housing development would start to integrate the various development pockets into a coherent whole by link roads and by filling in the vacant land. The surrounding roads as well as proposed Provincial Roads are accommodated and continued in the layout plan and will provide access to this development and surrounding townships. The development is therefore imperative in firstly integrating pockets of development and secondly making use of existing bulk infrastructure and services. The layout planning makes the necessary linkages to integrate the sub-area.

- **Establishment of a Sustainable Living Environment**

The developer will strive to establish a sustainable living environment for the inhabitants of Leeuwpoot South by providing local social supportive facilities. The development forms part



of a larger development area with supportive land uses such as a Primary Schools, Secondary Schools, Community Facilities, a clinic, retirement village, shops and parks.

- **Economic Upliftment**

A project like this will create positive spin-offs in terms of job creation for at least the construction period of the project. This economic opportunity must also be structured in such a way that it can establish long-term sustainable economic growth both in terms of skilled and unskilled labour and further in terms of the establishment of permanent business and economic growth opportunities in the area. The proposed development is situated close to the Boksburg CBD and close to various business and industrial nodes providing the area with access to places of employment. It is also situated along phase 1 of the BRT which will ensure that residents have access to public transport.

- **Focused Public Investment**

The Gauteng Spatial Development Framework (GSDF) limits development to areas located within a provincial urban edge. This development area falls within this urban edge and is considered a strategic infill opportunity to focus public investment in an accountable and suitable manner. The site is situated adjacent to existing developments and falls within an area identified for infill residential densification in the MSDF for Ekurhuleni.

- **Optimisation of Bulk Infrastructure**

The project will enhance infrastructure utilisation and it will contribute to speeding up construction of the proposed provincial road infrastructure such as the K165. Leeuwpoot South is located adjacent to established townships, which means that the site is bordered by bulk services.

- **Environmental Sustainability**

The identified development area has certain environmental qualities and the proposed planning framework recognises these qualities and accommodates all these areas of environmental sensitivity in Public Open Space i.e. the Wetland and pans. Through sensitive planning, the identified natural features were accommodated into public open space to the benefit of the community. After all physical factors and practical considerations were taken into account the layout plan for Leeuwpoot South was drafted to accommodate the natural features.

3.1.3 Proposed Road Structure

Leeuwpoot South has been planned to take into consideration the existing and planned Provincial and Municipal road infrastructure, continuing existing roads where necessary.

- **Provincial Roads**

The K131 Rondebult Road (western boundary), K132 North Boundary Road (southern boundary), K155 Barry Marais Road (eastern boundary), proposed K165 (bisecting the site) and proposed PWV15 (along the eastern boundary of the site and parallel to Barry Marais Road) affects the site.

The development will gain access from the K131 Rondebult Road, K132 North Boundary Road and proposed K165 (bisecting the site).

The current Trichardts Road alignment will be accommodated where practical, but will largely be realigned to accommodate the K165.

- **Internal Roads**

The internal street hierarchy for the development can be classified into 3 classes:

- Class 3 arterial roads 20, 25 and 30m road reserves providing access to the Provincial Roads.



- Class 4 access roads - bus/taxi routes in 16m reserves.
- Class 5b residential access streets in 10,5m street reserves.

Community and social facilities are located at the intersections of the main arterials with other arterials (possible public transport routes) to facilitate ease of access for the community who will be using the facilities. Public Transport Facilities are located along the 25m access roads into the development. Class 4 access roads (16m road reserve) have been provided as access roads into the various development blocks and in some cases forms possible bus routes.

10,5m reserves were provided to allow access to the individual stands.

3.1.4 Residential Component

The development provide bonded, FLISP and subsidised stands and units in Leeuwpoot South at a level that is affordable for people in the “gap market”. The development will cater for bonded housing for middle income groups, lower earning income group and subsidised market making it a fully integrated development in line with the BNG principles, principles of the National Development Plan and principles of the Spatial Planning and Land Use Management Act.

A total of 7337 single residential erven and 5932 residential units will be provided and are made up of the following components:

- 170 erven zoned “Residential 1” (700m² bonded stands);
- 190 erven zoned “Residential 1” (500m² bonded stands);
- 1732 erven zoned “Residential 1” (400m² bonded stands);
- 1988 erven zoned “Residential 1” (300m² Flisp stands);
- 1514 erven zoned “Residential 3” (220m² Flisp stands / 46u/ha);
- 1743 erven zoned “Residential 3” (200m² Subsidised stands / 50u/ha);
- 21 erven zoned “Residential 4” (Subsidised units / 120u/ha);
- 21 erven zoned “Residential 4” (Flisp units / 160u/ha);
- 5 erven zoned “Residential 4” (Bonded units / 180u/ha);

In order to comply with the integrated planning approach and accommodate different types of income levels, the proposed layout plan makes provision for various types of residential homes/units at varying densities as can be seen above.

3.1.5 Supportive Land Uses

With the layout plan we are trying to create a sustainable residential environment satisfying the housing and other social needs of the target community. The layout plan for Leeuwpoot South, makes provision for a total of 7337 single residential erven and 5932 residential units. These residential erven comprise stands at different densities. The layout plans for Leeuwpoot South makes provision for 5 erven zoned “Community Facility” (any community facilities such asb libraries, clinics etc), 5 erven zoned “Community Facility” for Primary Schools, 3 erven zoned “Community Facility” for Secondary Schools, 10 erven zoned “Business 2” (for shops, restaurants etc at local shopping centres), 5 erven zoned “Business 3” for offices, 1 erf zoned “Special” for a clinic, 1 erf zoned “Special” for a retirement village, 2 erven zoned “Special” for Agriculture and any other consent uses (land undevelopable due to dolomite), 11 erven zoned “Special” for a gate houses, 1 erf zoned “Public Services” for an electrical substation, 7 erven zoned “Transportation” (taxi stops, station, railway line) and 96 erven zoned “Public Open Space”. Care was taken to ensure that all supportive land uses (over the larger area) are accessible through those roads planned for public transportation and overall accessibility.



- **Business**

The layout provides for 10 stands zoned “Business 2” for shops, restaurants etc to provide local shopping facilities for the community living in Leeuwpoot South. 3 stands were zoned “Business 3” for local offices.

- **Community Facilities**

The layout provides for 5 community facilities which could be used as churches, crèches, multi-purpose centres or any other community use depending on the need in the community. 3 Secondary Schools and 5 Primary Schools have also been provided for use by the future residents. There are also two stands zoned “Special”, one for a clinic and another for a retirement village

- **Transportation**

The layout provides for 1 stand zoned Transportation which will accommodate public transport facilities such as a taxi or bus stop. This is located in the centre of the development at an entrance from the K165 and close to the proposed station where it is easily accessible from the surrounding Provincial Road network and from the nodal development around the station. The placement of the public transport facility was done with visibility and legibility in mind.

- **Public Open Space**

Large pockets of land zoned Public Open Space were provided to accommodate the areas which are affected by the most important wetlands and pans. Some parks also accommodate services and powerlines but form an important part of the layout as they link the various pockets of open space to each other. Along the K110 there is also a park which will accommodate a powerline. Smaller internal parks were provided for the use of residents in each “development pocket”.

4. GENERAL INFORMATION

4.1 Locality

4.1.1 Regional locality

On a regional scale the proposed development is situated approximately 6,5km south of the Boksburg CBD, 3km south of the Boksburg Industrial area, 8,7km northeast of the Barry Marais off-ramp on the N3, 5km east of the Roodekop Industrial area and 3,3km south of the N17's Rondebult Road off-ramp.



Figure 2: Leeuport South in a regional context



4.1.2 Local context locality

The site is located on the Remaining Extent of the Farm Leeuport No. 113 IR south of Sunward Park and Kingfisher Avenue, west of Barry Marais Road, north of North Boundary Road and east of Rondebult Road. A **Locality Plan** is attached as **Annexure A**.

Figure 3: Aerial Locality (Google Earth)





4.2 Existing Land Use

The site is not used for anything at the moment. Farming operation ceased a number of years ago. There are various servitudes (sewers and powerlines) crossing over the land and Trichardts Road crosses the land. Some illegal dumping has taken place along Trichardts Road and along North Boundary Road.

4.3 Physical Features of the Property

The site measures approximately 769ha in extent and encompasses the entire land parcel between Sunward Park and North Boundary Road. The eastern part of the site is generally flat and slopes in a southerly direction from Kingfisher Avenue towards the pans and North Boundary Road. Just east of Trichardts Road the site begins to slope in a westerly direction. West of Trichardts Road the site starts to slope in a north and north-westerly direction towards the wetland situated in the north. See Figure 4 for a plan of the drainage of the site.

4.4 Surrounding Land Use and Zoning

The majority of the surrounding properties are residential homes zoned "Residential 1". A number of Businesses exists along Kingfisher Avenue including 4 shopping centres, a hospital, medical consulting rooms and filling stations. Some properties to the south and west are still zoned "Agricultural".

See **Annexure H** for copies of the **Land Use Plan** and **Zoning Plan**.

4.5 Legal Considerations

4.5.1 Property Description, Ownership and Size

Below please find a table summarizing the property description, ownership and size of the subject erf:

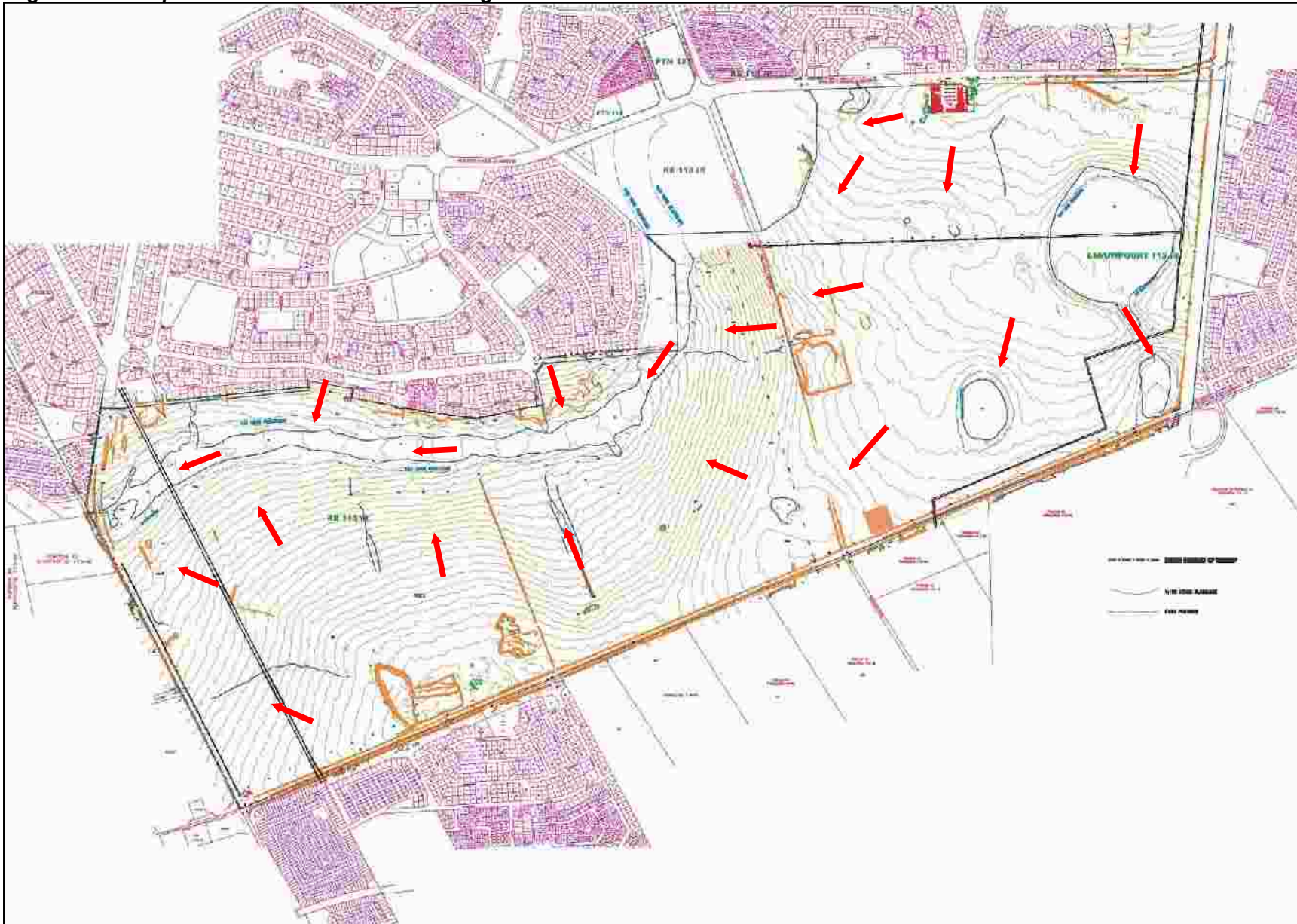
Table 20: Property Description, Ownership and Size

FARM DESCRIPTION	TITLE DEED DESCRIPTION	REGISTERED OWNER	SIZE ha	AREA USED FOR TOWNSHIP
Remaining Extent of the Farm Leeuwpoot No 113 IR	T82017/2001	Ekurhuleni Metropolitan Municipality	1340,17ha	769ha

The relevant **Title Deed** is attached as **Annexure E**. Attached hereto, as **Annexure G**, please find a copy of the **Special Power of Attorney** authorising Urban Dynamics Gauteng Inc to submit this application on behalf of Ekurhuleni Metropolitan Municipality.



Figure 4: Leeuwpoot South Contours and Drainage





4.5.2 Title Conditions, Restrictions & Servitudes

Deed of Transfer T82017/2001 for the Remaining Extent of the Farm Leeuwpoot No. 113 IR, list a number of title conditions which is summarised in the table below:

Table 21: Summary of Title Conditions and Servitudes

	DESCRIPTION OF CONDITIONS	ACTION REQUIRED
1.	By virtue of Notarial Deed K1349/1959S the property is subject to a servitude in perpetuity for the purpose of erecting an electrical substation with ancillary rights in favour of the Town Council of Boksburg	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
2.	By virtue of Notarial Deed K1080/1967S the property is subject to a servitude for the conveyance of electricity and substation with ancillary rights in favour of the Town Council of Boksburg	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
3.	By virtue of Notarial Deed K568/1973S the property is subject to a right in perpetuity to construct, reconstruct, use, maintain, repair, lay, re-lay, alter, insect and remove overhead electric powerlines in favour of the Electricity Supply Commission as shown by the letters ABCDE and FGHI and KLMNOP on SG Diagram No. A6438/1970 together with ancillary rights.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
4.	By virtue of Notarial Deed K2077/1980S the property is subject to a servitude in perpetuity to convey across the property by means of one transmission line consisting of wires or cables and or other appliances underground or overhead in favour of ESKOM with ancillary rights.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
5.	By virtue of Notarial Deed K3132/1984S the property is subject to a servitude to convey electricity in favour of ESKOM together with ancillary rights and subject to conditions.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township. See condition 6.
6.	By virtue of Notarial Deed K5562/1999S the exact route of the right in favour of ESKOM to convey electricity as reserved vide K3132/1984S is now defined as follows: The centre line of the overhead transmission line with underground cables traverses the property along the route indicated by the line ABCD on the annexed Diagram SG No. A3530/1998 the extent and the width of the servitude being 11m on either side of the said line.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
7.	By virtue of Notarial Deed K3133/1984S the property is subject to a servitude to convey electricity in favour of ESKOM together with ancillary rights and subject to conditions.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
8.	By virtue of Notarial Deed K1665/1985S the property is subject to a servitude in favour of ESKOM its successor and assigns of licensees the right in perpetuity to convey across the property by means of underground cables or other appliances laid under the	Does not affect the township due to location



	DESCRIPTION OF CONDITIONS	ACTION REQUIRED
	surface of the ground together with ancillary rights as defined by the line AB on Diagram SG No. A7493/1982.	
9.	By virtue of Notarial Deed K4455/1987S the property is subject to a servitude to convey electricity in favour of ESKOM together with ancillary rights and subject to conditions.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
10.	By virtue of Notarial Deed K2213/1990S the property is subject to a servitude to convey electricity in favour of ESKOM together with ancillary rights and subject to conditions.	Does not affect the township due to location (see condition 11)
11.	By virtue of Notarial Deed of Route Description K3814/1993S the exact route to convey electricity as reserved in favour of ESKOM vide Notarial Deed K2213/1990S is now indicated by the figure ABCDEFA on Diagram SG No. A2602/1990 which area is 34m ² .	Does not affect the township due to location
12.	By virtue of Notarial Deed K5731/1993S the property is subject to a perpetual right of way servitude for water main purposes and other municipal services in favour of the City Council of Boksburg 3m wide as shown on Diagram No. A11288/1992 defined by the lines ABC, DE, FG, HJ together with ancillary rights and subject to conditions.	Does not affect the township due to location
13.	By virtue of Notarial Deed K4132/1994S the property is subject to a powerline servitude in favour of ESKOM together with ancillary rights and subject to conditions.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
14.	By virtue of Notarial Deed K4133/1994S the property is subject to a powerline servitude in favour of ESKOM together with ancillary rights and subject to conditions.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
15.	By virtue of Notarial Deed K4134/1994S the property is subject to a powerline servitude in favour of ESKOM together with ancillary rights and subject to conditions.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
16.	By virtue of Notarial Deed K3351/1996S the property is subject to a servitude for electrical purposes in favour of the Council together with ancillary rights 2m wide the centre line of which being indicated by the line xy on Diagram No. 7523/1995.	Does not affect the township due to location
17.	By virtue of Notarial Deed K1042/1993S the property is subject to a servitude in favour of ESKOM to convey electricity over the property together with ancillary rights and subject to conditions.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
18.	By virtue of Notarial Deed K1041/1993S the property is subject to a servitude for sewerage purposes 2m wide as indicated by ABCDEFGHJKLMNPQRSTUVWXYZ on Diagram SG No. A5838/1991 with ancillary rights.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.



	DESCRIPTION OF CONDITIONS	ACTION REQUIRED
19.	Subject to Deed of Servitude No K788/1976S in favour of Rand Water Board represented by the figures ABCDEFG on Diagram SG No.A6297/1974.	Does not affect the township due to location
20.	By virtue of Notarial Deed K1636/1971S the property is subject to a servitude in perpetuity in favour of the Transitional Local Council of Boksburg to use a strip of ground for sewerage purposes which strip is defined by the letters ABCDEFGHJKLMNPQRSTUVWXYZ on Diagram SG No. A6440/1970 with ancillary rights.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
21.	By virtue of Notarial Deed K1637/1971S the property is subject to a servitude in favour of the City Council of Greater Germiston in perpetuity to use a strip of ground for sewerage, stormwater and municipal purposes which strip is more fully described by the letters ABCDEFGHJKLMNPQRSTUVWXYZ on Diagram SG No. A6439/1970 with ancillary rights.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
22.	Subject to Notarial Deed No K184/1973S the property is subject to a servitude in favour of the Rand Water Board for the right to convey and transmit water by way of pipelines laid across a strip of ground, 16 metres wide, the centre line of which is represented by the figure ABCDE on Diagram SG No.A6437/1970.	The servitude affects the land and should be accommodated on the township layout plan and the conditions should be carried forward to the affected erven in the township.
23.	Subject to Notarial Deed No K509/1958S the property is subject to a servitude in perpetuity in favour of the Transitional Local Council of Boksburg for the construction of a transformer house over an area of 900m ² on the northern boundary adjoining Bigwood Avenue, Cinderella Township as will more fully appear from the figure ABCD on Diagram SG No.A3185/1957.	Does not affect the township due to location
24.	Subject to Notarial Deed of Servitude K2713/1976S the property is subject to a servitude in favour of the Suid Afrikaanse Gasdistribusiekorporasie Ltd for a perpetual right to transmit gas by means of a pipeline or pipelines within a strip of ground 5214m ² which area is indicated by the letters ABCD on Diagram SG No. A6224/1975.	Does not affect the township due to location
25.	Subject to Notarial Deed K2240/1987S the property is subject to a servitude in perpetuity in favour of the Transitional Local Council of Boksburg for stormwater drainage by means of an open trench and or open canal and subterranean piping which servitude is indicated by the letters ABCDEF on Diagram SG No.A5439/1986.	Does not affect the township due to location
26.	Subject to Deed of Servitude No. K1414/1973S represented by the figures NPRQ on Diagram SG No. A6441/1970.	Does not affect the township due to location
27.	Subject to a servitude in perpetuity, along a strip of ground, 4467m ² in extent, indicated on servitude Diagram SG No. 8120/1997 to convey and transmit water by means of pipelines already laid or to be laid, with ancillary rights in favour of Rand Water Board as will more fully appear from Notarial Deed of Servitude K1747/2000S.	Does not affect the township due to location

There are no restrictive title conditions prohibiting the proposed township establishment but the property is subject to a number of servitudes for which no route has been determined. A route should be determined for these servitudes or the servitudes should be cancelled. This matter will be taken up with Eskom in particular during the circulation of the application.



4.5.3 Mineral Rights and Mining related Issues

The site is not subject to any mining activities. A sludge pipeline crosses the site within the railway reserve and just east of Trichardts Road.

4.6 Engineering Services

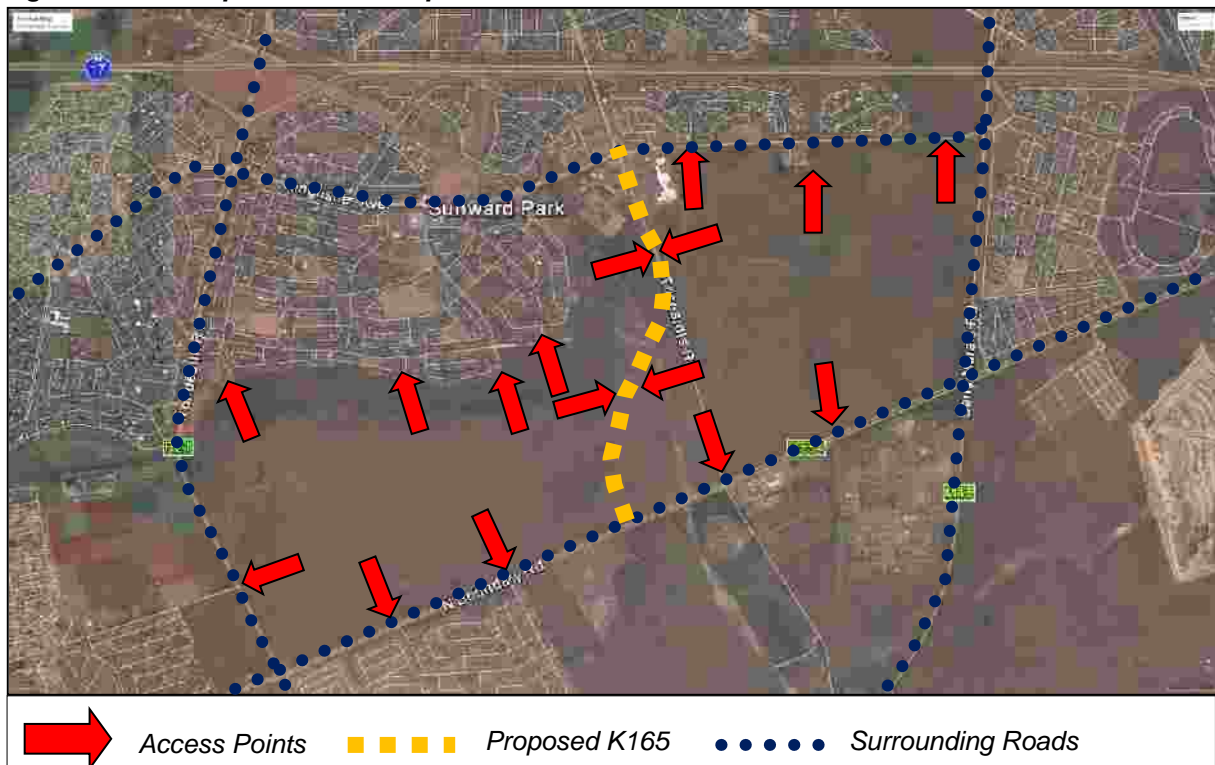
4.6.1 Floodlines

The development is affected by a 1:100 year floodline along the northern boundary with Sunward Park. 1:100 year floodlines were also determined around the major pans on the site. The floodlines were shown and certified on the layout plan and where applicable the area affected by the floodline will be zoned “Public Open Space”.

4.6.2 Access

The site will have 9 access points from Provincial Roads, 3 access points onto Kingfisher Avenue and 4 access points to Sunward Park. One access will be on the Rondebult Road, at the intersection with Agulhas Road, 4 access will be on North Boundary Road at the intersections of Hewitt Drive, Aucamp Drive and Trichardts Road. 4 new access points are proposed on proposed K165. The access points to Sunward Park is proposed at Cresta Road, Leo Road, Aquarius Road and Bert Lacey Drive. Accesses on Kingfisher Drive is proposed at the intersections with Sonneblom Road and Matthews Drive. See figure 5 below.

