HIGHLAND GATE

GOLF AND TROUT ESTATE

Architectural & Landscaping Guidelines

Revision 3

June 2014

This document must be consulted prior to commencing with the design of any property improvements or building proposals.

Table of Contents

1. DEFINITIONS

Please refer to definitions contained in the Memorandum and Articles of Association read in conjunction with the conduct rules. This information can also be found on the CD or at www.century.co.za.

2. INTRODUCTION

Welcome to another signature lifestyle estate by Century Property Developments.

The purpose of these guidelines is to inform homeowners and their architects and builders of the aesthetic, building and landscaping requirements for the estate and to provide information relating to the procedure to be followed in order to obtain the necessary approval from the Aesthetics Committee for all buildings and structures to be erected on each stand and any alterations and additions thereto.

Covering an area of approximately 700 Hectares, Highland Gate Golf and Trout Estate is nestled in the pristine Steenkampsberg mountain range, characterised by rolling hills and a rural, highland feel. The estate is comprised of residential stands, comprising of 455 generous residential stands of approximately 750m2 – 1500m2. It is, however, envisaged that the estate will be extended with future residential phases.

When designing their houses, or any other structures on their erf, homeowners are required to make use of a registered, practicing, Architect (i.e. professional architects with a university degree “Pr Arch”) and may not use any technician, draughtsperson, design or drafting bureau for the design of their house.

In terms of new government legislation, SANS 10400 - Section A19, homeowners are required to employ the architect for the full architectural service, which includes full site supervision. Alternatively, the legislation allows for a registered project manager to be retained for the site supervision. A list of preferred architects and builders will also be made available. This will ensure a professional product that is both in keeping with the aesthetic guidelines of the Estate, and of the highest standard.

While it is preferred that the Homeowner use an architect from the approved architectural panel, should the homeowner have a prior relationship with a specific, registered architect or architectural practice they may approach the aesthetics committee and apply for them to be approved. All applications must be accompanied by a company CV. Further information on this process can be found in section 31, Architects, Contractors and Construction Management.

A unique element of this development is that the architectural guidelines have been shaped with the intent to create an estate in which the architecture or the traditional Highveld farmhouse vernacular responds to climate and the environment whilst embracing the use of construction materials in their raw form. The objective of the guidelines is to achieve the following:

- To create an aesthetically appealing built environment whilst preserving the rural ambiance and sense of place of Highland Gate
- To ensure the integration of Highland Gate with its immediate environment as well as the larger Dullstroom area around it.

- Enhance the agricultural sense of place through interpretation of traditional details synonymous with Dullstroom farmhouse vernacular
- Ensure that homes are energy efficient, thereby ensuring that the overall carbon footprint of the estate is kept to a minimum.
- Ensure harmonious and attractive streetscapes through attention to the exterior detail and architectural language of the houses
- Create an outwardly focussed, socially sensitive, built environment, while retaining the residents' sense of privacy where required
- Mitigate possible negative impacts of buildings on the adjoining properties

It is the developer's intention that, as with our previous award winning estates, this estate will be seen as both a landmark and a benchmark for all residential developments in South Africa for years to come. With this in mind we have an opportunity to create an iconic estate with a uniquely South African architecture, in harmony with the environment, embracing natural materials in their true form, and responding effectively to the Highveld climate.

It is intended that these guidelines will allow for a fairly broad range of personal choice in the external appearance of the individual houses, while still embracing the 'Old Traansvaal Style' or 'Farmhouse' vernacular.

The overall character of the development will still be identifiable through the use of certain unifying external elements synonymous with the Dullstroom aesthetic, such as chimneys, boundary walls, roof coverings, external wall finishes and colours etc. The nature of the landscaping will also contribute meaningfully to this objective, thereby ensuring long term property values for homeowners.

The primary function of these guidelines are to ensure that the value of the estate and the houses therein is preserved and enhanced while still allowing individual homeowners to express their personal needs and preferences within the overall aesthetic framework.

3. TOWN PLANNING CONTROLS

The Town Planning Controls applicable to all stands in Highland Gate are contained in the Conditions of Establishment which were issued by the Local Authority on approval of the Township.

3.1 Land Use Rights

The Land Use Rights are defined in terms of the Emakhazeni Land Use Scheme 2010, previously the Dullstroom Town-Planning Scheme 1974. The primary development right for all properties zoned 'Residential' is a single dwelling house at a maximum density of 1 dwelling unit per stand. Stands zoned 'Residential' may only be used for residential purposes.

3.2 Consolidation and Subdivision

No stand may be subdivided.

Erven may be consolidated with prior written permission from the developer and the approval of the Emakhazeni Local Municipality, in which case the owner will be liable for the combined levy pertaining to each original stand. Levies for the second stand will, however,

receive a 30% discount. Therefore, for two consolidated stands a factor of 1.7 would apply to the overall levy.

3.3 Height

2 (two) Storeys (May be rezoned to 3 stories in the case of a basement on approval from the Aesthetics Committee).

Towers, agricultural features and basements which are not designed for living, working, sleeping, or storage purposes shall not be regarded as storeys for the purposes of the scheme.

3.4 Maximum Coverage

The maximum coverage of all roofed buildings is expressed as a percentage of the total area of the stand and is as follows:

- Dullstroom Extension 3 (Erven 751 - 951 & 953 - 960)

Single storey dwellings - 50% of stand area

Double storey dwelling - 50% of stand area

- Dullstroom Extension 4 (Erven 962 – 974, 976 – 982, 984 – 993 & 995 -1066)

Single storey dwellings - 50% of stand area

Double storey dwelling - 50% of stand area

- Dullstroom Extension 5 (Erven 1071 - 1214)

Single storey dwellings - 50% of stand area

Double storey dwelling - 50% of stand area

3.4.1 The following will be included in the maximum coverage ratio:

- Covered veranda’s and patios
- Garages and staff quarters
- Conservatories

The first floor area may not exceed 70% of the ground floor area.

Double volume areas and staircases are to be included in the first floor calculations.

3.5 Floor Area Ratio (FAR)

No FAR is applicable.

3.6 Building Restriction Lines

The building restriction lines are defined in the Conditions of Establishment and are as per the Emakhazeni Local Municipality. These may be relaxed to the following minimum

dimensions with consent from the Aesthetics Committee, the affected neighbours and the Local Authority.

The Generic building lines are:

Side Boundaries	3m (May be relaxed to 2m)
Midblock boundaries	3m (May be relaxed to 2m for single storey)
Street Boundaries	5m (May be relaxed to 3m to garage and 4m to house)

Walled yards may be on boundaries but should be preferably set back 3m to ensure continuity of open space between houses.

Swimming pools may not be constructed closer than 2m to any boundary.

In line with the principles of privacy and good neighbourliness the Aesthetics committee may, at its discretion, reject the relaxation application without recourse.

It is important to check the combined services layout scheme as contained on the Estate CD, as well as the SG Diagram and Title Deeds to ensure that the Homeowner and architect are familiar with any services and servitudes running through the individual stands. Final positions of all manholes, kerb inlets, electrical kiosks, etc. must be physically checked on site to ensure that they are as per the service drawings. The developer shall not be held responsible for any deviation in terms of the final position of these services.

3.7 Second Dwellings

No second dwelling will be allowed at Highland Gate.

3.8 Staff Quarters and Outbuildings

Staff accommodation must be contained under the same roof as the main house, and may not be closer to the street building line than the house. Staff accommodation and kitchen yard areas must be enclosed with a min. 2.1m high wall on all sides.

4. AESTHETIC CONCEPT

The design of houses throughout the estate should be in response to the unique South African climate and lifestyle. Homeowners will have the freedom to create unequalled and diverse homes, which will be in keeping with the proposed theme of the estate, while still achieving energy efficiency and minimizing environmental impact. Within this specified formula the use of various raw materials will be encouraged, with a focus on stone, brick, wood and glass.

It is our hope that this development will create a truly unique and climatically appropriate style that is honestly South African and particularly relevant to the Lowveld region and our world-renowned climate, where it's warmer outside in winter, the sun shines all year round and the temperature can fluctuate by 20 degrees Celsius in one day. Thus material choice is critical to ensure low running costs through passive heating and cooling of the building.

We also have a unique lifestyle that requires an appropriate architectural response. We envisage both classical and contemporary interpretations of these 'farmhouses', 'sheds',

'barns' and 'manor houses' that respond not only to the broader context, but also to the individual site and the estate as a whole. We envisage simple, honest structures, with good indoor-outdoor flow, at home in their surroundings and sympathetic to the climatic conditions of the area.

Emphasis should be placed on excellent proportions, scale and the inter-relationship between architectural and structural elements to the landscape and context. The aesthetic of this estate should be refined through excellence in detailing and execution. Simplicity of form requires excellent detailing and construction quality as well as thoughtful resolution of the interrelation of forms, materials and spaces. Materials should be chosen for their ability to improve with age. The estate and each of its residences should be seen as an example of excellence in 'Old Traansvaal Style' or 'Farmhouse' design, exclusivity and desirability, tastefulness and authenticity. The homes on this estate should set a precedent for all future developments in this country, and be unparalleled in both South Africa and the world for many years to come. This estate should be an embodiment of our South African Lifestyle, past, present and future.

The design of the house must take into account its immediate surroundings as well as the greater environment and should, from the outset, endeavour to be sustainable and eco-friendly where possible. This can be achieved by making the house thermally efficient, using solar geysers and panels, energy efficient lighting, and low consumption fittings and appliances. Building a home using good design principles will save energy, water, be more comfortable to live in, and have long term cost benefits for the end user in addition to benefitting the environment as a whole. Please consult the sustainable housing guidelines or our recommended book list (annexure B) for more information.

It is important that all homeowners embrace the vision for the estate and it is vital that they work together with and support the developer and architect appointed to scrutinise the plans in implementing these guidelines. It should be borne in mind that we should strive to create an environment in the estate where the whole is greater than the sum of the parts and in so doing homeowners may need to make compromises for the benefit of all.

5. ARCHITECTURAL CHARACTER AND DESIGN GUIDELINES

5.1 Introduction

The primary function of these guidelines are to ensure that the value of the estate and the houses therein is preserved and enhanced, while still allowing individual homeowners to express their personal needs and preferences within the overall aesthetic framework.

Typical Elements of the genre include:

- Vertically Proportioned windows
- Pitched roofs
- Extensive use of verandas
- Vertical slatted doors
- Shutters
- Red face brick
- Natural dry packed stone
- Ship lapped cladding

A contemporary architectural interpretation of the guidelines is encouraged, with the emphases on simplicity, scale, proportion, and refined detail.

The design guidelines are primarily concerned with the external appearance and positioning of the estate's buildings and structures. Owners are relatively unrestricted with regard to the interior layout and finishes of their homes.

The design guidelines will be strictly enforced. Any detail deviations or exceptions will have to be thoroughly motivated to the aesthetics committee who will consider any such deviation on its merits and reserve the right to reject the deviation without recourse.

It is the onus of the homeowner and architect to ensure that they are in possession of the latest set of guidelines and to familiarise themselves fully with it. Furthermore, it is the responsibility of the homeowner and architect to specifically identify any proposed non-compliance to the guidelines.

The Aesthetics Committee accepts no liability through the approval of drawings and the approval relates purely to ensuring that the building s comply from an aesthetic point of view. If any aspect of the building is in contravention of the guidelines and has not been specifically brought to the attention of the Aesthetics committee and approved as a specific item in the approval letter then that item will still be viewed as being in contravention of the guidelines, notwithstanding the approval of the drawings. In this case the Aesthetics Committee reserves the right to instruct the homeowner owner to rectify such contravention at the homeowner's cost and without recourse.

5.2 Scale and Proportion

The architecture of the estate should be harmonious and of human scale, avoiding unnecessarily large building forms. Large building forms must be broken up into smaller, well defined components. The size, proportion and placement of buildings must take cognisance of site and environmental conditions.

The size of a house must be a minimum of 200m² and can increase to a maximum of approximately 1200m² depending on stand size. This calculation includes the main dwelling, garage and outbuildings.

The maximum permissible height of any building on an erf is two storeys or 11 meters when measured from the highest point of the roof to the lowest point of the natural ground level along the perimeter of the building. Chimneys are exempt from this height restriction.

Natural ground level is deemed to be the level as determined on a contour plan. Should a dispute arise relating to the determination of any natural ground level, the Aesthetics committee will be entitled to rely on the details shown on the contour plan in their possession.

An additional loft storey will be allowed in the roof void if approved by the Aesthetics Committee and Local Authority. Loft floors must start at wall plate level and the area must be included in the Maximum Floor area calculation.

5.3 House Forms

Building forms must be simple, rectangular or composite rectangular and frontages facing the street should be parallel to the street along the building line as far as possible. Cylindrical ‘silo’ forms are permitted providing that are well proportioned, not dominant and integrate well with the other buildings and structures.

Buildings must be designed to blend with their surroundings and not dominate them. As such, buildings must be stepped along slopes instead of creating platforms - being “of the hill not on the hill”. They should make extensive use of verandas and pergolas.

No decorative beams, structures or double volume columns will be allowed to protrude from the exterior of the house. Double volume porte-cocheres or entrance columns are specifically excluded.

The maximum permitted building width of a single storey gable, or equivalent, is 8.0 meters and of a double storey gable, or equivalent, is 7 meters. This may be relaxed at the discretion of the Aesthetics Committee.

Maximum permitted width under a lean-to roof with parapets must not be more than 2/3 the width of the adjacent gable. Outbuildings must be of the same form as the house if they are freestanding.

5.4 External walls

External walls must be finished using a combination of approved materials as per 5.4.1 below.

All specifications, including samples where required, must be submitted to the Aesthetics Committee.

No type or form of un-plastered brick will be permitted on external walls as the dominant feature of the house but may be used for decorative purposes at the discretion of the Aesthetics Committee. A maximum of 40% of face brick will be permitted on the exterior of the house. Two-tone face brick work and yellow face brick work is specifically excluded. If face brick is to be used then flush joints are recommended.

Natural stone can be used to add warmth and depth to the design, especially in the form of founding or feature elements e.g. Chimneys, Columns, Bases and retaining walls. “Dry packed” or stacked stonework is preferred to riven walling as it is more in keeping with the rustic aesthetic. **NO** fake stone or concrete/fibreglass facings will be allowed.

Horizontal string courses and simple plaster or timber surrounds to openings are permitted, but no multiple corbelling, quoining, rustication or decorative mouldings will be permitted on any part of the building, boundary wall or outbuildings.

The developer reserves the right to specify the style, detail, and finish of the boundary wall in certain areas e.g. on Main Boulevards. In the event that this becomes necessary, all details and specifications will be issued to the Homeowner’s architect by the Aesthetics committee and the building of these walls to the approved detail will be strictly enforced.

