MZINGAZI GOLF ESTATE
CONTRACTOR'S & HOMEOWNER'S MANUAL

Revised April 2019

Policy No. 2

This manual is applicable to all Freehold Sites on the Estate.

INDEX

1. Building Construction: General

1.1 Building period

In terms of the agreement of sale and Title Deed, the Homeowner hereby undertakes to complete the building of a dwelling house on the property. The Homeowner is advised that the construction of the home is to be completed within 18 months from the date of commencement.

1.2 Policy Documents

Prior to construction the Homeowner and Contractor shall obtain a copy of the following documentation:

- Policy 1 – Mzingazi Golf Estate Consolidated Rules for Homeowners – Revised April 2019
- Policy 2 – Mzingazi Golf Estate Contractors and Homeowner's Manual - Revised April 2019
- Policy 3 – Mzingazi Golf Estate Lake View Lofts Rules and Regulations – Revised April 2019.
- Policy 4 – Mzingazi Golf Estate Environmental Management Plan by WSP – Revised December 2008
- Policy 5 – Mzingazi Golf Estate Security Procedures – Revised April 2019.
- Policy 6 – Mzingazi Golf Estate Richards Bay Country Club Rules Revised April 2019.
- Policy 7 – Mzingazi Golf Estate Architectural Design – Revised December 2006

It is the responsibility of the Homeowner to ensure that the Contractor and all of his sub-contractors adhere to the abovementioned policy documents. Inspections will be carried out during the construction process and all warnings and fines / penalties will be for the account of the responsible Homeowner who may obtain compensation from the responsible builder who is working on the site.

1.3 Prior to construction:

Prior to commencement of construction a **Building Deposit of R10 000-00** shall be payable in the case of a freehold erven. **Fifty percent of this deposit is non-refundable** and will be paid into the Homeowners Association Stabilization Fund for the maintenance and upgrading of the service facilities. The remainder is refundable subject to an inspection on completion of the developed property. Provided no damage has been done by the contractor or his agent to any of the common facilities during the course of construction the Homeowner

may submit a request for the return of the balance of deposit. The Mzingazi Design Review Committee (MDRC) is entitled to access the site for the full duration of the contract period.

Please note that in the event of there being any breach in the Rules as contained within these documents, the Homeowners Association (HOA) may in terms of the Rule 11.7 impose a system of fines or penalties. The value of the fines may be reviewed and altered by the Mzingazi Homeowner's Association from time to time with approval being given at a HOA Directors meeting.

Prior to any construction occurring on site, the following activities need to be addressed:

- Home Owner and Contractor need to collect a Site Establishment Check List from the HOA Estate Office. All items on this list need to be attended to before the Site Handover Meeting takes place. The following important items have been highlighted for the attention of the Homeowner and Contractor and are to be submitted prior to construction commencement:

- NHBRC Contractor to be a registered Builder – Registration Certificate.

- NHBRC Residential Unit Enrolment Certificate.

- Letter of Good Standing – Workman's Compensation Letter.

- Storm Water Management Plan approved by MDRC.

- Letter of Approval of Building Plans from Municipality.

- Proof of Payment of R 10 000 Building Deposit – EFT or Receipt from the Accounts Admin.

The approved Mzingazi Golf Estate site board is to be erected within 7 days of site handover date, no other site boards or advertising boards are allowed to be erected on the Estate. (See Annexure C)

The OH&S Act and Construction Regulations have been included in this document and form an integral directive when conducting construction on the Estate (See Annexure B).

The site is to be totally enclosed with an 80% factor dark green shade cloth, 1.8m high with a single access and egress gate at a suitable point entry to be determined and agreed between the Homeowners Association and the Contractor / Architect / Homeowner. The external batons of the fence structure are to be painted dark green. This shade cloth must be maintained and kept in good order at all times throughout the construction period. (See Annexure A).

All construction activity is to occur within the site boundary and storage of vehicles and equipment shall be contained within the site. If an adjacent site is vacant and approval is given by the adjacent land owner then the Contractor may make use of the extra open space. The additional area is to be screened in accordance with the required standard as per Annexure A. However, once the construction is complete or the owner requests access, the vacant land is to be returned to the owner in an acceptable condition. If the HOA does not

approve of the cleanliness of the site then the returnable portion of the owner's deposit shall be withheld and used for the cleaning of the site.

Containers used on site are to be green/grey in colour, and must be neatly painted. The Mzingazi Homeowner's Association Estate management will remove all plants from the verge prior to site establishment. However, any trees to be removed are to be authorized by the Estate's Landscape Consultant. The Homeowner shall pay for the service of the Landscape Consultant and shall be requested to replace the removed tree with a substitute tree which will be planted in a suitable location.

Only CHEMICAL TOILETS will be allowed as on site toilet facilities. These are to be strategically placed to provide maximum privacy to users and out of sight of neighbours and passing traffic. These toilets are to be kept and maintained in a hygienic condition and serviced by the supplier. The service receipts are to be submitted to the Estate's Environmental Officer at the time of the monthly site inspection.

Short term (< 2 weeks) Contractors and sub-contractors will only be allowed access onto the Estate in identifiable company sign written vehicles and the Contractor is to enter the Estate via the contractors/service entrance and all staff will be required to get off/out of the vehicle and produce their access permit to the security guard after which they will then be allowed to get back on/in the vehicle to proceed to the construction site. The same will apply when they leave the Estate.

Long term (> 2 weeks) Contractors and sub-contractors will only be allowed access onto the Estate in identifiable company sign written vehicles and the Contractor is to enter the Estate via the contractors/service entrance and all staff will be required to get off/out of the vehicle and proceed through the biometrically controlled pedestrian turnstile and to display their Permit Cards to the security guard and they will then be allowed to get back on/in the vehicle to proceed to the construction site. The same will apply when they leave the Estate.

The Contractor is to ensure that all staff, and sub- contractors are to approach the site on/in identifiable company sign written vehicles and all staff will be required to leave the site on the same vehicles. No private vehicles with Contractors or sub-contractors will be allowed access onto the Estate. The Contractors and their laborers are not allowed to walk to and from the site. No Contractor or any of his sub-contractors may approach or employ or collect labour or casual labour within a 1km radius of either entrance gate to the Estate.

Construction activity is to be restricted to the following hours:

- Monday to Friday - 07:00am to 17:00pm

- <u>NO WORK ON PUBLIC HOLIDAYS OR WEEKENDS WILL BE ALLOWED</u>

No Contractors may have any staff living on the Estate other than a single night watchman who will be allowed onto the Estate after hours and over weekends. The night watchman shall be employed from the Estate's security service provider. Any breach of this rule be subject to a fine.

Prior to construction, it is advisable that a detailed Geotechnical Investigation be carried out on each individual site in order to determine the correct method of founding suited to the proposed structure to be developed.

The Contractor is responsible to identify and peg the position of the site and to ensure that the shade cloth screening is erected within the site area. Once the erf corner pegs have been exposed the Contractor shall arrange with the Estate Manager to give approval for construction to continue.

Co-ordinates of peg numbers can be obtained from the Estate's Land Surveyor, Eugene du Preez of Kuschke Munnik Holl & Partners – contact details Tel: 035-853 1046 email eedup@iafrica.com

Soil erosion is to be prevented through use of appropriate measures during construction and following construction activities. If adequate measures are not taken by the Contractor then the HOA appointed Environmental Officer (EO) shall close the site and a penalty fine imposed.

Vegetation is to be planted as soon as possible, particularly in areas which are being retained by Loffelstein type walling.

2. Connection to Services

2.1 Water:

Prior to construction, a water meter shall be obtained from the Mzingazi Estate Office. The water meter is to be installed by the appointed Plumber and checked by the Estate Manager. The cost of the water meter will be charged to the Homeowner's account. The Homeowner shall be billed for all water used on the construction site.

2.2 Electricity:

Electricity connection services must be applied for by the Homeowner from the uMhlathuze Municipality Electrical Department at the beginning of the contract.

2.3 Sewage:

The Sewage connection shall be made by Estate's appointed Plumber in conjunction with the Estate Management. The Estate's appointed plumber will make the final connection once all sewer lines are laid on the site to ensure that no foreign matter enters into the Estate's reticulation. The cost of this connection shall be charged to the Homeowner's account.

2.4 Communication Services:

The new Homeowner is advised to apply for the relevant communication service provider's connection well in advance:

Vodacom have installed fibre to the Estate and to the home. The Homeowner is welcome to appoint a service provider of their choice to make the house connection. The service provider will need to provide a duct from the verge to the new house. It is advisable to request the Architect and Contractor to design and build in the necessary ducting.

2.5 Relocation of Services on site verge:

Relocation of services (i.e. street light posts and electrical kiosks) on the site verge shall be for the cost of the individual owner. Permission is to be sought from the Estate Manager prior to this being undertaken. All applications and construction work shall be undertaken by the Homeowner.

2.6 On-Site Storm Water Attenuation System (OAS):

The on-site storm water attenuation system forms an integral component of the site's Storm Water Management Plan and shall be constructed as one of the first construction activities in accordance with the attached documentation.