Figure 5: Access points to Leeuwpoot South





4.7 Geotechnical Conditions

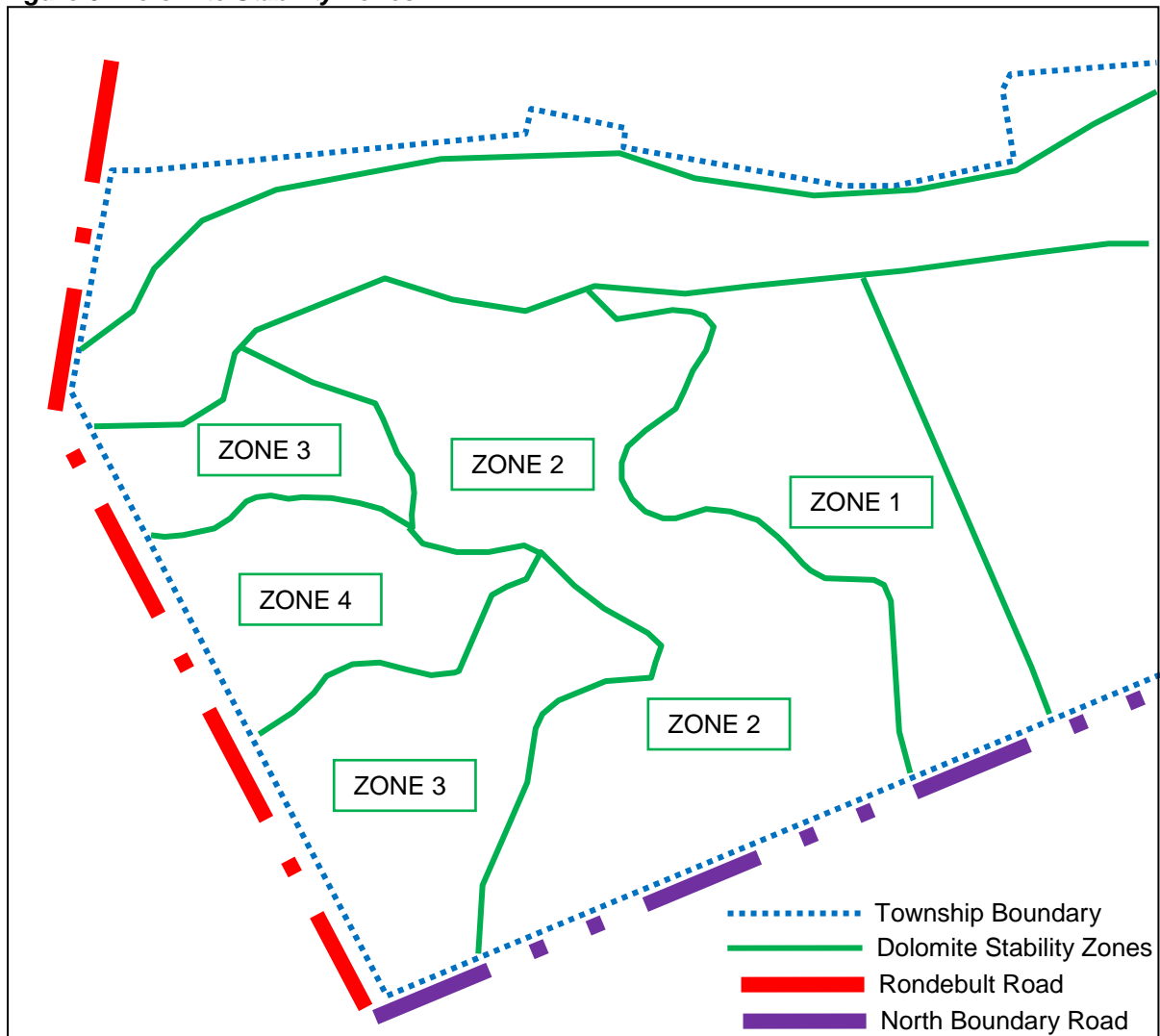
Attached hereto as **Annexure L** please find a copy of the **Geotechnical Investigation** (reference no: IR801) prepared by Dr. Dave Buttrick, from Intraconsult Consulting Engineering Geologists for the larger Leeuwpoot development area of which this site forms a part of.

From the Geotechnical report prepared by Intraconsult the following summary is provided:

- **Dolomite**

The extreme western section of the site is underlain by dolomitic conditions. The figure below indicates the various dolomite stability zones. Tables 22 and 23 provides a description of each of the dolomite stability zones and what the appropriate development in each zone would be.

Figure 6: Dolomite Stability Zones



**Table 22: Description of Dolomite Stability Zones**

DOLOMITE AREA DESIGNATION D	DESCRIPTION
D1	No precautionary measures are required to permit the construction of housing units due to the geological setting.
D2	The risk of sinkhole and doline formation is adjudged to be such that only general precautionary measures, which are intended to prevent the concentrated ingress of water into the ground, are required to permit the construction of housing units.
D3	The risk of sinkhole and doline formation is adjudged to be such that precautionary measures, in addition to those pertaining to the prevention of concentrated ingress of water into the ground, are required to permit the construction of housing units.
D4	The risk of sinkhole and doline formation is such that precautionary measures cannot adequately reduce the risk to acceptable limits so as to permit the construction of housing units, or the precautionary measures which are required impracticable to implement.

Table 23: Dolomite Stability Zones – appropriate development

DOLOMITE STABILITY ZONE	APPROPRIATE DEVELOPMENT
1	Residential (no density constraints), commercial or light (dry) industrial development.
2	Residential (max. 40-60 units/ha), commercial or light (dry) industrial development.
3	Residential, commercial or light (dry) industrial development. Minimum stand size 300m ² .
4	Selected commercial or light (dry) industrial. No residential development. SANS10400 only allows for very selected commercial development in this risk class.

- **Foundation Recommendations and Solutions**

There are potential problematic soils that mantle the bedrock. The recommended foundation design for single storey masonry structures according to NHBRC standards are set out in the table below:

Table 24: Appropriate selected foundation designs

SUB AREA	CONSTRUCTION TYPE	SELECTED FOUNDATION DESIGNS AND BUILDING PROCEDURES
All sub areas	Stiffened or Cellular Rafts	<ul style="list-style-type: none"> • Stiffened or cellular rafts lightly reinforced and articulated masonry • Bearing pressure not to exceed 50kPa • Mesh reinforcement in floor slabs • Measurements to ameliorate “rising damp” problems (e.g. use of waterproofed concretes)

- **Drainage**

Areas around foundations should be kept clear of accumulation of stormwater. There should be appropriate surface drainage design which includes a 150mm perimeter slab or apron to lead stormwater from foundations.



- **General Recommendation**

The geological conditions of the site are, however, considered suitable for the proposed development subject to the recommendation as set out in the report. The geotechnical reference is indicated in the table below and is also indicated on the layout plan:

Table 25: Geotechnical Site Class classification

GFSH-2 PHASE 1 SITE CLASS	COMMENTARY ON THE NEAR SURFACE SOIL CONDITIONS
3W	No development: Land areas below 1:100 year floodlines (note: floodlines require verification, 3W areas shown in blue).
2/3E	Old borrow areas. Require rehabilitation (usually extensive) prior to development.
2(H-2H3/C/S1-S2)	Developable with precautions: Anticipate variable thickness of potential (highly) active and compressible soils.
3D4	Dolomitic Sub-Area: No Residential Development
2PD3(R3) [H1-H2/C/S]	Developable with precaution: Dolomitic Sub-Area (see IR801/R). Anticipate variable thickness of potentially heave/shrink soils and near-surface (occasional) difficult excavation conditions (0,0 – 1,5m profile).
2PD2/D3(R3) {H1-H2/C/S}	Developable with precaution: Dolomitic Sub-Area (see IR801/R). Anticipate variable thickness of potentially heave/shrink soils and near-surface (occasional) difficult excavation conditions (0,0 – 1,5m profile).
2(R3)[H1-H2/C/S]	Developable with precautions. Anticipate variable thickness of potentially heave/shrink soils and near surface (occasional) difficult excavation conditions (0,0 – 1, 5m) profile.
2(R3)[H1/C/S]	Developable with precautions. Near surface difficult excavation conditions in 0.0 to 1.5m profile.
2(R3)[H1/C/S]	Developable with precautions. Anticipate potentially heave/shrink soils and near-surface (occasional) difficult excavation conditions in 0.0 to 1.5m profile.
3BP	Extensive and deep borrow pits with limited development potential. Possible use as materials sites for new townships.
3V	Pan features with vlei areas (with the pans). Limited development potential. Possible incorporation as stormwater attenuation ponds in new townships.

5. MOTIVATION

5.1 Introduction

This section contains a documented motivation for the proposed development in terms of need and desirability as prescribed in Section 96 of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986).

A development of this nature and size invariably affects many facets of the physical and socio-economic environment. In addition to this, the fact that the attached layout plan represents a plan created through a multi-disciplinary process of needs determination, environmental scoping, urban design, engineering inputs and geotechnical input, results in the opportunity to motivate the establishment of Leeuwpoot South on a number of levels. An attempt will therefore be made to motivate this development from a range of different viewpoints while keeping with the requirements, in motivating it in terms of need, desirability and the general principles for land development as contained in the SPLUMA, 2013.



5.2 Need

It is the view of the applicant that the proposed township establishment of Leeuwpoot South will enhance the value of the land in the area due to the stabilizing effect that formal development of the Remaining Extent of the Farm Leeuwpoot No 113 IR will have and that it will contribute to much needed economic growth and supply of affordable residential opportunities in this part of Ekurhuleni.

Housing Need:

It is hereby stated that there is a qualified need to address regional housing issues in the sub-region. The site is located close to areas such as Windmill Park and Dawn park in need of more affordable housing opportunities which is conveniently located close to the Boksburg Node. Most of Ekurhuleni's affordable suburbs are poorly located in terms of access to amenities and centres of employment and this makes the development of Leeuwpoot South in this location unique.

The growing gap between income and the cost of housing don't only affect lower income households but also households with middle-range incomes whom struggle to find affordable accommodation. There are a growing number of South African households that are willing and able to buy or rent a non-subsidized house. However, many of these families simply have nowhere to go as there is little suitable housing stock made available to them in good localities. Many of these families resort to subsidised housing as an alternative residential option thereby creating a shortage of subsidised housing supply. A need exists to create affordable housing for middle income households who are willing to purchase or rent non-subsidised housing and thereby participate in financed and bonded housing.

The proposed Leeuwpoot South development proposes to address the need to initiate an upward mobility trend through the provision of "Gap Housing". "Gap Housing" addresses the gap between what middle income families earn and the affordability of housing. "Gap Housing" is therefore aimed at widening the availability of housing stock for the lower income families. This proposed development commits itself to providing "gap housing". This will be achieved by bridging the gap between the high and low income housing types.

Economic Empowerment – Bridging the Gap:

In the process of bridging the gap between high and low income areas, it is essential to ensure that employment opportunities are available to all income levels in order for them to be able to improve their economic status and partake in financial growth. These employment opportunities should be located in close proximity to communities. In this case Leeuwpoot South is situated close to the Boksburg CBD and various industrial areas in and around Boksburg. The relatively short driving distances to these areas of economic opportunity make this location suitable for a residential development. The proximity of employment opportunities to this development can benefit the residents of this proposed development. The development will also link the existing developments such as Sunward Park, Windmill Park, Van Dyk Park and Klippoortjie to make a more compact and coherent urban form. The development will close the locational gap between these areas. Economically, this development will also bring new business opportunities in the area (stands zoned "Business 2" and "Business 3" will allow the establishment of local businesses and some local employment. The linkages created between the areas will enhance the value of the development economically and provide mobility to its residents to economic opportunities.

Strategic Location:

The site is located along Rondebult Road which links the N17 in the south with the N12 in the north and provides access to various commercial and residential areas situated along the route. The Leeuwpoot development is situated next to Rondebult Road which is part of Phase 1 of the BRT network. The BRT comprises of grid-based corridors along mobility spines linking main residential and economic nodes in line with the Metropolitan Special



Development Framework. Very few greenfield developments are so well located within the urban core. The site falls in an area which is earmarked as “preferred urban growth area” in the Ekurhuleni MSDF (2015). In order to create the preferred urban form (According to the MSDF (2015) the following criteria were used to identify the preferred urban development areas:

- Support a compact city.
- Avoid ‘leap frog’ development.
- Availability of engineering services.

The MSDF (2015) continues: *The emphasis in this case is to overcome the fragmented nature of the city and to develop a continuous urban structure in support of engineering, social and business services. It is important that the longer-term expansion of engineering services be planned in such a manner that urban growth will be incremental with the proposed priority area as base. Future urban growth should aim at linking presently active areas instead of ‘leap frog’ development in isolated greenfield nodes.*

Upgrading of Infrastructure

With the proposed infrastructure upgrades the development of the Leeuwpoot South will ensure the most optimal use of the existing infrastructure while providing the necessary infrastructure upgrades to support the proposed development. This will enhance the sub-area in terms of infrastructure availability and will provide the needed housing development and associated supportive land uses and amenities further enhancing and benefiting the area.

Infill Development:

The site represents an infill site which needs to be developed in order to integrate the various pockets of development to form a cohesive urban environment. In this context, the site will connect the areas of Sunward Park, Windmill Park, Van Dyk Park and Klippoortjie to create a continuous and coherent urban form. As available land for development is used up and the pressures on the current urban edge increase, it is sensible to start developing the previously overlooked parcels of infill land situated inside the urban edge. The site is situated inside the urban edge and close to the economic core and should thus be optimised to decrease pressure on the urban edge.

According to the Ekurhuleni Growth and Development Strategy, 2025, infill development and densification will be promoted at all times. In this regard developable vacant land in and around the urban core, especially land parcels owned by government, will be identified and prioritised for public sector development initiatives, like human settlement development with housing subsidy funding. Such development will contribute much to the more cost-effective utilisation of existing bulk services infrastructure. The maximum and most cost-effective utilisation of existing bulk services capacity will be sought by promoting infilling and densification in selected areas of the Metro, notably the core urban areas in and around the mining belt – this will tie in with the strategies to ensure a compact, integrated and equitable city.

Densification, intensification and infill development are elements which are fundamental to the restructuring of the South African ‘Apartheid City’ and to the concept of a compact city that optimally utilises all existing resources within the area (MSDF, 2015).

Variety of Housing Typologies:

The proposed development will consist of a mixture of bonded stands, subsidised stands and FLISP (Finance Linked Individual Subsidy Programme) units. This will create a mixed use development, with various densities and with various housing options and typologies and will make it a sustainable and integrated development. Within the township layout provision was made for various housing typologies and densities to provide for interest and variety.



Leeuwpoot South is a development that aims to promote a high quality, residential and mixed-use environment supported with private and public amenities. As such it could be argued that the proposed development will act as a key structuring feature in the sub-region because it will encourage a range of housing options to meet different and changing needs of households in the area. The proposed development promotes mixed-uses by allowing appropriate services, supportive uses and social amenities to be intermingled with residential development.

Better Utilization of Land

The application is made to ensure the optimum utilization of the site without defeating any of the primary considerations in respect of environmental issues, compatibility, health, safety, orderliness, economics and the wellbeing of all persons and instances. The proposed development introduces an alternative investment opportunity within the urban core of Boksburg. It is the intention to realise the development potential of the property by establishing mixed income and mixed land use in Leeuwpoot South, which is strategically located close to the Boksburg Primary Node. The proposed development will consist of an integrated, multifunctional neighbourhood offering residential, business, community and recreational facilities. The land is currently underutilised, and the proposed development will clean up the site and provide considerable investment.

Impact on Surrounding Properties

The impact of this proposed development on the surrounding developments will be mostly positive as the development will clean up the site which are used for illegal dumping. The proposed development will be a high quality development which will not detract property values in the area. The provision of new tenure options and housing typologies would generally enhance the area and accommodate a wide range of residents and income groups. The proposed development will protect the area from land invasion thus having a lesser potential impact. The development will complement and be compatible with the uses in the Sunward Park to the north and would be compatible with the development in Windmill Park since the proposed development provides for a mixed income development and is sensitive in placing land uses and housing typologies adjacent to the surrounding developments. The development will have a minimal impact on Sunward Park as it is separated from Sunward Park by a wetland system and Kingfisher Avenue.

5.3 Desirability

5.3.1 Motivation in terms of the Development Principles of the Spatial Planning Land Use Management (SPLUMA) Act No. 16 of 2013

The Spatial Planning Land Use Management (SPLUMA) Act intends to provide a uniform framework for spatial planning and land use management in the republic. It seeks to promote consistency and uniformity in procedures and decision-making in spatial planning. The objectives of the Act are:

- *Provide for a uniform, effective and comprehensive system of spatial planning and land use management for the Republic;*
- *Ensure that the system of spatial planning and land use management promotes social and economic inclusion;*
- *Provide for development principles and norms and standards;*
- *Provide for the sustainable and efficient use of land;*
- *Provide for cooperative government and intergovernmental relations amongst the national, provincial and local spheres of government; and*
- *Redress the imbalances of the past and to ensure that there is equity.*



Implications of the Act on the Proposed Development

The application of the SPLUMA principles applies to all organs of state and other authorities responsible for implementation of legislation regulating the use and development of land. The following principles, with relevant sub principles, apply to spatial planning, land development and land use management. These principles are discussed below:

a) Principle of Spatial Justice, whereby -

(i) Past spatial and other development imbalances must be redressed through improved access to and uses of land

Ekurhuleni has identified this strategically located, inactive land parcel to develop an inclusionary mixed land use development, which will cater for a variety of income groups. The proposed development will offer bonded housing typologies and inclusionary housing addressing the distorted spatial space in Ekurhuleni and bridging the gap between areas such as Sunward Park, Windmill Park, Van Dyk Park and Klippoortjie developments. The development will improve ownership for previously disadvantaged individuals.

The proposal of a mixed use development will provide for a cohesive social and economic environment, meeting basic needs of residents as well as addressing past spatial imbalance. The proposed development will improve access to housing (close to the Boksburg CBD) and employment opportunities, ensuring a development that is integrated, socially just, functional and environmentally sustainable.

(ii) Spatial development frameworks and policies at all spheres of government must address the inclusion of persons and areas that were previously excluded, with an emphasis on informal settlements, former homeland areas and areas characterised by widespread poverty and deprivation;

The proposed development will promote inclusivity by providing inclusionary or gap housing to people who are unable own property in the competitive residential market. Inclusionary housing is considered the central theme of the development and the proposed development will promote the above principle by making provision for the lower-middle income to participate in the property market. The development is in line with the Ekurhuleni MSDF, 2015 as it is an infill development located within the urban edge and within the preferred urban growth area.

b) Principle of spatial sustainability, whereby spatial planning and land use management systems must -

(i) Promote land development that is within the fiscal, institutional and administrative means of the Republic

The proposed development is aimed at providing inclusionary housing with a mixed use component. The proposed development will deliver formal housing with supportive facilities attracting investors and financial investment into the area. Ekurhuleni promotes development along public transport corridors where it has already focused considerable investment in infrastructure and social amenities and where it plan to do further investment. The proposed development within close proximity to the node and in the preferred urban growth area could be promoted as it will not place additional strain on the fiscal, institutional and administrative means of the City and the Republic, but will optimise on the investments already made in the area.

(ii) Ensure that special consideration is given to the protection of prime and unique agricultural land;

The land presents underutilised land within an urban setting which is ideally located for urban development and which haven't been used for farming for a number of years. The land is already disturbed by the previous activities and is crossed by various servitudes and roads and is used for illegal dumping.. Surrounding agricultural areas will not be negatively affected by this proposed township. Furthermore, no natural features like streams or wetlands will be destroyed by the development to the detriment of agricultural areas. The



proposed development strives for the optimum utilisation of this site delivering much needed housing and employment opportunities, while increasing the land value. The land could be better utilised as housing.

(iii) Uphold consistency of land use measures in accordance with environmental management instruments

The application has taken into consideration the existing natural environment features and how best to develop the land with minimal impact. An Environmental Impact Assessment in accordance with the National Environmental Management Act (NEMA) 1998 (Act No.17 of 1998) are being conducted for the site. The study assesses the suitability of the area to be developed and its impact on surrounding environment.

The development is aimed at providing a high quality interface between urban elements and the natural environment in a controlled manner to ensure that these elements benefit from one another. All sensitive environmental features such as wetlands will be protected and the natural landscape will act as a green spine flowing through the entire development and linking up with the open space in surrounding developments.

(iv) Promote and stimulate the effective and equitable functioning of land markets

The current housing market in South Africa is distorted with high income groups able to participate in the residential market and middle income groups, earning between R3 500 to R15 000, not able to access either state housing or participate in the private property market. The property market in SA is not functioning effectively as there is a lack of supply for the gap market. The proposed development will provide for bonded housing types as well as FLISP housing catering for the “gap housing” market, addressing the distorted housing market.

(v) Consider all current and future costs to all parties for the provision of infrastructure and social services in land developments

The application will be circulated to different government and municipal departments, and parastatals (Eskom, Telkom, Transnet etc.) for technical coordination and consultation. The developer will be responsible for providing the necessary infrastructure development or upgrades to the satisfaction of the local authority. The developer will enter into the necessary agreements (e.g. services agreements) with the relevant departments and council to ensure the long term maintenance of infrastructure which were provided.

(vi) Promote land development in locations that are sustainable and limit urban sprawl

In many instances, the legacy of Apartheid planning practices have resulted in sprawling and fragmented urban areas characterised as being uneconomical and offering one-dimensional opportunities to residents. The proposed development is classified as infill development on underutilised land within the urban environment. The site is located close to the Boksburg Primary Node within the urban core and will not lead to further sprawl. The proposed development will contribute to the re-engineering of the existing urban form, the establishment of a more compact city and also contribute to the optimization of the use of existing infrastructure such as bulk sewer lines, bulk roads and water.

(vii) Result in communities that are viable

The proposed development adopts a holistic approach to providing a well-functioning, sustainable community. The development will offer mixed land uses with maximum possibilities for pedestrian movement and transit via safe and efficient public transport. The provision of inclusionary housing in close proximity to areas of economic opportunity will promote the principle of spatial sustainability and will lead to a viable community.



c) Principle of Efficiency, whereby

(i) Land development optimises the use of existing resources and infrastructure

This principle calls for the optimization of investment already made in terms of existing development of services infrastructure. The proposed development is located in close proximity to existing bulk sewer, bulk water, electrical infrastructure as well as existing road infrastructure. Some basic services are already available on the borders of the site and in surrounding townships and this development will seek to optimize on the infrastructure already provided in the area but will also upgrade the bulk services and infrastructure in the area. The fact that it partly represents infill land development in an urban setting will ensure that the existing resources are optimized.

e) Principle of good administration

(i) All spheres of government ensure an integrated approach to land use and land development that is guided by the spatial planning and land use management systems as embodied in this Act;

The development builds upon the principles and legislative framework governing development in the Gauteng Province and Ekurhuleni, such as the: National Development Plan; Breaking New Ground: Comprehensive Plan for Development of Sustainable Human Settlements; Gauteng Spatial Development Framework (GSDF) 2011 and Ekurhuleni MSDF, 2015. The above reports are aimed at promoting human settlements that are integrated, well located, offering a range of housing options to various income groups and offering employment opportunities in close proximity in order to address the distorted apartheid cities. The proposed development is in line with the spatial planning and land use management systems of the Ekurhuleni Metropolitan Municipality and promotes the development objectives of the Gauteng Province.

(iii) The requirements of any law relating to land development and land use are met timeously;

The application for the township establishment of Leeuwpoot South is made in terms of Section 108 of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986), as read together with the Ekurhuleni Town Planning Scheme, 2014. An Environmental Impact Assessment was conducted in terms of National Environmental Management Act. The applicant intends to abide with all legislations governing and regulating land development.

(iv) The preparation and amendment of spatial plans, policies, land use schemes as well as procedures for development applications, include transparent processes of public participation that afford all parties the opportunity to provide inputs on matters affecting them; and

Particulars of the application will lie for inspection during normal office hours at the office of Area Manager: Development Planning, Boksburg Customer Care Centre, 3rd floor, Civic Centre, Trichardt's Road, Boksburg, for a period of 28 days from the first day of publication.

(v) Policies, legislation and procedures must be clearly set in order to inform and empower members of the public.

The above principles call for a transparent and clear public participation process with all parties adhering to allocated timeframes. The public also be given a chance to object, make representations and comment on the development. The proposed development will be advertised as prescribed, informing the public of the development and relevant contact person to acquire information.



5.3.2 Ekurhuleni Metropolitan Spatial Development Framework, 2015

In terms of local policy, the proposed development of Leeuwpoot South is located in the jurisdiction of Ekurhuleni Metropolitan Municipality and falls within the Southern Region and more specifically in Wards 31 and 43.

The Ekurhuleni Metropolitan Spatial Development Framework, 2015 sets out its vision to be **The Smart, Creative and Developmental City**. Based on the vision, the mission statement developed for the EMM reads as follows: *Ekurhuleni provides sustainable and people centred development services that are affordable, appropriate and of a high quality. We are focussed on social, environmental, and economic regeneration of our city and communities, as guided by the principles of Batho Pele and through the commitment of a motivated and dedicated team.*

Ekurhuleni's spatial objectives are:

- **Create a single, uniform identity for EMM;**
- **Develop a well-defined system of activity nodes;**
- **Promote the development of a sustainable compact urban structure;**
- **Create a sustainable and functional open space network;**
- **Optimise job creation capacity of the formal economy;**
- **Integrate the disadvantaged communities into the urban fabric;**
- **Actively promote sustainable public transport;**
- **Promote access to social and municipal services through CCAs;**
- **Identify the spatial impact of climate change;**
- **Promote sustainable livelihoods development;**
- **Promote sustainable development; and**
- **Optimise the comparative advantages of EMM.**

With reference to the extracts from the MSDF above as well as the figures below the site is essentially located close to the Boksburg Primary Node within an area earmarked for "Urban Development" where infill and densification is promoted. The site is also situated adjacent to Rondebult Road along which densification is promoted based on the fact that the road will form an BRT trunk route. The MSDF, 2015 earmarks the site for residential development (see the figure below).

The site falls in an area which is earmarked as a preferred urban development areas because the development of this area will contribute to Support a compact city, it will avoid 'leap frog' development and it is located in an area where engineering services are available.



