

8. ENVIRONMENTAL MANAGEMENT PLAN (EMP)

The purpose of this chapter is to provide a plan to manage the environmental impacts, issues and risks associated with the site.

8.1 OBJECTIVES OF THE EMP

The main objectives of the Environmental Management Plan (EMP) are to ensure that:

- mitigation measures are identified and implemented to avoid or minimise the expected negative environmental impact and enhance the potential positive impact associated with the project;
- the developer, construction workers and the operational and maintenance staff are well acquainted with their responsibilities in terms of the environment;
- communication channels to report on environment related issues are in place.

8.2 DETAILS OF THE PERSON WHO PREPARED THE EMP

Landscape Dynamics Environmental Consultants is the Environmental Assessment Practitioner (EAP) for the project. Landscape Dynamics cc is an environmental consultancy firm, established in May 1997. The main line of business since that time up to the present date is, the compilation of environmental impact assessments. Additional expertise includes landscape rehabilitation, landscape design and the zoning of dam basins.

The team responsible for this project includes Annelize Grobler and Ria Pretorius. Annelize is a qualified landscape architect and Ria is a trained psychologist. Annelize & Ria undertook post-graduate studies in environmental management at the University of Cape Town and the Potchefstroom University of Higher Education.

Details regarding the company and project details are included in the Company Profile together with the Curriculum Vitae attached in Addendum G.

8.3 DETAILS OF THE PROPOSED ACTIVITIES

This Environmental Management Plan has been compiled for the proposed Chloorkop X65 on Portions 38 & 39 (Portions of Portion 12) and Re of Portion 44 (a Portion of Portion 18) of the Farm Mooifontein 14-IR, is situated in Chloorkop, Kempton Park.

The site is 21.5063 hectares in extent and is designed as a Security Controlled Industrialised Township. The development will consist of the following:

Land Use	No of Stands	Area of Stands	% Of Township Area
Industrial 1	61	16,4596 ha	76.53%
"Special" for access purposes, access control and municipal services	1	3,4963 ha	16.26%
Private Open Space for allenuation purposes	2	0,3878 ha	1.80%
Public Street		1,1626 ha	5.41%
Total	64	21.5063 ha	100%

A Section 21 Company will be registered for the maintenance of the scheme and the upkeep of the services, internal roads and private open space areas (for attenuation purposes) and relevant facilities in the land development area.

The applicable legislation in terms of the environment refers to procedures prescribed by the provisions of the Environmental Impact Assessment Regulations, 2006, made under Section 24 (5) of the National Environmental Management Act, 1998 (Act No 107 of 1998). Application for environmental authorisation is lodged with the Gauteng Department of Agriculture, Conservation and Environment.

Government Notice No. R. 387 of 21 April 2006 made under Section 24 (5) of the National Environmental Management Act (NEMA) are applicable and the following listed activities apply:

2. "Any development activity, including associated structures and infrastructure, where the total area of the development area is, or is intended to be, 20 hectares or more".

Government Notice No. R. 386 of 21 April 2006 is also applicable and the following listed activities apply:

- 1(k) The construction of facilities or infrastructure, including associated structures or infrastructure, for the bulk transportation of sewage and water, including storm water, in pipelines with-
 - (i) an internal diameter of 0,36 meters or more; or
 - (ii) a peak throughput of 120 liters per second or more
- 1(o) The construction of facilities or infrastructure, including associated structures or infrastructure, for the recycling, re-use, handling, temporary storage or treatment of general waste with a throughput capacity of 20 cubic metres or more daily average measured over a period of 30 days, but less than 50 tons daily average measured over a period of 30 days
- 1(p) The construction of facilities or infrastructure, including associated structures or infrastructure, for the temporary storage of hazardous waste.
15. The construction of a road that is wider than 4 meters or that has a reserve wider than 6 meters, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 meters long.
18. The Subdivision of Portions of land 9 hectares or larger into portions of 5 hectares or less.