3. Waste Disposal on Site

The Estate has appointed an Environmental Officer (EO) who will monitor the entire construction process. The Contractor is to ensure control of solid waste, litter, debris and plastic waste matter throughout the site. The builder is to supply strategically placed litter bins/skips and to arrange for a collection point within the screened area for all solid waste and rubbish, with regular removal off site. Solid waste materials should not be allowed to accumulate and waste may not be buried on site and no burning may take place on site.

Regular removal is to be enforced and the Contractor is advised that should site inspections reveal unsatisfactory site conditions, the site shall be closed down and no construction activity may take place until such time as the Homeowners Association has approved the site conditions and allows the reinstatement of construction. Owners and Contractors are reminded that the Municipality will not service the sites for waste removal and that waste must be removed to a recognized waste disposal site. All weigh bridge certificates from the waste disposal site must be submitted to the EO at the monthly site inspection. If the Contractor cannot provide satisfactory evidence that the waste has indeed been delivered to a registered waste site then the EO shall close the site immediately and a penalty fine issued in accordance with the Penalty Schedule.

4. Earth Works and Site Reinstatement

The Contractor is required to supervise and monitor all earthworks, cut and fill operations and to ensure all topsoil material that may be removed during the leveling process that it shall be stored and then be returned after construction completion.

5. Retaining Walls

All retaining wall systems shall be constructed without delay and in accordance with an Engineer's design. In order to obtain a final building completion certificate from an inspectorate of the Local Authority, all Engineer designed banks and retaining wall systems shall require a certificate from an appointed Engineer prior to the completion of your building contract.

Retaining wall systems i.e. Loffelstein systems are to be planted immediately after the construction of the wall has been completed. Loffelstein walls are to be constructed in accordance with the Fabricator's and Engineer's specifications and instructions.

6. Responsibility for Damage to Property

The Contractor shall be liable for any damage to property, person, legal entity, body corporate, the state, Provincial Administration or any local authority which may arise should the Contractor fail to comply with indemnity requirements or any other requirements.

Please note that the Homeowner will be ultimately held accountable and responsible for any damage to any of the above parties, as well as for payment of fines and penalties imposed for these transgressions.

Road Usage - the size of trucks allowed on the Estate roads for delivery of construction materials.

- "Maximum Gross Vehicle Weight for trucks with **1 axle** (typically tipper with single rear axle) = **10 ton**
- Maximum Gross Vehicle Weight for trucks with **2 axles** (typically tipper with dual rear axle) = **12 ton**
- No "articulated" trucks or truck plus trailer allowed (due to geometric restrictions).

The following trucks will be granted entry:

- Sand and Stone may be delivered on a maximum of a 6 cubic meter tip truck fully loaded.
- Ready Mix Cement trucks with dual rear axle loaded with only 3.4 cubic meters mix.
- Bricks may be delivered with a 10 ton truck with dual axel, with a maximum of 10 pallets of bricks on the truck.
- General deliveries may be made with a 10 ton delivery truck with dual axel.
- All vehicles not in compliance with the above will be denied access at the entrance.

7. Environmental Management Plan

The Economic Development, Tourism and Environmental Affairs (EDTEA) approval requires that prior to construction on any individual erven, an Environmental Management Plan (EMP) prepared by an Environmental Control Officer (ECO) be submitted for approval. During the construction period an ECO is to be appointed to monitor and manage the impact of construction on the environment of the site by the Homeowner.

The HOA has appointed an Environmental Officer (EO) for the overall development of the Estate as well as to oversee the implementation of sound environmental control from commencement of construction on each site to the closure of construction, including landscaping.

It will be necessary for the Homeowner to appoint an Environmental Control Officer (ECO) to monitor the construction of the building site in order to ensure that all activities are carried out in accordance with the Estates EMP. The cost of the ECO is to be borne by the owner of each individual erven. The amount payable will be on hourly quotation basis on a pre-determined fixed rate dependent on the project size and nature.

We quote from the Clause 2.1 of the Environmental Management Plan (EMP) for the Mzingazi Golf Estate

"*The Contractor and / or its agents will be responsible for the environmental management on site during the construction period. A pre-construction meeting is recommended in order to reach agreement on specific roles of the various parties and* ***penalties*** *for non-compliances with the EMP."*

A copy of the EMP is available on the website www.mzingazigolfestate.co.za or may be obtained from the Mzingazi Estate offices.

8. Occupational, Health and Safety Act and Construction Regulations

Refer to ***Annexure B*** for these rules.

9. Occupation Certificates

Once the Contractor/Homeowner has obtained an Occupation Certificate from the Municipality Inspectorate, he is to apply to the Homeowners Association for the Estate's Occupation Certificate. This will only be granted once the Homeowners Association is satisfied that any damages which have occurred to the site surrounds such as roads, curbs, electrical (street lights, electrical kiosk, water and sewer utilities have been rectified and any outstanding fines or penalties not yet paid; that property landscaping has been undertaken and that the construction has complied with all regulations environmental requirements and approved plans.

A full set of Compliance Certificates shall be submitted with the request for occupation:

- Electrical Compliance
- Plumbing Installation Certificate
- Gas Installation Certificate
- Standby Generator Compliance
- Pest Control Site Preparation Certificate
- Engineers Certificate – structural house, roof and retainers design & completion.

It is of utmost importance that the swimming pool be protected in accordance with the requirements as recommended by the municipal bylaws. The Homeowner is to ensure that the Architect accommodates the latest protective measures in the initial design of the house. It is preferential that the pool be enclosed with a 1,2m high anti-climb barrier.

10. Security and Access Control for Contractors and Sub Contractors

10.1 Access Authorization, Permits.

10.1.1 Prior to construction, all Contractors and Sub Contractors must report to the Estate Office accompanied by an official letter from Homeowner authorizing them entrance to the Estate, the Estate Manager will confirm with the Homeowner.

10.1.2 All Contractor's and Sub Contractor's personnel must be registered by the Estate Office, whereby a Contractor's ID card will be issued. Staff appointed for > 2 weeks are to have their finger prints scanned and registered on the Estate's Access Control system.

10.1.3 All Sub Contractors who will work for less than < 2 weeks on the Estate, will be issued a temporary work permit i.e. copy of ID (Identification Document) authorized with an Estate stamp and signed by the Estate Manager.

10.1.4 All Contractors may only enter the Estate in a fully Licensed and Road Worthy Vehicle. Any vehicle that does not have valid License Disk shall not be allowed to enter the Estate property. All Contractor vehicles to be fitted and demarcated with relevant signage on both sides of the vehicle (no signage – no entry).

10.2 Procedures Entering the Estate.

10.2.1 All Contractor personnel who enter through the Main Gate or Prodigal Son Entrance Gate shall disembark from the Contractor vehicle and walk through the security pedestrian gate/turnstile so that ID cards can be checked by security before entering the Estate. The driver of the vehicle may proceed through the vehicle swing gate once access is granted by security and then he may collect the staff inside the Estate entrance.

10.2.2 Once access has been granted by security, staff are to climb back on/in to the vehicle and can proceed to their respective construction sites. Once on site, the staff are not to leave the enclosure of the building site, including lunch times. All staff are to be driven to and from sites. Any staff caught outside his/her enclosure will be permanently removed from site.

10.2.3 Please note that all Contractors will only be allowed on site from **07:00** and must be off site by **17:00**, fines for non-compliance will be issued if Contractors are caught on site after **17:00**. Working days are **Mondays to Fridays** only, no weekends or Public Holidays. - **Not negotiable**.

10.2.4 All Contractor's vehicles will be checked for oil leaks on occasion during the construction period, and if found, entry will be denied.

10.2.5 All delivery vehicles will undergo security checks, and will be inspected for oil leaks, if any unauthorized items or oil leaks are found, entry will be denied.

10.2.6 All delivery vehicles will only be allowed access with an official Delivery Note, with the site number and Contractors name on the note.

10.2.7 Please note that all road laws apply on the Estate, speed limit is **25km/h**, and no overloading of the vehicles with staff will be permitted

11. PENALTY PROTOCOL - CONTRACTORS AND THEIR SUB-CONTRACTORS

The following procedures will be followed should any Contractor, Service Provider, Sub-Contractor or any of their employees be in breach of any Rules and Regulations as set out by the Mzingazi Golf Estate.

11.1. Written or verbal notification will be given to the Contractor, Service Provider, Sub-contractor, or individual employee to remedy the breach within 24 hours.

11.2. A fine will be imposed on the Homeowner as listed below or as decided by the Mzingazi Golf Estate's appointed Environmental Officer (EO) or Estate Manager. If the offence is repeated following the initial fine, fines will be imposed on a daily basis until such time as the fines are paid in full and the transgression rectified.

11.3. Rectification of the breach will be made at the cost to the Homeowner and not the Contractor, Service Provider, Sub-Contractor, or employee.

11.4 Depending on the nature of the breach, the Contractor's access to the site may be closed. Any contractual delay claims will be for the Contractor's expense.