Figure 8: Extract from the Ekurhuleni RSDF, Region F (2015)

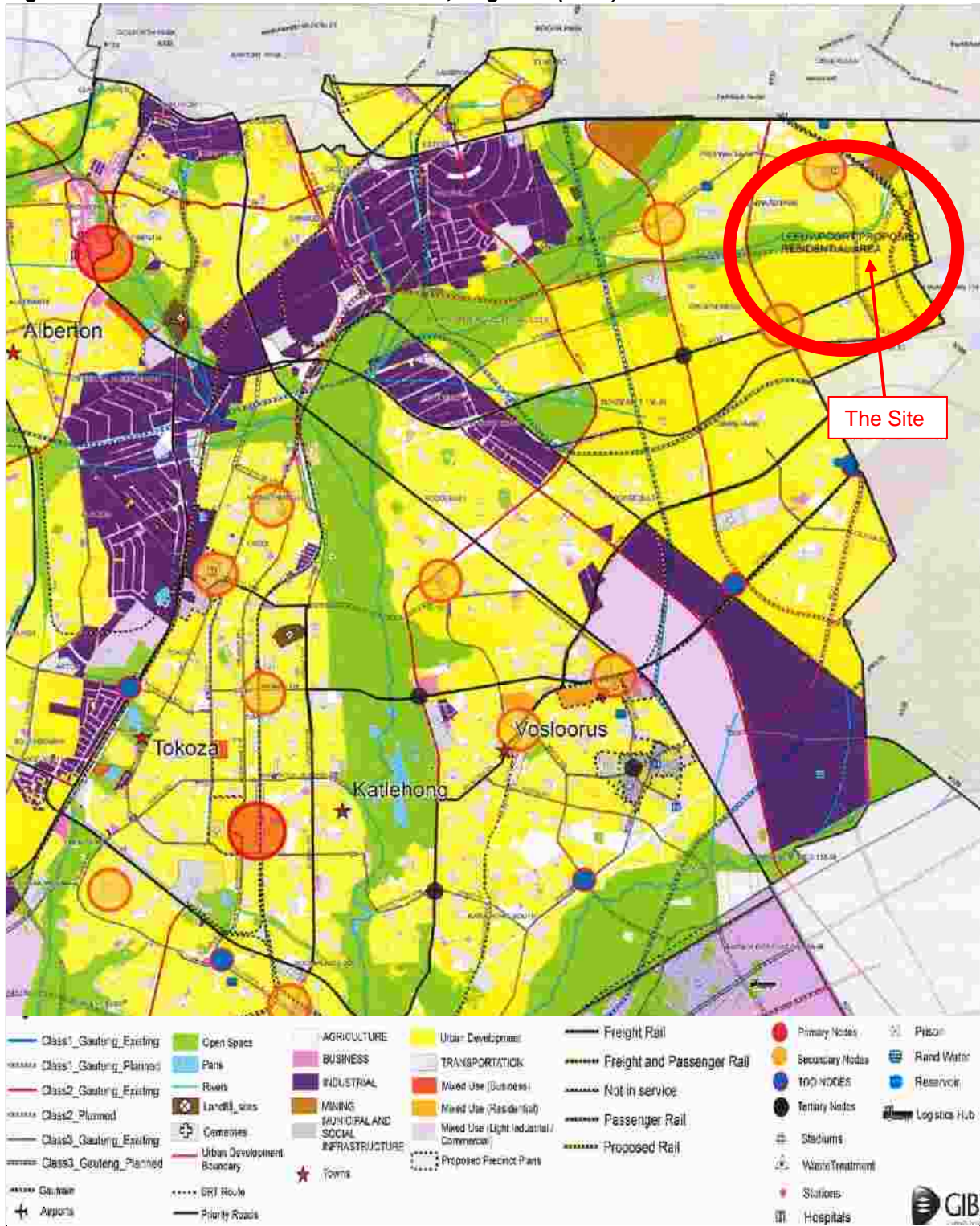
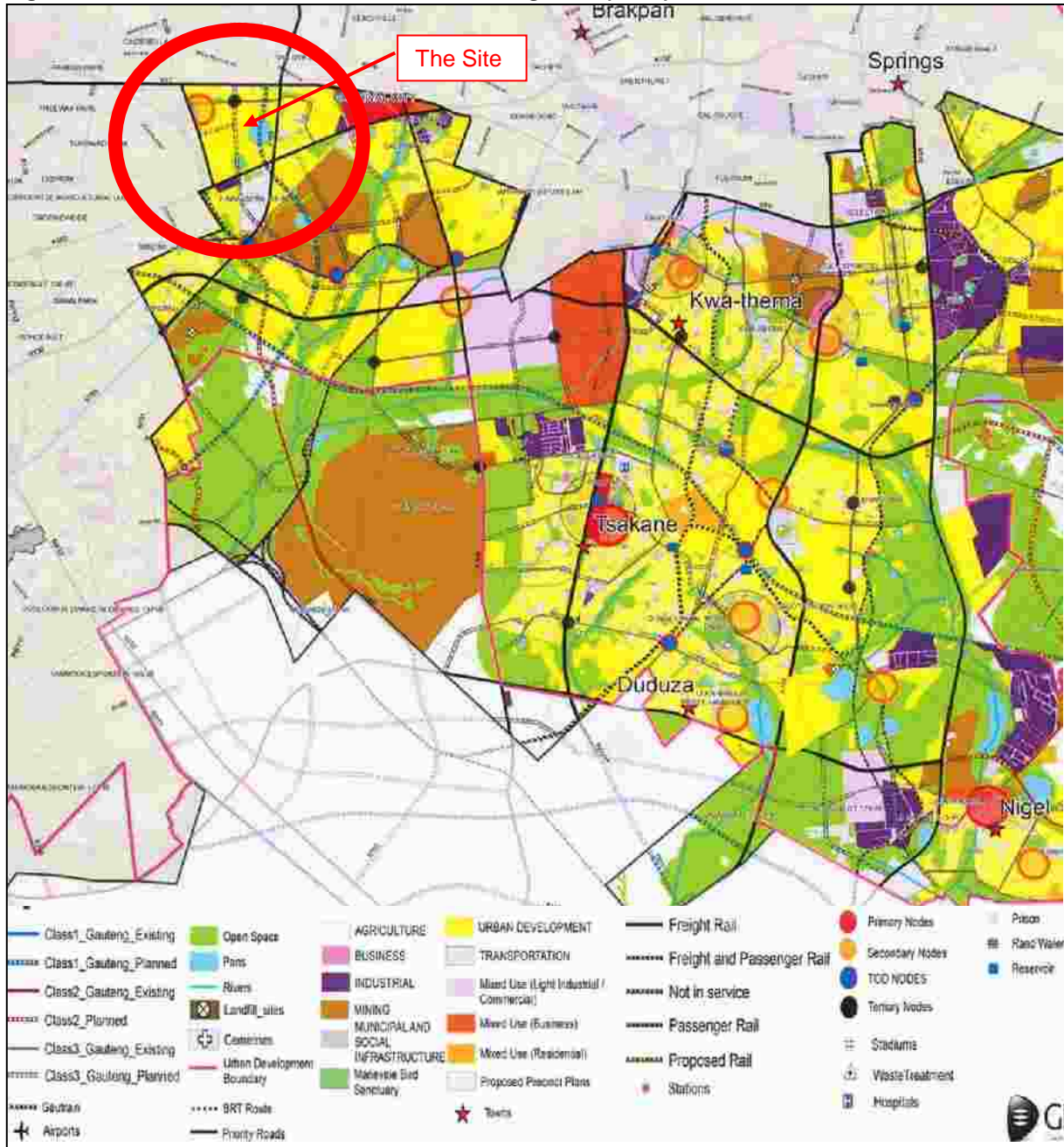




Figure 9: Extract from the Ekurhuleni RSDf, Region E (2015)



5.3.3 National Development Plan

The National Development Plan (NDP) offers a long-term perspective for the development of South Africa aimed at eliminating poverty and reducing inequality by 2030. The importance of creating sustainable human settlements is emphasised by the NDP. The key target for human settlements as described by the plan includes^[1]:

- More people living closer to their places of work.
- Better quality public transport.
- More jobs in or close to dense urban townships.
- Clear strategy for densification of cities through land use planning and focused strategy on the housing gap.

Due to the location of the site close to the urban core, the proposed development will offer affordable residential opportunities in close proximity to places of work. The development

[1] National Planning Commission: National Development Plan (2011:33)



itself also offers a small commercial component which could lead to long term job creation. The road network within the development provides for public transport stops as well as possible public transport routes and is linked to the adjacent to Rondebult Road which is one of Ekurhuleni's strategic public transport networks and part of the BRT Phase 1. The location of the site as well as the site layout will contribute to an efficient public transport system benefiting local and surrounding residents. The development will also address the issue of providing densification along major BRT routes in a growing region as well as meeting the ever increasing "gap housing" market. It can be interpreted that the proposed development will assist in realising the vision of the National Development Plan by creating a development that is compact offering some employment opportunities and access to quality public transport.

5.3.4 Breaking New Grounds: Comprehensive Plan for Development of Sustainable Human Settlements

The Breaking New Ground Plan (also referred to as BNG) was published by the National Department of Housing in 2004 to provide guidelines for the development of sustainable human settlements. The policy, BNG, takes a different approach of creating sustainable human settlements as compared to only providing houses. Sustainable human settlements envisioned by BNG is one where inhabitants have adequate access to economic opportunities, mix of safe and secure housing/tenure types, reliable basic services, educational, health, and social services. The development builds upon these very principles and aims to provide a development where one can live, work and play. The BNG guidelines^[2], relevant to new development and how the proposed development will incorporate these guidelines are discussed below:

Residents should live in a safe and secure environment, and have adequate access to economic opportunities, a mix of safe and secure housing, and tenure types, reliable and affordable basic services, educational, entertainment and cultural activities, and health, welfare and police services.

The proposed development will incorporate the abovementioned amenities as the development will be a mixed land use inclusionary development catering for not only residential uses but also for schools, community facilities (which could be clinics, churches etc.), parks and some commercial use. The development will offer a range of housing types, sizes and prices to accommodate financial capability.

Ensure the development of compact, mixed land use, diverse, life-enhancing environments with maximum possibilities for pedestrian movement and transit via safe and efficient public transport in cases where motorised means of movement is imperative.

The road network within the proposed development is one that caters to both motorised and non-motorised movements. The street layout can make provision for pedestrian and cycle networks. The site is situated within easy reach of the major road infrastructure and roads in the development is laid out in such a way to provide easy access to Rondebult Road (Phase 1 BRT) and the surrounding provincial road network.

Ensure that low-income housing is provided in close proximity to areas of opportunity.

The mixed use inclusionary development provides residential opportunities (affordable housing) in the development in close proximity to the economic opportunities in the Boksburg CBD and nearby employment areas.

[2] Breaking New Grounds: Comprehensive Plan for Development of Sustainable Human Settlements 2004.
<http://www.tshwane.gov.za/Services/Housing%20and%20Human%20Settlement/Housing%20Documents/BreakingNewGroundPolicyHousingStrategy.pdf>



Integrate previously excluded groups into the city, and the benefits it offers, and to ensure the development of more integrated, functional and environmentally sustainable human settlements, towns and cities. The latter includes densification.

The proposed development aims to be inclusionary. The development is integrated in the sense that it is a higher density development situated within the urban core and provides affordable housing. This will place more people (specifically previously excluded groups) in the core of the urban environment) where there are more opportunities. The development is also integrated as far as it links pockets of development in the area. Environmental Sensitivity was taken into account in the planning and sensitive areas were excluded or preserved as parkland.

There is a need to move away from a housing-only approach to a more holistic development of human settlements, including the provision of social and economic infrastructure.

This principle calls for mixed use developments. The proposed development will consist of various residential typologies but will also offer some social facilities and a small commercial component. The proposed development aims to be inclusionary of social and economic amenities providing for an inclusionary development.

Social housing must be understood to accommodate a range of housing product designs to meet spatial and affordability requirements. Social housing products may include multi-level flat, or apartment options, for higher income groups, incorporating beneficiary mixes to support the principle of integration and cross-subsidisation.

The development will comprise of various residential units targeted at gap market for families earning below R15 000 per month, providing for a sector that requires entry into the housing market. The residential component in the development will also include bonded houses, marketed and sold in the open market.

5.3.5 Gauteng Spatial Development Framework (GSDF) 2011

Gauteng Spatial Development Framework (GSDF)^[3] aims to achieve an equitable and sustainable urban system and structure the urban form. The GSDF does not replace municipal SDF's but enables the creation of a coherent framework, which forms the basis for future development and decision-making processes (e.g. policy, resources and socioeconomic profiles). The framework aims to achieve the following for the province:

- Functional efficiency (so that individual elements work together as a whole);
- Environmental harmony (creating development processes and forms that are environmentally sustainable);
- A sense of place (creating a place that is recognisably distinct, strengthens local identity, and simultaneously plays its role within the wider urban system); and
- Socio-economically sustainable (is viable, enabling economic growth and expansion and supports all social activities and the development of its communities).

The proposed development will encourage the above mentioned principles as it will take a holistic approach towards delivering a township establishment that is efficient and socio-economically sustainable.

^[3] Gauteng Spatial Development Framework (2011:49-51)



6. CONCLUSION

It is our opinion that the proposed township establishment for Leeuwpoot South will not only benefit the future residents, it will also uplift the character, improve the aesthetics and enhance security of the area in general.

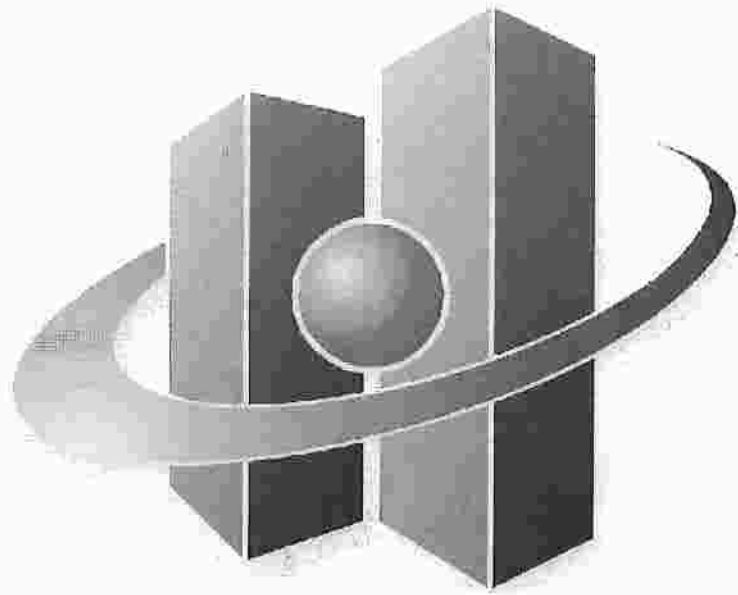
We have demonstrated that the proposed development is viable and desirable on an engineering, environmental, geological and town planning level and that approval of this application in terms of Section 108 of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986) as read with the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) is appropriate.

The report provides background and general information pertaining to the land development area. It also serves as a motivation in compliance with the guiding principles for development as set out in SPLUMA and the MSDF. In the light of the motivation provided in this report, the application for township establishment is desirable and can be supported based on the following reasons:

- The proposed township complies with the objectives of the Spatial Planning and Land Use Management Act (SPLUMA), Act No.16 of 2013;
- The proposed township establishment is in accordance with the Ekurhuleni MSDF, 2015;
- There are no legal or technical impediments to the township establishment;
- Bulk services are already in place on / or bordering the property and will be in place before the erven in the development could be transferred;
- The proposed township establishment can be considered as necessary and desirable from a town planning point of view; and
- The proposed township establishment will provide in the current need for affordable residential properties and will contribute to economic growth and development which is some of South Africa's highest priorities.

It can therefore be concluded that this application is desirable and that it will be in the interest of the broader public. The favourable consideration of this land development application is therefore respectfully requested.

ANNEXURE A



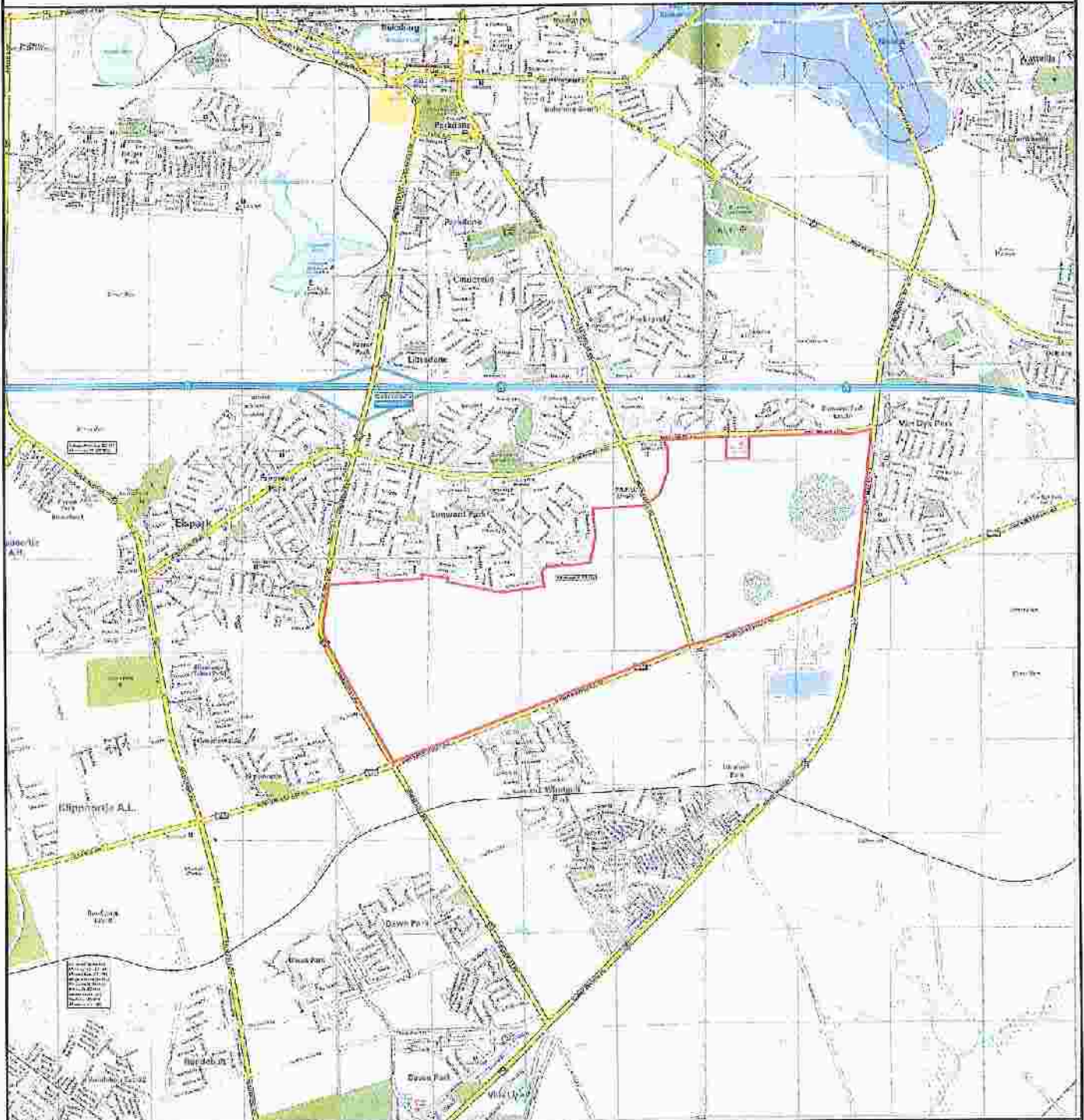
URBAN DYNAMICS

LOCALITY PLAN

LOCALITY PLAN

LEEUWPOORT SOUTH

SITUATED ON PART OF THE REMAINING EXTENT OF THE FARM LEEUWPOORT NO. 133 IR



THE SITE



NOT TO SCALE

URBAN DYNAMICS
TOWN & REGIONAL PLANNERS

37 EUPHRAS ROAD
PARKTOWN
P.O. BOX 291003
HEULLE
2109

TEL (+27 11) 462-4131

TEL (+27 11) 462-9955

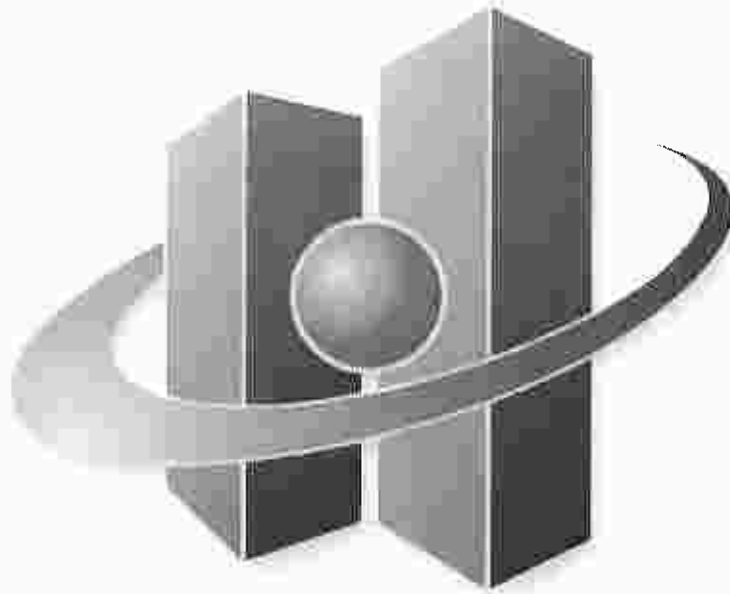
E-MAIL: info@urbandynamics.co.za

WEB: www.urbandynamics.co.za



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ANNEXURE B



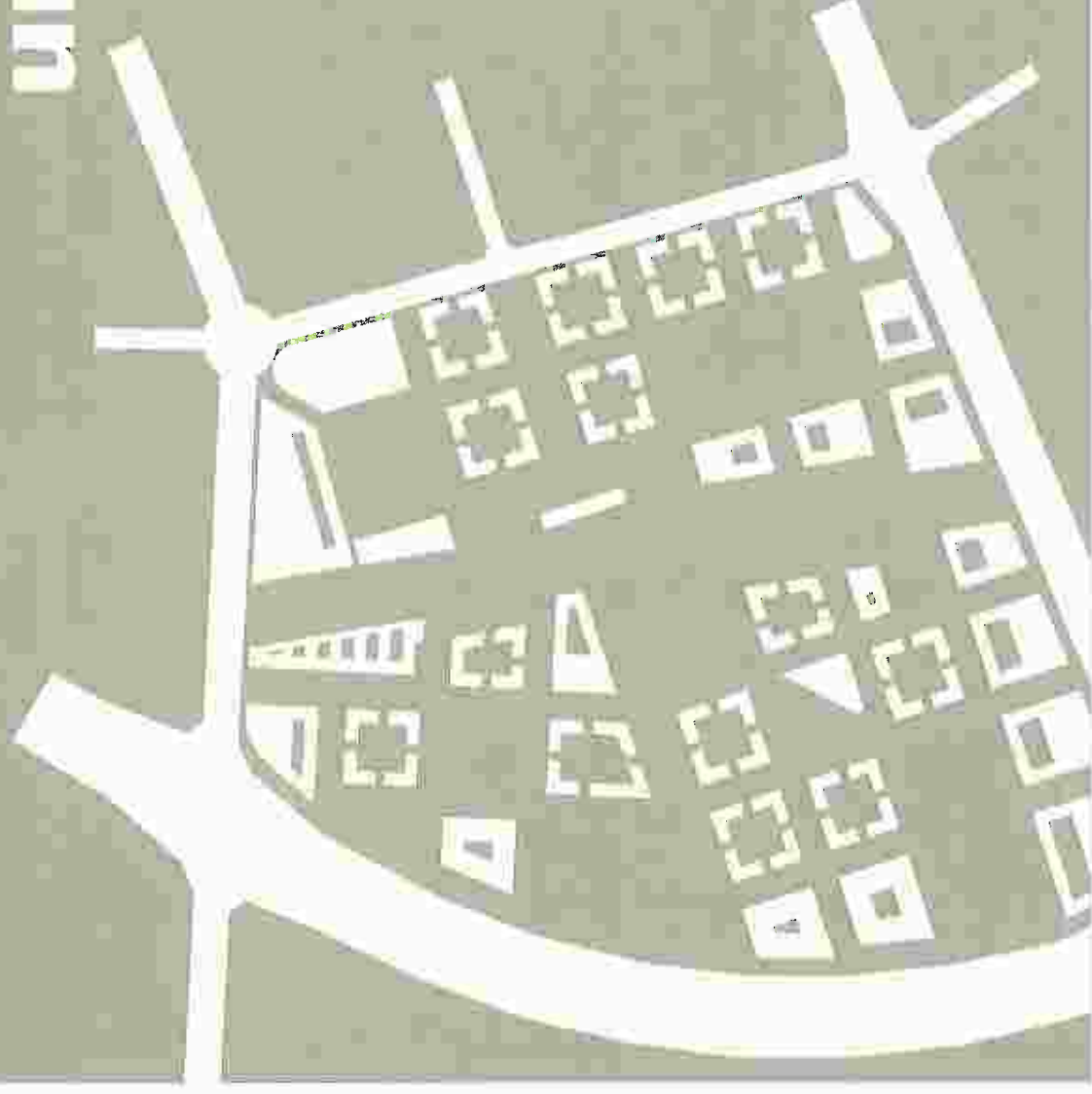
URBAN DYNAMICS

URBAN DESIGN

Leeuwpoot

urban design framework

version 1



Urban Dynamics Gauteng
August 2014

Leeuwpoot

urban design framework

version 1



Urban Dynamics Gauteng

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August 2014

Introduction

Pages 001-004

framework

Pages 005-019

Core Area

Pages 020-035

Conclusion

Pages 036-043

CONTENTS

introduction

The vision for the development of Leeuwpooft is to create a development that supports transit and pedestrians, allows for a range of residential densities and typologies to be developed. To achieve this vision, the design and development of Leeuwpooft should address the following Development Objectives:

Movement

- Improve accessibility by structuring and completing the urban form
- Reinforce access to public transport routes and infrastructure
- Promote pedestrian movement, walkability and legibility
- Provide for pedestrian and public transport connection points

Nodes

- Identify nodes within the region
- Define the character/ function of the node (community identity)
- Promote pedestrian access to the nodes