8.4 DETAILS OF PERSON RESPONSIBLE FOR IMPLEMENTATION OF EMP

The following undertaking must be filled out and signed by the applicant and forwarded to GDACE prior to commencement of construction:

8.4.1 Agreement & Undertaking of the Developer

I hereby confirm and state that I am aware of the contents of the Environmental Management Plan and the conditions of the Record of Decision and shall comply with all legislation pertaining to the nature of the work to be done and all things accidental thereto.

Signed on behalf of _____

Date: _____

Place: _____

Signature: _____

Full Name: _____

Postal Address: _____

Physical Address: _____

Office Telephone Number: _____

8.5 PROPOSED MECHANISM FOR MONITORING COMPLIANCE

- An Environmental Control Officer (ECO) must be appointed by the applicant as soon as possible prior to commencement of construction.
- The key responsibility of the ECO is to ensure that all the conditions stipulated in the EMP and the Record of Decision (ROD) are being adhered to.
- The ECO must attend site meetings at least once a month and inspect the construction site on a regular basis to ensure that the mitigation and rehabilitation measures are applied.
- An environmental register should be kept on site in which incidents related to actual impacts are recorded. This may include information related to such aspects as spillages, dust generation and complaints from adjacent neighbours. It should also contain information relating to action taken. Any party on site may complete the register, however, it is envisaged that the engineer, the contractor and the ECO will be the main contributors, and who will also be the main parties involved in mitigatory action.
- The ECO might make reasonable amendments to the EMP in co-operation with the contractor. Penalties for non-compliance must be enforced.
- Any conservation authority/institution as listed in the List of Interested and Affected Parties for the project should be allowed reasonable access to the construction site on request and arrangement with the ECO and Contractor.
- The following details of the ECO must be filled out, signed and forwarded to GDACE prior to construction:

Company Name: _____

Contact Person(s): _____

Physical Address: _____

Street Address: _____

Office Telephone Number: _____

Cell phone Number: _____

Fax Number: _____

8.6 SPECIFICATIONS

Specifications and conditions are hereby provided for the following phases of project development:

- Design & Pre-Construction Phase
- Construction Phase
- Post-Construction Phase

Design & Pre-Construction Phase

Services Agreement

The Services Agreement between the developer and the Ekurhuleni Metropolitan Municipality must include the following:

- Written confirmation from the Ekurhuleni Metropolitan Municipality that they could provide the water provisions as determined by the engineers.
- Written confirmation from the Ekurhuleni Metropolitan Municipality that adequate capacity is available for connection to the municipal sewer infrastructure.
- Solid waste management - Details regarding the responsible party for the solid waste removal as well as the frequency of how it will be done and where it would be disposed of must be included. Written confirmation must be provided that the waste disposal site has the capacity to accommodate the additional waste quantities of the industrial development as proposed.
- Storm water management – A storm water management plan must be provided that indicates at least the storm water drainage lines and discharge thereof. This plan should also include stormwater management actions during the construction phase of the project.
- All services must be designed according to the design standards published in the "Guidelines for the Provision of Engineering Services and Amenities in Residential Development". The relevant authority must approve any specific variation from the standards by the Civil Engineer.
- Copies of agreements between the applicant and the service providers for the connection to bulk services must be forwarded to the:

Department of Water Affairs & Forestry: The Regional Director: Gauteng
For attention: Botshe Molokwane
Sanlam Plaza East
285 Schoeman Street
Pretoria

Water Supply

- The development may not commence without sufficient proof that the water demand could be met. Official authorisation thereof must be supplied.
- The design of the water reticulation network must comply with the standards of the relevant division of the Ekurhuleni Metropolitan Municipality and the Department of Water Affairs and Forestry.
- The consulting engineering firm for the project is CivilCraft Consulting Engineers (Mr Eugene Marais; tel: 012 660 1563).