5.4.1 Recommended Wall Finishes

- Natural ‘Dry Packed’ Stone
- Smooth or Bagged Plaster, painted in Earthy Colours
- Textured or scratched plaster, painted, or with tinted finish e.g. Marmoran
- Timber Plank or Everite fibre cement building planks – only Horizontal Shiplap style is permissible
- Corrugated metal if combined with the same corrugated metal roof – Maximum 50%
- Facebrick in red colour e.g. Corobrick Country Classic, Roan Satin or similar approved – sample to be provided (Max 40% of elevations)
- Combination of plaster and planking finish – subject to approval

5.4.2 Specific Exclusions

- Decorative plaster such as Spanish plaster
- Ornate mouldings
- Pre-cast decorative concrete building elements
- Fake rock cladding
- No visible creosote treated timber may be used.
- Two tone face brick
- Yellow face brick
- Multiple corbelling or coining
- Cement bricks

5.4.3 Wall Colours

All exterior paint colours must be chosen from the approved colour palette for walls, doors and windows. Soft subdued earthy tones such as ochre, sandstone, beige, autumn shades are encouraged to blend into the natural surroundings. Colour samples of the intended colours are to be presented to the controlling architect for approval.

The principal external paint colour may not be white. The colour palette will be included in the guideline annexures.

The HOA will have the right to enforce penalties on owners who at the discretion of the HGHOA do not comply with the general colour scheme of Highland Gate.

If an owner repaints his house he must submit a colour card to the Aesthetics committee, and failing to do so the owner will carry the cost of repainting the house if the colour is not correct. If the owner fails to paint his house the correct colour a penalty of R2500 will be debited to his account monthly until the colour of the house is corrected.

Specific exclusions

- Bright and contrasting colours.
- Large areas of black and white, cold grey, greens, blues, etc

6. ROOFS

All major plan forms must be roofed. Roofs must be dominantly pitched in form and be between 30 to 45 degrees, in traditional styles – simple double pitched, pyramid, hipped and half-hipped. Roof pitches must be consistent. Peaks must be symmetrical. Flat or lean-to roofs with a pitch of 5 to 15 degrees are acceptable provided that they do not exceed a maximum of 30% of the total roofed area. An extra allowance will be made for open lean-to verandas. The same material must be used on all pitched roofs, with the exception of slate and grey Chromadek sheeting, malthoid shingle tiles, or similar, which may be mixed. Sections which have a pitch of less than 5 degrees and are constructed in concrete shall be finished with pebbles or stone chips up to a thickness of no less than 50mm.

Lean-to roofs must abut the wall of a pitched roof and not exceed 6 meters or 2/3 of the gable width, whichever is the lesser. Roofs must coincide with plan elements.

6.1 Approved Roof Coverings are restricted to the following:

- Corrugated Metal Sheeting – Chromadek or similar (Buffalo Brown, Kalahari Red, Sandstone Beige, Gemsbok Sand, Dove Grey or Dark Dolphin colours) additional colours may be approved at the total discretion of the Aesthetics Committee.
- Slate tiles – Mazista or similar (Blue Grey, West Country or Matt Black colour).
- Concrete Roof Tiles (Flat profile only) - Monier Coverland “Elite”, Monier Coverland “Perspective”, Infraset “Horizon” standard colour range (excluding red, terracotta and dolomite) and vintage colour range (excluding red, terracotta and dolomite). No verge tiles will be permitted. No multi blends will be permitted.
- Marley Modern Concrete Tiles – Designer Tile Range. Colour Mix: ‘Dorset’, ’Essex’ and ‘Devon’ .No verge tiles will be permitted
- Dow Corning Oakridge or Classic Shingle. Colour: Standard colour range excluding Chateau Green, Asian Red or Asian Green.

6.2 Specific Exclusions

- Green tiled or sheeted roof
- Elaborate decorations on gables
- Victorian Brookie Lace
- PVC, galvanised and painted metal or fibre cement gutters and rainwater pipes
- Painted fibre cement facias that are 6mm think and thinner.
- Thatched roofs
- Asbestos cement tiles
- Metal sheeting roof tiles

A sample or specifications of the roofing type, including the profile, must be submitted to the architect for approval prior to the commencement of the laying thereof. All houses are required to have eaves, both for aesthetic reasons, as well as in response to the climate as an aid to passive design requirements. Eaves may be of the open or closed type but overhangs should project at least 700mm and a minimum of 300mm over gable walls.

Chimneys and roof structures must complement the main structure.

Any roof mounted air conditioning units e.g. Breeze Air must be hidden within the roof structure or housed in a roof lantern/ridge ventilator.

If possible solar panels should not be visible from the street and must be integrated into the overall design aesthetic. The panels must be mounted flush on the roof and the geysers are to be housed in the roof void or cupboard and may not be external.

Seamless aluminium or Chromodek gutters and downpipes are recommended. These should be in an ogee pattern and must match the colour of the roof.

No variations to these restrictions on roof coverings will be permitted under any circumstances. The development company reserves the right to demand the removal of any roof covering that is in contravention of the guidelines, or impose fines of up to R10 000,00 per month if not removed. These fines form part of the levy and will be due and payable on the first day of the next month the fine is imposed.

7. WINDOWS

All window openings are to have a vertical form in keeping with the historical proportions of the Highveld farmhouse vernacular.

Window frames and panes are to be rectangular with a dominant vertical proportion of at least 1:1.2, but 1:1.6 is recommended.

Small windows can be square but may not exceed 900x900mm.

The proportion, style, and material of the windows selected should be consistent throughout all the buildings on the erf.

Reflective, coloured or heavily tinted glazing or film will not be allowed.

The use of glass blocks is also strictly prohibited.

7.1 Window Placement

Windows on all elevations must be carefully thought out and proportioned so that no elevation is left blank or with unbalanced openings.

The use of double glazing is encouraged.

Each elevation must have a minimum of 10% fenestration.

All windows and openings must be taken into account in the overall passive design of the house and excessively large glazed areas are to be avoided.

Widows should generally be:

- Taller on the ground floor and shorter on the first floor.
- The same height at the same level throughout the same storey.
- Of the same width in vertical succession and line up above one another.
- Should not be placed closer than 690mm from an external corner of the building.

In the creation of large glazed areas, vertically rectangular windows should be joined together.

7.2 Window Types and Materials

Window frames must be constructed from natural hardwood painted or treated, or powder coated aluminium to approved colours.

Steel windows are not permitted.

PVC windows are permitted with the approval of the Aesthetics Committee.

Window types should generally be:

- Side hung casement.
- Vertical sash or mock sash
- Outwardly opening top or bottom hung windows
- Horizontal sliding with dominant vertical proportion

Where bay windows are used these should not exceed and overall width of 2.4 meters and a depth of 0.9 meters. They must be in sections, with dominant vertical proportions. Oddly shaped or proportioned windows e.g. triangular are not allowed.

7.3 Maximum window and Door Areas

Windows and doors should form individual openings in the dominant wall plane and may not exceed a maximum of 70% of the wall area of each elevation.

7.4 Dormers and Skylights

Dormer windows will be subject to approval by the aesthetics committee. They should have dominant vertical proportions and should be no wider than the window width with its trim. Skylights are also subject to approval. They must be traditional in terms of style, size and proportions with flat glass recommended and must be set in the plane of the roof.

7.5 Shutters

Shutters are encouraged, but must be traditional style and must be functional. They may be internal or external and should be constructed of natural, painted hardwood or powder coated aluminium.

For security purposes, roller shutters are permitted but these should be completely built into the wall and not exposed. An internal installation is preferred.

7.6 Burglar Bars

External burglar bars and expanding security grids are not permitted. Internal bars should be of a simple rectangular pattern, however, clear Perspex bars e.g. Multisafe or Yalwa Securebars are recommended.

8. EXTERNAL DOORS

All doors must be constructed from natural hardwood painted or treated, or powder coated aluminium to approved colours. Steel and PVC doors are not permitted. All doors are to have dominant vertical proportions. No ornate, carved doors, or doors constructed from driftwood, railway sleepers etc. are permitted. Glass door styles are to be consistent with the window styles used.

9. VERANDAS, PERGOLAS AND EXTERNAL STRUCTURES

To keep with the “Old Transvaal” and “Farm Style” architecture, the house must include a covered veranda.

Verandas shall be considered as coverage if less than 70% is perforated or open. Only laminated pine or treated hardwood structures are permissible if timber is used. At least 15% of the floor area of the house must be utilised as a covered veranda.

Vertical canvas blinds will be permitted but must be in a single, earth tone, colour to match or complement the wall colour of the building.

Specific exclusions:

- Decorative wrought iron / cast aluminium
- Gum pole pergolas
- Translucent sheeting
- Fixed or fold-away aluminium awnings
- Horizontal folding canvas shade system
- Canvas shading

10. TIMBER DECKS

Due to the steep slopes in certain areas the use of timber decks as an extension of living areas is encouraged. These avoid the need for large-scale masonry and fill operations and make buildings “float” in the landscape.

The maximum height of decks above natural ground level is 1.5m and should be planted below. Decks should cantilever at least 500mm over support columns.

The use of well-seasoned treated durable timber for deck structures and planking is important e.g. Balau.

11. COLUMNS

Preferred columns are natural hardwood, painted mild steel sections or brick columns. Brick columns or piers must be square and may not be smaller than 345mx345mm and are not to exceed 575x575mm and are not allowed on the upper storey. Brick column width must be in proportion to the height. Simple caps, bases and brackets will be allowed.

12. BALCONIES

Balconies are to be placed and designed in such a way so as not to compromise the privacy of the adjoining homes. The placement and design of balconies are subject to Aesthetics committee approval. Balconies should be accompanied by a roof or pergola.

13. BALUSTRADES

All balustrades are to comply with the National Building Regulations.

Visible external security gates to doors and windows are not allowed. If they are at all used they must be fitted to the inside and the design must match the window and door patterns.

Balustrades must be in keeping with the architecture of the house, and must be either in natural or painted hardwood, or metal painted to resemble timber.

Timber or painted steel frames with stainless steel cabling as balustrades would be allowed.

13.1 Specific exclusions

- Decorative wrought iron / cast aluminium e.g. Victorian Brookie lace
- Concertina or other type steel security gates
- Decorative wrought iron / cast aluminium features on handrails
- Stainless steel handrails externally
- Glass panel hand railing
- Precast concrete balustrades
- No visible creosote treated timber may be used.

14. CHIMNEYS

Chimney stacks may exceed the roof apex by a maximum of 1 meter. Simple clay or concrete chimney pots may be used. No ornate pots will be allowed. Exposed fibre cement flues and cowls are specifically excluded.

15. CONSERVATORIES

A glass conservatory will be considered but will be subject to the following:

- It must be a clearly defined add-on component to the side of the building
- All walls and roof to be glass in a timber or powder coated aluminium frame
- In proportion to the building
- Not on the street boundary
- One per site

Conservatories will be included in both the maximum coverage and the bulk calculation.

16. COURTYARDS

All homes are to have a yard. These walls are to be sympathetic with the house design and positioned to conceal wash lines, refuse, storage areas and kennels.

The courtyard must make provision for at least 4 wheelie bins to enable waste recycling.

17. CELLARS AND BASEMENTS

A non-habitable, below ground cellar not exceeding 20% of the ground floor will be considered by the Aesthetics Committee if it has no external entrance. Exposed walls above ground may not exceed 800mm on street sides and 1200mm on private sides of the house.

18. GARAGES

Garages must be set back at least to the building line from the stand boundary abutting the street. While it is preferable to face them into the stand, a Maximum of four garages may face the roadway. If more than 2 garages are built then they must have single doors.

Materials allowed

- Garage doors: Natural timber, horizontal slatted sectional doors
- Powder coated steel sectional doors with plain horizontal lines.

Specific exclusions

- Chromadek roll-up doors.
- Timber fielded panel sectional doors
- Steel fielded panel doors (squares)
- Tip-up garage doors.
- Shade netting
- Temporary carport structures.

Carports are only allowed if they adjoin and complement the aesthetic character of the house. Supports must either be in timber or painted mild steel sections with brick basis, or brick columns (min 345x345). This would be assessed individually per design. The sides may be trellised with steel mesh to take creepers

19. BOATS, TRAILERS, CARAVANS AND HORSEBOXES

Boats, trailers, golf carts, caravans and horseboxes must be concealed inside garages or screened from the street and neighbours and may not be placed in the side space. This is especially important with regards to corner stands and greenbelt stands.

20. WENDY HOUSES, TOOL SHEDS, LAPAS

Temporary or permanent structures including but not limited to tool sheds or lapas are not permitted save for site huts during construction and only if approved beforehand by the Aesthetics Committee. No banners, flags, or shade cloth structures may be erected on the stand.

21. EXTERNAL PIPES, FITTINGS, FIXTURES & DEVICES

Aerials and satellite dishes must not be visible from the street. Solar panels are to be in the same plane as the roof or to be hidden from site. All Plumbing is to be bricked in and made flush against the external wall, with access panels only at the junctions. Access panels must be approximately 300 x 300mm in size and painted to match the house. Stub stacks are to be used in favour of full height soil vent pipes. Air-conditioning /Heat Pump units or pipes may not be visible from the road or any other resident’s property.

22. RETAINING STRUCTURES

No retaining wall higher than 1.5 meters is permitted. While it is recommended that retaining walls be built from natural stone, face brick or plastered brick walls are also permitted. Precast concrete retaining structures or walling systems are permitted at the sole discretion of the Aesthetics committee and must be suitably planted. All retaining walls must be designed by a structural engineer and accompanied by a structural certificate of compliance.

23. EXCAVATIONS

As far as possible the natural ground level of each individual site is not to be disturbed or altered. All site works required for the development of the site are, as far as possible, to be confined to the footprint of the building or access to the property.

Buildings must be designed to blend with their surroundings and not dominate them. As such, buildings must be stepped along slopes.

If, however, it is impossible to keep the natural slope of the landscape and a certain amount of land forming is required, all new land forms should be designed to look as naturally part of the existing topography as possible. Care must be taken to accommodate all storm water runoff.

Cut and fill excavations should not exceed 1.5 meters on either side.

The manipulation of natural landforms is to be limited and the preservation of the natural landform by reinstating the stands is an essential principle to be strictly adhered to. The site and surrounding area shall be shaped to permit the ready drainage of surface water and to prevent ponding.

No excavation or filling of the stands may be undertaken without the permission and written approval of a detailed architectural and site development plan to the aesthetics committee. All proposed foundations or excavations for exterior buildings, patios, swimming pools and retaining walls must be certified by a structural engineer.

24. GREENBELT STANDS

Houses facing onto the greenbelt areas have a much higher visibility within the public realm and, as such, special design consideration is required for the elevations exposed to these public areas and should have a high level of quality and details consistent with the front elevation. Upgraded building materials such as stone are also encouraged.

25. CORNER STANDS

Corner stands, due to their nature, play a significant role in setting the image, character and quality of the street. Both street frontages must be addressed in a consistent manner and should incorporate ground level detailing such as porches, windows and verandas etc. which reinforce the pedestrian scale of the street. Extensive verandas are encouraged while articulated flanking elevations are required to avoid flat, blank, uninteresting facades. Upgraded building materials such as stone are also encouraged.

26. URBAN DESIGN PRICIPLES AND CONTROLS

The urban design principles cover the interface of the private residence with the public realm and are intended to create an understated yet sophisticated ambiance throughout the estate.