11.5 The Contractor, Service Provider, Sub-Contractor or employee may be banned from the site should the offence continue to be committed.

11.6 As a last resort there will be a permanent banning from the Estate.

11.7 Schedule of Penalties and Fines:

	Offences	1st Offence	2nd Offence	Repeated
11.7.1	Un-roadworthy vehicle	Warning	R 500	R2 000
11.7.2	Speeding and/or dangerous / negligent driving	Warning	R 200	R1 000
11.7.3	Parking vehicle on vegetation/gardens	Warning	R 100	R1 000
11.7.4	Parking – causing obstruction	Warning	R 100	R 500
11.7.5	Dangerous loads (people or goods)	Warning	R 200	R1 000
11.7.6	Spillage on roads (oil, concrete, waste etc)	R 500 + costs	R 1 000 + costs	R 2000 + costs
11.7.7	Damage to trees/vegetation	R 200	R 500 + costs	R 2000 + costs
11.7.8	Littering	R 200	R 500	R 1 000
11.7.9	Interfering with game or setting snares	R 500	R 1 000	R 5 000
11.7.10	Possession of alcohol or drugs	R 200	Banned from the Estate	
11.7.11	Failure to use toilet and in view of public	Warning	R 200	R 1 000
11.7.12	Leaving a building site on foot	Warning	R 200	R 1 000
11.7.13	Damage to light poles and street signage	Warning + costs	R 500 + costs	R2000 + costs
11.7.14	Damage to services	R 500 + costs	R1 000 + costs	R2000 + costs
11.7.15	Tailgating	Warning	R 200	R 500
11.7.16	Failure to secure a site at end of working day	Warning	R 500	R 1 000
11.7.17	No toilet/insufficient toilets on site	R 500	R 1 000	R 2 000
11.7.18	Hygiene not kept to the highest standard	R 200	R 2 000	+ close of site
11.7.19	No litter collection area	Warning	R 500	R 2 000
11.7.20	Burning on site	R 200	R 500	R 2 000
11.7.21	Storage of equipment and materials on Verge	R 200	R 500	R 2 000
11.7.22	Deviation from approved plan without approval	R 5 000	R10 000	R 20 000
11.7.23	Building without approved plans (Municipal and NHBRC Certificate).	R20 000	Banned from Estate	Banned from Estate
11.7.24	No Foreman/Supervisor on site	Warning	R 200	R 1 000
11.7.25	Labour on site not clothed in identifiable Uniform or Overhauls.	Warning	R 200	R 500
11.7.26	Illegal or No Signage on Vehicle	Warning	R 200	R 1 000
11.7.27	Failure to comply with written instructions	Warning	R 200	R 1 000
11.7.28	Failure to install professional Notice Board	Warning	R 500	R 2 000
11.7.29	Tampering with water supply or meter	R 500 + costs	R 1 000	R 2 000
11.7.30	Tampering with any services	R 500 + costs	R 1 000	R 2 000
11.7.31	Encroachments over building lines	R 2 000+RevPlan	R 10 000	R 20 000
11.7.32	Encroachments over boundaries/services	R2000+ demolish	R 10 000	R 20 000
11.7.33	Failure to comply with EMP	R 2 000	R 20 000	R 50 000
11.7.34	Failure to rehabilitate areas on instruction	R 5 000 + costs	R 20 000	R 50 000
11.7.35	Failure to install adequate storm water control	R 2 000	R 10 000	R 20 000
11.7.36	Pollution of any kind	R 2 000	R 5 000	R 10 000
11.7.37	Failure to erect 80% factor green shade cloth	R 2 000	R 5 000	R 10 000
11.7.38	Removal of any trees or indigenous vegetation without written permission	R10 000	+ Costs	+ Costs
11.7.39	Recruit casual labour at gates	Warning	R 200	R 500
11.7.40	Failure to provide SWMP prior to Construction	R1 000	R 5 000	R 10 000
11.7.41	Failure to keep shade cloth to correct standard	Warning	R1 000	R 2 000

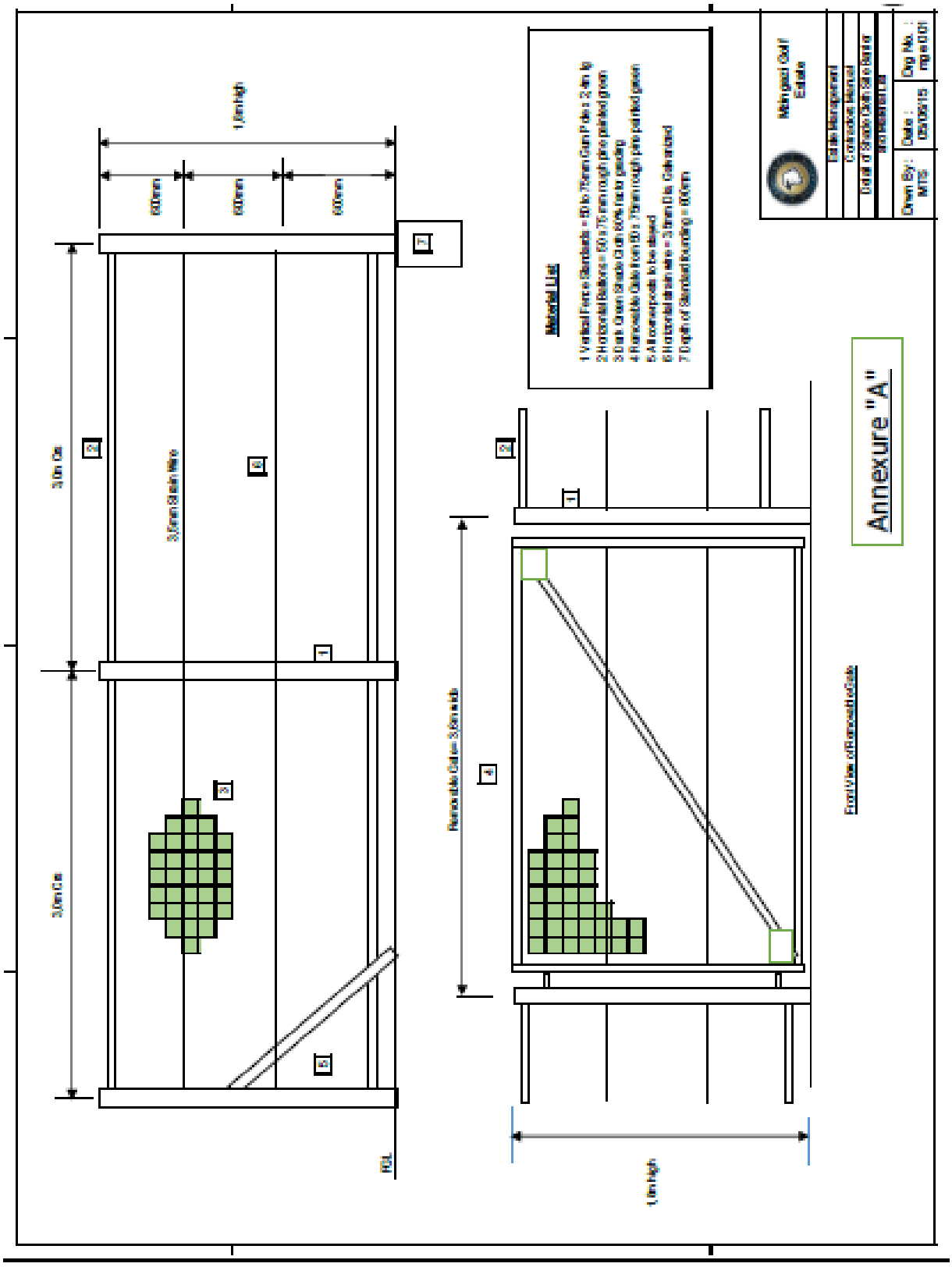
All fines shall be charged to the responsible Homeowner's Levy Account. Homeowner to claim from Contractor.

Where any costs are incurred to effect repairs due to the above offences, the Contractor or person who caused the damage will be responsible to pay compensation directly to the Homeowner for such repairs. In cases where the Contractor is banned from site the Homeowner is to give the necessary directive to the Contractor.

The Mzingazi Homeowners Association reserves the right to revise the schedule of Penalties and Fines from time to time without notice.

The above list is not exhaustive and any breaches of any protocols not listed will be dealt with accordingly.

Annexure A


Material List
1 Vertical Fence Standards = 50 to 75mm Galv Poles 2.4m lg
2 Horizontal Battens = 50 x 75mm rough pine painted green
3 Oak Grain Shade Cloth 80% Fabric grading
4 Removable Gate from 50 x 75mm rough pine painted green
5 All corner posts to be braced
6 Horizontal chain wire = 3.5mm Dia. Galvanized
7 Depth of Standard Foundation = 600mm
Mahogani Golf Estate
Estate Management
Contractor Manual
Detail of Shade Cloth Gate Panels
Annexure "A"
Drawn By: MTS
Date : 05/09/18
Drg No. : mga-0101
1.8m High
600mm
600mm
600mm
3.0m Dia
3.5mm Chain Wire
3.0m Dia
FGL
Removable Gate= 3.0m wide
1.8m High
Front View of Removable Gate

Annexure B

OH&S ACT AND CONSTRUCTION REGULATIONS

All construction at Mzingazi Golf Estate must comply with the requirements of the Occupational Health and Safety Act and, more specifically with the New Construction Regulations and The Compensation for Injuries and Dieses Act.