Sewage

- The sewage design must include guarantees that no spillage of effluent into the groundwater or surface water is likely as a result of structural failure or spillage.
- General DWAF requirements must be implemented. This includes the requirement that, in order to reduce the risk of pollution (caused by blockages in the system), it is advised as a minimum precaution that on-site solid traps are used to prevent solids that may cause any blockages from entering the rest of the sewerage system.
- Any overflow has to be collected and treated in an appropriate manner.
- Regular maintenance of the outfall sewers must be done by the relevant department of the local authority who is responsible for the relevant engineering services – a contingency plan should therefore not be required. Note however that the local authority has 24 hour maintenance teams available to respond to any blockages that may occur.
- The sewage layout and design flow must be designed according to the standards and requirements of the Ekurhuleni Metropolitan Municipality and the Department of Water Affairs and Forestry. Specifications must comply with sewer reticulation based on the "Blue Book"¹ and the "Red Book"² and the principles and standards of the Water & Sanitation Division of the Ekurhuleni Municipality

Traffic

- The conditions as laid down by the Ekurhuleni Metropolitan Municipality in terms of access, road servitudes and road widths must be implemented in the roads design and town layout and be approved by the relevant department. Internal roads must be designed in accordance with the manual "Guidelines for Human Settlement Planning and Design", compiled by the CSIR, incorporating also the requirements of the municipality.
- The proposed mitigatory measures as prescribed in the Traffic Impact Study compiled by ITS Traffic Engineers must be implemented.

¹ Blue Book – Guidelines for the Provision of Engineering Services in Residential Townships (1983) – Department of Community Development

² Red Book – Guidelines for the Provision of Engineering Services and Amenities in Residential Township Development (Amended 1995) – National Housing Board

Storm Water Management (Stormwater, groundwater and run-off management systems)

- The detail design must be in compliance with the conditions of the relevant division of the Ekurhuleni Metropolitan Municipality and the Department of Water Affairs and Forestry.
- Attenuation ponds have been designed to attenuate a post-development flood of 1:25 year recurrence, releasing water into the municipal system with discharge less than or equal to the pre-development 1:5 year flow. The design accommodates the orientation of the contours and the layout of the ring road and the two identified catchments.
- Considerations considered in the storm water management plan are the following:
 - The integration of existing water flow patterns should be ensured. This would help to protect the wetland habitat associated with the Kaalspruit tributary immediately southeast of the study area, opposite Boomkruiper Street.
 - No development, stockpiling or dumping should be allowed in this area south of Boomkruiper Street.
 - No residual storing of water will be allowed in the attenuation dams following attenuation of floods.
 - Allowance should be made for free flow of water and drainage from the site, therefore only approved palisade fencing/combined palisade and solid wall fencing must be constructed along the outside boundaries of the township development.
 - Water must be fed into properly lined channels or directly into the closed storm water system of the development.
 - The water entering the site must be intercepted as quickly as possible and must not cascade through the entire development to the lower lying stands.
 - To reduce erosion and loss of soil during rain, silt traps should be used during the development and proper rehabilitation should be done before the next rainy season.
 - Storm water should not be allowed to enter the sewage system.
 - Roads should be maintained so that soil erosion is limited to a minimum.

Electricity

- The design, construction and supply of the bulk electricity and the internal services must be done strictly in accordance with the requirements of Ekurhuleni Metropolitan Municipality / Eskom in cooperation with the electrical engineer for the project.
- Written confirmation must be supplied by the municipality and/or Eskom that a secure electricity demand could be met before development may commence.
- The electrical engineer for this project is Eksleen & Le Roux (Mr E Kotze; 011- 886 1940).

Energy Saving Measures

- Energy saving practices and alternative energy sources should be implemented to ensure a lower anticipated electricity load. Energy saving practices as proposed by the Department of Minerals and Energy for energy saving in the industrial sector must be designed for where possible. These measures are supplied under the heading Post-Construction/Operational Phase of this EMP.

Town Layout Design & Approval

- All town-planning designs must comply with the regulations of the town planning and engineering divisions of the Ekurhuleni Metropolitan Municipality.

- No significant amendment to the layout included in this report may be done in the absence of effective communication with the Ekurhuleni Metropolitan Municipality (Environmental Planning & Roads and Storm Water Divisions) and the Department of Water Affairs & Forestry. The wetland area south of Boomkruiper Street must at all times be excluded from the development area.