The elements contained in this section must be shown on the site development plan and the owner must include perspective and detail design with their submission.

26.1 Boundary Walls, Fences and Hedges

As a general rule boundary walls are not encouraged. Where it is needed for privacy, such as around swimming pools, boundary walls may be built according to the following guidelines:

Walls of maximum 1500mm high are allowed to contain pets and swimming pool safety.

Screen walls to the height of 2.1m (from N.G.L.) can be used for screening pools, patios and kitchen yards and may not be longer than 30% of the specific stand boundary.

All walls are to be designed and signed off by the responsible engineer.

Walls should be simple without extravagant features or mouldings. Openings to let storm water through must be provided at regular intervals.

Walls between neighbours may not proceed further than the street building line or past the back building line and should thus stop in line with house.

Fence designs are to be approved by the controlling architect.

Dwarf walls with stone cladding are encouraged for building up of terraces.

High retaining walls are to be clad with natural stone and the growth of creepers on high blank walls is encouraged

Materials - Only the following materials may be used in the construction of walls and fences:

- Natural Stone
- Post and Rail Fencing (Tanalith treated; unpainted unvarnished timber, with or without galvanised square weld mesh inserts).
- Brick and smooth or bagged plaster painted as per approved colours (See annexures).
- Palisade if custom designed and made from natural timber or steel, painted in charcoal grey from the approved colour chart (See annexures).

Specific exclusions:

- Flimsy timber fencing.
- Chicken wire fencing.
- In-situ casted concrete finish on retaining walls.
- Concrete panel walls
- Barbed wire fencing
- Diamond mesh fencing

- Cement bricks
- Log type fences

No electric fences will be allowed within the development.

Yard walls may be erected on the boundary of an erf subject to the following conditions:

- Yard walling must be a visual extension of built forms and must have the same finishes as the house.
- Yard walls may not exceed 30% of the length of a particular boundary.
- Yard walls may not exceed a height of 2.1 metres measured from the yard floor.

26.2 Street Boundaries

The street front boundary must be without fencing.

26. 3 Side and Midblock Boundaries

Internal boundary walls are not mandatory.

The maximum wall height is restricted to 1.5m

All brick walls are to receive concrete copings as approved.

All boundary walls must be constructed in accordance with SABS 0400. All wall plans must also be accompanied by an engineer's certificate and, on completion, an engineer's completion certificate is to be issued for the Aesthetic Committee's records.

All building sites are to be temporarily fenced, with a lockable gate, during construction with an approved barrier of wire fencing with shade netting attached. These must be neat and well maintained for the length of the construction period.

Only a single wall/fence may be built on these boundaries. Owners are encouraged to co-operate in construction of the common wall between their properties. In the event of a dispute the aesthetics committee will be the sole adjudicator and both owners will agree to abide by the committee's decision.

26. 4 Gates

Gates must be in wood or steel in a simple design and may not be higher than the adjoining wall.

Vertical wooden slats in a natural or varnished finish are preferred.

Excessive ornamentation or decorative finishes are prohibited.

26.5 Street Numbers

All street and house numbers must be according to approved samples by the aesthetic committee.

The lettering should not exceed 300mm. It should be in natural unfinished material and should be mounted on the wall adjacent to the gate. No other signage may be displayed on the stand.

26.6 Driveways

The design, position and materials used for driveway construction have a major impact on the public spaces. The following are guidelines for the construction of driveways.

Position: The position of driveways must be governed by the following:

- Only 1 point of access to each dwelling stand will be permitted with a maximum width of 6m at the street to allow for splays.
- The driveway position must be indicated on the site development plan for approval
- Road safety must be considered and should be the primary determinant of the driveway to a site
- The position of underground services, manholes and storm water inlets must be taken into account and physically checked on site to ensure that no clashes occur.
- Whenever possible adjoining stands should have adjoining driveways to ensure the maximum road reserve for the planting of trees and shrubs.

The aesthetics committee reserves the right to determine the position of all street accesses at its discretion.

26.6.1 Dimensions

The driveways may be a maximum of 5 meters wide and must be perpendicular to the street boundary.

Materials: Driveways may be constructed from the following materials:

- Brick Paving
- Concrete Paving
- Natural Stone
- Exposed aggregate Paving

Driveways shall not be constructed from asphalt, concrete interlocking, or any form of crazy, brick or stone imprint paving. Excessively coloured or patterned driveways and motifs are not permitted. A sample or specifications must be submitted to the Aesthetics Committee prior to commencement with the laying thereof.

26.6.2 Sidewalks

Sidewalks will be constructed on one side of certain roads by the developer. The side walk will take precedence over the driveway in that that the sidewalk must remain a continuous surface and level across all driveways.

26.6.3 Panhandle Access Routes

A number of erven have panhandle access where the following will apply:

Single Panhandle

Panhandle driveways may not be intrusive and are governed by the following rules:

- No gates onto street fronts
- The gate must be set back at the end of the panhandle nearest the house
- No structures may be erected in the panhandle

Double panhandle

These driveways are governed by the following rules:

- No gates onto street fronts
- The gate must be set back at the end of the panhandle nearest the house
- No wall or boundary structure may be built down the centre of the driveway
- A single paved surface must be constructed down the middle of the two access routes to a maximum width of 6 meters
- Appropriate planting should be undertaken to ensure harmonious integration with the streetscape
- The cost of constructing and maintaining the driveway will be apportioned equally between the owners of the paired stands.

The Aesthetics committee will be the final adjudicator in the event of dispute between owners regarding the positioning, construction or financing of the common driveway.

26.6.4 Signage

All Signage (contractor's boards etc.) must be as per the approved format (See builder's code of conduct) and only one may be mounted in front of the applicable property. All signage must be kept to standard professional boards only, no private marketing or sales boards will be allowed. No signage of any type including for sale boards etc. may be displayed on any part of the common property on the estate, or near the entrance to the estate.

27. MATERIALS

We aim to encourage the use of materials in their natural state, thereby creating a unifying element to all the homes, as diverse as we hope they will be. The quality of design and the application of these raw materials in new and relevant ways are of paramount importance to this concept. The materials that will be expressed in their natural form on the estate are as follows:

Stone: The use of natural stone can be used to give warmth and depth to design, especially in the form of founding or feature elements for example: chimneys, columns, bases and retaining walls. No fake concrete facings will be allowed.

Brick: The use of exposed brickwork is very effective in detailing arches, lintels, and edges, as well as introducing a human scale and earthy feel to larger buildings.

Plaster: Plaster whether plain or pigmented tends to improve over time with a natural patina, as well as being extremely flexible in terms of creating moulded or sculpted details. It is also

useful to create contrast with the more heavily textured brick and stone elements. The plaster may be painted in a limited selection of colours chosen from the attached chart. (see point 6 under the annexure section).

Wood: Timber in its natural state lends warmth and interest in many applications, from doors and windows, to heavy beams, columns and trusses. The grain of the wood itself gives texture and life to elements and spaces. The wood may also be painted in a limited selection of colours chosen from the attached chart.

Steel: Steel allows spaces to become light and airy, especially when used in conjunction with glass. It makes it possible to span large openings and create spaces that are open and free. Steel is a modern material that can be used to create dramatic effects. It may be galvanized or painted grey.

Glass: Glass can create warmth when it's cold and provide cooling when it's hot: This is done through the use of shading and screening devices in summer, and by allowing the low winter sun to penetrate from the north in winter. It can bring the outdoors inside and can create spaces that flow. The use of glass in a home is unlimited in its application, from doors and windows, to screening devices and ventilation.

Green Materials: A full range of green materials are on display in the Waterfall Green Design Centre, together with reference material which will be constantly updated and expanded to ensure homeowners are exposed to the latest technologies available. Please see the Sustainable Housing Guidelines as well as our recommended booklist for more information on incorporating green materials into your house designs.

28. INTERIORS

Although not specifically included in the architectural guidelines, it is our intention that the interiors will be as unique and beautiful as their exteriors, with the application of the raw materials on the inside as well.

Application of such raw materials in the interior of the home extends to the use of timber floors, steel and glass volumes, screeded surfaces and exposed brick or stone walls. This will lead to a natural transition between internal and external spaces, with indigenous gardens further enhancing the houses found throughout the estate.

We aim to encourage a fresh look at our South African climate and lifestyle in the planning and finishing of the interior spaces of the homes on this estate. It is envisioned that this flexibility and diversity of spaces and materials will create a new and lasting South African ideal.

It must be noted that the following electrical appliances are specifically excluded and the gas equivalent must be specified. A list of recommended suppliers is available in the Waterfall Green Design Centre.

Excluded:	**Recommended:**
Electrical under floor heating	• Piped water under floor heating with a gas/solar fired boiler and insulation to underside of slab. • Gas fired space heaters

Electrical Geyser	• Gas fired instant water heater. • Solar water heater.
Electrical Hob	• Gas hob.
Electric space heater	• Gas space heaters.

29. GARDEN LANDSCAPING AND PLANTING GUIDELINES

29.1 Introduction

The purpose of these guidelines is to create an integrated and responsive landscape with emphasis on nature, open space and style that will be unique to Highland Gate Golf & Trout Estate. It will also create sensitivity and harmony between the development and the surrounding nature. The guidelines furthermore aim to preserve and enhance the existing environmental attributes, minimize possible negative impacts whilst at the same time establish a new, dynamic and elegant character to the Estate.

In order to control the general landscape development on private property to be a continuation of the landscape design of public spaces as will be established by the developer, the following set of guidelines will apply to every erf.

The integrity of the Open Spaces can only be achieved through the successful integration of the landscape and the architectural components.

The Environmental Management Plan will form an integral part of these guidelines and must be adhered to at all times. (Copies of this document are available under separate cover).

29.2 Landscape strategy

The landscape strategy is to create an environment within the estate that will maximise indigenous bio-diversity of the area and be sustainable into the future.

The strategy is founded on the following principles and practices:

- Highveld indigenous planting material is the most ecologically sustainable flora for the soil and climatic conditions of the estate and its environs.
- The natural sense of place is unembellished with little or no ornamentation
- Each garden is a contributor to the conservancy area of the estate in its bid to create an environment where maximum indigenous bio-diversity can exist (birds, insects, animals and plants).

29.3 Mandatory Guidelines

29.3.1 Existing trees

The development will at all cost, preserve as many as possible of the existing indigenous trees. This will minimize visual impacts and preserve the value and character of Highland Gate Golf & Trout Estate.

Architects are encouraged to preferably use the existing trees on the erf as design opportunities, as opposed to being a design constraint.

All existing indigenous trees on the estate with a stem diameter of greater that 100mm measured 1 meter above ground are worthy of protection and thus may not be removed without formal consent from the aesthetics committee.

All trees with a stem diameter of greater that 100mm must be clearly shown on the stand's site development plan and any interference with such trees must be minimised. Any removal of trees must be fully motivated and approved by the Aesthetics committee.

The approved removal of any tree with a stem diameter of greater than 100mm must be accompanied by a written commitment to plant two indigenous trees with a minimum size of 100 litres or to relocate the existing tree.

A maximum area consisting of the Building footprint plus an additional "buffer" of maximum 2.5m wide beyond the footprint can be cleared for construction. Any tree outside this area must be preserved unless it can be proven that a tree might be unstable and can cause a potential danger by falling over. This 2.5m wide "buffer" is not permitted to encroach onto the stand's building lines. Any tree within the building line area will automatically be preserved, except those trees that need to be removed for building the boundary walls and for security purposes. In such instances, written approval is required from the Highland Gate Golf & Trout Estate Home Owners Association (HGHOA) prior to any tree/s being removed or pruned.

In order to control and minimize the area of tree clearing on individual stands the following guidelines will apply:

- The principle will be that a maximum area consisting of the Building footprint area plus an additional area of maximum 2.5m wide beyond the footprint, may be cleared for construction of the house.
- Any tree outside this area must be preserved at all costs unless it can be proven that a tree might be unstable and is cause to a potential danger for falling over.
- The 2.5m wide zone is not permitted to encroach into the building line area.
- Apart from trees that need to be cleared for purposes of the boundary walls, any other trees within the building line area must be preserved.
- Trees within driveway, patio and pool areas can only be cleared within an area equal to the minimum dimensions of the structure plus maximum 1m on either side (2m in the case of a swimming pool).
- Any trees removed without prior written approval from the Highland Gate Golf & Trout Estate Home Owners association will subject the erf owner to a fine as laid down in the Environmental Management Plan.

29.3.2 Plant Species

The character of Highland Gate Golf & Trout Estate constitutes not only in the existing environmental attributes but also by the architectural style as well as the specific landscape architecture to be introduced. The landscape vernacular will fulfil a crucial role in the harmonious integration of the "existing" and the "new", typical of Highland Gate Golf & Trout Estate. For this purpose the use of plant species on private property will be controlled as follows:

- The establishment of a plant community as per the plant palette is encouraged throughout Highland Gate Golf & Trout Estate.
- No invader species as promulgated by law may be introduced.
- The use of Pennisetum clandestinum (Kikuyu) lawn is not permitted in the private garden areas. The use of Cynodon dactylon (Bay View) lawn and cool season lawns is encouraged.
- The planting of Palm tree species or any other large leafed plant species with a tropical character will not be permitted on the Estate.
- In response to the historical context of the environment as well as the envisaged vernacular/theme, certain exotic tree species will be permitted as indicated on the plant palette. Similarly exotic but non-invasive shrub and groundcover species will be permitted in private gardens. All are subject to approval by the Highland Gate Golf & Trout Estate Home Owners Association.
- Plant species on private property are to enhance and integrate the character of the adjoining street and or open space landscape.

29.3.3 Landscape Design

The integration of the landscape design of open spaces and street reserves with that of private property is encouraged.

While the private garden is not part of the public domain, it must be acknowledged that the diversity and structure of its flora has a major effect on its surroundings. An important aspect of the vision for this estate is to create a distinct and harmonious landscape in accordance with the architectural vernacular and to extend the framework of planting of the entrance and other sidewalks to the private garden. A recommended plant list is attached to the annexures.

We expect that the Landscaping of the stands will be considered as an integral part of the home designs and that the outdoor spaces will be as well planned and detailed as the homes themselves. The use of indigenous planting will further enhance the concept of natural materials being used to build the Estate into something original and outstanding.

The following measures are to be applied in the landscape design of each erf:

- Homeowners are encouraged to enhance and to keep within the framework of species and the landscape character of the public landscape adjoining an erf.
- The landscape layout, in terms of lawn and bed areas, at the interface between public spaces and private property are to be harmoniously integrated.
- Formal gardens on each erf may cover a maximum of 30% of the erf area outside of the building footprint (soft and hard landscaping). The balance of the erf must be rehabilitated by the erf owner using endemic Highveld grass species so as to integrate into surrounding areas. Erf owners are to note that the use of water for irrigation purposes will be controlled by the Highland Gate Golf & Trout Estate Home Owners Association. Embankment retaining structures (greened) are to be integrated into the garden layout. Due care must be given to storm water runoff.