(*Scope of application*

2. *(1) These Regulations, shall apply to any persons involved in construction work.*

(2) The provisions of subregulation 4.(1)(a) shall not be applicable where the construction work carried out is in relation to a single storey domestic building for a client who is going to reside in such dwelling upon completion thereof.

*(3) The provisions of subregulations 4.(1)(a) and 5(1), 5.(3)(a) and 5(4) shall not be applicable where the construction work is in progress and more than fifty percent thereof has been completed at the date of promulgation of these regulations: Provided that an inspector may instruct accordingly that these Regulations shall be applicable.****)***

The New Construction Regulations, 2003

The following list of Responsibilities is a guide to the Client, Design Team and Contractors as to what is expected in terms of the OH&S Act and New Construction Regulations.

REQUIREMENTS	ACTION
SITE ESTABLISHMENT	
Establish offices and lay-down area as per instruction from the Client	Ensure that all offices are correctly earthed and obtain an electrical certificate of compliance from the electrical contractor. Ensure that facilities for contractor personnel are connected (water, ablutions etc.)
Take security precautions as necessary to protect contractor properly	Erect fencing, hoarding or hire guards if applicable
Ensure that an OHS Act compliance manual is available on site	Safety officer to obtain.
Ensure that a copy of the Occupational Health and Safety Act is available on site.	Where five or more persons are employed. Site Manager to obtain.
Ensure that a safety notice board is available to display the necessary OHS Act documentation	Contracts Manager
Notify the Department of Labor of the intention to carry out construction work	Send to: Regional Director Department of Labor

	P.O. Box 940 Durban, 4000
Post up the following documentation on the safety notice board: • Health and Safety Policy – English and Zulu • Emergency Telephone list • Site Accident Statistic Board	 Signed by CEO Safety Officer Safety Officer
Order signs as necessary	Site Buyer
Order spare hard hats for visitors	Site Buyer
Ensure that this site will abide by the local by-laws etc	Safety Officer
OHSACT APPOINTMENTS/DESIGNATIONS	
Post up a copy of the form for the person designated in terms of S16.2	Safety Officer CEO to sign form
Post up a copy of the form for the person appointed as the Construction Work Supervisor in terms of Construction Regulation 6.1	Person appointed in terms of S16.2 to sign form.
If required, appoint subordinate construction work supervisors in terms of Construction Regulation 6.2	Person appointed in terms of S16.2 to sign form
Other appointments or designations may have to be made, depending on contractual requirements: • Health and Safety Representatives • Health and Safety Committee Members • First Aiders • Scaffold Supervisor • Scaffold Erector • Scaffold Team Leader • Scaffold Inspector • Excavations/Demolitions Inspector • Material Hoist Supervisor • Lifting Machinery Inspector • Lifting Gear Inspector • Portable Electrical Equipment Inspector • Fire Equipment Inspector • Accident/Incident Investigator • Safety Harness Inspector • Form Work and Support Work Supervisor • Person Responsible for Stacking and Storage • Person Responsible for Fall Protection Programme • Person Responsible for Ladder Inspections	The person appointed in terms of Construction Regulation 6.1 must select competent personnel for each appointment

• Pneumatic Tools Inspector • Vessels Under Pressure Inspector • Batch Plant Supervisor/Operator • Fall Protection Plan • Risk Assessments • General Machinery Regulation 2.1 • General Machinery Regulation 2.7(a)	
OHS ACT REGISTERS	
Ensure that when the following equipment is on site registers are opened so that such equipment is regularly checked and results recorded. Repairs, replacements or out-of-service equipment must also be recorded	First aid dressing Excavation Ladders Portable electrical equipment Fire equipment Lifting machines Lifting gear Builders hoist Explosive powered tools H&S Reps report Gas welding equipment Safety harness Scaffolds
FIRST AID	
Where 5 or more persons are employed, a first aid box and contents must be available on site	Construction Supervisor
Where 10 or more persons are employed, a trained First Aider must be available on site. The ratio of First Aiders per employees is 1:50	Current certificates to be on site
Place the first aid signage above the door of the room which contains the first aid box	Construction Supervisor
Place the name of the First Aider either on the wall outside the room, or on the first aid box	First Aider
Keep the Dressings Register with the first aid box so that details of each treatment can be recorded by the First Aider	First Aider
HEALTH AND SAFETY REPRESENTATIVES	
Where 20 or more employees are on a site, Health and Safety Representatives must be nominated and elected. The ratio is 1:50 or part thereof. Health and Safety Representatives must be designated in writing and they ret o be motivated to carry out inspections as agreed with management.	Construction Supervisor
Written reports must be submitted. The reason for this is that the site changes on a daily basis and therefore created other dangers and hazards, which must be identified and reported.	Health and Safety Representatives

Other employees can be designated in writing by the employer as committee members, provided that the number does not exceed the number of Health and Safety Representatives who were elected	Construction Supervisor
Health and Safety Committees must meet at least once a month. A Chairperson will be nominated. Minutes will be kept of all meetings and a copy is to be sent to Head Office	Contracts Manager
FACILITIES	
Ensure that sufficient toilets and change rooms are available for employees to use. If necessary, arrange for services portable toilets.	Contracts Manager
Dedicate a suitable container or area as an eating area	Construction Supervisor
INJURY PREVENTION	
Every site will hold an initial Health, Safety and Environmental Induction Course as well as follow-up courses so as to include later arrivals	Safety Officer Records to be kept
Health and Safety Training	Safety Officer to arrange training relevant to site requirements. Records to be kept
SAFETY AUDITS	
Regular health, safety and environmental audits to be carried out.	Safety Officer Construction Supervisor
TOOL BOX MEETINGS	
Tool box meetings will be held monthly	Construction supervisor. Tool box talks can be found in the OHSAct Compliance Manual. Records must be kept
RISK ASSESSMENTS	
Risk Assessments will be available as on-site training for hazardous tasks	Foreman to arrange for training prior to any hazardous task commencing. This will include the relevant Safe Work Procedures. Records to be kept.
INJURY INVESTIGATION	
Minor injuries will be treated on site and recorded in the dressing register	First Aider
	Competent Persons to be appointed in writing as Accident Investigators.

Injuries, other than first aid injuries, must be investigated, recorded and all details completed on the Annexure 1 Form	Safety Officer to keep a record of Annexure 1 forms on file.
HOUSEKEEPING	
Housekeeping must be continuously implemented on site to ensure that proper storage of materials and equipment and the removal of scrap, waste and debris at appropriate intervals.	Construction Regulation 25 (a-e) refers.
PUBLIC SAFETY	
Ensure the safety of persons, other than persons at work, which included the general public	Where necessary erect fencing and hoarding with 'NO ENTRY' signs and access control
FIRE PRECAUTION	
Ensure that all appropriate measures are taken to avoid the risk of fire	Construction Regulation 7 (a-m) refers
SECURITY	
Strict security must be in place for access control to site, unauthorized use of plant and machinery and these measures are in place after hours.	Contracts Manager/Foreman to liaise with Safety Officer
CONTRACTORS	
Every contracting company who performs work on site for the principal contractor or the client must apply themselves to the requirements of the OHS Act and Regulations, with special regard to the Construction Regulations Contracting companies must produce their current Registration number for Workmen's Compensation, together with a letter of good standing. Every contracting company will sign an agreement form in terms of Section S37.2 of the Occupational Health and Safety Act prior to commencing work. Contractors' employees will attend the site Health and Safety and Environmental Induction ID cards must be issued to all contractor employees after attending induction course	All Contractors
MATERIAL SAFETY DATA SHEETS	
An MSDS must be obtained and held on file for every substance or article that oses a threat to the health of employees. Training through Tool Box Meetings must be arranged so that employees will know what precautions to take when handling such substances/articles.	Principal contractor and other contractors

I …….. of ……

Do hereby accept the terms and conditions of the Mzingazi Homeowner's Association Contractors Manual and undertake to abide by the rules and regulations at all times. I/we also undertake to pass these rules onto our sub-contractors entering the Estate from time to time.

All fines will be paid timeously irrespective of whether it is the main contractor or one of his sub-contractors that have committed the transgression.

We hereby also acknowledge receipt of the Mzingazi Environmental Management Plan, taken from the Mzingazi Golf Estate web site, and undertake to adhere to the requirements of this EMP throughout the construction process.

Signed at ……..……..

on ……/……/ 20..…

…… Print name: …….....
CONTRACTOR

…… Print name: ……
PROJECT MANAGER / OWNER

…… Print name: ……..
REPRESENTATIVE OF HOMEOWNER'S ASSOCIATION

Annexure C

LOOKING *for* MORE *than a*

LUXURIOUS LIFESTYLE?