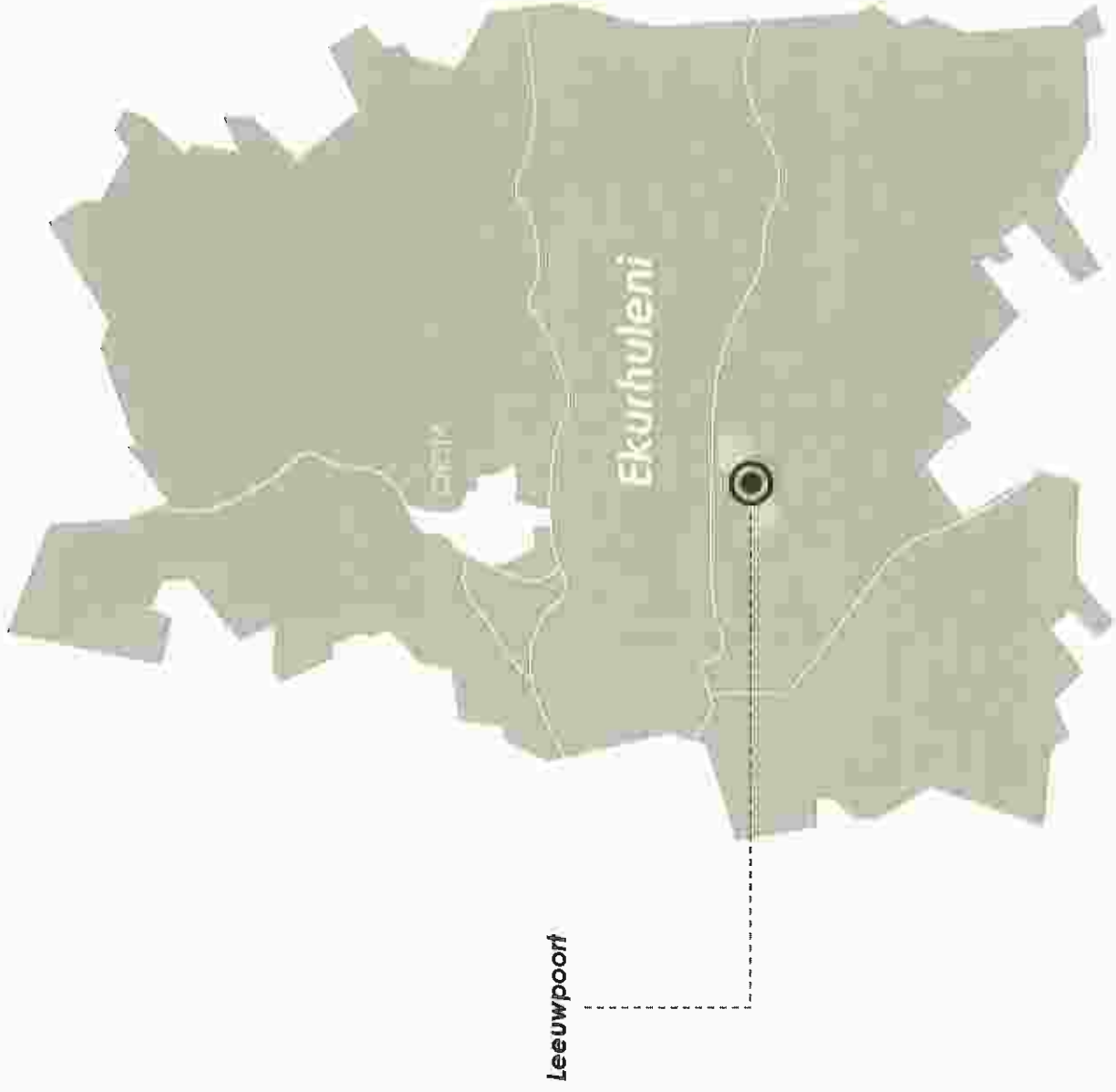
Public space

- Focus intensity and activity at public spaces
- Provide a network of good quality public spaces
- Link public spaces with pedestrian linkages
- Promote streets as public spaces
- Promote higher densities around public spaces

Housing

- Promote higher-density housing
- Provide a mixture of housing typologies and sizes
- Promote rental housing

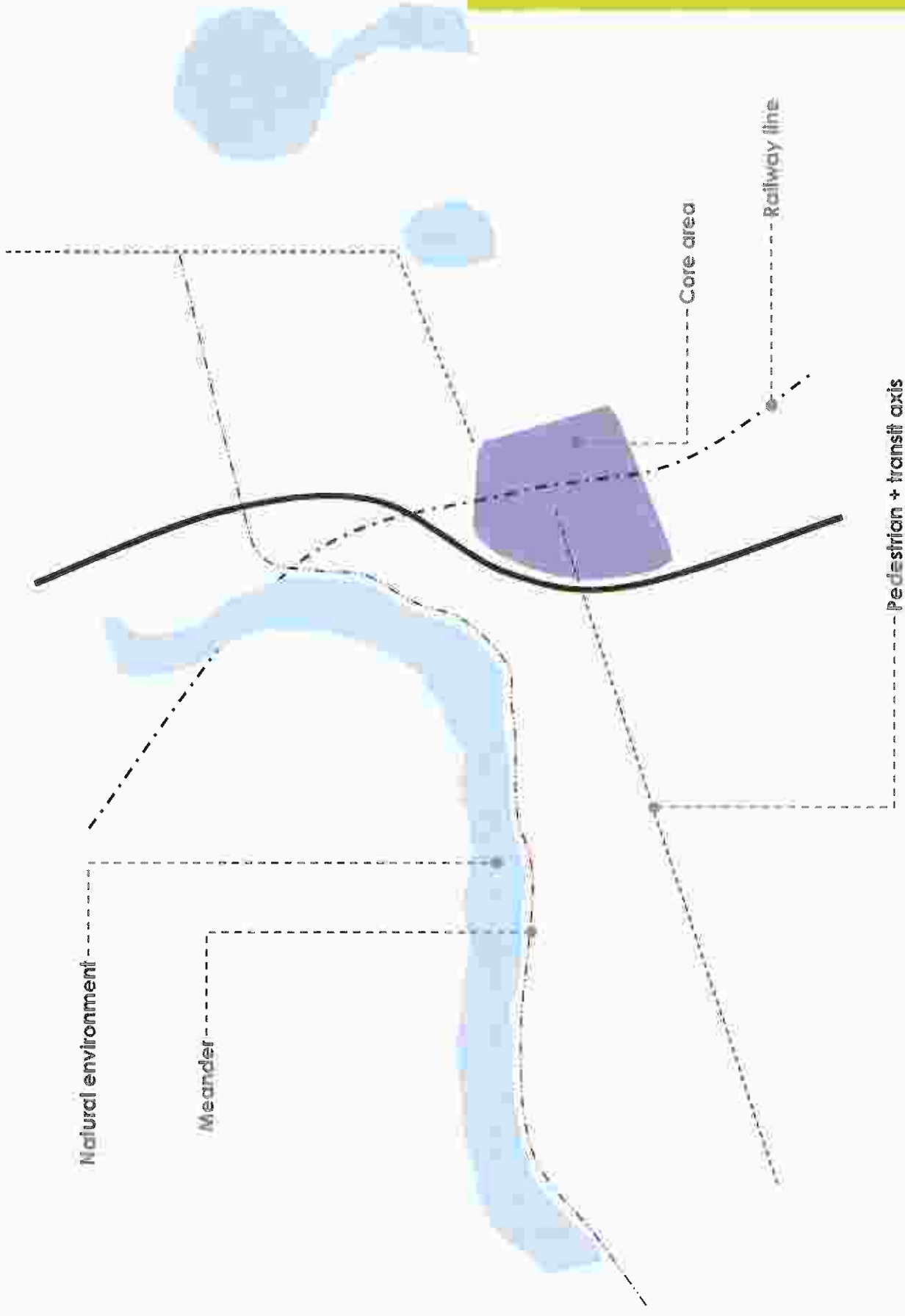
The spatial implication of these development objectives will be illustrated. The outcome of the application of these development objectives will be an Urban Design Framework for Leeuwpooft. This UDF will illustrate the estimated development capacity of the Site, which will ultimately determine projects for implementation.



LOCALITY PLAN



framework



STRUCTURING ELEMENTS



ROAD NETWORK



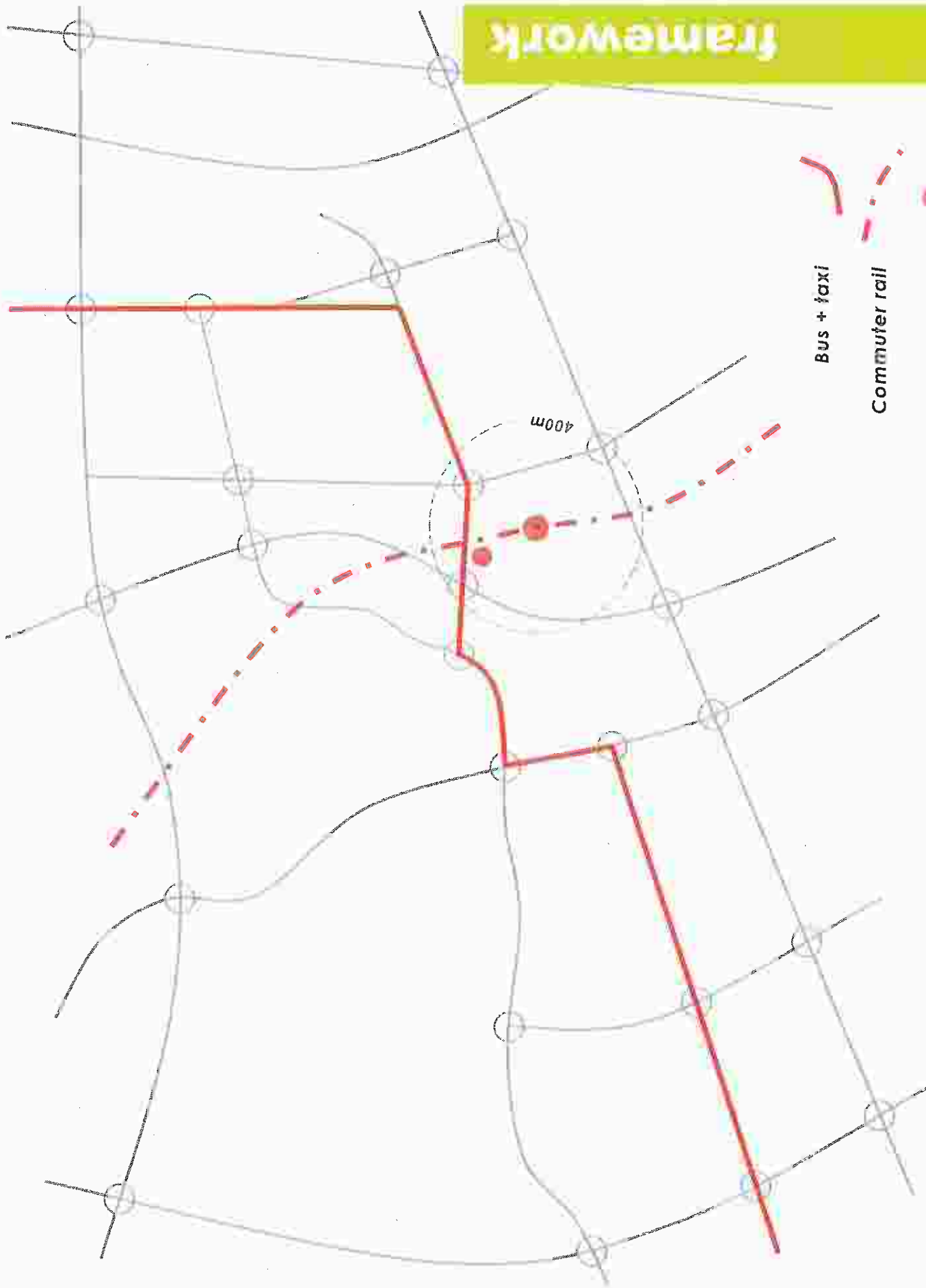
Landscaped median island

Pedestrian sidewalk

Dual carriageway



COLLECTOR ROAD SECTION



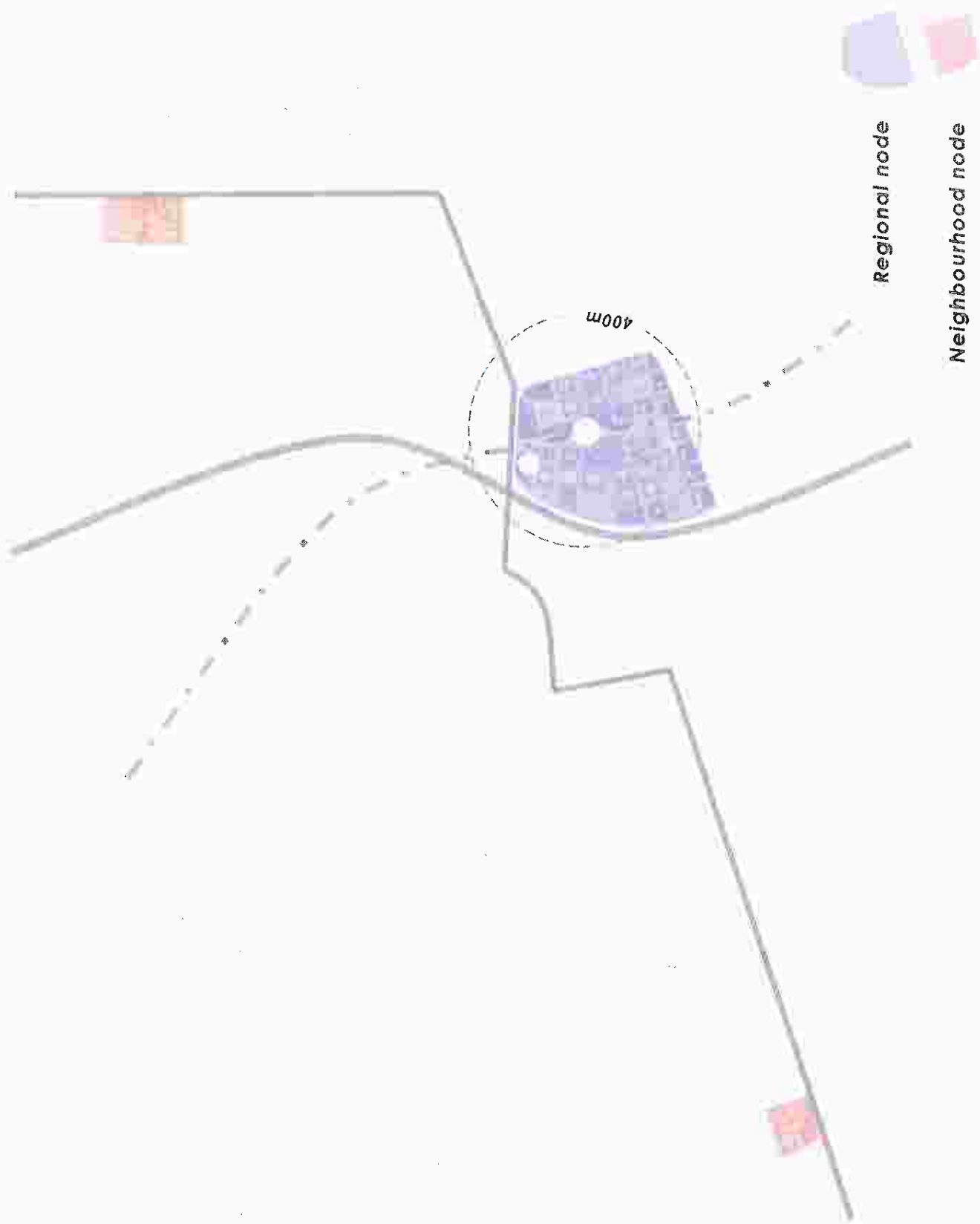
Bus + taxi

Commuter rail

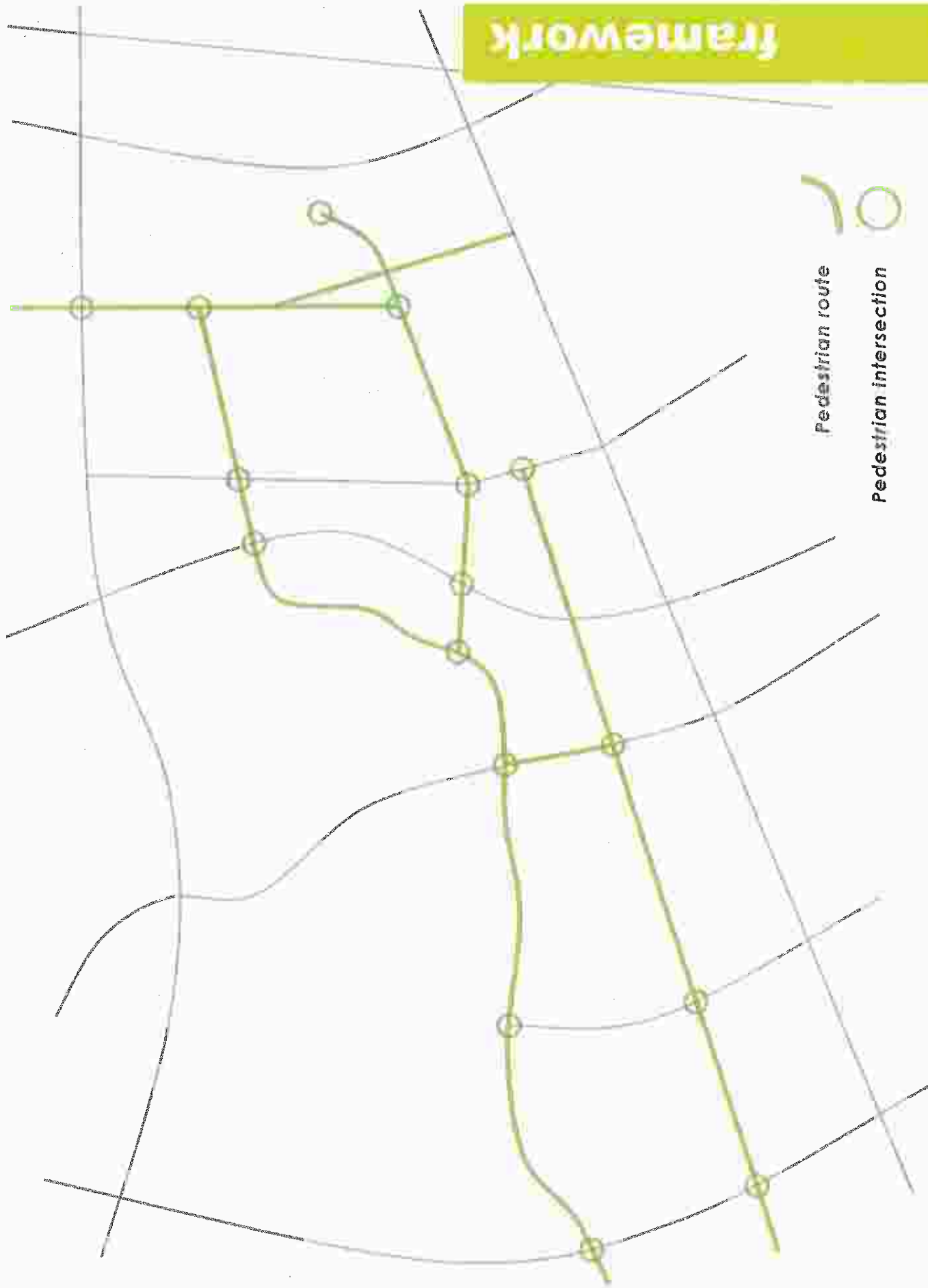
Station / rank

400m

TRANSIT NETWORK

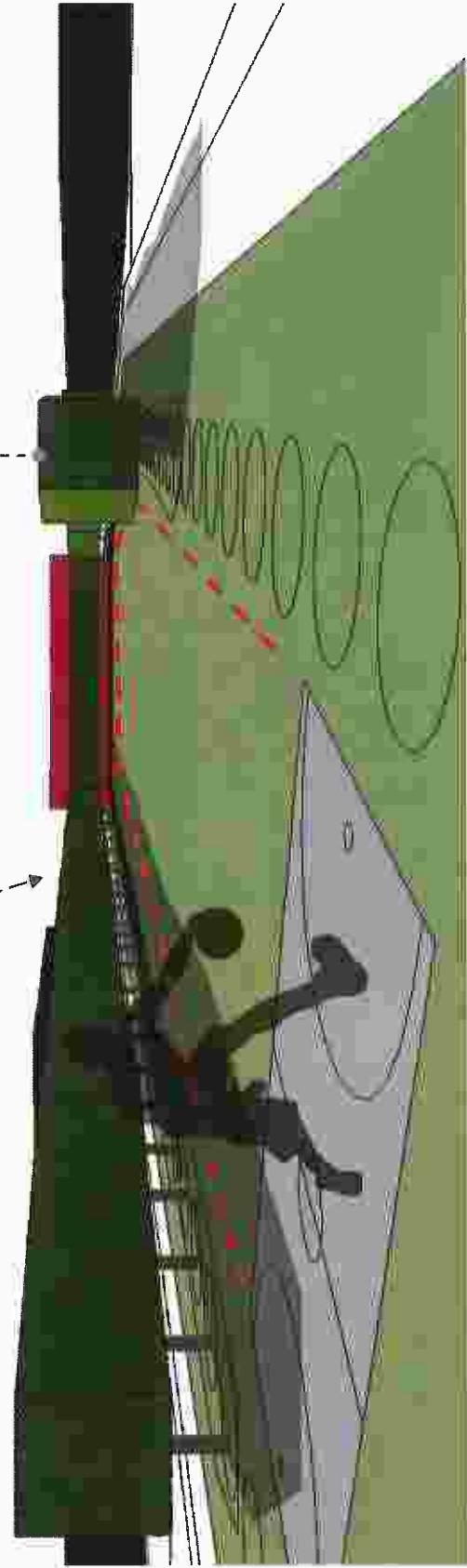
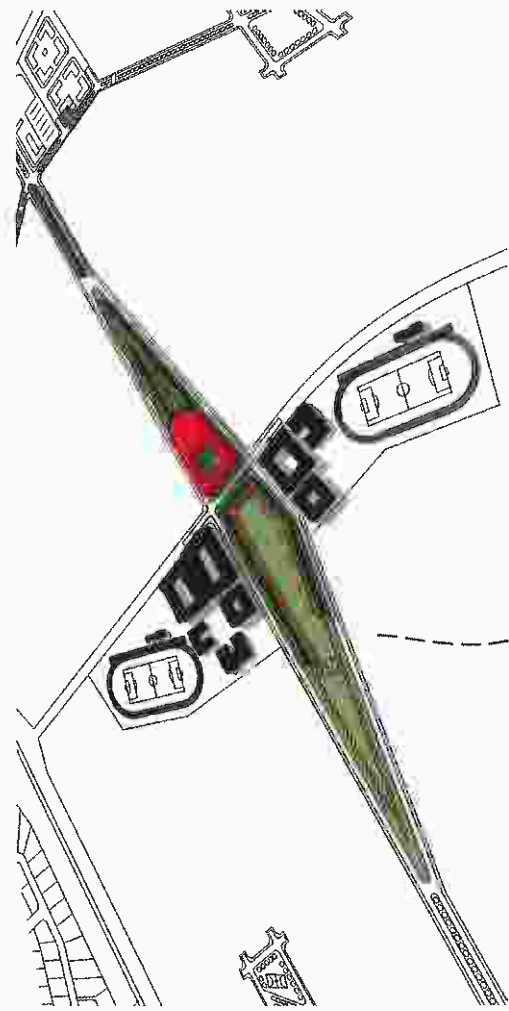


NODAL STRUCTURE



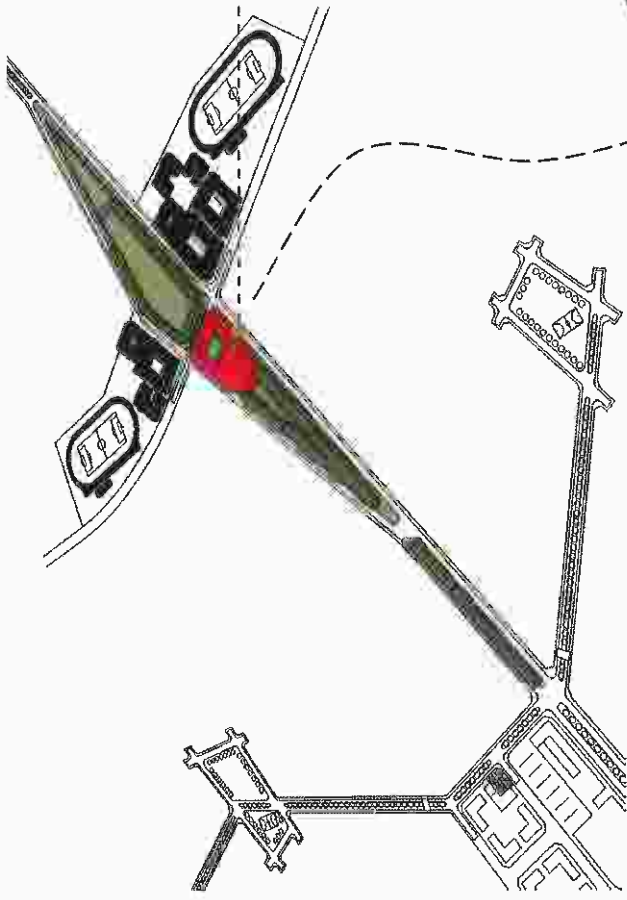
PEDESTRIAN NETWORK

Use trees, schools
buildings and public
facilities to create public
space enclosure