Landscaping

A landscaping master plan should be compiled that includes the following:

- All landscaping (on both private open space and communal land) must be done with a strong "indigenous only" approach. This implicates the removal of all current exotic plant biota and replacement with indigenous species. This could be physical or chemical treatment of the exotic individuals. No indiscriminate spraying would be allowed as this could kill indigenous species.
- Removal of all alien/invaser plants must take place. It is advised that alien vegetation be removed in accordance with the Working for Water Programme : Alien Vegetation Eradication Programme" of the Department of Water Affairs and Forestry. The contact details of the Gauteng Province Regional Office are either Concilience Sambo or Charl Steenkamp, (012) 392 1300 or 082 805 7647.
- This strong "indigenous only" approach should be monitored by the Section 21 Company on a continuous basis throughout the operational phase.
- Only palisade or a combination of palisade and solid wall fencing may be allowed (in an attempt to establish some form of open space connectivity to allow for the migration of small fauna species, natural storm water flow and a see-through effect in terms of the visual impact).
- Erosion should be controlled as per engineering specifications, i.e. by means of gabion baskets.
- The roots of trees planted in close proximity to the line of water bearing services often cause leaks in or malfunctioning of the services. Care should therefore be taken to avoid the unfortunate positioning of trees and other plants.
- No trees should be planted within 1,5m times their mature height from the line of storm water services.
- In order to achieve a visually interesting landscape, and to break monotony, a balance should be maintained between a broad spectrum of trees and shrubs with individual characteristics.
- Trees of species with roots that are known to cause damage to roads, sidewalks and other building structures should not be allowed close to such structures.
- When planting trees, the spacing should be planned in such a manner that not only ensures their long-term health and growth, but also adds imagery and character to the development.
- In order to create an immediate more established appearance for the new development, trees that are older and better developed must be planted instead of smaller, underdeveloped saplings that often require many years to reach maturity.
- Landscaping should aim to ensure physical, visual and noise separation between the new development and existing uses.
- Specifications for the management of the wetland area south of Boomkruiper Street must be provided. The objective should be to
 - prevent development, stockpiling or dumping in this area;
 - ensure that the wetland system associated with the Kaalspruit tributary could effectively be rehabilitated and protected.

Community Issues

- Copies of all professional studies must be made available for perusal by Interested and Affected Parties, should it be required.

Marketing

Marketing material must reflect the following:

- A strong "indigenous only" policy will be followed in terms of landscaping throughout the development.
- The energy saving requirements for the development must be communicated with potential buyers.

Educational Programmes

An environmental education programme must be followed to ensure that the construction workers are well aware of relevant environmental issues with specific emphasis on

- Crime control;
- The purpose of conservation of the natural environment;
- The restriction on cutting of firewood from the surrounding veld;
- Pollution control;
- Waste management, etc.

Preparation of the Construction Site & Veld Protection

The following aspects must be adhered to:

- The entire construction site should be fenced prior to construction.
- Identified areas on the construction site should be large enough to allow for secure parking of construction vehicles and equipment as well as for temporary storage of building materials.
- Drinking water and water for ablution and cooking activities must be provided to all construction workers on the construction site during the entire construction period.
- Sufficient ablution and proper cooking facilities must be provided to all construction workers on the construction site during the entire construction period.

Appointment of Contractors

- Environmental clauses as referred to in this EMP should be included in contract documents for all contractors.
- The appointment of contractors with proven track records of sound environmental performance should be given priority.
- The Contractor must ensure that the majority of the unskilled labour force is obtained from the local residents in the macro area. Use should as far as practical be made of labour intensive construction methods. The Developer must liaise with the relevant Ward Councillor in terms of participation of the local subcontractors.
- The DWAF Environmental Best Practice Guidelines and Specifications should be implemented by the Contractor. Contact details are the Directorate Environment and Recreation of the Department of Water Affairs and Forestry, Mr Piet Ackerman at tel 012-336 8217.