STAND NUMBER		
ERF NUMBER: 11111		
NAME OF OWNER	E-MAIL	TEL. NO.
MR & MRS J. SMITH	smith@gmail.com	035 111 1111
NAME OF ARCHITECT	E-MAIL	TEL. NO.
XYZ ARCHITECTS	xyz.architect@gmail.com	035 222 2222
NAME OF ENGINEERS	E-MAIL	TEL. NO.
MG CIVIL ENG.	mg@civileng.co.za	035 333 3333
NAME OF CONTRACTOR	E-MAIL	TEL. NO.
ABC Building Construction	abc.cons@gmail.com	035 444 4444

Size: 3,000m x 2,000m for Medium Density Sites and 1,230m x 1,230m for Freehold Sites

EXAMPLE OF SITE BOARD (3M X 2M FOR MEDIUM DENSITY SITES AND 123 X 123CM FOR FREEHOLD SITES)

Annexure D

POLICY FOR THE INSTALLATION OF WATER TANKS

1.0 General:

Water Storage Tanks shall be allowed and encouraged on the Mzingazi Golf Estate property. It will be in the interest of the Estate to allow Home Owners to develop and construct water storage systems on their properties due to the ongoing water shortages that will become a very real part of South African living conditions over the medium to long term. It will also become a necessary aspect of future home planning and development on all property sites of the Estate. Many Homeowners are now installing water storage tanks as there are significant benefits to using collected rainwater ranging from economic, to social, and environmental.

2.0 Water Use:

Before acquiring a new water tank it is absolutely necessary for the Homeowner to know exactly what the water will be used for, whether it is for watering the garden, keeping the pool topped up, washing cars, flushing toilets or actually for human consumption. The tank and ancillary equipment will vary greatly when considering the water use as it could be a very rudimentary system or a complex and highly technical system if the water will be used as potable water for human consumption. If water is not adequately purified when used as drinking water there will be severe health risk and possible long term ill effect.

3.0 Planning and Design:

In order to maintain the Estate aesthetics it is essential that adequate planning and design principals are used to place the water storage tanks in positions within a property to ensure that the Estate maintains its architectural appeal

A practical method of conserving water is to collect all storm-water from the house roof. The dwelling's roof acts as a huge catchment for rain water which can be channelled into tanks. All water harvesting applications need to be submitted to the Mzingazi Design Review Committee for approval prior to construction.

The following criteria is used to assess the water storage applications:

1. Position of tanks – ideally within the property footprint. Underground are to be considered wherever space on the surface is restricted.
2. Tanks are to be colour coded with the external paint colour of the building.
3. All exposed water tanks need to be screened off in accordance with the Mzingazi Design Review Committee's requirements.

4. For optimal harvesting and storage, the region's rainfall equates to approximately 10 000 litres of storage for every 100 square meters of roof area.
5. It is encouraged for water storage tanks to be kept perfectly clean of sediment and other matter through a pre-filtration filter system. A simple leaf catcher / strainer is to be installed.
6. A pressure pump (0.75 kW to 1.5 kW, two stage motor depending on usage) is recommended and could be used to boost the stored water through a post-filtration/purification system and then through the existing pipe reticulation. As not all systems can rely on gravity feed.
7. Water in either the storage tank or filter/piping systems must not be allowed to stagnate.
8. The post filtration system can be linked into the Mhlathuze Water supply to filter and purify this water when required (drought conditions).
9. It is compulsory for every home to be fitted with a non-return valve which needs be installed on the internal reticulation in order to prevent back flow into the main supply line. Shut off gate valves also need to be fitted where necessary so that maintenance and burst pipes can be fixed with ease.
10. An approved and qualified plumber needs to be responsible for the installation and a compliance certificate shall be supplied to the Estate Management.

Annexure E

POLICY FOR THE INSTALLATION OF STANDBY ELECTRIC GENERATORS

Purpose:

The Mzingazi Golf Estate requires a policy document to ensure that the installation of Electric Standby Generators is conducted in a safe and responsible manner which is safe to both the occupants of the affected property as well as occupants and property of the surrounding neighbourhood.

Introduction:

Due to the ongoing load shedding by South Africa's electrical utility, Eskom, it has become necessary for the residents of private dwellings to embark on the implementation of providing an alternate source of electrical power for their homes during these power outage periods which have become more intense over the past years.

Background:

The use of petrol and diesel powered standby generators is now seen to be a necessity rather than a luxury and in order to accommodate this kind of equipment it will be in the interest of the Estate to establish a set of rules and prerequisites in order to ensure that this equipment is beneficial rather than a nuisance, especially to the neighbouring home owners.

This policy has been compiled through a number of extracts from various sources and based on literature from experts in the safe use and operation of generation equipment. Standby generators are often seen by the general public as a simple "plug and play" device but if not installed by a qualified official it could be lethal to the home owner as well as the neighbouring properties.
The areas of most notable concern are the following:

1.) Electrical Safety
2.) Fuel Storage
3.) Environmental Control
    - Noise Pollution
    - Air Pollution

Note:

In order to ensure that the Mzingazi Golf Estate is compliant with the current legislation, regulations and standards it is deemed necessary to include a guideline that has been compiled by a work group of electrical engineers and experts who are fully knowledgeable in the safe installation and operation of standby power plant. This guideline is for the benefit of all home owners residing on the Estate. The comment below is from the South African Bureau of Standards and refers to the attached Guideline.

Conclusion and Procedure:

Based on the information provided by one of South Africa's leading work groups on the use of power generators the following principles should be considered:

1. The placement and position of the equipment is critical and is probably the most important factor when considering the acquisition of a generator. The unit must be placed to ensure that the sound factor is aligned to the dBA ratings for the maximum in the various living areas that are stipulated in the Annex A Table. Furthermore, one is to ensure that your neighbour's living spaces are also accommodated for and to obtain their agreement to the installation.
2. The placement of the unit must also provide for the disbursing of the gases into the atmosphere and not to be allowed to remain in an enclosed area such as a courtyard that will cause the build-up of the carbon monoxide and flow into the house through open doors and windows. The minimum safe distance from a living unit is considered to be 4.5 meters which is based on numerous tests and as recommended by manufacturers for domestic use.
3. The unit must be rated as an ultra/super silent generator to ensure that the sound pollution is kept to a minimum.
4. Storage of fuel must be placed and locked in an area where the risk of potential fire is eliminated as well as safe from access by children.
5. The size and capacity of the generator should be based on the estimated load for the property.
6. The range of units for the freehold housing would be in the 16 to 25kW capacity.
7. The maximum noise level shall not be greater than 55dBA. This would mean that all installed units irrespective of load output **may not be louder than 55 dBA from a distance of 7 meters.**
8. The Home Owner is required to submit an application in writing for permission to the HOA to install a standby generator together with the machine supplier's specification and the owner is to provide proof that the installer is a fully competent and certified person who will provide a certificate of compliance on completion of the work. Should the standby plant fail to meet the requirement of 55dBA at 7 meters then the unit shall be removed from site.

9. In cases where a standby plant has already been installed, the home owner is to obtain a certificate of compliance from a certified installer and ensure that the above-mentioned criteria are met. This information will then be submitted to the HOA for their approval. If the specified criteria is not met nor complies with the safety requirement you will be requested to remove the equipment from the estate.
10. All standby generators are to be positioned in such a way that it is not visible from the house frontage or from the golf course but should be covered by a screen wall.
11. Discuss your proposed acquisition of a standby generator together with all your immediate neighbours and ensure that they are willing to accommodate your intention of installing the standby plant. Their approval/acceptance should be included in your application to the Home Owners Association.
12. The Storage of FUEL is to be kept under lock and key to ensure the safety of children playing in the vicinity. The stored fuel may not be placed in any area or enclosure together with fertilizers.

Important Note:

The Mzingazi Golf Estate and Home Owners Association do not accept any liability for (or in respect of) any direct, indirect or consequential liability, loss or damage of any kind or nature, arising from the reliance on or provision of this information (or its failure), whether or not as a result of incorrect, inaccurate, defective or misleading data or information. The Mzingazi Golf Estate and Home Owners Association therefore will not be liable for any loss or damage, actions, proceedings, claims, demands, liability, damages, costs, charges and expenses, howsoever arising, as a result of the use of these guidelines of the information therein.

SABS - Guidelines: "Using a power generator safely"

It has become popular practice to use standby power generators in the case of power failures, even in household applications. Although such generators can be used safely to operate one or more pieces of electrical equipment on separate circuits, there are a number of important precautions necessary when such a generator is connected to a fixed electrical installation. Andre du Plessis, chairman of the working group for the wiring code (SANS 10142-1) at the SABS, comments as follows:

Portable generators can pose serious health hazards if used improperly as they produce carbon monoxide (CO) and cause other risks. Portable generators are useful tools during power interruptions but their CO risks are more potent than many people realise. A typical 5,5 kW home generator can produce the same amount of CO as six idling cars, according to a study by the US Centre for Disease Control and Prevention (CDC). Petrol-engine generators are not designed for indoor use.