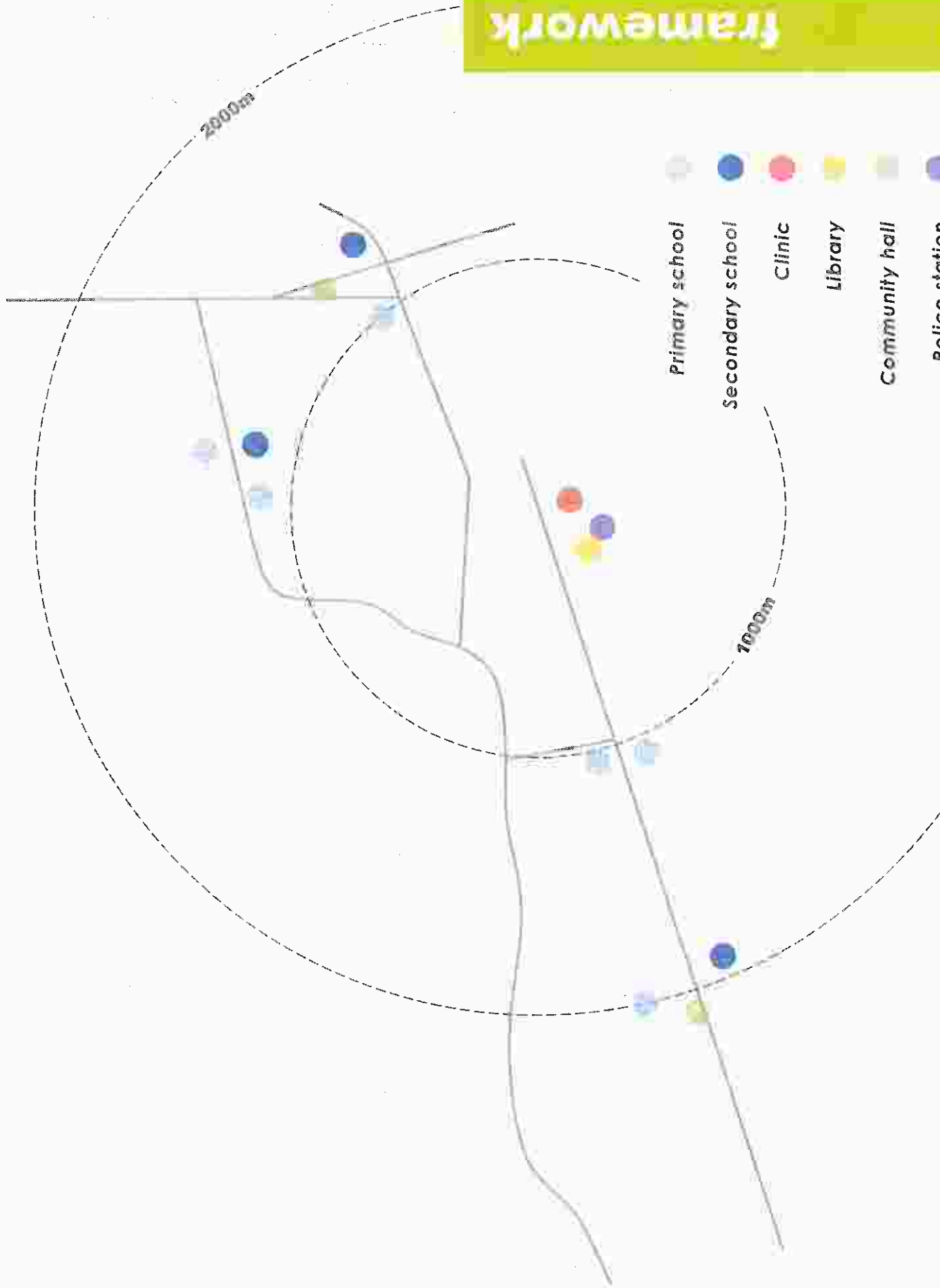
PUBLIC SPACE ENCLOSURE

Use public buildings to
create focal point along
pedestrian routes



PEDESTRIAN FOCAL POINTS

Land Use	Capacity		
	no.	ha	m ²
Population	39486		
Households	12737		
Housing	12737	390.0	
Housing Bonded	5203	226.2	
Flats	905	11.3	
Cluster Housing	4298	214.9	
Detached Housing	0	0.0	
Housing Affordable	7535	163.8	
Walk-Ups	655	8.2	
Semi-Detached Housing	3276	65.5	
Detached Housing	3604	90.1	
Educational	10	36.9	
Primary School	6	17.8	
Secondary School	3	15.3	
Tertiary Institution	0	3.8	
Health	1	2.6	
Clinic	1	0.2	
Hospital	0	2.4	
Community	4	2.6	
Library	1	0.4	
Community Hall	2	0.8	
Police Station	1	1.0	
Emergency Service Centre	0	0.4	
Business			77865
Retail		19.5	59896
Private Office		4.5	17969
Open Space		173.2	
Active		23.7	
Passive		149.5	
Transit Station	1	0.5	
Streets		131.3	
TOTAL AREA		756.5	

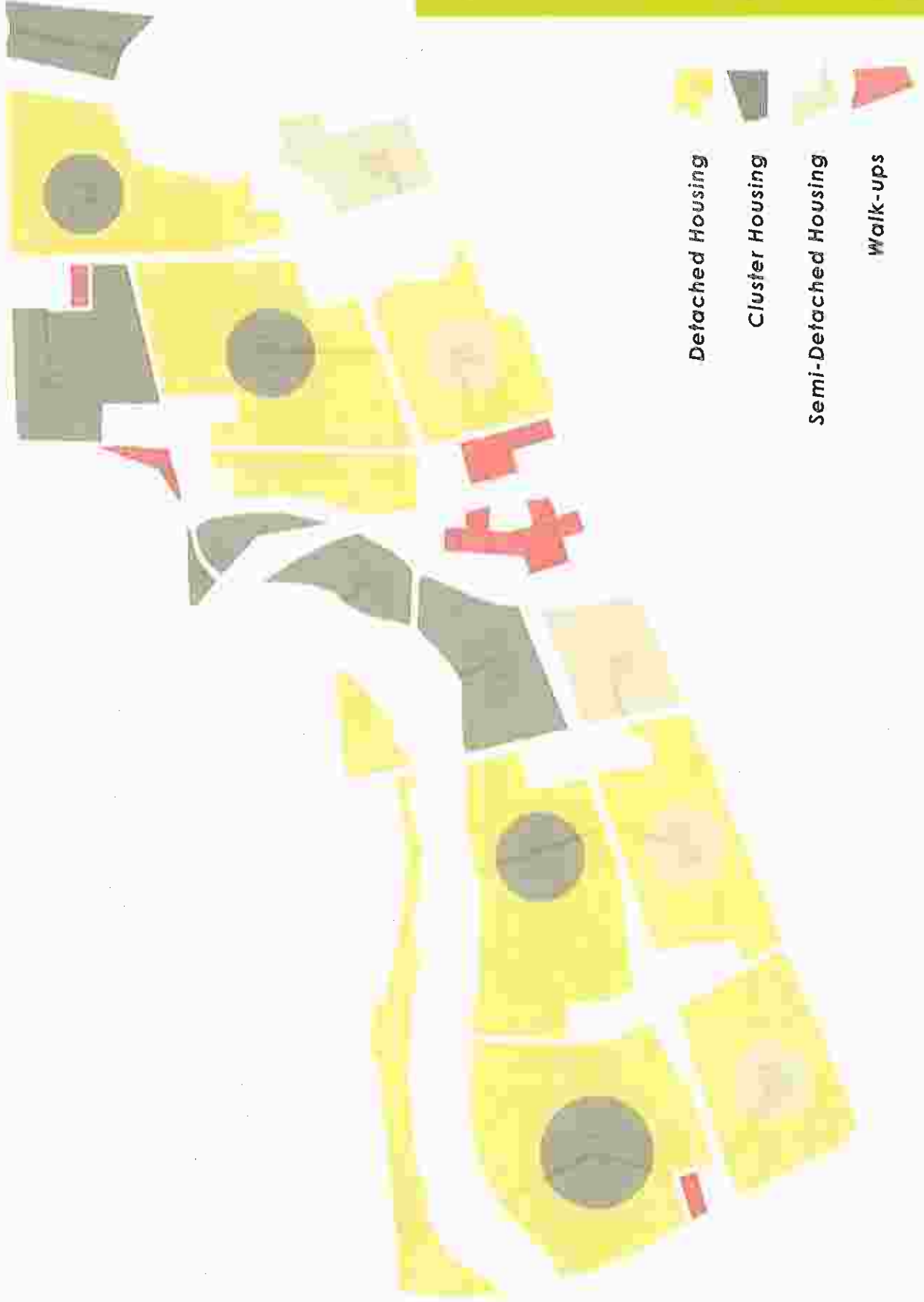


PUBLIC FACILITIES



OWNERSHIP TYPOLOGY

HOUSING TYPOLOGY



Detached Housing

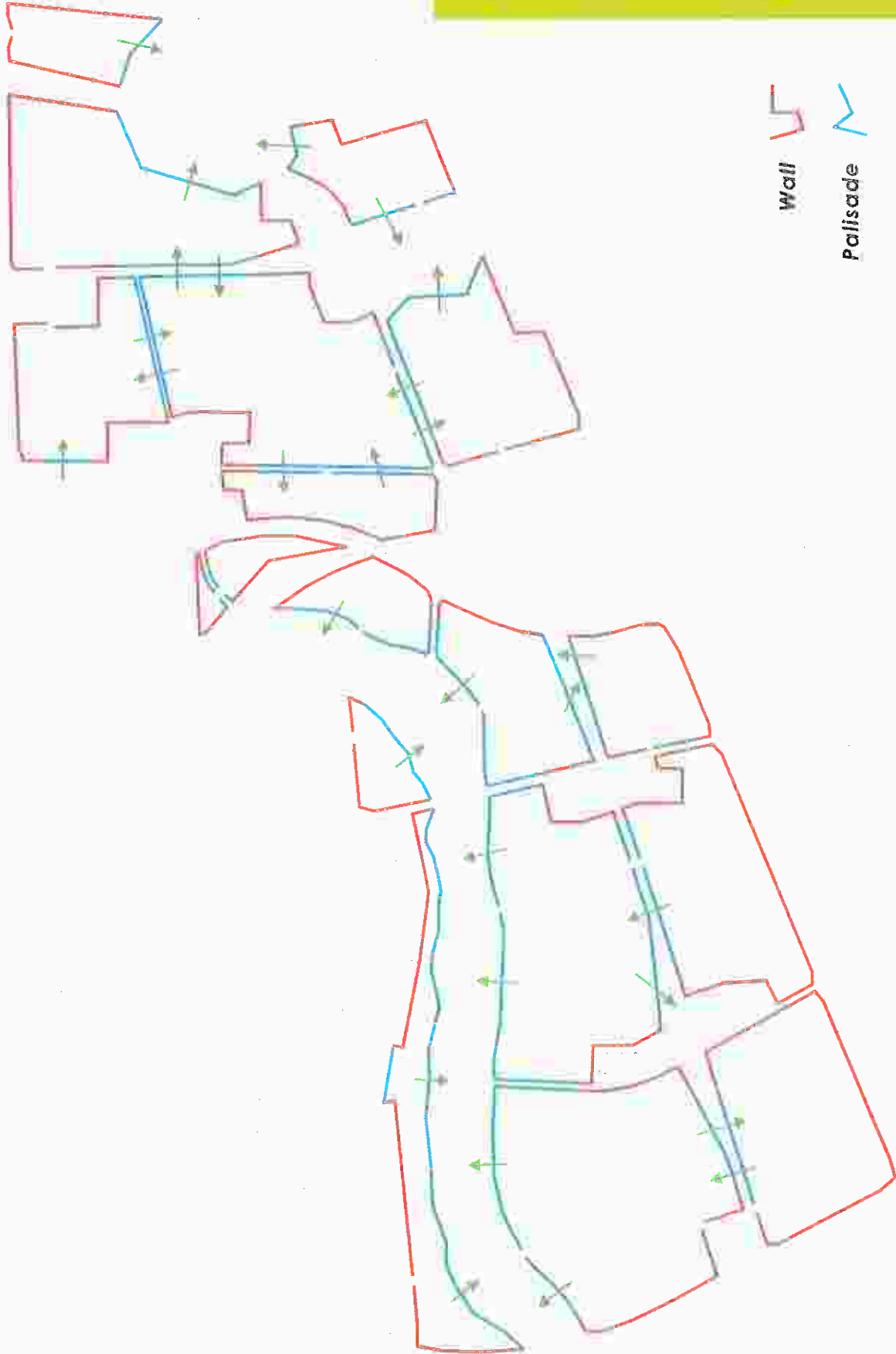
Cluster Housing

Semi-Detached Housing

Walk-ups

framework

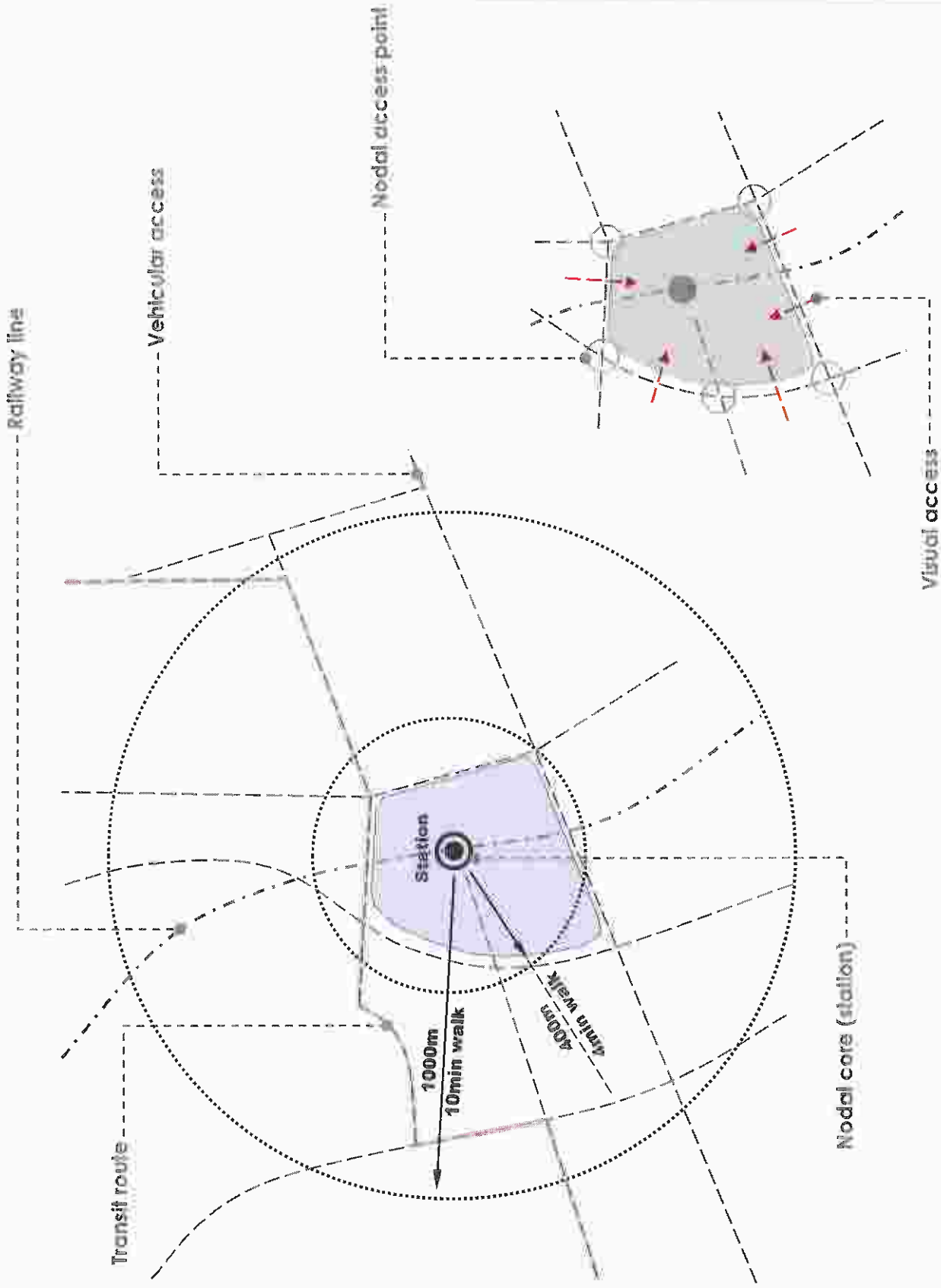
01B



FENCING + VISUAL ACCESS

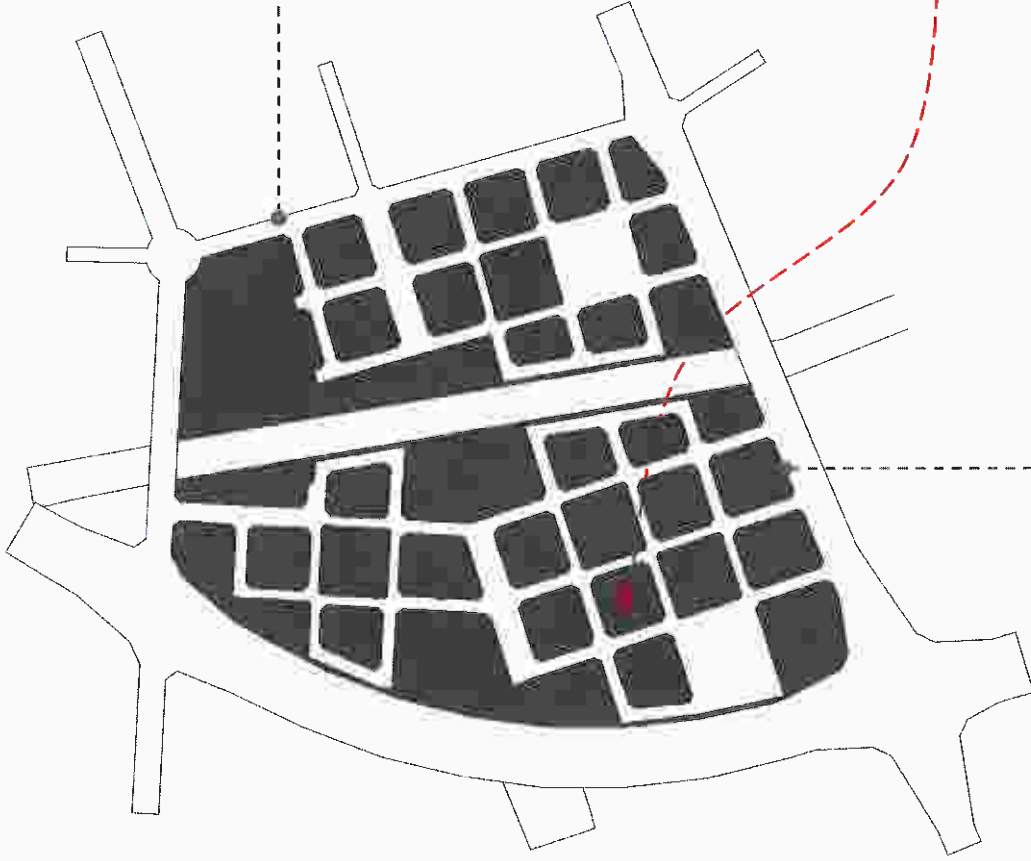
core area





STRUCTURING ELEMENTS

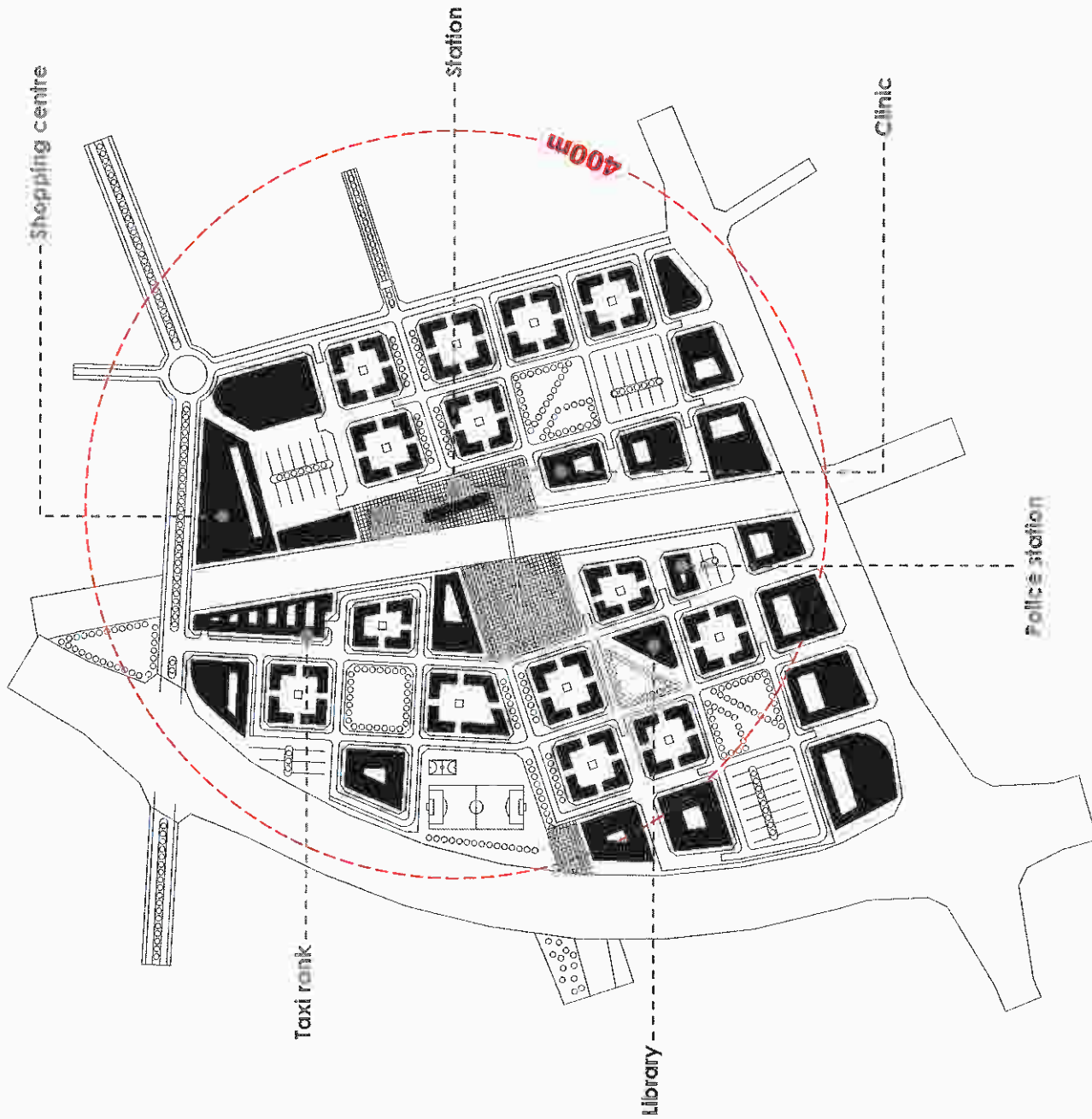
A permeable street block layout, as obtain by the grid layout, facilitates pedestrian movement across the layout, improving access to transit and public facilities.



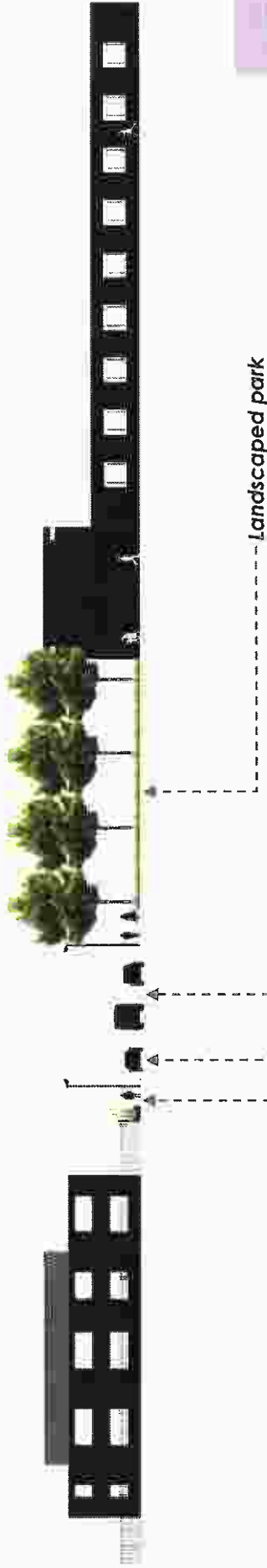
Street block are oriented to allow most building to be north-facing

AVERAGE BLOCK SIZE

STREETS + BLOCK SIZES



COVERAGE+INTENSITY

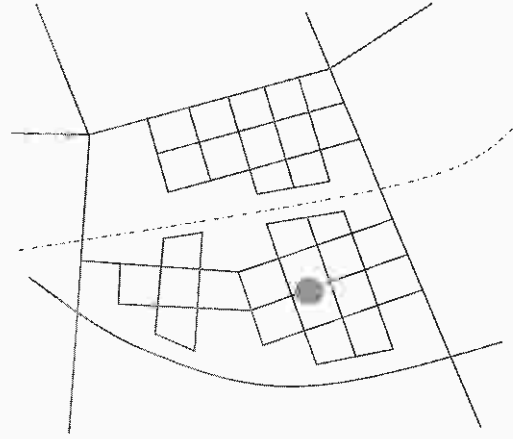


Landscaped park

Pedestrian sidewalk

On-street parking

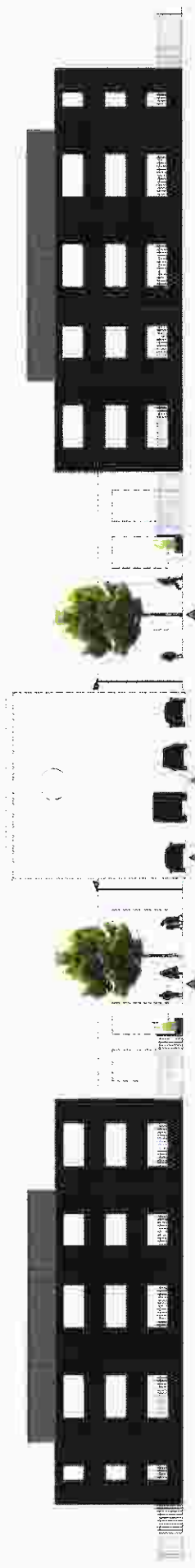
Single carriageway



core area

024

RESIDENTIAL STREET SECTION

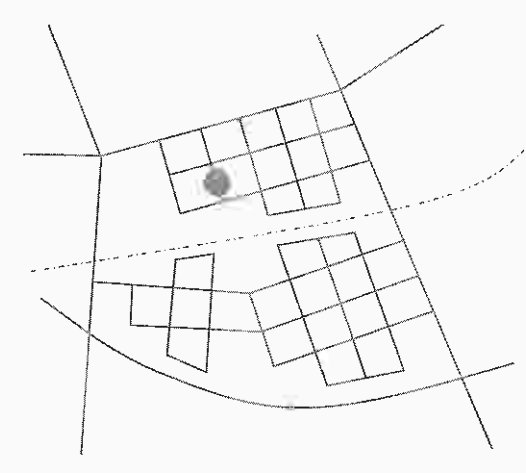


Landscaped sidewalk

Pedestrian sidewalk

On-street parking

Single carriageway



STATION STREET SECTION

MOVE

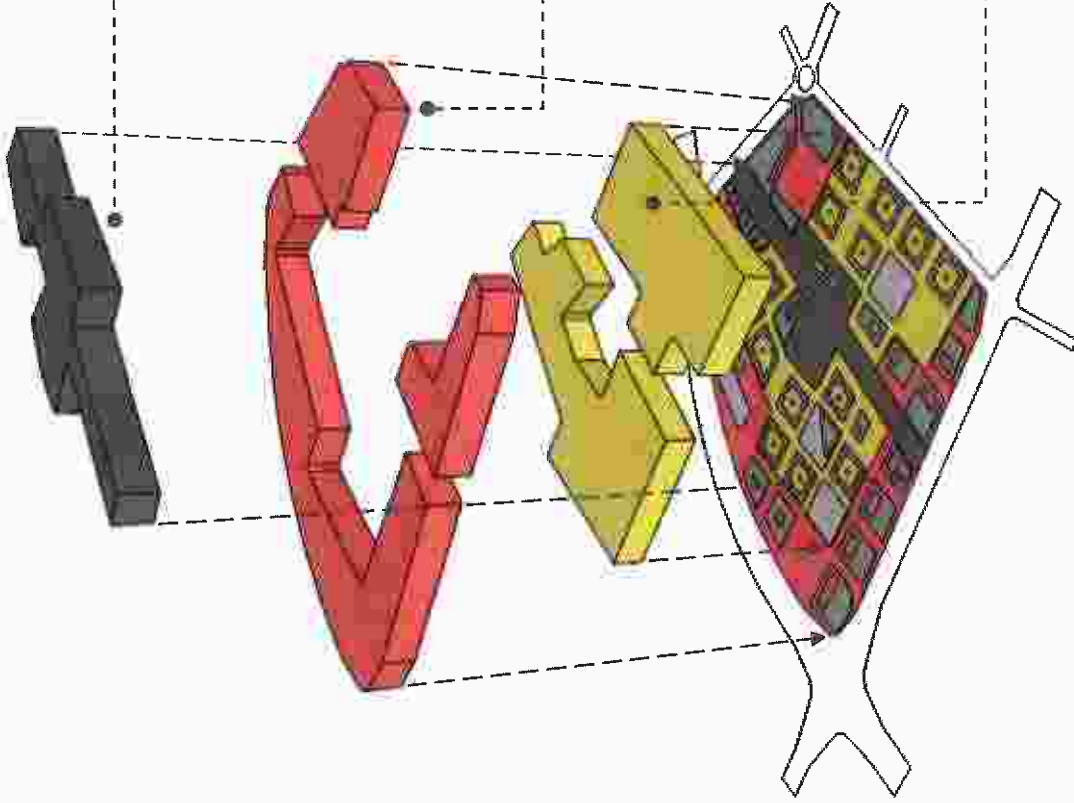
This component contains the movement infrastructure, including the station and taxi rank. It forms the central and focal parts of the core area.