Construction Phase

Stormwater Management / Erosion

Access roads and the site surface must be monitored for deterioration and possible erosion at all times. Pro-active measures must be implemented to curb erosion and to rehabilitate eroded areas:

- Stormwater must be attenuated on site during construction by means of small berms in areas where the contractor has started construction, but are not working in the area on a daily basis. Where the contractor are actively busy working, and especially on the roads and parking areas of the development, the contractor must place sandbags in strategic positions every afternoon before close of business in order to protect the works and system from silting up as well as to attenuate the stormwater in the event of a downpour during the night. This procedure must start at the beginning of the rainy season and continue until such time that either the stormwater system is completed and connected to the municipal stormwater system or until the end of the rainy season if construction is not completed.
- Further to the above, temporary soil berms could be placed on the access roads at convenient intervals, not exceeding a height of 0,5 m, to curtail the speed and erosion potential of any storm water flowing across the gradient of the site. These berms should be removed in a phased manner prior to the final landscaping of the development and the planting of vegetation cover to curtail soil erosion.
- Retaining walls as well as slope stabilisation measures are recommended on all constructed embankments exceeding 1.5m.
- All embankments must be adequately compacted and planted with grass to stop any excessive erosion and scouring of the landscape.
- No stockpiles or construction materials may be stored or placed within any drainage lines on site or in close proximity to stormwater drains or in the attenuation dams.

Water Quality

- Under no circumstances may surface or groundwater be polluted.
- Adequate oil containment precautions must be taken.
- All hazardous substance spills must be reported, recorded and investigated.
- Drinking water and water for ablution and cooking facilities must be provided to all construction workers on the construction site.
- Slopes of areas excavated should not contribute to erosion of loose soil into water resources.
- If pollution of any surface or groundwater occurs, the Regional Representative of the Department of Water Affairs and Forestry (Tel 012 - 392 1411) should immediately be informed.

Waste Management

Construction waste (details on operational waste included under the heading "Post-Construction/Operational Waste")-

- Construction waste generally consists of inert materials such as rubble and bulky construction debris. It is generally considered more of an aesthetic problem than anything

- else. Removal of such material normally requires specialised equipment and must be handled as such.
- The following precautionary methods are to be implemented for the storage and handling of oil and substances that could impact on the soils, ground- and surface water:
 - No hazardous waste may be stored on site for a period exceeding 90 days. (Note that the Department of Water Affairs and Forestry requires a permit for a waste disposal site in the event that longer storage periods apply).
 - All hazardous substances at the site must be adequately stored and accurately identified, recorded and labelled. The storage of any hazardous substances must take place in a secured lock-up building or covered area.
 - A container filled with sand to soak up any spillages, as well as an empty container into which the "contaminated" sand could be placed and stored for collection by the supplier of the chemicals or oils must be provided.
 - No fuel or petrol may be stored on the site without the necessary authorisations in place.
 - Any temporary fuel storage tanks (if applicable) is to be designed, installed and managed in accordance with the relevant Oil Industry Standards and SANS codes.
 - The Regional Representative of the Department of Water Affairs and Forestry should immediately be informed if pollution of any groundwater or soils occurs. They will give instruction on actions to be taken in this regard. The contact details are: DWAF Directorate Water Quality Management, tel. (012) 392 1362/ 082 908 3015.
 - Littering or illegal dumping of any waste material is prohibited. Provision must be made for the collection of all waste materials. All waste generated during construction must be disposed of at a permitted waste site in terms of the Environmental Conservation Act 1989 (Act 73 of 1989). No waste disposal holes may be made on site.
 - Rubbish bags must be provided on the construction site to prevent littering.
 - The use of the open veld for toilet requirements is prohibited.

Veld Protection

- Earthworks must be done as follows:
 - The top 200mm layer of topsoil must be removed and stockpiled in heaps not higher than 2m.
 - The topsoil must be replaced on the construction areas once the activities have been completed.
 - Excavated soil heaps have to be flattened and shaped in natural forms or else be carted away.
- No large indigenous trees may be removed that are not directly affected by structures.
- Weeds and invasive plants must be controlled to prevent them from spreading.
- All declared invader plant species have to be removed in accordance with the Amendments to the Act 43 of 1983, as published in Government Gazette Vol 429, No 22166, of 30 March 2001. It should be noted that DWAF generally supplies the herbicides for free on supply of information that includes the property description, a locality map, estimated area covered by the trees as well as the name of the invader plant species to be removed.
- The Contractor must adhere to the legal requirements in terms of herbicide use.
- No fires may be made for the burning of vegetation and waste.
- No open fires are to be made on site – cooking facilities must be provided.
- No firewood may be collected.
- Fire fighting equipment must be readily available on site during all times.