Typical landscape layout

29.3.4 Streetscapes

The streetscapes in the Estate shall conform to the Landscape Master Plan as drawn up by the Project Landscape Architect. However, should an Erf Owner wish to establish any detailed planting on a sidewalk immediately adjacent to his erf and other than that which may have been provided by the Developer, the Erf Owner may submit detailed plans to the Highland Gate Golf & Trout Estate Home Owners Association for consideration and written approval after which the planting may be installed to the terms of the approval and at the expense of the Erf Owner. The Highland Gate Golf & Trout Estate Home Owners Association is, however, under no obligation to accept any such proposals and will not be responsible for any costs incurred in preparing such an application.

The Erf Owner will be responsible for the establishment and maintenance of such an installation to an acceptable standard which will not detract from the general standards of the maintenance of the parks and surrounding areas and as laid down by the Highland Gate Golf & Trout Estate Manager. The installation shall be subject to the following requirements:

- Such an installation will be irrigated by the owner utilizing his own water.

- Under no circumstances will Erf Owners be permitted to alter the street tree regime where and as installed by the Developer. Erf Owners are required to accurately plot street trees on their architectural submission plans, indicating how the tree/s are integrated into the standard driveway layout.
- No detailed landscaping of sidewalks will be permitted in the instance where erven or sections of erven adjoin the parks or open spaces which have been landscaped by the Developer.

Erf Owners may not prune/cut back any trees on the Public Open Spaces of the Estate and will approach the Estate Manager if any pruning is required. The pruning of trees will be at the discretion of the Estate Manager.

Erf Owners will not be permitted to sink boreholes on their stand/s.

It is intended that the initial landscape installation in the Estate by the Developer will focus on the Main Entrance, the Central Boulevard, the Clubhouse and Wellness Centre and some of the internal parks which link to the Clubhouse and Wellness Centre as well as areas to be rehabilitated.

All streetscapes will be treated less intensively by the Developer on the basis that the landscaping in these areas may be extended and intensified by the Erf Owners, subject to conditions as set out herein, as part of the landscape establishment and enhancement of their private gardens.

No hard landscape/structures other than approved paving will be permitted on the sidewalks. No pedestrian traffic may be impeded on the sidewalks due to landscaping thereof.

Similarly, the Estate Irrigation System, where existing, may not be tampered with or altered other than as approved by the Estate Manager. Such alterations will be executed by the Estate Maintenance Contractor at the expense of the Erf Owner.

In order to achieve the vision of creating a distinctive and harmonious landscape in accordance with the vernacular and theming and to extend the planting framework, Erf Owners are encouraged, as far as is practical, to select plants for their gardens from the recommended plant palette which may be extended from time to time so as to enhance the overall vision and quality of this lifestyle.

29.3.5 Streetscape Integration

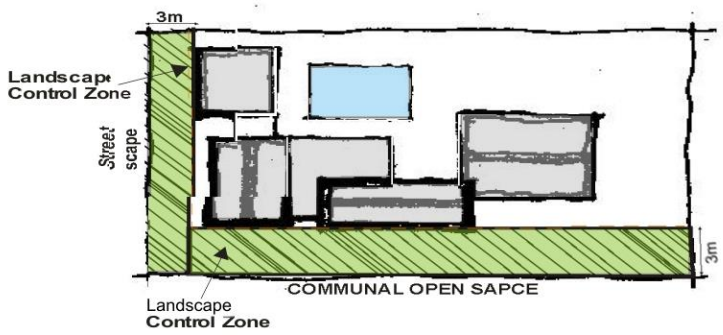
Appropriate landscape design on private property facing any street will result in the desired and seamless integration between the public streetscape and private spaces. It will be controlled as follows:

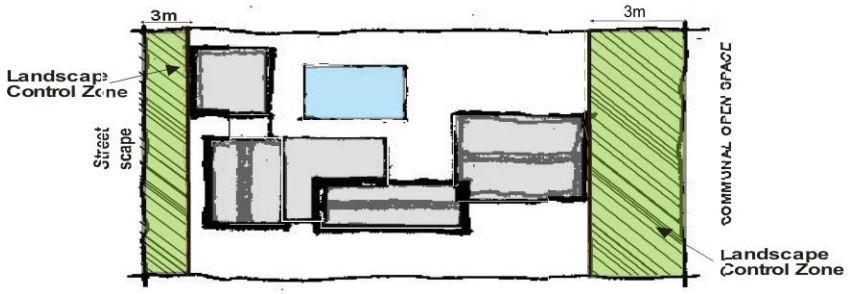
- A 3m wide transition zone along the boundary line facing the street will be the area of landscape control.
- No buildings will be allowed in this zone. Retaining structures (preferably greened) will be permitted in this zone.
- The landscape design in this zone must comply with the principles of the landscape design approach and planting must comply with the Highland Gate Golf & Trout Estate plant palette.

29.3.6 Communal Open Space Integration

Appropriate landscape design on private property along the communal open spaces will result in the desired integration between public and private spaces and will be controlled as follows:

- A 3m wide transition zone along the boundary line facing communal open space will be the area of landscape control.
- No free-standing structures will be allowed in this zone, other than a low boundary wall on the site boundary (refer to the architectural guidelines).
- The landscape design in this zone must comply with the principles of the landscape design approach and planting must comply with the Highland Gate Golf & Trout Estate plant palette.





29.4 Landscape Plan Submission

All landscape plans must be submitted to the Aesthetics Committee as part of the building plan approval procedure. All plans submitted must comply with the following:

- A Landscape Site Development plan for each residential erf must be submitted to scale on an A1 size paper print - 3 copies required.
- Plans must not be laminated.
- The drawing must be complete indicating plant species and positions thereof, as well as hard landscaping with materials specified, boundary lines, streets etc.
- The Plan must clearly reflect the erf owners name and the correct erf number as well as adjoining erf numbers.
- The Plan must reflect the designers name and contact details.

The fee for reviewing the landscape plan will be R500.00 VAT per erf payable to the controlling landscape architects.

Control of the landscape installation and inspections will be as for the building works.

The issuing of the Occupation Certificate will be subject to the landscape installation being completed in its entirety as per the approved plans. (Refer to the Approval of Occupation Certificate which is issued by the Aesthetics Committee).

29.5 Garden Ornamentation

Artificial ornamentation such as artificial rocks, garden gnomes, overly elaborate sculptures etc. is prohibited.

29.6 Garden Lights

All exterior lights, whether attached to a building or free standing, must be diffuse and subdued and in addition the light source must be screened to avoid glare. The lights must be designed to prevent light pollution in such a way that direct light does not leave the property. Coloured light are prohibited.

29.7 Prohibited plant species

All declared invasive alien plants listed in the Conservation of Agricultural Resources Act of 1983 and subsequent amendments may not be cultivated and the HGHOA retains the right to remove such plants at the cost of the owner.

29.8 Vacant Stands

The owner becomes responsible for his stand on transfer. The owner will keep his stand neat and tidy and free of weeds and ensure that the grass is cut regularly.

29.9 Swimming Pools and Spas

Formal pool shapes such as square, rectangular or round pools are recommended as these harmonise with the architecture.

Materials such as brick, natural stone, slate, timber decking, clay pavers or suitable concrete pavers or flagstones, may be used to surround pools and spas.

Pools and spas, filters and pumps are to be within the building lines. These building lines may, however, be relaxed through application to the Aesthetics Committee and any affected residents.

The top level of the paving or pool may not be raised more than 500mm above natural ground level.

Any fencing of the pool must comply with the NBR, be sympathetic to the architecture and designed accordingly.

Pumps and filters must be enclosed and screened so as to be not to be visible or audible and positioned so as not to negatively affect the neighbours.

All water emanating from swimming pools shall be discharged as required by the Local Authority and should not discharge water directly onto a street or stand.

Dark coloured pools are encouraged.

29.10 Rainwater tanks

The installation of rainwater tanks is recommended. These tanks should be buried in the ground or, if exposed, must be suitably clad to complement the architecture of the building it serves.

29.11 Storm water Management

All landscaping plans must display what method of storm water disposal will be employed. No concentrated storm water is to be disposed of directly into neighbouring stands and must comply with National Building Regulations. Ideally storm water should be disposed of in a storm water drain, water feature, or soak pit.

29.12 Children's play areas

Children's play areas, Jungle gyms, etc. must be adequately screened from streets and public areas and should conform to the use of natural materials. No CCA treated poles are allowed in the play areas due to the specific health risks associated with the arsenic and chromium preservative used. The position of the play areas must be indicated on a drawing and approved by the Aesthetics Committee.

29.13 Tennis Courts

Tennis courts are not permitted in the estate due to the limited stand size and slope.

29.14 Agricultural Elements

The use of natural stone structured agricultural elements and garden furniture is encouraged to create a sense of unity and place and to complement the rural ambiance.

29.15 Good Neighbourliness

This is particularly important along midblock boundaries. When planting trees it is important to consider the effect the full grown tree will eventually have on neighbouring properties and to therefore ensure that appropriate species are selected.

29.16 Plant Palette

A recommended plant palette is attached in the annexures.

The landscape vision is the creation of a distinctive and harmonious landscape in accordance with the vernacular theming which further complement the existing planting framework. Bird life is significantly increased through the planting of indigenous trees that have berries for food, or thorns for protection from birds of prey.

Erf Owners are therefore encouraged, to select plants for their gardens from the recommended plant list which may be extended from time to time so as to enhance the overall vision and quality of this lifestyle.

Erf owners are to note that some plant species may be sensitive to cold climatic conditions dependent on the area where they are intended to be used on the Estate.

Bird life is significantly increased through the planting of indigenous trees that have berries for food, or thorns for protection from birds of prey.

30. ESTATE AESTHETICS COMMITTEE

The Developer has established the Estate aesthetics committee to control the design and construction of all buildings on the estate.

Aims and responsibilities:

The main aim of the aesthetics committee is to endeavour to:

- Ensure that all buildings are designed strictly in accordance with the architectural guidelines
- Protect the long-term values of the properties within the estate by acting as the aesthetic “watchdog”
- Ensure that all buildings are constructed in accordance with the approved building plans
- Consider any proposed alterations or additions to the architectural guidelines and standard of the estate

All property owners must obtain the written approval of the aesthetics committee prior to the commencement of the following:

- Erection of new buildings
- Alterations/additions to existing buildings
- Construction of external elements such as boundary walls, swimming pools, Jacuzzis, driveways etc.
- Landscaping where the removal of any tree with a trunk diameter of 100mm or more is envisaged
- External repainting of recoating to any building

30.1 Aesthetics Committee Proceedings

The aesthetics committee will meet once every 2 weeks to consider plans submitted for approval.

The committee will issue its findings, recommendations, or approval within 3 working days of the meeting.

30.2 Approval Process

The Homeowner must refer to the below points regarding the requirements for submission to the Aesthetics Committee for approval. All documentation including the Surveyor General’s stand diagrams, services connection diagrams and contour plans or surveys, which may be required to facilitate the design process. This information, where possible, will be made available on a CD and will be issued free of charge, from the sales office. Alternatively

please visit our website. No building or addition may be erected or altered without the approval of the Aesthetics Committee. This does not apply to minor internal alterations.

It will be the responsibility of the homeowner to ensure that he or she is in possession of the current version of the guidelines.

When designing their houses, or any other structures on their erf, homeowners are required to make use of a registered, practicing, architect and may not use any technician, draughtsperson, design or drafting bureau for the design of their house.

In terms of new government legislation, SANS 10400 - Section A19, homeowners are required to employ the architect for the full architectural service, which includes full site supervision. Alternatively, the legislation allows for a registered project manager to be retained for the site supervision. A list of preferred architects and builders will also be made available. This will ensure a professional product that is both in keeping with the aesthetic guidelines of the Estate, and of the highest standard.

While it is preferred that the Homeowner use an architect from the approved architectural panel, should the homeowner have a prior relationship with a specific, registered architect or architectural practice they may approach the aesthetics committee and apply for them to be approved. All applications must be accompanied by a company CV. Further information on this process can be found in section 31, Architects, Contractors and Construction Management.

The approval process will involve the following stages:

Stage One

The design concept and sketch plans must be submitted to the property development company, Century Property Developments for approval. A scrutiny fee of R5000.00 will be payable on submission of the plans. This fee is a once off payment and may be increased from time to time. However, plans which have to be re-submitted will incur an additional fee of R1000.00 per additional submission.

The aesthetics committee has the discretion to determine that a re-lodged plan is a new plan and subject to the original submission fee if it differs so materially from the previous plan lodged as to effectively constitute a different or new plan. Plan submission and scrutiny fees are subject to periodic review by the aesthetics committee.

Architects are to ensure that all gas appliances are noted in the submission drawings. It is noted that electrical under floor heating and conventional electric geysers are not allowed and that gas fired or geothermal under floor heating or gas fired space heaters are to be specified instead.

Stage 1: Sketch Plans (Scale 1:200) –A3 Booklet which must include the following:

- Position of building on adjacent stands (if applicable)
- All Building lines
- Positions of driveways and access points, including pathways
- Boundary treatment, including the proposed detail of boundary walls

- Landscaping concept, including the position of trees with a trunk diameter of 100mm or more
- Earthworks concept diagram, showing the extent of any proposed cut and fill
- Position of all buildings and structures on site, including pools
- Position and routing of all services onto the site
- Storm and rainwater water management proposal
- Plans and elevations to scale, clearly describing all proposed finishes
- An artist's impression or 3 dimensional CAD model
- Area schedule indicating site, floor, covered patios and outbuilding areas
- Samples of finishes for approval e.g. paint colour swatches, picture of proposed stone etc.

Please submit one CD containing PDF or DXF's of the drawings (to be retained by the Aesthetics Committee for their records) and two A3, coloured sketch plan booklets (one to be retained by the Aesthetics Committee for their records and one to be returned upon approval of the design).

Stage 2: Working Drawings (Scale 1:100) – After the design concept and sketch plans have been approved the detail design and working drawings must be submitted to the Aesthetics Committee for approval. These drawings must include the following:

- Working Drawings, A1 plans ONLY, sections, elevations, roof plan, foundation plan, and schedules (door and window schedules, finishes)
- Area schedule indicating site, floor, covered patios and outbuilding areas
- Coverage and FAR calculations
- Position of building on adjacent stands (if applicable)
- All Building lines
- Positions of driveways, including details of any storm water channel crossing and any additional access points, including pathways
- Boundary treatment, including the proposed detail of boundary walls, finishes and height
- Landscaping plan, specifying all plants and details, including the position of trees with a trunk diameter of 100mm or more
- Earthworks diagram, showing the extent of any proposed cut and fill
- Position of all buildings and structures on site, including pools
- Position and routing of all services onto the site
- Storm and rainwater water management details
- Plans and elevations to scale, clearly describing all proposed finishes
- Samples of finishes for approval e.g. paint colour swatches, picture of proposed stone etc.