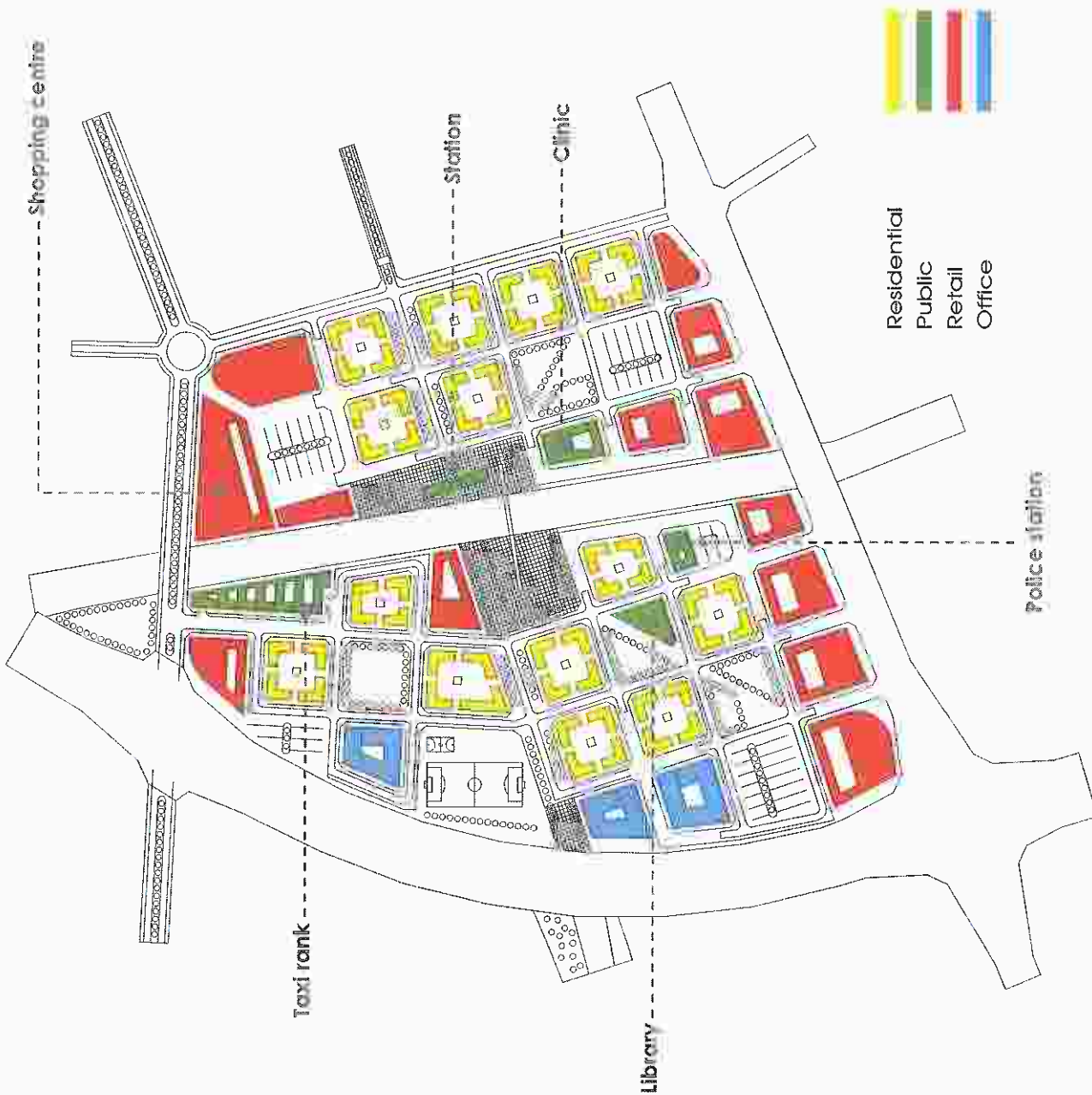
SHOP

The retail and office functions are located on the peripheral parts of the core area, next to the primary road network. This provides it easy access and visual access to from the primary road network. This land use band buffers the residential component from noise pollution created by the primary road network.

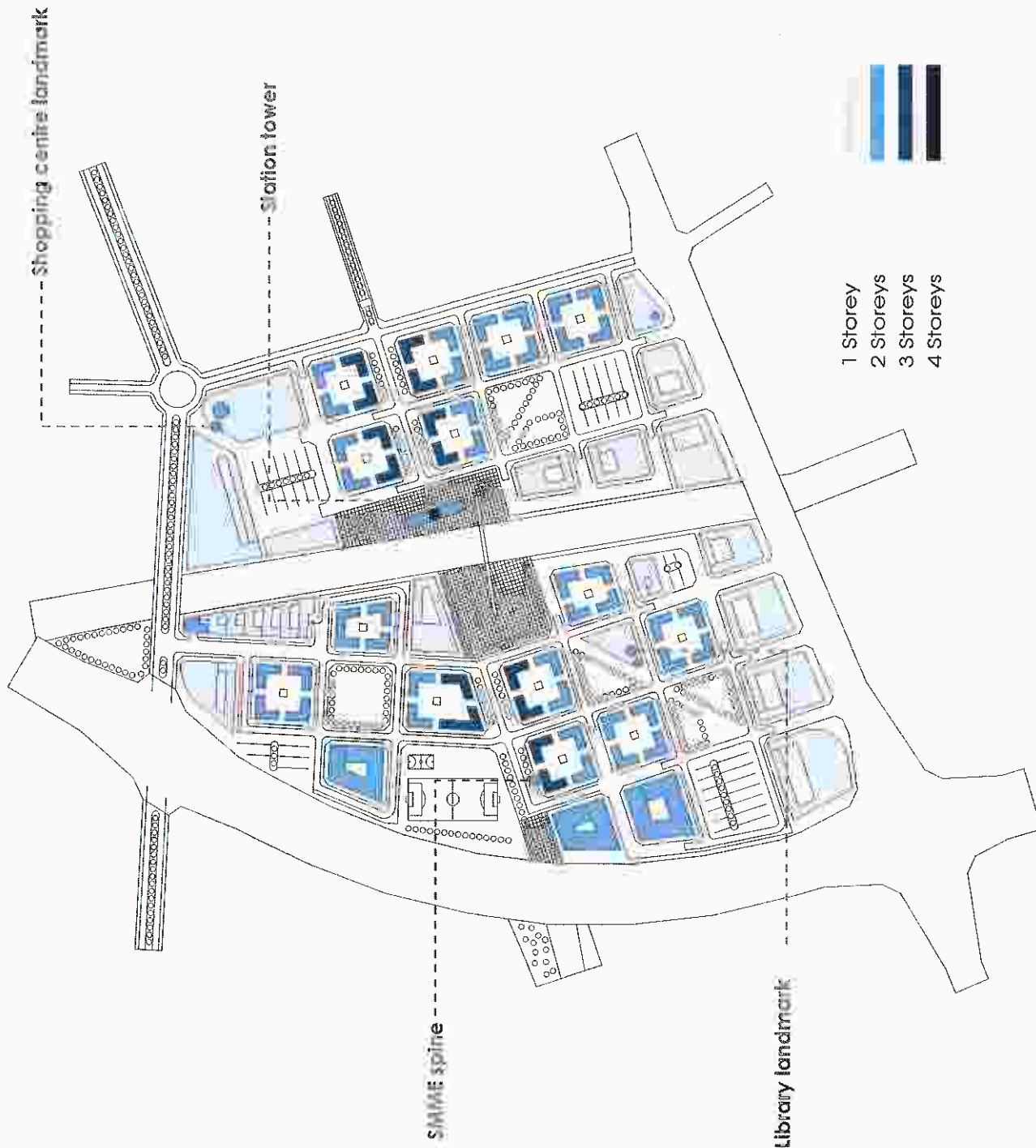
LIVE

The residential component is located within the central parts of the core area; close to the station and protected from the primary road network straddling the boundary of the core area. The residential component contain residential-supporting uses, such as community facilities and parks.





LAND USE



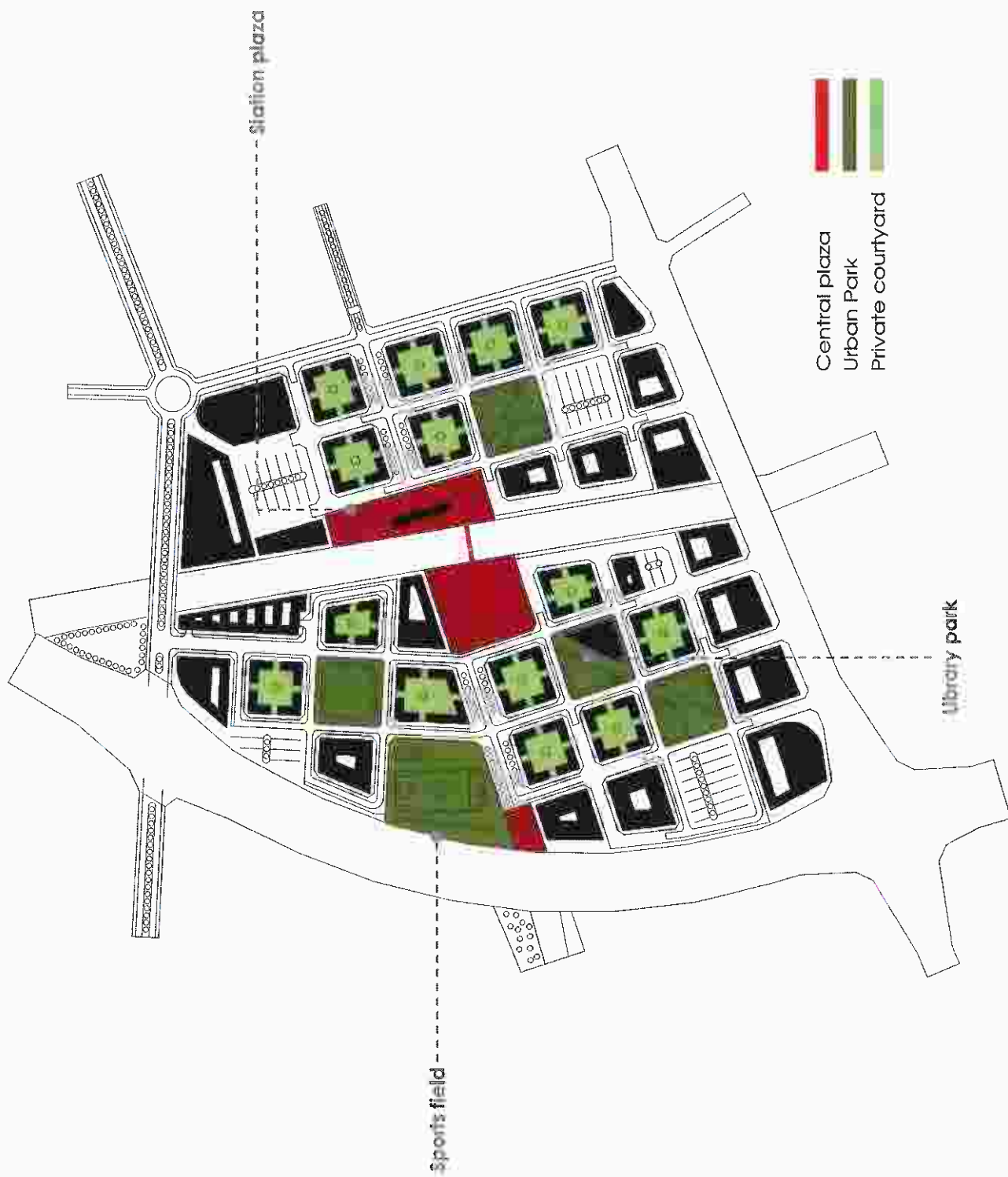
BUILDING HEIGHT



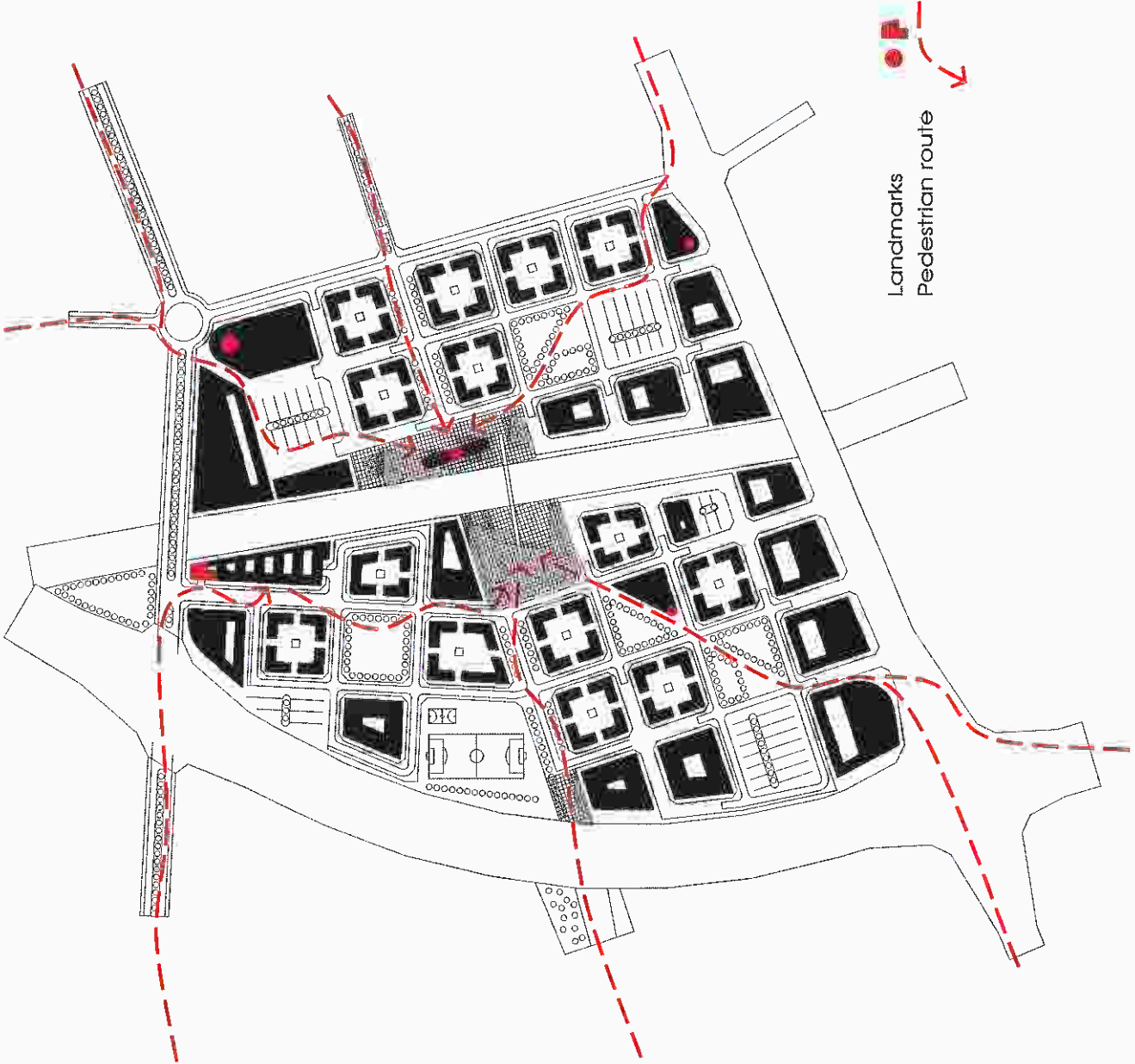
MASSING + DENSITY



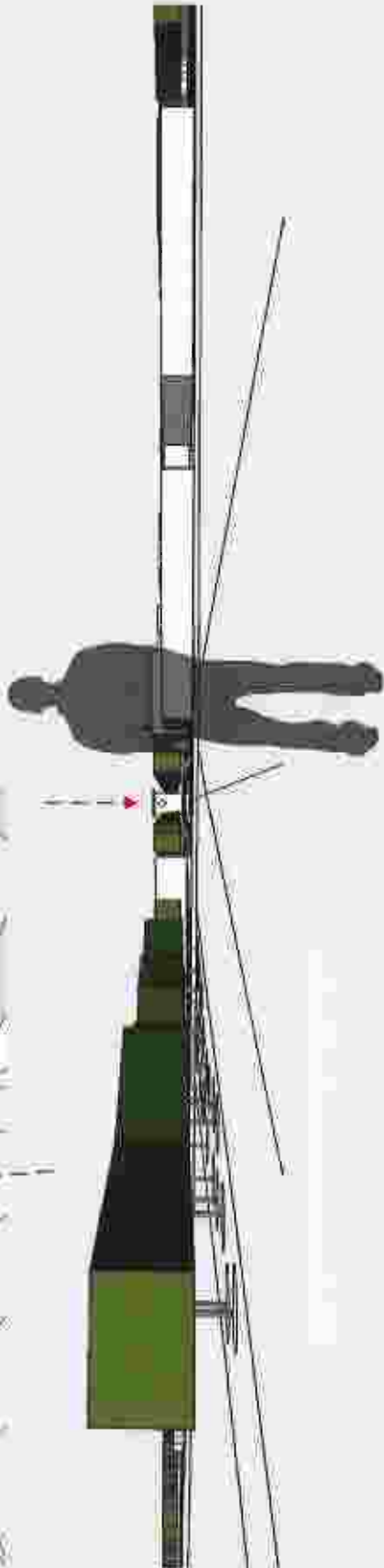
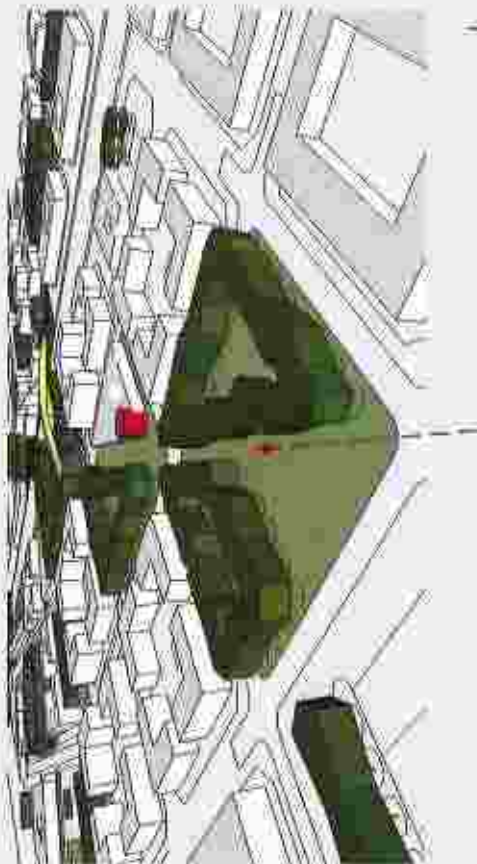
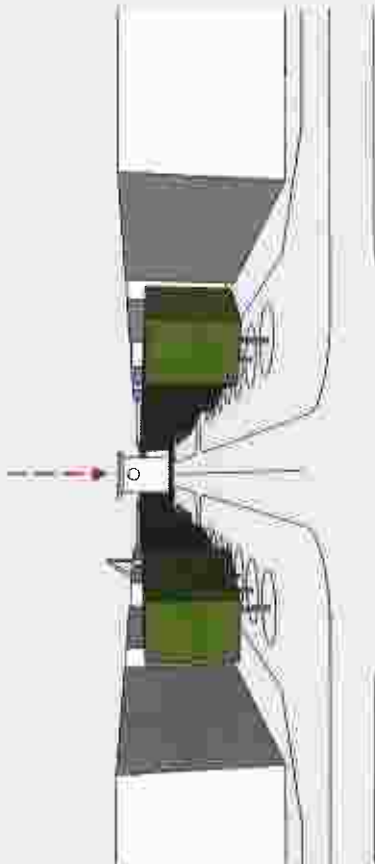
PARKING TYPOLOGIES



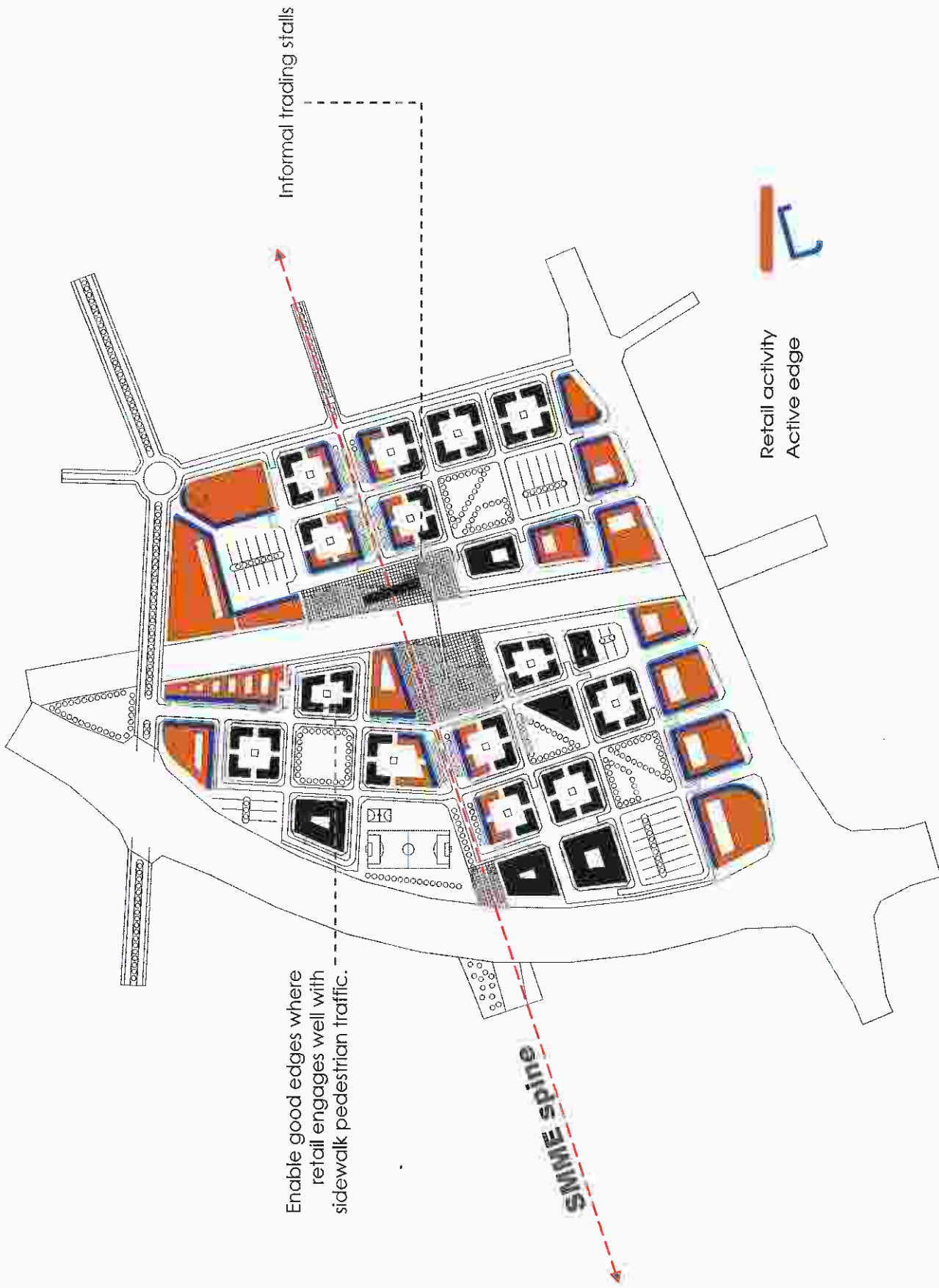
PUBLIC OPEN SPACE



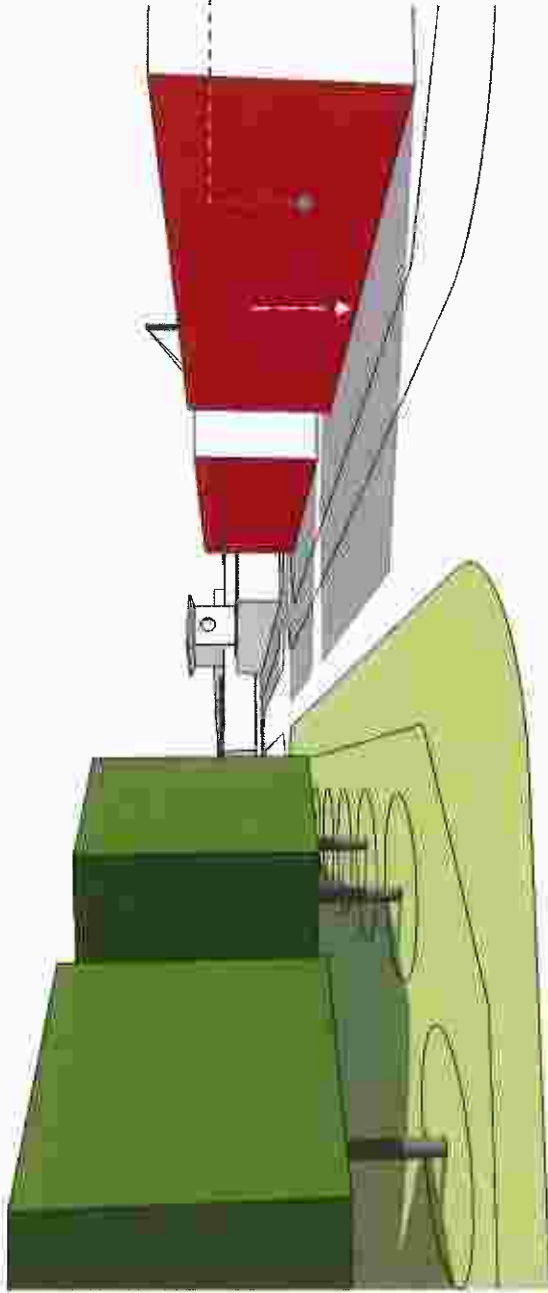
LANDMARKS + PEDESTRIANS



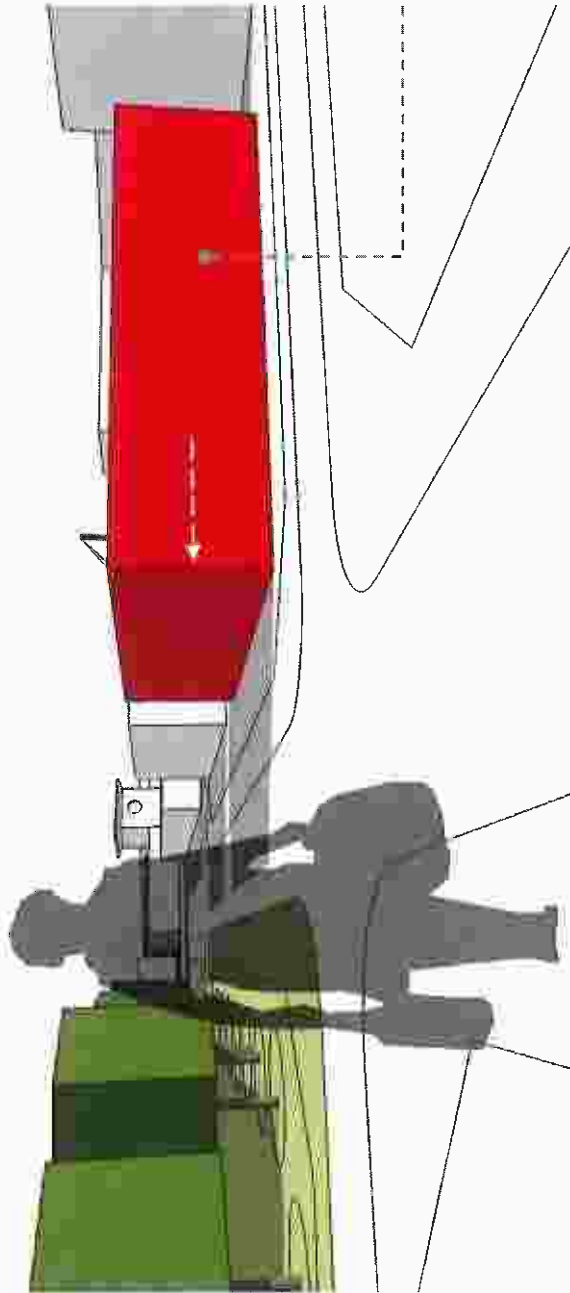
APPROACHES + VIEWS



ACTIVITY+EDGES



Boundary edging: Locate buildings close to property boundary to edge the street and create an enclosed street environment.