- No stockpiles or construction materials may be stored or placed within any drainage lines on site or in close proximity to stormwater drains.
- Construction Vehicles
 - Should any transfer of vehicle fuel take place on site, it is important to demarcate a specific area for this purpose. This area should be covered with an impermeable layer to prevent any penetration of fuel and oil spillage into the soil.
 - All construction vehicles should be serviced on a regular basis to minimise the risk of oil spillage on site. If the vehicles have to be serviced on site, it has to take place on a dedicated concrete surface.
 - When not in use, construction vehicles must be parked in an area provided with an impermeable layer to prevent leaks and spills from penetrating the substrate. All petrochemical leaks and spills must be appropriately contained and disposed of at a licensed waste disposal site.
 - Refer to the previous paragraph "Waste Management" for handling specifications in case of oil and/or diesel spills./

Protection of Fauna

- No animals or birds may be fed, disturbed, hunted or trapped.

Historical/Cultural Heritage

- The Gauteng Branch of the South African Heritage Resources Agency (SAHRA) should be contacted immediately for advice and instruction on further action, should any archaeological or cultural historical resources be identified as a result of excavations and site clearance. The contact telephone number is (011)403 2609.
- If any human remains are exposed through the earthmoving during construction, any physical work affecting the remains should cease until SAHRA is informed and rescue matters are completed.

Community Issues (Safety, Security, Noise, Dust, Etc.)

- It must be ensured that noise generated from the construction activities does not exceed noise levels of 85dB as required by the Occupational Health and Safety Standards.
- All adjacent landowners have to be informed of the blasting programme prior to any blasting taking place. Contractors must liaise personally with adjacent landowners. All communication in this regard must be documented.
- Blasting may only be undertaken by specialists in the field and should be limited to small localized areas. All relevant legislation must be adhered to.
- All contractors and construction workers will be issued with temporary permits to enter the property.
- Accommodation for labourers must either be limited to guarding personnel on the construction site (with labourers transported to and from existing neighbouring towns) or a separate fenced and controlled area where proper accommodation and relevant facilities are provided.
- Secure accommodation facilities must be provided for guarding personnel.
- Supervision of labourers must at all times take place.
- Construction hours will be restricted to specific periods that exclude Sundays and public holidays.

- Sweeping of construction sites, clearing of building rubble and debris and watering of construction sites (storage areas, roads, etc.) must take place at least once a day.
- All excavated areas must be clearly marked and barrier tape must be placed around them to prevent humans and animals from falling into them.
- All pipelines must be placed and covered portion by portion. Safe trench crossings shall be provided at all reasonable times.
- Trenches and excavation works should be opened and closed as rapidly as possible. Avoid leaving trenches open over weekends or holidays.
- Once services and cables are installed and backfilling completed, it must be ensured that ground surface is graded to match the slope of the surrounding area.
- Berms should be constructed on the up-slope side of trenches to prevent the inflow of water during storms.

Environmental Supervision

- The Environmental Control Officer (ECO) must inspect the construction site on a regular basis to ensure that the mitigation and rehabilitation measures are applied as specified in the EMP. This officer might make reasonable amendments to the EMP in co-operation with the contractor. Penalties for non-compliance must be enforced.
- Any conservation authority/institution as listed in the List of Interested and Affected Parties for the project should be allowed reasonable access to the construction site on request and arrangement with the Contractor.

Post-Construction/ Operational Phase

Site Clearance

- All temporary offices, building material, signs of excess concrete, equipment, building rubble, refuse and litter must be removed from the construction site.
- All cleared areas must be ripped and rehabilitated in compliance with the landscaping plans.

Environmental Supervision

- A final site inspection to the satisfaction of the Environmental Officer must be undertaken.