Please submit one CD containing PDF or DXF's of the drawings (to be retained by the Aesthetics Committee for their records) and at least two paper copies, one coloured and one monochrome. The monochrome set will be retained by the Aesthetic Committee for their records. The coloured set, as well as and further sets, will be returned. The committee will not approve more than 4 sets, including the Committee set. Please bear in mind that the committee will always retain a set of plans form every submission. Should only one set be submitted this will be kept by the Committee for their records and a further set of drawings

will need to be re-submitted and will need to go through the full plan review process again before being stamped and returned for council .

Stage 3: After the detail and working drawings have been approved they must be submitted to the Local Authority for approval. Certain prescribed submission fees will be payable at this stage to the Local Authority.

It is a condition of establishment that the local council will not accept any plans for approval without the prior written approval of the aesthetics committee.

These Aesthetic guidelines are in addition to, and do not supersede, the requirements of the Local Authority, any statutory authority, or the National building Regulations.

30.3 Dispute Resolution

Should an owner/architect feel aggrieved by the decision of the aesthetics committee he or she must apply to the developer within 7 days for a review of such decision.

The decision of the developer will then be final.

30. 4 Special Considerations

The aesthetics committee evaluates only the aesthetics of any submission and does not take any responsibility for any technical, structural, health or safety standards or for compliance with any Municipal or Statutory requirements and no such responsibility shall arise by virtue of a plan being approved by the aesthetics committee.

30.5 Maximum building period

Construction of buildings must commence (“break ground”) within 18 months from the date of initial transfer of ownership of the stand or the date on which the clubhouse is completed, whichever is the later. This construction must be completed within 12 months of commencement of building activities. Should the owner be in breach of either of these time limits, then the Developer (or it’s duly authorised representative) may impose a monthly penalty levy of R2000.00 (which amount may be varied by the directors from time to time by way of 30 days written notice of such variation) until such time as the construction has been completed and an occupational certificate is issued by the relevant authorities and the aesthetic committee.

30.6 Deviation from approved plans

If an owner deviates from the approved building plans, the aesthetics committee reserves the right to issue a stop order and thereafter insist that the unapproved building works be demolished or rectified at the owner’s cost.

30.7 Commencement of Excavations or Building without plan approval

The aesthetics committee may, at its discretion issue a works stop order and force the owner to re-instate the site or demolish the unapproved structures.

30.8 Building Process

No building shall commence until all the relevant approvals have been obtained and the Building Code of Conduct attached to the Annexures has been read, fully understood and signed by the Homeowner and builder. A signed copy of this document must be then forwarded to the Aesthetics Committee for their records.

A pavement deposit fee will be payable prior to the commencement of construction. This deposit less deductions, if applicable, will be refunded at the end of the building period. This deposit must have been paid prior to the commencement of building operations. Please see the conduct rules for more information on this.

The Developer and/or the Aesthetics Committee will be entitled to regulate the activities of all building and other contractors on and determine that the contractor(s) and the Homeowner sign the Builder's Code of Conduct with the HOA for this purpose.

30.9 Completion Certificate

On completion of the house the Aesthetics Committee is to be notified. The committee will then verify that the house is built as per the approved design and issue a completion certificate. This is to ensure that penalty levies will not be billed for late completion or non-compliance and the pavement deposit will then be refunded to the owner. All owners will need to be in possession of a completion certificate to avoid being billed penalty levies.

30.10 Penalties for non-compliance

The Architectural and Landscaping Guidelines are binding on all owners. Any breaches/deviations will be investigated by the Developer/Aesthetics Committee/HOA who will endeavour to prevent re-occurrence and determine responsibility.

Corrective measures must be taken by, and at the cost of, the responsible party. A penalty levy will be levied on the responsible party for any contravention of the guidelines that is not rectified within 3 months of the homeowner being notified that a contravention has occurred. This levy will be a monthly penalty levy of R2000.00 (which amount may be varied by the directors from time to time by way of 30 days written notice of such variation) until such time as the breach/deviation has been resolved to the satisfaction of the relevant parties.

Repeated non-compliance by professionals or contractors may result in removal from the approved panel of architects and barring of entry onto the estate.

The Developer/ Aesthetics Committee/HOA/ does not give an undertaking to homeowners that it will enforce compliance for each and every breach and retains a discretion as to which measures, if any, it will implement under the given circumstances. It also does not warrant that similar steps will be taken in respect of all similar instances of breach. It does, however, agree to act responsibly in terms of the exercising of its authority.

31. ARCHITECTS, CONTRACTORS AND CONSTRUCTION MANAGEMENT

In order to ensure the quality and design integrity of the built environment within the estate, the appointment of architects is subject to the following conditions.

The developer will appoint a panel of architects. The home owners are obliged to select their architects from this panel.

The architects on the panel are qualified and registered as professional architects as contemplated in section 18(1) (a) (i) of the Architectural Profession Act no 44 of 2000 read together with section 19 (a) (a) of the act.

The architects in the panel have entered into co-operation agreements with the developer to ensure a uniform and professional application of the Architectural Guidelines.

Should a homeowner insist on using an architect who is not on the panel the following will apply:

The homeowner must arrange for the proposed architect to meet with the aesthetics committee.

The proposed architect must provide proof of the following:

- Appropriate house design experience
- Qualifications and registration in terms of the Architectural Profession Act
- Good standing with the South African Council for the Architectural Profession
- Adequate Professional Indemnity Insurance

The proposed architect, if approved by the developer, must then sign a co-operation agreement with the developer, undertaking to ensure a uniform and professional application of the Architectural Guidelines.

In terms of new government legislation, SANS 10400 - Section A19, homeowners are required to employ the architect for the full architectural service, which includes full site supervision. Alternatively, the legislation allows for a registered project manager to be retained for the site supervision. This will ensure a professional product that is in keeping with the aesthetic guidelines of the Estate and of the highest standard.

31.1 Panel of Approved Building Contractors

In order to ensure that the construction of buildings is completed to a high standard and for better management control in the estate, the developer will select a panel of building contractors from which the purchaser is obliged to select a contractor to erect the buildings on his or her property.

Should a homeowner insist on using a building contractor who is not on the panel the following will apply:

The homeowner must arrange for the proposed building contractor to meet with the aesthetics committee.

The proposed building contractor must provide proof of the following:

- Appropriate house construction experience
- Registration in terms of the National Home Builders Registration Council (NHBRC)
- Registration in terms of the Master Builders Association (MBA)
- Letters of recommendation from previous clients

The proposed building contractor, if approved by the developer, must then sign a co-operation agreement with the developer, undertaking to ensure that the construction of his or her buildings within the estate is completed to the highest standards.

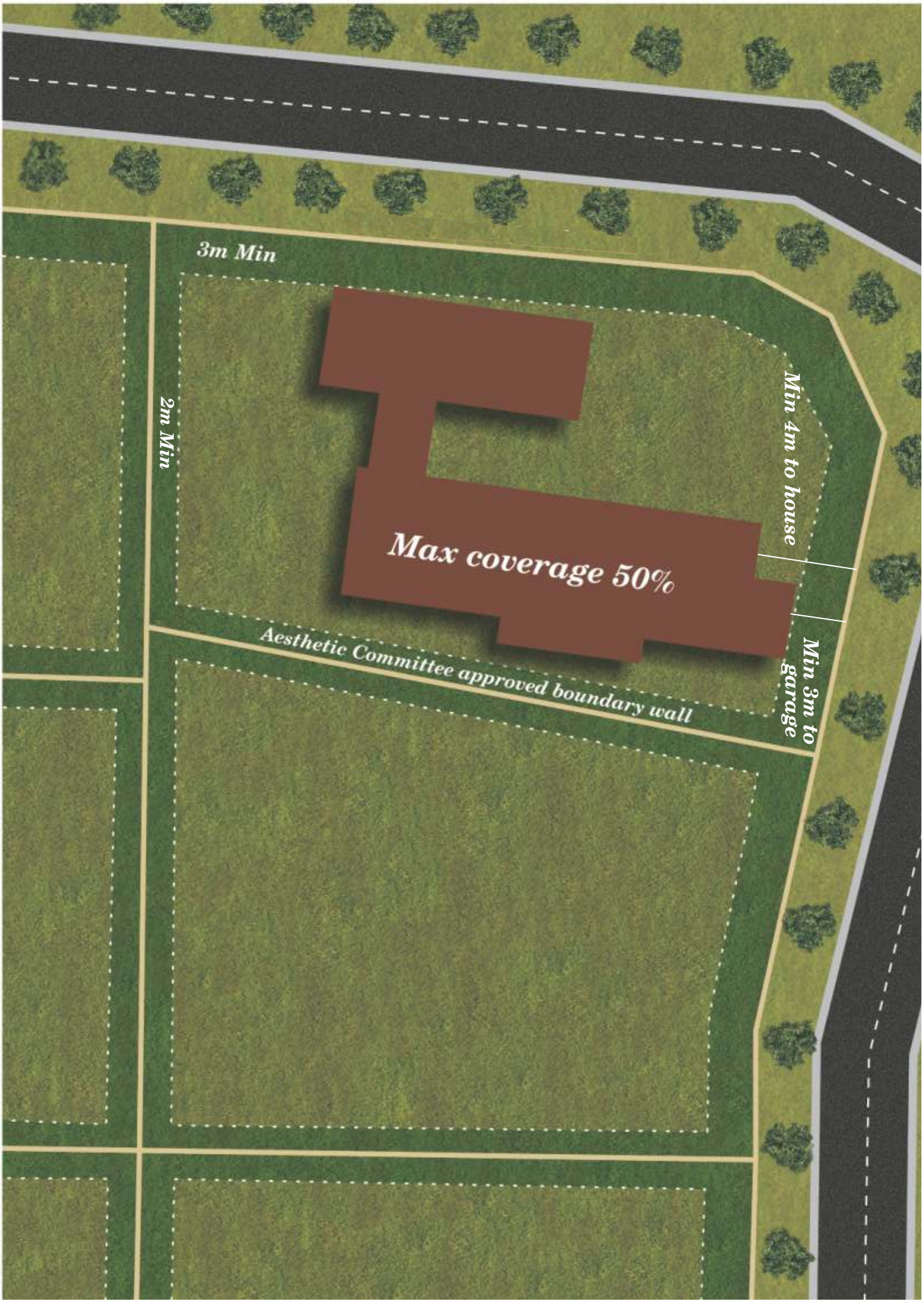
31.2 Building Contractor Management and Control

In order to ensure that the construction of buildings within the estate is executed in a controlled manner and to ensure that the life-style of existing owners and residents is not unreasonably disrupted, the developer will issue a Building Contractors Code of Conduct.

The Code of Conduct must be signed by all contractors and will be strictly enforced by the developer or HOA, with penalties for non-compliance. In this regard the developer is not in a position to warrant that any penalties impose will have the desired result. Furthermore the developer does not undertake to necessarily impose a penalty in terms of each and every breach of the code, but will use its discretion in this regard, which it undertakes to exercise responsibly. It should be clearly understood that the developer is not in a position to warrant compliance with the under mentioned aspects of the code of conduct but that the developer will, at all times, use its best endeavours to ensure compliance.

The code of conduct will cover, inter-alia, the following:

- The days and times of the day during which construction may take place
- Receipt and storage of building materials
- Rubbish disposal
- Access for deliveries
- Staff ingress and egress from the estate
- Staff toilet and ablution facilities
- General behaviour of staff
- Contractor’s boards
- Fencing and screening of construction sites
- Protection of existing infrastructure
- Damage repair
- Environmental control
- Penalties for breach of rules
- Monitoring of construction activities in accordance with approved building plans
- Such matters as the developer deems to be in the interest of the general body of owners and residents of the estate


3m Min
2m Min
Min 4m to house
Max coverage 50%
Min 3m to garage
Aesthetic Committee approved boundary wall