Street corner edging: Locate buildings on street corners to edge and enclose street intersections.

perspectives

2

5

6

4

1

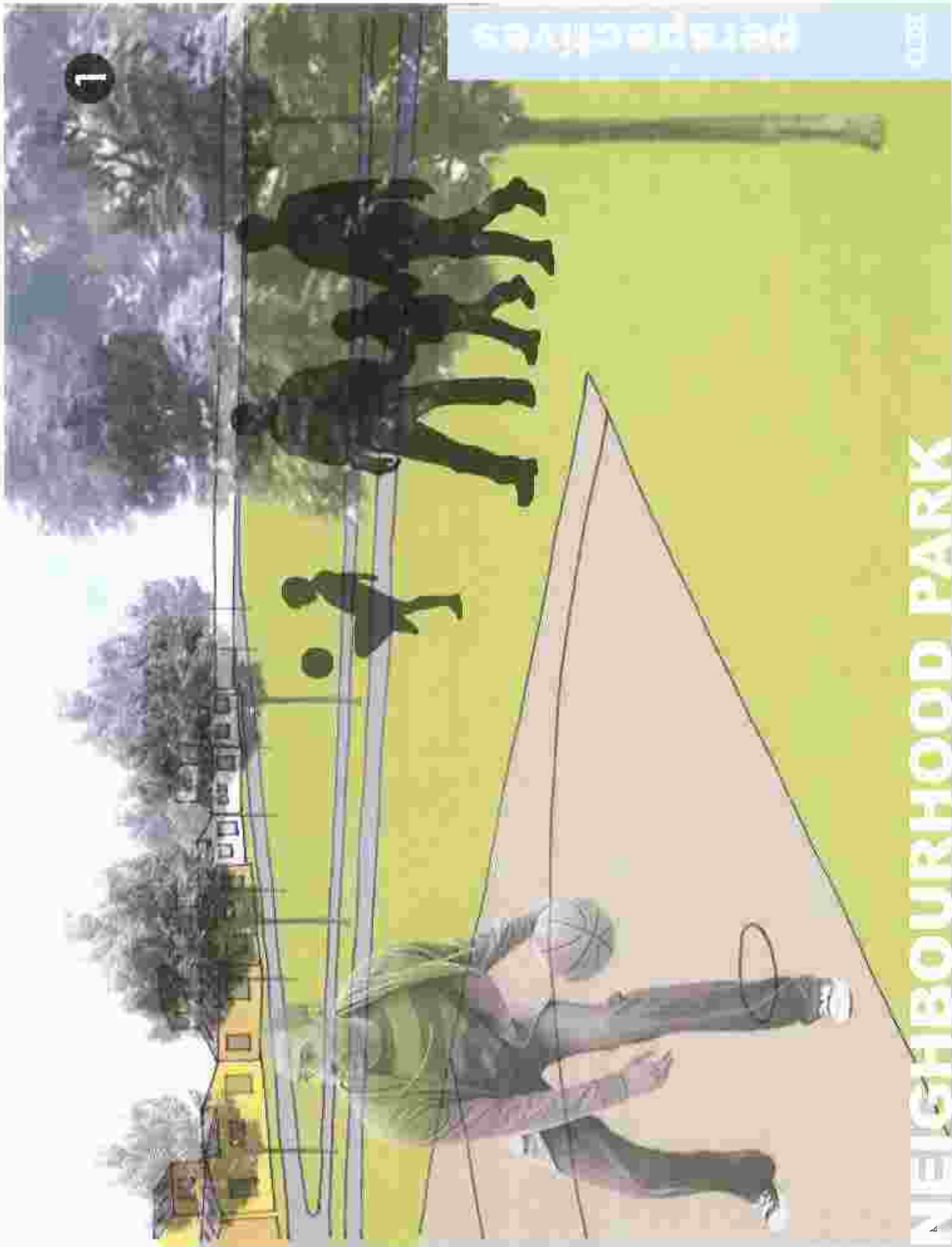
3

PERSPECTIVE LOCALITIES

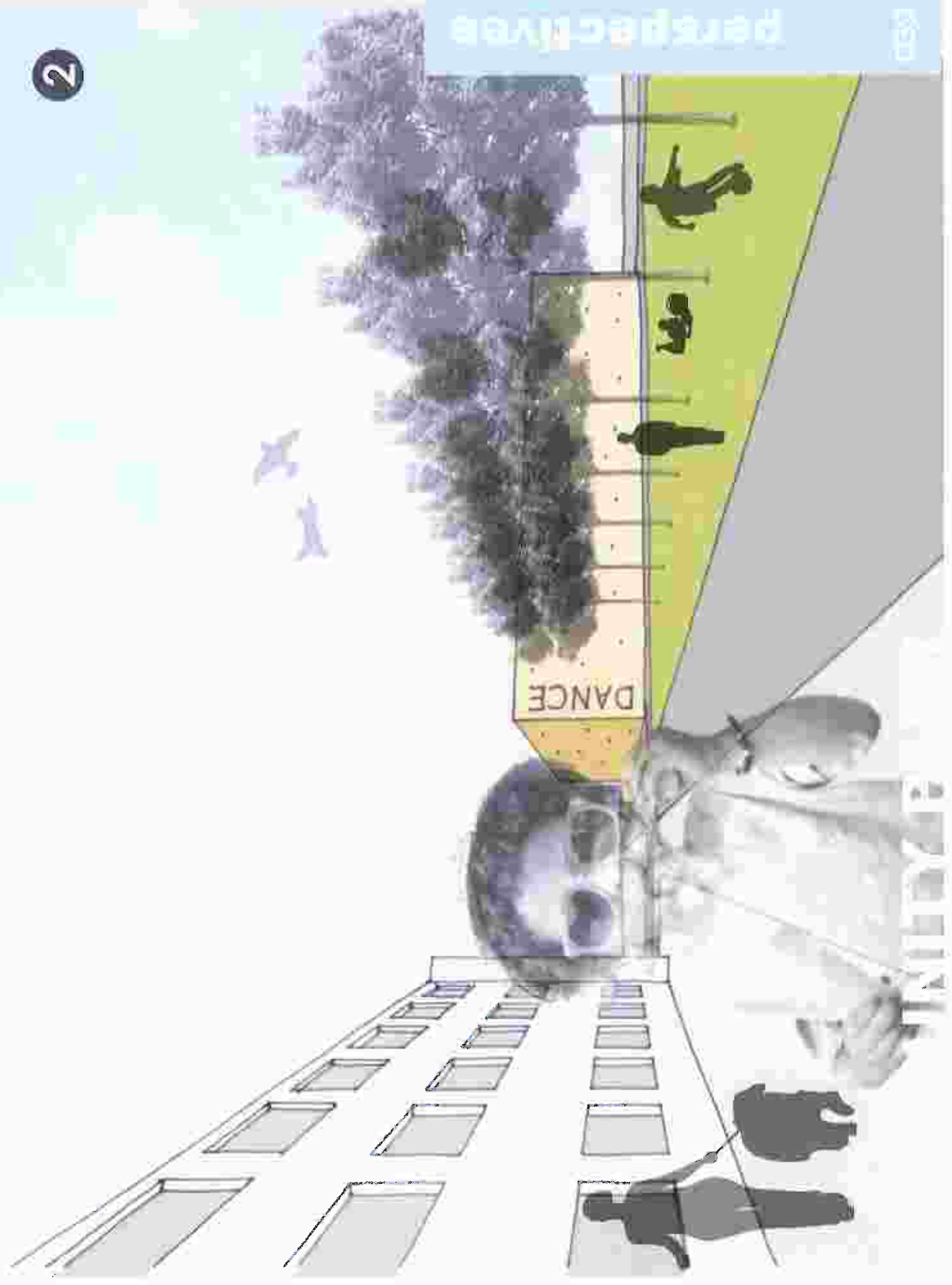
NEIGHBOURHOOD PARK

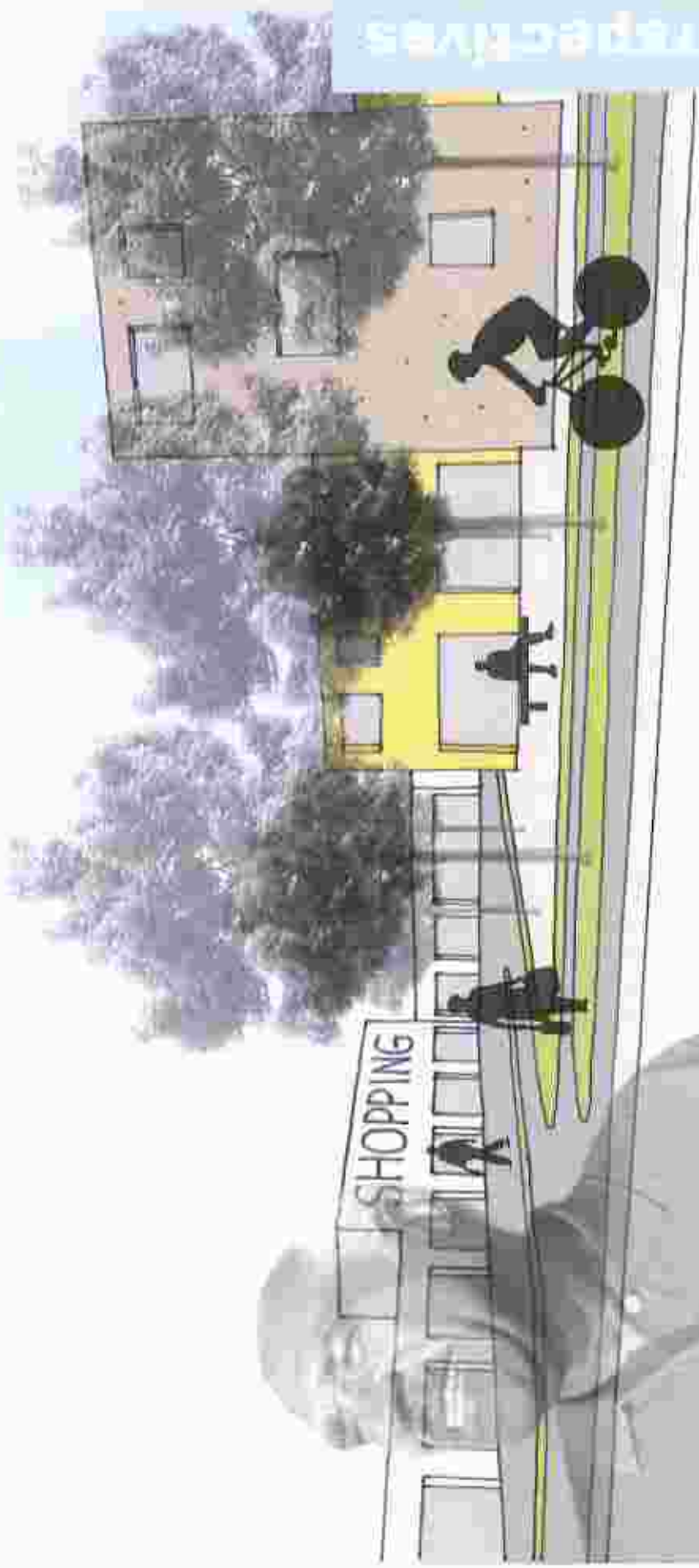
pet practices

0000



1



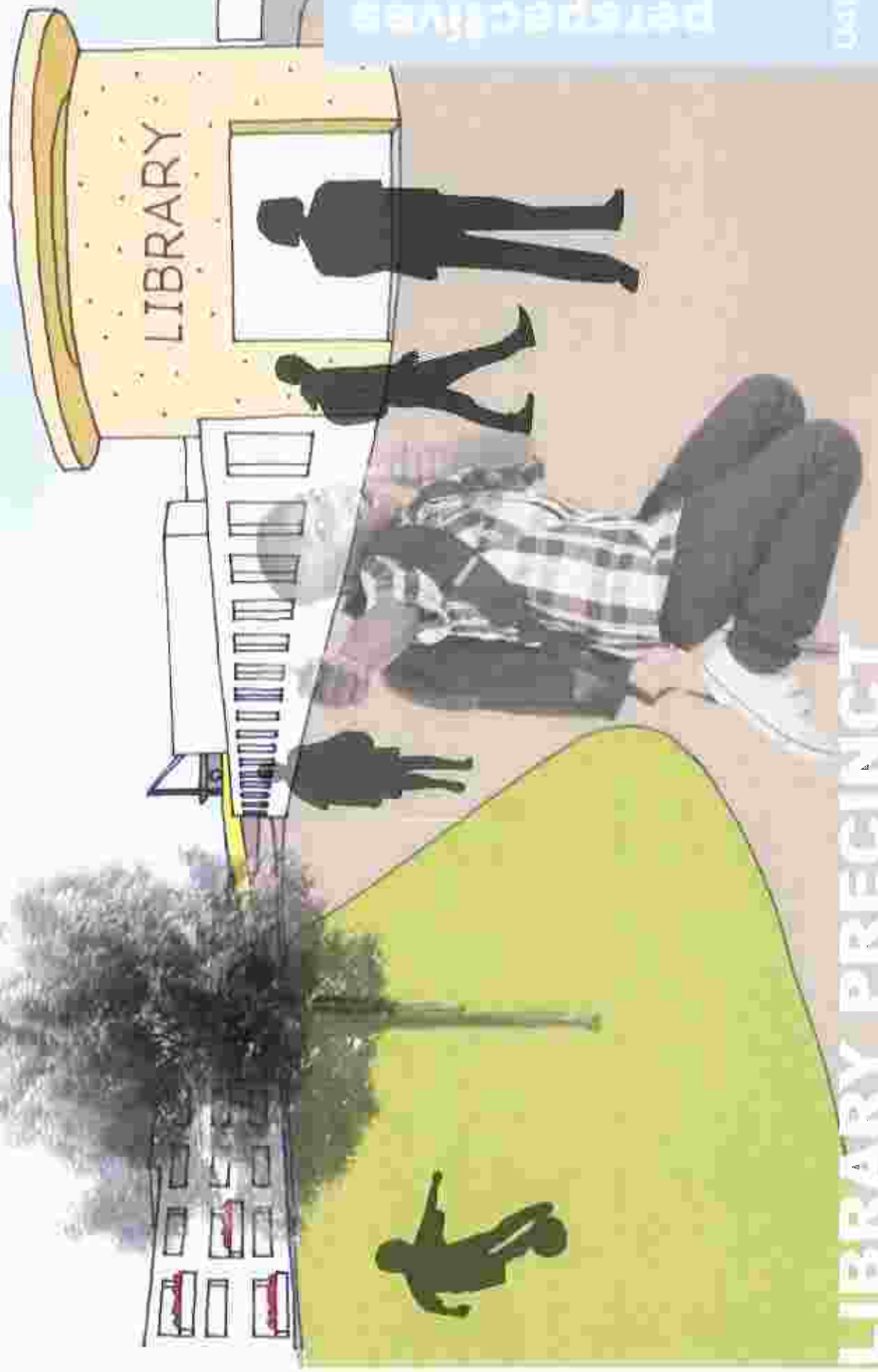


NEIGHBOURHOOD NODE

LIBRARY PRECINCT

perspectives

DATE



STATION PRECINCTS

012

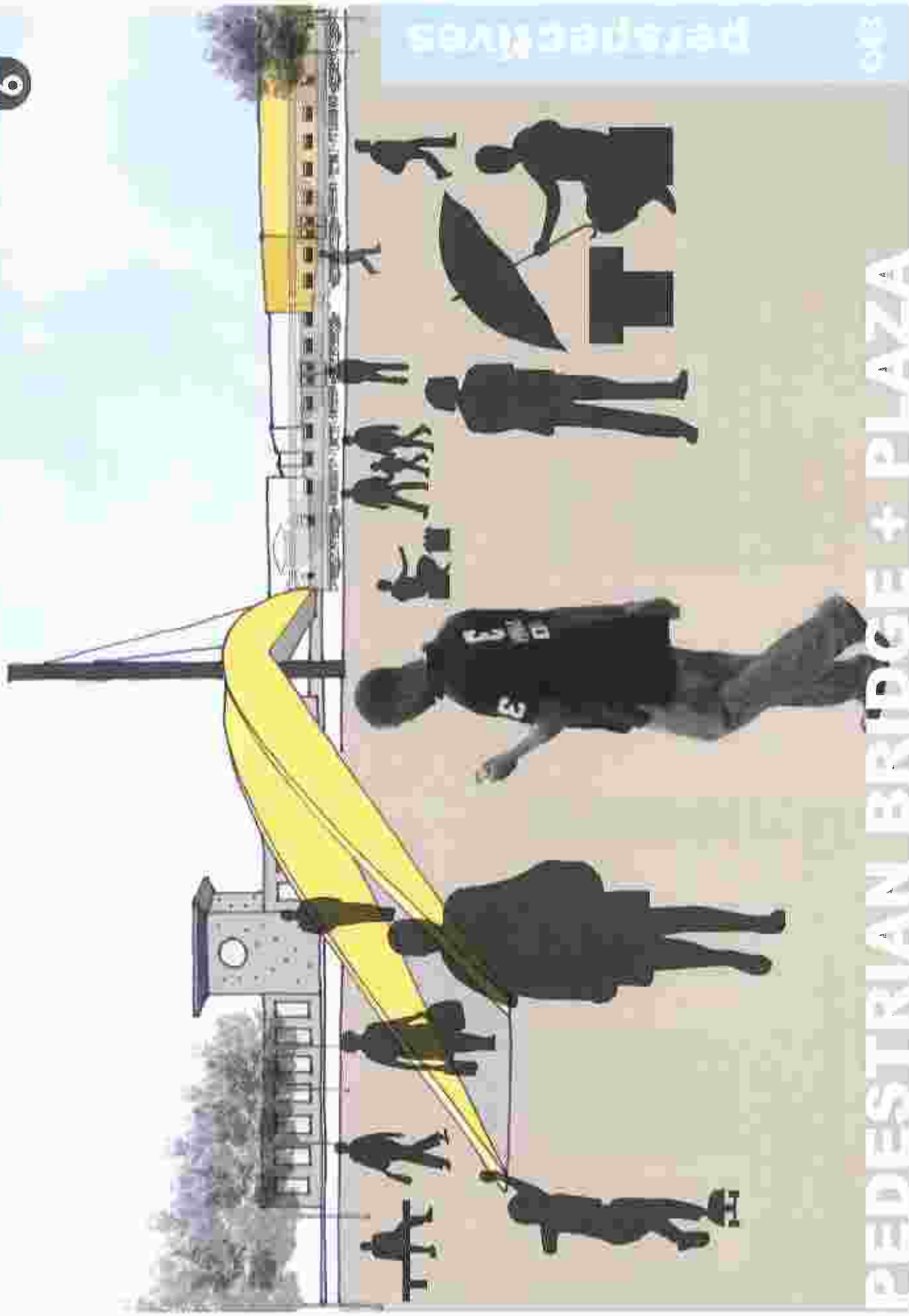
perspectives



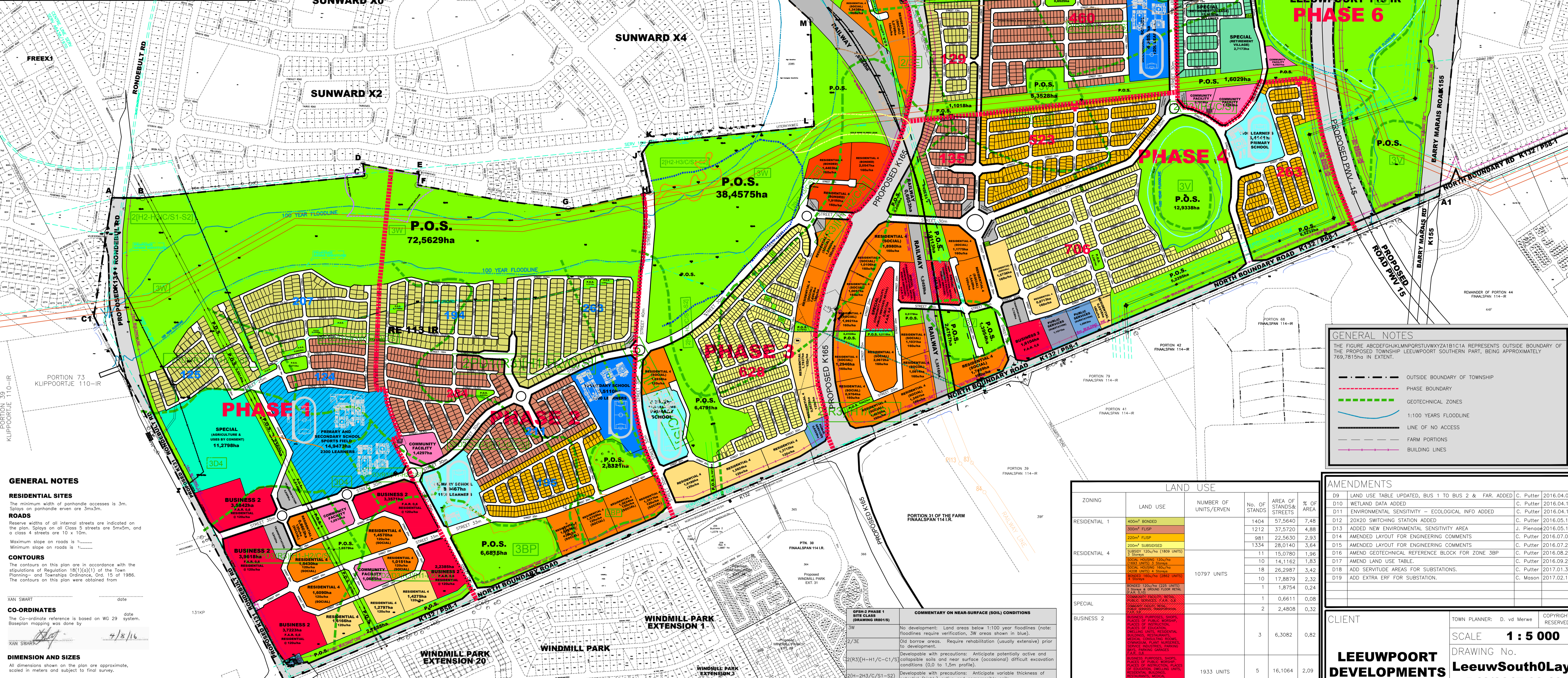
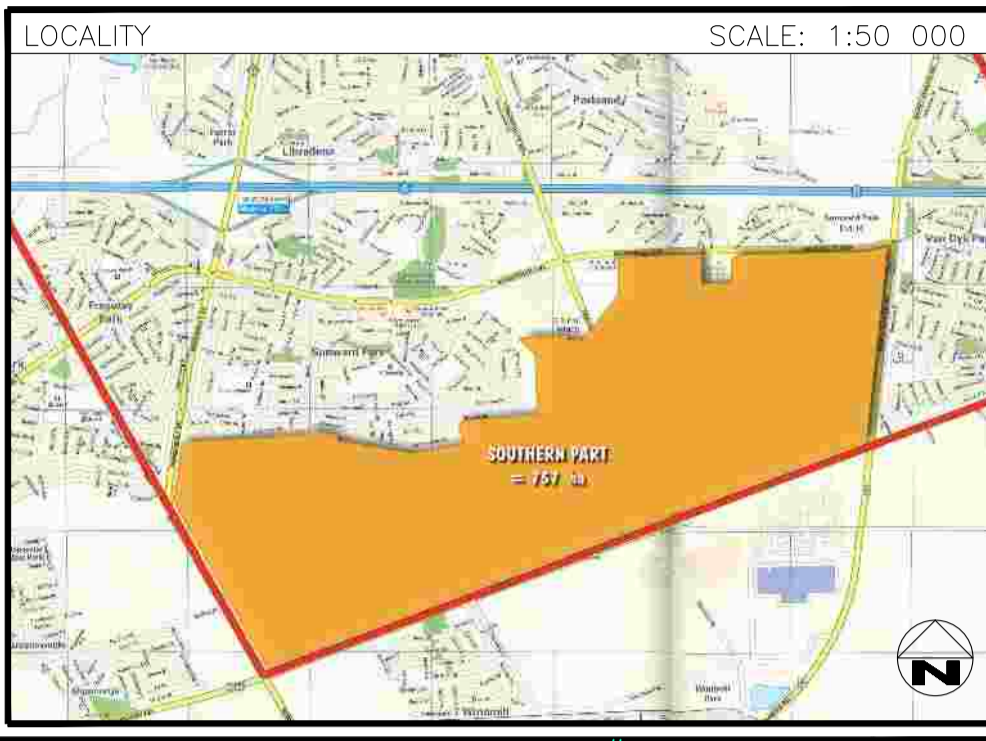
PEDESTRIAN BRIDGE + PLAZA