Please note: Your home's wiring is likely not matched for standby generator use. Connecting your portable generator to your home's electrical power system or wiring can be lethal. It is

recommended that a qualified electrical engineer or contractor install a manual transfer switch, which is used to connect and disconnect power and is also able to cut off the electrical power being produced by the generator, once the mains supply is restored. This changeover switch shall be of a three-position type, break before make, and have an appropriate rating for the size of the generating set. Such work may only be done by a qualified electrician and the work must be certified safe by a person registered by the Department of Labour in terms of the Occupational Health and Safety Act as an accredited person. Important issues concerns earthing and switchover facilities between the electrical power supply from the supply authority and the standby power generator. The size and complexity of the installation will determine the cost of such an installation. Where a single generator is used to supply only one or two appliances during a power failure and it is plugged in directly at the generator via extension cords, the costs will be relatively low. In this case there is no installation costs involved and a basic generator can be purchased as a ready to use unit for between R2000 and R8000. A standby generator installation suitable to run a normal house will depend on the size of the house and the number of appliances that will be connected simultaneously. The installation costs will also vary depending on the complexity and will be more costly, at between R25 000 to well over R100 000. A reputable supplier of such equipment should be consulted in this regard. Where standby power generation is installed, precautions should be taken that the generator cannot operate in parallel with the main supply unless the installation is approved by the supply authority. It must not be possible for the generated power to be fed back into the public network, since it can have lethal consequences in other installations. Recently, when a power source fed back into the public network, technicians working on the power supply were electrocuted during the power failure. Never try to power the house wiring by plugging the generator into a wall outlet, a practice known as “back-feeding.” This is an extremely dangerous practice that presents an electrocution risk to utility workers and neighbours served by the same utility transformer.

Other practical hints to note

When buying a generator, the purchaser should ask for proof that it complies with the IS0 SANS 8528 series of standards. This series is fully aligned with the international ISO 8528 series of standards. The last of this series has recently been published as the SANS 8528 series l.
Have the generator run at full speed before placing load on it; this prevents damage as the generator starts and reaches full speed

Ensure that all appliances/equipment connected to the generator have over-current protection or preferably the supply from the generator should be equipped with over-current protection.

Consider using surge protection - it is common for generators to damage more sensitive electronic equipment.

Where more than one generator is installed, the installation must be designed by a professional person to ensure proper synchronisation between the generators and isolation and protection of

each generator. A standby generator is normally installed to provide power only where there is a mains-power failure or when the supplier switches off the power to do maintenance work. If there is not a proper changeover switch installed to ensure that the main supply is completely disconnected before the generator is switched in, the generator will feed power back into the supply system causing a hazardous condition to anyone connected to the system. The generator will not be able to carry any such load and will fail.

NRS 098:2008 GUIDELINES FOR THE SAFE USE OF STANDBY/PORTABLE GENERATORS ON UTILITIES' NETWORKS

Revision 10, May 2015

TABLE OF CONTENTS

This specification was prepared on behalf of the NRS Association. It was prepared by a working group which, at the time of publication, comprised the following members:

G Teunissen (chairman)	City Power
S Delport	Ekurhuleni Metro
D Jansen van Rensburg	Tshwane Metro
S Moodley	eThekwini Metro
S Mkhabela	Eskom Distribution
R Peense	Stellenbosch Municipality
A Sayed	City Power
M Smith	City Power
S van Zyl	Eskom Resources & Strategy
A Fredericks (project leader)	Eskom IARC

In the definition of "accredited person" and in 4.3.5, reference is made to "legislation" and, in 4.2,

Reference made to "legal requirements".

In South Africa, this means the Occupational Health and Safety (OHS) Act, 1993 (Act No. 85 of 1993) (as amended from time to time) and the Electrical Machinery Regulations promulgated in terms of the Act.

Relevant municipal bylaws, as applicable, and Eskom electricity supply agreements and conditions with individual end-users, as applicable, have been used in the preparation of this specification.

Annexes A and C form an integral part of this specification. Annex B is for information only.

Acknowledgement

The guidelines given in this specification were initially produced by and on behalf of the Association of Municipal Electricity Undertakings Southern Africa (AMEU), and are now reproduced and published as NRS 098 by the NRS Association.

Introduction: NRS 098:2008

Standby/portable generators are widely used to provide electricity in the case of mains power failures. This specification deals specifically with those installations where standby/portable generators are interfaced with the same circuitry used to locally distribute mains-supplied electrical power. This, in turn, presents the risk of inadvertent paralleling of sources of supply.

Certain sections of this specification are also applicable to stand-alone generators. Users who purchased standby/portable generators to provide electricity in the event of power outages are obliged to use safety precautions. Standby/portable generators can be hazardous if used improperly.

The principal hazards involved are:

a) Carbon monoxide (CO) poisoning from the engine exhaust, and
b) Electrocution when the generator is inadvertently connected to the home electrical wiring system.

The specification is specifically aimed at "non-qualified" persons who may purchase standby/ portable generators because they perceive grid reliability to be reducing, and inadvertently create hazardous conditions when the generators are used.

This specification should be read in conjunction with SANS 10142-1.

Keywords
Back-up, standby/portable generators, carbon-monoxide poisoning, back feed, CoC (Certificate of Compliance).

Disclaimer of liability

Standby/portable generators can pose serious health hazards if used improperly as they produce carbon monoxide (CO) and pose other risks. Standby/portable generators are a useful tool during power interruptions. However, the risks associated with carbon monoxide are more lethal than many people realize. A typical 5,5 kW home generator can produce the same amount of CO as six idling cars, according to a study by the US Centre for Disease Control and Prevention (CDC). Petrol-engine generators are not designed for indoor use.

Note that it is likely that residential wiring will not be designed for generator use. Connecting a standby/portable generator to the home's electrical power system or wiring could be lethal. It is recommended that a qualified electrical engineer or contractor install a transfer switch, which is used to load and unload power and which can also cut off the electrical output produced by the generator once the main supply is restored.

Every generator manual includes manufacturer's guidelines for safety and usage, including warnings that urge users to operate their generators in dry, well-ventilated areas to avoid both electrocution and CO poisoning. It is therefore highly recommended that generators be run with a healthy dose of common sense and in strict compliance with the manufacturer's requirements for

safe use. Please pay heed to their advice, use recommended oils and lubrication, attend to regular maintenance schedules and adhere to the standard operating procedures at all times.

The guidelines given in this specification are not intended to infringe on or replace the manufacturer's guidelines for safety and usage.

This specification contains only suggested guidelines for the safe use of standby/portable generators on utilities' networks. The specification is not intended to be exhaustive of any subject dealt with.
The information in these guidelines, including all research, opinions, or other content is therefore not intended to be and does not constitute the results of consultation or other professional advice or services.

Consultation with your own professional is advised before any decision regarding generators is made or before any action which may affect the user is taken. Every endeavour has been made by the members of the workgroup to ensure the accuracy and reliability of the information provided in this specification. However, the NRS Association and the members of the workgroup cannot warrant or guarantee that this information is both complete and accurate and therefore make no representation, implicit or implied, regarding the correctness or fitness of the specification for any purpose. All users of this specification are therefore cautioned to use the information entirely at their own risk.

The NRS Association and the members of the workgroup do not accept any liability for (or in respect of) any direct, indirect or consequential loss or damage of any kind or nature which may arise from the reliance on or provision of this information (or its failure), whether or not as a result of incorrect, inaccurate, defective or misleading data or information. The NRS Association and the members of the workgroup, therefore, will not be liable for any loss or damage, actions, proceedings, claims, demands, liability, damages, costs, charges and expenses arising as a result of the use of these guidelines or the information contained in them.

It is the NRS Association's wish that all supply authorities will adopt the guidelines in this specification as far as their particular conditions will permit. Any differences between the guidelines of this specification and the purchaser's requirements should, as far as possible, be indicated clearly in schedules and, where appropriate, be submitted for consideration in future revisions of this specification.

1. Scope

The purpose of this specification is to specify guidelines and technical requirements for the interfacing of low-voltage generators with the local supply network, and to ensure that they do not compromise the network integrity or safety of the utility or the user. The specification describes

some of the dangers presented by interfacing a standby/portable generator with mains-supplied premises.

This specification deals specifically with those installations at which a standby/portable generator is interfaced with the same circuitry used to distribute mains-supplied electrical power locally. Generators that are operated separately from the local supply (e.g. standby generators that supply lighting or heating circuits direct) are excluded from the requirements of this specification, although some of the safety precautions might still be applicable.

This specification applies specifically to installations where the generator is prohibited from paralleling with the mains supply. Where it is required for a generator to parallel with the mains supply, for whatever reason, this shall be agreed upon beforehand by the relevant parties, and the agreement might be subject to additional technical requirements.

2. Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. Information on currently valid national and international standards can be obtained from the SABS Standards Division.