32.2 Examples of Dullstroom Homesteads

Examples of Wall Finishes

Examples of Roof Finishes

Examples of Windows and Doors










Examples of Patios










Examples of Patio Columns






Examples of Details







Examples of Gable Walls






Examples of Gable Walls







Examples of Chimneys

Examples of Ceilings

Examples of Arches

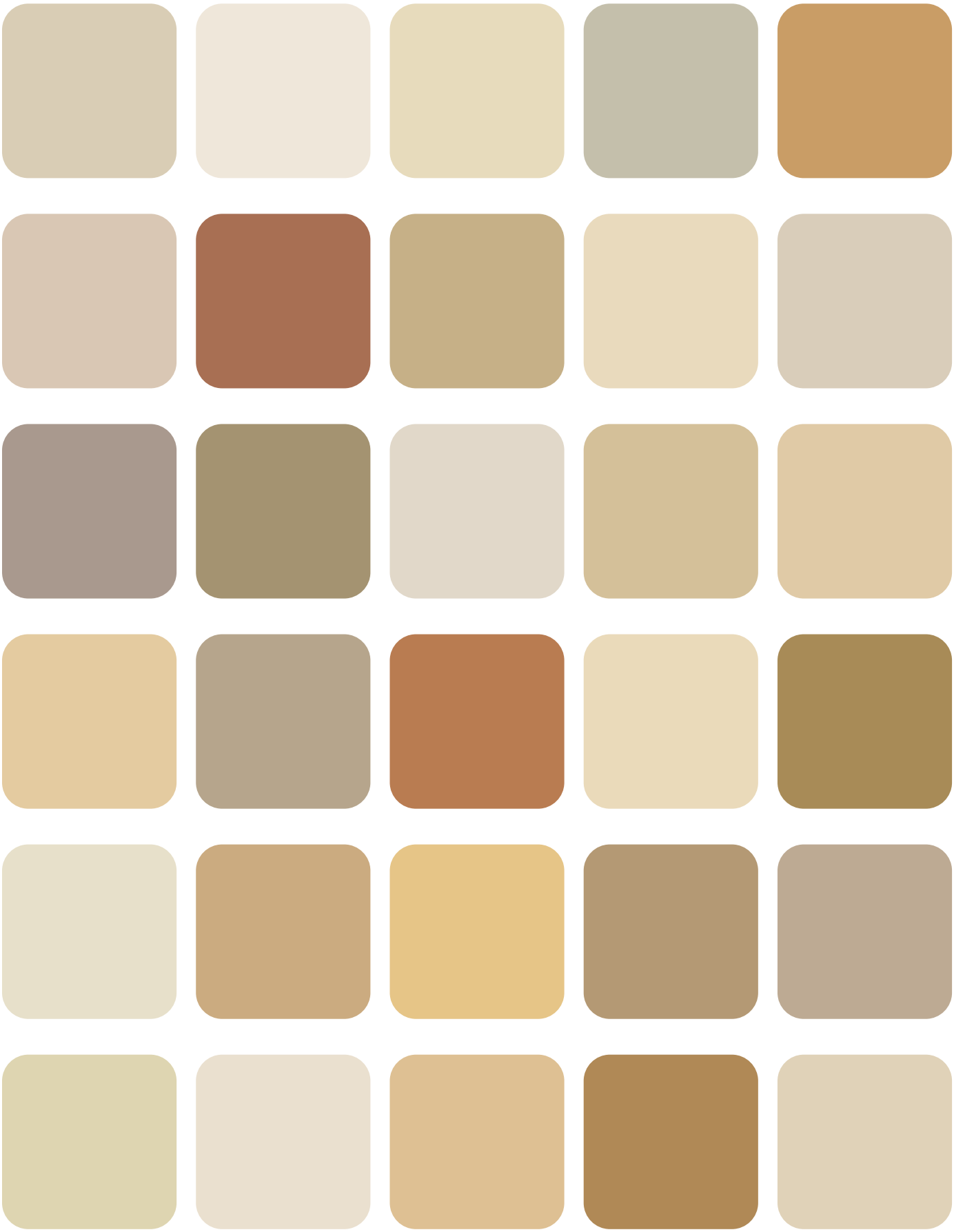



Examples of Carports and Garages






32.3 Earth tone exterior paint colour palette



32.4 Plant Palette

Species	National Tree No.	Common Name	Size (h x w)	Evergreen / Deciduous
Accent / Feature Trees and Special uses				
Bolosanthus speciosus	222	Tree Wisteria	7m x 4m	D
Celtis africana	39	White stinkwood	10m x 4m	D
Combretum erythrophyllum	536	River bushwillow	12m x 10m	D
Combretum zeyheri	546	Large-fruited bushwillow	9m x 6m	D
Cussonia paniculata	563	Highveld cabbage tree	5m x 2m	D/E
Cussonia spicata	564	Common cabbage tree	8m x 4m	E
Dias cotinifolia	521	Pompon tree	6m x 4m	D/E
Indigenous Avenue / Street Trees				
Celtis africana	39	White stinkwood	10m x 4m	D
Combretum erythrophyllum	536	River bushwillow	12m x 10m	D
Combretum zeyheri	546	Large-fruited bushwillow	9m x 6m	D
Olea europea subsp. Africana	617	Wild olive	8m x 6m	E
Indigenous Mixed Tree Groupings				
Acacia caffra	162	Common hook thorn	9m x 6m	D
Acacia karroo	172	Sweet thorn	8m x 8m	D
Celtis africana	39	White stinkwood	10m x 4m	D
Combretum molle	537	Velvet Bushwillow	9m x 4m	D
Combretum zeyheri	546	Large-fruited bushwillow	9m x 6m	D
Cussonia paniculata	563	Highveld Cabbage Tree	5m x 2m	D
Dias cotinifolia	521	Pompon Tree	6m x 4m	D/E
Dombeya rotundifolia	471	Wild pear	6m x 3m	D
Euclea crispa	594	Blue guarri	6m x 4m	E
Kiggelaria africana	494	Wild peach	12m x 11m	E
Olea europea subsp. Africana	617	Wild olive	8m x 6m	E
Pappea capensis	433	Jacket Plum	7m x 6m	D
Rhamnus prinoides	452	Dogwood	4m x 4m	E
Rhus lancea	386	Karee	7m x 7m	E
Rhus leptodictya	378	Mountain karee	5m x 5m	D/E
Rhus pyroides	392	Common wild current	5m x 4m	D/E
Ziziphus mucronata	447	Buffalo thorn	9m x 9m	D
Indigenous Riverine / Wetland Trees				
Combretum erythrophyllum	536	River bushwillow	12m x 10m	D
Combretum molle	537	Velvet Bushwillow	9m x 4m	D
Kiggelaria africana	494	Wild peach	12m x 11m	E

Indigenous Accent Plants and Water Plants

Aloe arborescens		Krantz aloe	3m x 3m	E
Aloe marlothii	29.5	Mountain aloe	3m x 1m	E
Chondrapetalum tectorum		Thatch reed	1m x 1m	E
Clivia miniata		Fire lily	0,75m x 0,75m	E
Crinum bulbispernum		Orange river lilly	1m x 1m	D
Cyperus papyrus		Papyrus	2m x 1m	E
Cyperus papyrus		Papyrus	2m x 1m	E
Eligia capensis		Broom reed	2,5m x 1m	E
Eligia capensis		Broom reed	2,5m x 1m	E
Nymphea capensis		Blue water lilly	0,4m x 0,8m	D
Zanthedeschia aetheopica		White arum lilly	1,5m x 1m	D

Indigenous General Shrub Planting

Aloe arborescens		Krantz aloe	3m x 3m	E
Barleria obtusa		Bush violet	1m x 1m	E
Bauhenia galpinii		Pride-of-De Kaap	3m x 4m	D/E
Buddleja salvifolia	637	Sagewood	5m x 4m	E
Burchellia bubalina		Wild pomegranate	2,5m x 1m	E
Carissa bispinosa		Num-num	2,5m x 1,5m	E
Carissa macrocarpa	640.1	Natal Plum	3m x 2m	E
Coleonema album		White confetti bush	1m x 0.75m	E
Coleonema pulchellum		Dark pink confetti bush	1.5m x 1,5m	E
Coleonema pulchrum		Pink confetti bush	1.5m x 1,5m	E
Ehretia rigida	657	Puzzle bush / Hottentot's lilac	4m x 4m	D
Freylinia lancelota	670.1	Honey-bell bush	5m x 5m	E
Freylinia tropica		Blue freylinia	1,5m x 1m	E
Freylinia undulata		Mauve honey-bell bush	1,5m x 1,5m	E
Grewia occidentalis	463	Cross-berry	5m x 3m	D
Helichrysum splendidum		Cape gold	1,5m x 1,5m	E
Hypoestes aristata		Ribbon bush	1,5m x 1m	E
Leonotus leonorus		Wild dagga	2m x 1,5m	E
Mackaya bella		Forest bell bush	3m x 2m	E
Orthosiphon labiatus		Pink sage	1.5m x 1,5m	D/E
Plectranthus ecklonii		Mauve plectranthus	1,5m x 1,5m	E
Plectranthus fruticosus		Pink fly bush	1,25m x 0,5m	E
Plumbago auriculata		Cape leadwort	3m x 3m	E
Polygala myrtifolia		Bloukappies	3m x 3m	E
Polygala virgata		Purple broom	2m x 1m	E
Rhamnus prinoides	452	Dogwood	4m x 4m	E
Tecomaria capensis		Cape honeysuckle	1,5m x 2,5m	E
Tecomaria lutea		Yellow honeysuckle	1,5m x 2,5m	E

Indigenous General Groundcover Planting

Agapanthus africanus	Dwarf agapanthus	0,5m x 0,5m	E
Agapanthus preacox subsp. Orientalis	Common agapanthus	1,5m x 0,75m	E
Aptenia cordifolia	Aptenia	0,15m x 0,6m	E
Carpobrotus deliciosus	Purple sour fig	0,15m x 1m	E
Chloropytum capense	Hen-and-chicken	0,6m x 0,6m	E
Crocosmia aurea	Valentines flower	1m x 0,3m	D
Crocosmia paniculata	Falling stars	1m x 0,3m	D
Dietes bicolor	Yellow wild iris	1m x 1m	E
Dietes grandiflora	White wild iris	1m x 1m	E
Dymondia margaretae	Silver carpet	0,1m x 0,3m	E
Euryops pectinatus	Golden daisey bush	1m x 1m	E
Felicia ameloides	Blue marguerite	0,5m x 0,5m	E
Gazania krebsiana	Gazania	0,25m x 0,3m	E
Geranium incanum	Carpet geranium	0,3m x 0,3m	E
Gladiolus spp.	Gladiolus	0,2m x 0,8m	D
Kniphofia preacox	Red-hot poker	1,5m x 1,5m	E
Lampranthus coccineus	Red vygie	0,45m x 0,65m	E
Othonna carnosa var. carnosa	Othonna	0,1m x 0,6m	E
Protasparagus densiflorus 'Meyersii'	Foxtail fern	0,45m x 0,6m	E
Protasparagus densiflorus 'Sprengerii'	Emerald fern	0,3m x 0,9m	E
Stachys aetheopica	Stachys	0,3m x 0,5m	E
Watsonia galpinii	Galpin's watsonia	0,75m x 0,2m	E

Permissible Exotic General Shrub Planting

Coprosma picturata 'Marble Chips'			E
Escallonia 'Pink Princess'		1.5m x 1m	E
Hydrangea macrophylla	Christmas rose/Krismisroos	1m x 1.5m	D
Hydrangea quercifolia	Oak-leaf hydrangea	2m x 2m	D
Murraya exotica	Orange jasmine	3m x 2m	E
Rosa'Iceberg'	Iceberg Roses		E
Viburnum tinus		4m x 2m	E

Permissible Exotic General Groundcover Planting

Hemerocallis hybrids	Day lilly	0.4m x 0.4m	D/E
Ophiopogon japonicus	Japanese Mondo Grass	0.3m	E
Ophiopogon vittatis	Variegated Lily Turf	0.4m	E
Viola hedaracea	Australian violet/Australiese viooltjie	0.1m	E
Viola odorata	English violet/Viooltjie	0.15m	E

Sustainable Housing Guidelines

"When we build, let us think that we build forever.
Let it not be for present delight, nor for present use alone;
let it be such work as our descendants will thank us for."

33. Sustainable Housing Guidelines

The generally accepted definition of sustainable development is 'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987, Brundtland Report).

In practice this means living in harmony with the natural environment, considering the social, environmental and economic aspects of our decisions, and reducing our footprint through a less energy, water and material intensive lifestyle. Social sustainability is also important and working towards a healthy and sa community is often interconnected with economic and environmental endeavours.

Purchasers in the estate have a major role in making their houses and environment more sustainable. Awareness of environmentally sustainable design principles and expressing these preferences to their architect, designers and builde can create great change in the industry.

The main ways that homeowners can make a difference is through:

- *Recycling of refuse;*
- *Saving energy through the use of solar geysers and energy saving lighting;*
- *Using passive design or 'green' architecture;*
- *Storm water capture; and*
- *Responsible landscaping.*

In line with the greater "green" initiatives which have been planned, we will be striving for the implementation of long term energy management.

Sustainable energy interventions, such as solar power, efficient public transport networks and smarter building regulations, could reduce South Africa's carbon dioxide emissions by up to 864 million tons over the next 20 years.

Cities are going to have to use a long-term energy management plan as a foundation for economic development. Evidence suggests that efforts by all South African cities to diversify energy usage and energy sources are in their infancy.

Reports have indicated that if cities do not play such an active role in managing both energy supply and use, then their own economies are unlikely to succeed.

We truly believe that it is our moral obligation to start thinking not only smarter but "greener" by introducing some key initiatives and thus ensure a minimal impact on the environment and long term cost saving.

33.1 Recycling

Recycling is one of the best ways in which to have a positive impact upon the world in which we live in. Recycling is highly beneficial for the natural environment and human beings. The amount of the rubbish we create and dump into the environment is rapidly increasing everyday and is having a detrimental effect on the environment, resulting in global warming and increasing the rate at which global temperatures are rising.

Recycling is incredibly important as waste has a negative impact upon the ecosystem. Harmful chemicals and greenhouse gasses are released from rubbish in landfill sites. Recycling helps to reduce the pollution caused by waste.

Although local authorities are primarily responsible for waste collection and disposal, it is increasingly becoming more important that the public accepts co-responsibility. Extensive debates on the topic of 'sustainable development' continue to be held and it is acknowledged that the emphasis needs to be placed on preventing pollution and minimizing waste at the source, as it is significantly more costly to clean afterwards.

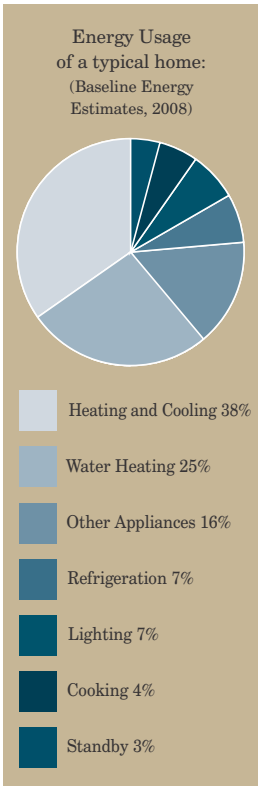
The estate will implement a comprehensive recycling initiative and follow trends of other "Green" housing development in Southern Africa.

The successful implementation of a recycling solution will significantly help in the reduction of waste products like:

- *Paper (office, newspaper, magazines, packaging)*
- *Metals (beverage cans)*
- *Glass (bottles, broken window-panes)*
- *Plastics (bags, bottles, containers)*
- *Cardboard*
- *Computer components and printer cartridges*

33.2 Saving Energy

The demand for energy in South Africa is growing more and more every year but the supply is not keeping up. We have all experienced the inconvenience of load shedding and although the program has been suspended we believe this will only be temporary. Unless we, the South African public make a conscious effort to ease the burden on our National Grid we will be left in the dark.



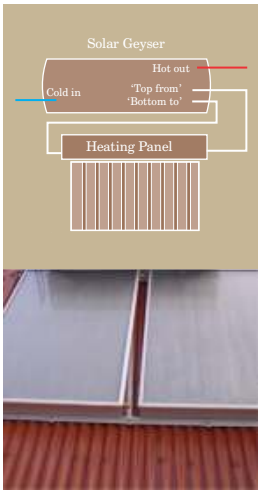
For a country that receives as much sunlight as we do, we have been rather careless in our approach to the design of our buildings, we must pay more attention to the planet's vulnerability. The easiest and cheapest area to start is with our lighting. Home owners should invest in energy saving internal and external lighting both to save on costs and reduce energy consumption. With this in mind it will be a requirement that only energy saving lamps are used in the estates.

SA must be pro-active in following the global trend towards phasing out the use of incandescent (GLS) lamps; Compact fluorescent lamps (CFLs) and LED's are the preferred energy efficient option for lighting applications; further energy savings can be achieved by using natural light through sky lights to effectively light a building during daylight hours.

Incandescent light bulbs were developed almost 125 years ago and have undergone no major modifications. They are incredibly inefficient, converting only about five percent of the energy they receive into light, the rest is lost to heat.

Tips for efficiency in houses:

- *Reducing demand by putting in efficient lights and using day lighting to reduce cooling loads*



- *Solar geysers or instantaneous gas geysers (Mandatory)*
- *Photovoltaic panels and inverters to produce power to be stored in batteries*
- *Fit an efficient convection gas or wood fireplace in place of radiant units*
- *Use gas for cooking and heating*
- *Effective passive design*
- *Well sealed doors and windows with double glazing*
- *Sun shades and large eave overhangs.*
- *Intelligent load demand metering (May become mandatory on the estate)*
- *Use renewable forms of energy wherever possible*
- *Conventional electric underfloor heating and electric geysers are banned*

These energy saving initiatives will reduce the over-all demand for maximum power, and lighten the load from Eskom significantly.

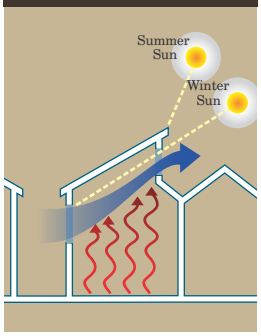
33.3 Green Architecture and Passive Design

Green architecture is not a style, trend or a vernacular. Neither is it at all new. It is a climatically, geographically and culturally appropriate method of designing architecture and constructing buildings. It combines the best of both old and new technology. Green Architecture treads lightly on this planet and respects and cares for the Earth in a sustainable manner.