Waste Management

- Industrial erven for the kind of development as proposed can be utilised for various types of industry, generating various types of waste, all classified as "Non-hazardous Industrial waste". Should these industries create recyclable waste, the individual owners of the different erven must put systems in place to ensure waste recycling (glass, paper, metal and organics) and waste minimisation.
- Recyclable waste management applicable to each business must include the following :-

- All business owners must ensure that they provide on each stand an appropriate area where waste can be sorted and stored for collection;
- The site must have a concrete surface and it must be under roof (for protection against rain, stormwater runoff and fire)
- The site must be accessible for collection vehicles
- A dedicated worker must be trained in the recycling of waste (baling; compaction; breaking of glass, etc.) to ensure effective recycling of relevant material.
- These recycling waste sites on each stand must be regularly cleaned and disinfected
- It is proposed that the home-owners' association contact the following companies for collection of relevant waste and set up of proper agreements (i.e. when; how often; etc.):-
 - Glass – The Glass Recycling Company; Mike Bills / Lesley Maphupha, tel 011- 803 0767; info@theglassrecyclingcompany.co.za
 - Plastic – Nampak Recycling, Bob Christie, tel 011-799 7111; Bob.christie@za.nampak.com
 - Tins – Collect a Can; Shabeer Jhetam, 011-466 2939, wendy@collectacan.co.za
- No garden refuse will be allowed on a waste disposal site. All organic garden waste must be composted and used for soil enhancement. A compost site must be identified by each business owner on his stand.
- All non-recyclable waste generated during operation must be disposed of at a permitted waste site in terms of the Environmental Conservation Act 1989 (Act 73 of 1989).
- All erven will be provided with a 120ℓ mobile refuse bin from the Ekurhuleni Metropolitan Municipality at a cost, which will be emptied on a regular (weekly) basis by door-to-door collection.
- If more non-recyclable waste is created that can be accommodated in the standard 120ℓ municipal bin, the industry is to negotiate with the local authority to supply enough bins. The local authority would normally supply extra bins at a nominal monthly fee.
- Some of the industrial erven will require additional large refuse containers, such as 1,0/1,2m³ mobile containers or 4,5/6,0m³ bulk containers. The availability and frequency of such containers must be negotiated by the affected industries with the local authority themselves.
- The level of service will be "Level 5", which is considered the optimum means of collection in the majority of developed communities. The general waste is collected from the kerb side on at least a weekly basis and transported directly to a registered landfill site.

General

- A Section 21 Company will be established to control and manage the township development according to, amongst others, the all the relevant requirements stipulated in this Environmental Management Plan.
- The Section 21 Company must ensure that the following Energy Saving Principles are applied by the landowners and tenants:
 - Improve boiler efficiency
 - Repair any leakages in compressed air systems
 - Frequent cleaning of condensers in refrigerating plants
 - Repair steam traps
 - Repair faulty insulation
 - Install thermal insulation

- o Use of energy-efficient motors
 - o Install solar water-heaters instead of electrical geysers
 - o Buildings should be built facing in a northerly direction to ensure that less internal heating in winter and less internal cooling in summer is required.
 - o Install large north-facing windows
 - o Insulate walls
 - o Use compact fluorescent light bulbs
 - o Gas fed equipment should be installed where practical to minimise pressure on electricity supply
 - o Recycling waste and support of recycling efforts by buying products with the recycled mark (three arrows that make a triangle)
-
- The recommendations of the landscape architect for the project in terms of the landscaping concept must be implemented and monitored by the Section 21 Company.

 - All mitigation measures as proposed in this report should be adhered to.

 - The registered user must follow acceptable maintenance and operational practices to ensure consistent, effective and safe performance of all engineering services and development structures.

Bulk services and an internal road infrastructure will be developed by the applicant. The rest of the property will not be developed by the Applicant but will be sold as industrial erven. Future buyers will develop each property according to their own specifications and within the specifications of the zoning scheme. It is therefore imperative that the future developers of the erven be bound via the Sales Agreement to the mitigation measures and Environmental Management Plan as included in this document.