SANS 10103 The measurement and rating of environmental noise with respect to annoyance and to speech communication.

SANS 10142-1 The wiring of premises – Part 1: Low-voltage installations.

3. Terms, definitions and abbreviations

For the purposes of this document, the following terms, definitions and abbreviations apply.

3.1 Terms and definitions

Accredited person
A person who is registered as such in terms of legislation (see Foreword).

Certificate of Compliance (COC)
A certificate issued by an accredited person in respect of an electrical installation or part of an electrical installation that ensures that the installation complies with SANS 10142-1.

Circuit-breaker

A mechanical switching device capable of making, carrying and breaking currents under normal conditions and of making, carrying for a specified time, and automatically breaking currents under specified abnormal circuit conditions such as those of overcurrent.

Consumer
A person who is supplied (or is to be supplied) with electricity by a supplier, or a person who supplies his own electricity.

Current
The flow of an electric charge through a conductor.

Distribution board
An enclosure which contains electrical equipment for the distribution or control of electrical power from one or more incoming circuits to one or more outgoing circuits.

Electricity distribution utility
An electricity service provider or electricity supply authority (electricity service provider) in the area of the installation.

Fault current
A current resulting from an insulation failure or from bridging of insulation or live components.

Local authority
A municipality.

Point of common coupling
A point on the utility's network, electrically nearest a particular consumer's installation, where more than one consumer is or may be connected or metered.

Point of supply
A point of metered electrical connection between the utility and the consumer.

Standby/portable generator
A source of electrical power, typically diesel or petrol driven, used as a back-up or an alternative to a grid supply.

Protective earth and neutral conductor
A conductor which forms part of a supply, combining the functions of both protective earthing conductor and neutral conductor.

Note that the conductor is also connected to other earth electrodes and exposed conductive parts of the low-voltage supply.

Protective earthing conductor (PE)
A conductor provided for purposes of safety (protection against electric shock) and which connects the supply earth to the consumer's earth terminal.

3.2 Abbreviations

AMF Automatic mains failure.
DB Distribution board.
IEC International Electro technical Commission.
ISO International Organisation for Standardisation.
LV Low-voltage.
MV Medium voltage.
N Neutral.

4. Installation requirements

4.1 Legal requirements

4.1.1 An application for the use of a standby/portable generator (new or existing) in the case where it will be required to interface with the same circuitry used to locally distribute mains supplied electrical power, shall be submitted to the relevant electricity distribution utility.
The application shall include, but might not be limited to, the following:

a) Contact details of the owner of the premises;
b) Site address;
c) The make and model of the standby/portable generator;
d) The capacity of the standby/portable generator; and
e) The control circuit diagram of the standby/portable generator including all interlocks with the main grid. 4.1.2 Work shall only commence upon written approval from the relevant electricity utility.

4.2 Safety requirements

The attention of the owner or tenant of a standby/portable generator is drawn to the following legal requirements (see Foreword):
"Any user of machinery shall:

a) Ensure that all machinery used by him is suitable for the purpose for which it is used, and that it is installed, operated and maintained in such a manner as to prevent the exposure of persons to hazardous or potentially hazardous conditions or circumstances.
b) In particular cause every exposed and dangerous part of the machinery, which is within the normal reach of a person to be effectively safeguarded by means of insulation, fencing, screening or guarding, except where an inspector has granted written permission for the omission of such safeguarding.
c) Ensure that all safety equipment is kept in a good working condition and is properly used and ensure that the quality of material used in and the construction of the machinery or safety equipment is suitable for the purpose for which it was intended.
d) Not remove any safety equipment which relates to the machinery in question unless a person has been authorized thereto.
e) Provide devices to start and stop machinery, and these devices shall:

i. Be in a position where they can be readily and conveniently reached by the person who operates such machinery; and
ii. Be so constructed and arranged to prevent the accidental starting of such machinery.

f) Provide positive means for rendering the controls of machinery driven by an electric motor inoperative while repairs or adjustments are being made, and such means shall not only be the mere tripping of a switch."

4.3 Additional safety requirements and recommendations

4.3.1 Additional safety requirements and recommendations are given in 4.3.2 to 4.3.24.
4.3.2 The installation shall take place within the boundaries of the approved application.
4.3.3 The owner or tenant shall comply with the relevant noise and pollution legislation detailed in Annex A.
4.3.4 Where new buildings are erected or alterations to existing buildings are made, building plans are to be submitted to the relevant local authority for approval.
4.3.5 The owner or tenant shall comply with the relevant legislation (see Foreword) for the storage of fuel.
4.3.6 Never use a generator in enclosed or partially enclosed spaces. Generators can produce high levels of carbon monoxide (CO) very quickly. When using a standby/portable generator, remember that one cannot smell or see CO. Even if a person can't smell exhaust fumes, he or she may still be exposed to CO. Adequate ventilation shall be provided.
4.3.7 Only operate the generator outdoors in a well-ventilated, dry area, away from air intakes to the home, and protected from direct exposure to rain, preferably under a canopy, open shed, or carport. Do not enclose the generator in any structure.
4.3.8 Keep flammable materials away from the generator.
4.3.9 Always fuel the generator in a well-ventilated area. Fuel vapours are highly flammable and might ignite after the engine has been started. Be sure that any spilled fuel is cleaned up before restarting.
4.3.10 Always check for fuel leaks.

4.3.11 Before refueling the generator, turn it off and let it cool down. Fuel spilled on hot engine parts could ignite.
4.3.12 Do not leave the generator unattended.
4.3.13 The total rated capacity of the generator shall not be exceeded.
4.3.14 Keep cables out of the way to avoid the danger of tripping over them.
4.3.15 Ensure that the generator's terminal voltage rating matches that of the load equipment (typically 230 V ±10%).
4.3.16 Ensure that emergency isolation of the generator is possible.
4.3.17 In the case of temporary generators being connected, ensure that there is complete isolation of the consumer's apparatus from the electricity distribution utility's equipment.
4.3.18 Have the generator run at full speed before placing load on it. This prevents damage as the generator starts and reaches full speed.
4.3.19 For permanently installed generators, ensure that permanent electrical interlocking exists between the consumer and the utility.

4.3.20 Ensure that all appliances or equipment connected to the generator have overcurrent protection or, preferably, the supply from the generator shall be equipped with overcurrent protection.
4.3.21 Turn off all loads before turning off the generator. (See Annex B for appliance ratings).
4.3.22 Check that the cables are free of cuts or tears and that the plug has all three prongs, especially a grounding pin.
4.3.23 Do not attempt to power the house wiring by plugging the generator into a wall outlet. This is known as "back feeding" and is an extremely dangerous practice. It presents an electrocution risk to utility workers and neighbours served by the same utility transformer.
4.3.24 Surge protection should be used as it is common for generators to damage more sensitive electronic equipment.

4.4 Connection requirements

4.4.1 Connection requirements are given in 4.4.2 to 4.4.9.
4.4.2 It is the responsibility of the applicant to arrange with the electricity distribution utility for the disconnection or reconnection of the mains supply to the premises when it becomes necessary to install the generator. Please note that the latest electricity distribution tariffs will apply for this service.
4.4.3 A Certificate of Compliance shall be completed for the installation and submitted to the relevant electricity utility before reconnection of supply to the premises.
4.4.4 A permanent red label (PVC or aluminium) with white lettering (of height of at least 10 mm) shall be affixed to the main distribution board inside the premises as well as to all other distribution boards fed from the main board and the main incoming utility supply circuit-breaker. The label shall read, "Danger: generator connected". Where only parts of the installation are supplied by alternative means, only these circuits shall be labelled.

4.4.5 Where any form of alternate supply (generator, UPS, etc.) is connected and automatically supplies power to circuits on the distribution board, a visible indicator (light) shall be provided on each distribution board where such circuits are live after the main supply on that board has been switched off.
4.4.6 Appropriately rated protective devices shall be supplied for short-circuit and earth fault conditions to protect the distribution board, generator and user. The protective devices shall prohibit feedback onto the utility system once the main incoming supply has been switched off. The generator shall be provided with a separate, appropriately rated overcurrent protection circuit breaker, over and above any devices installed on the generator itself. Earth leakage protection shall be provided in accordance with the applicable requirements in SANS 10142-1.
4.4.7 Unless specifically agreed upon between the electricity distribution utility and the owner or tenant, the generator shall not run in parallel with the main supply at any time.
4.4.8 The consumer shall be held responsible for all damages incurred by the utility or by himself if the devices are found to be rated incorrectly or the utility supply and generator supply are paralleled (or both).

4.4.9 Neutral earthing of the generator shall be done in accordance with the requirements in SANS 10142-1.

4.5 Single residential houses or individual commercial units

4.5.1 In addition to the abovementioned requirements, the installation of a generator at single residential premises shall comply with the requirements given in 4.5.2 to 4.5.5.
4.5.2 A control panel shall be installed after the meter point and as close to the main distribution board as possible in the case of both conventional and prepayment meters. 4.5.3 The control panel shall include at least:

a) a main circuit-breaker, and
b) a manual or automatic changeover switch (see Annex C).