The key benefits are:

- *Reduced operating and life cycle costs for buildings and their landscapes.*
- *Improved health and productivity for building inhabitants.*
- *Higher property values*
- *Low environmental impact*
- *Sustainable development*
- *Lower carbon footprint*
- *Social responsibility*

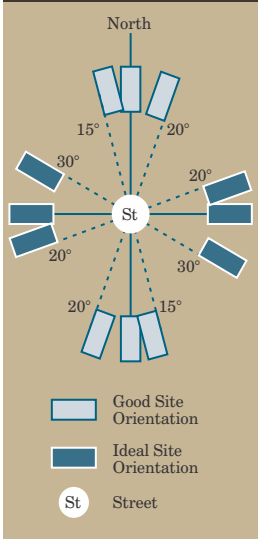
High level openable windows capture winter sun and create cooling currents in summer.



Passive design is design that does not require mechanical heating or cooling. Homes that are passively designed take advantage of natural climate to maintain thermal comfort. Houses should be designed for the climate making use of:

- *Solar design with insulated thermal mass*
- *Maximised cross ventilation*
- *Evaporative cooling or ceiling fans if required*
- *Optimal positioning for solar access and exposure to cooling breezes*
- *All east and west glass should be shaded in summer*
- *Reflective insulation should be installed to keep out heat in summer*
- *Bulk insulation should be used in ceilings and in walls and floors*
- *Outdoor areas should be screened and shaded but allow winter sun in*
- *Garden ponds and water features should be utilised to provide evaporative cooling for the house*

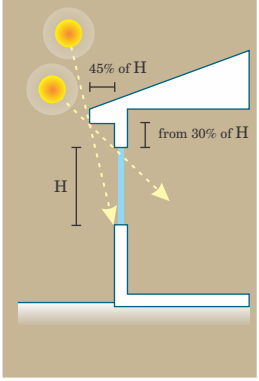
Site Orientation



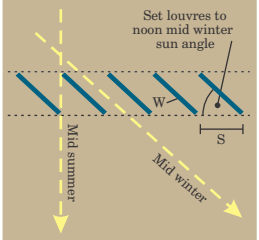
Orientation

Proper orientation reduces the need for auxiliary heating and cooling, and results in lower energy bills and reduced greenhouse gas emissions. Orientation for passive heating is about using the sun as a source of free home heating. Put simply, it

General rule of thumb when designing an eave for shading.

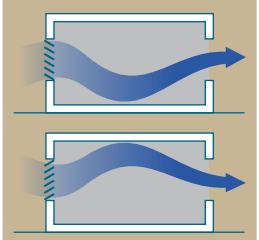


Setting your louvres to an optimal angle.



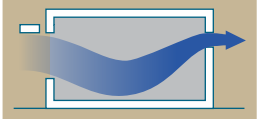
The spacing (S) between fixed horizontal louvres should be 75% of their width (W)

Consider directing air flow at levels suitable for the activity proposed for the room:

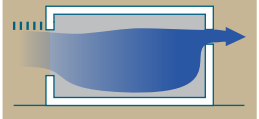


Louvres can direct airflow upward or downward.

A canopy over a window tends to direct air upward.



A gap between canopy and wall ensures a downward pressure.



Downward pressure is improved further in the case of a louvered sunshade.
Use window styles with 100% opening area such as louvre and casement.

involves allowing winter sun in and keeping unwanted summer sun out. This can all be done by using shading devices to exclude high angle summer sun and admit low angle winter sun in. Good orientation for passive cooling excludes unwanted sun and hot winds and ensures access to cooling breezes. A certain degree of passive cooling is necessary for the highveld climate.

Shading

Shading of the building and outdoor spaces reduces summer temperatures, improves comfort and saves energy. Direct sun can generate the same amount of heat as a single bar radiator. Shading can block 90 percent of this heat. With ideal north orientation, sunlight can be excluded in summer and admitted in winter using simple horizontal devices such as eaves as well as the planting of deciduous trees. East and west facing openings require a different approach, as low morning and afternoon sun from these directions can be more difficult to shade. Keep the area of glazing on east and west elevations to a minimum where possible. Shading devices can include eaves, pergolas and louvres as well as trees or planted screens with deciduous vines.

Passive Solar Heating

Passive solar heating is the most cost effective way of heating your home resulting in substantial long term savings for the homeowner. Solar radiation is trapped by the greenhouse action of correctly orientated windows exposed to full sun. Trapped heat is absorbed and stored by materials with high thermal mass, usually masonry inside the house. It is re-released at night when it is needed to offset heat losses to lower outdoor temperatures. For the best passive heating performance, daytime living areas should face north. Ideal orientation is true north and can be extended to between 15 degrees west and 20 degrees east of north. Fixed shading devices can maximize solar access to north facing glass throughout the year, without requiring much effort from the user. Proper orientation is essential for effective passive shading. Fixed shading devices above openings excludes high angle summer sun but allows low angle winter sun. Adjustable shading can be used to regulate solar access on other elevations. Correctly designed eaves are the simplest and cost effective shading method for northern elevations.

In general, living areas should be grouped along the north façade and bedrooms along the south or east façade. Living areas and the kitchen are usually the most important locations for passive heating as they are used in the day and in the evening. Bedrooms require less heating as it is easy to get warm and and stay warm in bed. Childrens bedrooms can be classified as living areas if considerable hours are spent there.

Passive Cooling

Passive cooling is the least expensive means of cooling a home, as well as producing the lowest environmental impact. Passive cooling maximises the efficiency of the building envelope by minimizing heat gain from the external environment and facilitating heat loss through air movement, cooling breezes, evaporation and earth coupling.

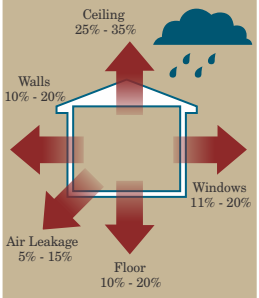
This can be facilitated through:

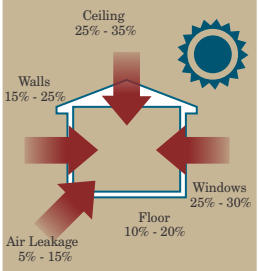
- *Orientation for exposure to cooling breezes*

Typical sources of warm air leakage:

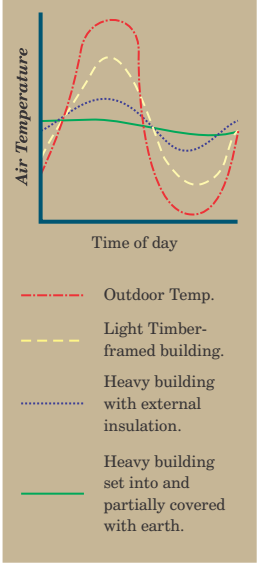
- Vented sky lights.
- Gaps between walls or ceilings and cornices.
- Construction joints between wall materials.
- Gaps where pipes penetrate walls.
- Gaps between floor boards.
- Gaps between walls or floors and skirting boards.
- Gaps between and around windows.
- Air vents and exhaust fans.
- Gaps around fixed air-conditioners and heaters.
- Gaps around door frames.
- Gaps up chimneys.
- Vented downlights.

Typical heat gains and losses in a temerature climate:





Thermal mass is the ability of a material to absorb heat energy.



- *Increase natural ventilation by reducing barriers to air paths through the building*
- *Fans that provide ventilation and air movement in the absence of breezes*
- *Appropriate windows and glazing to minimize unwanted heat gains and maximize ventilation*
- *Effective shading*
- *Living and sleeping areas zoned appropriately for climate*
- *Evaporate cooling units*

Insulation

Insulation acts as a barrier to heat flow and is essential to keeping your home warm in winter and cool in summer. A well insulated and designed home will provide year round comfort, cutting cooling and heating bills by up to half and, in turn reducing greenhouse gas emissions. The appropriate degree of insulation will depend on climate, building construction type and if auxiliary heating and cooling is to be used. Energy efficiency can also be improved by weather sealing. Weather proofing or draught sealing is the most effective method of achieving energy savings whist maintaining healthy indoor air quality. Up to 25% of heat loss from a home is due to draughts while up to 38% of our total greenhouse gas emissions are due to heating and air conditioning. Insulation of roofs is mandatory and insulation cast into the floor slab and installed in the wall cavities is strongly recommended along with the insulation of hot water pipes and tanks.

Thermal Mass

Thermal mass is the ability of any material to absorb heat energy. A lot of heat energy is required to change the temperature of high density materials like concrete, bricks and tiles. They are therefore said to have high thermal mass. Lightweight materials like timber have low thermal mass. Appropriate use of thermal mass in your home can make a big difference to comfort, as well as cooling and heating bills. Correct use of thermal mass modulates internal temperatures by averaging day/night extremes while on the other hand, incorrect use can exacerbate the worst extremes of the climate, radiating heat all night during a summer heatwave or absorbing all the heat you produce on a winter night. Thermal mass should always be used in conjunction with good passive design.

Glazing

Glazing has a major impact on the energy efficiency of the building envelope. Poorly designed windows, skylights and glazed surfaces can make your home too hot or too cold. If designed correctly, they will help maintain year round comfort, reducing or all together eliminating the need for artificial heating and cooling. Windows in a typical insulated home can account for more heat gain or loss than any other element in the building fabric. In summer, heat gain through an unshaded window can be up to 100 times greater than through the same area of insulated wall. Locate and size windows and shading to let sunshine in when the temperature is cold and exclude it when it is hot. Locate window and door openings to enhance natural cooling by cross ventilation. Provide seals to openings to minimize unwanted draughts. Solar heat gains through glass can be reduced by using spectrally selective glazing which filters

solar radiation, allowing maximum light visible light transmission while reflecting unwanted UV and solar near-infrared wavelengths. Reflective glass also allows for this but must be cleaned regularly and causes a glare which may annoy neighbours. For this reason its use is expressly forbidden within the estate. Double glazing or insulating glazing is also effective but are cost prohibitive for most developments.

Skylights

Skylights can make a major contribution to energy efficiency and comfort within the home. Daylight provides cool light, meaning that a given amount of light is accompanied by less heat gain than most types of artificial light. Skylights provide one of the best and easiest ways to admit daylight and distribute it evenly, displacing most artificial light, improving light quality and reducing heat generation and saving on energy costs.

33.4 Water Conservation

The protection, conservation, efficiency and re-use of water is a vital part of our estate As South Africa is a country that is water poor and there is much that can be done to reduce consumption. This could be done by fitting items such as: Dual flush toilets (which are mandatary), flow reducing or aerating taps, flow reducing or aerating showers, a smaller shaped bath, low volume and low consumption appliances such as dishwashers and washing machines. Rainwater, or grey water from baths and basins, can also be captured and stored for irrigation purposes. Low water-use vegetation or 'Xeriscaping' can greatly reduce the need for supplementary garden watering. See our website or saleshouse showroom for recommended suppliers.

33.5 Biodiversity Impacts on Site

Replanting cleared sites is no substitute for leaving native vegetation intact. Once any land is cleared it is almost impossible to recover the full range of indigenous species, remove introduced species and restore ecological processes. Given the natural beauty and biodiversity of the estate it is recommended that homeowners attempt to minimize biodiversity impacts. This can be done by:

- *Limiting clearing outside the building footprint. Vehicle tracks, contractors carpark, and rubbish dumps should be concentrated in one contained area.*
- *Any significant indigenous or habitat trees should be designed around and retained.*
- *Rehabilitating disturbed areas with saved topsoil and salvaged plants from cleared areas.*
- *Using indigenous species in the garden.*
- *Maintain links between adjacent bush and your garden if possible.*
- *Avoid introducing environmental weeds into your garden*
- *Avoid unnecessary disturbance to vegetation and soil.*

33.6 Environmentally Conscious Landscaping

Being environmentally conscious developments, the entire development has an indigenous tree planting policy. The proposed indigenous landscaping policy will reinforce the uniquely South African nature of this estate. Sustainable landscapes are concerned with the planning and design of outdoor space. It is important to consider the landscape as an integral part of your home's sustainable design.

The topography of a garden should ideally reflect the original slope to minimize the

impact on drainage patterns. Storm water retention ponds can be constructed along drainage lines to collect rain water that can be used in many ways, from irrigating common area's, to creating diverse habitats for flora and fauna. Exotic species should be removed from the drainage lines on an erf if applicable and replaced with indigenous plants, marsh and reed species. Hard landscaping should be kept to a minimum. At no stage during the construction or operational phase should the flow of water into any of the retention ponds be cut off.

The landscaping in the development area should be of a continuous style and theme. One has to bear in mind that landscaping is more than just aesthetic. The environment must inform the design and layout of the site. The landscape design must be an integral part of the planning and not an aesthetic after thought. All landscaping must emphasize and enhance the urban design and can be used for screening, or as a windbreak or to frame select views.

Plants used for landscaping must be indigenous and the use of endemic plants must be promoted. The site is an intermediate between the pure grasslands of the highveld and the more wooded vegetation of the Bushveld, false thornveld and thornveld.
This should be kept in mind during the plant selection process. Invasive plant species must be removed and all disturbed areas must be rehabilitated.
The use of drought resistant plants must also be promoted. Low water-use vegetation or 'Xeriscaping' can also greatly reduce the need for supplementary garden watering thus preserving our natural resource.

In the last 10 years the theme in urban and corporate landscaping has shifted significantly towards the use of plants indigenous to South Africa. Previously, designs had remained very stereotyped and were often characterized by mass planting and the use of limited so called "fool proof" species. This was due to the fact that most landscapers did not know a wide variety of indigenous plants or how to use these plants in a more integrated and wild life friendly manner. It is recommended that homeowners use a landscaper who has extensive knowledge in this field. A list of recommended landscapers is available on request.

A list of recommended plants and trees has been incorporated into the architectural and landscaping guidelines for your information.