043

perspectives



PROJECT TOWNSHIP
LEEUWPOORT SOUTHERN PART
 SITUATED ON THE REMAINDER OF THE FARM LEEUWPOORT 113 IR
 LOCAL AUTHORITY : EKURHULENI METROPOLITAN MUNICIPALITY
 GEODETICAL SYSTEM : WG 29



GENERAL NOTES
RESIDENTIAL SITES
 The minimum width of parohande access is 3m. Sploys on parohande even are 3m x 3m.
ROADS
 Reserve widths of all internal streets are indicated on the plan. Sploys on all Class 5 streets are 6m x 5m, and a class 4 streets are 10 x 10m.
 Minimum slope on roads is 1:100.
CONTOURS
 The contours on this plan are in accordance with the stipulations of Regulation 18(1)(a)(1) of the Town Planning and Township Ordinance, Ord. 15 of 1986. The contours on this plan were obtained from
 XAN SWART date
CO-ORDINATES
 The Co-ordinate reference is based on WG 29 system. Baseline mapping was done by
 XAN SWART date 4/8/16
DIMENSION AND SIZES
 All dimensions shown on the plan are approximate, scaled in meters and subject to final survey.
FLOODWATER
 It is hereby certified that in accordance with section 144 of the national water act (Act 36 of 1998) that the flooding shown indicates the maximum level likely to be reached by floodwater on average once every 100 years.
CONSULTING ENGINEER date
GEOLOGICAL
 It is hereby certified that the layout of the Township complies with the recommendations and requirements set out in the geotechnical report no. IR801 Soils & IR801R dated November 2006.
 Engineering Geologist
 Firm

GENERAL NOTES
 THE FIGURE ABCDEFGHIJKLMNOPQRSTUVWXYZA1B1C1A REPRESENTS OUTSIDE BOUNDARY OF THE PROPOSED TOWNSHIP LEEUWPOORT SOUTHERN PART, BEING APPROXIMATELY 769,7815ha IN EXTENT.
 --- OUTSIDE BOUNDARY OF TOWNSHIP
 - - - PHASE BOUNDARY
 - - - GEOTECHNICAL ZONES
 --- 1:100 YEARS FLOODLINE
 --- LINE OF NO ACCESS
 --- FARM PORTIONS
 --- BUILDING LINES

ZONING		LAND USE			
		NUMBER OF UNITS/ERVEN	No. OF STANDS	AREA OF STANDS& STREETS	% OF AREA
RESIDENTIAL 1	400m ² BONDIC 300m ² FLSP	1404	57,5640	7,48	
	220m ² FLSP	1212	37,5720	4,88	
	200m ² SUBSIDISED	981	22,5630	2,93	
	1334	28,0140	3,64		
RESIDENTIAL 4	10797 UNITS	11	15,0780	1,96	
	10	14,1162	1,83		
	18	26,2987	3,42		
	10	17,8879	2,32		
	1	1,8754	0,24		
SPECIAL		1	0,6611	0,08	
BUSINESS 2		2	2,4808	0,32	
		3	6,3082	0,82	
		5	16,1064	2,09	
SPECIAL		1	1,1067	0,14	
		256	19,3067	2,51	
		1	11,2798	1,47	
PUBLIC SERVICES		4	2,4491	0,32	
		7	7,6585	0,99	
COMMUNITY FACILITY		5	18,8558	2,45	
		2	8,9862	1,19	
		1	14,9473	1,94	
PUBLIC OPEN SPACE		84	244,6586	31,78	
TRANSPORTATION		17	14,8082	1,92	
ROADS			55,4800	7,21	
			122,8805	15,97	
TOTAL		5370	769,8531	100%	

AMENDMENTS

D#	LAND USE TABLE UPDATED, BUS 1 TO BUS 2 & FAR. ADDED	C. Putter	2016.04.01
D10	WETLAND DATA ADDED	C. Putter	2016.04.13
D11	ENVIRONMENTAL SENSITIVITY - ECOLOGICAL INFO ADDED	C. Putter	2016.04.15
D12	20X20 SWITCHING STATION ADDED	C. Putter	2016.05.12
D13	ADDED NEW ENVIRONMENTAL SENSITIVITY AREA	J. Pienaar	2016.05.17
D14	AMENDED LAYOUT FOR ENGINEERING COMMENTS	C. Putter	2016.07.08
D15	AMENDED LAYOUT FOR ENGINEERING COMMENTS	C. Putter	2016.07.20
D16	AMEND GEOTECHNICAL REFERENCE BLOCK FOR ZONE 3BP	C. Putter	2016.08.22
D17	AMEND LAND USE TABLE	C. Putter	2016.09.22
D18	ADD SERVITUDE AREAS FOR SUBSTATIONS.	C. Putter	2017.01.30
D19	ADD EXTRA ERF FOR SUBSTATION.	C. Mason	2017.02.10

CLIENT
LEEUWPOORT DEVELOPMENTS (PTY)LTD
 TOWN PLANNER: D. vd Merwe
 SCALE: **1 : 5 000**
 DRAWING No. **LeeuwSouth0Lay D19/2017.02.10**
 LAYOUT PLAN STATUS **DRAFT**

URBAN DYNAMICS
 37 EMPIRE ROAD
 PARKTOWN
 P.O. BOX 291803
 MELVILLE
 2109
 TEL: (+27 11) 482-4131
 TEL: (+27 11) 482-9959
 E-MAIL: danie@urbandynamics.co.za

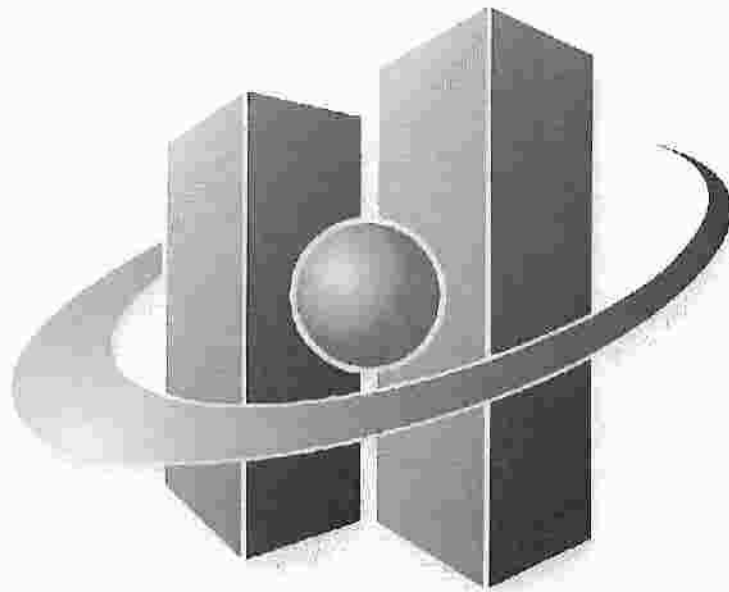
DIAGNOSTIC AREA DESIGNATION D

DIAGNOSTIC AREA DESIGNATION	DESCRIPTION
D1	No precautionary measures are required to permit the construction of housing units due to the geological setting.
D2	The risk of sinkhole and doline formation is adjudged to be such that only general precautionary measures, which are intended to prevent the concentrated ingress of water into the ground, are required to permit the construction of housing units.
D3	The risk of sinkhole and doline formation is adjudged to be such that, in addition to those pertaining to the prevention of concentrated ingress of water into the ground, are required to permit the construction of housing units.
D4	The risk of sinkhole and doline formation is such that precautionary measures cannot adequately reduce the risk to acceptable limits so as to permit the construction of housing units or the precautionary measures which are required impracticable to implement.

DIAGNOSTIC AREA DESIGNATION D

DIAGNOSTIC AREA DESIGNATION	DESCRIPTION
3W	No development: Land areas below 1:100 year floodlines (note: floodlines require verification, SW cross shown in blue).
2/3C	Developable with precautions: Require rehabilitation (usually extensive) prior to development.
2(R3)(H+H1/C-01/S)	Developable with precautions: Anticipate potentially active and collapsible soils and near surface (occasional) difficult excavation conditions (0,0 to 1,5m profile).
2(H+H2/C/S1-S2)	Developable with precautions: Anticipate variable thickness of potential (highly) active and compressible soils.
3D4	Dolomite Sub-Area: No Residential Development.
2(R3)(R3)	Developable with precaution: Dolomite Sub-Area (see IR801/R).
(H1-H2/C/S)	Anticipate variable thickness of potentially heave/shrink soils and near-surface (occasional) difficult excavation conditions (0,0 - 1,5m profile).
2(P2)/D3(R3)	Developable with precaution: Dolomite Sub-Area (see IR801/R).
(H1-H2/C/S)	Anticipate variable thickness of potentially heave/shrink soils and near-surface (occasional) difficult excavation conditions (0,0 - 1,5m profile).
2(R3)(H1-H2/C/S)	Developable with precautions: Anticipate variable thickness of potentially heave/shrink soils and near surface (occasional) difficult excavation conditions (0,0 to 1,5m profile).
2(R3)(H1/C/S)	Developable with precautions. Near surface difficult excavation conditions in 0,0 to 1,5m profile.
2(R3)(H1/C/S)	Developable with precautions: Anticipate potentially heave/shrink soils and near-surface (occasional) difficult excavation conditions in 0,0 to 1,5m profile.
3BP	Extensive and deep borrow pits with limited development potential. Possible use as materials sites for new townships.
3V	Developable with precautions: Anticipate potentially heave/shrink soils and near-surface (occasional) difficult excavation conditions in 0,0 to 1,5m profile. Limited development potential. Possible incorporation as stormwater attenuation ponds in new townships.

ANNEXURE D




URBAN DYNAMICS

**ANNEXURES TO THE EKURHULENI TOWN
PLANNING SCHEME, 2014**

ANNEXURE TO THE EKURHULENI TOWN PLANNING SCHEME, 2014

USE ZONE NUMBER	1
LAND USE CATEGORY (ZONING)	"RESIDENTIAL 1"
PRIMARY RIGHTS	"As per Scheme"
SECONDARY RIGHTS	"As per Scheme"
NO RIGHTS OR RIGHTS EXCLUDED	"As per Scheme"
DENSITY	1 dwelling unit per erf
HEIGHT	"As per Scheme" (2 Storeys)
COVERAGE	"As per Scheme" (60%)
FLOOR AREA RATIO (FAR)	Not Applicable
PARKING REQUIREMENTS	Sufficient parking space for the parking of one vehicle
LOADING REQUIREMENTS	"As per Scheme"
SITE DEVELOPMENT PLAN (SDP)	Not Required
BUILDING LINES	1.6m along Provincial Road Street Boundary: 2 meters Other Boundaries: As per Scheme 1 meter on 2 sides
SPECIAL BUILDING LINES	Not Applicable
LINES OF NO ACCESS	


ADDITIONAL CONDITIONS / SPECIAL RIGHTS / RESTRICTIONS:

CITY PLANNING OFFICE: BOKSBURG
AMENDMENT SCHEME
PROPERTY DESCRIPTION: Erven Leeuwpoot South situated on a part of the Remaining Extent of the Farm Leeuwpoot No 113IR
COMPILED BY AREA PLANNER:
CHECKED BY AREA MANAGER:
APPROVED BY:
DATE:
 Ekurhuleni METROPOLITAN MUNICIPALITY

ANNEXURE TO THE EKURHULENI TOWN PLANNING SCHEME, 2014

USE ZONE NUMBER	3
LAND USE CATEGORY (ZONING)	"RESIDENTIAL 3"
PRIMARY RIGHTS	"As per Scheme"
SECONDARY RIGHTS	"As per Scheme"
NO RIGHTS OR RIGHTS EXCLUDED	"As per Scheme"
DENSITY	46 Dwelling Units per Hectare
HEIGHT	"As per Scheme" (2 Storeys)
COVERAGE	"As per Scheme" (60%)
FLOOR AREA RATIO (FAR)	Not Applicable
PARKING REQUIREMENTS	Sufficient parking space for the parking of one vehicle
LOADING REQUIREMENTS	"As per Scheme"
SITE DEVELOPMENT PLAN (SDP)	Not Required
BUILDING LINES	16m along Provincial Road Street Boundary: 2 meters Other Boundaries: As per Scheme 1 meter on 2 sides
SPECIAL BUILDING LINES	Not Applicable
LINES OF NO ACCESS	


ADDITIONAL CONDITIONS / SPECIAL RIGHTS / RESTRICTIONS:

CITY PLANNING OFFICE: BOKSBURG
AMENDMENT SCHEME
PROPERTY DESCRIPTION: Erven Leeuwpoot South situated on a part of the Remaining Extent of the Farm Leeuwpoot No 113IR
COMPILED BY AREA PLANNER:
CHECKED BY AREA MANAGER:
APPROVED BY:
DATE:
 Ekurhuleni METROPOLITAN MUNICIPALITY

ANNEXURE TO THE EKURHULENI TOWN PLANNING SCHEME, 2014

USE ZONE NUMBER	3
LAND USE CATEGORY (ZONING)	"RESIDENTIAL 3"
PRIMARY RIGHTS	"As per Scheme"
SECONDARY RIGHTS	"As per Scheme"
NO RIGHTS OR RIGHTS EXCLUDED	"As per Scheme"
DENSITY	50 dwelling units per hectare
HEIGHT	"As per Scheme" (2 Storeys)
COVERAGE	"As per Scheme" (60%)
FLOOR AREA RATIO (FAR)	Not Applicable
PARKING REQUIREMENTS	Sufficient parking space for the parking of one vehicle
LOADING REQUIREMENTS	"As per Scheme"
SITE DEVELOPMENT PLAN (SDP)	Not Required
BUILDING LINES	Street Boundary: 2 meters Other Boundaries: 1 meter on 2 sides
SPECIAL BUILDING LINES	Not Applicable
LINES OF NO ACCESS	


ADDITIONAL CONDITIONS / SPECIAL RIGHTS / RESTRICTIONS:

CITY PLANNING OFFICE: BOKSBURG
AMENDMENT SCHEME
PROPERTY DESCRIPTION: Erven Leeuwpoot South situated on a part of the Remaining Extent of the Farm Leeuwpoot No 113R
COMPILED BY AREA PLANNER:
CHECKED BY AREA MANAGER:
APPROVED BY:
DATE:
 Ekurhuleni METROPOLITAN MUNICIPALITY

ANNEXURE TO THE EKURHULENI TOWN PLANNING SCHEME, 2014

USE ZONE NUMBER	4
LAND USE CATEGORY (ZONING)	"RESIDENTIAL 4"
PRIMARY RIGHTS	"As per Scheme"
SECONDARY RIGHTS	"As per Scheme"
NO RIGHTS OR RIGHTS EXCLUDED	"As per Scheme"
DENSITY	120 Dwelling Units per Hectare
HEIGHT	"As per Scheme" (3 Storeys)
COVERAGE	60%
FLOOR AREA RATIO (FAR)	Not Applicable
PARKING REQUIREMENTS	0,5 parking spaces per dwelling unit
LOADING REQUIREMENTS	"As per Scheme"
SITE DEVELOPMENT PLAN (SDP)	Required
BUILDING LINES	16m along Provincial Road Street Boundary: 2 meters Other Boundaries: 2 meters on all sides
SPECIAL BUILDING LINES	Not Applicable
LINES OF NO ACCESS	


ADDITIONAL CONDITIONS / SPECIAL RIGHTS / RESTRICTIONS:

CITY PLANNING OFFICE: BOKSBURG
AMENDMENT SCHEME
PROPERTY DESCRIPTION: Erven Leeuwpoot South situated on a part of the Remaining Extent of the Farm Leeuwpoot No 1131R
COMPILED BY AREA PLANNER:
CHECKED BY AREA MANAGER:
APPROVED BY:
DATE:
 Ekurhuleni METROPOLITAN MUNICIPALITY

ANNEXURE TO THE EKURHULENI TOWN PLANNING SCHEME, 2014

USE ZONE NUMBER	4
LAND USE CATEGORY (ZONING)	"RESIDENTIAL 4"
PRIMARY RIGHTS	"As per Scheme"
SECONDARY RIGHTS	"As per Scheme"
NO RIGHTS OR RIGHTS EXCLUDED	"As per Scheme"
DENSITY	160 Dwelling Units per Hectare
HEIGHT	"As per Scheme" (4 Storeys)
COVERAGE	60%
FLOOR AREA RATIO (FAR)	Not Applicable
PARKING REQUIREMENTS	0,5 parking spaces per dwelling unit
LOADING REQUIREMENTS	"As per Scheme"
SITE DEVELOPMENT PLAN (SDP)	Required
BUILDING LINES	16m along Provincial Road Street Boundary: 2 meters Other Boundaries: 2 meters on 2 sides
SPECIAL BUILDING LINES	Not Applicable
LINES OF NO ACCESS	


ADDITIONAL CONDITIONS / SPECIAL RIGHTS / RESTRICTIONS:

CITY PLANNING OFFICE:	BOKSBURG
AMENDMENT SCHEME	
PROPERTY DESCRIPTION:	Erven Leeuwpoot South situated on a part of the Remaining Extent of the Farm Leeuwpoot No 113IR
COMPILED BY AREA PLANNER:
CHECKED BY AREA MANAGER:
APPROVED BY:
DATE:
 Ekurhuleni METROPOLITAN MUNICIPALITY	

ANNEXURE TO THE EKURHULENI TOWN PLANNING SCHEME, 2014

USE ZONE NUMBER	4
LAND USE CATEGORY (ZONING)	"RESIDENTIAL 4" "As per Scheme"
PRIMARY RIGHTS	"As per Scheme"
SECONDARY RIGHTS	"As per Scheme"
NO RIGHTS OR RIGHTS EXCLUDED	"As per Scheme"
DENSITY	180 dwelling units per hectare
HEIGHT	"As per Scheme" (4 Storeys)
COVERAGE	60%
FLOOR AREA RATIO (FAR)	Not Applicable
PARKING REQUIREMENTS	0,6 parking spaces per dwelling unit
LOADING REQUIREMENTS	"As per Scheme"
SITE DEVELOPMENT PLAN (SDP)	Required
BUILDING LINES	16m along Provincial Road Street Boundary: 2 meters Other Boundaries: 2 meters on all sides
SPECIAL BUILDING LINES	Not Applicable
LINES OF NO ACCESS	


ADDITIONAL CONDITIONS / SPECIAL RIGHTS / RESTRICTIONS:

CITY PLANNING OFFICE: BOKSBURG
AMENDMENT SCHEME
PROPERTY DESCRIPTION: Erven Leeuwpoot South situated on a part of the Remaining Extent of the Farm Leeuwpoot No 113IR
COMPILED BY AREA PLANNER:
CHECKED BY AREA MANAGER:
APPROVED BY:
DATE:
 Ekurhuleni METROPOLITAN MUNICIPALITY

ANNEXURE TO THE EKURHULENI TOWN PLANNING SCHEME, 2014

USE ZONE NUMBER	6
LAND USE CATEGORY (ZONING)	"BUSINESS 2"
PRIMARY RIGHTS	"As per Scheme"
SECONDARY RIGHTS	"As per Scheme"
NO RIGHTS OR RIGHTS EXCLUDED	"As per Scheme"
DENSITY	Not applicable
HEIGHT	3 Storeys
COVERAGE	60%
FLOOR AREA RATIO (FAR)	0.6
PARKING REQUIREMENTS	"As per Scheme"
LOADING REQUIREMENTS	"As per Scheme"
SITE DEVELOPMENT PLAN (SDP)	Required
BUILDING LINES	16m along Provincial Road Street Boundary: 5 meters Other Boundaries: 5 meters on all sides
SPECIAL BUILDING LINES	Not Applicable
LINES OF NO ACCESS	


ADDITIONAL CONDITIONS / SPECIAL RIGHTS / RESTRICTIONS:

CITY PLANNING OFFICE: BOKSBURG
AMENDMENT SCHEME
PROPERTY DESCRIPTION: Erf Leeuwpoot South situated on a part of the Remaining Extent of the Farm Leeuwpoot No 113IR
COMPILED BY AREA PLANNER:
CHECKED BY AREA MANAGER:
APPROVED BY:
DATE:.....
 Ekurhuleni METROPOLITAN MUNICIPALITY

ANNEXURE TO THE EKURHULENI TOWN PLANNING SCHEME, 2014

USE ZONE NUMBER	7
LAND USE CATEGORY (ZONING)	"BUSINESS 3"
PRIMARY RIGHTS	"As per Scheme"
SECONDARY RIGHTS	"As per Scheme"
NO RIGHTS OR RIGHTS EXCLUDED	"As per Scheme"
DENSITY	Not Applicable
HEIGHT	"As per Scheme" (3 Storeys)
COVERAGE	"As per Scheme" (50%)
FLOOR AREA RATIO (FAR)	0.7
PARKING REQUIREMENTS	"As per Scheme"
LOADING REQUIREMENTS	"As per Scheme"
SITE DEVELOPMENT PLAN (SDP)	Required
BUILDING LINES	16m along Provincial Road Street Boundary: 5 meters Other Boundaries: 5 meters on all sides
SPECIAL BUILDING LINES	Not Applicable
LINES OF NO ACCESS	


ADDITIONAL CONDITIONS / SPECIAL RIGHTS / RESTRICTIONS:

CITY PLANNING OFFICE: BOKSBURG
AMENDMENT SCHEME
PROPERTY DESCRIPTION: Erven Leeuwpoot South situated on a part of the Remaining Extent of the Farm Leeuwpoot No 113JR
COMPILED BY AREA PLANNER:
CHECKED BY AREA MANAGER:
APPROVED BY:
DATE:
 Ekurhuleni METROPOLITAN MUNICIPALITY

ANNEXURE TO THE EKURHULENI TOWN PLANNING SCHEME, 2014

USE ZONE NUMBER	15
LAND USE CATEGORY (ZONING)	"PUBLIC OPEN SPACE"
PRIMARY RIGHTS	"As per Scheme"
SECONDARY RIGHTS	"As per Scheme"
NO RIGHTS OR RIGHTS EXCLUDED	"As per Scheme"
DENSITY	Not Applicable
HEIGHT	"As per Scheme"
COVERAGE	"As per Scheme"
FLOOR AREA RATIO (FAR)	"As per Scheme"
PARKING REQUIREMENTS	"As per Scheme"
LOADING REQUIREMENTS	"As per Scheme"
SITE DEVELOPMENT PLAN (SDP)	Required
BUILDING LINES	"As per Scheme"
SPECIAL BUILDING LINES	"As per Scheme"
LINES OF NO ACCESS	"As per Scheme"


ADDITIONAL CONDITIONS / SPECIAL RIGHTS / RESTRICTIONS:

CITY PLANNING OFFICE: BOKSBURG
AMENDMENT SCHEME
PROPERTY DESCRIPTION: Erven Leeuwoort South situated on a part of the Remaining Extent of the Farm Leeuwoort No 113IR
COMPILED BY AREA PLANNER:
CHECKED BY AREA MANAGER:
APPROVED BY:
DATE:
 Ekurhuleni METROPOLITAN MUNICIPALITY

ANNEXURE TO THE EKURHULENI TOWN PLANNING SCHEME, 2014

USE ZONE NUMBER	16
LAND USE CATEGORY (ZONING)	"COMMUNITY FACILITY"
PRIMARY RIGHTS	"As per Scheme"
SECONDARY RIGHTS	"As per Scheme"
NO RIGHTS OR RIGHTS EXCLUDED	"As per Scheme"
DENSITY	Not Applicable
HEIGHT	3 Storeys
COVERAGE	50%
FLOOR AREA RATIO (FAR)	0.6
PARKING REQUIREMENTS	"As per Scheme"
LOADING REQUIREMENTS	"As per Scheme"
SITE DEVELOPMENT PLAN (SDP)	Required
BUILDING LINES	16m along Provincial Roads Street Boundary: 2 meters Other Boundaries: 02 meters
SPECIAL BUILDING LINES	Not Applicable
LINES OF NO ACCESS	

ADDITIONAL CONDITIONS / SPECIAL RIGHTS / RESTRICTIONS:

CITY PLANNING OFFICE: BOKSBURG
AMENDMENT SCHEME
PROPERTY DESCRIPTION: Erven Leeuwpoot South situated on a part of the Remaining Extent of the Farm Leeuwpoot No 113JR
COMPILED BY AREA PLANNER:
CHECKED BY AREA MANAGER:
APPROVED BY:
DATE:
 Ekurhuleni METROPOLITAN MUNICIPALITY