4.5.4 Where the generator is intended to provide a supply to an installation as a switched alternative to the main supply, the changeover switch shall disconnect the main supply before the generator is switched on. The changeover switch shall be interlocked in such a way that the main supply and the alternative supply cannot be connected to the same installation at the same time. This changeover switch shall be of a break-before-make type and have an appropriate rating for the size of generator as detailed in Annex B.
4.5.5 No other means of connection are allowed.

4.6 Commercial, office or multi-unit blocks

4.6.1 In addition to the abovementioned requirements, the installation of a generator at commercial or multi-unit premises shall comply with the requirements given in 4.6.2 to 4.6.5.
4.6.2 An automatic or manual changeover panel shall be installed.
4.6.3 The control panel (automatic or manual) (see Annex C) shall have at least:

a) a main circuit-breaker,
b) a visible indicating light switched on when the generator is supplying power,
c) a manual changeover switch. This changeover switch shall be of a break-before-make type and have an appropriate rating for the size of generator as detailed in Annex B,
d) an emergency stop button which is easily accessible, is provided for the generator and which shall prevent the generator from accidental starting,
e) a remote emergency stop button (utility controlled). The remote emergency stop button shall be installed next to the main incoming utility supply circuit breaker and shall have a label that identifies it. Alternatively, a circuit breaker with auxiliary contacts connected to the emergency stop or starter button may be installed to prevent the generator from starting if the main incoming supply is switched off due to safety reasons (i.e. in case of fire, etc.),
f) in the case of an automatic changeover panel, a fool proof interlocking system that prevents the main supply from being connected to generator supply. This interlocking system shall incorporate a mechanical as well as an electrical interlock on the changeover contactors or relays.

4.6.4 Where an individual unit within an office or multi-unit block has a generator, requirements for single residential houses shall be applied.

4.6.5 Where two adjacent commercial plots are supplied from a shared generator, each plot or connection (or both) shall have its own control or changeover panel as above.

Annex A – Maximum acceptable sound levels.

Location	Effects	Maximum L_{eq} (dBA)		Time (hours)	Time of day
Bedroom	sleep disturbance, annoyance	30		8	night
Living area	annoyance, speech interference	50		16	day
Outdoor living area	moderate annoyance	50		16	day
Outdoor living area	serious annoyance	55		16	day

Location	Effects	Maximum L_{eq} (dBA)		Time (hours)	Time of day
Outdoor living area	sleep disturbance, with open windows	45		8	night
School classroom	speech interference, communication disturbance	35		8	day
Hospitals patient rooms	sleep disturbance, communication interference	30 - 35		8	day and night

Noise levels

A "disturbing noise" means a noise level that causes the ambient noise level to rise above the designated zone level or, if no zone level has been designated, the typical rating level for ambient noise in districts, indicated in SANS 10103, and given in Table A.1, are applicable. See SANS 10103 for more detail.

The main advantages with dBA - the A weighting in noise measurements - are

- adapted to the human ear response to sound
- possible to measure with low cost instruments

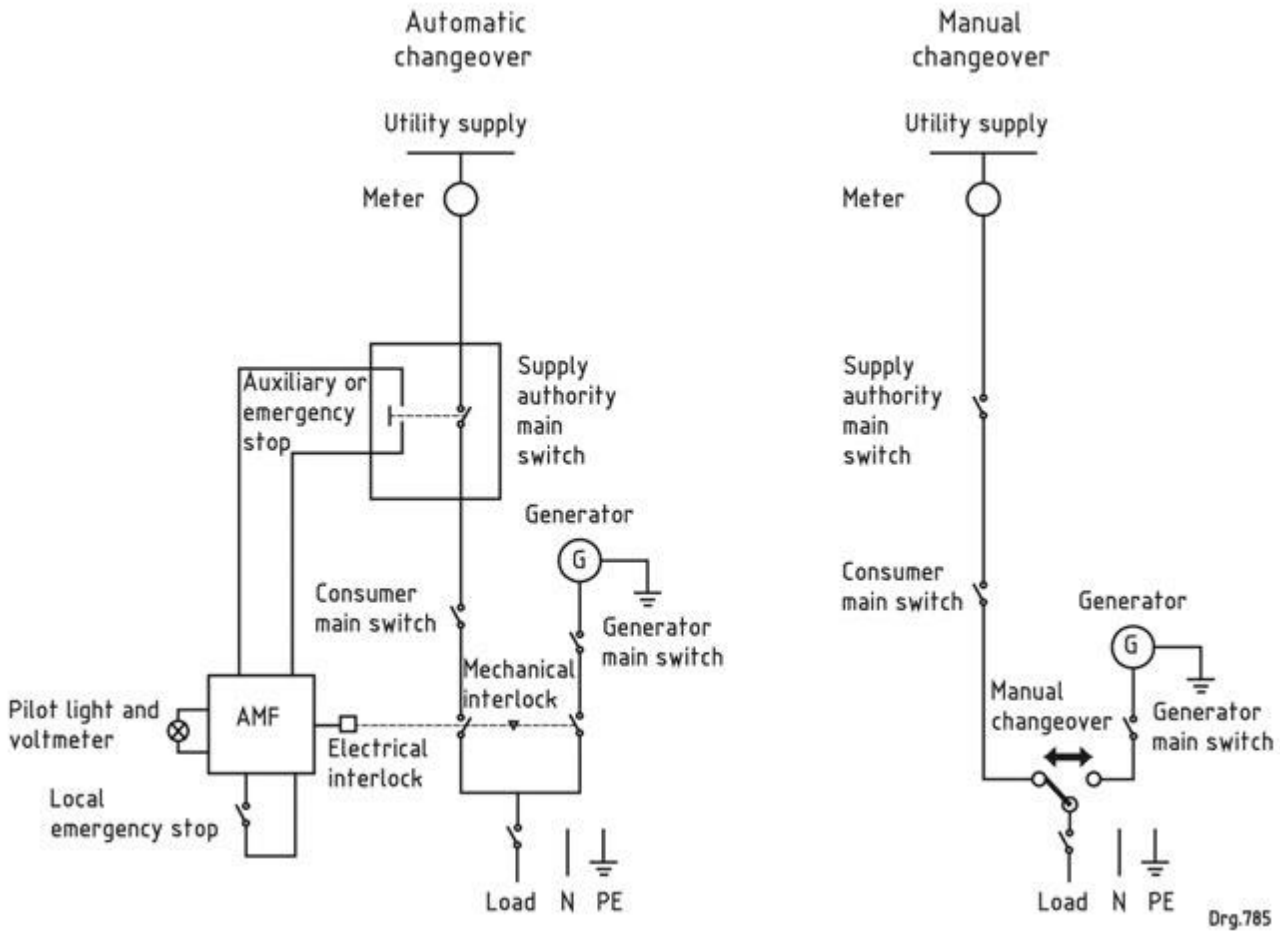
Maximum acceptable Equivalent Sound Level - L_{eq} - at some common locations are indicated in the table above:

Annex B – Typical appliance ratings (may vary from table below)

Electrical Appliance	**Rating (kW)**
Lamps	
100 W	.010
75 W	.075
60 W	.060
40 W	.040
Stove	
Small Hot Plate	1.50
Large Hot Plate	2.00
Oven	2.00

Dish Washer	1.00
Electric Blanket	0.05
Electric Frying Pan	1.50
Fan	0.07
Floor Polisher	1.00
Geyser	3.00
Hair Dryer	0.50
Hi Fi	0.20
Iron	0.60
Kettle	2.00
Microwave	0.80
Computer	0.05
Power Drill	0.25
Deep Freeze	0.20
Refrigerator	0.10
Sewing Machine	0.07
Slow Cooker	0.15
Space Heating	1.00
2 – Bar Heater	2.00
Pool Pump	1.00
TV	0.30
Tumble Drier	3.00
Washing Machine	1.00

Annex C – Wiring Diagram



Annex D – Generator Safety Precautions

The following safety guideline summarises the dangers posed by portable generators as electrocution, carbon monoxide poisoning and noise and vibration hazards, and recommends adherence to the following safety tips:

- Never attach a generator directly to the electrical system of a building unless an electrician has installed it with a transfer switch, as this can energise wiring systems for great distances, creating an electrocution risk for utility workers in the area.

- Always plug electrical appliances directly into the generator using the manufacturer's supplied cords or extension cords that are grounded.

- Ensure that the generator is grounded properly and that the grounding connections are tight.

- Never use a generator indoors or in enclosed spaces such as garages, closed courtyards and laundry areas.

- Note that open windows and doors may not prevent CO from building up when a generator is located in an enclosed space. Place generator at least 4.5m away from any open door or window.

- Generator fuel can ignite when spilled on hot engine parts.

- The storage of fuel shall not exceed that of the capacity of the standard tank size as per the manufacturer specification.

- Generator engines vibrate and create noise. Excessive noise and vibration could cause fatigue, which may affect job performance.

- Use a sound meter to evaluate the sound effect from the position of the generator to the areas mentioned in the table above.