33.7 Sustainable Communities

When you choose a home you are also choosing a street and most of all a community. A street is more than a collection of buildings and trees. Well-designed and cared for streets encourage connected, inclusive, supportive, and safe communities. A good street consists of houses that have their own character but fit together in a complementary, respectful way. Characteristic attributes like building height, street setbacks, form and materials as set out in the architectural guidelines will assist with this. A good street improves quality of life in numerous ways by:

- *Promoting community interaction.*
- *Providing a safe environment*
- *Enhancing the character and comfort of the neighbourhood*

- *Enhancing the character and comfort of the neighbourhood*
- *Encouraging people to walk to the shops and around the neighbourhood*
- *Increasing property demand and resale value.*
- *Houses facing towards streets, parks and open spaces improve visual access and security but must be balanced with good site orientation for passive heating and cooling.*
- *Garages should be situated away from the house frontage to minimize their visual impact. This also allows more landscaping at the street frontage and establishes a direct visual connection between the house and the street for security.*
- *The width of driveways should be limited and shared driveways should be considered. This allows for more of the street frontage to be landscaped and provides a better environment for pedestrians.*
- *Trees should be planted to enhance the quality of the street. Good tree cover increases property values and provides improved shade, habitat, windbreaks, air quality and appearance.*
- *High walls and hedges on the street should be avoided as they isolate the home from the neighbourhood. They create a perception of isolation and impede observation of the street.*
- *Respect your neighbour's privacy, sunlight and views. Utilise appropriate building setbacks and building height to retain your neighbour's view while maximizing your own.*

33.8 Energy Use

Electricity is the most widely available energy source and is the only source able to run the full range of household appliances. However, it is the most greenhouse intensive. It is also becoming more expensive. Natural or liquefied petroleum gas (LPG) is less expensive to use than electricity and provides fewer greenhouse gas emissions. It can be used for water heating, room heating, and cooking. Solar water heaters and passive solar building techniques reduce the need to use nonrenewable resources. Other fuels such as wood and coal should only be used in small quantities such as for heating as they create air quality problems in urban areas. Renewable energy is the cleanest form of energy and systems using solar and wind are becoming increasingly accessible to homeowners. Renewable power systems use renewable energy sources to produce electricity with very low greenhouse gas emissions. Renewable energy sources such as the sun, wind, and water are continuously replenished from natural sources. Renewable energy systems operate at low cost but can be expensive to install. However, the KWh price is unaffected by future energy price rises.

Efficient energy use is the best way to reduce energy bills and environmental impacts while maintaining or improving comfort levels. While some solutions cost nothing at all, most investments in energy efficiency will pay for themselves through lower energy bills.

Heating and cooling your home

Use high efficiency gas, electric heat pumps, gas or solar heated under floor heating or wood heaters for room heating rather than electric convection and radiant heaters. Using the passive design principles contained in this handbook will also help to minimize the need for heating and cooling. Use ceiling fans if possible instead of air conditioning. If cooling is required then use evaporative systems or high efficiency air conditioning units with occupancy sensing. These units should be appropriately sized for their environments and be maintained regularly. Use thermostatic controls for hot water and temperature regulation systems and set on the most efficient level.

Cooking Efficiently

In general choose gas hobs rather than electric. They are often cheaper to use, have more responsive controls and produce 50% less greenhouse gas emissions than an equivalent electric unit. A gas oven will also produce less greenhouse gas than an equivalent quality electric model. However some very efficient electric hobs and ovens are available from several manufacturers.

Appliances

Electrical appliances account for about 30% of household energy use. When buying white goods such as refrigerators, freezers, tumble dryers, and dishwashers look for the Energy Rating label. This gives a star rating and annual energy consumption for the appliance. The more stars, the more efficient the appliance. An efficient appliance usually costs a little more to buy, but will soon pay for itself in reduced energy bills.

Other Items

There are many small items throughout the home that consume a lot of energy. These include pool filter pumps, heated towel rails, computers, televisions, and gaming consoles. Ensure they are not left on unnecessarily.

Lighting

Use fluorescent or compact fluorescent lamps as they are substantially more energy efficient and long lasting, they are also available in the warm white colour spectrum similar to natural sunlight and, with newer production technology, are not subject to the flickering once associated with fluorescent lighting products.

- *Avoid using low voltage down lights for general lighting as they are not energy efficient. Compact fluorescents for down lights are becoming available.*
- *Use occupancy sensors for certain lighting applications*
- *Turn off lights when not in use and use separate switches for each light fitting.*
- *Use timers or sensors on outdoor lights which can also be solar powered.*
- *Use the minimum wattage lamp to provide sufficient light.*

Lights can be automated so that they operate only when needed and switch off when rooms are vacant. This can be done through motion sensors and timers or through more elaborate centralized systems. Motion sensors can be used to switch on external lights when needed or lights when entering the home, rather than leaving lights on.

Motion sensors, light sensors, and timing controls could be used to switch off lights when they are no longer needed. Priority should be given to rooms like bathrooms, pantries and toilets that often have light left on unnecessarily.

Automation can be used to operate appliances, lighting and equipment only when needed. Remote control and timer control of appliances from coffee makers to home theatres to spas, can lead to energy savings if the appliances usually use standby power, even though they are not operating, e.g. stereos, TV's, DVD's and home office equipment. It is also useful when the need for the equipment to operate varies, such as for pool pumps, where daily operating hours can be matched to the season.

Home automation systems work by managing the electric power of the device being automatically controlled. The degree of intelligence and how it is distributed between the elements of the home automation system varies with the design and with the manufacturer.

Control can be implemented by isolated sensors, timers, and processors embedded in the switches and relays. Alternatively centralized control can be obtained through networked sensors linked to a controller or computer, which then operates the power systems of equipment throughout the house.

The operation of more sophisticated devices such as central heaters, air conditioners, or home theatres can also be brought under the control of the automation system, but with more intelligent controlled devices, care is needed to ensure that the controllers instructions do not create conflicts.

Automated equipment can therefore include any appliance or machinery in the home, the operation of which is controlled through its electricity supply.

Automation and electricity demand

Homeowners may be required, as part of Eskoms' and the developers' new energy policy, to have a smart meter/load management system installed in their homes in order for the electricity supplier to be able to meter electricity demand and usage and switch off certain items like geysers during high demand times. This system replaces the ripple relay system that was previously used. Design the electrical installation to ensure that all the non-essential loads are grouped on the same circuits. This will facilitate future remote shedding of these non-essential circuits by the distributor using a load management system/smart meter technologies. By installing the system, homeowners will see the following benefits:

- *A reduced carbon footprint for the estate*
- *Reduced energy bills*

- *Use task lighting to supplement general lighting if needed.*
- *Use well designed windows and skylights to provide natural light while keeping winter warmth in and summer heat out.*

Reducing standby energy consumption

Standby energy is drawn when some electrical equipment is not actually being used, such as when the TV is turned off with the remote control rather than the switch on the unit or at the wall. It is sometimes used to power digital displays or maintain memory settings, but often it is just wasted energy.
Be aware of the standby energy use of electrical equipment such as televisions, DVD players, clocks, computers, faxes, microwaves, security systems, battery chargers and power packs. Some appliances, such as video/DVD players and microwave ovens with digital displays, can use much more energy over a year in standby than in actual operation. Standby energy use can account for 10% or more of household electricity use.

Home office and entertainment equipment

- *Large screen TV's use more energy than those with a smaller screen.*
- *If buying a computer consider buying a laptop, they require less materials to make and less energy to run.*
- *An LCD screen for desktop computers will use less energy and take up less space than a traditional CRT monitor.*
- *Switch off computers and printers if you won't be using them for half an hour or more.*
- *Look for printers and faxes that can use recycled paper. Use recycled ink and toner cartridges. Re-use blank sides of used paper.*

Home Automation

Home automation is the automated or remote control of appliances and equipment in the home. Automated controls can be used to turn equipment on or off or adjust the operating settings at predetermined times, on site or remotely, or can be set to adjust the operation of equipment in response to changes in the home environment, e.g. temperature. Homes using these techniques, which may also involve the integration of broadband communications, are sometimes called smart homes or smart houses.

Home automation systems can, however, only improve the energy efficiency of your home if they are designed for this purpose. A well designed automation system can improve passive solar heating and passive cooling through the control of blinds, windows, vents and fans. It can also control heaters and air conditioners so they are only used when and where they are needed to achieve a desired temperature.

A hot water system can be automated to switch off when not required, such as when the homeowner is on holiday. Solar systems can be controlled so they do not require heat boosting during summer months.

Solar / Gas Geysers

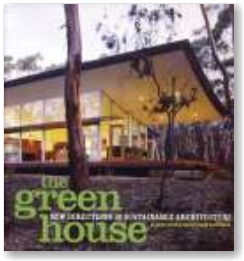
The use of conventional electrical geysers will not be allowed to be installed in houses. This is in line with current Eskom requirements and our green homes initiative. Homeowners are not however limited to one product although the developers will endeavor to source certain recommended units at a reduced price for the homeowners. Instantaneous Gas Geysers (also known as Tankless Water Heaters) units are designed to be highly efficient and only heat water when it's needed, a revolutionary advantage over inefficient tank-style water heaters/geysers. Tankless water heater technology will supply endless amounts of hot water to your lifestyle demands with up to 40% energy savings with a tankless water heater/geyser. These units can be used as a secondary heat source for solar geysers, eliminating the need entirely of costly electricity as a back-up heating source. From an aesthetic point of view split solar geyser units are preferred. This means that the solar panel that heats water is separate from the geyser. This allows the homeowner to place the low profile panels unobtrusively on the roof while placing the bulky geyser within the roof void. If planned correctly the water or glycol will circulate through convection and no pump will be necessary. A pump is however recommended in the unlikely event that there is total cloud cover for an extended period of time. For aesthetic reasons it is also a requirement that any visible solar panels and frames as well as geysers are powder coated in a charcoal colour or to match the roof. This is to avoid glare and minimize the aesthetic impact.

Underfloor Heating

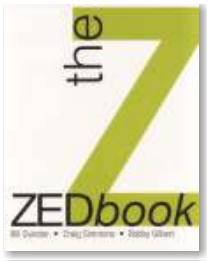
Only gas or solar heated underfloor heating is to be allowed on the development, as the use of conventional electrical underfloor heating will not be allowed to be installed. The use of gas and Solar heated underfloor heating has several benefits. In addition to saving on electricity bills and reduction in electrical demands, the owner also has a permanent hot water supply to heat the home which is not reliant on Eskom. Underfloor heating is achieved through the circulation of hot water through piping installed in the floor. This can be controlled through the use of valves and pumps to heat individual rooms or the entire house and can even be linked to a home automation system which will monitor the temperature, activate the pumps and open and close valves to maintain the desired environment in the home. Obviously the electrical cost savings are substantial as the only power required is for the pump and the control of the gas.

Annexure A

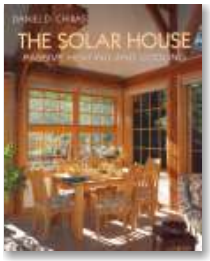
Recommended Booklist



The Green House
Alanna Stang



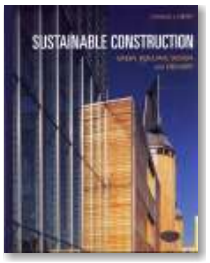
The Z Book
Bill Dunster



The Solar House
Daniel D. Chiras

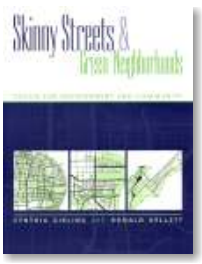
Design Magazine
2007 Edition 6

Green by Design
Angela M. Dean

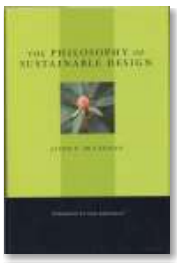


Sustainable Construction
Charles J. Kibert

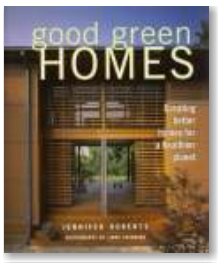
Strategies for
sustainable Architecture
Paolo Sassi



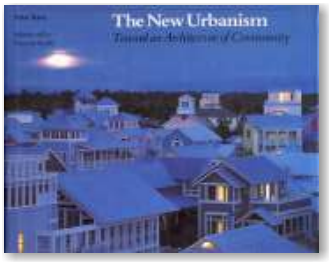
Skinny Streets & Green
Neighborhoods
Cynthia Girling



The Philosophy of
Sustainable Design
Jason F. McLennan



Good Green Homes
Jennifer Roberts



The New Urbanism
Peter Katz

The New Ecological Home
Daniel D. Chiras

Urban Green File
www.urbangreen.co.za

The Guidebook to Sustainable Design
Sandra Mendler

Annexure B

BUILDERS CODE OF CONDUCT & CONTRACTOR ACTIVITIES

Contractor activity is only allowed during the following public time hours:-
Monday to Friday 07h00 to 18h00
Saturday 07h00 to 13h00

Note: No contractor activity is permitted on Sundays and public holidays or during the December builder's break as these days are viewed as private time.

No night watchmen are permitted on any site.

All workers must remain on their construction site and may not traverse the estate on foot.

The estate security must be notified in advance of any building material deliveries.

All contractors, sub-contractors and their workers must enter the estate through the designated entrances in vehicles, no contractors or sub contractors are permitted to access the estate on foot and must strictly adhere to the security rules and regulations in force at the time. These rules are subject to change without prior notice being given.

All workers must be in possession of a valid identity document or work permit. The Home Owners Association reserves the right to deny access to anyone not in possession of the above documents. This rule will be strictly enforced and no exceptions will be made. The appointed security company personnel on routine patrols have standing instructions to evict any defaulters.

The contractor shall provide facilities for rubbish disposal and ensure that the workers use the facility provided and remove the rubbish weekly and not burn it on site.

The site is to be kept as clean as possible of building rubble, with regular cleaning taking place during building operations. The contractor or sub-contractor may be denied access to the estate should the site not be kept clean to the satisfaction of the Home Owners Association who accepts no liability for losses sustained as a result thereof.

Where materials are off-loaded by a supplier encroaching onto the pavement or roadway these materials must be moved onto the site by the contractor. No material must be allowed to remain on the roadway or pavement, it is therefore the contractor's and member's responsibility to clean the roadway and pavement of all such materials. The same applies to all sand or rubble washed or moved onto the road during building operations.

Deliveries from suppliers must be scheduled in public times only.

It is incumbent on the contractor to provide toilet facilities for the workers.

Only one building board may be erected per site and is to comply with the Home Owners Association's requirement, the size and details are obtainable from the Home Owners Association. Boards may not be erected on the pavement areas. NO sub-contractor boards are allowed and all boards must be removed after completion of construction.

The member and the contractor shall be responsible for damage to kerbs and/or plants on the pavements and/or damage to private or park property. The property must be screened in terms of the ENVIRONMENTAL AND AESTHETIC APPEARANCE section of the Estate Rules.

Should the Home Owners Association have any concern with the conduct of the contractor and/or sub-contractor, the Home Owners Association may rectify as deemed necessary and/or reserve the right to suspend building activity until such undesirable conduct is rectified which may do at any time and without notice and without recourse from the member and/or contractor and/or sub-contractor.

The above document is fully understood and the contractor and member/resident undertakes to comply with the above points, in addition to any further controls which may be instituted by the Home Owners Association from time to time and to ensure compliance by any sub-contractors employed by the contractor.

BUILDERS BOARDS AS PER THE HOME OWNERS ASSOCIATION

Only one board per property is permitted. Boards are manufactured in two sections enabling the top section to be removed separately allowing usage outside the estate and minimising wastage to builders. Builder's information may coincide with their colour preferences and advertising themes.

All boards are to be uniform in size, inclusive of the estate logo. No variations of colour or size will be accepted and should be consistent with the example below. The template can be obtained from the sales office along with a list of preferred suppliers.

THUS SIGNED AT _____ ON THIS THE _____ DAY OF _____ 201__

_____ _____

WITNESS MEMBER

THUS SIGNED AT _____ ON THIS THE _____ DAY OF _____ 201__

_____ _____

WITNESS CONTRACTOR